



RESEARCH CENTER

FIELD

Activity Report 2012

Section Dissemination

Edition: 2013-04-24

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ABS Project-Team

7. Dissemination

7.1. Scientific Animation

7.1.1. Conference Program Committees

– F. Cazals was member of the following PC:

- Symposium on Geometry Processing.
- Geometric Modeling and processing.
- ACM Symposium on Solid and Physical Modeling.
- IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology.
- International conference on Pattern Recognition in Bioinformatics.

7.1.2. Appointments

– F. Cazals is member of the scientific committee of *GDR Bio-informatique-Moléculaire*, in charge of activities related to computational structural biology.

7.1.3. Book

Having initiated and coordinated the Master of Science in Computational Biology, see <http://cbb.unice.fr>, F. Cazals and P. Kornprobst edited a book entitled *Modeling in Computational Biology and Medicine: A Multidisciplinary Endeavor* [17], with one chapter per class taught in this program.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

(**Master**) Ecole Centrale Paris, France, 3rd year of the engineering curriculum in applied mathematics. Course on *Geometric and topological modeling with applications in biophysics*, taught by F. Cazals (24h).

(**Master**) University of Nice Sophia Antipolis, France, Master of Science in Computational Biology (<http://cbb.unice.fr>). Course on *Algorithmic problems in computational structural biology*, taught by F. Cazals (24h).

(**Winter school Algorithms in Structural Bio-informatics**) Together with J. Cortès from LAAS / CNRS (Toulouse), F. Cazals is organizing the winter school *Algorithms in Structural Bio-informatics*⁴. The goal of this winter school is to present state-of-the-art concepts, algorithms and software tools meant to analyze and predict macro-molecular assemblies, with a focus on methodological developments. We have accepted 25 students from all over the world.

7.2.2. Supervision

PhD & HdR:

(**PhD thesis, ongoing**) C. Roth, *Modeling the flexibility of macro-molecules: theory and applications*, University of Nice Sophia Antipolis. Advisor: F. Cazals.

(**PhD thesis, ongoing**) A. Lheritier, *Scoring and discriminating in high-dimensional spaces: a geometric based approach of statistical tests*, University of Nice Sophia Antipolis. Advisor: F. Cazals.

(**PhD thesis, ongoing**) D. Agarwal, *Towards nano-molecular design: advanced algorithms for modeling large protein assemblies*, University of Nice Sophia Antipolis. Advisor: F. Cazals.

⁴<http://www-sop.inria.fr/manifestations/algoSB/>

ABSTRACTION Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Academy Members, Professional Societies

Patrick Cousot is a member of the [Academia Europaea](#).

Patrick Cousot is member of the IFIP working group WG 2.3 on programming methodology.

Patrick Cousot is a member of the Board of Trustees and of the Scientific Advisory Board of the [IMDEA-Software](#) (Instituto madrileño de estudios avanzados—Research Institute in Software Development Technology), Madrid, Spain and of the Asian Association for Foundations of Software (AAFS).

9.1.2. Collective Responsibilities

Patrick Cousot is director of studies in computer science at ENS and member of the *commission de spécialistes* (hiring committee) of ENS.

Patrick Cousot, Antoine Miné and Xavier Rival are members of the lab council of the Laboratoire d'Informatique de l'École normale supérieure.

Jérôme Feret was a member of the *comité de sélection* (hiring committee) to hire an assistant professor at the Université de Lille 1.

9.1.3. Editorial Boards and Program Committees

— Patrick Cousot is member of the advisory board of the [Higher-Order Symbolic Computation](#) journal (HOSC, Springer) and of the [Journal of Computing Science and Engineering](#) (JCSE, Kiise).

Patrick Cousot is member of the steering committees of the Static Analysis Symposium (SAS) and the Verification, Model-Checking and Abstract Interpretation (VMCAI) international conference.

Patrick Cousot was member of the program committees of the Verified Software: Theories, Tools and Experiments (VSTTE 2012), Philadelphia, USA, January 28-29, 2012; Hybrid Systems: Computation and Control (HSCC 2012), Beijing, China, April 17-19, 2012; the Programming Languages day 2012, IBM Thomas J. Watson Center, New York, USA, June 29, 2012; the 19th Static Analysis Symposium (SAS 2012), Deauville, France, September 11-13, 2012; Hybrid Systems: Computation and Control (HSCC 2013), Philadelphia, PA, USA, April 9-11, 2013.

Patrick Cousot was the co-program committee chair of the Workshop on Systems Biology and Formal Methods (SBFM 2012), New York, NY, USA, March 29-30, 2012.

— Radhia Cousot is member of the advisory board of the [Higher-Order Symbolic Computation](#) journal (HOSC, Springer) and the [Central European Journal of Computer Science](#) (CEJCS, Versita & Springer).

Radhia Cousot is member of the steering committees of the Static Analysis Symposium (SAS), the Workshop on Numerical and Symbolic Abstract Domains (NSAD), the Workshop on Static Analysis and Systems Biology (SASB) and the Workshop on Tools for Automatic Program Analysis (TAPAS).

Radhia Cousot is the program committee chair of the 40th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL 2013), Rome, Italy, January 23-25, 2013.

Radhia Cousot was member of the program committee of the 13th International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI 2012), January 22-24, 2012, Philadelphia, USA and Radhia Cousot is a member of the 5th NASA Formal Methods Symposium (NFM 2013), May 13-16, 2013, NASA Ames Research Center, California, USA.

— Jérôme Feret is a member of the editorial board of the *Frontiers in Genetics* journal.

Jérôme Feret is a member of the steering committee of the Workshop on Static Analysis and Systems Biology (SASB).

Jérôme Feret was co-program committee chair of the 3rd International Workshop on Static Analysis and Systems Biology (SASB 2012), Deauville, France, September 10, 2012; and of the Workshop on Systems Biology and Formals Methods (SBFM 2012), New York, NY, USA, March 29-30, 2012 and Jérôme Feret is co-program committee chair of the 4th International Workshop on Static Analysis and Systems Biology (SASB 2013), Seattle, WA, USA, June 2013.

Jérôme Feret was member of the program committees of the 4th International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO 2012), St Maarten, Netherlands Antilles, March 25-30, 2012; the 2nd International Workshop on Interactions between Computer Science and Biology (CS2Bio 2012), Stockholm, Sweden, June 16, 2012; the International Symposium on Foundations of Health Information Engineering and System (FHIES 2012), Paris, France, August 27-28, 2012; the 40th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2013 ERC), Rome, Italy, January 23-25, 2013. Jérôme Feret is member of the program committee of the 5th International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO 2013), Lisbon, Portugal, March 24-29, 2013; the 4th International Workshop on Computational Models for Cell Processes (CompMod 2013), Turku, Finland, June 11, 2013.

— Jonathan Hayman was a member of the program committees of the 40th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2013 ERC), Rome, Italy, January 23-25, 2013.

— Antoine Miné is a member of the editorial boards of *The Scientific World Journal in Computer Science* and the *Conference Papers in Computer Science* journal.

Antoine Miné was co-chair of the program committee of the 19th International Static Analysis Symposium (SAS 2012), Deauville, France, 11–13 September 2012, and local organizer of SAS 2012 and affiliated events NSAD 2012, SASB'12 2012, TAPAS 2012, Deauville, France, 10–14 September 2012.

Antoine Miné was a member of the program committee of the Second International Workshop on Safety and Security in Cyber-Physical Systems (SSCPS 2012); Washington, DC, USA, 20–22 June 2012. Antoine Miné is a member of the program committee of the 20th International Static Analysis Symposium (SAS 2013), Seattle, WA, USA, 20–22 June 2013.

— Xavier Rival is member of the steering committee of the Workshop on Tools for Automatic Program Analysis (TAPAS).

Xavier Rival was member of the program committee of the program committee the European Symposium On Programming (ESOP 2012), Tallinn, Estonia, March 24 - April 1, 2012; the 40th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2013 ERC), Rome, Italy, January 23-25, 2013; the program committee of the program committee the European Symposium On Programming (ESOP 2013), Rome, Italy, March 2013.

9.1.4. Participation in Conferences

POPL: 39th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages, Philadelphia, USA, January 25–27, 2012.

Patrick Cousot attended the symposium and gave a talk on an abstract interpretation framework for termination [17].

Dagstuhl workshop: Dagstuhl Seminar 12051 Analysis of Executables: Benefits and Challenges, Dagstuhl, Germany, January 29–February 3rd, 2012.

Xavier Rival attended the workshop and gave a talk on the verification of programs manipulating complex data-structures.

TSD: 2th Tsinghua Software Day (Tsinghua University, Beijing, China, March 15, 2012).

Patrick Cousot gave a talk on automatic large-scale software verification by abstract interpretation.

- SBFM: Workshop on Systems Biology and Formals Methods (New York, NY, USA, March 29-30, 2012).
Patrick Cousot, Jérôme Feret, and Norman Ferns attended to the workshop. Patrick Cousot and Jérôme Feret co-chaired the workshop. Patrick Cousot gave a talk called “A Causal Introduction to Abstract Interpretation” and Jérôme Feret gave a talk on model reduction of differential systems. Patrick Cousot and Jérôme Feret chaired some sessions.
- ESOP: European Symposium on Programming (Tallinn, Estonia, March 24 – April 1, 2012)
Xavier Rival attended the conference. Xavier Rival chaired a session.
- Bellairs Workshop: Workshop on Theory of Markov Processes (Bellairs Research Institute, Holetown, Barbados, April 2-6, 2012).
Jérôme Feret and Norman Ferns attended to the workshop. Jérôme Feret gave a talk on model reduction of stochastic semantics. Norman Ferns gave a talk on bisimulation metrics for continuous Markov decision processes.
- NFM: 4th NASA Formal Methods Symposium (Norfolk, Virginia, April 3-5, 2012).
Patrick Cousot gave a talk on formal verification by abstract interpretation [12].
- JCOMP: *Cinquièmes rencontres de la communauté française de compilation* (Rennes, France, 18–20 June 2012).
Antoine Miné attended the workshop and gave a talk.
- WING: Fourth International Workshop on Invariant Generation (Manchester, UK, 30 June 2012).
Antoine Miné attended the workshop and gave an invited talk.
- FMSB: Workshop on Formal Methods in Systems Biology (Berkeley, USA, July 7-8, 2012).
Jérôme Feret gave a talk on the model reduction of differential systems.
- Dagstuhl workshop: Information Flow and Its Applications (Schloss Dagstuhl, Dagstuhl, Germany, August 26-31, 2012).
Jérôme Feret and Jonathan Hayman attended to the workshop. Jérôme Feret gave a talk on model reduction of differential semantics. Jonathan Hayman gave a talk on the semantics of Kappa and causal compression. Jérôme Feret chaired a session.
- NSAD: Fourth International Workshop on Numerical and Symbolic Abstract Domains (Deauville, France, September 10, 2012).
Mehdi Bouaziz, Tie Cheng, David Delmas, Antoine Miné, Xavier Rival, Antoine Toubhans, and Caterina Urban attended the workshop. Xavier Rival chaired a session. Mehdi Bouaziz and Antoine Miné gave a talk [14], [23].
- SASB: Third International Workshop on Static Analysis and Systems Biology (Deauville, France, September 10, 2012).
Ferdinanda Cemporesi, Jérôme Feret, Norman Ferns, and Jonathan Hayman attended to the workshop. Jérôme Feret co-chaired the workshop and chaired half of the sessions.
- SAS: 19th International Static Analysis Symposium (Deauville, France, September 11-13, 2012).
Mehdi Bouaziz, Ferdinanda Cemporesi, Tie Cheng, David Delmas, Jérôme Feret, Norman Ferns, Jonathan Hayman, Vincent Laviron, Antoine Miné, Xavier Rival, Caterina Urban, and Antoine Toubhans attended the conference. Antoine Miné co-chaired the conference and chaired two sessions. Tie Cheng gave a talk [16].
- TAPAS: Third International Workshop on Tools for Automatic Program Analysis (Deauville, France, Italy, France, September 14, 2012).
Ferdinanda Cemporesi, Tie Cheng, David Delmas, Jérôme Feret, Norman Ferns, Jonathan Hayman, Antoine Miné, Xavier Rival, Antoine Toubhans, and Caterina Urban attended the workshop.
- Dagstuhl workshop: Coalgebraic Information Flow and Its Applications, Schloss Dagstuhl, Dagstuhl, Germany, October 7-12, 2012.
Norman Ferns attended the workshop.

SBE: Systems Biology Europe, Madrid, Spain, October 16-17, 2012.

Jérôme Feret gave a talk on the model reduction of differential systems.

Workshop MSR Workshop on “MSR-Inria joint centre”, Cambridge (UK), November 5–6, 2012.

Xavier Rival attended the workshop and chaired a session. Xavier Rival gave a demo of **ASTRÉE**.

Workshop lif Workshop “Let’s imagine the future”, Rennes (France), November 7–8, 2012.

Xavier Rival attended the workshop and gave a talk on the verification of embedded programs manipulating complex data-structures.

MOVEP: 10th school of Modelling and Verifying Parallel Processes (Marseille, France, 3–7 Dec. 2012).

Antoine Miné attended the school and gave a talk [24].

APLAS: 10th Asian Symposium on Programming Languages and Systems (Kyoto, Japan, 11–13 Dec. 2012).

Mehdi Bouaziz and Xavier Rival attended to the conference. Mehdi Bouaziz and Xavier Rival gave a talk [15], [26].

FSTTCS: IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science, Hyderabad, India, December 15-17, 2012.

Jonathan Hayman attended the conference and gave a talk [20].

9.1.5. Invitations and Participation in Seminars

— Patrick Cousot gave an invited talk at the Computer Science PhD Day, Aula Magna Silvio Trentin, Università Ca’ Foscari di Venezia, Italy, March 12th, 2012, and a distinguished lecture at the School of Computer Science of Carnegie Mellon University, Pittsburgh, PA, USA, April 12, 2012.

— Jérôme Feret gave some talks on model reduction for signaling pathways at the IMDEA-Software (Madrid, Spain) on the 15th of October, 2012, and at the Working Group of the Symbiose team-project (Rennes, France) on the 15th of November, 2012.

— Jonathan Hayman gave a talk at the Working Group on Computational Biology of the École normale supérieure (Paris, France) on the 28th of February, 2012, a talk at the Working Group of CEA List (Saclay, France) on 10th of April, 2012, and a talk at the seminar of the PPS team (Paris, France) on the 14th of June, 2012, about the semantics of Kappa and its causal compression.

— Xavier Rival gave a talk on “MemCAD, A Modular Abstract Domain for Reasoning on Memory States” at Microsoft Research (Redmond, USA) on the 23rd of July, 2012. Xavier Rival gave a talk on “Abstract domains for shape analysis” at CEA, on the 18th of February, 2012. Xavier Rival gave a talk on “MemCAD, a Modular Abstract domain for Reasoning about Memory States”, at the Technical University of Vienna (TUW) on the 4th of September 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence :

- Jérôme Feret, Mathematics, 40h ETD, L1, Licence Frontiers in Life Sciences (FdV), Université Paris-Descartes, France.
- Xavier Rival, Introduction to algorithmics, 40h ETD, L3, École Polytechnique, Palaiseau, France.
- Xavier Rival, Introduction to software verification, 12h ETD, L3, École Nationale Supérieure des Mines, Paris, France.

Master :

- Computational Biology, 9h ETD, M1. Interdisciplinary Approaches to Life Science (AIV), Master Program, Université Paris-Descartes, France.

- Patrick Cousot, Radhia Cousot, Jérôme Feret, Antoine Miné, and Xavier Rival, Abstract Interpretation: application to verification and static analysis, 72h ETD, M2. Parisian Master of Research in Computer Science (MPRI). École normale supérieure. France.
- Xavier Rival, 20h ETD, M1, École Polytechnique, Palaiseau, France.

9.2.2. Supervision

PhD & HdR :

PhD: Mattéo Zanioli, Security Analysis by Abstract Interpretation [8], March 2012, Radhia Cousot (co-directed thesis with Agostino Cortesi, University of Venice), Paris VII / Università Ca' Foscari, March 12, 2012.

PhD in progress:

- Mehdi Bouaziz, Static analysis of security properties by abstract interpretation. November 2011, Patrick Cousot, École Normale Supérieure.
- Ferdinanda Camporesi, Abstraction of Quantitative Semantics of Rule-based models, January 2009, Radhia Cousot and Jérôme Feret (co-directed thesis with Maurizio Gabrielli, University of Bologna).
- Tie Cheng, Static analysis of spreadsheet macros, October 2011, Xavier Rival, École Polytechnique
- Vincent Laviron, Static Analysis of Functional Programs by Abstract Interpretation, October 2009, Patrick Cousot, École Normale Supérieure.
- Antoine Toubhans, Combination of shape abstract domains, October 2011, Xavier Rival, École Doctorale de Paris Centre
- Caterina Urban, Static Analysis of Functional Temporal Properties of Programs by Abstract Interpretation, November 2011, Radhia Cousot, École Normale Supérieure.

9.2.3. Juries

— Jérôme Feret reviewed the PhD thesis of Vincent Noël (Université Rennes 1, France, December 20, 2012).

— Xavier Rival reviewed the PhD theses of Arnaud Jobin (IRISA, Rennes, France, January 16, 2012), of Marie Pelleau (LINA, Nantes, France, November 29, 2012) and of Arnault Ioualalen (DALI /UPVD, Perpignan, France, December 17, 2012).

9.3. Popularization

— Xavier Rival gave a talk at the “1/2 heure de Science”, at Inria Rocquencourt, on the 6th of December, 2012.

ACES Project-Team

7. Dissemination

7.1. Scientific Animation

7.1.1. Program committees

- PC member for IE'12: 8th Int Conference on Intelligent environments, Guanajuato, Mexico, June 2012, M. Banâtre.
- PC member of the 15th International Symposium on Wireless Personal Multimedia Communications (WPMC'12), F. Weis.

7.1.2. Organizing and reviewing activities

Michel Banâtre is expert to the European Commission (FP7 program): reviewer member for SM4All and CONSERN projects.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

L2/L3: network computing (lectures, tutorials, labs), 250 hours, F. Weis, University Rennes 1 / IUT Saint-Malo

Master : Ambient Computing and Mobile Communications, M. Banâtre and F. Weis, 6 hours, M2, university of Rennes, France

Master : Distributed Systems, M. Banâtre, 18 hours, M2, Ecole des mines de Nantes, France

Master : Wireless LANs, F. Weis, 8 hours, M2, Telecom Bretagne, France

Master: Mobile communications and ambient computing, M. Banâtre, 8 hours, M2, ENSEIRB Bordeaux, France

Master : Mobile communications and ambient computing, M. Banâtre, 4 hours, M1, Ecole Centrale de Paris, France

7.2.2. Supervision

PhD in progress : M. Dominici, Context Management in Smart Homes, 01/11/09, M. Banâtre and F. Weis, to be defended in March 2013

PhD in progress : B. Pietropaoli, Proximate interactions and data fusion in Smart Homes, 01/10/10, M. Banâtre and F. Weis

PhD in progress : Minh Ho, Indoor localization mechanisms for ambient computing systems, 01/11/08, M. Banâtre and F. Weis, to be defended in May 2013

PhD in progress : Arnab Sinha, Pervasive control systems for smart waste management solutions, 14/12/10, M. Banâtre and P. Couderc

ADAM Project-Team

9. Dissemination

9.1. Scientific Animation

Laurence Duchien served in the following scientific animations actions.

- Chair of the 3ème Journées du GDR CNRS GPL, Rennes, June 2012,
- Chair of the 4ème Journée Lignes de Produits, Lille, November 2012,
- Member of the Editorial Board of Lavoisier TSI,
- Member of the following PC committees:
 - 7th International Symposium on Software Engineering for Adaptive and Self-Managing Systems, (SEAMS), Zürich, Switzerland, June 2012,
 - 15th International ACM SIGSOFT Symposium on Component Based Software Engineering (CBSE), Bertinoro, Italy, June 2012,
 - Joint 10th Working IEEE/IFIP Conference on Software Architecture & 6th European Conference on Software Architecture (WICSA/ECSA), Helsinki, Finland, August 2012,
- Reviewer for the following journals: Elsevier Journal of System and Software, Springer Software and System Modeling, Elsevier Science of Computer Programming,
- Reviewer for the LNCS book Models@runtime.

Philippe Merle served in the following scientific animation actions.

- PC member of the 11th Workshop on Adaptive and Reflective Middleware (ARM), Montréal, Canada, December 2012,
- PC co-chair of the 1ère Conférence en Ingénierie du Logiciel (CIEL), Rennes, June 2012.

Adel Noureddine served as Organization Chair of the 9th MajecSTIC conference that was held in Lille in October 2012. MajecSTIC is the national conference for PhD students and young researchers in Information and Communication Technologies and covers topics from Computer Science to Electrical Engineering.

Romain Rouvovoy served in the following scientific animations actions.

- Member of the steering committee of the IFIP International Conference on Distributed Applications and Interoperable Systems,
- Member of the following PC committees:
 - 27th International ACM Symposium on Applied Computing - 7th Track Dependable and Adaptive Distributed Systems (DADS), March 2012,
 - 1st Nordic Symposium on Cloud Computing & Internet Technologies (NordiCloud), August 2012,
 - 8th International Conference on the Quality of Information and Communications Technology (QUATIC) - Track Quality in Cloud Computing, September 2012,
 - 2nd International Workshop on Adaptive Services for the Future Internet (WAS4FI), September 2012,
 - 1st International Workshop on Self-Aware Internet of Things (Self-IOT), September 2012,
 - 6th International Workshop on Middleware Tools, Services and Run-time Support for Networked Embedded Systems (MidSens), December 2012,
 - 7th International Workshop on Middleware for Next Generation Internet Computing Workshop (MW4NG), December 2012,
 - 11th International Workshop on Adaptive and Reflective Middleware (ARM), December 2012,
- Reviewer for the following journals: Elsevier Science of Computer Programming, Elsevier Information and Software Technology, IEEE Software, Springer Journal of Internet Services and Applications, Wiley Journal of Software: Evolution and Process, Lavoisier TSI.

Lionel Seinturier served in the following scientific animations actions.

- Guest co-editor of a special issue of the Elsevier Science of Computing journal on Software Evolution, Adaptability and Maintenance,
- Member of the editorial board of the ISTE-Wiley series of books on Computer Science and Information Technology and editor for the Software Engineer domain of this series,
- PC Chair of the 2nd IEEE International Workshop on Advanced Information Systems for Enterprise (IWAISE),
- Member of the following PC committees:
 - 4th IEEE International Conference on Service-Oriented Computing and Applications (SOCA), Taipei, December 2012,
 - 38th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), MOCS Track & DANCE workshop, Cesme, Turkey, September 2012,
 - IEEE International Workshop on Future Green Communications (FGC), Paris, April 2012,
 - 6ème Conférence francophone sur les architectures logicielles (CAL), Montpellier, May 2012,
- Reviewer for the following journals: Elsevier Science of Computer Programming, Elsevier Journal of Systems Architecture, Central European Journal of Computer Science, Lavoisier TSI.

Martin Monperrus served as:

- Referee for ACM Transactions on Software Engineering and Methodology (TOSEM), Elsevier Science of Computer Programming (SCP), IEEE Transactions on Software Engineering (TSE), Wiley Software Practice and Experience (SPE)
- External Referee for International Conference on Foundations of Software Engineering (FSE), ICSE New Ideas and Emerging Results Track (ICSE NIER), European Conference on Modeling Foundations and Applications (ECMFA)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Permanent members teach the following courses.

Laurence Duchien heads the **research program** in Master of Computer Science at University Lille 1. She heads the Carrières et Emplois service and is referent for the professional insertion in the PhD program in Computer Science at PRES University Lille Nord de France. She teaches the following courses.

Software Project Management, 50h, Level M2, Master MIAGE, University Lille 1,

Design of distributed applications, 42h, Level M1, Master of Computer Science, University Lille 1,

Object-Oriented Design, 42h, Level M2, Master of Computer Science, University Lille 1,

Software Product Lines, 6h, Level M2, Master of Computer Science, University Lille 1,

Research and Innovation Initiation, 22h, Level M2, Master of Computer Science, University Lille 1,

Tutoring Internship, 22h, Level M2, Master of Computer Science, University Lille 1.

Martin Monperrus teaches at the University Lille undergraduate and graduate courses. In particular:

Introduction to programming, 48h, Level L1, Licence of Computer Science, UFR IIEEA, University Lille 1,

Object-oriented design, 39h, Level L3, Licence of Computer Science, UFR IIEEA,

Automated software engineering, 40h, Level M2, Master of Computer Science speciality IAGL, UFR IIEEA, University Lille 1.

Romain Rouvoy heads the **IAGL** specialty of the Master of Computer Science at the University Lille 1. He supervises the **Agil-IT** Junior Enterprise and gives the following courses at the University Lille 1:

Initiation à la Programmation, 48h, Level L1, Licence of Computer Science, UFR IEEA, University Lille 1,

Conception d'Applications Réparties, 42h, Level M1, Master of Computer Science, UFR IEEA, University Lille 1,

Qualité du Logiciel, 30h, Level M2, Master of Computer Science speciality MIAGE, UFR IEEA, University Lille 1,

Infrastructures et Frameworks Internet, 8h, Level M2, Master of Computer Science speciality IAGL, UFR IEEA, University Lille 1,

Innovation & Initiation à la Recherche, 14h, Level M2, Master of Computer Science speciality IAGL, UFR IEEA, University Lille 1,

Intergiciels Orienté Services, 50h, Level M2, Master of Computer Science speciality IPI-NT, UFR IEEA, University Lille 1,

Suivi de projets, 60h, Level M2, Master of Computer Science, UFR IEEA, University Lille 1,

Suivi d'alternants, 60h, Level M2, Master of Computer Science, UFR IEEA, University Lille 1.

Lionel Seinturier heads the **E-Services** specialty of the Master of Computer Science at the University Lille 1. He gives the following graduate courses at the University Lille 1.

Conception d'applications réparties, 18h, M1, University Lille 1,

Infrastructures et frameworks Internet, 6h, M2, University Lille 1.

9.2.2. Supervision

PhD : Gabriel Hermosillo, Towards Creating Context-Aware Dynamically-Adaptable Business Processes Using Complex Event Processing, University Lille 1, 5 June 2012, Laurence Duchien & Lionel Seinturier.

PhD : Gabriel Tamura, QoS-CARE: Un Système Fiable pour la Préservation de Contrats de Qualité de Service à travers de la Reconfiguration Dynamique, University Lille 1 & University Los Andes, Bogota, Colombia, 28 May 2012, Laurence Duchien.

PhD in progress : Benoit Cornu, Automated Runtime Software Repair, October 2012, Lionel Seinturier & Martin Monperrus.

PhD in progress : Rémi Druilhe, Réduction de l'emprunte énergétique dans la maison numérique, October 2010, Laurence Duchien & Lionel Seinturier.

PhD in progress : Alexandre Feugas, Maintien de la qualité de service au cours de l'évolution d'applications orientées services, October 2010, Laurence Duchien.

PhD in progress : Nicolas Haderer, AntDroid: Opportunistic Mobile Sensing of User Activities, October 2010, Lionel Seinturier & Romain Rouvoy.

PhD in progress : Jonathan Labéjof, R* - Réflexivité au service de l'évolution des systèmes de systèmes, October 2009, Lionel Seinturier & Philippe Merle. To be defended on 20 December 2012.

PhD in progress : Matias Martinez, Automated Program Repair at Development and Runtime, October 2011, Laurence Duchien & Martin Monperrus.

PhD in progress : Adel Noureddine, Software Engineering for Green Autonomic Systems, October 2010, Lionel Seinturier & Romain Rouvoy.

PhD in progress : Russel Nzekwa, Building Feedback Control Loops for Self-Adaptive Very-Large-Scale Environments, October 2009, Lionel Seinturier & Romain Rouvoy.

PhD in progress : Fawaz Paraiso, Interopérabilité des environnements middleware de cloud computing, October 2011, Lionel Seinturier & Philippe Merle.

PhD in progress : Clément Quinton, Migration d'applications dans les environnements middleware de cloud computing, October 2011, Laurence Duchien.

PhD in progress : Marc Sango, Composants logiciels, boucle de contrôle et adaptation pour applications safety critical dans le domaine ferroviaire, October 2012, Laurence Duchien & Christophe Gransart.

9.2.3. Juries

Laurence Duchien was in the following HDR examination committee:

- Thierry Geraud, University Marne-la-Vallée, June 2012 (chair).

Laurence Duchien was in the following PhD examination committees:

- Nabil Fakhfakh, University of Malaga, Spain, January 2012 (referee),
- Gabriel Tamura, University Lille 1 & University Los Andes, Bogota, Colombia, May 2012 (director),
- Gabriel Hermosillo, University Lille 1, June 2012 (director),
- Michal Malohlava, Charles University, Prague, September 2012 (referee),
- Takoua Ben Rhoula Aouina, University Paris 11, November 2012 (referee),
- Loic Petit, University of Grenoble, December 2012 (examiner).

Philippe Merle was in the PhD examination committee of Jonathan Labéjof, University Lille 1, December 2012 (co-advisor).

Lionel Seinturier was in the following PhD examination committees:

- Gabriel Tamura, University Lille 1 & University Los Andes, Bogota, Colombia, May 2012 (examiner),
- Gabriel Hermosillo, University Lille 1, June 2012 (co-director),
- Sandrines Santilles, Märladalen University, Sweden, June 2012 (opponent),
- Ali Hassan, Telecom Bretagne, September 2012 (referee),
- Mohamed Lamine Boukhanoufa, University Paris 11, September 2012 (examiner),
- Jonathan Labéjof, University Lille 1, December 2012 (director).

9.3. Popularization

Nicolas Petitprez participated to **Salon de la Vente à distance** that was held in Lille from October 23 to 25, 2012. Inria held a booth in this exhibition that is dedicated to professionals from the retail industry. Nicolas demonstrated the results and the prototype that has been developed in the context of the FUI Macchiato (see Section 8.2) project.

Laurence Duchien participated to a panel on Mobile computing for Banking applications that was held in April 2012 in Paris.

Aurélien Bourdon gave several demonstrations of the PowerAPI software library (see Section 5.6), especially for the Recherche, Innovation, Creation (RIC) day that was held on 6 October 2012 in Lille and that targets graduate students from the M.Sc and Computer Engineering programs. He also gave this demonstration during visits such as the one of Michel Cosnard, CEO of Inria, and the one of Jean-François Pauwels, vice-president for research at University Lille 1. Finally the demonstration was also played during workshops dedicated to green computing, such as **Eco-conception des logiciels un outil novateur pour le pilotage des projets informatiques** in October 2012, and Rencontre Inria Industrie in March 2012.

ALEA Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorial Board

P. Del Moral is currently associate editor/editor for the following journals

- Chief editor : American Journal of Algorithms and Computing, since 2012.
- Associate editor : Applied Mathematics and Optimization, since 2009.
- Associate editor Revista de Matematica: Teoria y Aplicaciones , since 2009.
- Associate editor : Stochastic Analysis and Applications, since 2001.

9.1.2. Senior Program Committee

- International conference on Uncertainty in Artificial Intelligence (**UAI'2012**): F. Caron
- **Ieres rencontres R**: P. Legrand

9.1.3. Responsibilities

B. Bercu is responsible of the thematic group MAS (Modélisation Aléatoire et Statistique) at SMAI.

B. Bercu is an assistant director of the Institut de Mathématiques de Bordeaux (IMB). He is also a member of the IMB council and the UFR council of the University of Bordeaux. He is a member of the CNU section 26.

B. Bercu is co-responsible of the specialty "Modélisation Statistique et Stochastique" of the Master MIMSE.

P. Legrand is a member of "bureau de l'association Evolution artificielle".

P. Legrand is in charge of the learning management system MOODLE of the UFR sciences et modélisation (University of Bordeaux II).

9.1.4. Organization of Conferences

- **International Conference Evolve 2012**: P. Legrand, P. Del Moral (with A.A. Tantar, E. Tantar, P. Bouvry, O. Schütze)
- International workshop on **Sequential Monte Carlo methods and Efficient simulation in Finance**: P. Del Moral (with E. Gobe, P. Hu)
- **Workshop EDF/Inria**, New stochastic forecasting methods for individual temporal series in energy context : B. Bercu, F. Proïa (with S. Bercu, P. Lé)

9.1.5. Reviewing

- Journals: Annals of Statistics, IEEE TPAMI, Journal of the Royal Statistical Society B, Computational Statistics and Data Analysis, Statistics and Computing, Journal de la Société Française de Statistiques
- Conferences: UAI, NIPS, ICML, AISTATS

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence :

- B. Bercu, Mathématiques générales, Analyse et Algèbre SVE, 36h, L1, University of Bordeaux, France

- P. Legrand, Espaces Euclidiens, 54h, L2, University of Bordeaux, France
- P. Legrand, Traitement du Signal, 18h, L3, University of Bordeaux, France
- P. Legrand, Informatique pour les mathématiques, 36h, L1, University of Bordeaux, France
- P. Legrand, Algèbre, 72h, L1, University of Bordeaux, France
- P. Legrand, Technologies de l'information, de la communication pour l'éducation, 42h, University of Bordeaux, France
- A. Richou, Probabilités et statistiques, 32h, L3, University of Bordeaux, France
- A. Richou, Probabilités et statistiques, 32h, L1, University of Bordeaux, France

Master :

- A. Richou, Probabilité, 32h, M1, University of Bordeaux, France
- B. Bercu, Séries chronologiques, 48h, M2, University of Bordeaux, France
- B. Bercu, Processus aléatoires à temps discret, 30h, M1, University of Bordeaux, France
- B. Bercu, Probabilités, 30h, L3, University of Bordeaux, France
- F. Caron, Bayesian Methods, 33h, M2, University Bordeaux II, France
- F. Caron, Statistical Methods in Robotics, 25h, M2, IPB, France
- F. Caron, Advanced estimation tools in signal and image processing, 30h, M2, University Bordeaux I, France
- P. Legrand, Traitement du signal, 15h, M2, IPB, France

Other:

- P. Del Moral, Professeur chargé de cours (1/3 temps), Monte Carlo methods and Stochastic models, and introduction to probability calculus, Ecole Polytechnique, France.
- P. Del Moral, Mean field particle simulation for Monte Carlo integration, 10h, Lectures INLN-CNRS of the University of Nice Sophia Antipolis.
- P. Legrand, Course on Matlab, 42H

9.2.2. Supervision

PhD:

- Aurélie Le Cain, Caractéristiques spatiales et temporelles d'une tache focale LMJ, university Bordeaux I, Jan. 2012, P. Del Moral and B. Bercu
- Peng Hu, Méthodes particulières et applications en finance , university Bordeaux I, June 2012, P. Del Moral

PhD in progress :

- Vassili Blandin, Processus autorégressifs à bifurcation, Sept. 2011, B. Bercu
- Frédéric Proia, Processus autorégressifs stables, Dec. 2010, B. Bercu, P. Del Moral
- Philippe Fraysse, Algorithmes stochastiques pour la régression semi-paramétrique, Sept. 2010, B. Bercu
- Paul Lemaitre, Analyse de sensibilité et analyse de risques, Sept. 2010, P. Del Moral
- François Giraud, Méthodes particulières adaptatives pour l'estimation non linéaire, Nov. 2009, P. Del Moral
- Nicolas Antunès, Etude du modèle GARP pour la prédiction de niches écologiques, Sept. 2011, P. Del Moral and P. Legrand
- Laurent Vézard, Réduction de dimension en apprentissage supervisé. Application à l'étude de l'activité cérébrale, Sept. 2010, P. Legrand
- Antoine Campi, Filtrage particulière de fluides turbulents, 2012, P. Del Moral

- Christelle Vergé, Méthodes particulières pour la propagation d'incertitudes dans des codes numériques, 2012, P. Del Moral
- Paula Craciun, Méthodes de filtrage multi-objets en analyse d'image, 2012, P. Del Moral

9.2.3. Juries

- Peng Hu, PhD, University of Bordeaux: P. Del Moral
- Cyrille Dubarry, PhD, TelecomParisSud: P. Del Moral
- Sébastien Gadat, HDR, University of Toulouse: P. Del Moral
- Jérémie Bureau, PhD, University of Toulouse : B. Bercu
- Valère Bitseki Penda, PhD, University Blaise Pascal : B. Bercu
- Pascal Szacherski, PhD, University of Bordeaux: F. Caron

ALF Project-Team

9. Dissemination

9.1. Scientific community animation

- Pierre Michaud was a member of the ISPASS 2012 and MuCoCos 2012 program committees
- Isabelle Puaut is a member of the program committees of ECRTS 2013, RTAS 2013 and RTCSA 2013. She was a member of the program committee of DAC 2012, ECRTS 2012, EFTA 2012, LCTES 2012, RTCSA 2012, RTNS 2012, WCET 2012.
- André Seznec was a member of Micro 2012, ISCA 2012 and ICDD2012 program committees. He is a member of the editorial board of the IEEE Micro.
- André Seznec is the Program co-chair of HiPEAC 2013, January 2013 and Program co-chair of PACT 2013 (September 2013).
- Erven Rohou was a member of the program committees of PARMA 2012, EUC 2012 and Computing Frontiers 2012.

9.2. Teaching

- F. Bodin, A. Seznec, I. Puaut and E. Rohou are teaching computer architecture and compilation in the master of research in computer science at University of Rennes I.
- Erven Rohou teaches classes and labs of Computing Systems at école Polytechnique (INF422).
- I. Puaut teaches operating systems and real-time systems in the master degree of computer science of the University of Rennes I and at Ecole Supérieure d'ingénieurs de Rennes.
- D. Hardy teaches operating systems and compilers in the master degree of computer science of the University of Rennes I. He teaches real-time systems in the BSc degree *Embedded automotive systems*.
- Pierre Michaud and André Seznec are teaching computer architecture at the engineering degree in computer science at Ecole Supérieure d'ingénieurs de Rennes.
- I. Puaut is co-responsible of the Master of Research in computer science in Brittany (administered jointly by University of Rennes I, University of Bretagne Sud, University of Bretagne Occidentale, INSA de Rennes, ENS Cachan antenne de Bretagne, ENIB, Supélec, Telecom-Bretagne).

9.3. Workshops, seminars, invitations, visitors

9.3.1. Seminars

- A. Seznec has presented a seminar on "What you will never have wanted to know on branch prediction" at University of Cyprus (April 2012), ETH Zurich (May 2012), Qualcomm (August 2012, Raleigh, North Carolina), Georgia Tech (August 2012) and ARM Sophia Antipolis (October 2012).
- A. Seznec has presented invited talks on "Should we defy the Amdahl's Law" at MATEO 2012 workshop in honor of Mateo Valero (Barcelona, June 2012), and at the "Let's Imagine the Future Workshop" in honor of Jean-Pierre Banâtre (Rennes, November 2012).
- A. Seznec has presented a seminar on "Revisiting value prediction" at Intel Hillsboro in December 2012.
- A. Seznec has presented a seminar on "HAVEGE, HARDware Volatile Entropy Gathering and Expansion: unpredictable random number generation at user level" at the LPMA laboratory (Paris, September 2012).

- I. Puaut has presented a seminar on "WCET estimation for multi-core architectures" at CNES, Toulouse, in December 2012.
- Pierre Michaud has presented a seminar on "Hardware acceleration of sequential loops" at Intel, Boston in December 2011.
- E. Rohou gave a talk at the GDR GPL/5es journées françaises de compilation: "Défis des architectures à venir - Quelle compilation pour demain ?" (Rennes, Irisa/Inria April 2012)
- E. Rohou gave an invited talk at Harvard University: "Compilation Challenges for Upcoming Architectures", (September 2012)
- E. Rohou gave an invited talk at the Workshop on Language Virtual Machines and Multicore Architectures: "Compilation Challenges for Future Architectures" (September 2012, LIP6 Paris)
- E. Rohou gave an invited talk at the Egypt-Japan University of Science and Technology in Alexandria: "Performance of Future Architectures and Compilation Challenges" (May 2012).

9.3.2. Visits

- Pr Ahmed El-Mahdy, from the Egyptian-Japanese University of Science and Technology visited the ALF project for 1 week in October 2012.
- Pr Qureshi from Georgia Tech visited the ALF project-team for 3 weeks in July 2012 in the framework of the DAL ERC project.
- Pr Baniasidi from Victoria university visited the ALF project-team for 1 week in October 2012. This visit was funded by the French embassy in Canada.
- Keisuke Kuroyanagi from University of Tokyo was a master intern in the ALF team from April 2012 to July 2012. He worked on memory scheduling [21].

9.4. Miscellaneous

- I. Puaut is a member of the advisory board of the foundation Michel Métivier (<http://www.fondation-metivier.org>).
- I. Puaut is a member of the Technical Committee on Real-Time Systems of Euromicro, which is responsible for ECRTS, the prime European conference on real-time systems.
- I. Puaut is in the steering committee of the RTNS conference.
- I. Puaut is the french representative for the COST action TACLe (Timing Analysis on Code-Level), for which she also chairs the student mobility committee.
- Erven Rohou was a member of the working group GTInria2020 whose mission is to produce the next "Plan Stratégique".
- A. Sez nec is an elected member of the scientific committee of Inria.
- A. Sez nec has been nominated by ACM for 3 years 2011-2013 on the selection committee for the ACM-IEEE Eckert-Mauchly award.
- A. Sez nec was a member of the steering committee of ISCA 2012.
- E. Rohou has been appointed "correspondant scientifique des relations internationales" for Inria Rennes Bretagne Atlantique.

ALGORILLE Project-Team

9. Dissemination

9.1. Scientific Animation

Since October 2001, J. Gustedt is Editor-in-Chief of the journal *Discrete Mathematics and Theoretical Computer Science* (**DMTCS**). He is member of the recruiting committee for PhDs and postdocs of that center and has been member in three recruitment committees for university positions in 2012.

In 2011 and 2012, J. Gustedt also served as head of the *Networks, Systems and Services* department of the LORIA computer science lab and through that as a member of the directory of LORIA and of several recruiting commissions of Université de Lorraine.

Since 2005, S. Vialle is head of the RGE action ("Réseau Grand Est") of the GDR ASR of CNRS. For SUPÉLEC, S. Vialle served as head of the IMS research team (2010–2012), and is now leader of the IDMaD research group (focussed on distributed computing and big data) inside the IMS team.

Since 2010, J. Gossa serves as expert for the French ministry of science and education and is in charge of reviewing industrial R&D expenses and *Credit Impôt Recherche* reports.

Since 2011, S. Contassot-Vivier serves as an expert for the French ministry of education and research in the DGRI/MEI mission and is in charge of reviewing academic projects between french and foreign teams.

L. Nussbaum was member of the organization and program committee for the **Grid'5000 Winter School 2012**.

M. Quinson has served as program committee member of the 27th ACM/IEEE International Parallel & Distributed Processing Symposium (IPDPS'13).

We organized the first Realis event this year. Associated to the Compas'13 conference, this workshop aims at providing a place to discuss the reproducibility of the experiments basing the publications submitted to the main conference. L. Nussbaum was PC chair (with O. Richard) while M. Quinson was PC member.

L. Nussbaum is appointed as an expert on research grids by the direction of the Inria Nancy–Grand Est center.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

IUT Charlemagne: Lucas Nussbaum, Systems, 40 ETD, 1ère année (L1), Université de Lorraine, France

IUT Charlemagne: Lucas Nussbaum, Networks, 70 ETD, année spéciale (L1/2), Université de Lorraine, France

IUT Charlemagne: Lucas Nussbaum, Installation of Linux, 20 ETD, Licence pro ASRALL (L3), Université de Lorraine, France

IUT Charlemagne: Lucas Nussbaum, Administration of applications, 24 ETD, Licence pro ASRALL (L3), Université de Lorraine, France

IUT Charlemagne: Sylvain Contassot-Vivier, "Algorithmique", 42 ETD, année spéciale (L1), université de Lorraine, France

Licence: Jens Gustedt, "algorithmique et programmation", 20 TD, niveau (L1), Université de Lorraine, France

Licence, Stephane Vialle, "modèle de programmation", 21 TD, L1, SUPELEC, France

MIAGE Nancy: Marion Guthmuller, "Réseaux", 50 ETD, M1, Université de Lorraine, France

Master: Sylvain Contassot-Vivier, “Algorithmique répartie et systèmes distribués”, 45 ETD, M1, université de Lorraine, France

Master: Sylvain Contassot-Vivier, “Systèmes communicants”, 24 ETD, M2, université de Lorraine, France

Telecom Nancy: Sylvain Contassot-Vivier, “Algorithmique des systèmes parallèles et distribués”, 32 ETD, 2ème année (M1), université de Lorraine, France

Telecom Nancy: Lucas Nussbaum, Networks and systems, Systems part (40h), 2ème année (M1), Université de Lorraine, France

ESSTIN Nancy: Sylvain Contassot-Vivier, “Calcul haute performance”, 42 ETD, 4ème année (M1), université de Lorraine, France

Master, Stephane Vialle, “systèmes d’information”, 39 TD, M1, SUPELEC, France

Master, Stephane Vialle, “calcul haute performance”, 62 TD, M2, SUPELEC, France

Engineering School, Stéphane Genaud, “systèmes informatiques et réseaux”, 72 TD, niveau L3, ENSIIE, France

Engineering School, Stéphane Genaud, “middleware”, 32 TD, niveau M1, ENSIIE, France

Master, Stéphane Genaud, “parallélisme, systèmes distribués et grilles”, 21 TD, M2, University of Strasbourg, France

Master, Stephane Vialle, “parallélisme, systèmes distribués et grilles”, 21 TD, M2, University of Strasbourg, France

Master, Stephane Vialle, “systèmes distribués et grilles”, 28 TD, M2, University of Strasbourg, France

In addition, Martin Quinson authored a pedagogic platform in collaboration with Gérald Oster (Score team of Inria Nancy Grand Est). This tool aims at providing an environment that is both appealing for the student, easy to use for the teacher, and efficient for the learning process. It is available from [its page](#). Its advantages for the learning process are described in [11].

9.2.2. Supervision

PhD: Wilfried Kirschenmann, *Towards sustainable intensive computing kernels*, University of Lorraine, October 17, 2012, Stephane Vialle & Laurent Plagne (EDF)

PhD in progress: Tomasz Buchert, *Orchestration of experiments on distributed systems*, since Oct 2011, Jens Gustedt & Lucas Nussbaum

PhD in progress: Marion Guthmuller, *Dynamic verification of distributed applications, using a model-checking approach*, since Oct 2011, Sylvain Contassot-Vivier & Martin Quinson

PhD in progress: Thomas Jost, *Solveurs linéaires creux sur GPU*, since Jan 2010, Bruno Lèvy & Sylvain Contassot-Vivier

PhD in progress: Soumeya Hernane, *Models and algorithms for consistent data sharing in high performance parallel and distributed computing*, since Oct 2007, Jens Gustedt & Mohamad Benyettou

9.2.3. Juries

In 2012, our team members participated to following thesis and habilitation committees:

Stéphane Genaud, rapporteur, Adrian Muresan, University of Lyon - École Normale Supérieure, France.

Jens Gustedt, member, Jean-Loup Guillaume (HDR), University Paris 6.

Martin Quinson, rapporteur, Silas De Munck, University of Antwerp, Belgium.

Martin Quinson, member, Sabina Akhtar, University de Lorraine, France.

Martin Quinson, member, Bogdan Cornea, University de Franche-Comté, France.

Stephane Vialle, member, Lokman Abbas-Turki, University of Paris-Est, France.

Stephane Vialle, rapporteur, Jonathan Caux, University Blaise Pascal of Clermont-Ferrand, France.

Sylvain Contassot-Vivier, member, Karim Dahman, université de Lorraine, France

Sylvain Contassot-Vivier, member, Tomás Navarrete Gutiérrez, université de Lorraine, France

Sylvain Contassot-Vivier, member, Wahiba Taouali, université de Lorraine, France

9.3. Popularization

Jens Gustedt is regularly blogging about efficient programming in particular the **C programming language**. He also is an active member of the **stackoverflow community** a technical Q&A site for programming and related subjects.

Martin Quinson acts as a member to the Inria-Nancy Grand Est committee for Scientific Mediation. He works on several activities to demonstrate the *algorithmic thinking* at the core of the Computer Science without requiring any computer or even electric devices. An intern was funded for two months by the national Inria fund toward science popularization on this topic. These activities were demonstrated several times this year by Thomas Jost, Marion Guthmuller, Sébastien Badia and Martin Quinson to during popularization events welcoming the public within our laboratory. They were also shown during the national **APMEP** days, a nationwide gathering of maths teachers at the secondary level. Martin Quinson was involved in popularization activities with Interstice ¹ by writing short debunking articles (“Idées reçues”) for non computer scientists about the Church thesis and Turing’s work.

¹<http://interstices.info>

ALICE Project-Team

7. Dissemination

7.1. Scientific Animation

Sylvain Lefebvre was in the following program committees in 2012: SIGGRAPH Asia, EGSR, High Performance Graphics, EUROGRAPHICS Short papers and I3D. He joined the editorial board of TOG as an associate editor. He was also an invited speaker at SIBGRAPI 2012 in Ouro Preto, Brazil.

Bruno Lévy was in the following program committees in 2012: ACM SIGGRAPH, Eurographics, SPM, IEEE SMI, ACM/EG SGP, Pacific Graphic, GMP, DGCI. He was an invited speaker in the EIT ICT labs school and gave an invited tutorial at the Internatinal Meshing Roundtable.

Rhaleb Zayer was in the Program committee of EUROGRAPHICS 2012 (Full papers).

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Sylvain Lefebvre was involved in the following courses:

- Ecole Central Paris - 6h ETD
- Ecole Nationale Supérieure de Géologie - 9h ETD
- Ecole des Mines de Nancy, Introduction à la programmation graphique et de jeux vidéos - 30h ETD
- Université de Lorraine, Mise en place du module d'introduction à la programmation massivement parallèle (OpenCL), M1, 28h ETD en collaboration avec Dmitry Sokolov
- Ecole d'hiver at ENS Lyon - 12h ETD

Samuel Hornus was involved in the following courses:

- "Functional programming with OCaml" at ÉPITECH Nancy (private school training programmers, <http://nancy.epitech.eu/>). Lecture: 9h. Lab work: 18h. 3 student projects.

Dmitry Sokolov was involved in the following courses:

- Algorithmique avancée, 28h, M2 Math de l'UL, France
- Géométrie et représentation dans l'espace, 35h, L2 Informatique de l'UL, France
- Logiques et Modèles de calcul, 30h, M1 Informatique de l'UL, France
- Infographie 76h, M1 Informatique de l'UL, France
- Modèles de perception et raisonnement, 56h, M1 Informatique de l'UL, France
- Parallelisme de données, 15h, M1 Informatique de l'UL, France

Dobrina Boltcheva was involved in the following courses:

- Synthèse d'images, 15h, Licence ISN, IUT Saint-Dié-des-Vosges
- Traitement d'images, 30h, 2A DUT INFO, IUT Saint-Dié-des-Vosges
- Modélisation des systèmes d'informations I, 26h, 1A DUT INFO, IUT Saint-Dié-des-Vosges
- Modélisation des systèmes d'informations II, 20h, 2A DUT INFO, IUT Saint-Dié-des-Vosges
- Conception de structures de données, 38h, 2A DUT INFO, IUT Saint-Dié-des-Vosges
- Outils de génie logiciel, 48h, 2A DUT INFO, IUT Saint-Dié-des-Vosges

Bruno Lévy teaches "Numerical Geometry" in the Nancy School of Geology, and gave courses at "Ecole de Recherche ENS Lyon" and "Conférences de rentrée de l'ENS Cachan".

7.2.2. Supervision

PhD : Anass Lasram, Exploring and Rendering Synthesized Textures, Université de Lorraine, Finished 10 Dec. 2012, Bruno Lévy and Sylvain Lefebvre

PhD : Vincent Nivoliers, Optimal Sampling of Surfaces, Finished 30 Nov. 2012, Bruno Lévy

PhD in progress : Sergey Podkorytov, Fractal Differential Geometry, Started 1 Sept. 2010, Christian Gentil and Dmitry Sokolov

PhD in progress : Kun LIU, Modèle discret guidé par l'acquisition pour les objets déformables, Started 1 Aug. 2010, Rhaleb Zayer and Bruno Lévy

PhD in progress : Alejandro Patricio GALINDO, Traitement de l'image et video tracking pour l'extraction d'informations pertinentes, Started 15 Sept. 2012, Rhaleb Zayer and Bruno Lévy

PhD in progress : Thomas Joste, Numerical Solvers on the GPU, Bruno Lévy and Sylvain Contassot

PhD in progress : Romain Merland, Voronoi grids for flow simulations in geology, Guillaume Caumon and Bruno Lévy

PhD in progress : David Lopez, Dynamic meshing of free surfaces in fluid simulation, Bruno Lévy

PhD in progress : Jeanne Pellerin, Hybrid meshing for geosciences, Guillaume Caumon and Bruno Lévy

7.2.3. Juries

Sylvain Lefebvre was a jury member for the doctoral committee of Ismael Garcia (U. of Girona).

Bruno Lévy was a jury member for the Habilitation theses of Tamy Boubekeur (Telecom Paristech), Jean-Philippe Vandeborre (Telecom Lille 1), Hyewon Seo (Strasbourg LSIT), Ivo Ihrke (Bordeaux) and the Ph.D. theses of Alexandre Coninx (Grenoble), Avinash Sharma (Grenoble), Said Jabrane (UCB Lyon), Jean-March Thierry (Telecom Paristech), Simon Boyé (Bordeaux), Yann Savoye (Bordeaux).

7.3. Popularization

Sylvain Lefebvre has continued to animate the "Commission de médiation scientifique" of the Inria Nancy Grand-Est center. He participated in the 2012 science festival, in the "Cordées de la réussite" initiative, presented the software "Mobinet" to high-school teachers, and participated in the prizes ceremony for the Mathematics Olympiads.

Vincent Nivoliers participated to the "Fete de la Science" and "Maths en Jeans" events, by showing demos and giving tutorials.

ALPAGE Project-Team

9. Dissemination

9.1. Scientific Animation

- Alpage is involved in the French journal *Traitement Automatique des Langues* (T.A.L., AERES linguistic rank: A). Éric de La Clergerie is “Rédacteur en chef” and was the editor of the special issue 53/2 (2012) on “Time and Space”. Laurence Danlos is a member of the editorial board. Benoît Sagot is a guest editor, jointly with Núria Bel, for a special issue on Language Resources for which Benoît Crabbé is a member of the specific reviewing committee.
- Alpage members were involved in many Program, Scientific or Reviewing Committees for other journals and conferences. For example, Éric de La Clergerie participated to the program committees of CSLP’12, LGC’12, STAIRS’12, NAACL-HLT’12 (Parsing Area), TALN’12 (Scientific Committee), LREC’12 (Scientific Committee), WoLE’2012 (1st International Workshop on Web of Linked Entities) and reviewed for the journal *Computational Linguistics*; Djamé Seddah was a PC member of EMNLP2012, TALN 2012, CICLING 2012; and Benoît Crabbé was a reviewer for the journals LRE and *Language Modeling*.
- Alpage, (and more specifically Éric de La Clergerie, Djamé Seddah, and Laurence Danlos) was in charge of the organization of TAG+11 (on Tree Adjoining Grammars and Related Formalisms, <http://alpage.inria.fr/tagplus11>), that was held in Paris (September 2012).
- Laurence Danlos co-organized (with Pierre Zweigembaum, LIMSI, CNRS) a one-day ATALA workshop on Artificial Intelligence and Natural Language Processing that was held in Paris in April 2012.
- Benoît Sagot is elected board member of the French NLP society (ATALA) and Secretary since September 2010.
- Laurence Danlos is a member of the Permanent Committee of the TALN conference organized by ATALA.
- Laurence Danlos is a member of the Scientific Committee of the Linguistics UFR of University Paris Diderot.
- Benoît Sagot is a member of the Governing Board and of the Scientific Board of the LabEx (excellency cluster EFL), as head of the research strand on language resources; Laurence Danlos is a member of the Scientific Board of the LabEx EFL, representing Alpage.
- Djamé Seddah is one of the founders of the statistical parsing of morphologically rich language initiative that started during IWPT’09. He was the program co-chair of the successful SPMRL 2010 NAACL-HLT Workshop and of its 2011 edition that took place during IWPT’11. He co-chaired an ACL 2012 workshop centered around the Syntactic and Semantic Processing of Morphologically Rich Languages. He and Marie Candito are also involved (both as core members, Djamé Seddah as co-chair) into the MRL statistical parsing shared task that will be organized in this context (data are to be released in February 2013 and the results will be presented at EMLP 2013; Marie Candito is in charge of the French data). Moreover, Benoît Sagot is a member of the reviewing committees. Finally, Alpage is a regular sponsor of this series of workshops.
- Djamé Seddah was one of the guest-editors of a Special issue of the Computational Linguistics Journal dedicated to the Parsing of Morphologically-Rich Language.
- Djamé Seddah was the program chairs of the French NLP society one-day workshops (until September 2012) and a member of its board.
- Marie Candito organized the Alpage research seminar.

- Benoît Crabbé co-organized the research seminar : lectures in experimental linguistics (Univ P7)
- Benoît Crabbé and Benoît Sagot were project reviewers for the National Research Agency (ANR).

9.2. Participation to workshops, conferences, and invitations

Invited talks and seminars:

- Benoît Sagot gave an invited talk at the workshop on “Computational Approaches to Morphological Complexity” in Surrey, UK and he presented the French Social Media Bank within the Working Group n°9 "Shallow Annotation" of the Consortium Corpus Écrits within the Très Grande Infrastructure de Recherche (TGIR) CORPUS.
- Benoît Sagot was invited to a seminar at Düsseldorf to talk on “Semi-automatic development of lexical resources”.
- Laurence Danlos gave invited seminars at Laboratoire d’Informatique de l’Université Pierre et Marie Curie, France, at Computer Science department of UDM (Université de Montréal) Canada, at ENS Lyon and University Paris Sorbonne in France.
- Djamé Seddah gave an invited seminar at the University of Dusseldorf (Abteilung für Computerlinguistik), was a panelist at the NAACL Workshop on Statistical Analysis of Non Canonical Languages, and gave an invited talk at the Paris 7 Linguistics department.
- Benoît Crabbé gave an invited tutorial at the "Experiences, empiricité, expérimentations en linguistique" at Saint Raphael (organized by the CNRS lab HTL) at gave a talk at the "demi heure de sciences" of Inria’s Paris Rocquencourt center.
- Marie Candito gave an invited talk at the seminar series of the LIMSI’s Groupe Information, Langue Ecrite et Signée (ILES)

Participation to conferences and workshops (in almost all cases, this is associated with at least a talk or a poster presentation):

- Almost all members of Alpage participated to TALN 2012, Grenoble, France.
- Several members of Alpage participated to TAG+11, organized by Alpage in Paris, France.
- Laurence Danlos and Juliette Thuillier participated to CMLF’12 (Congrès Mondial de Linguistique française) in Lyon, France.
- Laurence Danlos and Charlotte Roze participated to the Muldico Exploratory Workshop "Towards a multilingual database of connectives" in Iena, Deutschland.
- Laurence Danlos participated in a Linguistic workshop in Bordeaux.
- Rosa Stern participated to the EACL workshop on Innovative hybrid approaches to the processing of textual data – Poster
- Rosa Stern participated to the AKBC-WEKEX workshop (<http://akbcwekex2012.wordpress.com>) – Poster
- Éric de La Clergerie participated to the 11th International Workshop on Treebanks and Linguistic Theories (TLT11) in Lisbon, Portugal – Paper
- Laurence Danlos, Charlotte Roze, Éric de La Clergerie, Marie Candito participated to LREC’12 in Istanbul, Turkey – Papers
- Laurence Danlos and Éric de La Clergerie participated to the Lexis-Grammar Conference in Nové Hradý, Czech Republic – Paper
- Benoît Sagot participated to LREC’12 in Istanbul, Turkey – 5 oral presentations, 1 poster, and a participation at a workshop.
- Djamé Seddah presented one poster at EVALITA 2012 (Rome), one at LREC 2012 (Istanbul), one talk at COLING 2012 (Mumbai) and one talk at NAACL SANCL 2012 (Montreal).

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Alpage is in charge of the prestigious cursus of Computational Linguistics of Paris 7, historically the first cursus in France in this domain. This cursus, which starts in License 3 and includes a Master 2 (research) and a professional Master 2, is directed by Laurence Danlos. Marie Candito is in charge of the License 3, and Laurence Danlos is in charge of both Master 2. All faculty members of Alpage are strongly involved in this cursus, but some Inria members also participate in teaching and supervizing internships. Unless otherwise specified, all teaching done by Alpage members belong to this cursus. Teaching by associate members in other universities are not indicated.

Laurence Danlos (Inria partial delegation): Introduction to NLP (3rd year of License, 28h); Discourse, NLU and NLG (2nd year of Master, 28h).

Marie Candito (Inria part time delegation, renewed in September 2012): Information retrieval (2nd year of professional Master, 12h); Clustering and Classification (2nd year of professional Master, 12h); Automatic semantic analysis (2nd year of Master, 12h); Machine translation (1st year of Master, 48h);

Benoît Crabbé: Language data analysis (24h Master 2 P7) ; Logical and Computational structures for language modelling (12h Master 2 MPRI) with S. Schmitz. Introduction to computer science (24h L3 P7); Introduction to Corpus Linguistics (24h L3 P7); Stochastic methods for NLP (24h Master 1 P7); Introduction to Computational Linguistics (24h UFR P7);

Benoît Sagot: Parsing systems (2nd year of Master, 24h).

Charlotte Roze: Introduction to Programming (3rd year of License, 24h); Algorithmics (3rd year of License, 24h).

Juliette Thuilier: Syntactic theories : Lexical-Functional Grammar (3rd year of Licence, 48h); Introduction to syntax (2nd year of License, 24h) at University Paris Sorbonne; Implementation of LFG Grammar (2nd year of License, 12h) at University Paris Sorbonne;

Pierre Magistry: Object Oriented Programming, Java-II (3rd year of licence, 12/24h) ; Syntax : HPSG with LKB (1st year Master, 24h)

Luc Boruta: Introduction to Programming II (3rd year of License, 24h); Algorithmics (3rd year of License, 24h); Language & Computer Science (1st year of License, 12h);

François-Régis Chaumartin: Modélisation (UML) et bases de données (SQL) (2nd year of professional Master, 24h).

Chloé Braud: Programmation 2 Java 24h (L3 LI CM/TP); Sémantique computationnelle 24h (M1 LI TD).

Djamé Seddah (half-delegation since September 2011, renewed for 2012): as an Assistant Professor in CS in the University Paris 4 Sorbonne, member of the UFR ISHA, mainly teaches “Generic Programming and groupware”, “Distributed Application and Object Programming”, “Syntactic tools and text Processing for NLP”, “Machine Translation Seminars” in both years of the Master “Ingénierie de la Langue pour la Gestion Intelligente de l’Information”. Djamé Seddah is also the “Directeur des études” of a CS transversal module for the Sorbonne’s undergraduate students (ie “Certificat Informatique et Internet”).

Ongoing PhDs and PhDs defended in 2012:

PhDs in progress:

- Corentin Ribeyre, *vers la syntaxe profonde pour l’interface syntaxe-sémantique*, started in November 2012, supervised by Laurence Danlos, co-supervised by Djamé Seddah and Éric de La Clergerie.
- Isabelle Dautriche, *Exploring early syntactic acquisition: a experimental and computational approach*, started in September 2012, co-supervised by Benoît Crabbé.

- Marion Baranes, *Correction orthographique contextuelle de corpus multilingues et multicanaux*, started in January 2012, supervised by Laurence Danlos, co-supervised by Benoît Sagot, in collaboration with the *viavoo* company.
- Marianne Djemaa, *Création semi-automatique d'un FrameNet du français, via interface syntaxe-sémantique*, started in October 2012, supervised by Laurence Danlos, co-supervised by Marie Candito
- Chloé Braud, *Développement d'un système complet d'analyse automatique du discours à partir de corpus annotés, bruts et bruités*, started in September 2011, supervised by Laurence Danlos
- Valérie Hanoka, *Construction semi-automatique de réseaux lexicaux spécialisés multilingues*, started in January 2011, supervised by Laurence Danlos, co-supervised by Benoît Sagot
- Enrique Henestroza Anguiano, *Enhancing statistical parsing with lexical resources*, started in November 2009, supervised by Laurence Danlos and co-supervised by Marie Candito and Alexis Nasr.
- Emmanuel Lassalle, *Résolution automatique des anaphores associatives*, started in September 2010, supervised by Laurence Danlos
- Pierre Magistry, *Construction (semi)-automatique de lexiques dynamiques du mandarin*, started in September 2010, supervised by Sylvain Kahane and co-supervised by Benoît Sagot and Marie-Claude Paris
- Charlotte Roze, *Vers une algèbre des relations de discours*, started in October 2009, supervised by Laurence Danlos
- Rosa Stern, *Construction d'une base de référence pour les métadonnées de dépêches d'agence: reconnaissance et résolution jointes d'entités avec adaptation au domaine*, started in November 2009, supervised by Laurence Danlos and co-supervised by Benoît Sagot

PhD defended

- François-Régis Chaumartin, *Extraction automatisée de connaissances d'une encyclopédie*, started in October 2005, supervised by Sylvain Kahane, and defended in September 2012
- Luc Boruta, *Indicators of Allophony and Phonemehood*, started in September 2009, co-supervised by Emmanuel Dupoux (LSCP/ENS) and Benoît Crabbé, defended in September 2012
- Juliette Thuilier, *Contraintes préférentielles et ordre des mots en français*, started in September 2008, supervised by Laurence Danlos and co-supervised by Benoît Crabbé, defended in September 2012

9.3.2. Juries

- Laurence Danlos was a member of the HdR defense committee of Matthieu Constant (University Paris-Est Marne-la-Vallée, Nov. 2012); the title of his dissertation was "Mettre les expressions multi-mots au coeur du Traitement Automatique des Langues - sur l'exploitation de ressources lexicales".
- Éric de La Clergerie was a member of the PhD defense committee of Karen Fort (Université Paris 13, Dec. 2012); the title of her dissertation was "Les ressources annotées, un enjeu pour l'analyse de contenu : vers une méthodologie de l'annotation manuelle de corpus".
- Éric de La Clergerie was a member of the PhD defense committee of Nguyen Van Tien (Université de Pau, Nov. 2012). The title of his dissertation was "Méthode d'extraction d'informations géographiques à des fins d'enrichissement d'une ontologie de domaine".
- Éric de La Clergerie was a member of the PhD defense committee of Milagros Fernandez Gavilanes (Univ. of La Coruña, Spain, Oct. 2012) in quality of co-supervisor. The title of her dissertation was "Adquisición y representación del conocimiento mediante procesamiento del lenguaje natural".

- Djamé Seddah was a member of the PhD defense committee of Anthony Sigogne (University Paris-Est Marne-la-Vallée, Nov. 2012). The title was "Intégration de ressources lexicales riches dans un analyseur syntaxique probabiliste".
- Djamé Seddah was a member of the a research fellow hiring committee at the University of Copenhagen (Denmark). Position funded by the Andeers Sogaard's ERC young researcher grant.
- Djamé Seddah was a member of the "Comité de Sélection" for an Assistant Professor position in Computer Science (CNU 27) at Université Paris Sorbonne.
- Benoît Sagot was a member of the "Comité de Sélection" for an Assistant Professor position in Computer Science (CNU 27) at University Paris-Est Marne-la-Vallée (IUT).

Marie Candito was a member of the "Comité de Sélection" for an Assistant Professor position in Computer Science (CNU 27) at Université Aix-Marseille II.

9.4. Popularization

- Éric de La Clergerie and Mikael Morardo have presented some results about NLP and Knowledge Acquisition during "Les journées de la science" (Oct. 2012).
- Éric de La Clergerie was invited to talk to the Inria Sophia seminar "C@fe-in" and to the CIV (*Valbonne International Center*) about "Les ordinateurs comprennent-ils le langage ?" (*Do computers understand language ?*).

9.5. AERES Evaluation

The UMR-I formed by Alpage was evaluated by AERES on December 4th, 2012.

AMIB Project-Team

7. Dissemination

7.1. Scientific Animation

7.1.1. French Community

Participants: Patrick Amar, Jérôme Azé, Julie Bernauer, Sarah Cohen-Boulakia, Alain Denise, Christine Froidevaux, Sabine Peres, Yann Ponty, Mireille Régnier, Jean-Marc Steyaert.

The whole team is involved in GDR-BIM (Molecular Bioinformatics, <http://www.gdr-bim.u-psud.fr/>). J. Azé is the webmaster. Alain Denise is a member of the Scientific Committee. Ch. Froidevaux and S. Cohen-Boulakia participate to the subdomain *Knowledge Representation, Ontologies, Data Integration and Grids*.

A. Denise, Y. Ponty and M. Régnier participate into the subdomain Sequence Analysis and to COMATEGE subgroup of GDR- IM (Informatique Mathématique, <http://www.gdr-im.fr/>)

A. Denise, Y. Ponty, J.-M. Steyaert, and M. Régnier are involved in the ALEA working group (<http://igm.univ-mlv.fr/~nicaud/webalea/>) of the GDR-IM (Informatique Mathématique, <http://www.gdr-im.fr/>).

7.1.2. Seminars and visits

7.1.2.1. Amib seminars

We received in our weekly seminar: A. Thévenin (Bielefeld University), A. Sim (Bioinformatics Institute, A*STAR Singapore), J. Andreani-Feuillet (CEA, Saclay), R. Fonseca (University of Copenhagen), P. Clote (Boston College), J. Waldispuhl (McGill University), Robert Giegerich (Bielefeld University), J-C. Almeida (Lisbonne), Y. Okamoto (Nagoya University), N. Malod-Dognin (INRIA Sophia-Antipolis), V. Boeva (Institut Curie, Paris), L. Pereyaslavets (Stanford University), X. Huang (HKUST).

7.1.2.2. Other seminars

P. Amar ran a workshop at the *Modelling Complex Biological Systems in the Context of Genomics*. Spring school at Évry. He has been invited to give a talk at the Ecole de Printemps 2012 de la Société Francophone de Biologie Théorique on *Comparative study of some methods for simulation of biochemical reactions*.

J. Azé has been invited to present his work in the field of Protein-Protein Interaction and Docking to the Dalember's seminars of Paris-Sud.

J. Bernauer gave a talk at the Inria@SiliconValley Workshop BIS2012 in May in Paris. She gave an invited talk at the Computational Structural Biology workshop at HKUST in August (Hong-Kong) at SSRL (Stanford Synchrotron Radiation Lightsource) in November (SLAC, Stanford, USA).

S. Cohen-Boulakia has been invited to participate to the Dagstuhl seminar on *Principles on Provenance*. She has been invited to present the current challenges and opportunities in the field of *Data Integration in the Life Sciences at Internet Memory*.

A. Denise gave an invited keynote on combinatorics and random generation in the context of bioinformatics at the GASCom 2012 conference (Bordeaux).

S. Peres has been invited to give a talk to the Dagstuhl seminar 12462 on *Symbolic Methods for Chemical Reaction Networks*. She gave a talk to *Modelling Complex Biological Systems in the Context of Genomics*. at Évry and to *The 4th JFLI-LRI-NII Workshop on Consequence Finding and Satisfiability Testing in Distributed Environments and Systems Biology* at Orsay.

Y. Ponty gave an invited keynote on RNA visualization at the EMBL-hosted conference *VIZBI'12* (Heidelberg, Germany), three invited talks at the *Benasque RNA workshop* (Spain), and an invited talk at the SeqBio'12 colloquium (LIGM, Marne La Vallée, France).

M. Régnier gave an invited talk at the Conference “en l’honneur d’ Alain Guenoche”, CIRM, Marseille, France.

7.1.2.3. *International exchanges*

J. Bernauer and M. Régnier visited H. van den Bedem at SSRL (SLAC) and M. Levitt at Stanford University (USA). J. Bernauer visited the Huang group at HKUST (Hong-Kong) and the Bujnicki lab at IIMCB (Warsaw, Poland).

M. Régnier and D. Iakovishina visited IoGene (Moscow). M. Régnier visited USC (M. Waterman) and UC Berkeley (P. Novichkov and E. Purdom).

S. Cohen-Boulakia visited the Information Management Group at the University of Manchester (C. Goble and N. Paton) to initiate collaboration on Data Integration for the Life Sciences (including provenance in scientific workflows).

Katsumi Inoue’s group visited AMIB group during the 4th JFLI-LRI-NII Workshop on "Consequence Finding and Satisfiability Testing in Distributed Environments and Systems Biology" (19th - 20th, November 2012).

7.1.3. *Program Committee*

P. Amar was chairman of the organising committee, and a member of the scientific committee as well, for the conference "Modelling Complex Biological Systems in the context of genomics", Evry, May 2012. (<http://epigenomique.free.fr/en>).

J. Azé and C. Froidevaux served as PC members for the conference EGC 2012 (Extraction et la Gestion des Connaissances, Bordeaux).

S. Cohen-Boulakia served as PC member for: ICDE 2012 22 (27th I 2012 222tnf. on Data Engineering, Washington, USA), SWEET 2012 (Int. workshop on Scalable Workflow Enactment Engines and Technologies, Scottsdale, USA) and BDA 2012 (Bases de Données Avancées, Clermont-Ferrand).

S. Cohen-Boulakia and C. Froidevaux served as PC member for DILS 2012 (Int. workshop on Data Integration in the Life Sciences, University of Maryland, USA).

A. Denise is a member of the editorial board of *Technique et Sciences Informatiques*.

F. D’Alche-Buc, C. Froidevaux, and Y. Ponty served as PC members for JOBIM 2012 (Journées Ouvertes en Biologie, Informatique et Mathématiques, Rennes).

Ch. Froidevaux served as member of the program committee of JOBIM’12 bioinformatics conference.

She was PC member of the following international workshops and conferences: CMBS 2012 (25th International Symposium on Computer-Based Medical Systems, Rome, Italy), NETTAB’2012 (12th International Workshop on Network Tools and Applications in Biology, on Integrated Bio-Search, Como, Italy) ICCS 2012 (Workshop on Biomedical and Bioinformatics Challenges to Computer Science, Omaha, USA) and ISMB 2012 (Applied Bioinformatics area, Long Beach, USA).

J. Bernauer, Y. Ponty and M. Régnier served as PC members for WRSBS 2012 (1st International Workshop on Robustness and Stability of Biological Systems and Computational Solutions, Orlando, USA).

Y. Ponty, M. Régnier, and J.-M. Steyaert served as PC members for BICOB 2012 (4th International Conference on Bioinformatics and Computational Biology, Las Vegas, USA).

S. Peres served as PC member for ECCB 2012 (European Conference on Computational Biology 2012, Basel, Switzerland).

7.1.4. *Research administration*

Y. Ponty is an elected member of the *Comité national du CNRS* (6th section – Foundations of Computer Science and CID 51 –Bioinformatics).

J. Bernauer is member of the IDEX Paris - Saclay Groupe de travail Sciences du Vivant.

A. Denise was a member of the *Comité national du CNRS* (7th section – and CID 43 –Bioinformatics) until September 2012. He is an expert for the *Direction Générale de la Recherche et l'Innovation* (DGRI) of the Research Ministry. He is a member of the Scientific Commission of the Inria-Saclay reserach center.

Ch. Froidevaux has been head of the Computer Science Department at the University Paris Sud until the end of January 2012 and is head of the Bioinfo group at LRI.

M. Régnier is a deputy-member of DIGITEO program committee.

J.-M.Steyaert is a member of the Board of Administrators of Polytechnique.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

The Master of Bioinformatics and Biostatistics, which is a joint master between University Paris-Sud and Ecole Polytechnique <http://www.bibs.u-psud.fr>, is co-headed by members of the group.

J.-M. Steyaert organizes BIBS (M1 and M2) at Ecole Polytechnique. A. Denise has co-headed the Master (M1 and M2) at the University Paris Sud until end August. C. Froidevaux is co-heading it at the University since September 2012.

Most team members are teaching in this master.

Master BIBS: J. Bernauer, Informatique théorique et Programmation Python, 20h, M2, Université Paris-Sud, France

Cycle Ingénieur Polytechnicien: J. Bernauer, Modal Bioinformatique, 18h, 2ème année, École Polytechnique, France

Cycle Ingénieur Polytechnicien: J. Bernauer, PSC, encadrement, 2ème année, Ecole Polytechnique, France

Cycle Ingénieur Agro Paris Tech: J. Bernauer, Module AAB, cours invité, 3ème année, Agro Paris Tech, France

Master BIM: Y. Ponty, Modélisation et bioinformatique de l'ARN, 8h de cours, M2, Université Paris-Sud, France

Master BIBS: Y. Ponty, M. Regnier, J.-M. Steyaert, Combinatoire, Algorithmes, Séquences et Modélisation (CASM), 32h, M2, Université Paris-Sud, France

Doctorat : M. Régnier, Combinatorics on genome, 20h, El-Farabi University, Kazakhstan

Master : J.-M. Steyaert, X cycle ingénieur INF582- Datamining, 35h, M1, Ecole Polytechnique, France

Licence : J.-M. Steyaert, X cycle ingénieur Modal-BioInformatique, 45h, L3, Ecole Polytechnique, France

Master : J.-M. Steyaert, BIBS Algorithmique avancée et optimisation, 25h, M2, X-Orsay, M2, Ecole Polytechnique, France

Data Bases, 48h, M1 BIBS (Bioinformatics and BioStatistics), Paris-Sud University, France (C. Froidevaux)

Advanced Algorithmics, 48h, M1 BIBS (Bioinformatics and BioStatistics), Paris-Sud University, France (C. Froidevaux)

Integration and Analysis of heterogeneous data from the Web, 24h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (J. Azé, S. Cohen Boulakia, C. Froidevaux)

Advanced Data Bases and Data Mining, 42h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (S. Cohen Boulakia, C. Froidevaux).

Initiation to Research, 6h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University, France (C. Froidevaux)

Software Engineering for Bioinformatics, 48h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (P. Amar)

Modelling and Simulation of Biological Processes, 24h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (P. Amar)

Biological Networks and Systems Biology, 9h, M1 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (P. Amar)

RNAomics and RNA Bioinformatics, 12h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (A. Denise)

Theoretical Computer Science, 30h, M2 BIBS (Bioinformatics and BioStatistics), Paris-Sud University/École Polytechnique, France (A. Denise)

7.2.2. Supervision

HdR : Jérôme Azé, Prédiction d'Interactions et Amarrage Protéine-Protéine par combinaison de classifieurs, Paris-Sud University, 16/11/2012

PhD : Feng Lou, Algorithms for studying RNA secondary structures and sequence alignments, Univ. Paris-Sud, 30/01/2012, P. Clote (Boston) and A. Denise.

PhD : Philippe Rinaudo, Algorithmics of RNA structure-sequence alignment: a general and parameterized approach, Univ. Paris-Sud, 05/12/2012, D. Barth (Univ. Versailles) and A. Denise.

PhD in progress : Bryan Brancotte, Ranking biological and biomedical data: algorithms and applications, Université Paris Sud, 01/10/2012, S. Cohen-Boulakia and A. Denise

PhD in progress : Jiuqiang Chen, Mining and Integrating heterogeneous data in e-science environments, 10/09/2011, Université Paris Sud, S. Cohen-Boulakia and C. Froidevaux

PhD in progress: Adrien Guilhot-Gaudeffroy, Modelling and scoring of protein-RNA complexes, 01/10/2011, J. Azé, J. Bernauer, C. Froidevaux

PhD in progress: Daria Iakovishina, A Combinatorial Approach to Assembly Algorithms, 01/11/2011, M. Régnier

PhD in progress : Cécile Pereira, Bioinformatics approaches for a comparative study of metabolic networks and their evolution, 01/10/2011, A. Denise and O. Lespinet (IGM, Univ. Paris-Sud)

PhD in progress : Antoine Soulé, Evolutionary study of RNA-RNA interactions in yeast, 01/09/2012, J.-M. Steyaert, Y. Ponty, and J. Waldspühl (University McGill, Canada)

PhD in progress : Bo Yang, Bioinformatics approaches for studying the relations between RNA structure and pre-messenger RNA splicing, 01/10/2011, A. Denise and Fu Xiangdong (Wuhan University, China)

PhD in progress : Cong Zeng, Identification of structural motifs in messenger RNAs, 01/10/2011, A. Denise

PhD in progress : Mélanie Boudard, Game theory and stochastic learning for predicting the three-dimensional structure of large RNA molecules , 15/10/2012, J. Cohen (CNRS, Univ. Versailles) and A. Denise.

7.2.3. Juries

A. Denise served as referee and jury member for Sylvain Sené's HDR defence (Univ. Evry, November 2012), Amine Ghoulane's PhD defence (Univ. Bordeaux I, December 2012) and Romain Pogorelcnik's PhD Defence (Univ. Blaise Pascal - Clermont II, December 2012). He served as the head of the jury member in Leandro Montero's PhD defence (Univ. Paris-Sud, December 2012). He served as a jury member in the hiring committee for a *Maître de Conférence sur chaire CNRS* position at Ecole Centrale de Nantes.

C. Froidevaux was a referee for Johan Estellon's PhD defence (Univ. Grenoble). She served as a member of the *Comité de thèse* of Pauline Gloaguen (INRA Tours, Feb 2012) and as a jury member for the defence of her PhD (Univ. Tours, Dec 2012). She served as the head of the jury in Konstantinos Karanasos' PhD defence (Paris Sud, July 2012). She was member of the *HDR* de Jérôme Azé (Univ. Paris-Sud).

Ch. Froidevaux took part as an external jury member in the hiring committee of an Assistant Professor position at IGM (Univ. Paris Sud, Orsay). She is member of the *Commission Consultative de Spécialistes* (CCSU, 27th section) of the University Paris Sud.

M. Régnier served as a jury member in Jérémie Bourdon's HDR defence (Nantes University). She was a member of the hiring committee for *Maître de Conférence* position at Bordeaux University (LaBRI).

S. Peres served as a jury member in the PhD defense committee of Chamseddine KIFAGI at Sfax University (Tunisia).

Y. Ponty served as a jury member in the hiring committee for a *Maître de Conférence* position at Université de Versailles St Quentin. He served as a jury member in the PhD defense committee of Azadeh Saffarian at Université de Lille 1 (LIFL/Inria Lille).

7.3. Popularization

AMIB animated the INRIA booth, at the yearly "Nuit des Chercheurs" <http://events.polytechnique.fr/accueil/la-nuit-des-chercheurs/la-nuit-des-chercheurs-43774.kjsp> in September at Ecole Polytechnique. The topic was to illustrate the principles underlying RNA folding algorithms through playing combinatorial games.

Y. Ponty gave a presentation at *Unithé ou Café*, the monthly *popular science* event of sc Inria Saclay, on RNA folding using dynamic programming. He was interviewed by the *Interstices* web site on RNA folding algorithms, leading to a 12 minutes-long podcast. Y. Ponty was invited to give a tutorial on RNA visualization at the EMBL (Heidelberg, Germany)-hosted conference VIZBI' 12.

S. Cohen-Boulakia was invited to give a short tutorial on *Data Integration in the Life Sciences* at the national thematic school *Masses de données distribuées* (Summer School).

AOSTE Project-Team

9. Dissemination

9.1. Scientific Animation

Robert de Simone

Technical Program Committee: FDL2012, SIES2012, SSMBSE2012, MEMOCODE2012, ES-Lsyn2012.

Board of Administrators: CIM PACA Design Platform association

Scientific co-animator: DAS SE (Specific Action Domain on Embedded Systems), Aerospace Valley Competitiveness Cluster

Yves Sorel

Technical Program Committee: RTNS 2012, DASIP 2012.

Editorial Board: Traitement du Signal Journal

Steering Committee: OCDS/SYSTEM@TIC Paris-Region Cluster

Frédéric Mallet

Technical Program Committee: ESLsyn2012.

Laurent George

Technical Program Committee: ECRTS 2012, RTAS 2012, WFCS 2012.

Co-editor: special issue of Real-Time Systems Journal made of best papers from RTNS 2011 conference (with Alan Burns, Univ. of York, UK).

Scientific Co-chair: ACTRISS group, supported by GDR ASR (CNRS, France) (<http://www.actriss.org/>).

Julien Deantoni

Technical Program Committee: CIEL2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Julien Deantoni, Computer Environnement, 30 h, L2 level, Polytech engineering school of University Nice/Sophia-Antipolis (UNS EPU) France.

Master: Julien Deantoni, Model Driven Engineering, 22 h, M2, UNS EPU.

Master : Julien Deantoni, C++ and Object Oriented Programming, 54 h, M1, UNS EPU.

Master: Julien Deantoni, Embedded Software and systems, 7 h, M2, UNS EPU.

Master: Julien Deantoni, VHDL, 40 h, M1, UNS EPU.

Licence: Sid-Ahmed-Ali Touati, Assembleurs et jeux d'instructions, 52h, L3, UNS Licence info.

Licence: Sid-Ahmed-Ali Touati, Systèmes informatiques, 30h, L1, UNS Licence info.

Master: Sid-Ahmed-Ali Touati, Programmation efficaces pour programmes embarqués et hautes performances, 16h, M1 Master ISI.

Master: Sid-Ahmed-Ali Touati, Systèmes d'exploitation avancés, 39h, M1, UNS Master ISI.

Master: Sid-Ahmed-Ali Touati, Programmation efficace et Optimisation de code, 16h, M1, UNS Master ISI.

Master: Sid-Ahmed-Ali Touati, Architecture des Processeurs, 15h, M1, UNS EPU.

Licence : Frédéric Mallet, Introduction à la Programmation Objet, 45h, L1, UNS.

Licence: Frédéric Mallet, Architecture des ordinateurs, 45h, L3, UNS.

Master: Frédéric Mallet, Programmation Avancée et Design Patterns, 93h, M1, UNS.

Master: Frédéric Mallet, Java pour l'Informatique Industrielle, 24h, M1, UNS.

Master: Frédéric Mallet, Architectures des ordinateurs, 12h, M1, UNS.

Master: Frédéric Mallet, Formal Models for Network-On-Chips, 3h, M2, UNS.

Licence : Marie-Agnes Peraldi-Frati, Algorithms and programming 60h,L1, UNS Institute of technology.

Licence : Marie-Agnes Peraldi-Frati, System and Networks administration 80h, L2, UNS Institute of technology .

Licence :Marie-Agnes Peraldi-Frati, Web Programming 50 h , L2, UNS Institute of technology.

Master : Robert de Simone, Formal Models for Networks-on-Chip, 24h , M2, UNS.

Master : Robert de Simone, Semantics of Embedded and Distributed Systems, 24 h, M1, UNS.

Master: Yves Sorel, Optimization of distributed real-time embedded systems, 24H, M2, University Paris Sud.

Master: Yves Sorel, Distributed real-time systems, 26H, M2, University Paris Est

Master: Yves Sorel, Specification and formal models for embedded systems, 28H, M2, ENSTA Engineering School Paris

Master: Yves Sorel, Correct by construction design of reactive systems, 18H, M2, ESIEE Engineering School Noisy-Le-Grand

Master: Dumitru Potop, Programmation synchrone des systèmes temps-réel, 8h, M1, EPITA Engineering School Paris

Licence: Laurent George, Java and Shell programming 48h, L1, IUT RT UPEC

Master: Laurent George, Distributed Real-Time Systems, 24h, M2, UPEC

9.2.2. Supervision

PhD: Mohamed Marouf, *Ordonnancement temps réel dur multiprocesseur tolérant aux fautes appliqué à la robotique mobile*, Ecole des Mines de Paris, defended on June 1st 2012, supervised by Yves Sorel, co-supervised by Brigitte D'Andrea-Novel (Institut Mines-Telecom).

PhD in progress: Carlos Ernesto Gomez-Cardenas, *Environnement multi-vues pour la métamodélisation sémantique formelle de systèmes embarqués*, UNS, started September 2010, supervised by Frédéric Mallet.

PhD in progress: Matias Vara-Larsen, *Toward a formal and hierarchical timed model for concurrent heterogeneous model*, ANR/CNRS, started November 2012, supervised by Frédéric Mallet, co-supervised by Julien Deantoni.

PhD in progress: Ameni Khecharem, *High-Level modeling of hierarchical power management policies in SoCs*, UNS, started October 2012, supervised by Robert de Simone.

PhD in progress: Ying Lin, *Formal Analysis of polychronous models with MARTE/CCSL*, East China Normal University, started September 2011, supervised by Jing Liu (ECNU), co-supervised by Frédéric Mallet.

PhD in progress: Falou Ndoeye, *Multiprocessor real-time scheduling taking into account preemption cost*, started January 2011, supervised by Yves Sorel.

PhD in progress: Manel Djemal, *Distributed real-time scheduling onto NoC architectures*, EDITE/UPMC, started Nov. 2010, co-supervised by Alix Munier (UPMC/Lip6) and D. Potop-Butucaru.

PhD in progress: Thomas Carle, *Real-time implementation of embedded control applications with conditional control onto time-triggered architectures*, EDITE/UPMC, started Sep. 2011, supervised by D. Potop-Butucaru.

PhD in progress: Pierre Courbin (ECE/UPEC), *Ordonnancement temps réel parallèle multiprocesseur*, started September 2009, supervised by Laurent George.

PhD in progress: Philippe Thierry (CIFRE Thales/UPEC), *Ordonnancement temps réel multiprocesseur sous contraintes de sécurité*, started April 2010, supervised by Laurent George.

PhD in progress: Vincent Sciandra, (CIFRE Veolia/UPEC), *Ordonnancement temps réel à criticité mixte dans les systèmes de transports intelligents (ITS)*, started Oct. 2010, supervised by Laurent George.

PhD in progress: Manar Qamhieh, (UPEMLV), *Ordonnancement temps réel de graphes de tâches parallèles à criticité mixte*, started Sept. 2010, co-supervised by Serge Midonnet (UPEMLV) and Laurent George.

PhD: Abdelhafid Mazouz, *An Empirical Study of Program Performance of OpenMP Applications on Multicore Platforms*, defended December 11 2012, UVSQ, supervised by Sid Touati (as part of his activities prior to joining Aoste), co-supervised by D. Bartou (LABRI).

9.2.3. Juries

Robert de Simone

PhD reviewer: Sébastien Guillet (Université Bretagne-Sud), Cédric Auger (Université Orsay Paris-Sud),

HDR examiner: Ludovic Apvrille (Institut Mines-Telecom) (President of Jury).

Frédéric Mallet

PhD reviewer: Boutheina Bannour (Ecole Centrale Paris), Daniel Knorreck (Télécom ParisTech), Michel Lauer (INP Toulouse), Sabir Idrees (Télécom ParisTech)

PhD examiner: Cyril Faucher (Université de La Rochelle)

Sid Touati

PhD reviewer: Mohamed Benazouz (U. Paris 6), Jingyan Jourdan-Lu (ENS Lyon), Jean-Noël Quintin (INP Grenoble)

PhD examiner: Julien Jaegger (UVSQ)

Laurent George

PhD reviewer: Aurélien Monot (Université de Lorraine, Nancy)

Yves Sorel

PhD examiner: Mohamed Benazouz (University Pierre et Marie Curie)

Julien Deantoni

PhD examiner: Abderraouf Benyahia (Supelec)

APICS Project-Team

9. Dissemination

9.1. Scientific Animation

L. Baratchart, S. Chevillard and J. Leblond gave communications at the Workshop on Inverse Magnetization Problems, Nashville, USA (Apr.).

L. Baratchart and J. Leblond gave communications at PICOOF, Conference Problèmes Inverses, Contrôle et Optimisation de Formes, Palaiseau, France (Apr.).

L. Baratchart gave invited talks at the Workshop on Potential Theory and Applications, Szeged, Hungary (June), and at SIGMA 2012, CIRM-Luminy (Nov). He gave a talk at the Conférence en l'honneur de Gauthier Sallet, Saint Louis du Sénégal (Dec.). He was a colloquium speaker at the State University of New York, Albany, USA (October) and at the University of Oregon, USA (Oct.).

S. Chevillard gave a talk at the ERNSI 2012 conference in Maastricht (Netherlands). He reviewed an article for the Journal of Symbolic Computation.

J. Leblond was invited to give a talk at the following conferences: Conference Control & Inverse Problems for PDE (CIPPDE), Santiago, Chili (Jan.), Workshop Control of Fluid-Structure Systems & Inverse Problems, Toulouse, France (Jun.), International Conference on Constructive Complex Approximation, Lille, France (Jun.), Joint Congress of the French & Vietnamese Math. Soc. (VMS-SMF), Hué, Vietnam (Aug.), Congress on Numerical MEthods & MOdelisation (MEMO), Tunis, Tunisie (Dec.). She also gave communications at the seminars of the School of Mathematics, Univ. Leeds, U.K. (Feb.), of the Institut de Mathématiques de Bordeaux (IMB, Univ. Bordeaux, Mar.), of the Department of Math. & Geosciences, Univ. Trieste, Italy (Oct.), and at the 2nd Nice Physical Day ("Journées de la Physique de Nice"), Nice (Dec.).

M. Olivi was co-organizer (with B. Hanzon and R. Peeters) of an invited session "model reduction/approximation" at the 16th IFAC Symposium on System Identification, Brussels, July 2012.

D. Ponomarev presented a poster [27] at the 2nd PhD Event in Fusion Science and Engineering, Pont-a-Mousson (Oct.).

E. Pozzi gave several communications at seminars at Univ. of Besançon, Grenoble (Jan.), Bordeaux, Orléans (Mar.), Marseille, Lille (Apr.)

F. Seyfert was invited to give a talk at the European Microwave Week 2012, Workshop on Advances of N-port networks for Space Application, Amsterdam, Netherlands.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: E. Pozzi, Numerical algorithmics, 26h ETD (from Sep.), L3, Computer Sciences, Polytech'Nice, Univ. Nice Sophia Antipolis, France.

9.2.2. Supervision

PhD: A.-M. Nicu, Approximation et représentation des fonctions sur la sphère. Applications aux problèmes inverses de la géodésie et l'imagerie médicale [13]. Univ. Nice Sophia Antipolis, ED STIC, Feb. 2012 (advisor: J. Leblond).

PhD in progress: S. Chaabi, Boundary value problems for pseudo-holomorphic functions, since Nov. 2008 (advisors: L. Baratchart and A. Borichev).

PhD in progress: D. Ponomarev, Inverse problems for planar conductivity and Schrödinger PDEs, since Nov. 2012 (advisors: J. Leblond, L. Baratchart).

9.2.3. Juries

- J. Leblond (advisor) and M. Olivi (examinator) were members of the PhD jury of A.-M. Nicu (Univ. Nice Sophia Antipolis, Feb.) [13].
- J. Leblond was a member (reviewer) of the PhD jury of N. Chaulet (Ecole Polytechnique, Nov.).
- L. Baratchart was the head of the PhD jury of Matteo Santacesaria (Ecole Polytechnique, Dec.).

9.3. Popularization

- M. Olivi is co-president with I. Castellani of the Committee MASTIC (Commission d'Animation, de Médiation et d'Animation Scientifique) <https://project.inria.fr/mastic/>. She is responsible for Scientific Mediation.
- J. Leblond and E. Pozzi are members of this committee.
- E. Pozzi participated to the "Filles et mathématiques" day, Avignon, Nov.

9.4. Community services

L. Baratchart is a member of the Editorial Boards of *Constructive Methods and Function Theory* and *Complex Analysis and Operator Theory*. He is Inria's representative at the « conseil scientifique » of the Univ. Provence (Aix-Marseille).

S. Chevillard is representative at the « comité de centre » and at the « comité des projets » (Research Center Inria-Sophia).

J. Leblond is an elected member of the "Conseil Scientifique" of Inria. Together with C. Calvet from Human Resources, she is in charge of the mission "Conseil et soutien aux chercheurs" within the Research Centre, and she participated to the working group BEAT ("Bien Être Au Travail").

M. Olivi is a member of the CSD (Comité de Suivi Doctoral) of the Research Center. She is responsible for scientific mediation.

F. Seyfert is a member of CUMIR at InRIA Sophia-Antipolis-Méditerranée.

ARIC Team

9. Dissemination

9.1. Scientific Animation

- Florent de Dinechin was in the program committee of HEART 2012 (Highly Efficient Accelerators for Reconfigurable Computing), FPL 2012 (Field-Programmable Logic), FPT 2012 (Field-Programmable Technologies) and ARC 2012 (Applied Reconfigurable Computing), and on the steering committee of the french Symposium on Architectures.
- Guillaume Hanrot was in the hiring committees for professors at the universities of Caen, Toulon, and UCB Lyon 1. He is a member of the scientific council of ENSIIE (Évry).
- Claude-Pierre Jeannerod, Nicolas Louvet, Nathalie Revol, Dave Saunders (University of Delaware, U.S.A.), Philippe Théveny and Gilles Villard organized the LyonBox meeting that gathered members of the LinBox project (ENS de Lyon, July 19-21).
- Claude-Pierre Jeannerod was in the software exhibits committee of ISSAC 2012. He is also a member of the scientific committee of “Journées Nationales de Calcul Formel”.
- Fabien Laguillaumie was in the program committee of ACISP 2012 (17th Australasian Conference on Information Security and Privacy).
- Jean-Michel Muller chaired the Aeres visiting committees of laboratories LIAFA and PPS. He was in the program committee of ARITH’21 (21st IEEE Symposium on Computer Arithmetic) and ASAP’2012 (Application-Specific Systems, Architectures and Processors). He is a member of the scientific councils of École Normale Supérieure de Lyon and Cerfacs.
- Nathalie Revol is a member of the steering and scientific committees of SCAN 2012, Novosibirsk. She organized a session on interval arithmetic at RAIM 2012, Dijon. She is a member of the “comité de diffusion” of the MILyon labex, one of her tasks was the selection of participants to ISSMYS 2012, Lyon. She is a member of the selecting committee of CapMaths. She is a member of the CES (Commission des Emplois Scientifiques), the hiring committee for postdocs at Inria Grenoble - Rhône-Alpes.
- Bruno Salvy is a member of the editorial boards of the Journal of Symbolic Computation and of the Journal of Algebra (section Computational Algebra), as well as the Springer series “Texts and Monographs in Symbolic Computation” and the series “Mathématiques & Applications” of the French SMAI. He is organizing the working group Computer Algebra of the CNRS GDR IM (Mathematical Computer Science). This year, he is a member of the program committee of AofA 2012 (Analysis of Algorithms), Montreal, Analco13 (Analytic Algorithmics and Combinatorics), New Orleans and ISSAC 2013 (Symbolic and Algebraic Computation), Boston. He has also been a member of several committees: PES at Inria; hiring junior researchers (CR) at Inria; hiring professors in Caen and Grenoble; visiting committee of the laboratory Liafa (Paris 7) for the Aeres.
- Damien Stehlé was in the program committees of INDOCRYPT’12, CRYPTO’12 and ISSAC’12. He was in the hiring committees for lecturers at the universities of Grenoble and Montpellier. He is a member of the steering committee of the Cryptography and Coding working group of GDR IM.
- Gilles Villard is chair of LIP laboratory.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Introduction to computer science, 24h, L1, ENS Lyon / classe passerelle pour l’enseignement supérieur, taught by Guillaume Hanrot (autumn 2012)

Licence : Introduction to Functional Programming, 30h, L1, UCB Lyon 1, taught by Nicolas Louvet (autumn 2012);

Licence : Computer Architecture, 74h, L2, UCB Lyon 1, taught by Nicolas Louvet (spring 2012);

Licence : Algorithms and Data Structures, 30h, L3, UCB Lyon 1, taught by Nicolas Louvet (autumn 2012);

Licence : Operating Systems, 60h, L3, UCB Lyon 1, taught by Nicolas Louvet (spring and autumn 2012);

Licence : “Groupe de lecture” Error-Correcting Codes, 24h, L3, ENS Lyon, taught by Nicolas Brisebarre, Eleonora Guerrini, Guillaume Hanrot and Damien Stehlé (spring 2012);

Master: Numerical Algorithms, M2, UCB Lyon 1, 20h taught by Claude-Pierre Jeannerod and 16h taught by Nicolas Louvet in a 36h course (spring 2012);

Master: Formal Proofs of Floating-Point Algorithms, ENS Lyon, 10h taught by Jean-Michel Muller in a 24h course (autumn 2012);

Master: Computer Arithmetic, 30h, M2, UCB Lyon 1, taught by Vincent Lefèvre (autumn 2012);

Master: Approximations: from symbolic to numerical computation, and applications, ENS Lyon, 12h taught by Nicolas Brisebarre and 12h taught by Bruno Salvy in a 24h course (autumn 2012);

Master: Computer Algebra, 24h, M1, ENS Lyon, taught by Guillaume Hanrot and Claude-Pierre Jeannerod (spring 2012);

Introduction to informatics for high school teachers, part of which (16h) was taught by Guillaume Hanrot (spring 2012).

9.2.2. Supervision

PhD & HdR :

PhD: Jingyan Jourdan-Lu, *Custom floating-point arithmetic for integer processors: algorithms, implementation, and selection* [11], ENS de Lyon - Université de Lyon, defended on November 15, 2012. Supervisors: Claude-Pierre Jeannerod, Christophe Monat (STMicroelectronics Compilation Expertise Center, Grenoble), and Jean-Michel Muller.

PhD: Érik Martin-Dorel, *Contributions à la vérification formelle d’algorithmes arithmétiques* [12], ENS de Lyon - Université de Lyon, defended on September 26, 2012. Supervisors: Micaela Mayero and Jean-Michel Muller.

PhD: Adrien Panhaleux, *Contributions à l’arithmétique flottante : codage et arrondi correct de fonctions algébriques* [13], ENS de Lyon - Université de Lyon, defended on June 27, 2012. Supervisors: Nicolas Louvet and Jean-Michel Muller.

PhD in progress : Nicolas Brunie, *Architecture et réalisation d’un accélérateur reconfigurable à couplage fort pour processeurs parallèles*, begun in September 2010 (CIFRE from April 2011), Florent de Dinechin, Renaud Ayrignac (Kalray).

PhD in progress : Julien Devigne, *Chiffrement pour la protection de la vie privée*, begun in September 2011 (Orange Labs - University of Caen), co-supervised by F. Laguillaumie (together with Sébastien Canard and Brigitte Vallée)

PhD in progress: Adeline Langlois, *Foundations of lattice-based cryptography*, begun in September 2010, supervised by D. Stehlé

PhD in progress: Philippe Théveny, *Numerical quality and high performance in scientific computing on emerging architectures*, begun in September 2011, supervised by N. Revol

PhD in progress : Serge Torres, *Some tools for the design of efficient and reliable function evaluation libraries*, started in September 2010, Supervisors: Nicolas Brisebarre and Jean-Michel Muller.

9.2.3. Juries

- Nicolas Brisebarre was a member of the board of examiners for the PhD defense of A. Benoit (École Polytechnique, 2012-07-18).
- Florent de Dinechin was a referee for the PhD of Naeem Abbas (Université Rennes-1, 2012-05-22).
- Guillaume Hanrot chaired the board of examiners for the PhD defense of P. Lezowski (Univ. Bordeaux 1, 2012-12-01).
- Claude-Pierre Jeannerod was in the PhD committee of J. Jourdan-Lu (ENS de Lyon, 2012-11-15).
- Fabien Laguillaumie was in the PhD committees of Kaoutar Elkhyaoui (EURECOM, 2012-09-12) and Olivier Blazy (ENS de Paris, 2012-09-27) as a referee and of Roch Lescuyer (Orange Labs/ENS de Paris, 2012-11-21).
- Jean-Michel Muller chaired the boards of examiners for the PhD defenses of T.M.T. Nguyen (Univ. Paris Sud, 2012-06-11) and R. Lebreton (École Polytechnique, 2012-12-11), and was a member of the boards of examiners for the PhD defenses of E. Martin-Dorel (ENS Lyon, 2012-09-26), A. Panhaleux (ENS Lyon, 2012-06-27), and J. Jourdan-Lu (ENS Lyon, 2012-11-15), and for the Habilitation defenses of M. Mayero (Univ. Paris Nord, 2012-11-22) and E. Thomé (Univ. Nancy, 2012-12-13).
- Bruno Salvy has been a member of the PhD committees of P.-J. Spaenlauber (Paris 6, 2012-10-09), O. Roussel (Paris 6, 2012-09-25) and of the committee for the habilitation of E. Thomé (Nancy, 2012-12-13), for which he was a referee.
- Damien Stehlé was in the PhD juries of P. Lezowski (Université Bordeaux 1, 2012-12-01) and G. Quintin (Ecole Polytechnique, 2012-11-22), for which he was a referee.

9.3. Invited Conferences

- Florent de Dinechin gave invited lectures at CERFACS (Toulouse), at the CERN/Intel OpenLab workshop at CERN and at CASPUR (Rome). He gave talks at Altera (High Wycombe, UK) and Maxeler Technologies (London).
- Jean-Michel Muller gave invited talks in satellite workshop of the SIAM'2012 Conference on Applied Linear Algebra (Valencia, Spain, June 2012), in the Workshop on Numerical Software (Santander, Spain, July 2012), and the LMS Colloquium "Verification and Numerical Algorithms" (London, November 2012).
- Nathalie Revol gave invited talks at national meetings: "Précision numérique" at CNES (Toulouse, January 2012), "Précision et incertitudes" organized by the thematic groups GAMNI and MAIRCI of the SMAI (Paris, February 2012), and at international meetings: "IFIP Working Group 2.5 on Numerical Software" and "Numerical software: design, analysis and verification" (both at Santander, Spain, July 2012).
- Damien Stehlé gave an invited talk at the workshop on Mathematical and Statistical Aspects of Cryptography (Kolkata, India, January 2012), lectures at International Workshop on Recent Advances in Lattice Reduction Algorithms and their Applications (Hyderabad, India, April 2012), an invited talk at Journées Charles Hermite (Nancy, France, June 2012), a plenary invited talk at the international conference SCC 2012 (Castro Urdiales, Spain, July 2012), lectures at Ecrypt Summer School on Lattices (Porto, Portugal, October 2012), an invited talk at the workshop on Post-Quantum Cryptography and Quantum Algorithms (Leiden, Netherlands, November 2012) and an invited talk at Colloquium Jacques Morgenstern (Sophia-Antipolis, December 2012).

9.4. Popularization

- Nathalie Revol gives talks for pupils at collèges and lycées, as an incentive to choose scientific careers: lycée Chabrillan (Montélimar, Drôme), collège Jacques Cœur (Lentilly, Rhône). She gave two talks around Women's Day, one at collège Pierre Moreto (Thuir, Pyrénées-Orientales) and one for a general audience, invited by the city of Canohes (Pyrénées-Orientales). The French Ministry of Education launched the first week of mathematics: N. Revol took part in the preparation of a television report for France 2 and she gave two 2-hours talks at lycées Pierre Brossolette (Villeurbanne) and Juliette Récamier (Lyon). For the Science Fair, she gave two talks at ENS Lyon.

ARLES Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Programme Committees of Conferences and Workshops

- Nelly Bencomo is PC member of the following international conferences: SEAMS '12& '13, MODELS '12& '13, CIbSE '12& '13, Poster track at RE '12& '13, SANES session at PECCS '13, SBES '13;
- Nelly Bencomo is PC member of the following international workshops: UsARE '12 at ICSE '12, VAMOS '13;
- Nikolaos Georgantas is PC member of the following international conferences: DAIS '12, ICSOFT '12, DATA '12, SOSE '13, ANT '13;
- Nikolaos Georgantas is PC member of the following international workshops: MW4NG'12, ARM'12;
- Valérie Issarny is PC member of the following international conferences: ESSOS '12, FASE '13, ICDCS '13, ICSE-NIER '12, ICSE '13, IFIPTM '13, ISARCS '13, Middleware '12, SEAMS '12& '13;
- Valérie Issarny is PC member of the following international workshops: SESO@ICSE '13, SERENE' 12& '13;
- Animesh Pathak is PC member of the following international conferences: ICCS '12, iThings '12, NPC '12, SENSORNETS '12, S-Cube '12; and
- Animesh Pathak is PC member of the following international workshops: SESENA '12, WSN4ITS '12, GeoHCI '13, and the Middleware '12 doctoral symposium.

8.1.2. Leadership Services in Academic Events and Edited Journals

- Nelly Bencomo is Student Volunteers Co-Chair at ICSE 2012;
- Nikolaos Georgantas is associate editor of the International Journal of Ambient Computing and Intelligence (IJACI);
- Nikolaos Georgantas is associate editor of the international journal Conference Papers in Computer Science;
- Valérie Issarny is member of the Steering Committee of the Middleware and ESEC/FSE conferences;
- Valérie Issarny is associate editor of the Springer JISA Journal of Internet Services and Applications;
- Valérie Issarny is the general chair of the ESSoS 2013 International Symposium on Engineering Secure Software and Systems; and
- Animesh Pathak is the Production Chair of HiPC 2012 & 2013.

8.1.3. Other Academic Services

- Nikolaos Georgantas is member of the PhD monitoring committee at Inria Paris-Rocquencourt;
- Valérie Issarny acted as Paris Node director of the EIT ICT Labs KIC from January to September 2012;
- Valérie Issarny is coordinator of the EC FP7 FET IP CONNECT;
- Valérie Issarny is scientific leader of the EC FP7 IP CHOReOS;

- Valérie Issarny is expert for the EC FP7 ICT work programme, and ARTEMIS Joint Undertaking;
- Valérie Issarny is member of the INRETS scientific council (IFSTTAR since 2011) & “Commission d’évaluation des chercheurs”;
- Valérie Issary is member of the GDR GPL scientific council;
- Valérie Issarny is member of the evaluation committee of ANR BlancJCJC’12, of Swedish Research Council subcommittee for Computer Science’2012 and Vienna Science and Technology Fund’2012; and
- Animesh Pathak is member of review board for EIT ICT labs 2013 call, Smart Spaces, and Cyber-Physical Systems tracks.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Valérie Issarny gives a 12 hours lecture on “Pervasive Service Oriented Computing” as part of the SWAS lecture of the Master 2 COSY of the University of Versailles Saint-Quentin en Yvelines;

Animesh Pathak co-taught a M2 level course on “Web sémantique, contenus et usages” at University of Versailles Saint-Quentin-en-Yvelines in Spring 2012; and

Animesh Pathak gave two three-hour guest lectures at CNAM, Paris as part of a M2 level course.

8.2.2. Supervision

In 2012, the following student successfully defended his PhD: Nebil Ben Mabrouk, “*QoS Service Oriented Middleware for Pervasive environments*”, defended April 2012, advised by Nikolaos Georgantas and Valérie Issarny

Additionally, the following PhD theses are currently in progress at the ARLES project-team:

- Emil Andriescu, “*Synthèse et déploiement dynamiques de protocoles de médiation pour l’interopérabilité dans les environnements collaboratifs nomades*”, started October 2012, advised by Valérie Issarny
- Dionysis Athanasopoulos, “*Evolution and Maintenance in Service-oriented Software*”, started October 2008, advised by Apostolos Zarras and Valérie Issarny
- Amel Bennaceur, “*Synthèse dynamique de connecteurs pour les réseaux ubiquitaires*”, started October 2009, advised by Valérie Issarny
- Benjamin Billet, “*Self-adaptive Streaming Middleware for the Internet of Things*”, started October 2012, advised by Valérie Issarny
- Sara Hachem, “*Middleware pour l’Internet des objets intelligents*”, started October 2012, advised by Animesh Pathak and Valérie Issarny
- Pankesh Patel, “*Enabling High-Level Application Development in Sensing-and-Actuation-augmented Pervasive Systems*”, started October 2010, advised by Animesh Pathak and Valérie Issarny

8.2.3. Juries

Valérie Issarny served on the PhD jury of two students: Ahmed Gater (May 2012, UVSQ), and Ajay Kattapur (November 2012, U. Rennes I)

ASAP Project-Team

9. Dissemination

9.1. Scientific Animation

A.-M. Kermarrec was the chair of the ACM Software System Award Committee.

A.-M. Kermarrec is a member of the scientific committee of the Société Informatique de France

A.-M. Kermarrec gave an invited seminar at the University of Lisbon in September 2012

A.-M. Kermarrec is a member of the steering committee of Eurosys.

A.-M. Kermarrec is a member of the steering committee of Middleware

A.-M. Kermarrec is a member of the steering committee of the SNS workshop

A.-M. Kermarrec is a member of the steering committee of the Winter School on hot topics in distributed systems

A.-M. Kermarrec is a member of the IEEE Internet Computing Editorial Board

A.-M. Kermarrec co-organized the Workshop Inria/Technicolor on distributed storage systems, Nov. 2012

A.-M. Kermarrec was an expert for WWTF (Vienna Science and Technology Fund) in 2012.

A.-M. Kermarrec is a member of the Inria scientific board (Bureau du comité des projets) in Rennes

A.-M. Kermarrec served in the program committees for the following conferences:

Eurosys 2012 : Bern, Switzerland, April 2012

Middleware 2012 : *ACM/IFIP/USENIX International Conference on Middleware*, Montreal, Canada, December 2012

DEBS 2012 : *ACM International Conference on Distributed Event-Based Systems*, Berlin, Germany, July 2012.

LADIS 2012 : *Large-Scale Distributed Systems and Middleware*, Madeira, Portugal, July 2012

VLDB 2013 : *International Conference on Very Large Data Bases*, Trento, Italy, August 2013.

SIGMOD 2013 : *ACM International Conference on Data Management*, NYC, USA, June 2013.

ICDCS 2013 : *International Conference on Distributed Computing Systems*, Philadelphia, USA, July 2013.

M. Raynal was program co-chair of ICDCN 2013, 14th International Conference on Distributed Computing and Networking, Mumbai, January 2013.

M. Raynal served in the program committees for the following conferences:

ICDCN 2012 *13th Int'l Conference on Distributed Computing and Networking (ICDCN'12)*, Hong-Kong, Hong Kong, January 3-6, 2012.

WTTM 2012 *4th Workshop on the Theory of Transactional Memory (WTTM'12)*, (satellite workshop of PODC'12), Madeira, 2012.

DISC 2012 *26th Int'l Symposium on Distributed Computing (DISC'12)*, Salvador, Brazil, 2012.

ICDCS 2012 Liaison Co-Chair, *32th IEEE Int'l Conference on Distributed Computing Systems (ICDCS'12)*, Macau, June, 2012.

D. Frey co-chaired the Workshop on Social Networks Systems colocated with Eurosys, Bern, April 2012.

D. Frey was program co-chair of ICDCN 2013, 14th International Conference on Distributed Computing and Networking, Mumbai, January 2013.

D. Frey served in the technical program committee of the following conferences:

Middleware 2012: *ACM/IFIP/USENIX International Conference on Middleware*, Montreal, Canada, December 2012.

P2P 2012: *The 12th IEEE International Conference on Peer-to-Peer Computing* Tarragona, Spain, September, 2012.

SSS 2012: *The 14th International Symposium on Stabilization, Safety, and Security of Distributed Systems* Toronto, Canada, October 2012.

IPDPS 2013: *IEEE International Parallel & Distributed Processing Symposium*, Boston, Massachusetts USA, May 2013.

A. Boutet served in the technical program committee and shadow program committee for the following conferences:

CyberC 2012: *International Conference on Cyber-enabled distributed computing and knowledge discovery*, Sanya, China, October 2012.

Eurosys 2013: *The European Conference on Computer Systems*, Prague, Czech Republic, April 2013.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence (bachelor) courses:

Marin Bertier, Programmation C, 26h, niveau L3, INSA de Rennes, France.

Marin Bertier, Unix, 20h, niveau L3, INSA de Rennes, France.

Marin Bertier, Programmation Scheme, 36h, niveau L1, INSA de Rennes, France.

Master courses:

Anne-Marie Kermarrec, P2P Systems and Applications, 15h, M2, Université of Rennes 1, France.

Anne-Marie Kermarrec, Gossip-based computing, 5 hours, M2, University of San Sebastian, Spain.

Marin Bertier, Algorithmique distribuée, 16h, niveau M2, INSA de Rennes, France.

Marin Bertier, Système d'exploitation, 56h, niveau M1, INSA de Rennes, France.

Marin Bertier, Parallélisme, 20h, niveau M1, INSA de Rennes, France.

Daide Frey, Scalable Distributed Systems, 10 hours, M2, Université de Rennes 1, France.

Mathieu Goessens, Managing students projects, M2 MIAGE, Université of Evry, France, worked with Delphine Lebedel (Mozilla corporation).

Doctoral courses:

Anne-Marie Kermarrec, Large-scale distributed systems, 28h, EPFL, Switzerland

A.-M. Kermarrec, lecture at the METIS Spring School, Tanger, Marocco.

9.2.2. Supervision

PhD: Damien Imbs, "Calculabilité et conditions de progression des objets partagés en présence de défaillances", Université de Rennes 1, April, 2012, advised by Michel Raynal

PhD: Afshin Moin, "Les techniques de recommandation et de visualisation pour les données A Une Grande Echelle", Université de Rennes 1, July, 2012, advised by Anne-Marie Kermarrec .

PhD in progress: Mohammad Alaggan, "Private similarity computation in user-centric peer-to-peer systems"; October 1 2010; Anne-Marie and Sébastien Gambs; MENRT Grant.

PhD in progress: Antoine Boutet, Inria Grant (ERC) (2009-2012)

PhD in progress: Tyler Crain, Marie Curie European Grant (2010-2013)

PhD in progress: Ali Gouta, CIFRE ORANGE (2012-2015)

PhD in progress: Arnaud Jégou, Inria Grant (ERC) (2010-2013)

PhD in progress: Eleni Kanellou, “Liveness in Transactional Systems”; September 2011; Michel Raynal; Marie Curie European Grant (2010-2013)

PhD in progress: Konstantinos Kloudas, Inria CORDIS Grant (2009-2012)

PhD in progress: Julien Stainer, MENRT Grant (2011-2014)

PhD in progress: Antoine Rault, “Privacy through decentralization”; October 1, 2012; Anne-Marie Kermarrec, Davide Frey; Inria/Region Grant.

PhD in progress: Alexandre van Kempen, CIFRE TECHNICOLOR (2009-2012)

9.2.3. *Juries*

Anne-Marie Kermarrec was a member of the following PhD Juries.

Joao Leitao, University of Lisbon, Portugal, August 2012

Adrien Friggeri, ENS Lyon, June 2012

Hervé Baumann, University Paris Diderot, September 2012

Sergey Legtchenko in University Pierre et Marie Curie, October 2012

Raphaël Fournier in University Pierre et Marie Curie, December 2012

Qinna Wang, ENS Lyon, August 2012

Anne-Marie Kermarrec was a member of the following HdR Juries.

Arnaud Legout, Inria Sophia, 20/01/2012

François Taïani was a member of the following PhD juries.

Matthew Leeke, Towards the Design of Efficient Error Detection Mechanisms, The University of Warwick (UK), 16/2/2012 (external examiner)

Simon Meyffret, Local And Social Recommendation In Decentralized Architectures, INSA de Lyon / LIRIS (F), 7/12/2012 (rapporteur)

ASCLEPIOS Project-Team

8. Dissemination

8.1. Animation of the scientific community

8.1.1. Journal editorial boards

- N. Ayache is the co-founder and the co-editor in Chief with J. Duncan (Professor at Yale) of *Medical Image Analysis*⁶. This scientific journal was created in 1996 and is published by Elsevier.
- H. Delingette is a member of the editorial board of the journal *Medical Image Analysis* (Elsevier).
- I. Strobant is editorial coordinator for *Medical Image Analysis*, Elsevier (since october 2001).
- I. Strobant is editorial assistant for *IEEE Transactions on Medical Image Analysis*, (since october 2001)
- N. Ayache is associated editor of *IEEE Transactions on Medical Imaging*⁷.
- N. Ayache is a member of the editorial board of the following journals: new SIAM Journal on Imaging Sciences, *Medical Image Technology* (Japanese journal) and *Journal of Computer Assisted Surgery* (Wiley).
- X. Pennec is a member of the editorial board of the journal *Medical Image Analysis* (Elsevier), of the *International Journal on Computer Vision* (Springer) and of the SIAM Journal on Imaging Sciences (SIIMS).

8.1.2. Participation in the organization of conferences

- The MICCAI 2012 conference gathered a record number of more than 1200 participants in the Acropolis Center in Nice, from the 1st to the 5th of October 2012. It was chaired by Nicholas Ayache. 32 satellites events, coordinated by Xavier Pennec, were held on the 1st and the 5th of October, while the main conference, whose scientific program was under the responsibility of Hervé Delingette, took place from the 2nd to the 4th of October. Agnès Cortell was in charge of the local organisation, with the help of M. Barret, G. Malandain, M. Sermesant, I. Strobant and the MCI company. Inria services, especially O. Carron, M. Oricelli, along with the students helped in the organisation too.
- N. Ayache was the chair of the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2012) in Nice.
- H. Delingette was the program chair and a member of the local organization committee of International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'12) which involved selecting 256 papers from 780 submissions, and organize the 7 oral sessions and the 18 poster sessions. He was also member of the program committees of the International Symposium on Biomedical Imaging (ISBI'12), the conference on Virtual Reality Interactions and Physical Simulation (VRIPHYS'12).
- X. Pennec was workshop/challenges and tutorial chair (and a member of the local organization committee) of the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2012) in Nice. This involved in particular the coordination of 32 MICCAI satellite events with 140 organizers and 975 participants. He was also a member of the program committees of: Int. Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'2012); IEEE Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA 2012); Workshop on Biomedical Image Registration (WBIR 2012); Workshop on computational diffusion MRI (CDMRI'12).

⁶http://www.elsevier.com/wps/find/journaleditorialboard.cws_home/620983/editorialboard

⁷<http://www.ieee-tmi.org/>

M. Sermesant was a member of the program committee of International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'12), and was a co-organisator of the MICCAI 2012 Workshop on Statistical Atlases and Computational Models of the Heart and the VPH Network of Excellence 2nd workshop on medical imaging software.

8.1.3. Scientific animation

Nicholas Ayache is member of the Aviesan national alliance on biosciences. He is also a member of the "Comité de la Recherche Biomédicale en Santé Publique (CRBSP)" of the Nice hospitals since 2008. He was invited in Fukuoka, Japan in February 2012 to evaluate a national program on "Computational Anatomy" funded by the MEXT.

Xavier Pennec is a member of the Doctoral follow-up Committee (CSD) at Inria Sophia Antipolis since 2010. In 2012, he was elected member of the MICCAI Society boards of Directors for the period 2012-2016, and was an evaluator for the EU STREP PredictAD (neuroimaging in Alzheimer's disease), for the Netherlands Organisation for Scientific Research (NWO), for several project proposals submitted to the French research agency ANR.

H. Delingette is a member of the local committee in charge of the scientific selection of visiting scientists applications (Comité Nice). He was an evaluator for the integrated European project ARTREAT, for the Research Foundation Flanders (FWO), for several project proposals submitted to the French research agency ANR, to the Medicen Paris Innovative cluster.

M. Sermesant acted as an evaluator for the ANR, the CNRS and the Dutch and UK Research Councils. He is a member of the CUMIR (local committee representing the users of computer services) and of the CCC (local committee in charge of the selection of funding for courses and conferences organisation). He also participates in scientific animation in high schools, presenting research and medical imaging (2 times in 2012).

8.2. Teaching

Master 2 MVA and École Centrale de Paris. H. Delingette and X. Pennec are co-responsible of 2 modules on medical imaging (formation and analysis of medical images) (45 hours of lectures) at the the Master MVA of ENS Cachan "Mathématiques, Vision et Apprentissage". The second module is common to the 3rd year of Ecole Centrale Paris.

Master IFI - Computational Biology, Univ. Nice-Sophia-Antipolis. X. Pennec is responsible of a 21h module on Computational Anatomy and Physiology, with the participation of H. Delingette (9h)

Diplôme Inter Universitaire - Radiothérapie externe Haute Technicité, Univ. Nice-Sophia-Antipolis. X. Pennec gave a 3 h course.

8.3. PhD Theses and Internships

8.3.1. PhD defended in 2012

1. Hervé Lombaert, *Atlas Construction for Measuring the Variability of Complex Anatomical Structures*, Ecole Polytechnique de Montréal. June, 2012.
2. Marco Lorenzi, *Deformation-based morphometry of the brain for the development of surrogate markers in Alzheimer's disease*. University of Nice-Sophia Antipolis, December 2012. In collaboration with G.B. Frisoni, IRCCS Fatebenefratelli, Brescia, Italy.
3. Jatin Relan, *Planning of radiofrequency ablation of the heart using electromechanical models personalized from cardiac images and electrophysiological signals*, Ecole des Mines de Paris. June, 2012.
4. Christof Seiler, *Trees on Geometrical Deformations to Model the Statistical Variability of Organs in Medical Images*. Joint PhD (co-tutelle) of University of Nice Sophia Antipolis and University of Bern. September 2012.

5. Nicolas Toussaint, *In vivo cardiac DTI*, King's College London, London. July 2012.

8.3.2. Current PhDs

1. Chloé Audigier, *Modeling radio-frequency ablation for the planing of abdominal tumors resection*, Nice Sophia-Antipolis University. Started in April 2012.
2. Thomas Benseghir, *3D/2D Coronary Registration for Interventional Cardiology Guidance*, Nice Sophia-Antipolis University. Started in March 2012.
3. Marine Breuille, *Tracking and quantification of tumour processes in rodents with SPECT imaging*, Nice Sophia-Antipolis University. Started in November 2009
4. Rocio Cabrera Lozoya, *Radio frequency ablation planning for cardiac arrhythmia treatment through biophysical modelling and machine learning approaches*, Nice Sophia-Antipolis University. Started in February 2012.
5. Nicolas Cordier, *Simulation and Analysis and Simulation of Brain Tumors Images*, University of Lille. Started in February 2012.
6. Ezequiel Geremia, *Multi-scale computational models of brain tumors for medical image analysis*, Nice Sophia-Antipolis University. Started in December 2008.
7. Vikash Gupta, *Diffusion tensor imaging of the brain: towards quantitative clinical tools*, Nice Sophia-Antipolis University. Started in November 2011.
8. Mehdi Hadj-Hamou, *Biophysical modeling of the anatomical evolution of the brain*, Nice Sophia-Antipolis University. Started in September 2012.
9. Bishesh Khanal, *Modeling the atrophy of the brain in Alzheimer's disease*, Nice Sophia-Antipolis University. Started in November 2012.
10. Arnaud Le Carvenec, *Registration and simulation of atrophy in Alzheimer's disease using MRI images*, University College London. Started in September 2011.
11. Loic Le Folgoc, *Biophysical Personalization of Cardiac Models based on Machine Learning*, Nice Sophia-Antipolis University. Started in June 2012.
12. Stéphanie Marchesseau, *Simulation of patient-specific cardiac models for therapy planning*, Ecole des Mines de Paris. Started in November 2009.
13. Jan Margeta, *Indexation of time-series 4D cardiac MR images*, Ecole des Mines de Paris. Started in March 2011.
14. Kristin McLeod, *Modeling of Cardiac Growth and Deformation from Medical Images*, Nice-Sophia Antipolis University. Started in October 2010. .
15. Adityo Prakosa, *Analysis and Simulation of the heart function from multimodal cardiac images*, Nice-Sophia Antipolis University. Started in November 2008.
16. Erin Stretton, *Modelling and simulation of brain tumor growth from time-series of 3-D MR images to improve diagnosis and therapy*, Ecole des Mines de Paris. Started in June 2010.
17. Hugo Talbot, *Simulation of Radiofrequency ablation of cardiac cells*, University of Lille. Started in September 2010.
18. Anant Vemuri, *Augmented reality for image-guided surgery*, Nice-Sophia Antipolis University. Started in 2012.

8.3.3. Master Student

1. Sonia Durand, *Generation of personalized volumetric meshes of cardiac ventricles*, Ecole Centrale de Lyon. From April to September 2012
2. Bishesh Khanal, *Modeling the atrophy of the brain in Alzheimer's disease*, Master Computational Biology and Biomedicine, University Nice-Sophia Antipolis. From April to September 2012

3. Matthieu L e, *Enhancement of a pathophysiological model of brain tumor growth to take into account anatomical and metabolic information coming from MR images. Application to the simulation of tumor growth for better planning of therapeutic intervention*, Ecole Centrale de Paris. From May to December 2012.
4. Andreas Mieritz, *Interaction Segmentation of Medical Images*, DTU, Denmark. Started in September 2012.

8.3.4. Internship of Medical Doctor Student

1. Nicolas Bronsard, *Study of the 3D variability of the lower spine*, University Hospital of Nice-Sophia Antipolis.

8.3.5. Participation to thesis committees

- N. Ayache participated as co-supervisor to the PhD thesis of Jatin Relan ( cole des Mines de Paris) and Marco Lorenzi (University of Nice-Sophia Antipolis).
- Herv  Delingette participated as co-supervisor to the PhD thesis of Jatin Relan ( cole des Mines de Paris), as reviewer to the PhD thesis committee of C. Casta (Lyon University), G. Bousquet (Grenoble University), C. Conte (Marseille University).
- Xavier Pennec participated as president to the PhD thesis committee of N. Duchateau (U. Pompeu Fabra, Barcelona, SP) and as co-supervisor to the PhD thesis of Christof Seiler (University of Nice Sophia Antipolis and University of Bern) and Marco Lorenzi (University of Nice-Sophia Antipolis).
- Maxime Sermesant participated as co-supervisor to the PhD thesis committee of Jatin Relan ( cole des Mines de Paris).

8.3.6. Invited Lectures

We only give here the invited participations. Please refer to general references for the regular participation to conferences with a submission process.

- **Nicholas Ayache** gave the following invited lectures:
 - at the *Moroccan Academy of Sciences*, Rabat, Morocco on February 15, 2012
 - at the *3rd International Symposium on Computational Anatomy*, Fukuoka, Japan on March 4, 2012
 - at the *Scientific Council of Inria* for the ERC MedYMA project, Inria, France, on March 23, 2012
 - at the *Annual Guest Lecture of the Oxford Biomedical Imaging Festival*, Oxford, UK on October 25, 2012
 - at *Microsoft Research Cambridge*, Cambridge, UK on November 7, 2012
 - at the *Let's Imagine the Future symposium*, Rennes, France on November 9, 2012
 - at the *Ecole Centrale de Paris*, France on November 13, 2012
 - at the *Surgery for life innovation conference*, IHU de Strasbourg, France on December 21, 2012
- **Herv  Delingette** gave an invited lecture at the CardioStim 2012 Modeling session in Nice.
- **Xavier Pennec** gave invited lectures:
 - at the Workshop on Geometry and Statistics in Bioimaging: Manifolds and Stratified Spaces, Sonderborg, DK, October 8-12, 2012;
 - at the MICCAI workshop and challenge on Statistical Atlases and Computational Models of the Heart: Imaging and Modelling Challenges (STACOM 2012), Nice, October 5, 2012;
 - at the Premieres rencontres Technologies de l'Information et de la Communication pour la sant  mentale, 21 et 22 octobre 2011, Nice et Monaco.
 - at the PENN Image Computing and Science Lab (PICSL), Philadelphia, May 23, 2012;
 - at the Minisymposium on 4D Medical Imaging, SIAM Imaging Science Conf., Philadelphia, May 20-22, 2012.
- **Maxime Sermesant** was invited to organise a cardiac modelling session at the Cardiosim 2012 clinical conference. He was also an invited lecturer at the ISCAT 2012 conference: 9th International Symposium on Catheter Ablation Techniques and the DD21 conference on Domain Decomposition.

8.3.7. Nominations and Prizes

- **Nicholas Ayache** was awarded an ERC grant in Oct 2011, to start in April 2012 with the collaboration of H. Delingette, X. Pennec and M. Sermesant.
- **Nicholas Ayache** was elected CSO (Chief Scientific Officer) of the IHU of Strasbourg (Institut Hospitalo Universitaire) on January 1, 2012. More informations on: <http://www.ihu-strasbourg.eu/Bienvenue.html>
- **Caroline Brun**, collaborator of X. Pennec during her PhD, won the Young Scientist Publication Impact Award 2012 of the MICCAI Society (Oct 2012) for the paper "A tensor-based morphometry study of genetic influences on brain structure using a new fluid registration method", published at MICCAI 2008 by C. Brun, N. Leporé, X. Pennec, Y.Y. Chou, A.D. Lee, M. Barysheva, G.I. de Zubicaray, M. Meredith, K. McMahon, M.J. Wright, A.W. Toga, and P.M. Thompson.
- **Hervé Lombaert** won the MCV 2012 best paper award at the MICCAI workshop on Medical Computer Vision (Oct. 2012) for the paper "Groupwise Spectral Log-Demons Framework for Atlas Construction" by H. Lombaert, L. Grady, X. Pennec, J.-M. Peyrat, N. Ayache, F. Chriet.
- **Stéphanie Marchesseau** received the Young Investigator award at the MICCAI 2012 conference held in Nice (Oct. 2012) for her paper [42] .
- **Hervé Lombaert** has received a prize from the research fund of Québec FRQ (<http://www.frq.gouv.qc.ca>) as the "star research student" of the month January 2013 for his paper [] .

ASCOLA Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Event organization, animation of scientific community

9.1.1.1. International

- **Aspect-oriented Software Association (AOSA):** Mario Südholt has been the chair of this international organization (headquartered in California) since 2011
- **COST Action:** Jean-Marc Menaud is a management committee member of the European COST Action IC0804: Energy efficiency in large scale distributed systems from 2009 to 2013.
- **Grid'5000 Winter School.** A. Lèbre has been the general chair of the 5th edition of the Grid'5000 winter school organized by EMN, the LINA laboratory and Inria in Nantes, December 3-6 2012 (70 attendees). <https://www.grid5000.fr/mediawiki/index.php/Grid5000:School2012>.
- **OW2:** Jean-Marc Menaud has been a member of the OW2 board committee since 2010.

9.1.1.2. National

- **COMIN Labs laboratory of Excellence:** Jean-Marc Menaud has been the co-coordinator of the focus on Energy and resource efficiency in ICT since Jun. 2011. Mario Südholt has been co-coordinating the Security focus of COMIN Labs.
- **Enterprise Information Systems in the Cloud.** M. Südholt has been part of the organization committee of this event organized by the Images&Networking competitiveness cluster in Sep, 2012. He has also given an invited lecture there on the foundations of the Cloud.
- **Eco-conception of software.** J.-M. Menaud co-organized the first event on *Eco-conception des logiciels* in Nantes, and an event on *Efficacité énergétique : comment monitorer et quels sont les impacts sur les applications ?* in Lyons.
- **Software Product Line series of events.** J.-C. Royer started a steering committee for the *Journée lignes de produits logiciels*, which took place in Lille, November 6, <http://www.jldp.org/2012>

9.1.2. Committee participations, reviewing activities, collective duties, etc.

- **P. Cointe:** He is the head of the LINA computer science laboratory (UMR 6241) <http://www.lina.univ-nantes.fr/>. As such he was involved in the CominLabs (labex) proposal.
He is a member of the board of the Doctoral School MATISSE in Rennes as well as the selection and evaluation committee and the board of the cluster Images & Réseaux. He is the chair of the STIC-MATHS committee working for the Pays de la Loire Council (CCRRDT) and the PRES L'UNAM.
- **A. Lèbre** has been the program chair of the 6th international workshop on "Virtualization Technologies in Distributed Computing" (VTDC 2012) co-located with HPDC 2012 in Delft, the Netherlands. He also was a member of the program committee of the IEEE International Conference on Cloud and Green Computing (CGC 2012). He also took part to several reviewing processes for the IEEE Transactions on Parallel and Distributed Systems Journal, the Concurrency and Computation: Practice and Experience Journal, the French journal *Technique des Sciences Informatiques* and has been involved as external reviewers for the ISPA, the ICPADS and the Europar conferences.
- **T. Ledoux** was a member of the program committees of the following conferences: 3rd International Workshop on Green and Cloud Management (GCM'12), 11th International Workshop on Adaptive and Reflective Middleware (ARM'12), Second International Conference on ICT as Key Technology against Global Warming (ICT- GLOW'12), 28th Symposium On Applied Computing (SAC'13) - track Software Engineering Aspects of Green Computing.

He is a member of the board of the Regional Doctoral School STIM. He is a member of the board of the Follow-up committee of the PhD theses at LINA.

- **J.-M. Menaud** has served on the program committee of the 7th Workshop on Virtualization in High-Performance Cloud Computing (VHPC'12), the first International Workshop on Cloud and Grid Interoperability (Cloud&Grid 2012), the IEEE/ACM Inter. Conference on Green Computing and Communications (GreenCom2012), the Eighth Advanced International Conference on Telecommunications (AICT 2012), the Second International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (ENERGY 2012), the first International Conference on Smart Grids and Green IT Systems (SMARTGREENS 2012), the second International Conference on ICT as Key Technology against Global Warming (ICT-GLoW 2012), the first Workshop on Collaborative and Autonomic Green computing (CAGing 2012) and the French Conference *NOuvelles Technologies de la REpartition* (NOTERE'12). He was a reviewer for the International Journal of Computer and Telecommunications Networking (COMNET), the International Journal of the Electronics and Telecommunications Research Institute, and the International Journal on Transactions on Parallel and Distributed Systems.

J.-M. Menaud is a management committee member of the european COST Action IC0804 : Energy efficiency in large scale distributed systems since 2009, the co-animator of the focus Energy and resource efficiency in ICT, in the Labex COMIN Labs since June 2011, the animator of the CNRS/GDR ASR System group since June 2009, member of the OW2 board committee from 2010 and a member of the (RenPar/CFSE/Sympa) steering committee since 2008.

- **J. Noyé** co-organized the 7th international workshop on “Domain-Specific Aspect Languages” (DSAL 2012) co-located with AOSD 2012 in Potsdam, Germany.
- **J.-C. Royer:** He is a member of the editorial board of the journal TSI. He was a member of the program committee of CAL 2012 and CIEL 2012 and did reviews for the SPLC conference, and the RNTI and SoSym journals.
- **M. Südholt** is the chair of the international association of AOSD. He is a member of the steering committees of the international conferences AOSD and Software composition. He is also a member of the editorial board of the international journal “Transactions of AOSD”, which is published by Springer Verlag.

He was a member of the program committees of the international conferences GPCE'12 and AOSD'12 as well as of 2 international and 2 national workshops.

He is a member of the council of the *Laboratoire Informatique de Nantes Atlantique* (LINA, UMR 6241). He also serves on the selection and evaluation committee of the competitiveness cluster Images & Réseaux. Finally, he is a member of the governing board of AOSD-Europe, the European Network of Excellence in AOSD.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

The team is involved in the following undergraduate and graduate-level programs at EMN (the institution all of eaching staff belongs to):

- The team is a main contributor to the **engineering program of EMN**.
- Within this engineering program, the team is steering, chairing and the main contributor to a final-year **graduate-level informatics specialization**.
- Since 2009 our team has defined and set up a new three-year **engineering program on software engineering**

The team has also been involved in the following three MSc programs that have been carried out with partners from French and foreign universities:

- The team participates in the **MSc program “Alma”** on software architecture and distributed systems, a joint program steered by colleagues from University of Nantes. In this context, we are responsible for a 48-hour module on advanced software composition and take part in the program's governing board.

- Members of the team have taught different **courses at different study levels in Rennes** mainly organized by University of Rennes and the research institutes IRISA and Inria.

m members have taught each for about 190 hours on average in 2012 (hours of presence in front of students). Hereby, we have taken into account that researchers and some professors have not taught at times and that part of the program is taught by temporary staff.

9.2.2. Supervision

The team has been supervising 16 PhD thesis in 2012, of which four have been co-supervised with external partners (three with foreign partners from U. Chile; TU Darmstadt, Germany; Lancaster U., U.K.) and one with the French TASC team from EMNantes.

One PhD has been defended in Sep. 2012, Remy Pottiers thesis on “Approche langage pour l’administration d’infrastructures virtualisées”.

Two members of the team have started preparing an HDR in 2012 for defense in 2013.

9.2.3. Juries

- **A. Lèbre** was member of the PhD committee of Sheheryar Malik (University of Nice).
- **J.-M. Menaud** was a reviewer of the PhD of Sheheryar Malik, Nice University, and member of the PhD committees of Xavier Etchevers, Grenoble University, and Eugen Feller, Rennes University.
- **J-C. Royer** was a reviewer of the PhD of Alfred Sanogo, Université Paris Nord, and a member of the PhD committees of Rémy Pottier, EMN, and Takoua Ben-Rouhma, Université Paris Sud.
- **M. Südholt** was a reviewer of the PhD of Arjan De Roo, university of Twente, the Netherlands.

ASPI Project-Team

7. Dissemination

7.1. Scientific animation

Arnaud Guyader and Frédéric Cérou have co-organized the workshop on *Computation of Transition Trajectories and Rare Events in Non-Equilibrium Systems*, held in Lyon in June 2012.

Arnaud Guyader has organized the session on *Rare Events Simulation* at *Journées MAS de la SMAI*, held in Clermont-Ferrand in August 2012. He has also co-organized the 2012 edition of the *Journées de Statistiques Rennaises*, held in Rennes in October 2012. He is the co-author of a book [27] on the statistical software R.

François Le Gland was a member of the scientific and organizing committees for the international conference on *Ensemble Methods in Geophysical Sciences*, held in Toulouse in November 2012, an event organized within the ANR project PREVASSEMBLE.

François Le Gland has been a member of the committee for the PhD thesis of Cyrille Dubarry (université Pierre et Marie Curie, advisor: Éric Moulines) and he has been a reviewer for the PhD theses of Romain Leroux (université de Poitiers, advisors: Ludovic Chatellier and Laurent David), Virgile Caron (université Pierre et Marie Curie, advisor: Michel Broniatowski), and Thierry Dumont (université Paris-Sud, advisor: Elisabeth Gassiat).

Florent Malrieu has co-organized the 2012 edition of *Journées de probabilités*, held in Roscoff in June 2012.

Valérie Monbet has co-organized the first international workshop on *Stochastic Weather Generators*, held in Roscoff in May 2012. It gathered 30 participants from France, UK, USA and New-Zealand. Most major teams working on WGs were present. The latest developments were presented, thus providing an up-to-date and almost comprehensive snapshot of the state-of-the art.

François Le Gland is a member of the “conseil d’UFR” of the department of mathematics of université de Rennes 1.

Florent Malrieu is a member of the “conseil” of IRMAR (institut de recherche mathématiques de Rennes, UMR 6625).

Valérie Monbet is a member of the “comité de direction” and of the “conseil” of IRMAR (institut de recherche mathématiques de Rennes, UMR 6625). She is also the director of the master on statistics and econometry at université de Rennes 1.

7.2. Teaching

Arnaud Guyader is a member of the committee of “oraux blancs d’agrégation de mathématiques” for ENS Cachan at Ker Lann.

François Le Gland gives a course on **Kalman filtering and hidden Markov models**, at université de Rennes 1, within the master SISEA (signal, image, systèmes embarqués, automatique, école doctorale MATISSE), a 3rd year course on **Bayesian filtering and particle approximation**, at ENSTA (école nationale supérieure de techniques avancées), Paris, within the systems and control module, a 3rd year course on **linear and nonlinear filtering**, at ENSAI (école nationale de la statistique et de l’analyse de l’information), Ker Lann, within the statistical engineering track, and a 3rd year course on **hidden Markov models**, at Télécom Bretagne, Brest. He has also organized a thematic school on **particle filtering**, proposed as a complementary scientific training to PhD students of école doctorale MATISSE.

Florent Malrieu teaches in the probability and statistics track of the training programme for “agrégation de mathématiques” at université de Rennes 1.

Valérie Monbet gives several courses on data analysis, on time series and hidden Markov models, and on mathematical statistics, all at universit  de Rennes 1 within the master on statistics and econometrics.

7.3. PhD and habilitation theses

Arnaud Guyader has been supervising one PhD student

- Nicolas J gou, title: *R gression isotonique it r e*, defense in November 2012, co-direction: Nick Hengartner (Los Alamos) and  ric Matzner-L ber (universit  de Rennes 2).

Val rie Monbet is currently supervising one PhD student

- Julie Bessac, provisional title: *Space time modelling of wind fields*, started in October 2011, co-direction : Pierre Ailliot (universit  de Bretagne Occidentale),

and she is a member of the PhD thesis committee of

- J r me Weiss, provisional title: *Modelling of extreme storm surge series*, funding : CIFRE grant with EDF R&D, direction : Michel Beno t (Laboratoire d'Hydraulique Saint-Venant).

Fran ois Le Gland has been supervising one PhD student

- Rudy Pastel, title: *Estimation of rare event probabilities and extreme quantiles. Applications in the aerospace domain*, defense in February 2012, funding: ONERA grant, co-direction: J r me Morio (ONERA, Palaiseau).

and he is currently supervising three PhD students

- Paul Bui-Quang, provisional title: *The Laplace method for particle filtering*, started in October 2009, expected defense in 2013, funding: ONERA grant, co-direction: Christian Musso (ONERA, Palaiseau).
- Alexandre Lepoutre, provisional title: *Detection issues in track-before-detect*, started in October 2010, funding: ONERA grant, co-direction: Olivier Rabaste (ONERA, Palaiseau).
- Damien Jacquemart, provisional title: *Rare event methods for the estimation of collision risk*, started in October 2011, funding: DGA / ONERA grant, co-direction: J r me Morio (ONERA, Palaiseau).

7.4. Participation in workshops, seminars, lectures, etc.

In addition to presentations with a publication in the proceedings, which are listed at the end of the document in the bibliography, members of ASPI have also given the following presentations.

Arnaud Guyader has been invited to give a talk on adaptive multilevel splitting for rare event estimation in a static case, at the workshop on *Sequential Monte Carlo Methods and Efficient Simulation in Finance*, held at  cole Polytechnique in October 2012, and a talk on Monte Carlo methods for rare event simulation, at the *Rencontres Statistiques Lyonnaises*, held in Lyon in October 2012. He has given a talk on the nonparametric analysis of the ABC algorithm and a talk on iterative isotone regression, at the *44 mes Journ es de Statistique*, held in Brussels in May 2012, and a talk on soft level splitting for rare event estimation, at the *9th International Workshop on Rare Event Simulation*, held in Trondheim in June 2012.

Fran ois Le Gland has given a talk on adaptive resampling in sequential Monte Carlo methods, at the CRiSM workshop on *Recent Advances in Sequential Monte Carlo*, held at the University of Warwick in September 2012, and a talk on large sample asymptotics of the ensemble Kalman filter, at the workshop on *Data Assimilation*, held at the University of Oxford in September 2012, and at the international conference on *Ensemble Methods in Geophysical Sciences*, held at the M t o-France center in Toulouse in November 2012.

Florent Malrieu has given a three-hour mini-course on the long time asymptotics of piecewise-deterministic Markov models, in the workshop on *Piecewise-Deterministic Markov Processes*, held in Marne-la-Vall e in March 2012. He has been an invited speaker at the ERGONUM workshop on *Probabilistic Analysis of Large Time Systems*, held in Sophia-Antipolis in June 2012, and at the EPSRC workshop *At the Frontier of Analysis and Probability*, held in Warwick in September 2012. He has been invited to give seminar talks on the long time behaviour of the TCP process in Marseilles in January 2012 and in Paris-Nanterre in May 2012, and on the long time behaviour of some piecewise deterministic Markov processes in Tours in October 2012, in Montpellier and in Toulouse in November 2012.

7.5. Visits and invitations

Arnaud Guyader has been invited by Nicolas Hengartner to visit Los Alamos National Laboratories in April 2012.

François Le Gland has been invited by Arunabha Bagchi to visit the department of applied mathematics of the University of Twente in Enschede and the technical business unit on radar engineering at Thalès Nederland in Hengelo in December 2012, and he has given there a talk on rare event simulation in stochastic hybrid systems, a talk on Laplace and SMC methods in Bayesian filtering, and a talk on detection issues in track-before-detect.

ATEAMS Project-Team

7. Dissemination

7.1. Scientific Animation

7.1.1. Teaching

Master : Jurgen Vinju, Paul Klint, Software Evolution, 6 EC, Universiteit van Amsterdam, The Netherlands

Master : Tijs van der Storm, Jurgen Vinju, Software Construction, 6 EC, Universiteit van Amsterdam, The Netherlands

Master : Jan van Eijck, Bert Lissner, Software Testing, 6 EC, Universiteit van Amsterdam, The Netherlands

Master : Paul Klint, EASY Meta-Programming with Rascal, full-day course at Summer School on Language Frameworks, Sinaia, Romania

Master : Paul Klint, Rascal tutorial, one-day course, FUNDP, Namur, Belgium

Master : Tijs van der Storm, one-day course on Rascal, Universidade do Minho (Braga)

Graduate: Tijs van der Storm, one-day course on Rascal, Programming Language class, UT Austin, U.S.A.

7.1.2. Supervision

PhD : Floor Sietsma, Logics of Communication and Knowledge, Universiteit van Amsterdam, 13-12-2012, supervisors Jan van Eijck, Krzysztof Apt

PhD in progress : Paul Griffioen, Next Generation Computational Auditing, started 2011, supervisors Paul Klint, Philip Elsas

PhD in progress : Anastasia Izmaylova, A General Language Parametric Framework for Software Refactoring, started 2011, supervisors Paul Klint, Jurgen Vinju

PhD in progress : Jeroen van den Bos, Digital Forensics Software Engineering, started 2010, supervisors Paul Klint, Tijs van der Storm

PhD in progress : Atze van der Ploeg, Rapid Language Parametric Prototyping of Software Visualization and Exploration, started 2011, supervisor Paul Klint.

PhD in progress : Davy Landman, Recovery and Synthesis of Domain Specific Language Design, started 2011, supervisors Jurgen Vinju, Paul Klint, supervisors Jurgen Vinju, Paul Klintto .

PhD in progress : Riemer van Rozen, Software Engineering Principles for the Gaming Domain, started 2011, supervisor Paul Klint

PhD in progress : Ali Afroozeh, Ambiguity and Disambiguation for Context-free Grammars, started 2012, supervisor Jurgen Vinju

PhD in progress : Ashim Shahi, Principled Quality Assessment of Software, started 2012, supervisor Paul Klint, Jurgen Vinju

PhD in progress : Michael Steindorfer, Scaling meta-programming to data-programming, started 2012, supervisor Paul Klint, Jurgen Vinju

Paul Klint, Jurgen Vinju, Tijs van der Storm and Jan van Eijck together also supervised more than 30 master thesis projects for Universiteit van Amsterdam in 2012.

7.1.3. *Juries*

- Jurgen Vinju, PhD: Veronica Isabel Uquillas Gomez, Vrije Universiteit Brussel & Université Lille, Belgium & France.
- Paul Klint, PhD: J. Dormans, Universiteit van Amsterdam, The Netherlands.
- Paul Klint, PhD: R. Poss, Universiteit van Amsterdam, The Netherlands.
- Paul Klint, PhD: L. Kwiatkowski, Vrije Universiteit, The Netherlands.
- Jan van Eijck, PhD: Peter Gammie, University of Camberra, Australia.

7.1.4. *Invited speakers*

- Jurgen Vinju - IFIP WG 2.4, Vadstena, Sweden.
- Tijs van der Storm - IFIP TC2 2.16, London, England.
- Tijs van der Storm - IFIP TC2 2.16, Austin, U.S.A.
- Paul Klint - Invited speaker at PRECISE Conference, Namur, Belgium.
- Paul Klint - Keynote "The Spinoff Game" at Entrepreneurial Research Day, ICT Labs, Paris, France.
- Mark Hills - Invited speaker at International Workshop On Rewriting Logic and its Applications, Tallinn, Estonia.

7.1.5. *Positions, memberships and editorial work*

- Jan van Eijck : Member of the European Network in Computational Logic
- Jan van Eijck : Member of the International Quality Assessment Committee
- Jan van Eijck: Member of the NWO committee "Vrije Competitie" for Computer Science.
- Jan van Eijck: Book editor "Games, Actions, and Social Software", Springer.
- Jan van Eijck: Program committee IWCS
- Jan van Eijck: Program committee LORI-4
- Jan van Eijck: Reviewer ESSLLI
- Jan van Eijck: Reviewer Journal of Semantics
- Jan van Eijck: Reviewer Journal of Logic and Computation
- Jan van Eijck: Reviewer Fundamenta Informaticae
- Jan van Eijck: Reviewer Synthese
- Jan van Eijck: Reviewer Journal of Philosophical Logic
- Jan van Eijck: Reviewer Journal of Logic, Language and Information
- Jan van Eijck: Cambridge University Press, Australian National University (Canberra)
- Tijs van der Storm: Program co-chair IPA Lentedagen
- Tijs van der Storm: External reviewer OOPSLA
- Tijs van der Storm: External reviewer POPL 2013
- Tijs van der Storm: Reviewer Information and Software Technology
- Tijs van der Storm: Reviewer Software Practice & Experience
- Tijs van der Storm: Science of Computer Programming
- Mark Hills : Reviewing Software Practise & Experience
- Mark Hills : Reviewing IET Software
- Mark Hills : Program committee FMOODS
- Paul Klint : Editor for Science of Computer Programming
- Paul Klint : Editor for Springer Service Science Book Series

- Paul Klint : Visiting Professor University of London, Royal Holloway
- Paul Klint : Treasurer European Association for Programming Languages and Systems (EAPLS)
- Paul Klint : Steering committee member ETAPS
- Paul Klint : Board member Instituut voor Programmatuur en Architectuur (IPA)
- Paul Klint : External advisor PlanComps project (UK)
- Paul Klint : Full Professor at UvA, Software Engineering Chair
- Paul Klint : Director Master Software Engineering, UvA
- Paul Klint : Treasurer European Association for Programming Languages and Systems (EAPLS)
- Paul Klint : Steering committee member ETAPS
- Paul Klint : Board member Instituut voor Programmatuur en Architectuur (IPA)
- Paul Klint : Program committee SLE
- Jurgen Vinju : Head of CWI Research group Software Analysis and Transformation (SEN1)
- Jurgen Vinju : Program committee ICMT
- Jurgen Vinju : Program committee CC
- Jurgen Vinju : Program committee SCAM
- Jurgen Vinju : Steering committee SCAM
- Jurgen Vinju : Steering committee SLE
- Jurgen Vinju : Co-organizer workshop SL(E)BOKSLE
- Jurgen Vinju : Member Working Council (CWI)
- Jurgen Vinju : Workshop selection chair SLE
- Jurgen Vinju : Reviewing Journal of Software Maintenance and Evolution: Research and Practice
- Jurgen Vinju : Reviewing Transactions on Software Engineering (TSE)
- Jurgen Vinju : Reviewer Journal on Empirical Software Engineering (EMSE)
- Jurgen Vinju : Reviewer Science of Computer Programming (SCP)
- Jurgen Vinju : Member meetings between Inria & CWI management, Paris and Amsterdam.
- Vadim Zaytsev: Program committee LDTA
- Vadim Zaytsev: Program committee SCAM
- Vadim Zaytsev: Program committee SQM
- Vadim Zaytsev: Program committee Wikimedia Conference Netherlands
- Vadim Zaytsev: Reviewer Science of Computer Programming (SCP)
- Vadim Zaytsev: Reviewer Journal on Empirical Software Engineering (EMSE)
- Vadim Zaytsev: Reviewer IET Software
- Vadim Zaytsev: Program chair Wikimedia Conference Netherlands (WCN)
- Vadim Zaytsev: Social media chair SoTeSoLa
- Vadim Zaytsev: Hackathon coordinator SoTeSoLa
- Vadim Zaytsev: Colloquium organiser of Programming Environment Meetings (PEM)

7.2. Popularization

In 2012 our team has invested a large amount of time and energy in reaching out, in close collaboration with our support staff:

- The “Understanding Software” symposium with more than 250 participants from industry and academia. This was organized in honor of celebrating the 40th anniversary of Paul Klint at CWI. The symposium was a great success, with internationally renowned speakers and a large and diverse audience. The topic was entirely devoted to the research topics of our team.
- Turing centennial exposition, including Enigma machine and X1, hosted more than 1000 visitors.
- Lego Turing Machine, including IDE, was an online hit with millions of viewers. Articles about the machine and its meaning appeared in all major Dutch journals and we estimate a reach of more than 3 million readers.
- ICT Delta - we presented at the Dutch national symposium ICT Delta where industry meets academia in ICT.
- Floor Sietsma appeared on national television and radio, and in most newspapers to explain about her role as the youngest Phd candidate and her research.
- Paul Klint chaired public discussion on Government Data Policy, IPOort, The Hague, April 10, 2012
- Jurgen Vinju went to different companies to explain about Rascal and building your own software metrics, and software engineering in general (Sogyo, Software Factory)
- Tijs van der Storm, Jurgen Vinju and Vadim Zaytsev presented at “IPA Spring Days” about domain specific languages and related topics to all Dutch PhD students in Computer Science.
- Tijs van der Storm organized a Lisp course for Devnology
- Tijs van der Storm presented at Optiver about Domain-Specific Languages

ATHENA Project-Team

8. Dissemination

8.1. Scientific Animation

- R. Deriche is Adj. Director at the Doctoral School EDSTIC (<http://edstic.i3s.unice.fr/index.html>)
- R. Deriche is member of 4 Scientific Councils: University of Nice Sophia Antipolis, ITMO ITS (Institut des Technologies pour la Santé), Olea Medical Company (<http://www.olea-medical.com/>) and the GIS UNS-ENSL-CNRS-Inria.
- R. Deriche is member of the Administration Council of AFRIF (Association Française pour la Reconnaissance et l'Interprétation des Formes) and of GRETSI (Groupe d'Etudes du Traitement du Signal et des Images).
- R. Deriche is Associate Editor of SIAM Journal on Imaging Sciences (SIIMS) and editorial board member at Springer for the book series entitled Computational Imaging and Vision.
- R. Deriche visited Athènes University from May 20 to 27, 2012. This visit was performed within the framework of the exchange between Inria and Dept. Informatics, National University of Athens - (<http://en.uoa.gr/> et <http://www.di.uoa.gr/en/>).
- R. Deriche gave a seminar (http://itmb.di.uoa.gr/research/res_seminEng.html) and a series of lectures on "Computational Brain Imaging" at University of Athens (<http://en.uoa.gr>) within the framework of the Master "Information Technologies in Medicine and Biology".
- R. Deriche gave an invited lecture at the "Biomedical Image Analysis Summer School" held in Paris from July 8 to 13, 2012.
- R. Deriche gave an invited talk at the Asilomar Conference on Signals, Systems, and Computers held November 4-7th, 2012.
- R. Deriche has served for many years as area-chair and/or as program committee member for International Conferences as ICCV, MICCAI, ECCV, CVPR, ISBI and national conferences as AFRIF-AFIA RFIA and serves several international journals and conferences (NeuroImage, IEEE Transactions on Medical Imaging, Magnetic Resonance in Medicine, JMIV, Medical Image Analysis Journal, ISBI, ISMRM, HBM..).
- R. Deriche has co-organised MICCAI 2012 Tutorial on Brain Connectivity Networks: Biology, Imaging and Beyond.
- R. Deriche has organised the "Computational diffusion MR imaging" session of the BASP: international biomedical and astronomical signal processing (BASP) Frontiers to be held in Villars-sur-Ollon (Jan. 27, Feb.1, 2013).
- M. Clerc serves on several local committees at Inria Sophia Antipolis: Bureau du Comité des Projets, MASTIC (diffusion) and Colloquium.
- M. Clerc is associated editor of Biomedical Engineering OnLine.
- M. Clerc serves on an evaluation committee for the ANR: "SIMI 3 - Matériels et logiciels pour les systèmes et les communications".
- M. Clerc was on the organizing committee of the 18th International Conference on Biomagnetism, held in Paris, August 2012 (Biomag 2012). She also organized the mini-symposium on "dMRI, MEG & EEG fusion" at Biomag 2012.
- M. Clerc is a reviewer for conferences and journals (Biomedical Engineering OnLine, Human Brain Mapping, NeuroImage, Inverse Problems, Physics in Medicine and Biology, IEEE Transactions on Computational Intelligence and AI in Games, Computational and Mathematical Methods in Medicine, Paladyn. Journal of Behavioral Robotics).

- M. Clerc was invited to give a talk in the workshop Mouv' organized by DEFISENS "mission interdisciplinarité du CNRS".
- T. Papadopoulo served as a referee for the international conferences MICCAI 2012 and ISBI 2013. He is also area chair for the national conference GRETSI 2013. He is also in the program committee of ICVS 2013. In 2012, he has been reviewer for the journals Physics in Medicine and Biology, Image and Vision Computing, International Journal of Computer Vision, Annals of Biomedical Engineering, Clinical EEG & Neuroscience and SIAM Journal on Imaging Sciences.
- T. Papadopoulo has reviewed several ANR proposal.
- T. Papadopoulo (since september 2011) is the coordinator of the Master of Science in Computational Biology and Biomedicine from University of Nice Sophia Antipolis (Website: <http://cbb.unice.fr>). The scientific goal of this program is to focus on the human being from different perspectives (understanding and modeling functional aspects or interpreting biomedical signals from various devices) and at different scales (from molecules to organs and the whole organism).
- T. Papadopoulo is a member of the local (Sophia Antipolis) committees for software development (CDT) and for Sustainable development. He is also member of the piloting committee for the platform dtk.
- T. Papadopoulo is the Athena contact for the ADT MedInria-NT and the ANR MULTIMODEL.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: R. Deriche, *Variational approaches and Geometrical Flows for Brain Imaging*, 36 ETD, M2 "Computational Biology and Biomedicine", University of Nice Sophia Antipolis, France.

Master: R. Deriche, *Computational Vision and Image Processing* 18 ETD, 3rd year Engineering School, Institut TELECOM / TELECOM SudParis, Evry, France.

Master: R. Deriche, *Computational Brain Imaging* 15 ETD, M2 "Information Technologies in Medicine and Biology", University of Athens, Greece (<http://en.uoa.gr>).

Master: M. Clerc and T. Papadopoulo, *Inverse Problems in Brain Functional Imaging*, 36 ETD, M2 "Computational Biology and Biomedicine", University of Nice Sophia Antipolis, France.

Master: T. Papadopoulo, *3D Computer Vision*, 36 ETD, M2, SSTIM/VIM/MAM5 option at Polytechnic Engineering School, University of Nice Sophia Antipolis, France.

Master: T. Papadopoulo, *Inverse problems for brain functional imaging*, 24 ETD, M2, Mathématiques, Vision et Apprentissage, ENS Cachan, France.

Doctorat: M. Clerc *Inverse Problems in Brain Imaging*, 6 ETD, OIPE Doctoral Course, Ghent University, Belgium.

8.2.2. Supervision

PhD: Joan Fruitet, Interfaces Cerveau-Machines basées sur l'imagination de mouvements brefs: vers des boutons contrôlés par la pensée, University of Nice Sophia Antipolis, July 4th, 2012.

PhD: Emmanuel Caruyer, Q-Space Diffusion MRI, Acquisition and Signal Processing, University of Nice Sophia Antipolis, July 18th, 2012.

PhD: Jian Cheng, Estimation and Processing of Ensemble Average Propagator and Its Features in Diffusion MRI, University of Nice Sophia Antipolis, May 30th, 2012.

PhD in progress: Sylvain Merlet, Compressed Sensing & dMRI, September 2010, Advisor: Rachid Deriche.

PhD in progress: Anne-Charlotte Philippe, MEEG & dMRI, September 2010, Advisors: Maureen Clerc & Rachid Deriche

PhD in progress: Sebastian Hitziger, MEEG signal processing, November 2011, Advisors: Théodore Papadopoulo & Maureen Clerc

PhD in progress: Romain Trachel, Real Time analysis of Visual Attention, October 2010, Advisors: Thomas Brochier & Maureen Clerc

PhD in progress: Gabriel Girard, fMRI & dMRI, September 2012, Advisors: Rachid Deriche & Maxime Descoteaux (University of Sherbrooke, CA).

PhD in progress: Thinhinane Megherbi, HARDI & High Order Tensors, September 2011, Advisors: Rachid Deriche & L. Boumghar (USTHB, Algiers)

8.2.3. Internships

Diana Ibanescu, “Inverse source reconstruction combining different sources of information”, Master CBB, , from April 2nd to September 30th (Théodore Papadopoulo).

Laura Serron, “Perturbation methods in PDE to model electric conductivity inhomogeneities”, from June 18th to September 17th (Maureen Clerc).

J. Treilhard, “Constrained Diffusion Kurtosis Imaging Using Ternary Quartics and MLE”, Queen’s University, Kingston (CA), from May to August 2012.

8.2.4. Juries

- Rachid Deriche served in the following PhD Juries as President, reviewer or member (Xavier Desquenses, Greyc Lab., Caen; Perrine Bertrand, University Paul Sabatier, Toulouse, Z. Ikri, Polytechnic School, Algiers; M.K Rajagopa, Telecom SudParis, Evry, Catherine Herold, UMPC & Télécom ParisTech, Paris).
- Maureen Clerc served in the following PhD Juries as reviewer: Emilie Villaron, LATP Aix-Marseille University; Sandra Rousseau, University Joseph Fourier, Grenoble; Alexandre Barachant, University Joseph Fourier, Grenoble) and was in the PhD advisory committee of Margaux Perrin (Lyon University).
- T. Papadopoulo served in the following Ph.D. committees as reviewer (S. Sockeel,), or member (J. Cheng, University of Nice-Sophia Antipolis and Institute of Automation, China and J. Fruitet, University of Nice-Sophia Antipolis).

8.3. Popularization

Maureen Clerc gave an invited talk at the “Art Science Pensée” conference in Mouans Sartoux, September 2012.

Maureen Clerc organized and participated in an event at Lycée Masséna, Nice, to promote scientific careers, for the 40th anniversary of women’s admission to Ecole Polytechnique (September 2012).

ATLANMOD Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Organization

In 2012, the AtlanMod team has coorganized the following events:

- J. Cabot has coorganized the OCL and Textual Modeling Workshop (OCL'12)⁶ co-located with the MoDELS conference.
- J. Cabot has coorganized the CloudMDE workshop, the First International Workshop on Model-Driven Engineering on and for the Cloud, co-located with ECMFA 2012.

9.1.2. Steering Committees

Participation in Steering Committees of Research Conferences:

- Jordi Cabot: International Conference on Model Transformation

9.1.3. Editorial Boards

Participation to editorial boards of scientific journals:

- Jordi Cabot: Journal of Object Technology, International Journal of Information System Modeling and Design

9.1.4. Reviewing of International Journals

AtlanMod members have collaborated in the reviewing process for the following journals this year

- Hugo Bruneliere: Elsevier Advances in Engineering Software (ADES)
- Jordi Cabot: IEEE Software, IEEE Transactions on Software Engineering Journal, Journal of Systems and Software, Information and Software Technology Journal, Software and Systems Modeling Journal, Data and Knowledge Engineering Journal, Science of Computer Programming journal, Journal of Web Engineering journal
- Javier Canovas: Software and Systems Modeling Journal.
- Massimo Tisi: IEEE Software, Science of Computer Programming journal, Journal of Software: Practice and Experience, Information and Software Technology Journal, Software and Systems Modeling Journal, Journal of Object Technology.

9.1.5. Program Committee members

Participation to conference program committees:

- Fabian Buettner:
 - International: Workshop on the Analysis of Model Transformations (AMT), Model-Driven Security Workshop (MDSec).
- Jordi Cabot:
 - International: World Wide Web Conference, International Conference on Model-Driven Engineering Language and Systems, Software Language Engineering conference, European Conference on modeling foundations and applications, International Conference on Web Engineering, Transformation Tool Contest, International Conference on Conceptual Modeling, International Conference on Advanced Information Systems Engineering, eXtreme Modeling workshop, Model-Driven Engineering for High Performance and CLOUD computing workshop, Model Driven Web Engineering Workshop.

⁶<http://st.inf.tu-dresden.de/OCL2012/>

- National: French national conference on MDE, Spanish national conference on MDE.
- Javier Canovas:
 - International: International Workshop on Modeling Social Media.
 - National: French national conference on MDE, Spanish national conference on MDE.
- Massimo Tisi:
 - International: International Conference on Engineering of Complex Computer Systems, International Conference on Current Trends in Theory and Practice of Computer Science, International Conference on Software Engineering and Advanced Applications, International Conference on Web Information Systems and Technologies, International Conference on Model Transformation, Transformation Tool Contest, Workshop on Domain-Specific Modeling, Extreme Modeling Workshop, Academics Modelling with Eclipse Workshop.

9.1.6. Research Evaluation Committees

- Jordi Cabot: Reviewer for Spanish CICYT Research Projects Call, Reviewer for the National Dutch Projects Call

9.1.7. Awards

The team got a price while participating in a hackathon organized as part of the SoTeSoLa 2012 Summer School. The objective was to perform useful reverse engineering tasks from a given base of legacy source code. The AtlanMod team (Hugo Bruneliere) and the Public Research Center Henri Tudor - Luxembourg (Jean-Sebastien Sottet, a former AtlanMod post-doc) worked together and proposed a model-based prototype using the MoDisco and ATL tools developed within the team. Javier Canovas got the best paper award in the National Spanish conference on MDE [32]

9.2. Teaching - Supervision - Juries

9.2.1. Invited Talks

Jordi Cabot gave an invited lecture in the 12th International School on Formal Methods for the Design of Computer, Communication and Software Systems (<http://www.sti.uniurb.it/events/sfm12mde/>)

9.2.2. Teaching

Teaching duties of AtlanMod members done in 2012 involved the following courses:

License: J. Cabot is in charge of a 24-hour course on MDE in the CS degree at the Ecole des Mines de Nantes .

Seminar: J. Canovas. Software modernization in Eclipse, 3h, Universidad de Cádiz, Spain.

Master: J. Canovas. Model-Driven Software Development, 2h, L1, Universidad Autónoma de Madrid, Spain

License: M. Tisi, Programmation Modulaire, 12h, L2, Ecole des Mines de Nantes

License: M. Tisi, Structures de Données, 15h, L3, Ecole des Mines de Nantes

License: M. Tisi, Interaction Homme-Machine, 15h, M1, Ecole des Mines de Nantes

License: M. Tisi, UML, 20h, M1, Ecole des Mines de Nantes

License: M. Tisi, Projet IPIPIP, 8h, L2, Ecole des Mines de Nantes

License: M. Tisi, Projet Integrateur PRIME, 12h, L3, Ecole des Mines de Nantes

License: M. Tisi, Programmation, 40h, L3, Ecole des Mines de Nantes

License: M. Tisi, Bases de Données, 33h, L3, Ecole des Mines de Nantes

License: M. Tisi, Interaction Homme-Machine, 14h, L3, Ecole des Mines de Nantes

9.2.3. Supervision

HdR : Jordi Cabot, MDE 2.0 - Pragmatic Formal model verification and other challenges, ED-STIM Ecole des Mines de Nantes, 12/09/2012

PhD in progress : Carlos A. González, Pragmatic Model Verification, October 1st, 2011, Jordi Cabot

PhD in progress : Salvador Martínez Pérez, Automatic reconstruction and analysis of semantic network security policies from deployed security components, November 1st, 2011, Jordi cabot and Frédéric Cuppens

PhD in progress : Valerio Cosentino, Extraction and refactoring of Business Logic from Legacy Applications, December 1st, 2010, Jordi Cabot, Patrick Albert

9.2.4. Juries

Jordi Cabot was a member of the jury of the thesis of Thang Quyet Pham (Telecom Bretagne).

9.3. Popularization

9.3.1. Introductory book to Model-Driven Engineering

Jordi Cabot has co-written the book “Model-Driven Software Engineering in Practice” (published by Morgan and Claypool) [9], an introductory book to the domain of model driven engineering that discusses how approaches based on modeling can improve the daily practice of software professionals. The book is being used in more than 10 different universities as basic teaching material for MDE courses at the moment.

9.3.2. Dissemination to the local community

As part of our commitment to the Eclipse community (cf. next subsection), we co-organized again this year (together with the Obeo company) an Eclipse DemoCamp event in Nantes to promote the new Eclipse Juno version’s release. The Eclipse DemoCamps are an opportunity to showcase all of the technology being built by local Eclipse community members, as well as an excellent opportunity to meet other Eclipse enthusiasts in the region (notably industrial actors) and present them some of the Eclipse-based technologies developed by the team in the context of our research works. This year, we have notably presented during the event our three latest prototypes: Collaboro, EMFtoCSP and Virtual EMF.

Also, we have been invited to present our team and its activities to the Board of Architects of Steria Ouest (premises located in Nantes). We described them our main research fields and experiments in term of modeling, and raised some real interest from their side. Concretely, this has resulted in a first successful collaboration with them that happened this year (cf. related subsection).

9.3.3. Involvement in the worldwide Open Source Community via Eclipse

Since several years, the AtlandMod team is already very involved in the open source community, notably via its constant activity within the context of the Eclipse Foundation. This activity actually takes different forms: creation and leading/development of Eclipse projects (under *Eclipse.org* or *Eclipse Labs*), participation to the major worldwide community events (i.e.; EclipseCon North America and EclipseCon Europe), organization of events targeting the local community (i.e. Eclipse DemoCamps), etc.

This year again, the team has been active and visible in terms of concrete contributions to the community. The main remarkable items are the following ones:

- Leading of the MDT MoDisco project (Hugo Bruneliere), the Eclipse reference project concerning model-driven reverse engineering;
- Commitment to other projects directly under *Eclipse.org*: MMT ATL and EMFT EMF Facet (Hugo Bruneliere);
- Commitment to other projects under *EclipseLabs*: EMFToCSP (Jordi Cabot, Carlos Gonzalez) and Virtual EMF (Caue Clasen, Jordi Cabot);

- Creation and development of a new incubation project under *Eclipse Labs*: Collaboro (Javier Canovas);
- Organization of an official Eclipse DemoCamp in Nantes, on the 28th of June 2012, for locally promoting the Eclipse Juno release including the MoDisco, ATL and EMF Facet team's projects (Hugo Bruneliere, in collaboration with the Obeo company);
- Publication of a paper on MoDisco in the European ERCIM NEWS Journal 88, dedicated to Software Evolution (Hugo Bruneliere and Jordi Cabot, in collaboration with the Mia-Software company);
- Presentation of talks during the two main Eclipse events (Hugo Bruneliere): at EclipseCon North America 2012 about EMF Facet, at EclipseCon Europe 2012 about Collaboro.

Generally, the team visible presence under Eclipse is also an efficient way to continue active collaborations with industrial partners, such as Mia-Software (Sodifrance) on MoDisco - EMF Facet, and Obeo on ATL.

AVALON Team

8. Dissemination

8.1. Scientific Animation

Eddy Caron

- Program Committee Membership (international conferences and workshops): SOAC 2012 (International Workshop on Service-Oriented Architecture and Cloud Computing within ICACCI2013), Cloud & Grid2012 (The 2012 International Workshop on Cloud and Grid Interoperability (Cloud&Grid 2012)), CLOSER 2012 (2nd International Conference on Cloud Computing and Services Science), HCW 2012 (21st International Heterogeneity in Computing Workshop in conjunction with IPDPS 2012), SC12 Tutorials
- Program Committee Membership (national conferences and workshops): Realis (Reproductibilité expérimentale pour l'informatique en parallélisme, architecture et système – 1ère édition within ComPAS'2013)

Frédéric Desprez

- Program Committee Membership (international conferences and workshops): BDMC (1st Workshop on Big Data Management in Clouds held in conjunction with the EuroPar 2012 conference), Federatedclouds (Workshop on Cloud Services and the 8th Open Cirrus Summit), CGWS'2012 within EuroPAR, CLOSER 2012 (2nd International Conference on Cloud Computing and Services Science), ICA CON 2012 (1st International Conference of the IBM Cloud Academy), CCGRID 2012 (12th IEEE International Symposium on Cluster, Cloud and Grid Computing), HPGC 2012 (FTRA International Workshop on Human centric computing, P2P, Grid and Cloud computing), VTDC Workshop (5th International Workshop on Virtualization Technologies in Distributed Computing (within HPDC 2012)), LaSCoG'2012 (8th Workshop on Large Scale Computations on Grids), 3PGCIC (7th International Conference on P2P, Parallel, Grid, Cloud, and Internet Computing, Victoria, Canada, Nov.2012), ICPADS 2012 (18th IEEE International Conference on Parallel and Distributed Systems), CFSE (Conférence Française en Systèmes d'Exploitation), CloudCom 2012 (Services and Applications track of IEEE CloudCom 2012), Grid'12 (The 13th ACM/IEEE International Conference on Grid Computing)
- Program Committee Membership (national conferences and workshops): CFSE (Conférence Française en Systèmes d'Exploitation)

Gilles Fedak

- Publicity Chair 13th IEEE/ACM International Conference on Grid Computing Grid'12, Beijing, China, 2012
- Co-chair Third International Workshop on the MapReduce Programming Model and its Application (MapReduce 2012), in conjunction with HPDC'12, Delft, Netherlands, 2012
- Program Committee Membership: 13th IEEE/ACM International Conference on Grid Computing (Grid'12), ACM Symposium on High-Performance Parallel and Distributed Computing (HPDC'2012), International Conference on Computer Communication Networks (ICCCN), track on Grid and Cloud Computing (GCC), 8th IEEE International Conference on eScience (eScience 2012), 4th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2012), 12th IEEE International Conference on Scalable Computing and Communications (ScalCom-12), 20th EuroMicro International Conference on Parallel, Distributed and Network-Based Processing (PDP'12),

Jean-Patrick Gelas

- Reviewing committee: CCGrid2012
- University committee: Master (M2 CCI) jury

Olivier Glück

- Reviewing committee: CCGrid2012
- University committee: Member of the CEVU (Conseil des Etudes et de la Vie Universitaire) of University Lyon 1, Member of the UFR Faculté des Sciences et Technologies faculty council of University Lyon 1, Member of the computer science department council of University Lyon 1

Laurent Lefevre

- Program Vice-Chair of the track "Cluster, Grid and Cloud Computing" in the The 12th IEEE International Conference on Scalable Computing and Communications (ScalCom 2012), Changzhou, China, December 17-20, 2012
- Program Chair of the The IEEE International Conference on Green Computing and Communications (GreenCom 2012) , Besancon, France, November 20-23, 2012
- Co-organizer of Entretiens Jacques Cartier : Colloquium on "Towards ecological and energy efficient Information and Communication Technology - Vers des Technologies de l'Information écologiques et efficaces en consommation énergétique", Lyon, France, November 19-20, 2012
- Co-Organization of Inria Booth in SuperComputing 2012, Salt Lake City, USA, November 10-16, 2012
- Co PC Chair of Cloud&Grid 2012 : The Second International Workshop on Cloud and Grid Interoperability, Gwangju, Korea, 6-8 September 2012
- Co PC Chair of the 14th IEEE International Conference on High Performance Computing and Communications (HPCC-2012), Liverpool, UK, 25-27 June, 2012
- Steering Committee Member of : IEEE TCSC Technical Area in Green Computing, CCGrid 2012 : 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing
- Program Committee Member of the following international conferences : The 6th International Conference on Network and System Security (NSS 2012), 5th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2012), Third International Conference on Energy-Aware High Performance Computing, ICT-GLOW 2012: 2nd International Conference on ICT as Key Technology for the Fight against Global Warming, HP-PAC2012: The Eight Workshop on High-Performance, Power-Aware Computing, CCGrid 2012 : 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, E-Energy 2012 : the third International Conference on Future Energy System, PMAM 2012 : The 2012 International Workshop on Programming Models and Applications for Multicores and Manycores, The 10th Australasian Symposium on Parallel and Distributed Computing (AusPDC2012)
- Program Committee Member of the following national conference : NOTERE / CFIP : Nouvelles technologies de la répartition / Colloque francophone sur l'ingénierie des protocoles,

Christian Pérez

- Program Committee Membership: 20th High Performance Computing Symposium (HPC 2012), 10th International Conference on Service Oriented Computing (ICSOC 2012), Conference for Young Scientists "Facing the Multicore-Challenge III".
- Reviewer for the 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2012), 5th International Conference on Cloud Computing (IEEE Cloud 2012).

Frédéric Suter

- Program Committee Membership (international conferences and workshops): CLOSER 2012 (2nd International Conference on Cloud Computing and Services Science), VTDC Workshop (5th International Workshop on Virtualization Technologies in Distributed Computing (within HPDC 2012)), LaSCoG'2012 (8th Workshop on Large Scale Computations on Grids), Vecpar 2012 (10th International Meeting on High-Performance Computing for Computational Science), MAPREDUCE2012 (Third International Workshop on MapReduce and its Applications).
- Program Committee Membership (national conferences and workshops): Realis (Reproductibilité expérimentale pour l'informatique en parallélisme, architecture et système – 1ère édition within ComPAS'2013)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: Eddy Caron, Grid and Cloud Computing, 14 hours, M2, ENS Lyon, France

Master: Eddy Caron, Distributed System, 39 hours, M1, ENS Lyon, France

Master: Eddy Caron, Engineering Software, 39 hours, M1, ENS Lyon, France

Master: Eddy Caron, Grids, 8 hours, M2 RTS, INSA, France

Master: Frédéric Desprez, Parallel Computing, 30h, M1, Université Lyon 1, France

Master : Jean-Patrick Gelas, Réseaux avancés : IPv6 and IP routing, 40h, niveau M2, Université Lyon 1, France

Master : Jean-Patrick Gelas, Architecture des réseaux : Router under the hood, 6h, niveau M2, Université Lyon 1, France

Master : Jean-Patrick Gelas, Systèmes d'exploitation, 24h, niveau M2, Université Lyon 1, France

Master : Jean-Patrick Gelas, Réseaux, 35h, niveau M2, Université Lyon 1, France

Master : Jean-Patrick Gelas, Systèmes et logiciels embarqués, 45h, niveau M2, Université Lyon 1, France

Licence : Olivier Glück, Initiation Réseaux, 2x9h, niveau L2, Université Lyon 1, France

Licence : Olivier Glück, Réseaux, 2x70h, niveau L3, Université Lyon 1, France

Licence : Olivier Glück, Réseaux, 60h, niveau L3, Université des Sciences de Ho Chi Minh ville, Vietnam

Master : Olivier Glück, Services et Protocoles Avancés sur Internet, 40h, niveau M2, Université Lyon 1, France

Master : Olivier Glück, Administration des Systèmes et des Réseaux, 16h, niveau M2, Université Lyon 1, France

Master : Laurent Lefevre, Green Networking, 16h, M2, Ecole Normale Supérieure de Lyon, France

Master : Laurent Lefevre, Operating Systems, 39h, MASTER Informatique Spécialité Compétence Complémentaire en Informatique, Université Claude Bernard, Lyon1, France

Master : Christian Pérez, Grid and Cloud Computing, 14h, M2, Ecole Normale Supérieure de Lyon, France

8.2.2. Supervision

PhD & HdR

- Vincent Pichon, PhD defended October 5th, 2012, *Contribution à la conception à base de composants logiciels d'applications scientifiques parallèle*, André Ribes (EDF R&D, co-dir), C. Pérez (dir), [3].

- Cristian Klein, PhD defended November 29th, 2012, *Cooperative Resource Management for Parallel and Distributed Systems*, C. Pérez, [1].
- Adrian Muresan, PhD defended December 10th, 2012, *Scheduling and deployment of large-scale applications on Cloud platforms*, E. Caron (co-dir), F. Desprez (dir), [2].
- Mohammed Diouri , PhD in progress, *Performances and low energy consumption for distributed applications executed on exascale systems*, Oct. 1, 2010, I. Guérin Lassous (Dir.) and L. Lefèvre and O. Glück
- Maurice Djibril Faye, PhD in progress *Déploiement auto-adaptatif d'intergiciel sur plateforme élastique*, Eddy Caron (dir), Ousmane Thiaré (Université Gaston Berger, St Louis, Sénégal, co-dir)
- Sylvan Gault, PhD in progress, *Ordonnancement de tâches avec le modèle MapReduce*, F. Suter (co-dir), F. Desprez (dir)
- Vincent Lanore, PhD in progress, *Adaptation et dynamique dans les modèles à composants logiciels pour les applications scientifiques*, C. Pérez.
- Arnaud Lefray , PhD in progress, *Mission fonctionnelle et de sécurité dans une informatique en nuage*, Eddy Caron (dir), Christian Toinard (ENSIB, co-dir)
- Anthony Simonet , PhD in progress, *Large scale data management in hybrid distributed computing infrastructures* G. Fedak
- Ghislain Tsafack Chetsa, PhD in progress, *Energy profile and green levers for applications and services over large scale and distributed infrastructures*, (2011-2014), L. Lefèvre (Dir.) and J.-M. Pierson (IRIT, co-dir.)
- Georges Markomanolis, PhD in progress, *Environnement de simulation pour l'aide au dimensionnement de grilles de calcul* , F. Suter (co-dir), F. Desprez (dir)

8.2.3. Juries

- Frédéric Desprez, HDR reviewer of Marc Baboulin, *Fast and reliable solutions for numerical linear algebra solvers in high-performance computing*, LRI, November 2012; PhD reviewer of Simplicio Donfack, *Methods and algorithms for solving linear systems of equations on massively parallel computers*, LRI, June 2012; of Rodrigue Chakode, *Environnement d'exécution pour des services de calcul à la demande sur des grappes mutualisées*, Grenoble, June 2012; of Lamiel Toch, *Contributions aux techniques d'ordonnancement sur plates-formes parallèles ou distribuées*, Besançon, November 2012; of Yrjö Raivio, *Techno-Economic Analysis of Novel Opportunities for Mobile Networks – Open Innovation and Cloud Computing*, Helsinki, December 2012; PhD defense committee member of Xavier Etchevers, *Déploiement d'applications patrimoniales en environnements de type informatique dans le nuage*, Grenoble, December 2012.
- Gilles Fedak, PhD external reviewer of Ian Kelley, *Data Management in Dynamic Distributed Computing Environment* UK, November 2012
- Laurent Lefevre, PhD reviewer of Marco Guazzone *Power and Performance Management in Cloud Computing Systems*, University of Torino, Italy, February 2012
- Christian Pérez, PhD reviewer of Ahmed Turki, *Un modèle pour la composition d'applications de visualisation et d'interaction continue avec des simulations scientifiques*, University of Orleans, March 2012; of André Lage Freitas, *Autonomous Service Execution Driven by Service Level Agreements*, INSA Rennes, March 2012; of Javier Rojas Balderrama, *Gestion du cycle de vie de services déployés sur une infrastructure de calcul distribué en neuroinformatique*, University of Nice Sophia Antipolis, April 2012; of Jérôme Clet-Ortega, *Exploitation efficace des architectures parallèles de type grappes de NUMA à l'aide de modèles hybrides de programmation*, University of Bordeaux I, April 2012; of Héctor Fernández, *Flexible Coordination through the Chemical Metaphor for Services Infrastructure*, University of Rennes I, June 2012; of Mihai Alexandru, *Efficient large electromagnetic simulation based on hybrid TLM and modal approach on grid computing and supercomputer*, University of Toulouse, December 2012.

8.3. Popularization

Laurent Lefevre :

- Co-organizer of the Rencontres Inria Industrie : Sciences Numériques et efficacité énergétique - Numerical Sciences and energy efficiency, Inria Montbonnot, France, March 8, 2012
- Co-organizer of the Second Half day on “Public procurement of Energy efficient datacenters - Achats publics de datacenters efficaces du point de vue énergétique”, within the PrimeEnergyIt Project, with BIO Intelligence Service company, Paris, France, February, 10, 2012
- Co-organizer of the Green Days @ Lyon event: “Energy efficiency : how to monitor and impact on applications ?”, Lyon, France, January 19-20, 2012
- Member of “Comité de Pilotage” for the collaborative writing of a Ademe Book on “Guide Sectoriel 2012 : Réalisation d’un bilan des émissions de gaz à effet de serre”, 146 pages, January 2012
- “L’émergence du Green-IT, pour une informatique plus verte” : Article and Interview for 20 ans Inria Rhone Alpes, Laurent Lefevre and Bel Dumé, November 15, 2012
- “Le Green IT se réfugie au Nord !” : Brève Inria; “Le saviez-vous ?”, Laurent Lefevre and Christophe Castro, May 10, 2012
- Interview for the paper “Comment se chauffer avec les *data centers*”, Les Echos, April 2012

AVIZ Project-Team

9. Dissemination

9.1. Scientific Animation

AVIZ members are active worldwide in the domains of Visualization, Visual Analytics, and HCI.

9.1.1. Keynotes and Invited Talks

- Jean-Daniel Fekete: *Invited talk for the 25th anniversary of Fraunhofer IGD: Visual Analytics of Large Social Networks*, Darmstadt, Germany, Nov. 14, 2013
- Jean-Daniel Fekete: *Keynote for the Digiteo Forum 2013: "Au-delà des pelotes de fils : progrès et défis de la visualisation des réseaux sociaux"*, Polytechnique, France, Nov. 13 2012
- Jean-Daniel Fekete: *Keynote for CANVAS 2012 the CANadian Visual Analytics School 2012: Advances in Social Network Visualization*, Vancouver, CA, Jul 24, 2012
- Jean-Daniel Fekete: *Summer Course at the European Business Intelligence Summer School 2012: Visualizing and Exploring Complex Multidimensional Data*, Bruxelles, BE, Jul. 19, 2012
- Jean-Daniel Fekete: *Keynote for Visual Decision Forum 2012: Recherche en visualisation: que doit-on en attendre ?*, Paris, Jul. 5, 2012
- Jean-Daniel Fekete: *Keynote for EuroVA 2012: Infrastructures for Visual Analytics: You are in a maze of twisty little passages, all alike!* EuroVa, Vienna, Jun. 4, 2012.
- Jean-Daniel Fekete: *Séminaire muséologie: Interfaces innovantes tirant partie des métadonnées*, IRI Centre Pompidou, Paris, May 15
- Jean-Daniel Fekete: *Explorer les corpus : vue d'ensemble et navigation dans de larges corpus documentaires*, EHESS Paris, Mar. 5
- Jean-Daniel Fekete: *Visualisation interactive de réseaux sociaux : dernières avancées et défis*, ISC Lyon, Feb. 2012
- Jean-Daniel Fekete: *InfoVis/DataViz: Donner du sens à la révolution Big Data*, Microsoft TechDays, Paris, Feb. 2012
- Jean-Daniel Fekete: *Advances in Social Network Visualization*, University of Kent, School of Computing Seminar, Jan. 2012
- Jean-Daniel Fekete: *Data Visualisation, visualisation d'information : un nouveau langage visuel*. ENSAD, Paris. Jan. 2012
- Évelyne Lutton: *Tomographic 3D reconstruction using cooperative co-evolution*. MIBISOC, Parma. Feb. 2012
- Petra Isenberg: *Information Visualization: An Introduction to the Field and Applications for Statistics*; StatLearn 2012, Lille
- Petra Isenberg: *Perceptual Experiments for Information Visualization Design*; University of Granada, Spain
- Pierre Dragicevic: *Novel Interactive Visualizations for Social Networks* Colloque LabEx DigiCosme. Ecole Polytechnique. Sep, 13., 2012.

9.1.2. Scientific Associations

- Jean-Daniel Fekete is the president of the French Speaking HCI Association 2009–2014
- Evelyne Lutton is the president of the EA steering committee (<http://ea.inria.fr>),

- Evelyne Lutton is founding member of the « Task Force on Evolutionary Computer Vision and Image Processing » within the IEEE CIS Evolutionary Computation Technical Committee (ECTC),
- Evelyne Lutton is president of the french-WIE affinity group.

9.1.3. Conference Organization

- Jean-Daniel Fekete will be general chair of the IEEE VIS 2014 conference in Paris,
- Jean-Daniel Fekete is in the Steering Committee of EuroVis 2012–2019,
- Jean-Daniel Fekete is in the Steering Committee of IEEE InfoVis 2011–2018,
- Jean-Daniel Fekete is member of the Conference Management Committee in charge of Data Analysis for ACM SIGCHI
- Petra Isenberg was on the Best Short Paper Committee for Eurographics European Conference on Visualization,
- Petra Isenberg was Publicity Chair for the ACM Conference on Tabletops and Interactive Surface,
- Petra Isenberg was Tutorials Chair for IEEE InfoVis 2012,
- Petra Isenberg and Tobias Isenberg co-organized the Workshop on Beyond Time and Error: Novel Evaluation Methods for Visualization (BELIV) at IEEE VisWeek,
- Tobias Isenberg is in the Steering Committees of NPAR and Computational Aesthetics.

9.1.4. Conference Program Committees

- Pierre Dragicevic was member of the program committee for UIST 2012,
- Pierre Dragicevic was member of the program committee for 3DUI 2012,
- Pierre Dragicevic was member of the program committee for ErgoIHM 2012,
- Pierre Dragicevic was member of the program committee for CHI 2013,
- Jean-Daniel Fekete was member of the program committee for IEEE InfoVis 2012,
- Jean-Daniel Fekete was member of the program committee for EuroVis 2012,
- Jean-Daniel Fekete was member of the program committee for AVI 2012,
- Petra Isenberg was member of the program committee for EuroVis 2012,
- Petra Isenberg was member of the program committee for EuroVA 2012,
- Petra Isenberg was member of the program committee for CHI 2013,
- Tobias Isenberg was member of the program committee for ACM NPAR 2012,
- Tobias Isenberg was member of the program committee for Computational Aesthetics 2012,
- Tobias Isenberg was member of the program committee for EG EuroVis 2012,
- Tobias Isenberg was member of the program committee for EG EuroVis 2012 short papers,
- Tobias Isenberg was member of the program committee for Graphics Interface 2012,
- Tobias Isenberg was member of the program committee for 3DCHI 2012 (ACM CHI 2012 workshop on the 3rd Dimension of CHI),
- Évelyne Lutton was member of the program committee of EuroGP 2012,
- Évelyne Lutton was member of the program committee of EvoIASP 2012,
- Évelyne Lutton was member of the program committee of GECCO 2012,
- Évelyne Lutton was member of the program committee of CEC 2012,

9.1.5. Journal Editorial Board

- Jean-Daniel Fekete was associate editor of the IEEE Transactions on Visualization and Computer Graphics

- Jean-Daniel Fekete was guest editor of IEEE Computer Graphics and Applications on the special issue on “Visualization Applications and Design Studies”
- Tobias Isenberg was associate editor of Elsevier Computers & Graphics
- Tobias Isenberg was guest editor of the special section of Elsevier Computers & Graphics for the best papers of the 2011 Joint Symposium on Computational Aesthetics, Non-Photorealistic Animation and Rendering, and Sketch-Based Interfaces and Modeling,
- Petra Isenberg and Tobias Isenberg are guest editors of a special issue of Sage Publishing’s Information Visualization on visualization evaluation.
- Pierre Dragicevic was co-Editor in Chief for the Journal d’Interaction Personne-System (JIPS).

9.1.6. Conference Reviewing

3DUI IEEE Symposium on 3D User Interfaces: Pierre Dragicevic
 AVI Advanced Visual Interfaces: Jean-Daniel Fekete, Petra Isenberg
 BELIV Workshop on Beyond Time and Error: Novel Evaluation Methods for Visualization: Jean-Daniel Fekete, Petra Isenberg, Tobias Isenberg
 CAe Tobias Isenberg
 CEC IEEE Congress on Evolutionary Computation: Évelyne Lutton
 CHI ACM Conference on Human Factors in Computing Systems: Pierre Dragicevic, Jean-Daniel Fekete, Petra Isenberg, Tobias Isenberg
 CSCW ACM Computer Supported Cooperative Work: Petra Isenberg
 EA Artificial Evolution: Évelyne Lutton
 EICS ACM SIGCHI Symposium on Engineering Interactive Computing Systems: Jean-Daniel Fekete, Pierre Dragicevic
 EG Eurographics Conference: Petra Isenberg and Tobias Isenberg
 EuroGP European Conference on Genetic Programming: Évelyne Lutton
 EuroVA Eurographics Symposium on Visual Analytics: Petra Isenberg
 EuroVis Eurographics European Symposium on Visualization: Jean-Daniel Fekete, Petra Isenberg, Tobias Isenberg
 EvoIASP Evolutionary Computation in Image Analysis and Signal Processing: Évelyne Lutton
 EvoMusArt European Event on Evolutionary and Biologically Inspired Music, Sound, Art and Design: Évelyne Lutton
 GECCO Genetic and Evolutionary Computation Conference: Évelyne Lutton
 Graph Drawing Jean-Daniel Fekete, Benjamin Bach
 Graphics Interface Tobias Isenberg
 ICDE IEEE International Conference on Data Engineering: Jean-Daniel Fekete
 IHM Interface Homme Machine IHM: Pierre Dragicevic, Jean-Daniel Fekete
 InfoVis IEEE Conference on Information Visualization: Pierre Dragicevic, Petra Isenberg, Tobias Isenberg
 ISVC International Symposium on Visual Computing: Petra Isenberg
 ITS International Conference on Interactive Tabletops and Surfaces: Pierre Dragicevic, Petra Isenberg, Tobias Isenberg, Yvonne Jansen
 MobileHCI Pierre Dragicevic
 NISCO Nature Inspired Cooperative Strategies for Optimization: Évelyne Lutton
 NordiCHI Nordic Forum for Human-Computer Interaction: Petra Isenberg
 NPAR Tobias Isenberg

PacificVis IEEE Pacific Visualization Symposium: Petra Isenberg, Pierre Dragicevic
 SIGGRAPH Pierre Dragicevic
 TAVA Theory and Applications of Visual Analytics: Petra Isenberg
 TEI Conference on Tangible Embedded and Embodied Interaction: Petra Isenberg
 UbiComp International Conference on Ubiquitous Computing: Pierre Dragicevic
 UIST ACM Symposium on User Interface Software and Technology: Pierre Dragicevic, Petra Isenberg
 Tobias Isenberg, Yvonne Jansen
 VAST IEEE Conference on Visual Analytics, Science, and Technology: Jean-Daniel Fekete, Petra
 Isenberg, Tobias Isenberg

9.1.7. Journal Reviewing

DAMI Data Mining and Knowledge Discovery: Jean-Daniel Fekete
 C&G Computers and Graphics: Petra Isenberg, Tobias Isenberg, Pierre Dragicevic
 CG&A Computer Graphics and Applications: Petra Isenberg, Tobias Isenberg
 GPEM Genetic Programming and Evolvable Machines: Évelyne Lutton
 IJHCS International Journal of Human-Computer Studies: Petra Isenberg
 TEC IEEE Transactions on Evolutionary Computation: Évelyne Lutton
 TOCHI ACM Transactions on Computer-Human Interaction: Petra Isenberg, Pierre Dragicevic
 TVCG IEEE Transactions on Visualization and Computer Graphics: Petra Isenberg, Pierre Dragicevic
 Computer Graphics Forum Tobias Isenberg

9.1.8. Scientific Dissemination

- Samuel Huron and Jeremy Boy co-organized the “WIID” (Who Is Interaction Design?) conference at Centre Pompidou, Paris

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master:

- Module “Artificial Evolution” of ENSTA (first year, level M1, 21h, taught by Évelyne Lutton).
- Module “Complex Systems” of Agro-ParisTech (second year, level M2, 12h, taught by Évelyne Lutton).
- Module “Interactive Information Visualization” of Univ. Paris-Sud (M2, 18h, taught by Pierre Dragicevic, Jean-Daniel Fekete and Petra Isenberg),
- Module “Computer Graphics” of Univ. of Groningen (M2, taught by Tobias Isenberg),
- Module “Advanced Computer Graphics” of Univ. of Groningen (M2, taught by Tobias Isenberg),
- Module “Innovative Interactive Systems” of Univ. of Groningen (M2, taught by Tobias Isenberg).

9.2.2. Supervision

PhD in progress: Benjamin Bach, *Collaborative Visualization of Large Web-based Linked Datasets*, 01/2011, Emmanuel Pietriga and Jean-Daniel Fekete

PhD in progress: Nicolas Heulot, *A Study of The Interactive Process of Visual Data Mining for Multidimensional Data*, 09/2010, Michael Aupetit and Jean-Daniel Fekete

PhD in progress: Samuel Huron, *Navigation and Annotation of Heterogeneous Time-Stamped Data*, 12/2010, Jean-Daniel Fekete and Vincent Puig

PhD in progress: Yvonne Jansen, *Tangible Information Visualization*, 12/2010, Pierre Dragicevic and Jean-Daniel Fekete

PhD in progress: Charles Perin, *Visualization and Collaborative Control of Massive Multi-Structured Temporal Data*, 10/2011, Frédéric Vernier and Jean-Daniel Fekete

PhD in progress: Jeremy Boy, *Visualization for the People*, 01/2012, Françoise Detienne and Jean-Daniel Fekete

PhD in progress: Moritz Gerl, *Non-Photorealistic and Illustrative Rendering*, Tobias Isenberg

PhD in progress: Lingyun Yu, *Interactive Computer Graphics*, Tobias Isenberg

9.2.3. *Juries*

- Jean-Daniel Fekete was reviewer for Thomas Mirlacher's PhD: "Model-based engineering of animated interactive systems for the interactive television environment", Université de Toulouse, Dec. 2012
- Jean-Daniel Fekete was reviewer for David Auber's HdR: "Visualisation de graphes", Univ. of Bordeaux, Dec. 9 2012.
- Jean-Daniel Fekete was jury member for Micheline Elias's PhD: "Enhancing Human Interaction with Business Intelligence Dashboards", Ecole Centrale Paris (ECP), Oct. 2012
- Jean-Daniel Fekete was jury member for Michael Aupetit's HdR: "Approches topologiques pour l'analyse exploratoire de données et l'aide à la décision", 11 Jul . 2012
- Jean-Daniel Fekete was reviewer for Guillaume Artigan's PhD: "Visualisation Multi-Echelle de Graphes Clusterisés", Université de Montpellier 2, Apr. 2 2012
- Jean-Daniel Fekete was reviewer for Jean Simard's PhD: "Collaboration haptique étroitement couplée pour la déformation moléculaire interactive", Université Paris-Sud, Mar. 2012
- Tobias Isenberg was on the PhD committee for Dr. Stefan Flöring: KnoVA: A Reference Architecture for Knowledge-Based Visual Analytics; University of Oldenburg, Germany, Jul. 2012.

AXIS Project-Team

7. Dissemination

7.1. Animation of the Scientific Community

7.1.1. General Audience

- **B. Senach' talk at WUD 2012 [68]:** "Experience is a back hooked lantern that shed light on the travelled path". Current and future research topics are better understood when envisioned within the global framework of societal demands and in relation with historical evolution. For the 2012 World Usability Day event, an overview of the last 40 years research topics in SHS-STIC has been proposed. This presentation showed first how current scientific studies of user experience are linked to a paradigm shift in the 90s' concerning the initially too simplistic relationship between SHS and STIC. From this conceptual crisis emerged in each field (SHS and STIC) specific research tracks and an enlarged model of Human behavior including, among others, social relationships, shared activities, emotions, etc. As expertise in user interface design and evaluation improved in relation with technical development, new societal challenge araised with new methodological requirements.

First the European community turn towards knowledge economy put stress on open innovation and living lab methodology as a way to accelerate new products and services adoption. Ethno methodology nowadays is more and more used and the field of Service Design has emerged as a domain integrating most of tools and methods previously used for user interface and user experience design.

In addition, the European Community orientation towards sustainable development brought other requirements concerning deep change of the way of living in occidental society. As it is necessary to adopt eco behavior for resources consumption, mobility and others daily activities, the focus is now on levers helping people to change their behavior. Persuasive interface are a promising research aera. The B. Senach' video presentation at WUD2012 is also available on line on dailymotion.

- **TIC TAC:** co-organisation of the final event (may, large audience) related to the PREDIT Tic Tac at ADEME (Sophia Antipolis) in order to report the results of the project and announce the five citizen, winners of the experiment. Around 40 people participated to this event.
- **ECOFAMILIES:** co-organisation of the final event (large audience) at CSTB (Sophia Antipolis) related to the PACALABS ECOFAMILIES project (cf. section 6.1.4 and the final report [61]. A documentary film has been produced during the project by Natacha Cyrulnik (I3M) and the « Compagnie des Embruns »: this movie offers a testimonial of the participatory design process and shows the families implication all along the project. This project was also the subject of 19-20 journal at France 3 on October 17th. An article on the ECOFAMILIES project - how to promote energy-aware behaviors at home was published on BuildUP and is shared in various social networks (LinkedIn, twitter, facebook).An executive summary of the project (english version) was put on the ICT Usage Lab Web site.
- **ECOFFICES:**
 - B. Trousse gave a talk on *Ecoffices: the usages aspect* (April 19th, Brignoles) in the context of the working group Smart grid in PACA (common to two clusters, SCS and Cap Energies clusters).
 - Co-redaction of a flyer (english version) related to the PACALABS ECOFFICES project for the experts of IGSAN during the conferences in Nice distributed by “Chambre de Commerce et industrie” (Enterprise/Environment/Energy Department) ISGAN - CCI.

7.1.2. Editorial Boards and Reviewing

Axis members participate in the **editorial boards** of various journals:

Brigitte Trousse

- Journal of Symbolic Data Analysis
- IJDST - International Journal of Design Sciences & Technology)
- Co-Design Journal

Yves Lechevallier

- MODULAD (electronic journal), <http://www.modulad.fr/> as co-editor
- Journal of Symbolic Data Analysis

Dominique Scapin

- BIT (Behaviour & Information Technology) as Associate Editor
- UAIS -International Journal of Universal Access in the Information Society)
- IJHCS - International Journal of Human-Computer Studies
- IWC - Interacting with Computers
- IJPOP - International Journal of People-Oriented Programming
- International Journal On Advances in Intelligent Systems
- JMUI - Journal of Mutimodal User Interfaces
- JIPS - Journal d'Interaction Personne-Système

AxIS members are very regularly **reviewers** for various major journals: ADAC "Advances in Data Analysis and Classification", BIT, ADAC "Advances in Data Analysis and Classification", IJHCS (International Journal of Human-Computer Studies), JMUI (Journal of Multimodal User Interfaces), Le Travail Humain, UAIS, IwC in 2012.

Thierry Despeyroux was reviewer for a book: Advances in Knowledge Discovery and Management Vol. 4 to be published.

D.L. Scapin participated to the content setting and wrote a "Foreword" for the compilation of ergonomic standards by AFNOR: Ergonomie des Logiciels. Recueil de Normes Ergonomie des postes et lieux de travail, AFNOR November 2012.

7.1.3. Conferences/Workshops Scientific Program Committees

Y. Lechevallier and B. Trousse are members of the **supervising committee** of the association EGC (<http://www.egc.asso.fr/>)

Yves Lechevallier was scientific chair of EGC 2012 [39], Bordeaux, France, January 31 - February 3, 2012

AxIS permanent members are involved in the following program committees of conferences and workshops:

Brigitte Trousse

- CSCWD 2012, the 2012 16th IEEE International Conference on Computer Supported Cooperative Work in Desig, Wuhan, China , 23-25 may, (sponsored by IEEE SMC Society)
- EGC 2012, Bordeaux, France, January 31 - February 3, 2012
- RàPC 2012, 20th French Workshop on Case-based Reasoning, 25 june, Paris.

Yves Lechevallier

- EGC 2012, Bordeaux, France, January 31 - February 3, 2012

Dominique Scapin

- ACHI 2012, Valencia, Spain, January 30 - February 4, 2012
- ICMI 2012, Santa Monica, California. Oct. 22-26th, 2012
- Workshop "Supportive User Interfaces", Copenhagen, Denmark - June 25, 2012, in conjunction with the EICS 2012 conference
- CENTRIC 2012, Lisbon, Portugal, November 18-23, 2012
- SETIT 2012, Sousse, Tunisia, March 21-24, 2012
- ErgoIHM 2012, Biarritz, France, October 17-19,2012

7.1.4. Organization of Workshops and Conferences

- **Yves Lechevallier** was scientific chair of EGC 2012, Bordeaux, France, January 31 - February 3 [39].
- **B. Trousse** (as Inria and ICT Usage Lab representative) participated in the ICC 2012 program committee in charge of the invited talks. Our two proposed speakers were selected for the final program (June 7th): Michael Nilsson coordinator of the Fireball project (CDT, Luleå University of Technology) and Khaldoun El Agha (University Paris 8 and ICT labs).

7.1.5. Participation in PhD Thesis Committees

AXIS researchers were members of the following Ph.D. committees in 2012:

- **Julie Seguela**, Ph.D.: Fouille de données textuelles et systèmes de recommandation appliqués aux offres d'emploi diffusées sur le web. CNAM, école doctorale EDITE, May 3, 2012: Y. Lechevallier (Examineur).
- **Jean-Baptiste Masson**, Ph.D.: SIGFRIED 2 : Modèles de mélange censurés et autres méthodes statistiques pour la construction d'indicateurs spatialisables de la qualité de l'air intérieur dans les logements français. Université de Technologie de Compiègne, May 30, 2012: Y. Lechevallier (Rapporteur).
- **Annette Casagrande**, Ph.D.: Proposition d'une mesure de voisinage entre textes: Application à la veille stratégique. Université de Grenoble, école doctorale MSTII, July 3, 2012: Y. Lechevallier (Examineur).
- **Thomas Villaren**, Ph.D.: « Modèles et mécanismes d'adaptation d'Interaction Homme-Machine aux changements de contexte », Université de Bretagne, Département : Logique des Usages, Sciences Sociales et de l'Information (LUSSI), spécialité « STIC », November 30, 2012: D. L. Scapin (Rapporteur).
- **Jacques-Henri Sublemontier**, Ph.D.: Classification non supervisée : de la multiplicité des données à la multiplicité des analyses. Université d'Orléans, December 7, 2012: Y. Lechevallier (Rapporteur).
- **Djamal Adboul Nasser Seck**, Ph.D.: Arbres de décision symboliques, outils de validation et d'aide à l'interprétation. Université Paris-IX Dauphine, December 20, 2012: Y. Lechevallier (Rapporteur).

7.2. Teaching and Supervision

7.2.1. Teaching Activities

Y. Lechevallier

Master 2 Recherche *Systemes intelligents* (resp: S. Pinson), University at Paris IX-Dauphine, France. Course on "Du data mining au knowledge mining" (12h).

Master 2 Pro *Ingénierie de la Statistique* (resp: G. Saporta) at CNAM (Conservatoire national des arts et métiers), France. Course on "Méthodes neuronales" (12h).

Ecole Nationale des Sciences Géographiques (ENSG): Course on Clustering (12h).

7.2.2. PhD Thesis Supervision

AXIS is an associated team of the STIC Doctoral school of Nice-Sophia Antipolis University (UNS). Our PhD students come from the University of Paris Dauphine, the University of Nice Sophia Antipolis, the Université Catholique de Louvain, the University of Recife (Brazil) and from various Universities of Morocco and of Tunisia.

B. Trousse is involved in the supervision committee of E.L. Moukhtar Zemmouri, PhD student in Morocco.

AYIN Team

9. Dissemination

9.1. Scientific Animation

- Ikhlef Bechar and Yuliya Tarabalka presented on June 15, 2012 their work for visiting students from SupCom-Tunis to Inria.
- Ikhlef Bechar presented his work at Astrium/EADS in Toulouse in January and at “ENVOL de la Recherche” day organized by the EADS foundation in March in Paris.
- Vladimir Krylov presented a paper at the conference IEEE ICIP in September in Orlando, USA. He was a reviewer for the journals IEEE TIP, IEEE TGRS, IEEE GRSL, IEEE JSATRS, DSP and PRL.
- Yuliya Tarabalka presented 2 papers at the conference IEEE IGARSS’2012 and a paper at the conference UkrObraz’2012. She also presented a poster at the Journées CNES Jeunes Chercheurs in Toulouse in October. She gave 4 seminars at Inria-SAM, CESBIO in Toulouse, University of Orleans and Télécom ParisTech in Paris (France). She was a reviewer for the journals IEEE TIP, IEEE TGRS, IEEE GRSL, Remote Sensing, IEEE JSTARS, and for the conferences ISPRS’2012, IEEE IGARSS’2012 and ICPRAM’2012. She was a part of the program committee for the conferences ISPRS’2012 and ICPRAM’2012. She chaired a session at the conference IEEE IGARSS’2012.
- Yannick Verdie presented a paper at the conference ECCV’12 in Florence, Italy in October. He also presented his work at the National Institute of Informatics (Nii) in Tokyo, Japan.
- Aurélie Voisin presented 2 papers at the conferences IS&T/SPIE Electronic Imaging’12 in San Francisco (USA) in January, and EUSIPCO’12 in Bucharest (Romania) in August. She presented a poster at Pleiades days organized by CNES in Toulouse in January. She was also invited to present her work by the Centre de Recherche en Automatique de Nancy (France) in June.
- Josiane Zerubia chaired a session at IEEE ICIP in September in Orlando, USA, and attended the IVMSP-TC meeting there. She was a reviewer for TS (Traitement du Signal) and SFPT (Revue Française de Photogrammétrie et de Télédétection). She also was a reviewer and/or a program committee member for ICASSP’12, ISBI’12 and ICIP’12, as member of the IEEE BISP TC and IEEE IVMSP TC, and for SPIE-ISPRS’12 (‘Image and Signal Processing for Remote Sensing’) and ICPRAM’12. She is an IEEE Fellow. She was a member of the Biological Image and Signal Processing (BISP) Technical Committee till April 2012 and is a member of the Image, Video and Multidimensional Signal Processing (IVMSP) Technical Committee of the IEEE Signal Processing Society. She is an Associate Editor of the collection ‘Foundation and Trends in Signal Processing’ [<http://www.nowpublishers.com/>]. She is a member of the Editorial Boards of IJCV, the Revue Française de Photogrammétrie et de Télédétection of SFPT and the journal ‘Traitement du Signal’. She is an Associate Editor of the electronic journal Earthzine [<http://www.earthzine.org/>]. Josiane Zerubia visited Astrium EADS Toulouse in January. She also participated in the CNES Pleiades days and CNES Research and Technology day both in Toulouse in January. In March, she presented Inria-SAM activities and the research work of AYIN at BASF-France Headquarters at Levallois Perret, attended the IGN Research days in St Mande and participated to the Editorial Board meeting of SFPT at CNES in Paris. In April she visited ACRI ST in Sophia Antipolis. In June she attended the KAL’Haiti day at CNES in Paris. She participated to the LIRA Consortium workshop at Inria-SAM in September and to a LIRA meeting with Philips R&D in December. As a PI, she regularly organized and attended meetings with Galderma in Sophia-Antipolis. As a Co-PI, she also organized and participated to several meetings with IRD at UMR AMAP in Montpellier and at Inria-SAM. She is a deputy of Frederic Alexandre at the Executive Committee of LIRA Consortium (Philips, CWI, Fraunhofer, Inria), and a Co-PI of an Inria/DITEN/ISA project. She is a member of the ORFEO group (CNES). She is a consultant for Galderma R&D in Sophia-Antipolis. Finally, she is a member of the program committee of Master 2 in Computational Biology and Biomedicine (CBB) at the University of Nice Sophia Antipolis in charge of sponsoring.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Yuliya Tarabalka, Digital imaging, 15h eq. TD (2h of lectures + 12h of TD), M2 SVS ISAB, Université de Nice Sophia-Antipolis, France

Master et PhD: Yuliya Tarabalka, Computer vision, 8h of lectures = 12h eq. TD, M1 and M2, Ternopil Ivan Pul'uj National Technical University, Ukraine

Licence: Yuliya Tarabalka, Techniques for statistical data analysis, 39h eq. TD, L1, École Polytechnique de l'Université de Nice Sophia-Antipolis, France

Master: Josiane Zerubia, Deconvolution and denoising in confocal microscopy, 18h eq. TD (12h of lectures), M2 IFI BCC, Université de Nice Sophia-Antipolis, France. Furthermore she is also director of this course (total: 24h of lectures).

Master: Josiane Zerubia, Advanced techniques in signal and image processing, 30h eq. TD (20h of lectures), ISAE/SUPAERO, France. Furthermore she is also director of this course (total: 30h of lectures and 12.5h of TD). This course has been given to the third-year students of ISAE/SUPAERO and was also validated by Master 2 of Applied Mathematics of University Paul Sabatier of Toulouse.

Master: Josiane Zerubia, Introduction to image processing, 4.5h eq. TD (3h of lectures), M2 SVS ISAB, Université de Nice Sophia-Antipolis, France. Furthermore she is also director of the course "Digital imaging" at UNS, Master2 SVS ISAB, UE3 (total: 25h of lectures and 25h of TD).

Licence: Jia Zhou, Mathematics, 60h eq. TD, L2, IUT Montpellier, France.

9.2.2. Supervision

9.2.2.1. Ph.D. theses

PhD: Aurélie Voisin, Supervised classification of high-resolution remote sensing images including urban areas by using Markovian models, University of Nice-Sophia Antipolis, Defended on October 17th, 2012, Josiane Zerubia.

PhD: Sylvain Prigent, Contribution of multi and hyperspectral imaging to skin pigmentation evaluation, University of Nice-Sophia Antipolis, Defended on November 30th, 2012, Xavier Descombes and Josiane Zerubia.

PhD: Jia Zhou, Object identification on remote sensing images of tropical forest canopies - applications to the study of Eucalyptus plantation and mangrove forest, University of Montpellier 2, Defended on November 16th, 2012, Pierre Couteron and Josiane Zerubia.

PhD in progress: Yannick Verdié, Urban scene analysis from unstructured point data, University of Nice-Sophia Antipolis, started in November 2010, Florent Lafarge and Josiane Zerubia.

PhD in progress: Seong-Gyun Jeong, New image processing methods for skin condition evaluation, University of Nice-Sophia Antipolis, started in December 2012, Josiane Zerubia and Yuliya Tarabalka.

PhD in progress: Paula Craciun, Automatic object tracking on a sequence of images taken from a geostationary satellite, University of Nice-Sophia Antipolis, started in December 2012, Josiane Zerubia and Pierre Del Moral.

9.2.3. Juries

- Josiane Zerubia was a reviewer of one HdR and of one PhD thesis, and member of 3 PhD committees.

9.3. Popularization

- Josiane Zerubia attended a meeting at ICIP' 12 in Orlando organized by IEEE women in engineering (http://www.ieee.org/membership_services/membership/women/women_about.html). She met several female PhD students, postdocs and junior researchers to exchange views on women scientific careers in the world.

BACCHUS Team

9. Dissemination

9.1. Scientific Animation

Rémi Abgrall is co-chief editor of the “International Journal on Numerical in Fluids”. He is associate editor of the “Journal of Computational Physics”, “Mathematics of Computation”, “Journal of Scientific Computing”, “Computers and Fluids” and “Advances in Applied Mathematics and Mechanics”. He is member of the editorial board of the “Mathématiques et Applications” book series of the french SMAI (edited by Springer Verlag). He is responsible of the GAMNI group of SMAI. He is treasurer of ECCOMAS. He is the organiser of HONOM 2013 (<http://honom2013.bordeaux.inria.fr/index.html>) and member of the scientific comitee of second ECCOMAS Young Investigators Conference. He is member of the scientific comitee of ICCFD, the Scientific computing comitee of ECCOMAS and ICCP8 (<http://www.math.hkbu.edu.hk/ICCP8/>). He has been member of the AERES visitiong comitee of DynFluids (EA 92, ENSAM Paris Tech) and president of the AERES visiting comitee of the Jacques Louis Lions Laboratory (U. Pierre et Marie Curie, U. Paris Diderot). He is also member of the CERFACS scientific comitee and is in charge of the CERFACS “Commission socle” with S. Candel and J.C. André.

Héloïse Beaugendre is a member of the organizing committee of the second ECCOMAS Young Investigators Conference (<http://yic2013.sciencesconf.org>) and of HONOM2013.

Cécile Dobrzynski is one of the organizers of the seminar “*Modélisation et Calcul*” of the Institut de Mathématiques de Bordeaux. She is member of the board of the GAMNI group of SMAI, of which she is secretary. She is member of the scientific committee for the organization of mini-symposia in collaboration between SMAI-GAMNI and AUM for CANUM 2012. She is co-chairwoman for the organization of the second ECCOMAS Young Investigators Conference (<http://yic2013.sciencesconf.org>).

Pietro Marco Congedo is a member of the organizing committee of HONOM2013. In 2012, he gave 5 invited seminars (von Karman Institute ; Complex modeling, Convergence, and Uncertainty Quantification Workshop, Uppsala, Sweden ; Workshop BIS2012, Paris ; SIAM Conference on Uncertainty Quantification, Raleigh, USA ; 1st meeting GAMNI-MAIRCI: Précision et Incertitudes, Paris).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Héloïse Beaugendre, Responsable des projets TER de première année, 10h, L3, ENSEIRB-MATMÉCA, France

Licence : Héloïse Beaugendre, Encadrement TER, 16h, L3, ENSEIRB-MATMÉCA, France

Licence : Cécile Dobrzynski, Langages en Fortran 90, 43h, L3, ENSEIRB-MATMÉCA, France

Licence : Cécile Dobrzynski, Analyse numérique, 24h, M1, ENSEIRB-MATMÉCA, France

Licence : Cécile Dobrzynski, Outils informatiques pour le calcul scientifique, 65h, formation Structures Composites, ENSCBP, France

Licence : François Pellegrini : Architecture des ordinateurs, 25h, L2, Université Bordeaux 1

Licence : Pietro Marco Congedo, Analyse numérique II, 24h, M1, ENSEIRB-MATMÉCA, France

Licence : Mario Ricchiuto, Fundamentals of Numerical Analysis, 24h, ENSEIRB-MATMÉCA, France.

Master : Héloïse Beaugendre, Mise à niveau en algorithmique et Programmation, 30h, M1, ENSEIRB-MATMÉCA, France

Master : Héloïse Beaugendre, Approximation numérique et problèmes industriels, 52h, M1, ENSEIRB-MATMÉCA, France

Master : Héloïse Beaugendre, Outils informatiques pour l'insertion professionnelle, 9h, M2, Université Bordeaux 1, France

Master : Héloïse Beaugendre, Calcul Haute Performance, 40h, M1, ENSEIRB-MATMÉCA, France

Master : Héloïse Beaugendre, Calcul Haute Performance, 40h, M2, ENSEIRB-MATMÉCA and Université Bordeaux 1, France

Master : Cécile Dobrzynski, Projet fin d'études, 6h, M2, ENSEIRB-MATMÉCA, France

Master : Cécile Dobrzynski, TER, 18h, M1, ENSEIRB-MATMÉCA, France

Master : Pietro Marco Congedo, Simulation Numérique des écoulements fluides, 20h, M3, ENSEIRB-MATMÉCA, France

Master : Mario Ricchiuto, Simulation Numérique des écoulements fluides, 16h, M3, ENSEIRB-MATMÉCA, France

Master : Pietro Marco Congedo, TER, 16h, M1, ENSEIRB-MATMÉCA, France

Master : Mario Ricchiuto, Post-graduate course on introduction to CFD, 18h, M2 IAS (Master Spécialisé Ingénierie Aéronautique et Spatiale, http://www.ensam.fr/fr/formation_initiale/masteres_specialises/ingenierie_aeronautique_et_spatiale), ENSAM, France

Doctorat : Mario Ricchiuto, Post-Graduate plenary lecture on the use of residual methods in CFD, 3h, D1, CEMRACS summer school, France

9.2.2. Supervision

PhD : Algiane Froehly, Méthodes numériques pour la prise en compte exacte des géométries dans les codes de CFD, Université Bordeaux I, 7 Dec. 2012, R. Abgrall and C. Dobrzynski

PhD : Arnaud Krust, Méthodes d'enrichissement pour Les équations de Navier Stokes, Université de Bordeaux I, 31 october 2012. R. Abgrall.

PhD : François Vilar, "Méthodes d'ordre très élevé pour la résolution des équations de l'hydrodynamique Lagrangienne multidimensionnelles". Université de Bordeaux I, November 16th 2012, R. Abgrall and P.H. Maire.

PhD in progress: Dante de Santis, High order residual distribution methods for turbulent steady flows, since september 2010, R. Abgrall and M. Ricchiuto

PhD in progress: Gianluca Geraci. multi-resolution inspired methods for uncertainty quantification, 2010, Rémi Abgrall and Pietro Marco Congedo.

PhD in progress : Sébastien Fourestier, Redistribution dynamique parallèle efficace de la charge pour les problèmes numériques de très grandes tailles, 2008, F. Pellegrini

PhD in progress : Damien Genêt, Conception d'une plate forme parallèle pour la résolution des EDP de la mécanique des fluides, 2009, M. Ricchiuto, F. Pellegrini

PhD in progress : Cédric Lachat, Partitionnement et adaptation parallèles de maillages pour des simulations dans les tokamaks, 2009, F. Pellegrini and C. Dobrzynski

9.2.3. Juries

HdR : Stéphane Brull, Université Bordeaux I, R. Abgrall, November 19th, 2012.

HdR : Patrice Kadionik, Contribution à la conception des systèmes numériques embarqués. Application à l'adéquation algorithme-architecture pour la compression vidéo et à l'informatique ubiquitaire, September 5th, François Pellegrini : referee

Olivier Saut, Contributions en optique non-linéaire et en modélisation de la croissance tumorale en vue des applications cliniques, September 23th 2012, Université Bordeaux I, R. Abgrall, jury

HdR, Aswhin Chinnayya, Contribution à l'étude numérique des écoulements diphasiques et compressibles, Université de Rouen, Rémi Abgrall : referee. December 6th, 2012

PhD : Guilherme Cunha (ISAE), Optimisation d'une méthodologie de simulation numérique pour l'Aéroacoustique sur un couplage faible des méthodes d'aérodynamique instationnaire et de propagation acoustique, R. Abgrall, referee. October 18th, 2012

PhD, Steven Diot. Méthodes d'ordre élevé pour la mécanique des fluides compressible, Université de Toulouse, 30 August 2012. R. Abgrall, referee

PhD: Koen Hillewaert, Discontinuous Galerkin schemes for turbulent 3D applications, Université Catholique de Louvain, October 4th, 2012. R. Abgrall, referee.

PhD : Matthieu Lefebvre, Algorithmes sur GPU pour la simulation numérique en mécanique des fluides, François Pellegrini : referee

PhD : François-Henry Rouet, Memory and performance issues in parallel multifrontal factorizations and triangular solutions with sparse right-hand sides, François Pellegrini : jury

PhD : Kurt Sermeus, Multi-dimensional upwind discretization and application to compressible flows, Université Libre de Bruxelles, R. Abgrall, December 12th, 2012, referee

PhD : KunKun Tan, Combining discrete equations method and upwind downwind-controlled splitting for non-reacting and reacting two-fluid computations, Université de Grenoble, December 14th 2012, R. Abgrall, referee

PhD : Dario Isola, An interpolation-free two dimensional conservative ALE scheme over adaptive unstructured grids for rotorcraft aerodynamics, Politecnico de Milano, March 1st, 2012. R. Abgrall, referee.

MdC : Participation of Pietro Marco Congedo in the selection committee for position number 876 (section 60), Université Pierre et Marie Curie.

9.3. Popularization

Pietro Marco Congedo, Maria-Giovanna Rodio and Julie Tryoen participated in the "*Fête de la Science*", concerning flows and renewable energies, Bordeaux, October.

François Pellegrini has many activities related to software law and economic development, which are becoming part of his research activity. Yet, as they do not fit in the scope of the BACCHUS EPI, they are presented here:

- Talk entitled "*The case for creation and innovation vs. ACTA*", S&D Hearing "*ACTA: Whose rights does it protect?*", European Parliament, Brussels, April.
- Invited by the students of the ENSAA engineering school to deliver talks at the JOSENSAA open-source conference, Agadir, May.
- Presentation of Scotch during the I-Match academics-industry meeting organized by Inria Bordeaux Sud-Ouest, Talence, June.
- Participation in the round table "*Open innovation*" at Solutions Linux, Paris, June.
- Invitation to deliver a talk at the seminar on "*Accessibility and Diversity on Internet*" organized by the *Organization Internationale de la Francophonie* in the context of the Internet Governance Forum, Baku, November.
- Talk "*Le droit du numérique : une histoire à préserver*" delivered at the *Colloque pour un Musée de l'informatique et de la société numérique en France*, CNAM, Paris, November (published as [30]).
- Co-organization and co-chair of the colloquium "*Innovation ouverte et innovation libre*" at Conseil Régional d'Aquitaine, as co-president of Aquinetic, Bordeaux, November.
- Conference on the digital revolution at the *Festival du Film d'Histoire de Pessac*, Pessac, November.
- Participation in the colloquium "*Le droit au Libre*" on libre software licenses, organized by the association of barristers of Toulouse, November.

- Three hour training on author's right and software law delivered to about thirty academics and engineers. Training day organized by CNRS, Talence, November.
- Three hour training on software licenses, libre software licenses and interoperability delivered to about forty industry people, mostly from local SMEs. Training day organized by Cap'Tronic, Talence, December.

BAMBOO Project-Team

8. Dissemination

8.1. Scientific Animation

Hubert Charles is director of studies of the "Bioinformatique et Modélisation (BIM)" track at the INSA-Lyon. He is co-director of the Biosciences Department of the INSA-Lyon, and co-director of the Doctoral School E2M2.

Marie-France Sagot is a member of the Scientific Advisory Board ("Conseil Scientifique (COS)" for the Inria Grenoble Rhône-Alpes Research Center. She is since 2012 member of the Scientific Board of the French Society of Computer Science (SFI). She was co-chair for one area track of the 20th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) 2012, and co-chair for the RECOMB Satellite Workshop Comparative Genomics (RECOMB-CG) 2012. She is Editor-in-Chief of *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, and Associate Editor of *BMC Bioinformatics*, *Algorithms for Molecular Biology*, *Journal of Discrete Algorithms*, and *Lecture Notes in Bioinformatics*. She is member of the Steering Committee for the European Conference on Computational Biology (ECCB), for the International Symposium on Bioinformatics Research and Applications (ISBRA), and for the Latin American Theoretical Informatics Symposium (LATIN). She was member of the Program Committee for BSB, ISMB, PACBB, PSC, WABI. She is a member of the scientific council of the Labex EcoFect.

Fabrice Vavre is director of the GDR 2153(CNRS) "Interactions multipartenaires dans les populations et les communautés d'insectes". He is also member of the management committee and responsible of a working group in the COST Action FA0701 "Arthropod Symbiosis: from fundamental studies to pest and disease management" which ended in June 2012. He was president of a selection committee for a teaching position at the University Lyon 1 in Microbial Genetics. He was elected member of the Section 29 of the Comité National de la Recherche Scientifique. He is a member of the scientific council of the Labex EcoFect.

Alain Viari is since 2012 Deputy Scientific Director at Inria in charge of ICST for Life and Environmental Sciences. He represents Inria in several national instances related to Life Sciences and Health and is member of several scientific advisory boards (IMMI (Institut de Microbiologie et Maladies Infectieuses / Aviesan); IRT (Institut de Recherche Technologique) BioAster). He is the French coordinator of the Bioinformatics working group of the France-US joint committee on Science and Technology. He is a member of the Scientific Advisory Board ("Conseil Scientifique (COS)" for the Inria Grenoble Rhône-Alpes Research Center.

Cristina Vieira is director of the GDRE "Comparative genomics" since the GDRE was renewed in 2010.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Three members of the BAMBOO project are professors or associate professors at the University Claude Bernard in Lyon and at the INSA Lyon: Hubert Charles, Vincent Lacroix, and Cristina Vieira. They therefore have a full teaching service (at least 192 hours) except for Cristina Vieira who became since 2010 a Junior Member of the Institut Universitaire de France.

Various members of the EPI have developed over the years courses in biometry, bioinformatics and evolutionary biology at all levels of the University as well as at the "École Normale Supérieure" (ENS) of Lyon and the INSA ("Institut National de Sciences Appliquées"). Two members of the EPI have also in the past participated in, or sometimes organised courses or teaching modules at the international level: creation and support of a Master's course in Ho-Chi-Minh, Vietnam, and creation and direction of a PhD Program in Computational Biology in Lisbon, Portugal (<http://bc.igc.gulbenkian.pt/pdbc/>).

8.2.2. Supervision

The following are the PhDs defended in BAMBOO in 2012.

PhD: Patricia Simões, University of Lyon 1, March 14, supervisors S. Charlat and M.-F. Sagot

PhD: Paulo Vieira Milreu, University of Lyon 1, December 19, supervisors C. Gautier, V. Lacroix and M.-F. Sagot

8.2.3. Juries

M.-F. Sagot: Reviewer of the HDR of Guillaume Blin (University of Paris-Est) and of the PhDs of Stéphane Prin (Muséum National d'Histoire Naturelle) and Adam Smith (University of Évry).

F. Vavre: Member of the committee for the HDR of Franck Prugnolle (University of Montpellier), and for the PhDs of Barbara Reumer (University of Leiden), Winka Le Clec'h (University of Poitiers), Johan Decelle (University of Paris 6) and Flore Zele (University of Montpellier).

A. Viari: Member of the committee for the PhDs of Adam Smith (University of Évry) Philippe Bordron (University of Nantes).

8.3. Popularization

Fabrice Vavre gave two talks, respectively entitled "Quand les parasites utilisent nos gènes, et réciproquement" and "Sommes-nous manipulés par nos gènes", at the Université Ouverte. He also gave a talk entitled "Diversité des interactions hôtes-microorganismes et nouvelles méthodes de lutte contre les maladies infectieuses" at the General Meeting of the Biotechnologies Professors.

BANG Project-Team

8. Dissemination

8.1. Scientific Animation

B. Perthame is editor in various journals (CALCOLO, CPDE, DCDS(B), Mathematical Medicine and Biology).

D.Drasdo is in the editorial board of TheScientificWorldJOURNAL and ISRN Biophysics. He is member of the leadership team of the large scale grant project Virtual Liver Network (VLN).

B. Perthame represents Inria at the expert group of the Aviesan Institute “Molecular and structural bases of the living” (ITMO Bases moléculaires et structurales du vivant, head Thierry Meinell).

J. Clairambault represents Inria at the expert group of the Aviesan Cancer Institute (ITMO Cancer, head Fabien Calvo) and is also a member of the “Conseil des Partenaires de l’IUC” (Institut Universitaire de Cancérologie, UPMC, founded November 2012) as (nominated) representative of UPMC.

Luís Almeida was in 2012 a member of the Scientific Advisory Board of CIRB (Centre of Interdisciplinary Research in Biology), Collège de France (UMR CNRS 7241/ INSERM U1050).

8.2. Teaching - Supervision

8.2.1. Teaching

Master: Jean Clairambault, (1) M2 pharmacologie Rennes (cours magistral, 4h/an) et (2) ED Innovation thérapeutique, Université Paris-Sud (cours magistral, 2 h/an): “Modélisation chronothérapeutique du schéma d’administration”; (3) M2 Paris-Descartes “Croissance tissulaire” (2012, cours magistral, 1 h 30)

Master: Marie Doumic-Jauffret, Méthode des Éléments Finis, M1 ENSTA, Paris: 12 h (TD, professeur en cours magistral: P. Ciarlet et S. Fliss)

Master: Dirk Drasdo, M2, Mathematical Biology, UPMC: “Agent-based models of tissue organisation”: 24h

Master: Jonathan Touboul, Master Science of Complex Systems (Erasmus Mundus, Ecole Polytechnique, U. Chalmers, Warwick and Gothenburg), M2, 40h, cours magistral “Stochastic Calculus and Limit Theorems”

International schools: Dirk Drasdo, (1) Evry 2012 Thematic Research School “Modelling complex biological systems in the context of genomics” (1.5hrs); (2) DPG - Physics School “Forces and Flow in Biological Systems” (1.5hrs)

8.2.2. Supervision

HdR: Luís Lopes Neves de Almeida, “Quelques problèmes liés à l’étude d’équations aux dérivées partielles issues de la physique, de la géométrie et de la biologie”, UPMC, April 2012

PhD: Chadha Chettaoui, “Physical-Based Modelling and Analysis of Animal Tissue Growth and Morphogenesis”, ENS Paris, July 2012, Supervisors Dirk Drasdo, Juhui WANG (Unité MIA, INRA, Jouy-en-Josas) and, Isabelle HUE (INRA/ENV Alfort/CNRS)

PhD: Luna Dimitrio, “Modelling nucleocytoplasmic transport with application to the intracellular dynamics of the tumour suppressor protein p53” [1], UPMC, September 2012, Supervisors Jean Clairambault and Roberto Natalini (University Sapienza, Rome)

PhD: Nick Jagiella, “Parameterisation of Lattice-Based Tumor Models from Data”, UPMC, September 2012. Supervisors Dirk Drasdo, Benoît Perthame, and Irène Vignon-Clémentel (REO)

PhD: William Weens, “Mathematical Modeling of Liver Tumor”, UPMC, September 2012. Supervisor Dirk Drasdo

PhD in progress: François Bertaux (since September 2011), supervision by Dirk Drasdo and Gregory Batt

PhD in progress: Anne-Céline Boulanger, supervision by Marie-Odile Bristeau and Jacques Sainte-Marie

PhD in progress: Youssef Bourfia, UPMC (since September 2011), supervision by Jean Clairambault, Mostafa Adimy (Dracula team, Lyon) and Hassan Hbid (UCAD, Marrakech)

PhD in progress: Géraldine Cellière, UPMC (since October 2011), supervision by Dirk Drasdo, Andrei Zinovyev and Emmanuel Barillot (Institut Curie)

PhD in progress: Ján Eliaš, UPMC (since September 2012), supervision by Jean Clairambault and Benoît Perthame

PhD in progress: Casimir Emako-Cazianou, UPMC (since December 2012), supervision by Luís Almeida and Nicolas Vauchelet

PhD in progress: Adrian Friebel (since June 2011), supervision by Dirk Drasdo and Stefan Hoehme

PhD in progress: Luís Carlos García del Molino, “Heterogeneous networks and their dynamics”, supervision by J. Touboul and K. Pakdaman

PhD in progress: Hadjer Wafaâ Haffaf, UPMC (since September 2011), supervision by Marie Doumic-Jauffret

PhD in progress: Johannes Neitsch, Univ. Leipzig (since June 2011), supervision by Dirk Drasdo and Stefan Hoehme

PhD in progress: Cristóbal Quininao, “McKean Vlasov equations and neurosciences”, supervision by J. Touboul and S. Mischler

PhD in progress: Justine Scher, “Growth-Fragmentation equations in neurosciences”, supervision by J. Touboul and S. Mischler

PhD in progress: Karina Vilches, (since sept. 2010), supervision by C. Conca and B. Perthame

M2: Alban Lévi, “Complexity of Random Neural Networks”, ENS Cachan et Collège de France, April-August 2012, supervision by G. Wainrib and J. Touboul

M1: Quan Shi, “Self-Organized criticality in random neural networks”, École Polytechnique et Collège de France, April-August 2012, supervision by J. Touboul

M1: Flavio de Souza Serra de Pinho Cabeca, “Collective Oscillations in excitable networks”, École Polytechnique et Collège de France, April-August 2012, supervision by J. Touboul

8.3. Popularisation

Participation in the “Fête de la science” at Inria-Rocquencourt (October 2011) involving F. Billy, J. Clairambault, V. Roche (Villejuif), in a joint Inria-INSERM booth dedicated to chronotherapy: presentation of a movie and of a video game, both designed by Annabelle Ballesta, and of 2 posters by A. Ballesta and by F. Billy.

J. Clairambault has written a short “Perspective in Mathematical Biology”: “Can theorems help treat cancer?” in the Journal of Mathematical Biology [17], contributed by the European Society for Mathematical and Theoretical Biology.

D. Drasdo gave a general presentation on multiscale tissue modelling in the “2e Forum international de Prospective de Recherche et Traitement pour le cancer” in September 2012.

J. Touboul has written a chapter: “A mathematician’s view of simplicity in the brain” in the book by A. Berthoz, “Simplicity”, to be published by Editions Odile Jacob, Paris.

BEAGLE Team

8. Dissemination

8.1. Scientific Animation

- G Beslon is a nominated member at the CoNRS, section 06
- G Beslon is chair of the Scientific Committee of the Rhône-Alpes Institute for Complex Systems (IXXI).
- C Knibbe was vice-chair of the Scientific Committee of the Rhône-Alpes Institute for Complex Systems (IXXI).
- C Knibbe was a member of the Program Committee of ECCB 2012 (11th European Conference on Computational Biology)
- C Knibbe was a member of the Program Committee of the annual workshop of the Faculté des Sciences et Technologies of Université Lyon 1.
- C Knibbe participated in the evaluation of project proposals of the Blanc SVSE 7 2012 ANR program (Biodiversité, évolution, écologie et agronomie).
- H Berry is a Member of the Inria Evaluation Committee (Commission d'Evaluation) (2011-2015).
- H Berry is a Member of the Inria hiring committee 2012 (selection for associate research professor positions, jury d'admissibilité et d'admission).
- H Berry is a Member of the SPECIF committee (best French PhD in Computer Science) (2011-2012)
- H Berry is a Member of the Evaluation committee for the 2012 "Systems Biology" call for funding of the "ITMO Cancer".
- H Berry is a Reviewer for the 2012 Call for funding of the FNRS, Belgium.
- E Tannier is co-chairing the organizing committee of Recomb satellite workshop on comparative genomics, Lyon 2013
- E Tannier is co-chairing the organizing committee of "Models and Algorithms for Genome Evolution", Montreal 2013
- E Tannier was a member of the Program Committee of ECCB 2012 (11th European Conference on Computational Biology)
- E Tannier was a member of the Program Committee of Recomb satellite workshop on comparative genomics, Rio 2012
- E Tannier is a Reviewer for the 2012 Call for funding of the Fonds Québécois pour la recherche

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Several of us are half time teachers, and all their teaching record is not necessarily reported here. Researchers, post-doc and students teaching modules are detailed.

Licence and Master: Guillaume Beslon, computer architecture and bioinspired intelligence at the computer science department of INSA Lyon, 192h eq TD

Licence: Carole Knibbe, "Algorithmique et programmation procédurale", 67 h eqTD, niveau L2 (+ responsabilité de l'UE), Université C. Bernard Lyon 1, France.

Licence: Carole Knibbe, "Encadrement de stage en informatique ", 3 h eqTD, niveau L3, Université C. Bernard Lyon 1, France.

Master: Carole Knibbe, "Intelligence artificielle bio-inspirée ", 14 h eqTD, niveau M2R, Université C. Bernard Lyon 1, France.

Master: Carole Knibbe, "Méthodologie scientifique et préparation à la recherche ", 24 h eqTD (+ responsabilité de l'UE), niveau M2R, Université C. Bernard Lyon 1, France.

Master: Carole Knibbe, "Modélisation et simulation en biologie et médecine ", 9 h eqTD (+ responsabilité de l'UE), niveau M2R, Université C. Bernard Lyon 1, France.

Master: Christophe Rigotti, Data Mining, 25 H eqTD, M1, INSA Lyon

Licence: Christophe Rigotti, Imperative Programming, 44 H eqTD, L1, INSA Lyon

Licence: Christophe Rigotti, Object-Oriented Programming 42 H eqTD, L2, INSA Lyon

Licence: Christophe Rigotti, Computer Simulation 71 H eqTD, L2, INSA Lyon

Licence: Bérénice Batut, Computer Science, 64h eq TD, INSA Lyon

Licence: Jules Lalouette, Computer Science, 64h eq TD, INSA Lyon

Licence : Stephan Fischer, "Mathématiques", 74 h eqTD, prépa intégrée première année, INSA de Lyon, France.

Licence: David P. Parsons, Algorithmique, Programmation Orientée Objet - C++, 19HeqTD, niveau L3, INSA Lyon, France

Licence: David P. Parsons, Approche Logique de l'Intelligence Artificielle, 57HeqTD, niveau L3, INSA Lyon, France

Licence: David P. Parsons, Développement d'Applications pour les Systèmes d'Information, 66HeqTD, niveau L3, INSA Lyon, France

Licence: David P. Parsons, Systèmes d'Exploitation, 38HeqTD, niveau L3, INSA Lyon, France

Master: Eric Tannier, Discrete Mathematics, 8h, M1 UCBL and M1, INSA Lyon

Master: Eric Tannier, Mathématiques et Informatique pour le génome, 26h, M1 INSA Lyon

Master: Eric Tannier, Bioinformatique, 24h, M1 ISBM Monastir, Tunisie

Master: Eric Tannier, Evolution des systèmes, 2h, M2, Université de Montpellier 2

Licence: Eric Tannier, Histoire des théories de l'évolution, 2h, L3, ENS Lyon

8.2.2. Supervision

PhD & HdR :

PhD: Anne-Sophie Coquel, Dynamique de l'agrégation protéique chez la bactérie *Escherichia coli*, soutenue le 16 Novembre 2012, co-supervisée par H. Berry (Beagle) and A. Lindner (INSERM U1001, Cochin Medical School, Paris), INSA Lyon, ED 512 Informatique

PhD: Pierre-Nicolas Mougel. Title: Finding homogenous collections of dense subgraphs using constraint-based data mining approaches. Application to the analysis of scientific collaboration networks and protein interaction graphs. INSA Lyon, September 14, 2012. Supervised by C. Rigotti.

PhD: Bertrand Caré. Title: Modèles individu-centrés de l'impact fonctionnel des hétérogénéités de diffusion et de distribution spatiale des protéines de signalisation cellulaire. INSA Lyon, November 26, 2012. Co-supervised by H. Soula and C. Rigotti.

PhD : David P. Parsons, "Sélection Indirecte en Évolution Darwinienne, Mécanismes et Implications", INSA de Lyon, December 8, 2011, co-supervised by Guillaume Beslon and Carole Knibbe

PhD in progress : Stephan Fischer, "Modélisation mathématique des phénomènes de sélection indirecte dans l'évolution darwinienne", started in sept. 2010, co-supervised by Guillaume Beslon and Carole Knibbe, with the help of Samuel Bernard (Inria Dracula team)

PhD in progress : Bérénice Batut, "Etude de l'évolution réductive des génomes bactériens par analyses bioinformatiques et expériences d'évolution in silico", co-supervised by Guillaume Beslon and Gabriel Marais (LBBE), with the help of Carole Knibbe

PhD in progress: Jules Lallouette, Transport dans les réseaux complexes : le cas des réseaux mixtes neurones/cellules gliales, September 2011, supervised by Hugues Berry

PhD in progress: Magali Semeria, Biologie évolutive des systèmes, encadrée par E. Tannier et L. Gueguen (LBBE)

PhD in progress: Gael Kaneko, "modeling of the effect of chromatin dynamic on the stochasticity of gene expression", April 2009. Supervisors: Guillaume Beslon and Olivier Gandrillon (CGPhyMC, UMR CNRS 5534).

8.2.3. *Juries*

- G Beslon participated to the PhD jury of Linda Dib (Université Pierre et Marie Curie), "Détection des mutations simultanées dans les séquences protéiques non-divergentes". March 26 2012.
- G Beslon participated to the PhD jury of Hervé Le Nagard (Université Pierre et Marie Curie), Etude de l'émergence et de l'impact de la complexité phénotypique au travers de modèles théoriques et computationnels. December 15 2011
- E Tannier is invited to the HDR jury of N Thierry-Mieg, "smart pooling and interactomes", Grenoble, 2013
- E Tannier is invited to the Ph-D jury of G. Drillon, 2013 (reviewer)
- E Tannier participated to the Ph-D jury of C. Berthelot, ENS Paris, 2012
- H Berry participated to the Ph-D jury of Mathieu Lefort, "Apprentissage spatial de corrélations multimodales par des mécanismes d'inspiration corticale", Nancy, July 04, 2012 (reviewer)
- H Berry participated to the Ph-D jury of Guillaume Core, "Hétérogénéité phénotypique dans les populations d'origine clonale: origine et conséquences", Paris, June 27, 2012 (reviewer)
- H Berry participated to the Ph-D jury of Hana Belmabrouk, "Modélisation et simulation du complexe macroglobulaire des papillons de nuit", Nancy, May 15, 2012 (reviewer)

8.2.4. *International Invited talks*

- H Berry, "The remarkable effect of topology on calcium wave propagation in astrocyte networks", Workshop on the organization of excitable dynamics in hierarchical neural networks, 23-25 mai 2012, Bremen, Germany
- G Beslon, "Experimental approaches in ecology and evolution within yeast", EMBL Heidelberg, nov 2012

8.3. Popularization

- G Beslon participated to the "nuit des chercheurs" event in Villeurbanne on September 28, 2012 for the animation of a stand named "biologie artificielle - biologie synthétique".
- E Tannier teaches at the Université Populaire de Lyon, on science and politics, March 2012
- E Tannier participated to a scientific event "Les fourneaux de l'invention" gathering physicists, sociologists, biologists in Lyon, April 2012

BIGS Project-Team

9. Dissemination

9.1. Scientific Animation

Conferences organized by our team in 2012:

- STochastic ANalysis days, 9-11 May: A 3 days international meeting gathering some of the best specialists in stochastic analysis and applications (including statistics and fractional fields). Organizers: C. Lacaux, I. Nourdin, S. Tindel.
- Journée Fédération Charles Hermite, 15 October: Modeling for Cancer Therapies. Organizers: W. Blondel, S. Tindel.
- Journée Modélisation des Biomolécules et leurs Interactions, 25-26 October. Organizers: M-D. Devignes, Aurélie Muller-Gueudin.
- Weekly Biostats Seminar at IECN, organized by Aurélie Muller-Gueudin. See <http://www.iecn.u-nancy.fr/~muller/gt.html>.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

BIGS is a team whose composition includes University staff only. All members teach numerous courses, ranging from L1 to M2 levels.

9.2.2. Supervision

HDR : C. Lacaux, *Contributions à la notion d'autosimilarité et à l'étude des trajectoires de champs aléatoires*, Université de Lorraine, 6/12/2012. See document [1].

PhD in progress: R. Bar, *Analyse de données en ligne*, from 01/09/2010. Advisor: J-M. Monnez.

PhD in progress: B. Lalloué: *Analyse des données dans l'étude de l'influence de caractéristiques socio-spatiales sur des événements de santé*, from 01/09/2010. Advisor: J-M. Monnez.

PhD in progress: R. Bonidal: *Analyse des systèmes discriminants multi-classes à grande marge*, from 01/09/2009. Advisors: Y. Guermeur, S. Tindel.

PhD in progress: G. Nichil, *Claim reserving for insurance*, from 01/09/2010. Advisors: S. Herrmann (University of Dijon), P. Vallois.

9.2.3. Juries

PhD : S. Bounebaché, *Stochastic partial differential equations of parabolic type with singular potential*, Université de Paris 6, June 2012. Advisor: L. Zambotti. Referee: S. Tindel.

PhD: J. Valentin, *Weak Itô formulae*, Telecom Paristech, June 2012. Advisor: A.S. Üstünel. Referee: S. Tindel.

HDR: B. Sausseureau: *Equations aux dérivés partielles stochastiques; Equations différentielles stochastiques dirigées par un mouvement brownien fractionnaire*, Université de Franche Comté, November 2012. Referee: S. Tindel.

BIOCORE Project-Team

9. Dissemination

9.1. Scientific Animation

J.-L. Gouzé is a member of the scientific committees for the conferences "Stic et Environnement", BIOMATH and CIFA ; also for the conference for G. Sallet (Senegal 2012). He is in the Inria committee supervising the doctoral theses, and a member of the committee of Labex SIGNALIFE of the University of Nice-Sophia-Antipolis, and of COREBIO PACA. He is a member of the board of the SFBT (French Speaking Society for Theoretical Biology).

M. Chaves is the coordinator of the ANR project GEMCO. Since September 2011 she is also a member of the COST-GTRI (the Working Group on International Relations in Inria's Council for Scientific and Technological Orientation). The Group is in charge of evaluating the Inria's Associated Teams as well as some project proposals (EuroMed 3+3), and ERCIM post-docs.

O. Bernard is in the technical committee of the Computer Applied to Biotechnology (CAB) conferences. He is in the scientific committee of the French conference "Stic et Environnement". He is a member of the scientific committee of the competitiveness pole "Trimatec". O. Bernard represents Inria at the ANCRE (Alliance Nationale de Coordination de la Recherche pour l'Énergie), in the biomass committee. He is member of the ADT (Technological Development Actions) at Inria.

F. Grognard is a member of the NICE committee, which allocates post-doctoral grants and fundings for visiting scientists at Inria Sophia Antipolis.

P. Bernhard is a member of the scientific committees of the doctoral school "Sciences fondamentales et appliquées" at the University of Nice-Sophia Antipolis. On behalf of the Chairman of PERSAN, he is also in the scientific committee of the "Parc naturel régional des Alpes d'Azur".

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Jonathan Rault , (192h ETD over 2011-2012) "Mathematical analysis and probabilities", initial cycle of Polytech'Nice (eq. L1-L2), Université of Nice Sophia Antipolis, France.

J.-L. Gouzé (18h ETD), P. Hartmann (8h ETD), "Modeling biological networks", 4th year students, Génie Biologique, Polytech'Nice, University of Nice - Sophia Antipolis

O. Bernard (9h ETD), "Mathematical models in Biology". Master on biological oceanography in Villefranche-sur-Mer (M2), Université Pierre et Marie Curie, France.

O. Bernard (4.5 ETD), "Bioenergy from microalgae", Master International Energy Management : alternatives pour l'énergie du futur, Ecole Nationale Supérieure des Mines de Paris, France.

O. Bernard (18h ETD), "Modeling biotechnological processes", Ecole Centrale de Paris, France.

F. Grognard (45.5h ETD) and L. Mailleret (26h ETD), "Equations différentielles ordinaires et systèmes dynamiques", 1st year Engineering in Modeling and Applied Mathematics (eq. L3), Polytech'Nice, Université of Nice Sophia Antipolis, France.

F. Grognard (21h ETD) and L. Mailleret (21h ETD), "Bio-Mathématiques", 2nd year Engineering in Modeling and Applied Mathematics (eq. M1), Polytech'Nice, Université of Nice Sophia Antipolis, France.

F. Grognard (10h ETD) and L. Mailleret (10h ETD) supervised a four-student three-week project for students in 2nd year Engineering in Modeling and Applied Mathematics (eq. M1), Polytech'Nice, Université of Nice Sophia Antipolis, France.

M. Chaves (4.5h ETD), J.-L. Gouzé (9h ETD), “Discrete and continuous approaches to model gene regulatory networks”, Master of Science in Computational Biology (M2), University of Nice - Sophia Antipolis.

M. Chaves and J.-L. Gouzé have prepared (jointly with other researchers) a book chapter entitled “Modeling and analysis of gene regulatory networks” on the topics taught in this last course, to appear in a Springer volume [54].

9.2.2. Supervision

PhD : J. Rault, “Modélisation mathématique structurée en taille du zooplancton, UNSA, defended December 11, 2012. Supervisors: J.-L. Gouzé and E. Benoit.

PhD in progress : M. Teixeira-Alves, “Modélisation de réseaux écologiques dans un cadre de protection des cultures: applications à la lutte biologique”, since september 2009, UNSA. Supervisors: F. Grogard and L. Mailleret.

PhD in progress : P. Hartmann, "Development of a model for microalgal photoadaptation", since september 2010, UNSA. Supervisor: O. Bernard.

PhD in progress : M. Castel “Modélisation des trajectoires évolutives des pathogènes de plantes dans les écosystèmes agricoles”, since October 2010, University of Rennes. Supervisors : F. Hamelin and D. Andrivon (Agrocampus Ouest) and L. Mailleret.

PhD in progress : A. Carta, “Analysis and Control of models of biological regulatory systems. Application to growth control in *E. coli*”, since december 2010, UNSA. Supervisors: J.-L. Gouzé and M. Chaves.

PhD in progress : C. Baroukh, “Modeling the coupling of microalgae with anaerobic digestion”, since September 2011, University of Montpellier 2. Supervisors: J.-P. Steyer and O. Bernard.

PhD in progress : A. Lebon, “Modélisation couplée plantes-ravageurs-ennemis naturels dans un contexte de lutte biologique”, since October 2011, University of Montpellier 2. Supervisors : Y. Dumont (CIRAD), F. Grogard and L. Mailleret.

PhD in progress : I. Belgacem “Control de systèmes de régulation génétique”, since November 2011, UNSA. Supervisor: J.-L. Gouzé.

PhD in progress : H. Bonnefond, "Experimental development of selection oriented photobioreactors", since september 2012, UPMC. Supervisors: A. Sciandra and O. Bernard

PhD in progress : C. Combe, "Response of microalgae to fluctuating light", since september 2012, UPMC. Supervisors: A. Sciandra and S. Rabouille.

PhD in progress : G. Grimaud, "Controlled competition for the selection of microalgal species of interest", since September 2012, UNSA. Supervisors: O. Bernard and S. Rabouille.

PhD in progress : T. Morel Journel, “Où, quand, combien? Stratégies d’introduction d’organismes dans un environnement spatialement structuré”, since October 2012, UNSA. Supervisors: T. Guillemaud, E. Vercken and L. Mailleret.

PhD in progress : E. Rousseau, ”Plant viruses adaptation to quantitative resistance: from the study of their impact on within-host viral evolutionary dynamics to their durable management in agro-ecosystems”, since November 2012, UNSA. Supervisors: F. Grogard, L. Mailleret, B. Moury, and F. Fabre (INRA Avignon).

9.2.3. Juries

J.-L. Gouzé was referee for the thesis of Josephine Kagunda “Mathematical Analysis and Dynamical Systems Modeling of Highland Malaria in Western Kenya.”, Université de Lorraine, November 23.

J.-L. Gouzé was in the jury for the thesis of Matthieu Sebbah, « Stabilité d’inégalités variationnelles et prox-régularité, équations de Kolmogorov périodiques contrôlées », University of Montpellier 2, July 2.

J.-L. Gouzé was referee for the thesis of Giovanna De Palo “Dynamics and adaptation in the olfactory and phototransduction pathways”, SISSA - International School for Advanced Studies, Trieste (Italy), Octobre 29.

J.-L. Gouzé was in the jury for the thesis of Jonathan Rault “Modélisation mathématique structurée en taille du zooplancton,” UNSA, December 11.

J.-L. Gouzé was referee for the thesis of Giovanni Iacono “Systems biology approaches to the analysis of large-scale biological networks”, SISSA- International School for Advances Studies, Trieste (Italy), October 29.

M. Chaves was in the thesis jury of Sara Berthoumieux “Méthodes pour l’identification de modèles de réseaux biochimiques,” University of Lyon 1 Claude Bernard and Inria GRA, June 13.

M. Chaves was in the thesis jury of Abibatou Mbodj, “Qualitative modeling of mesoderm differentiation in *Drosophila melanogaster*,” University of Marseille and TAGC (INSERM U928), December 17.

O. Bernard was referee for the thesis of J. Mailier, “Contribution to mathematical modeling of bioprocesses with application to cultures of microalgae and anaerobic digestion.,” Université de Mons (Belgium), May 25.

O. Bernard was president of the jury for the thesis of P. Collet, “Analyse de Cycle de Vie de la valorisation énergétique de la biomasse algale : prise en compte des aspects dynamiques dans l’étape d’inventaire”, University of Montpellier, April 4.

O. Bernard was referee for the thesis of Y. Eynaud, “Contribution à la gestion de la complexité des modèles en sciences de l’environnement ”, University of Aix-Marseille, December 6.

P. Bernhard was in the thesis jury of Lorenzo Maggi, “Markovian competitive and cooperative games with applications to communications”, at Eurecom Sophia Antipolis, October 9.

J.-L. Gouzé is in the thesis committee of C. Baroukh (University of Montpellier).

M. Chaves is in the thesis committee of F. Fourré (University of Luxembourg).

O. Bernard is in the thesis committee of S. Bellini (University of Montpellier), and S. Mazeghrane (University of Montpellier).

9.3. Popularization and media

The activities related to biofuel and microalgae have generated many articles and broadcasts in the media: “Où en est-on des biocarburants de 2e et 3e générations?”, Le Monde.fr, October 19; “De la flore et du phosphore”, Libération, Novembre 18; “La filière microalgues reprend des couleurs en PACA”, La Tribune, March 19; “Vive le pétrole sur nos côtes”, Le Point.fr, May 3; “Mettez des microalgues dans votre moteur”, Sciences et avenir N^o 784 (June).

Aurélie Schmitt, “Ecole Nationale Supérieure de l’eau, l’énergie et l’environnement” student intern, has developed a *Java* applet using the AnyLogic software for the simulation of microalgae growth and biological pest control. The aim of the applet is for the general public to understand the goals and difficulties of controlling such systems [63].

Mélaine Gautier did a presentation at the Centre International de Valbonne for the “Fête de la Science” entitled “Petits jeux des mathématiques pour représenter la vie, la lutte biologique, la croissance des plantes”, October 13.

P. Bernhard has given five conferences in high schools in the framework of the program “Sciences et culture au lycée”:

31/01/2012 Lycée Léonard de Vinci, Sophia Antipolis.

13/03/2012 Lycée technique de la montagne, Valdeblore.

12/04/2012 Lycée technique de la montagne, Valdeblore.

20/11/2012 Lycée Aristide Briand, Gap (two conferences)

and one conference to visiting Bahrain students (July 12) at Fondation Sophia Antipolis. He helped several high school pupils with their TIPE and in hosting younger highschool interns. He gave a seminar in Inria's "C@fé-in" on Game theory (October 22).

9.4. Conferences, invited conferences

Conferences cited in the bibliography are not repeated here.

O. Bernard was invited to give a conference on microalgae at the Coriolis Conference (Ecole Polytechnique), Paris (February 6), and at Ecole Centrale de Paris ("Défi biotechnologie") "Use of microorganisms for biofuel production" (October 25).

O. Bernard was invited to make a presentation at JojoFest to celebrate Georges Bastin's emeritus. (University of Louvain, Belgium, October 9). J.-L. Gouzé and F. Grogard also attended the JojoFest workshop

Pierre Bernhard gave a seminar in Inria Lille-Nord Europe and ENSAM Lille (October 18)

M. Chaves was invited to make a presentation on mathematical methods in bioinformatics at the 2012 ECFS conference - New Frontiers in Basic Science of Cystic Fibrosis, Special group discussion: New Approaches for Exploring the CFTR Interactome, Sainte Maxime, France (March 31).

BIPOP Project-Team

9. Dissemination

9.1. Scientific Animation

- A. Tonnelier: Membre du CNU, section 26.
- F. Bertails-Descoubes has been a reviewer in 2012 for ACM SIGGRAPH, ACM Transactions on Graphics,, and Eurographics.
- Jérôme Malick: Associate Editor for Journal of Global Optimization (Springer)
- P.-B. Wieber is member of the Program Committee of the IEEE-RAS International Conference on Humanoid Robots, reviewer for IEEE Transactions in Robotics, Int. J. Robotics Research, etc.
- B. Brogliato has been a reviewer for Automatica, Systems and Control Letters, Multibody System Dynamics, SIAM J. Control Optimization, IEEE Transactions Automatic Control, ASME Journal of Applied mechanics, European Journal of Mechanics A/Solids, Int. J. Robotics Research, etc.
- Organization of the summer school *Nonsmooth Contact Mechanics: Modeling and Simulation*, Aussois, 9-4 September 2012.
- V. Acary is co-animator (with R. Leine ETH Zurich) of the European network for nonsmooth dynamics. Member of the ENOC (EUROMECH Nonlinear Oscillations Conference) committee. Reviewer in 2012 for Math reviews, ASME Journal of Applied Mechanics, International Journal for Numerical Methods in Engineering, Journal of Franklin Institute, European Control Conference, American Control Conference, 51st IEEE Conference on Decision and Control (CDC 2012)

9.2. Teaching

Master : Bernard Brogliato, nonsmooth dynamical systems, 15h, M2, université de Limoges, France

Doctorat : Bernard Brogliato, Multiple Impacts, 7.5h, Aussois Ecole d'été Inria Nonsmooth Contact Mechanics: Modeling and Simulation, France

Doctorat : Vincent Acary, Numerical simulation of nonsmooth mechanical systems, 9.5h, Aussois Ecole d'été Inria Nonsmooth Contact Mechanics: Modeling and Simulation, France

Doctorat : Florence Descoubes, Numerical simulation of hair dynamics and fibers, 3.5h, Aussois Ecole d'été Inria Nonsmooth Contact Mechanics: Modeling and Simulation, France

Master : F. Descoubes, Optimisation numérique, 30h equiv. TD, niveau M1, ENSIMAG, Grenoble INP

Master : Jérôme Malick, Optimisation numérique, 60h eqTD, Master1 of ENSIMAG

Master : P.-B. Wieber, Autonomous Robotics, 13.5h eqTD, Master2 Mosig

9.3. Supervision

PhD : Andrei Herdt, Model predictive control of a humanoid robot, Mines ParisTech, 27 Jan. 2012, Pierre-Brice Wieber and Bernard Espiau

PhD : Mehdi Benallegue, Mirror controller: A Bio-Inspired Computational Approach for Human Walking Motion Imitation by a Humanoid Robot, Université Montpellier 2, 15 Dec. 2011, Pierre-Brice Wieber and Bernard Espiau.

PhD : Zohaib Aftab, Dynamic Simulation of Balance Recovery: Application to the standing passengers of public transport, université de Lyon 1, 21 novembre 2012, Pierre-Brice Wieber and Thomas Robert and Bernard Brogliato

PhD in progress : Mounia Haddouni, 01 mai 2012, Vincent Acary et Bernard Brogliato

PhD in progress : Olivier Huber, 01 octobre 2011, Vincent Acary et Bernard Brogliato

PhD in progress : Narendra Akahdkar, 01 décembre 2012, Vincent Acary et Bernard Brogliato

PhD in progress : Alexandre Derouet-Jourdan, 01 septembre 2010, Florence Descoubes et Joelle Thollot

PhD in progress : Sofia Zaourar, 01 octobre 2011, Jérôme Malick et Bernard Brogliato

PhD in progress : Romain Casati, 01 octobre 2011, Florence Descoubes et Bernard Brogliato

PhD in progress : Federico Pierucci, 01 octobre 2012, Jérôme Malick et Zaid Harchaoui et Anatoli Ioudilski

PhD in progress : Saed al Homsy, 01 octobre 2012, Pierre-Brice Wieber et Bernard Brogliato

PhD in progress : Jory Lafaye, 01 octobre 2012, Pierre-Brice Wieber et Bernard Brogliato

9.3.1. Popularization

- Two conferences on Robotics and Mathematics “Les robots, des puces plein la tête”, for high-school students, and for high-school math teachers.

BONSAI Project-Team

8. Dissemination

8.1. Scientific Animation

- + The team actively participates in the national GDR *Bioinformatique moléculaire*. H. Touzet has been a member of the executive committee since 2007. In this context, we hosted the national annual workshop, Seqbio, devoted to sequence analysis and bioinformatics (2 days, 80 participants, december 2011).
- + We organize a regular pluridisciplinary seminar on bioinformatics, whose audience is composed of researchers in biology and bioinformatics. In the last twelve months, we proposed three events: *manycores programming in biology* (2 days, 35 participants), *phylogeny* (2 days, 38 participants), *Analysis of NGS data* (1 day, 110 participants).
- + We organized the annual meeting of the GTGC workgroup (Comparative Genomics Working Group) (1.5 days, 40 participants, december 2012).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Our research work finds also its expression in a strong commitment in pedagogical activities at the University Lille 1. For several years, members of the project have been playing a leading role in the development and the promotion of bioinformatics (more than 400 teaching hours per year). We are involved in several graduate diplomas (research master degree) in computer science and biology (*master biologie-santé*, *master génomique et protéomique*, *master biologie-biotechnologie*) in an Engineering School (Polytech'Lille), as well as in permanent education (for researchers, engineers and technicians).

M. Pupin, M. Salson, *Introduction to programming (OCaml)*, 96h, L1 (licence "Computer science", univ. Lille 1)

M. Salson, *Coding and information theory*, 36h, L2 (licence "Computer science", univ. Lille 1)

J.-S. Varré *Programming with Caml*, 55h, L2 (licence "Sciences for Engineers", univ. Lille 1)

J.-S. Varré *Algorithms and Data structures*, 50h, L2 (licence "Computer science", univ. Lille 1)

L. Noé, *Algorithms (Ada)*, 58h, L3 (licence "Computer science", univ. Lille 1)

L. Noé, *Networks*, 36h, L3 (licence "Computer science", univ. Lille 1)

L. Noé, *System*, 36h, L3 (licence "Computer science", univ. Lille 1)

M. Pupin, *Databases*, 36h, L3 (licence "Computer science", univ. Lille 1)

M. Pupin, *Professional project*, 18h, L3 (licence "Computer science", univ. Lille 1)

M. Salson, *C programming*, 42h, L3 (licence "Computer science", univ. Lille 1)

S. Janot, *Introduction to programming*, 50h, first year of engineering school (L3) (Polytech'Lille, univ. Lille1)

S. Janot, *Introduction to databases*, 30h, first year of engineering school (L3) (Polytech'Lille, univ. Lille1)

A. Ouangraoua *Programming with MATLAB*, 36h, L1 (licence "Mechanical Engineering", École de Technologie Supérieure de Montréal)

L. Noé, *Bioinformatics*, 54h, M1 (master "Génomique Protéomique", univ. Lille 1)

L. Noé, *Individual project*, organiser, M1 (master "Computer science", univ. Lille 1)

M. Pupin, *Introduction to programming (JAVA)*, 30h, M1 (master “Mathématiques et finance”, univ. Lille 1)

M. Salson, J.-S. Varré, *Bioinformatics*, 100h, M1 (master “Biology and Biotechnologies”, univ. Lille 1)

S. Blanquart, *Algorithms and applications in bioinformatics*, 24h, M1 (master “Computer Science”, univ. Lille 1)

S. Janot, *Databases*, 12h, second year of engineering school (M1) (Polytech’Lille, univ. Lille 1)

S. Janot, *Introduction to artificial intelligence*, 25h, second year of engineering school (M1) (Polytech’Lille, univ. Lille 1)

M. Pupin, J.-S. Varré *Computational biology*, 30h, M2 (master “Modèles complexes, algorithmes et données”, univ. Lille 1)

M. Pupin, *Practical bioinformatics*, 35h, M2 (master “Génomique Protéomique”, univ. Lille 1)

S. Blanquart, *Methods in phylogenetics*, 4h, M2 (master “Ecology Environment”, univ. Lille 1)

M. Giraud, L. Noé, M. Pupin, *High-performance bioinformatics*, 28h, M2 (master “Calcul Scientifique”, univ. Lille 1)

M. Pupin, J.-S. Varré, *ISN - Computer science for secondary school*, 30h, second-level teachers.

8.2.2. Supervision

PhD : *Tuan Tu Tran*, Bioinformatics Sequence Comparisons on Manycore Processors, Univ. Lille 1, defense scheduled on 21 December 2012, co-directed by J.-S. Varré and M. Giraud

PhD : *Aurélien Vanvlassenbroeck*, Experimental and *in silico* study of the nonribosomal synthesis done by fluorescent *Pseudomonas*, Université Lille 1, 17 July 2012, co-directed by M. Pupin, V. Leclère (ProBioGEM lab) and P. Jacques (ProBioGEM lab)

PhD in progress : *Antoine Thomas*, Algorithms for genome rearrangement with duplications, Université Lille 1, co-directed by J.-S. Varré and A. Ouangraoua.

PhD in progress : *Evguenia Kopylova*, New algorithmic and bioinformatic approaches for the analysis of data from next-generation sequencing, Université Lille 1, co-directed by H. Touzet and L. Noé.

PhD in progress : *Christophe Vroland*, microRNA repertoire and target evolution: developing efficient indexing techniques and comparison between close plant species, Université Lille 1, co-directed by H. Touzet, M. Salson from BONSAI and V. Castric (“Genetics and evolution in plants” laboratory).

8.2.3. Juries

- Member of the thesis committee of W. Abdelwahed (Univ. Lille 1, M. Pupin) and S. Benabderahmane (Univ. Nancy 1, M. Pupin), Ph. Bordron, (Univ. Nantes, J.-S. Varré, L. Noé), Benoit Groz (Univ. Lille 1, H. Touzet), Tarek El Falah (Univ. Rouen, J.-S. Varré)
- Member of the habilitation committee of J. Bourdon (Univ. Nantes, H. Touzet)

8.2.4. Administrative activities

- National representative (*chargée de mission*) for the Institute for Computer Sciences (INS2I) in CNRS³. She is more specifically in charge of relationships between the Institute and life sciences (H. Touzet)
- Member of the Inria evaluation committee (M. Giraud)
- Member of the Inria local committee for scientific grants (H. Touzet)
- Scientific secretary of the Gilles Kahn PhD award committee (M. Giraud)

³CNRS: National Center for Scientific Research

- Member of ITMO Genetics, Genomics and Bioinformatics of AVIESAN (H. Touzet)
- Member of CSS MBIA (mathematics, bioinformatics and artificial intelligence) at INRA (H. Touzet)
- Head of PPF bioinformatics – University Lille 1 (H. Touzet)
- Head of Bilille, Lille bioinformatics platform (M. Pupin)
- Head of ReNaBi-NE (pôle Nord-Est du Réseaux National de Bioinformatique), a cluster of 4 bioinformatics platforms (M. Pupin)
- Member of UFR IEEA council (M. Pupin)
- Head of the GIS department (Statistics and Computer Sciences) of Polytech’Lille (S. Janot)
- Member of the LIFL Laboratory council (L. Noé, H. Touzet)
- Member of hiring committee (jury d’audition) of Univ. Lille 1 (M. Pupin, H. Touzet), Univ. Pierre et Marie Curie (L. Noé), ENS Bio (H. Touzet), Université Aix-Marseille (H. Touzet), Univ. Bordeaux 1 (M. Giraud)

8.3. Popularization

- We continued the activity developed on bioinformatics puzzles by our two-months exhibition in 2010 at Palais de la découverte (science museum in Paris). These “puzzles du génome” explain the basics of sequence assembly, RNA secondary structures and phylogenetic reconstruction <http://www.lifl.fr/~giraud/puzzles>. In 2012, we demonstrated these puzzles to more than 150 high schools pupils (J.F. Berthelot, S. Blanquart, M. Giraud, M. Salson, A. Thomas, M. Pupin).

BYMOORE Exploratory Action

6. Dissemination

6.1. Animation of the scientific community

- 2013 International Symposium on Code Generation and Optimization (CGO), Program Committee member.
- 2012 International Symposium on Code Generation and Optimization (CGO), Program Committee member.
- 2012-present: International Symposium on Code Generation and Optimization (CGO), Steering Committee member.
- 2013 International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), Program Committee member.
- 2013 International Workshop on Neuro-Inspired Accelerators for Computing (NIAC), Co-Organizer.
- 2012 International Symposium on Computer Architecture (ISCA), Program Committee member.
- Associate Editor of IEEE Micro.

6.2. Teaching - Supervision - Juries

Master : Architecture course at Ecole Polytechnique (about 35 hours per year), France.

6.2.1. Supervision

PhD & HdR :

2012-present: Zidong Du.

2011-present: Shuangde Fang.

2011-present: Wenting He.

2010-present: Yuanjie Huang.

2010-present: Hengjie Li.

2009-2012: Yang Chen, now at Microsoft Research China.

CAD Team

9. Dissemination

9.1. Teaching - Supervision - Juries

9.1.1. Teaching

Pr. Jean-Claude Paul, Pr. Jun-Hai Yong, Dr. Bin Wang and Dr. Hui Zhang teach at Tsinghua University. Dr. Hui Zhang is the Dean of the School of Software Teaching Program.

Master : Pr. Xiaopeng Zhang and Dr. Weiming Dong teach at Graduate University of Chinese Academy of Sciences.

CAGIRE Team

8. Dissemination

8.1. Scientific Animation

The team members have been invited to review for the following journals:

- Journal of Computational Physics [VP]
- International Journal for Numerical Methods in Fluids [PB, VP]
- Computers and FLuids [VP]
- SIAM Journal on Applied Mathematics [VP]
- Shock Waves [VP]
- ESAIM: Mathematical Modelling and Numerical Analysis [VP]
- Mathematics and Computers in Simulation [VP]
- Review for the Engineering Computations [VP]
- Combustion and Flame [PB]
- Journal of Aerospace Engineering [PB]
- Computational Thermal Science [PB]

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Licence :
 - TP Transferts thermiques, 8h, L1, IUT-GTE-UPPA, Pau, France. [PB]
 - Programmation, 50h, L3, ENSGTI-UPPA, France [EF]
 - TP Composants, 40h, L3, ENSGTI-UPPA, France [EF]
- Master :
 - An introduction to the numerical simulation of reacting flows, 15h, M2, ISAE-SupAéro, Toulouse, France. [PB]
 - Machines hydrauliques, 30h, M1, ENSGTI-UPPA, France [TK]
 - Machines aérauliques, 30h, M1, ENSGTI-UPPA, France [TK]
 - Thermo-économie, 30h M2, ENSGTI-UPPA, France [TK]
 - Modélisation des écoulements diphasiques, 30h, M1, ENSGTI-UPPA, France [TK]
 - TP systèmes, 50h, M1, ENSGTI-UPPA, France [TK]
 - Simulation industrielle, 40h, M1, ENSGTI-UPPA, France [EF]
 - Fluides compressibles, 20h, M1, ENSGTI-UPPA, France [EF]
 - Combustion industrielle, 30h, M1, ENSGTI-UPPA, France [EF]
 - Réseaux de chaleur, 4h, M2, ENSGTI-UPPA, France [EF]
 - Géothermie, 4h, M2, ENSGTI-UPPA, France [EF]
 - Biomasse, 4h, M2, ENSGTI-UPPA, France [EF]

8.2.2. Juries

- + PhD (PB, Referee) :J. Primus, Détermination de l'impédance acoustique de matériaux absorbants en écoulement par méthode inverse et mesures LDV, Université de Toulouse, 6 December 2012. Thesis advisors : F. Simon and E. Piot.
- + PhD (PB, external examiner) :L. Cheng, Combined PIV/PLIF measurements in a high swirl-fuel injector flowfield, Loughborough University, 19 december 2012. Thesis advisor: A. Spencer.

CAIRN Project-Team

8. Dissemination

8.1. Scientific Animation

D. Chillet was General Co-Chair of the Conference on Design and Architectures for Signal and Image Processing (DASIP) in Karlsruhe, Germany, Oct. 2012.

D. Chillet was the Editor of a Special Issue of International Journal of Real Time Image Processing, 2012.

A. Tisserand was a member of technical program committee of the following conferences: IEEE ARITH'21, IEEE Reconfig 2012, DASIP 2012, IEEE NEWCAS 2012. He is a member of the editorial board of the International Journal of High Performance Systems Architecture, Inderscience.

M. Gautier was a member of the technical program committee of IEEE VTC-fall 2012, IEEE ICCVE 2012 and IARIA COCORA 2012.

E. Casseau co-organized with Michael Hubner the first DASIP demo night during the Conference on Design and Architectures for Signal and Image Processing, Karlsruhe, Germany. Details on <http://ecsi.org/dasip2012/demo-night>.

S. Pillement and E. Casseau were members of the Program Committee of DASIP.

P. Quinton was the coordinator of the "équipe projet de recherche" PucCom of the Université européenne de Bretagne.

O. Sentieys was a member of technical program committee of the following conferences: IEEE/ACM DATE, IEEE ISQED, IEEE VTC, IEEE DDECS, DCIS, FTFC. He was Track Chair at NEWCAS. He is on the editorial board of Journal of Low Power Electronics, American Scientific Publishers, and of ISRN Sensor Networks.

O. Sentieys is a member of the steering committee of the GDR SOC-SIP. He is the chair of the IEEE Circuits and Systems (CAS) French Chapter. In 2011, he was an expert for some scientific organizations (ANR INS, ANR blanc). He is a member of Allistene working group.

F. Charot, O. Sentieys and A. Tisserand are members of the steering committee of a CNRS spring school for graduate students on embedded systems architectures and associated design tools (ARCHI).

O. Sentieys and A. Tisserand are members of the steering committee of a CNRS spring school for graduate students on low-power design (ECOFAC).

A. Tisserand co-organized the ECOFAC 2012 *école thématique CNRS conception faible consommation pour les systèmes embarqués temps réel* in La Colle-sur-Loup, May 21–25, 2012. Details on <http://leat.unice.fr/ECofaC2012/>.

8.2. Seminars and Invitations

A. Tisserand gave an invited talk at the French *Rencontres Arithmétique de l'Informatique Mathématique du GT ARITH - GDR IM* in June on *Circuits for True Random Number Generation with On-Line Quality Monitoring*.

A. Tisserand gave a invited lecture at the CNRS ECOFAC 2012 spring school on *Power Consumption and Security: Attacks and Countermeasures*.

A. Tisserand gave a invited lecture at the IRMAR (Maths) Laboratory of University of Rennes 1 on *True Random Number Generation with On-Line Quality Monitoring*.

8.3. Teaching - Supervision - PhD Committee

8.3.1. Teaching Responsibilities

There is a strong teaching activity in the CAIRN team since most of the permanent members are Professors or Associate Professors.

C. Wolinski is the Director of ESIR.

P. Quinton is the deputy-director of Ecole Normale Supérieure de Cachan, responsible of the Brittany branch of this school.

D. Chillet is the Director of Academic Studies of ENSSAT.

P. Scalart is the Head of the Electronics Engineering department of ENSSAT.

S. Derrien is the responsible of the first year of the master of computer science at ISTIC since Sep. 2012.

O. Sentieys is responsible of the "Embedded Systems" branch of the SISEA Master of Research (M2R).

ENSSAT stands for "*École Nationale Supérieure des Sciences Appliquées et de Technologie*" and is an "*École d'Ingénieurs*" of the University of Rennes 1, located in Lannion.

ISTIC is the Electrical Engineering and Computer Science Department of the University of Rennes 1.

ESIR stands for "*École supérieure d'ingénieur de Rennes*" and is an "*École d'Ingénieurs*" of the University of Rennes 1, located in Rennes.

M2R stands for Master by Research, second year.

D. Chillet is member of the French National University Council since 2009 in signal processing and electronics (Conseil National des Universités en 61e section).

D. Chillet is member of the Permanent Committee of the French National University Council since november 2011 in signal processing and electronics (Commission Permanente du Conseil National des Universités en 61e section).

8.3.2. Teaching

O. Berder: introduction to signal processing, 38h, ENSSAT(L3)

O. Berder: microprocessors and digital systems, 19h, ENSSAT(L3)

O. Berder: wireless communications, 23h, ENSSAT(M2)

O. Berder: digital signal processing, 60h, ENSSAT(M1)

O. Berder: ad hoc networks, 58h, ENSSAT(M1-M2)

O. Berder: signal processing, 24h, IUT Lannion (L2)

E. Casseau: verification, 12h, Master by Research and ENSSAT(M2)

E. Casseau: hardware description language, 20h, ENSSAT(M1)

E. Casseau: low power design, 6h, ENSSAT(M1)

E. Casseau: real time design methodology, 24h, ENSSAT(M1)

E. Casseau: verification, 25h, USTH (M1)

E. Casseau: signal processing, 16h, ENSSAT(L3)

S. Derrien: component and system synthesis, 16h, Research Master (MRI ISTIC) (M2)

S. Derrien: computer architecture, 12h, ENS Cachan (L3)

S. Derrien: introduction to operating systems, 8h, ISTIC (M1)

F. Charot: specification of applications with the signal synchronous language, 24h, ESIR(M1)

F. Charot: virtual prototyping of multiprocessor system-on-chip, 24h, ESIR(M1)

F. Charot: design of embedded systems, 28h, ESIR(M1)

D.Chillet: Basic processor architecture, 20h, ENSSAT(L1)

- D.Chillet: Design methodology of real-time systems, 32h, ENSSAT(L2)
- D.Chillet: Advanced processor architectures, 24h, ENSSAT(M2)
- D.Chillet: Multimedia processor architectures, 24h, ENSSAT(M2)
- D.Chillet: Multi-processor systems, 20h, ENSSAT(M2)
- D. Chillet: advanced processors architectures, 24h, Master by Research and ENSSAT(M2)
- D. Chillet: low-power digital CMOS circuits, 6h, Telecom Bretagne and University of Occidental Brittany (UBO) (M2)
- D. Chillet: Digital system design, 25h, University of Science and Technology of Hanoi, (M1)
- D. Chillet: Advanced Multiprocessor system , 25h, University of Science and Technology of Hanoi, (M2)
- M.Gautier, electronics, 42h, IUT Lannion (L1)
- M.Gautier, telecommunications, 114h, IUT Lannion (L1)
- R. Rocher: electricity, 16h, IUT Lannion (L1)
- R. Rocher: electronics, 44h, IUT Lannion (L1)
- R. Rocher: telecommunications, 82h, IUT Lannion (L1)
- R. Rocher: signal processing, 12h, IUT Lannion (L2)
- R. Rocher: digital communications, 48h, IUT Lannion (L2)
- P. Scalart: non-linear optimisation, 18h, Master by Research and ENSSAT (M2)
- P. Scalart: Parametric modelisation, optimal and adaptive Filters, 24h, Master by Research and ENSSAT (M2)
- P. Scalart: source coding, 14h, Master by Research and ENSSAT (M2)
- P. Scalart: cellular networks, 24h, ENSSAT (M2)
- P. Scalart: digital communication systems, 32h, ENSSAT (M1)
- P. Scalart: random signals and systems, 12h, ENSSAT (M1)
- O. Sentieys: methodologies for system-on-chip design, 6h, Master by Research and ENSSAT(M2)
- O. Sentieys: VLSI integrated circuit design, 66h, ENSSAT(M1)
- O. Sentieys: high-level synthesis of digital signal processors, 16h, Master by Research and ENSSAT(M2)
- A. Tisserand: GPU programming, 8h, ENSSAT(M2)
- A. Tisserand: hardware computer arithmetic operators, 6h, Master by Research, Univ. Rennes 1 (M2)
- A. Tisserand: computer arithmetic, 12h, ENS Cachan, Antenne de Bretagne, *Magister* Computer Science and Telecommunications (L3)
- A. Tisserand: computer arithmetic, 16h, ENSEIRB, (L3)
- C. Wolinski: architecture 1, 64h, ESIR(L3)
- C. Wolinski: architecture 2, 28h, ESIR(L3)
- C. Wolinski: design of embedded systems, 48h, ESIR(M1)
- C. Wolinski: signal, image, architecture, 26h, ESIR(M1)
- C. Wolinski: programmable architectures, 10h, ESIR(M1)
- C. Wolinski: component and system synthesis, 10h, Master by Research (MRI ISTIC) (M2)

8.3.3. Supervision

HDR: Olivier Berder, Systèmes multi-antennes et optimisation énergétique des réseaux de capteurs sans fil, Habilitation à Diriger des Recherches, University of Rennes 1, Dec. 2012.

PhD: Naeem Abbas, Acceleration of a Bioinformatics Application using High-Level Synthesis, May 2012, P. Quinton, S. Derrien.

PhD: Andrei Banciu, A Stochastic Approach for the Range Evaluation, Feb. 2012, E. Casseau.

PhD: Antoine Eiche, Real-Time Scheduling for Heterogeneous and Reconfigurable Architectures using Neural Network Structures, University of Rennes 1, Sep. 2012, D.Chillet.

PhD: Antoine Floc'h, Optimizing Compilation for Processor Instruction-Set Extension, Jun. 2012, C. Wolinski, F. Charot.

PhD: Quoc-Tuong Ngo, Generalized minimum Euclidean distance based precoders for MIMO spatial multiplexing systems, Jan. 2012, P. Scalart, O. Berder.

PhD: Danuta Pamula, Arithmetic operators on $GF(2^m)$ for cryptographic applications: performance - power consumption - security tradeoffs, University of Rennes 1 and Silesian University of Technology, Dec. 2012, A. Tisserand.

PhD: Le-Quang-Vinh Tran, Energy-efficient cooperative relay protocols for wireless sensor networks, Dec. 2012, O. Berder, O. Sentieys.

PhD: Karthick Parashar, System-level approaches for fixed-point refinement of signal processing algorithms, Dec. 2012, O. Sentieys, D. Menard.

PhD: Chenglong Xiao, Custom Operator Identification for High-level Synthesis, University of Rennes 1, Nov. 2012, E. Casseau.

PhD in progress: Mahtab Alam, Power Aware Signal Processing for Reconfigurable Radios in the context of Wireless Sensor Networks, Nov. 2009, O. Sentieys, O. Berder, D. Menard.

PhD in progress: Djamel Benfarhat, Design of disruption-tolerant communication protocols for mobile communicating objects in health applications, 2009, Patrice Quinton jointly with Frédéric Guidec, IRISA UBS.

PhD in progress: Karim Bigou, RNS Hardware Units for ECC, Oct. 2011, A. Tisserand.

PhD in progress: Robin Bonamy, Power Consumption Modelling and Optimisation for Reconfigurable Platform, Oct. 2009, D. Chillet.

PhD in progress: Franck Bucheron, Secure Virtualization for Embedded Systems, Oct. 2011, A. Tisserand.

PhD in progress: Thomas Chabrier, Reconfigurable Arithmetic Units for Cryptoprocessors with Protection against Side Channel Attacks, Oct. 2009, A. Tisserand, E. Casseau.

PhD in progress: Aymen Chakhari, Analytical approach for decision errors in fixed-point digital communication systems, Oct. 2010, R. Rocher, P. Scalart.

PhD in progress: Ali-Hassan El-Moussaw, Performance/Accuracy Trade-Off in Automatic Parallelization for Embedded Many-Core Platforms, Nov. 2012, S. Derrien.

PhD in progress: Clément Guy, Generic Definition of Domain Specific Analysis using MDE, Oct. 2010, S. Derrien, jointly with J.M. Jezequel and B. Combemale from Triskell EPI.

PhD in progress: Christophe Hurliaux, Embedded reconfigurable hardware accelerators with efficient dynamic reconfiguration management, Oct. 2012, O. Sentieys, A. Courtay.

PhD in progress: Quang-Hai Khuat, Real-Time Spatio-Temporal Task Scheduling on 3D Architectures, Oct. 2011, D. Chillet.

PhD in progress: Trong-Nhan Le, Global power management system for self-powered autonomous wireless sensor nodes, Jan. 2011, O. Sentieys, O. Berder.

PhD in progress: Quang-Hoa Le, Virtualized dynamic reconfiguration for 3D SoC, Oct. 2012, E. Casseau, A. Courtay.

PhD in progress: Jérémie Métairie, Reconfigurable Arithmetic Units for Secure Cryptoprocessors, Oct. 2012, A. Tisserand, E. Casseau.

PhD in progress: Antoine Morvan, Loop Transformations for Design Space Exploration in High-Level Synthesis, Oct. 2009, P. Quinton, S. Derrien.

PhD in progress: Jean-Charles Naud, Source-to-Source Code Transformation for Fixed-Point Conversion, Oct. 2009, D. Menard, O. Sentieys.

PhD in progress: Viet-Hoa Nguyen, Energy-efficient cooperative techniques for Wireless Body Area Sensor Networks, Nov. 2012, O. Berder, jointly with C. Langlais from Telecom Bretagne.

PhD in progress: Matthieu Texier, Low-Power Embedded Multi-Core Architectures for Mobile Systems, Oct. 2009, O. Sentieys, jointly with R. David from CEA List.

PhD in progress: Michel Theriault, Transmit Beam-forming for Distributed Wireless Access with Centralized Signal Processing, Oct. 2007, O. Sentieys, jointly with S. Roy from U. Laval, Canada.

PhD in progress: Vivek D. Tovinakere, Ultra-Low Power Reconfigurable Controllers for Wireless Sensor Networks, Oct. 2009, O. Sentieys.

Ganda-Stéphane Ouedraogo, Automatic synthesis of hardware accalerator from high-level specifications in flexible radios, Oct. 2011, M. Gautier, O. Sentieys.

PhD in progress: Pramod P. Udupa, Sampling, synchronising, digital processing and FPGA implementation of 100Gbps optical OFDM signals, Jan. 2011, O. Sentieys.

PhD in progress: Hervé Yviquel, Video coding design framework based on SoC-based platforms, Oct. 2010, E. Casseau.

PhD in progress: Zhongwei Zheng, Short-range geolocation algorithms based on distributed multi-sensor processing, Nov. 2012, P. Scalart, jointly with C. Roland from Lab-STICC.

8.4. Popularization

A. Tisserand gave a popularization talk at *Fête de la science* 2012 in Lannion on *low-energy electronic circuits*.

CALVI Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Invitations at conferences and summer schools

- Michel Mehrenberger gave invited talks at
 - ICOPS 2012, Edinburgh (Scotland, UK), 8-12 July 2012, "Conservative semi-lagrangian schemes on mapped meshes", <http://icops2012.lboro.ac.uk/>
 - 4th Summer school on numerical modelling for fusion, 8-12 October 2012, IPP, Garching near Munich "High Order Semi-Lagrangian Schemes for the Vlasov equation", http://www.ipp.mpg.de/ippcms/eng/for/veranstaltungen/konferenzen/su_school/
- Sever Hirstoaga gave an invited talk at The 9th AIMS Conference, in the Special Session 79 : "Numerical Methods based on Homogenization and on Two-Scale Convergence", 1-5 July 2012, Orlando.
- Eric Sonnendrücker gave an invited talk on "Numerical Algorithms for Gyrokinetic simulations" at the Workshop on Computational Challenges in Magnetized Plasma, IPAM, UCLA, April 16-20, 2012.
- Jean Roche gave invited talks at
 - Engopt 2012, Rio de Janeiro, Brazil, July 2012, on "Interior Point Methods for Shape Optimization in Electromagnetic Casting"
 - 10th WCCM, Sao Paulo, Brazil, 8-13 July 2012, on "Adaptivity in Shape Optimization with an exterior state equation"

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Philippe Helluy is responsible for the second year of Master CSSI (*Calcul Scientifique et Sécurité Informatique*) of the UFR Mathématique et Informatique, Université de Strasbourg.

Laurent Navoret is responsible for *Master Enseignement - parcours Agrégation* of the UFR Mathématique et Informatique, Université de Strasbourg, since September 2012.

- Nicolas Besse
 - Licence : Analyse, 90H, L2, Université de Lorraine Faculté des Sciences et Techniques, France
 - Licence : Analyse complexe, 16H, L3, Université de Lorraine Faculté des Sciences et Techniques, France
 - Licence : Analyse, 38H, L1, Université de Lorraine Faculté des Sciences et Techniques, France
 - Master : Modélisation mathématique et méthodes numériques pour les plasmas de fusion, 45H, M2-Fusion, Université de Lorraine, France
- Philippe Helluy
 - Master: EDP hyperboliques, 30 HETD, M2, Université de Strasbourg, France
 - Master: Contrôle Optimal, 30 HETD, M2, Université de Strasbourg, France
 - Master: Calcul Scientifique, 30 HETD, M1, Université de Strasbourg, France

Master: Elemental numerical methods, 30 HETD, M1 physique, Université de Strasbourg, France

Master: Recherche Opérationnelle, 30 HETD, école d'ingénieurs ENSIIE, Strasbourg, France.

Doctorat : Modèles mathématiques et numériques de la transition de phase, 30 HETD, M2, Université de Strasbourg, France

- Simon Labrunie

Licence : Mathématiques générales en DUT génie civil, 55h, L1, Université de Lorraine, France

Licence : Mathématiques générales en DUT génie civil, 55h, L2, Université de Lorraine, France

- Michel Mehrenberger

Licence : Optimisation non lineaire, 54h, L3, Université de Strasbourg, France

Licence : Méthodes d'Analyse Numérique, 39h, L3, ENSIIE (ecole d'ingenieur, antenne de Strasbourg), France

Licence : Analyse Numérique, 72h, L2, Université de Strasbourg, France

Licence : Calcul Formel et Simulation Numérique, 18h, L2, Université de Strasbourg, France

Master : Mathematical methods for physics, 30h, M1, Université de Strasbourg, France

Master : Spectral Analysis, 30h, M1, Université de Strasbourg, France

Master: Méthodes numériques pour les EDP, TP, 20h, M1, Université de Strasbourg, France

- Laurent Navoret

Licence : TD Technique d'Analyse Numérique, 36h eq. TD, L3, Université de Strasbourg, France

Licence : Introduction numérique aux E.D.P., 43.75h eq. TD, L3, Université de Strasbourg, France

Master : Modélisation : Option Calcul Scientifique, 72 eq. TD, M2, Université de Strasbourg, France

- Jean R. Roche

Licence: Mathématiques, 162 h eq. TD, L2, ESSTIN, Université de Lorraine, France.

Master : Optimisation, 30 h eq. TD, M1, ESSTIN, Université de Lorraine, France.

9.2.2. Supervision

HdR : Michel Mehrenberger, *Inégalités d'Ingham et schémas semi-lagrangiens pour l'équation de Vlasov*, 5 October 2012, Coordinator: Eric Sonnendrücker

PhD in progress : Céline Caldini , *Collisions dans les modèles gyrocinétiques*, Advisor: Mihai Bostan

PhD in progress : Pierre Glanc, *Approximation numérique des équations de Vlasov par des méthodes de "remapping" conservatifs*, Advisors: Nicolas Crouseilles, Emmanuel Frénod, Philippe Helluy and Michel Mehrenberger

PhD in progress : Nhung Pham, *Méthodes fluides généralisées pour les plasmas*, Advisor: Philippe Helluy

PhD in Progress : Michel Massaro, *Résolution numérique de lois de conservation sur architectures multicores*, Advisors: Philippe Helluy, Catherine Mongenet.

PhD in progress : Christophe Steiner, *Etudes de l'opérateur de gyroviscosité et de son couplage avec les équations de Vlasov gyrocinétiques*, Advisors: Nicolas Crouseilles and Michel Mehrenberger

PhD in progress : Mathieu Lutz, *Etude théorique et numérique de l'approximation gyrocinétique*, Advisors: Emmanuel Frénod and Eric Sonnendrücker

PhD in progress : Mohamed Ghattassi, *Analyse et Contrôle d'un Four*, Université de Lorraine, Advisor: Jean Roche.

PhD in progress : Takashi Hattori, *Full wave modeling of lower hybrid current drive in tokamaks*, Université de Lorraine, Advisors: Simon Labrunie and Jean Roche.

9.2.3. Juries

Simon Labrunie participated to the following Ph.D. defense committees :

- Jean-Yves Moller, Ph.D. at Université de Lorraine, Title: *Eléments fins courbes et accélération pour le transport de neutrons*, January 2012. Simon Labrunie was co-director together with Richard Sanchez from CEA Saclay.
- Sébastien Cambon, Ph.D. at INSA Toulouse. Title: *Méthodes d'éléments fins d'ordre élevé et d'équations intégrales pour la résolution de problèmes de furtivité radar d'objets à symétrie de révolution*, July 2012.

9.3. Popularization

- October 2012 : Laurent Navoret gave a popularization talk, entitled "La valse relaxante des particules" and about the Landau damping, for the "Fête des sciences 2012" in Strasbourg.
- December 2012 : Philippe Helluy gave a talk entitled: "How to solve PDE on GPU" to high school students at IUFM d'Alsace.

CAMUS Team

8. Dissemination

8.1. Scientific Animation

Vincent Loechner co-organized IMPACT 2012, the 2nd International Workshop on Polyhedral Compilation Techniques, in conjunction with the HiPEAC conference in January 2012. Out of 13 received submissions, 6 were accepted as regular papers and 4 as tool demonstrations, and presented along a keynote by Keshav Pingali.

Philippe Clauss and Vincent Loechner are part of the program committee of IMPACT 2013.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Vincent Loechner, programmation système et réseau, 30, L2, University of Strasbourg, France

Licence : Vincent Loechner, fondements des systèmes d'exploitation, 33, L3, University of Strasbourg, France

Master : Vincent Loechner, système et programmation temps-réel, 25, M1, University of Strasbourg, France

Master : Vincent Loechner, compilation avancée, 6, M1, University of Strasbourg, France

Master : Vincent Loechner, parallélisme, 28, M2, University of Strasbourg, France

Master : Vincent Loechner, calcul parallèle, 30, école d'ingénieur (5ième année), University of Strasbourg, France

Master : Vincent Loechner, langage interprété, 40, M1, University of Strasbourg, France

Master : Vincent Loechner, TP programmation, 10, M1, University of Strasbourg, France

Licence : Julien Narboux, Culture et Pratique de l'Informatique, 18, L1, University of Strasbourg, France

Licence : Julien Narboux, Logique et Programmation Logique, 61, L2, University of Strasbourg, France

ENSIIE : Julien Narboux, Logique, 31, 1a, ENSIIE, France

Master: Julien Narboux, Ingénierie de la preuve, 27, M1, University of Strasbourg, France

Master: Julien Narboux, Certification du Logiciel, 36, M2, University of Strasbourg, France

Master: Julien Narboux, Suivi apprentissage, 50, M1-M2, University of Strasbourg, France

Master: Julien Narboux, Encadrement TER, -, M1, University of Strasbourg, France

Master: Julien Narboux, Encadrement Projet Individuel (1 étudiant), -, M2, University of Strasbourg, France

Master: Julien Narboux, Encadrement Projets de Groupe 140h (25 étudiants), 10, M2, University of Strasbourg, France

Master: Julien Narboux, Soutenances d'apprentissage, 10, M2, University of Strasbourg, France

Licence : Nicolas Magaud, Méthodologie du Travail Universitaire, 12, L1, University of Strasbourg, France

Licence : Nicolas Magaud, Projet professionnel personnel, 20, L1, University of Strasbourg

Licence : Nicolas Magaud, Structures de données et Algorithmes 2, 22, L2 Informatique, University of Strasbourg

Licence : Nicolas Magaud, Informatique : Algorithmique et Structures de Données, 20, L3 Mathématiques, University of Strasbourg

Licence : Nicolas Magaud, Pratique des systèmes d'exploitation (PSE), 16, L2 Informatique, University of Strasbourg

Master: Nicolas Magaud, Ingénierie de la preuve, 18 , M1, University of Strasbourg, France

Master: Nicolas Magaud, Suivi apprentissage, 60, M1-M2, University of Strasbourg, France

ENSIIE : Nicolas Magaud, Introduction à la Programmation Fonctionnelle, 52 , 1a, ENSIIE, France

CNAM Alsace : Nicolas Magaud, Algorithmique, 40, 1a, CNAM Alsace, France

Licence : Éric Violard, Programmation système & réseau, 60 , L2, University of Strasbourg, France

Licence : Éric Violard, Programmation fonctionnelle, 42 , L2, University of Strasbourg, France

Licence : Éric Violard, Bases de données, 8 , L2, University of Strasbourg, France

Master : Éric Violard, Compilation, 54, M1, University of Strasbourg, France

Master : Éric Violard, Sémantique, 45, M1, University of Strasbourg, France

Master : Alain Ketterlin, Compilation, 64 , M1, University of Strasbourg

Master : Alain Ketterlin, Compilation avancée, 20 , M1, University of Strasbourg

Master : Alain Ketterlin, Suivi d'apprenti, 12 , M1, University of Strasbourg

Master : Philippe Clauss, Compilation avancée, 30 , M1, University of Strasbourg

Master : Philippe Clauss, Système et Programmation Temps-réel, 30 , M1, University of Strasbourg

Master : Philippe Clauss, OS embarqués, 30 , M1, University of Strasbourg

8.2.2. Supervision

PhD : Alexandra Jimborean, Adapting the polytope model for dynamic and speculative parallelization, University of Strasbourg, September the 14th 2012, Philippe Clauss and Vincent Loechner

PhD in progress : Aravind Sukumaran-Rajam, Enlarging the scope of polyhedral speculative parallelization, November 2012, Philippe Clauss and Alain Ketterlin

PhD in progress : Jean-François Dollinger, Heterogeneous speculative parallelization, September 2010, Vincent Loechner and Philippe Clauss

PhD in progress : Imèn Fassi, Multifor for Multicore, September 2012, Philippe Clauss and Yosr Slama

8.2.3. Juries

Philippe Clauss participated to the following HDR juries in 2012:

Date	Candidate	Place	Role
Dec. 7	Fabrice Rastello	École Normale Supérieure de Lyon	Reviewer
Déc. 12	Cédric Bastoul	Univ. Paris-Sud	Examiner

Philippe Clauss participated to the following PhD juries in 2012:

Date	Candidate	Place	Role
July 3	Oussama Gamoudi	Univ. Pierre et Marie Curie, Paris	Reviewer
Oct. 2	Artur Pietrek	Univ. Grenoble	Reviewer
Oct. 22	Andrés Salim Charif-Rubial	Univ. Versailles	Reviewer
Dec. 13	Mehdi Amini	École des Mines, Paris	Examiner

CAMEL Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Caramel seminar

Twenty speakers were invited to our seminar in 2012: Charles Bouillaguet, Stéphane Glondu, Marion Videau, Jérémie Detrey, Karim Khalfallah, Peter Schwabe, Jean-Charles Faugère, Luc Sanselme, Olivier Levillain, Aurore Guillevic, Cyril Bouvier, Răzvan Bărbulescu, Francisco Rodríguez-Henríquez, Laura Grigori, Hugo Labrande, Christophe Petit, Alexandre Benoit, Paul Zimmermann, Mohab Safey El Din, and Alin Bostan.

9.1.2. Committees memberships

- Jérémie Detrey
 - was a member of the program committee of the International Conference on Pairing-Based Cryptography (Pairing 2012),
 - was a member of the program committee of the International Workshop on the Arithmetic of Finite Fields (WAIFI 2012),
 - is a member of the program committee of the *Symposium en Architectures nouvelles de machines* (SympA 2013).
- Pierrick Gaudry
 - is a deputy director of LORIA until the end of 2012,
 - was in the hiring committees (Comités de Sélection) in Paris 6, Montpellier and Nancy,
 - with Cécile Dartyge (IECN), he organized a scientific day “Journée Charles Hermite” on cryptography and number theory,
 - was a member of the program committee of the 13th International Workshop on Information Security Applications (WISA 2012).
- Emmanuel Thomé
 - is an elected member of the Inria Evaluation Committee for the period 2011-2015,
 - was a member of the program committee of the Workshop on Elliptic Curve Cryptography (ECC 2012).
- Marion Videau
 - is a member of the scientific committee of the CCA seminar (*Codage, Cryptologie, Algorithmes*),
 - was a member of the program committee of the International Conference on Information Security and Cryptology (ICISC 2012),
 - is a member of the program committee of the *Symposium sur la sécurité des technologies de l’information et des communications* (SSTIC 2013).
- Paul Zimmermann
 - is an elected member of the Inria Scientific Board,
 - is a member of the program committee of the International Symposium on Symbolic and Algebraic Computation (ISSAC 2013).

9.1.3. Invited Conferences

- Jérémie Detrey was invited to give a talk at the Workshop on Elliptic Curve Cryptography (ECC 2012) in Querétaro, México.
- Emmanuel Thomé was invited to give a talk at the International Workshop on the Arithmetic of Finite Fields (WAIFI 2012) in Bochum, Germany.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Jérémie Detrey:
 - Security of websites: 2 hours (lecture), L1, IUT Charlemagne, Nancy, France.
- Emmanuel Thomé:
 - Cryptology: 20 hours, M1, ESIAL, Nancy, France.
 - Algorithmic Number Theory: 9 hours (lectures), M2, University Paris 7 (Master Parisien de Recherche en Informatique), Paris, France.
 - Introduction to cryptology: 3 hours (lecture), M2, École des Mines de Nancy, France.
 - Training for “Informatique et Sciences du Numérique”, Cryptology, Networks: 9 h, Université de Lorraine, Nancy, France. (Training for high school teachers who intend to teach this topic in high school).
- Marion Videau, teaching at the faculty of sciences, Université de Lorraine, Nancy, France:
 - Introduction to algorithmic and programming: 40 hours (lectures and tutorial sessions), 20 hours (practical sessions), L1.
 - Introduction to information system design: 10 hours (practical sessions), L3.
 - Introduction to cryptography: 15 hours (lectures), 15 hours (tutorial sessions), M1.
 - Introduction to information system security: 15 hours (lectures), 15 hours (tutorial sessions), M1.
 - Supervision and jury of M2 students internships: 10 hours.

9.2.2. Internships

Cyril Bouvier, ENS Paris, “Integer Factoring on High-Performance Architectures”, September 2011–August 2012, supervised by Paul Zimmermann.

Benjamin Dadoun, ENS Cachan, “Isolation of complex roots of univariate polynomials with the CEVAL algorithm”, June–July 2012, supervised by Paul Zimmermann.

Nathan Lecoanet, ESIAL, “What speedup can we expect in the Number Field Sieve with non-linear polynomials?”, June–July 2012, supervised by Paul Zimmermann.

Vlad-Cristian Miclea, Technical University of Cluj-Napoca (Romania), “Efficient FPGA implementation of finite-field multiplication algorithms”, June 2012–September 2012, supervised by Jérémie Detrey.

Florent Noyer, ESIAL, “Parallel reconstruction of a polynomial from its roots”, June–July 2012, supervised by Emmanuel Thomé

9.2.3. Supervision

HdR: Emmanuel Thomé, “Théorie algorithmique des nombres et applications à la cryptanalyse de primitives cryptographiques”, Université de Lorraine, 13/12/2012, [1].

PhD in progress:

- Nicolas Estibals, “Algorithmes et arithmétique pour l’implémentation de couplages cryptographiques”, started in 2009, co-supervised by Jérémie Detrey and Pierrick Gaudry.

- Răzvan Bărbulescu, “Number and function field sieve for discrete logarithm”, started in 2011, supervised by Pierrick Gaudry.
- Hamza Jeljeli, “Using graphics accelerators for problems arising in the Number Field Sieve and Function Field Sieve algorithms”, started in 2011, supervised by Jérémie Detrey and Emmanuel Thomé.
- Cyril Bouvier, “Integer Factoring on High-Performance Architectures”, started in 2012, supervised by Paul Zimmermann.

9.2.4. Juries

- Paul Zimmermann was a member of the PhD thesis jury of Vincent Nivoliers (University of Lorraine), of the PhD thesis jury of Romain Lebreton (École Polytechnique), and of the “Habilitation à diriger des recherches” jury of Emmanuel Thomé (University of Lorraine).

9.3. Popularization

- With Nazim Fatès (MAIA project-team), Jérémie Detrey participated in a 2-hour television program dedicated to computer science and research, which was broadcast on the internal channel of the Nancy-Brabois children’s hospital.
- Pierrick Gaudry:
 - co-organized a cycle of 3 conferences in the honour of Turing in Nancy. The three speakers were Giuseppe Longo, François Morain, and Jean Lassègue.
 - gave a talk at the “7ème colloque de l’ARCSI”, in Metz for a general audience.
- Marion Videau:
 - participated to the film *Le Modèle Turing* of Catherine Bernstein (but her visual part was cut out during editing).
 - participated to a short television report for France 3 Lorraine about cryptography and her work as a researcher.
- Paul Zimmermann gave a 2-hour presentation about cryptography to students of “seconde” and “terminale” at the Lycée Jean de Pange in Sarreguemines.

CARMEN Team

7. Dissemination

7.1. Scientific Animation

- reviewing for (many) applied mathematics journals
- N. Zemzemi was an Invited speaker in *Workshop on Efficient Solvers in Biomedical Applications*. July 2-5, 2012 Graz, Austria.
- Leading the cardiac challenge group in *the 3rd VPH NoE Study Group*. Plenary session on Cardiac modeling challenges (1h) + 4 hours course (cardiac modeling, mathematical methods in cardiac electrophysiology, drug modeling and computational tools in cardiac electrophysiology). May 7-11, 2012. Barcelona, Spain.
- Invitation to give a presentation at the *Inria-Bcam workshop*, Bilbao, 2012.
- LAMSIN Seminar: 6 hours course on cardiac modeling for the EPIC groupe (*Équipe Problèmes Inverses et Contrôle*), Forward and inverse problem in cardiac electrophysiology. June 18-21, 2012, Tunis, Tunisia.

Partial list of presentations given by the team members (besides the invitations above).

- *Printemps de la cardiologie*, March 2012.
- *Congrès d'Analyse Numérique (CANUM)*, May 2012.
- *21st International Conference on Domain Decomposition Methods*. June 25-29 2012, Inria Rennes, Bretagne-Atlantique, France.
- *Computing in Cardiology 2012* conference. September 9-12 2012, Krakow, Poland.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence : Y. Coudière, Calcul scientifique : résolution des grands systèmes creux, 34.66 h eq. TD, L3, Université Bordeaux 1.

Master : Y. Coudière, Analyse numérique avancée, 36 h eq. TD, M2 Enseignant, titre du cours, nombre d'heures en équivalent TD, niveau (M1, M2), Université Bordeaux 1.

Licence : Simon Labarthe, probabilité et statistique, 22 h eq. TD, première année IUT, IUT HSE, Université Bordeaux 1.

Licence : Simon Labarthe, introduction aux bases de données, 24h eq. TD, première année IUT, IUT HSE, Université Bordeaux 1.

Licence : Enseignant, titre du cours, nombre d'heures en équivalent TD, niveau (L1, L2, L3), université, pays

Master : Enseignant, titre du cours, nombre d'heures en équivalent TD, niveau (M1, M2), université, pays

Doctorat : Enseignant, titre du cours, nombre d'heures en équivalent TD, université, pays

7.2.2. Supervision

PhD in progress : A. Davidovic, *Modelling the cardiac ventricular structural heterogeneities*, started on October 2012, supervised by M. Bendahmane and Y. Coudière.

PhD in progress : S. Labarthe, *Modélisation de l'activité électrique cardiaque dans les oreillettes et les veines pulmonaires*, started on October 2010, supervised by Y. Coudière and J. Henry.

PhD in progress : G. Ravon, *An inverse problem for cardiac optical mapping*, started on October 2012, supervised by Y. Coudière and A. Iollo.

7.2.3. Juries

- Y. Coudière Reviewer and member of the jury for defense of the PhD of J. Relan, *Personalised Electrophysiological Models of Ventricular Tachycardia for Radio Frequency Ablation Therapy Planning*, June 2012.
- Y. Coudière, supervisor and member of the jury for defense of the PhD of A. Uzureau, *Modélisations et calculs de la cicatrisation osseuse. Application à la modélisation d'un bioréacteur*, December 2012.
- Recruitment committee for an associate professor position, University of Nice, June 2012.

7.3. Popularization

- Reception of the students from *Ecole Nationale des Ponts et Chaussées*, September 2012.
- Exposé *Unithé ou café*, June 12, 2012. Inria Bordeaux Sud-Ouest. France.

CARTE Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Responsibilities

Guillaume Bonfante:

- was a member of the program committee of the workshop DICE 2012, Tallinn, Estonia,
- refereed some projects for the Netherlands Organisation for Scientific Research (NWO).

Isabelle Gnaedig is:

- co-leader of the EPI **Carte**,
- member of the scientific mediation committee of Inria Nancy Grand-Est,
- member of the engineer recruitment committee of Inria Nancy-Grand Est,
- social referee at Inria Nancy-Grand Est.

Mathieu Hoyrup is:

- the organizer of the **Seminar** of the LORIA Department "Formal Methods".

Jean-Yves Marion is:

- head of the EPI **Carte**,
- head of the **High Security Lab**,
- member of the executive committee of Inria Nancy-Grand Est,
- member if the AERES visiting committee,
- member of the CNU, section 27,
- member of the steering committee of DICE and LCC,
- chair of Malware 2012 and PC member of PREW 2012,
- co-organizer of a winter school at CIRM (one week on complexity).

Romain Pechoux is:

- principal investigator of the Inria associate team Cristal.

9.1.2. Talks

Guillaume Bonfante:

- talk at the "Rewriting and Logic Seminar" at the JAIST (Japan Advanced Institute of Science and Technology), Kanazawa, March 2012.

Emmanuel Hainry:

- presentation at **Logic and Interactions 2012**, complexity week in Marseille, January 30th to February 3rd, 2012.

Mathieu Hoyrup:

- invited to give the talk "On the inversion of computable functions" at the **7th International Conference on Computability, Complexity and Randomness**, in Cambridge, July 2012,
- gave the talk "Computability in Ergodic Theory" at the **Journées Calculabilités**, Paris, March 5 and 6, 2012.

Emmanuel Jeandel

- invited to give a four hours minicourse: "Computational aspects of multidimensional symbolic dynamics", at the first DySyCo school (**Dynamical Systems and Computation**) in Santiago, Chile, December 2012.

Jean-Yves Marion

- talk on computer viruses at Corte, September, 2012 and at Grenoble, December, 2012,
- two talks on computer viruses at Bloomington, Indiana University, October 29th and October 31st, 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence:

- Guillaume Bonfante:
 - Java, L3, Ecole des Mines, Université de Lorraine, France.
- Emmanuel Hainry:
 - Operating Systems, 60 h, L1, IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Algorithms and Programs, 60 h, L1, IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Object Oriented Programming, 24 h, L1, IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Databases, 24 h, L2, IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Advanced Databases, 20 h, L2, IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Complexity, 28 h, L2, IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Algorithmics, 12 h, DU PFST (equiv. L1), IUT Nancy Brabois, Université de Lorraine, Nancy, France,
 - Operating Systems, 9 h, DU PFST (equiv. L1), IUT Nancy Brabois, Université de Lorraine, Nancy, France.
- Emmanuel Jeandel
 - Probability for Computer Science, 46 hours, L3 Informatique, FST, Université de Lorraine, Nancy, France.
- Romain Péchoux:
 - c2i, 20, L1 , Université de Lorraine, Nancy, France,
 - Propositional logic, 25 hours, L1 ISC, UFR MI, Université de Lorraine, Nancy, France,
 - Introduction to Java, 45 hours, L3 ISC MIAGE , UFR MI, Université de Lorraine, Nancy, France,
 - Databases, 42 hours, L3 LSG, ISAM-IAE, Université de Lorraine, Nancy, France,
 - Algorithmic complexity, 30 hours, L3 ISC MIAGE, IGA, Casablanca, Maroc.

Master:

- Guillaume Bonfante:

- Modelling and UML, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
- Video games, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
- Semantics, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
- Safety of software, M2, Ecole des Mines, Université de Lorraine, Nancy, France.
- Isabelle Gnaedig:
 - “Design of Safe Software”, Coordination of the module, M2, ESIA-Telecom (Université de Lorraine), Nancy, France,
 - “Rule-based Programming”, 20 hours, M2, ESIAL-Telecom (Université de Lorraine), Nancy, France.
- Emmanuel Jeandel:
 - Algorithms and Complexity, 35 hours, M1 Informatique, FST, Université de Lorraine, Nancy, France.
- Jean-Yves Marion:
 - Automata Theory, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
 - Logic, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
 - Data Base, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
 - Algorithmic, M1, Ecole des Mines, Université de Lorraine, Nancy, France,
 - Security, M2, Ecole des Mines, Université de Lorraine, Nancy, France,
 - Head of the M2 internships, M2, Ecole des Mines, Université de Lorraine, Nancy, France.
- Romain Péchoux:
 - Advanced Java, 52 hours, M1 MIAGE, UFR MI, Université de Lorraine, Nancy, France,
 - Mathematics for computer science, 20 hours, M1 SCA, UFR MI, Université de Lorraine, Nancy, France.

9.2.2. Supervision

PhD : Pascal Vanier, "Pavages : périodicité et complexité calculatoire", Aix-Marseille Université, defended November 22th, 2012, Emmanuel Jeandel.

PhD in progress : Thanh Dinh Ta, Malware Algebraic Modeling and Detection, started Sept. 2010, Jean-Yves Marion (director) and Romain Péchoux (co-advisor).

PhD in progress: Hugo Férée, Computational Complexity in Analysis, started Sept. 2011, Jean-Yves Marion (director) and Mathieu Hoyrup (co-advisor).

PhD in progress: Aurélien Thierry, Morphological Analysis of Malware, started October 2011, Jean-Yves Marion.

PhD in progress: Joan Calvet, Viruses: how they interact with their environment, started October 2009, Jean-Yves Marion and José M. Fernandez, joint PhD with Ecole Polytechnique de Montréal.

9.2.3. Juries

Isabelle Gnaedig:

- participation to the ESIAL-Telecom admission committee.

Emmanuel Hainry:

- in charge of the admission committee for dept. Réseaux et Télécoms at IUT Nancy Brabois.

Mathieu Hoyrup:

- participation to the jury of Master 2 "Logique Mathématique et Fondements de l'Informatique" of Benoît Monin.

Jean-Yves Marion:

- November 30th, 2012, HDR of Virgile Mogbil, U. Paris 13 (reviewer),
- December 3th, 2012, PhD of Vincent Cheval, ENS Cachan (president),
- December 6th, 2012, PhD of Antoine Madet (reviewer),
- December 7th, 2012, PhD of Vincent Demange,
- December 13th, 2012, HDR of Emmanuel Thomé,
- December 17th, 2012, PhD of Hedi Benzina, ENS Cachan (reviewer).

Romain Péchoux:

- participation to the UFR MI, licence Miage, admission committee.

9.3. Popularization

Guillaume Bonfante:

- talk at the "Rendez-Vous du Numérique et de l'Intelligence Economique", about "Computer viruses", Strasbourg, October 2012,
- talk at the "Journées francophones de l'investigation numérique (JFIN)", about "Les virus, amis ou ennemis de l'investigation numérique ? ", Levallois-Perret, November 2012.

Emmanuel Hainry:

- presentation at Inria Jam Session 2012, June 19th, 2012 <http://www.inria.fr/centre/nancy/agenda/jam-session-alumni>.

Jean-Yves Marion:

- redaction of an article in "Pour la Science" http://www.pourlascience.fr/ewb_pages/f/fiche-article-les-i-mac-i-resistant-ils-mieux-aux-virus-que-les-i-pc-i-30414.php.

CASCADE Project-Team

7. Dissemination

7.1. Editorial Boards

Editor-in-Chief

- of the *International Journal of Applied Cryptography (IJACT)* – Inderscience Publishers: David Pointcheval

Associate Editor-in-Chief

- of *Theory of Computing (ToC)*: Oded Regev

Associate Editor

- of *Security and Communication Networks*: David Naccache
- of *Journal of Cryptographic Design*: David Naccache
- of *Encyclopedia of Cryptography and Security*: David Naccache
- of *Journal of Small Scale Digital Device Forensics (publication currently on hold for financial reasons)*: David Naccache
- of *Cryptologia* – Taylor & Francis: David Naccache
- of *Information Processing Letters* – Elsevier: David Pointcheval
- of *IEEE Transactions on Information Forensics and Security*: Michel Abdalla

Columnist (in charge of the bi-monthly CryptoCorner)

- of the *IEEE Security and Privacy Magazine*: David Naccache

7.2. Program Committees

- RIVF – February 2012, Ho Chi Minh, Vietnam: David Naccache, Duong Hieu Phan
- TCC – March 2012, Taormina, Italy: Vadim Lyubashevsky
- EUROCRYPT – April 2012, Cambridge, UK: David Pointcheval (Program Chair)
- Pairing – May 2012, Cologne, Germany: Michel Abdalla (Program Chair), Damien Vergnaud
- STOC – May 2012, New York, NY, USA: Oded Regev
- AICT – May 2012, Stuttgart: David Naccache
- COSADE – May 2012, Darmstadt, Germany: David Naccache
- NTMS – May 2012, Istanbul, Turkey: David Naccache
- PKC – May, 2012, Darmstadt, Germany: Michel Abdalla, Vadim Lyubashevsky
- ACNS – June 2012, Singapore: Michel Abdalla
- HOST – June 2012, San Francisco, CA, USA: David Naccache
- ACISP – July 2012, Wollongong, Australia: Michel Abdalla
- Africacrypt – July 2012, Ifrane, Morocco: David Naccache
- ISCC – July 2012, Cappadocia, Turkey: David Naccache
- Secrypt – July 2012, Roma, Italy: David Naccache
- AReS – August 2012, Prague: David Naccache
- YACC – September 2012, Porquerolles, France: Michel Abdalla, Damien Vergnaud
- ProvSec – September 2012, Chengdu, China: Michel Abdalla, David Naccache

- ESORICS – September 2012, Pisa Italy: David Naccache
- Latincrypt – October 2012, Santiago, Chile: Michel Abdalla, Vadim Lyubashevsky
- IWSEC – November 2012, Fukuoka, Japan: Damien Vergnaud
- CARDIS – November 2012, Graz, Austria: David Naccache
- Intrust – December 2012, Egham, UK: David Naccache
- Indocrypt – December 2012, Kolkata, India: David Naccache
- CANS – December 2012, Darmstadt, Germany: Michel Abdalla

7.3. Teaching - Supervision - Juries

7.3.1. Teaching

Licence: David Naccache, Introduction to computer science, L1, Univ. Paris II

Licence: Maribel Fernandez, Formal languages, computability and complexity, ENS

Master: David Naccache, Scientific programming through practice, M1, ENS

Master: David Naccache, Jacques Stern, Damien Vergnaud, Introduction to Cryptology, M1, ENS

Master: Michel Abdalla, Vadim Lyubashevsky, Cryptography, M2, MPRI

Master: David Naccache, Computer Security, M2, Univ. Paris II

Master: David Naccache, Risk Management, M2, Univ. Paris II

Master: David Naccache, Computer forensics, M2, Univ. Paris II

Master: Duong-Hieu Phan, Provable Security, M2, Univ. Paris VIII

Master: David Pointcheval, Cryptography, M2, ESIEA

7.3.2. Supervision

PhD : Delphine Masgana Leresteux, *Injection de fautes et de logiciels sur les implémentations cryptographiques* Université Paris VII, 5 jul. 2012, Pierre-Alain Fouque

PhD : Olivier Blazy, *Preuves de connaissances interactives et non-interactives*, Université Paris VII, 27 sept. 2012, David Pointcheval

PhD : Roch Lescuyer, *Outils cryptographiques pour les accréditations anonymes*, Université Paris VII, 21 nov. 2012, David Pointcheval

PhD in progress: Mario Strefler, *Diffusion chiffrée*, 2009, David Pointcheval

PhD in progress: Viet Cuong Trinh, *Traçage de traîtres et diffusion de données chiffrée*, 2009, Duong Hieu Phan

PhD in progress: Léo Ducas, *La cryptographie à base de réseaux*, 2009, Phong Nguyen

PhD in progress: Aurore Guillevic, *Étude de l'arithmétique des couplages sur des courbes algébriques pour la cryptographie*, 2010, Damien Vergnaud

PhD in progress: Diana Maimut, *Chiffrement pleinement homomorphe*, 2011, David Naccache

PhD in progress: Eric Freyssinet, *Modélisation de Botnets*, 2011, David Naccache

PhD in progress: Tancrède Lepoint, *La cryptographie à base de réseaux*, 2011, Vadim Lyubashevsky

PhD in progress: Sylvain Ruhault, *L'aléa en cryptographie*, 2011, David Pointcheval & Damien Vergnaud

PhD in progress: Fabrice Ben Hamouda, *La fuite d'information en cryptographie*, 2012, Michel Abdalla & David Pointcheval

PhD in progress: Thomas Prest, *La cryptographie à base de réseaux*, 2012, Vadim Lyubashevsky & David Pointcheval

PhD in progress: Olivier Sanders, Externalisation de calculs cryptographiques, 2012, David Pointcheval

7.3.3. Juries

- HdR: Karthikeyan Bhargavan, *Towards the Automated Verification of Cryptographic Protocol Implementations*, Ecole Normale Supérieure, 4 may 2012: David Pointcheval
- HdR: Carlos Aguilar Melchor, *Sécurité, protection de la vie privée et cryptographie : quelques contributions*, Univ. Limoges, 26 jun. 2012: David Pointcheval (chair)
- HdR: Pascal Lafourcade, *Computer Aided Security for Cryptographic Primitives, Voting protocols, and Wireless Sensor Networks*, Univ. Grenoble, 6 nov. 2012: David Pointcheval (chair)
- PhD: Marion Daubignard, *Formal Methods for Concrete Security Proofs*, Univ. Grenoble, 12 jan. 2012: David Pointcheval (reviewer)
- PhD: Saeed Sedghi, *Towards Provably Secure Efficiently Searchable Encryption*, Univ. Twente, 17 feb. 2012: Michel Abdalla
- PhD: Avradip Mandal, *Provable Security and Indifferentiability* Univ. Luxembourg, 25 jun. 2012: David Pointcheval
- PhD: Delphine Masgana Leresteux, *Injection de fautes et de logiciels sur les implémentations cryptographiques*, Univ. Paris VII, 5 jul. 2012: David Pointcheval (co-advisor), David Naccache (chair)
- PhD: Adriana Suarez Corona, *Compilers and protocols for key establishment*, Univ. Oviedo, 24 jul. 2012: Michel Abdalla (Examiner)
- PhD: Olivier Blazy, *Preuves de connaissances interactives et non-interactives*, Univ. Paris VII, 27 sept. 2012: David Pointcheval (advisor), Michel Abdalla, Damien Vergnaud
- PhD: Anja Becker *La technique de représentation – Application à des problèmes difficiles en cryptographie* UVSQ, 26 oct. 2012: David Naccache (chair)
- PhD: Roch Lescuyer, *Outils cryptographiques pour les accréditations anonymes*, Univ. Paris VII, 21 nov. 2012: David Pointcheval (advisor), David Naccache (chair), Damien Vergnaud
- HdR: Bruno Robisson *Contribution à la sécurisation des composants vis-à-vis des attaques physiques* UMPC, 12 dec. 2012: David Naccache
- HdR: Olivier Ly *Un parcours de recherche des méthodes formelles aux robots humanoïdes* Univ. Bordeaux, 13 dec. 2012: David Naccache (reviewer)
- PhD: Amar Siad, *Protocoles de génération des clés pour le chiffrement basé sur de l'identité*, Univ. Paris 8, 17 dec. 2012: David Pointcheval, Duong-Hieu Phan
- PhD: Housseem Maghrebi *Masking Countermeasures against Higher-Order Side Channel Attacks: Security Evaluation and Enhancement by Specific Mask Encodings*, Telecom ParisTech, 21 dec. 2012: David Naccache
- HdR: Sylvain Guilley *Protection des Accélérateurs Matériels de Cryptographie Symétrique* TelecomParisTech, 20 dec. 2012: David Naccache

7.4. Invited Talks

7.4.1. At Conferences

- PKC 2012, Darmstadt, Germany (May): David Pointcheval
- NTCCS 2012, Oujda, Morocco (Avril): Damien Vergnaud
- LSFA 2012, Rio de Janeiro, Brazil (September): Maribel Fernandez
- ECC 2012, Queretaro, Mexico (October): Sorina Ionica
- ICCV 2012 Distinguished Lecturer, Paris (November): David Naccache

- ICISC 2012, Seoul Korea, (November): David Naccache
- CARDIS 2012, Graz (November): David Naccache
- SantaCrypt 2012, Prague (November): David Naccache

7.4.2. At Organized Schools

- Bar-Ilan Winter School on Cryptography. Ramat-Gan, Israel. February, 2012 : Vadim Lyubashevsky
- ECRYPT II Summer School on Lattices. Porto, Portugal. October, 2012 : Vadim Lyubashevsky

7.5. Scientific Animation

7.5.1. Organisation of Events

- ECRYPT II Summer School on Lattices, October 1 - 5, Porto Portugal: Michel Abdalla and Vadim Lyubashevsky
- a weekly seminar is organized: <http://www.di.ens.fr/CryptoSeminaire.html>

7.5.2. Steering Committees of International Conferences

- steering committee of CANS: David Pointcheval
- steering committee of PKC: David Pointcheval, David Naccache
- steering committee of FDTC: David Naccache (chair)
- steering committee of PROOFS: David Naccache
- steering committee of LATINCRYPT: Michel Abdalla

7.5.3. Board of International Organizations

- Board of the *International Association for Cryptologic Research* (IACR): David Naccache (2010 – 2012), David Pointcheval (2008–2013)
- Scientific Board of the *Electronic Colloquium on Computational Complexity* (ECCC): Oded Regev

7.5.4. French Research Community

- Recruitment committee at Université Paris VII (PR 27): David Pointcheval
- Recruitment committee at Université of Lyon (PR 27): David Pointcheval
- Recruitment committee at Université de Caen (MC 25): Damien Vergnaud
- Recruitment committee at Université de Montpellier (MC 27): Damien Vergnaud
- Appointed member of the *Conseil National des Universités* (CNU): Damien Vergnaud

CASSIS Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorial board

- Information & Computation (Véronique Cortier)
- Journal of Computer Security (Véronique Cortier)

9.1.2. Conferences

- FroCoS 2013, 9th Symposium on Frontiers of Combining Systems, 18–20 September 2013, Nancy, France, (Christophe Ringeissen, conference chair)

9.1.3. Program committees

- Fabrice Bouquet: MODEVVA 2012, ICST 2013 (Publicity Chair)
- Véronique Cortier: CSF 2012 (co-chair), CCS 2012, ESORICS 2012, POST 2012, FCC 2012, SCSS 2012, LPAR 2012, MOVEP 2012.
- Frédéric Dadeau: CSTVA 2012 (co-chair)
- Alain Giorgetti: TAP 2012
- Pierre-Cyrille Héam: IHTIAP 2012
- Abdessamad Imine: DEXA 2012, CIIA 2013
- Steve Kremer: ACNS 2012, CSF 2012, FSTTCS 2012, ISPEC 2012, POST 2012, TGC 2012
- Christophe Ringeissen: CADE-24, FroCoS 2013
- Michaël Rusinowitch: CRISIS 2012, GRSRD 2012 (co-chair), IJCAR 2012, QASA 2012, SCSS 2012, WooPS12

9.1.4. Summer school

- TAROT 2012, 8th International Summer School on Training And Research On Testing, 2–6 July 2012, Métabief, France, (Frédéric Dadeau, general chair)

9.1.5. Working groups

- GT-Verif, Verification, GDR IM Working Group (Véronique Cortier, chair)
- MTV2, Testing Methods for Verification and Validation, GDR GPL Working Group (Frédéric Dadeau, co-chair)
- FORWAL, Formalisms and Tools for Verification and Validation, GDR GPL Working Group (Pierre-Cyrille Héam, co-chair)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence :
 - Frédéric Dadeau, Algorithmics and Programming, 80 hours (ETD), L1, University of Franche-Comté, France
 - Frédéric Dadeau, Databases, 40 hours (ETD), L1, University of Franche-Comté, France
 - Frédéric Dadeau, Object-Oriented Modelling and Conception, 40 hours (ETD), L3, University of Franche-Comté, France
 - Frédéric Dadeau, Web Languages, 26 hours (ETD), L2, University of Franche-Comté, France
 - Alain Giorgetti, Logics and Deduction, 52 hours (ETD), L2, Université de Franche-Comté, France
 - Alain Giorgetti, Formal Methods, 81 hours (ETD), L3, Université de Franche-Comté, France
 - Pierre-Cyrille Héam, Discrete Mathematics, 190 hours (ETD), L1/L2, IUT Belfort-Montbéliard, France
 - Olga Kouchnarenko, Formal languages and automata, 95 hours (ETD), L3, University of Franche-Comté, France
 - Olga Kouchnarenko, Syntactic analysis and XML, 33 hours (ETD), L3, University of Franche-Comté, France
- Master :
 - Fabrice Bouquet, Compilation, 81 hours (ETD), M1, Université de Franche-Comté, France
 - Fabrice Bouquet, Method et Tools For Artificial Intelligence, 40 hours (ETD), M1, Université de Franche-Comté, France
 - Fabrice Bouquet, Test, 30 hours (ETD), M2, Université de Franche-Comté, France
 - Véronique Cortier, Security Theory, 37 hours (ETD), M2, Lorraine University, France
 - Frédéric Dadeau, Testing, 22 hours (ETD), M2, University of Franche-Comté, France
 - Alain Giorgetti, Program Proofs, 60 hours (ETD), M1, Université de Franche-Comté, France
 - Alain Giorgetti, Decision Procedures, 13 hours (ETD), M2, Université de Franche-Comté, France
 - Pierre-Cyrille Héam, Introduction to calculability, 22 hours (ETD), M2, Université de Franche-Comté, France
 - Pierre-Cyrille Héam, Automata based Verification, 20 hours (ETD), M2, Université de Franche-Comté, France
 - Abdessamad Imine, Security for XML Documents, 12 hours (ETD), M1, University of Lorraine, France
 - Olga Kouchnarenko, Components and security, 12 hours (ETD), M2, University of Franche-Comté, France
 - Olga Kouchnarenko, Specification, verification and validation, 15 hours (ETD), M2, University of Franche-Comté, France
 - Olga Kouchnarenko, Modelling and evaluation of complex systems, 20 hours (ETD), M2, University of Franche-Comté, France
- Doctorat :
 - Fabrice Bouquet, Model Based Testing for Functional and Security Test, 4 hours (ETD), 12th edition of the International School on Foundations of Security Analysis and Design (FOSAD), Bertinoro, Italy

9.2.2. Supervision

- PhD :

Jonathan Lasalle, Génération automatique de tests à partir de modèles SysML pour la validation fonctionnelle de systèmes embarqués, Université de Franche Comté, June 29th, Fabrice Bouquet and Fabien Peureux

Elizabeta Fourneter, Génération de tests à partir de modèles UML/OCL pour les systèmes critiques évolutifs, Université de Franche Comté, December 5th, Fabrice Bouquet

Asma Chérif, Modèles de Contrôle d'Accès pour les Applications Collaboratives, Université de Lorraine, November 26th, Abdessamad Imine and Michaël Rusinowitch

- PhD in progress :

Kalou Cabrera Castillos, Automated Test Generation from Property Patterns, started in December 2009, Frédéric Dadeau and Jacques Julliand

Rémy Chrétien, Decision procedures of equivalence properties, started in October 2012, Véronique Cortier and Stéphanie Delaune

Aloïs Dreyfus, Efficient approaches for systems validation, started in Novembre 2010, Pierre-Cyrille Héam and Olga Kouchnarenko

Ivan Enderlin, Test Data Generation for Unit Testing in PHP, started in October 2011, Fabrice Bouquet, Frédéric Dadeau and Alain Giorgetti

Jean-Marie Gauthier, Method for validation and simulation of SysML model: Applied on micro-systems, started in October 2012, Fabrice Bouquet, Fabien Peureux and Ahmed Hammad

Richard Genestier, Formal specification and verification of programs generating structured data, started in October 2012, Alain Giorgetti and Olga Kouchnarenko

Bao-Thien Hoang, Secure Collaboration in Social Networks, started in April 2011, Abdessamad Imine and Christophe Ringeissen

Vincent Hugot, Approximations and Constraints: Application to the Verification of Embedded Systems, started in October 2010, Pierre-Cyrille Héam and Olga Kouchnarenko

Jean-Luc Joly, Randomized approaches for validation and verification procedures, started in December 2011, Pierre-Cyrille Héam

Robert Künnemann, Verification of Security APIs, started in October 2010, Steve Kremer and Graham Steel

Houari Mahfoud, Access Control Models for XML Documents, started in September 2010, Abdessamad Imine and Michaël Rusinowitch

Guillaume Scerri, Symbolic and automatic security proofs in computational models, started in September 2011, Hubert Comon-Lundh and Véronique Cortier

Elena Tushkanova, Specification and formal certification of (combinations of) decision procedures, started in October 2009, Alain Giorgetti, Olga Kouchnarenko and Christophe Ringeissen

Cyrille Wiedling, Formal analysis of E-voting protocols, started in September 2011, Véronique Cortier

9.2.3. *Juries*

Inria evaluation committee (Véronique Cortier, Michaël Rusinowitch)

Referee for Karine Mordal's PhD, December 2012, Paris: Analyse et conception d'un modèle de qualité logiciel (Fabrice Bouquet)

Referee for Benoît Groz' PhD, October 2012, Lille: XML Security Views Queries, Updates, and Schema (Michaël Rusinowitch)

Referee for Marion Daubignard's PhD, January 2012, Grenoble: Formal Methods For Concrete Security Proofs (Steve Kremer)

Referee for Antoun Yaacoub's PhD, November 2012, Toulouse: Information Flow in Logic Programming (Olga Kouchnarenko)

Committee chair for Lionel Droz-Bartholet's PhD, February 2012, Besançon: Conception, validation et évaluation d'un nouveau protocole de gestion de la mémoire partagée collaborative tolérant aux pannes (Fabrice Bouquet)

Committee chair for Qianxue Wang's PhD, March 2012, Besançon, France: A new family of chaotic pseudo-random generators (Pierre-Cyrille Héam)

Committee chair for Lamiel Toch's PhD, November 2012, Besançon, France: Contribution to scheduling techniques on parallel and distributive systems (Pierre-Cyrille Héam)

Examiner for Muhammad Naeem Irfan's PhD, September 2012, Grenoble, France: Analysis and optimisation of machine learning algorithms for software components (Frédéric Dadeau)

9.3. Popularization

Invited conference of Véronique Cortier at the national annual days of the APMEP (Association des Professeurs de Mathématiques de l'Enseignement Public), Metz, October 27-30, 2012.

Invited conference of Fabrice Bouquet at Software Quality Club (association of software professional): "Model-based Testing today", Paris, January 24, 2012

Invited conference of Fabrice Bouquet at 6th SysML France conference: "Test generation from SysML Model", Mulhouse, November 13, 2012

Interview of Véronique Cortier for the Information Letter of Info CST Lorraine (Culture Scientifique et Technique), issue 87, January 2012.

Participation of Véronique Cortier in a documentary film on the life of Alan Turing (film director: Catherine Bernstein)

Participation of Véronique Cortier in the Big Data report, published at *CNRS Le Journal*, November 2012.

"Le vote électronique est-il anti-démocratique par essence ?" by Steve Kremer and Christophe Castro in *Inriality*, March 29, 2012.

Inria Alumni Jam Session organized by Steve Kremer, Nancy, June 19, 2012.

CASTOR Team

7. Dissemination

7.1. Scientific Animation

B. Nkonga, H. Guillard and M. Bilanceri have participated to the CEMRACS 2012 “Numerical methods and algorithms for High performance”. Two CEMRACS projects have been supervised during the research session of this edition of CEMRACS.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Master : Afeintou SANGAM, Fundamentals of Analysis, two weeks and half intensive courses, M1, Kwame Nkrumah University Of Science and Technology (project leads by France Embassy at Accra and Universities of GHANA in the framework of Mathematics Doctoral Sessions), GHANA

7.2.2. Supervision

PhD : Audrey Bonnement, Modélisation numérique bi-fluide du plasma de bord des tokamaks : application à ITER, University of Nice-Sophia Antipolis, 03-07-2012, H. Guillard and R. Pasquetti.

PhD : Gael Selig, Équilibre évolutif à frontière libre et diffusion résistive dans un plasma de tokamak, University of Nice-Sophia Antipolis, 20-12-2012, J. Blum.

PhD in progress : Marie Martin, Approximation des équations de la MHD réduite, Since december 1st 2009, B. Nkonga

PhD in progress : Cédric Lachat, Parallel Mesh distribution and Adaptation, Since october 1st 2009, H. Guillard and L. Hascoet

PhD in progress : Jeaniffer-Lisette Vides Higueros, Approximation des écoulements en géométrie toroidale, Since october 1st 2011, B. Nkonga and H. Guillard.

PhD in progress : José Costa, Approximation C^k , Since october 1st 2012, B. Nkonga

PhD in progress : Clément le Touze, Couplage entre modèles diphasiques à « phases séparées » et à « phase dispersée » pour la combustion cryotechnique, Since october 1st 2011, H. Guillard.

PhD in progress : Pierre Cargemel, Déraffinement adaptatif de maillages non-structurés. Since november 5 2012, H. Guillard.

7.2.3. Juries

B. Nkonga was president of the PhD juries of

- Joseph Charles, 26 Avril 2012, Sophia Antipolis/Univ. of Nice. Amélioration des performances de méthodes Galerkin discontinues d’ordre élevé pour la résolution numérique des équations de Maxwell instationnaires sur des maillages simples
- Julien Richard, 07 Décembre, CERFACS/Univ. Montpellier 2. Développement d’une chaîne de calcul pour les interactions fluide-structure et application aux instabilités aéro-acoustiques d’un moteur à propergol solide.

acted as referee for the defense of

- Gregory Huber August 28 2012 , IUSTI/Aix-Marseille Univ. Modélisation et simulation numérique des interfaces perméables
- Mathias Malandain, January 15 2013, Univ. of Rouen, Simulation massivement parallèle des écoulements turbulents à faible nombre de Mach.

and was member of the jury of :

Elena Collado Morata, 29 Octobre, 2012, CERFACS/Univ. of Toulouse, Impact of the unsteady aerothermal environment on the turbine blades temperature.

H. Guillard acted as referee for the PhD defense of Arnaud Kurst, University of Bordeaux, October 31, 2012

CELTIQUE Project-Team

8. Dissemination

8.1. Scientific Animation

David Pichardie served on the program committees of the international conferences IFM 2012 and ITP 2012 and the international workshop SVARM & VERIFY 2012. He co-chaired the international workshop PxTP 2012. A. Schmitt is a member of the steering committee of the Journées Françaises des Langages Applicatifs (JFLA). Thomas Jensen and Alan Schmitt organized the École Jeunes Chercheurs en Programmation (EJCP 2012). Sandrine Blazy served on the organizing committee of the annual meeting of the GDR GPL French community. Sandrine Blazy is a member of the steering committee of the ITP conference. Sandrine Blazy is scientific director of the “Languages and software engineering department” of IRISA.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Alan Schmitt, Caml, 43h, L3, Insa Rennes, France
 Alan Schmitt, Méthodes Formelles pour le développement de logiciels sûrs, 12h, M1, Rennes 1, France
 Sandrine Blazy, Méthodes Formelles pour le développement de logiciels sûrs, 53h, M1, Rennes 1, France
 Sandrine Blazy, Software vulnerabilities, 24h, M2PRO, Rennes 1
 Sandrine Blazy, Mechanised semantics, 30h, M2R, Rennes 1, France
 Sandrine Blazy, The Coq proof assistant, 6h, 4th Asian-Pacific summer school on formal methods, Shanghai, China
 Sandrine Blazy, Functional programming, 30h, L3, Rennes 1, France
 Frédéric Besson, Compilation, 30h, M1, Insa Rennes, France
 Thomas Jensen, Program analysis and Semantics, 30h, M2R, Rennes 1, France
 Thomas Jensen, Sécurité de logiciel, 30h, M2R, Rennes 1, France
 Pierre-Alain Fouque, Cryptography, 58h, M2PRO, Rennes 1, France
 Thomas Jensen, Static program analysis, 5h, Ecole Jeunes Chercheurs en Programmation.
 Thomas Genet, Cryptography, 18h, M1, Rennes 1, France
 Thomas Genet, Object-oriented software engineering, 48h, M1, Rennes 1, France
 Thomas Genet, Software Formal Analysis and Design, 65h, M1, Rennes 1, France
 Thomas Genet, Functional programming, 44h, L3, Rennes 1, France
 David Cachera, Programming language semantics, 24h, M1, Rennes 1, France
 David Cachera, Computability and Logic, 24h, L3, ENS Cachan Bretagne, France
 David Cachera, Formal Languages, 24h, L3, ENS Cachan Bretagne, France
 David Cachera, Algorithmics, 10h, M2FES, ENS Cachan Bretagne, France

8.2.2. Supervision

PhD & HdR :

HdR : David Pichardie, Toward a Verified Software Toolchain for Java, ENS Cachan, November 19th 2012

PhD : Delphine Demange, Semantic foundations of intermediate program representations, ENS Cachan, October 19th 2012, Thomas Jensen and David Pichardie

PhD : Arnaud Jobin, Dioïdes et idéaux de polynômes en analyse statique, ENS Cachan, January 16th 2012, Thomas Jensen and David Cachera

PhD in progress: Zhoulai Fu, Abstract interpretation and memory analysis, octobre 2009, Thomas Jensen and David Pichardie

PhD in progress: Vincent Laporte, Formal verification of static analyses for low level langages, septembre 2012, Sandrine Blazy and David Pichardie

PhD in progress: Martin Bodin, Certified Analyses for JavaScript, September 2012, Thomas Jensen and Alan Schmitt

PhD in progress: Andre Oliveira Maroneze, Compilation vérifiée et calcul de temps d'exécution au pire cas, septembre 2010, Sandrine Blazy and Isabelle Puaut

PhD in progress: Stéphanie Riaud, Transformations de programmes pertinentes pour la sécurité du logiciel, septembre 2011, Sandrine Blazy

PhD in progress: J-C Zapalowicz, Formal methods for identifying security vulnerabilities, September 2011, Thomas Jensen and Pierre-Alain Fouque.

Pierre-Emmanuel Cornilleau: Result certification of static analyses using SMTs, October 2009, Frédéric Besson and Thomas Jensen.

PhD in progress: Valérie Murat, Automatic verification of infinite state systems using tree automata completion, septembre 2010, Thomas Genet

PhD in progress: Yann Salmon, Static Analysis of functional programs using tree automata, septembre 2011, Thomas Genet

8.2.3. *Juries*

Alan Schmitt, jury member for the HdR defense of Ludovic Henrio, July 19th 2012

Alan Schmitt, jury member (reviewer) for the PhD defense of Federico Ulliana, December 12 2012

Sandrine Blazy, jury member for the HDR defense of Eric Totel, December 2012, Supélec, Rennes

Sandrine Blazy, jury member (reviewer) for the PhD defense of Vincent Filou, December 2012, LABRI, Bordeaux

Thomas Jensen, jury member (reviewer) for the PhD defense of Tahina Ramananandro, January 2012, ENS Paris

Thomas Jensen, jury member (examiner) for the PhD defense of Jérémy Planul, February 2012, Ecole polytechnique

Pierre-Alain Fouque, jury member (reviewer) for the PhD defense of Olivier Meynard, January 2012, ENST Paris

Pierre-Alain Fouque, jury member (reviewer) for the PhD defense of Sylvain Heraud, February 2012, Nice-Sophia Antipolis

Pierre-Alain Fouque, jury member (reviewer) for the PhD defense of Christina Boura, January 2012, Paris 6 University

8.3. Popularization

David Pichardie organised the second edition of the french Castor Informatique contest. This contest promotes Computer Science in secondary schools and high schools. It is organised by Inria, ENS Cachan and the France IOI association and supported by CNRS, Pascaline, the SIF and API associations. In 2012, there was about 90.000 participants.

Sandrine Blazy was interviewed for a 10 minutes podcast (in French) about compiler verification. The podcast is available from the Interstices website.

CEPAGE Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Editorial Work

- Ralf Klasing is Associate Editor for
 - Algorithmic Operations Research (since May 2007),
 - Parallel Processing Letters (since August 2007),
 - Networks (since September 2007),
 - Computing and Informatics (since January 2008),
 - **Theoretical Computer Science (since December 2009),**
 - Fundamenta Informaticae (since January 2010),
 - Discrete Applied Mathematics (since February 2010),
 - Wireless Networks (since May 2010),
 - Journal of Interconnection Networks (since November 2010).
- Olivier Beaumont is Associate Editor for
 - **IEEE Transactions on Parallel and Distributed Systems (since June 2010).**

8.1.2. Steering Committees

- Ralf Klasing is a member of the Steering Committee of the *International Colloquium on Structural Information and Communication Complexity (SIROCCO)*.

8.1.3. Organizing Committees

- Ralf Klasing was a member of the organization committee of the *Bordeaux Graph Workshop*, Bordeaux, France, November 21-24, 2012.

8.1.4. Program Committees – Chair

- Nicolas Hanusse was the Conference Chair of *14th French Conference of Communications in Network (Algotel 2012)*
- Nicolas Hanusse was the Conference Chair of *International Conference on Algorithm (FUN 2012)*
- Ralf Klasing was the Conference Chair of the *11th International Symposium on Experimental Algorithms (SEA 2012)*, Bordeaux, France, June 7-9, 2012.
- Philippe Duchon was the Conference Chair of the *The 8th edition of the conference GASCom on random generation of combinatorial structures*, Bordeaux, France, June 7-9, 2012.
- Sofian Maabout was the conference Chair of *8th French Conference on Data Warehouses and OLAP (EDA2012)*, Bordeaux, June 12-13, 2012.
- Olivier Beaumont will be the Conference Chair (Algorithms Track) of the *42th International Conference on Parallel Processing, ICPP 2013*, Lyon, France, 2013

8.1.5. Program Committees

- Olivier Beaumont
 - ICPP 2012, 41st International Conference on Parallel Processing, Pittsburgh, PA, USA, September 10-13, 2012

- IPDPS 2012, 26th IEEE International Parallel & Distributed Processing Symposium, May 21-25, 2012, Shanghai, China
- HCW 2012, 20th International Heterogeneity in Computing Workshop, May 21-25, 2012, Shanghai, China
- ISCIS 2012, 27th International Symposium on Computer and Information Sciences, Paris, France
- CSE 2012, 15th IEE International Conference on Computational Science and Engineering, Paphos, Cyprus
- Nicolas Bonichon
 - AlgoTel 2012 (May 29- June 1, La Grande Motte, France) Rencontres Francophones sur les aspects Algorithmiques des Télécommunications
- Cyril Gavoille
 - DISC 2012 (Oct. 16-18, Salvador, Brazil), International Symposium on Distributed Computing
 - ISAAC 2012 (Dec. 19-21, Taipei, Taiwan), International Symposium on Algorithms and Computation
 - ICDCN 2012 (Jan. 3-6, Hong-Kong), International Conference on Distributed Computing and Networking
- David Ilcinkas
 - FOMC 2012 (8th ACM SIGACT/SIGMOBILE International Workshop on Foundations of Mobile Computing)
 - **OPODIS 2012 (16th International Conference On Principles Of Distributed Systems)**
- Ralf Klasing
 - SEA 2012, 11th International Symposium on Experimental Algorithms, Bordeaux, France, June 7-9, 2012
 - ADHOC-NOW 2012, 11th International Conference on Ad Hoc Networks and Wireless, July 9-11, 2012, Belgrade, Serbia
 - FOMC 2012, 8th ACM SIGACT/SIGMOBILE International Workshop on Foundations of Mobile Computing (formerly known as DIALM-POMC), July 19, 2012, Madeira, Portugal
 - IWOCA 2012, 23rd International Workshop on Combinatorial Algorithms, July 19-21, 2012, Kalasalingam University, Anand Nagar, Krishnankoil, Tamil Nadu, India
- Lionel Eyraud-Dubois
 - Cluster 2012, *IEEE Conference on Cluster Computing*, September 24-28, Beijing, China.
- Adrian Kosowski
 - SEA 2012, 11th International Symposium on Experimental Algorithms, Bordeaux, France, June 7-9, 2012.
 - SSS 2012, 14th International Symposium on Stabilization, Safety, and Security of Distributed Systems, Toronto, September 24-27, 2012 .
 - ICDCN 2012, 13th International Conference on Distributed Computing and Networking, January 3-6, 2012, Hong Kong, China.
 - MFCS 2012, 37th International Symposium on Mathematical Foundations of Computer Science, August 27-31, 2012, Bratislava, Slovakia.
- Sofian Maabout

- ICWIT 2012, 4th Int. Conf. on Web and Information Technologies, Sidi Bel Abbès, Algeria, April 29-30, 2012.

8.1.6. Research Administration

8.1.6.1. Main Administrative Duties

- Olivier Beaumont is the Scientific Deputy of Inria Bordeaux Sud-Ouest (since September 2011)
- Nicolas Hanusse is the Head of the Doctoral School (Computer Science) of the University of Bordeaux (since 2010)
- Cyril Gavoille was a Deputy Director of LaBRI laboratory (2008–2011)
- Ralf Klasing is responsible of the "Combinatorics and Algorithms" Team of the LaBRI. (since November 2010)
- Nicolas Hanusse is responsible of the "Distributed Algorithms" Group in LaBRI. (since November 2010)
- Philippe Duchon is the Head of the University Bordeaux 1 Computer Science Master program (since 2010)
- Ralf Klasing is responsible for the International Relations of the LaBRI. (since January 2009)
- Sofian Maabout is responsible of the second year of the "Information Systems for Health Care" Master (since 2010).
- Ralf Klasing is a member of the Evaluation Committee of the programme "ANR DEFIS".
- David Ilcinkas is a member of the *Conseil de Laboratoire* of the LaBRI.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Communication and Routing (last year of engineering school ENSEIRB, 2012) O. Beaumont, N. Bonichon, L. Eyraud, N. Hanusse, R. Klasing, A. Kosowski (16h)

Master : Communication Algorithms in Networks (2nd year MASTER "Algorithms and Formal Methods", University of Bordeaux, 2012) R. Klasing (24h)

Master : Search Engines (2nd year of engineering school ENSEIRB, 2012) O. Beaumont (20h)

Master : Distributed Computing (2nd year MASTER "Réseaux, Systèmes et Mobilité"), (24h)

8.2.2. Supervision

PhD :

- Florent Foucaud, Aspects combinatoires et algorithmiques des codes identifiants dans les graphes, Ralf Klasing, André Raspaud, Université Bordeaux 1, 10.12.2012
- Godfroy Quentin, From spanners to multipath spanners, Cyril Gavoille, Université Bordeaux 1, dec. 2012.

PhD in progress :

- Przemyslaw Uznanski, Communication modeling on large scale platforms, November 2010, Olivier Beaumont, Nicolas Bonichon, Lionel Eyraud-Dubois, Université Bordeaux 1.
- Ahmed Wade, Mobile agent protocols for dynamic networks, February 2011, David Ilcinkas, Ralf Klasing, Université Bordeaux 1.
- Dominik Pajak, Multi-agent protocols for efficient graph exploration, October 2011, Adrian Kosowski, Ralf Klasing, Université Bordeaux 1.
- Pierre Halftermeyer, Structuration des graphes et étiquetages compacts, October 2010, Cyril Gavoille, Université Bordeaux 1.

8.2.3. *Juries*

- Ralf Klasing was examinateur and president of the PhD committee of Thomas Morsellino (University Bordeaux 1, 25.9.2012)
- Ralf Klasing was external PhD reviewer and member of the PhD committee in the Ph.D. defense of Aline Parreau (University of Grenoble, 5.7.2012)
- Ralf Klasing was external PhD reviewer and member of the PhD committee in the Ph.D. defense of Marwane Bouznif (University of Grenoble, 4.7.2012)
- Cyril Gavaille was external reviewer for the PhD thesis of Mikaila Toko Worou, Université Nice Sophia-Antipolis, Outils algorithmiques pour la détection des communautés dans les réseaux (12/2012).
- Cyril Gavaille was external reviewer for the PhD thesis of Jean-François Couturier, Université Paul Verlaine (Metz), LITA, Algorithmes exacts et exponentiels sur les graphes: énumération, comptage et optimisation (12/2012).
- Cyril Gavaille was (anonymous) external reviewer for the PhD thesis of Université des Sciences et de la Technologie Houari Boumédiène in Algeria (11/2012).
- Cyril Gavaille was president of the committee and examiner for the PhD thesis of Nicolas Delfosse, Université de Bordeaux, IMB, Constructions et performances de codes LDPC quantiques (12/2012).
- Nicolas Hanusse was examiner for the PhD thesis of Dominique Dion, Dynamique d'évolution de graphes de cooccurrences lexicales: application à l'analyse de comptes-rendus en prévention spécialisée entre 1972 et 2010.
- Nicolas Hanusse was president of the committee and examiner for the PhD thesis of Qution Godfroy, Multipath Spanners, Université de Bordeaux (11/2012)
- Nicolas Hanusse was external reviewer and examiner for the "Habilitation of Research Direction" of Jean-Loup Guillaume, Déterminisme et non-déterminisme au service de la détection de communautés dynamiques, Paris 6 University (11/2012)
- Nicolas Hanusse was president of the committee and examiner for the PhD thesis of Asma Ben Zakour, Extraction des utilisations typiques à partir de données hétérogènes historisées en vue d'optimiser la maintenance d'une flotte de véhicules , Université de Bordeaux (06/2012)

CIDRE Project-Team

9. Dissemination

9.1. Scientific Animation

Ludovic Mé acts as a

- member of the editorial board of the « Journal in Computer Virology », Springer (<http://www.springer.com/computer/journal/11416>).
- member of the steering committee of the « 7ème Conférence sur la Sécurité des Architectures Réseaux et Systèmes d'Information (SAR-SSI 2012) » held in May 2012 in Cabourg, France (<https://sarssi2012.greyc.fr/>).
- member of the steering committee of the « 15th International Symposium on Research in Attacks, Intrusions and Defenses (RAID 2012) » held in September 2012 in Amsterdam, The Netherlands (<http://www.raid2012.org/>).
- member of the steering committee of the « Computer & Electronics Security Applications Rendez-vous - Cloud and Security, threat or opportunity ? (C&ESAR 2012) » held in November in Rennes, France (<http://www.cesar-conference.org/>).
- member of the program committee of the « 5th SETOP International Workshop on Autonomous and Spontaneous Security (SETOP 2012) » held in September 2012 in Pisa, Italy (<http://sesar.dti.unimi.it/SETOP2012/>).
- member of the program committee of the « 7th International Conference on Risks and Security of Internet and Systems (CRiSIS 2012) » held in October 2012 in Cork, Ireland (<http://4c.ucc.ie/crisis2012/>).
- member of a DGA's scientific committee.

Emmanuelle Anceaume acts as a

- member of the International Evaluation Panel of the Call 2012 for the topic Context- and Content-Adaptive Communication Networks of the CHIST-ERA, a European Network of Research
- member of the program committee of the « 11th IEEE International Conference on Ubiquitous Computing and Communications (IUCC 2012) » held in June 2012 in Liverpool, England (<http://scim.brad.ac.uk/~hmibrahi/IUCC2012/>).
- member of the program committee of the « 11th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom-2012) » held in June 2012 in Liverpool, England (<http://www.scim.brad.ac.uk/~hmibrahi/TrustCom2012/>).
- member of the program committee of the « 7th International Conference on Frontier of Computer Science and Technology (FCST-12) » held in November 2012 in Suzhou, China (<http://trust.csu.edu.cn/conference/fcst2012/>).
- member of the program committee of the « 9th FTRA International Conference on Secure and Trust Computing, data management, and Applications (STA 2012) » held in September 2012 in Gwangju, Korea (<http://www.ftrai.org/sta2012/>).
- external reviewer for the IEEE Transactions on Parallel and Distributed Systems journal, the ACM Transactions on Autonomous and Adaptive System journal, and the ACM Transactions on Systems, Man, and Cybernetics (Part A: Systems and Humans).

Christophe Bidan acts as a

- member of the program committee of the « 7th Conference on Network Architectures and Information Systems Security (SAR-SSI 2012) » held in May 2012 in Cabourg, France (<https://sarssi2012.greyc.fr/>).
- member of the program committee of the « 8th International Conference on Security and Privacy in Communication Networks (SecureComm 2012) » held in September 2012 in Padua, Italy (<http://securecomm.org/2012/show/home>).
- member of the program committee of the « 5th International Workshop on Autonomous and Spontaneous Security (SETOP 2012) » held in September 2012 in Pisa, Italy (<http://sesar.dti.unimi.it/SETOP2012/>).

Sébastien Gambs acts as a

- leader of the action line on « Privacy, Security and Trust in the Information Society » from EIT ICT labs (until September 2012).
- member of the editorial board of International Journal of Data Mining, Modelling and Management (<http://www.inderscience.com/browse/index.php?journalID=342#board>).
- member of the editorial board of International Journal of Privacy and Health Information Management (<http://www.igi-global.com/journal/international-journal-privacy-health-information/41027>).
- co-organizer of a panel on « Location-based services and privacy: are we moving in the right direction ? (6th International Conference on Computers, Privacy and Data Protection - CPDP 2012) » held in January 2012 in Brussels, Belgium (<http://www.cpdpconferences.org/thursday26january.html>).
- member of the organization committee of the « 3ème Atelier sur la Protection de la Vie Privée (APVP 2012) » held in June 2012 in Ile de Groix, France (<http://www.irisa.fr/privé/sgambs/apvp2012.html>).
- member of the program committee of the « 3ème Atelier sur la Protection de la Vie Privée (APVP 2012), » held in June 2012 in Ile de Groix, France (<http://www.irisa.fr/privé/sgambs/apvp2012.html>).
- member of the program committee of the « 4th International Workshop on SEcurity and SOcial Networking (SESOC 2012) » held in March 2012 in Lugano, Switzerland (<http://www.sesoc.org/home.htm>).
- member of the program committee of the « Workshop on Privacy and Anonymity for the Digital Economy (PADE 2012) » held in June 2012 in London, United Kingdom (<http://pade12.mytestbed.net/>).
- member of the program committee of the « 10th International Conference on Privacy, Security and Trust (PST 2012) » held in July 2012 in Paris, France (<http://www.unb.ca/pstnet/pst2012/>).
- member of the program committee of the « 1st International Workshop on Citizen Sensor Networks (CitiSen 2012) » held in August 2012 in Montpellier, France (<https://sites.google.com/site/citisen2012/>).
- member of the program committee of the « 13th Conference on Communications and Multimedia Security (CMS 2012) » held in September 2012 in Canterbury, United Kingdom (<http://sec.cs.kent.ac.uk/cms2012/?page=main>).
- member of the program committee of the « 7th International Workshop on Data Privacy Management (DPM 2012) » held in September 2012 in Pisa, Italy (<http://www-ma4.upc.edu/DPM2012/>).
- member of the program committee of the « 5th Symposium on Foundations and Practice of Security (FPS 2012) » held in October 2012 in Montréal, Canada (<http://conferences.telecom-bretagne.eu/fps2012/>).

- member of the program committee of the « 5th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN 2012) » held in November 2012 in Redondo Beach, USA (<http://www.cs.umb.edu/~gghinita/LBSN12/>).
- external reviewer for GeoProcessing 2012 (Conference on Advanced Geographic Information Systems, Applications, and Services), CCS 2012 (19th ACM Conference on Computer and Communications Security), the Neural Computation journal, IEEE Transactions on Parallel and Distributed Systems, Journal of Parallel and Distributed Computing and Information Systems.

Gilles Guette acts as a

- member of the program committee of the « Symposium sur la sécurité des technologies de l'information et des communications (SSTIC 2012) » held in June 2012 in Rennes, France (<https://www.sstic.org/2012/news/>).

Guillaume Hiet acts as a

- member of the program committee of the « 15th International Symposium on Research in Attacks, Intrusions and Defenses (RAID 2012) » held in September 2012 in Amsterdam, The Netherlands (<http://www.raid2012.org/>).

Michel Hurfin acts as a

- member of the editorial board of the « Springer Journal of Internet Services and Applications » (<http://www.springer.com/computer/communications/journal/13174>).
- member of the program committee of the « 3rd International Workshop on Interconnections of Wireless Sensor Networks (IWSN 2012) » held in May 2012 in Hangzhou, China (<http://iwsn2012.gforge.uni.lu/index.html>).
- member of the program committee of the « 4th International Workshop on Workflow Management in Service and Cloud Computing (WMSC2012) » held in November 2012 in Xiangtan, China (<http://kpnm.hnust.cn/confs/wmsc2012>).
- member of the program committee of the « 11st African Conference on research In Computer Science and Applied Mathematics (CARI 2012) » held in October 2012 in Algiers, Algeria (<http://www.cari-info.org/>).
- external reviewer for the Elsevier Journal of Computer and System Sciences (JCSS) and PODC 2012 (31st ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing).
- member of the Inria COST-GTAI (reviewer for ADT submissions and project proposal).

Guillaume Piolle acts as a

- member of the CERNA (*Commission de réflexion sur l'éthique de la recherche en sciences et technologies du numérique d'Allistene*), ethical committee for the French research in digital sciences and technologies.
- member of the organization committee of the « 3ème Atelier sur la Protection de la Vie Privée (APVP 2012), » held in June 2012 in Ile de Groix, France (<http://www.irisa.fr/privé/sgambs/apvp2012.html>).
- member of the program committee of the « 3ème Atelier sur la Protection de la Vie Privée (APVP 2012), » held in June 2012 in Ile de Groix, France (<http://www.irisa.fr/privé/sgambs/apvp2012.html>).
- member of the program committee of the « 1st Workshop on Information Hiding Techniques for Internet Anonymity and Privacy (IHTIAP 2012) » held in June 2012 in Venice, Italy (<http://www.iaia.org/conferences2012/IHTIAP.html>).
- member of the program committee of the « 1st Workshop on Rights and Duties of Autonomous Agents (RDA2 2012) » held in August 2012 in Montpellier, France (<https://rda2-2012.greyc.fr/>).
- external reviewer for Interstices (online peer-reviewed journal of Inria - <http://interstices.info/>) and RAID 2012 (15th International Symposium on Research in Attacks, Intrusions and Defenses).

Nicolas Prigent acts as a

- member of the program committee of the « Symposium sur la sécurité des technologies de l'information et des communications (SSTIC 2012) » held in June 2012 in Rennes, France (<https://www.sstic.org/2012/news/>).
- member of the organization committee of the « Symposium sur la sécurité des technologies de l'information et des communications (SSTIC 2012) » held in June 2012 in Rennes, France (<https://www.sstic.org/2012/news/>).
- member of the program committee of the « 5th SETOP International Workshop on Autonomous and Spontaneous Security (SETOP 2012) » held in September 2012 in Pisa, Italy (<http://sesar.dti.unimi.it/SETOP2012/>).

Eric Totel acts as a

- external reviewer for RAID 2012 (15th International Symposium on Research in Attacks, Intrusions and Defenses), and CRISIS 2012 (7th International Conference on Risks and Security of Internet and Systems).

Frédéric Tronel acts as a

- member of the program committee of the « Symposium sur la sécurité des technologies de l'information et des communications (SSTIC 2012) » held in June 2012 in Rennes, France (<https://www.sstic.org/2012/news/>).
- member of the organization committee of the « Symposium sur la sécurité des technologies de l'information et des communications (SSTIC 2012) » held in June 2012 in Rennes, France (<https://www.sstic.org/2012/news/>).
- external reviewer for RAID 2012 (15th International conference Recent Advances on Intrusion Detection) and PODC 2012 (31st ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing).

Valérie Viet Triem Tong acts as a

- member of the program committee of the « FTRA International Conference on Advanced IT, engineering and Management (FTRA AIM 2012) » held in February 2012 in Seoul, Korea (<http://web.ftra.org/aim2012/home>).
- external reviewer for the IEEE Transactions on Network and Service Management journal (TNSM), the Technique et Science informatiques Journal (TSI), and the British Journal of Applied Science & Technology.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Ludovic Mé is Professor at Supélec:

Master: "Information systems", 6 hours, M1 - second year of the engineer degree, Supélec, France

Master: "Intrusion detection", 9 hours of lecture, M2 - Master research, Rennes, France

Master: "Intrusion detection", 8 hours of lecture, M2 - Master Pro SSI, université de Rennes 1, France

Master: "Intrusion detection", 9 hours of lecture, M2 - Master SSI, Supélec & Télécom Bretagne, France

Master: Ludovic Mé is responsible for the module "Secured information systems", M2 - third year of the engineer degree, Supélec, France

Christophe Bidan is Professor at Supélec:

Licence: “Programming models”, 13 hours, L3 - first year of the engineer degree, Supélec, France

Licence: “Foundations of computer science, data structures and algorithms”, 40 hours including 18 hours of lecture, L3 - first year of the engineer degree, Supélec, France

Master: “Information system”, 6 hours, M1 - second year of the engineer degree, Supélec, France

Master: “Software engineering”, 22 hours, M1 - second year of the engineer degree, Supélec, France

Master: “Supervision of student project”, 9 hours, M1 - second year of the engineer degree, Supélec, France

Master: “Introduction to security threat”, 4.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Cryptography”, 44 hours including 18 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Audit technique Web”, 3 hours, M2 - third year of the engineer degree, Supélec, France

Sébastien Gambs is Associate Professor at Université de Rennes 1:

Master: « Protection of Privacy », 32 hours including 16 hours of lectures, M2 - Master Pro SSI, université de Rennes 1, France

Master: « Topics on Authentication », 16 hours of lectures, M2 - Master Pro SSI, université de Rennes 1, France

Master: Supervision (50%) of the master thesis of Simon Boche, Antoine Rault and Mohammed Ghesmoune from February to June

Gilles Guette is Associate Professor at Université de Rennes 1:

Master: « System and Network Security », 48 hours, M1 - second year of the engineer degree; speciality Automation, ESIR, France

Master: « Supervision of student project », 12 hours, M1 - second year of the engineer degree; speciality Telecommunication and Network, ESIR, France

Master: « Network Security », 40 hours, M2 - third year of the engineer degree; speciality Telecommunication and Network, ESIR, France

Master: « System and Scripting », 24 hours, M2 - third year of the engineer degree; speciality Telecommunication and Network, ESIR, France

Master: « Infrastructure Network », 20 hours, M2 - third year of the engineer degree; speciality Telecommunication and Network, ESIR, France

Master: « Supervision of student project », 20 hours, M2 - third year of the engineer degree; speciality Telecommunication and Network, ESIR, France

Master: « System and Network Security », 24 hours, M2 - third year of the engineer degree; speciality Software engineering, ESIR, France

Guillaume Hiet is Associate Professor at Supélec:

Licence: “Programming models and languages”, 4 hours, L3 - first year of the engineer degree, Supélec, France

Licence: “Foundations of computer science, data structures and algorithms”, 16 hours, L3 - first year of the engineer degree, Supélec, France

Master: “Introduction to SSI”, 9 hours of lecture, M1 - second year of the engineer degree, Supélec, France

Master: “Supervision of student project”, 9 hours, M1 - second year of the engineer degree, Supélec, France

Master: “Supervision of student project - Computer and electronic”, 1 project, M1 - second year of the engineer degree, Supélec, France

Master: “Security in UNIX/Linux”, 4.5 hours including 1.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Intrusion detection sensors”, 3 hours, M2 - third year of the engineer degree, Supélec, France

Master: “Alert correlation”, 3 hours, M2 - third year of the engineer degree, Supélec, France

Master: “Securing an application vulnerable to buffer overflows”, 8 hours, M2 - third year of the engineer degree, Supélec, France

Master: “Supervision of student project”, 3 hours, M2 - third year of the engineer degree, Supélec, France

Master: “Introduction to UNIX/Linux”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France

Master: “Securing Linux (LDAP authentication, ACL and disk encryption)”, 6 hours, M2 - post-graduate training (master Cyber Security), Supélec, France

Master: “Security of Passwords”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France

Master: “Security of Java”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France

Master: “Intrusion detection sensors”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France

Master: “Preparation for the ICTF competition in computer security”, 12 hours, M2 - post-graduate training (master Cyber Security), Supélec, France

Master: “Securing UNIX/Linux”, 7 hours of lecture, M2 - post-graduate training CQP, Supélec, Gif-sur-Yvette, France

Master: “Intrusion detection”, 10 hours of lecture, M2 - post-graduate training CQP, Supélec, Gif-sur-Yvette, France

Master: “Intrusion detection (Introduction)”, 20 hours including 8 hours of lecture, M2 - Master Pro SSI, université de Rennes 1, France

Master: “Intrusion detection (Introduction)”, 10 hours including 4 hours of lecture, M2 - ESIR (Ecole supérieure d’ingénieur de Rennes), Université de Rennes 1, France

Guillaume Piolle is an Assistant Professor at Supélec:

Licence: « Programming models and languages », 7.5 hours, L3 - first year of the engineer degree, Supélec, France

Licence: « Foundations of computer science, data structures and algorithms », 18 hours, L3 - first year of the engineer degree, Supélec, France

Licence: « Logical systems and associated electronics », 36 hours, L3 - first year of the engineer degree, Supélec, France

Licence: « Software engineering », 18 hours, L3 - first year of the engineer degree, Supélec, France

Master: « Modelling, algorithms and programming », 20 hours, M1 - second year of the engineer degree, Supélec, France

Master: « Computer security and privacy », 11.5 hours, M1 - second year of the engineer degree, Supélec, France

Master: « Software development project », 12 hours, M1 - second year of the engineer degree, Supélec, France

Master: « C++ /Qt », 18 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Security policies », 4.5 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Network access protection », 3 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Network supervision in Java », 18 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Web development », 20 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Symbolic Artificial Intelligence », 4.5 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Law and computing », 11.5 hours, M2 - third year of the engineer degree, Télécom Bretagne and Supélec, France

Master: « Occupations at the law-computing interface », 4 hours, M2 - third year of the engineer degree, Télécom Bretagne, France

PhD : « Privacy and personal data protection », 9 hours, Matisse doctoral school, Rennes, France.

Master: « Legal aspects of computing », 1.5 hours, ENS Cachan (Rectorat de Rennes), Rennes, France.

Master: « Privacy and personal data protection on the Internet », 9 hours, URFIST Ouest – Université Rennes 2, France.

Nicolas Prigent is Associate Professor at Supélec:

Licence: « Programming », 20 hours, L3 - first year of the engineer degree, Supélec, France

Master: « Network programming », 15 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Network programming », 11 hours, M2 - post-graduate training, Supélec, France

Master: « Computer security », 4 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Computer security and pentesting », 10 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Programming », 6 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Python programming for computer security », 1.5 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Operating systems », 12 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Computer science (computability and complexity) », 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Operating systems (MS Windows) », 20 hours of lecture, M2 - post-graduate training, Supélec, France

Master: « Security », 17 hours including 9 hours of lecture, M2 - post-graduate training, Supélec, France

In-house training: “Computer networks”, 6 hours including 3 hours of lectures

Eric Totel is Associate Professor at Supélec:

Licence: « Models and programming languages », 19.5 hours including 10.5 hours of lecture, L3 - first year of the engineer degree, Supélec, France

Licence: « Foundations of computer science, data structures and algorithms », 6 hours, L3 - first year of the engineer degree, Supélec, France

Master: « Computer systems’ architecture », 30 hours, M1 - second year of the engineer degree, Supélec, France

Master: « C language », 24 hours including 6 hours of lecture, M2 - master SSI (Sécurité des systèmes d'information), Supélec, France

Master: « C language and C++ language », 12 hours including 6 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Dependability », 6 hours including 4.5 hours of lecture, M2 - third year of the engineer degree and master research, Supélec, France

Master: « Dependability », 3 hours of lecture, M2 - third year of the engineer degree (ingénierie des systèmes automatisés), Supélec, France

Master: « Dependability », 4.5 hours of lecture, M2 - post-graduate training (master Architecture des Réseaux de Communication), Supélec, France

Master: « Supervision of student project », 4 projects, M1 - second year of the engineer degree, Supélec, France

Master: « Supervision of student project », 1 project, M2 - third year of the engineer degree, Supélec, France

Master: Supervision (50%) of the master thesis of Erwan Godefroy

Master: Supervision (50%) of the master thesis of Pierre Karpman

Frédéric Tronel is Associate Professor at Supélec:

Licence: « Software engineering », 18 hours, L3 - first year of the engineer degree, Supélec, France

Master: « Operating systems », 10.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Compilation », 21 hours including 9 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Automatic reasoning », 6 hours including 4.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Buffer overflow vulnerabilities (theory and practice) », 15 hours including 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Virtualization », 1.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Firewalls », 6 hours, M2 - third year of the engineer degree, Supélec, France

Master: « Firewalls », 3 hours, M2 - post-graduate training, Supélec, France

Master: « Makefile », 3 hours, M2 - post-graduate training, Supélec, France

Master: « Calculability in distributed systems », 7.5 hours including 6 hours of lecture, M2 Master research Rennes, France

Master: « Buffer overflow vulnerabilities (theory and practice) », 6 hours including 3 hours of lecture, M2 - third year of the engineer degree, Telecom Bretagne, France

Master: Supervision (50%) of the master thesis of Pierre Karpman

Valérie Viet Triem Tong is Associate Professor at Supélec:

Licence: « Programming », 9 hours, L3 - first year of the engineer degree, Supélec, France

Master: « Computer security », 13.5 hours including 4h30 of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Game Theory », 20 hours of lecture, M1 - second year of the engineer degree, Supélec, France

Master: « Foundations of computer science », 10.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Spontaneous networking », 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: « Supervision of student project », 4 projects, M1 - second year of the engineer degree, Supélec, France

Master: Valérie Viet Triem Tong is responsible for the module « Security of data and Infrastructure information systems », M2 - Master research, Rennes, France

Master: « Supervision of student training », 1 training period (6 months), M2 - Supélec, France

Emmanuelle Anceaume (CR CNRS):

is co-responsible of the BIB and STAGE modules of the Master Research of the university de Rennes 1.

Michel Hurfin (CR Inria):

Master: Supervision (50%) of the master thesis of Erwan Godefroy

PhD and Post-Doc: in charge of junior researchers at Inria (training through research, relationships with doctoral schools, Support for thematic schools)

9.2.2. Supervision

The defense of the HDR of Eric Total occurred in december 2012 while the defense of the PhD of Heverson Borba Ribeiro occurred in October 2012. At the end of 2012, fourteen theses are in progress.

HDR: Eric Total, « Techniques de détection d'erreur appliquées à la détection d'intrusion », Université de Rennes 1, December 6th 2012.

PhD: Heverson Ribeiro, « Exploiting Rateless Coding in Structured Overlays to Achieve Persistent Storage », université de Rennes 1, October 12th 2011, supervised by Emmanuelle Anceaume and Michel Hurfin.

PhD in progress: Radoniaina Andriatsimandefitra, « Protection de l'information dans l'environnement Android », started in October 2011, supervised by Ludovic Mé (20%) and Valérie Viet Triem Tong (80%).

PhD in progress: Mounir Assaf, « Vérification de propriétés de sécurité par analyse statique sur des programmes C de grande taille », started in November 2011, supervised by Ludovic Mé (20%), Eric Total (40%), and Frédéric Tronel (40%).

PhD in progress: Simon Boche, « Réputation et respect de la vie privée dans les réseaux auto-organisé », started in October 2012, supervised by Christophe Bidan(30%), Gilles Guette (35%) and Nicolas Prigent (35%).

PhD in progress: Georges Bossert, « Méthodologie d'évaluation des systèmes de détection d'intrusions », started in October 2010, supervised by Ludovic Mé (20%) and Guillaume Hiet (80%).

PhD in progress: Thomas Demongeot, « Protection des données utilisateur dans les web services », Telecom Bretagne, started in September 2008, supervised by Eric Total (50%) and Valérie Viet Triem Tong (50%).

PhD in progress: Stéphane Geller, « Administration de politiques de sécurité reposant sur le contrôle des flux d'information », started in October 2009, supervised by Ludovic Mé (20%) and Valérie Viet Triem Tong (80%).

PhD in progress: Ahmed Gmati, « Redefining the concept of privacy in privacy-preserving data mining », started in December 2010, supervised by Michel Hurfin (50%) and Sébastien Gamba (50%).

PhD in progress: Erwan Godefroy, « Corrélation d'alertes dirigée par la connaissance de l'environnement », started in November 2012, supervised by Michel Hurfin (20%), Ludovic Mé (30%) and Eric Total (50%).

PhD in progress: Geoffroy Guéguen, « Métamorphisme viral et grammaires formelles », université de Rennes 1, started in March 2011, supervised by Sébastien Josse (50% - DGA-MI) and Ludovic Mé (50%).

PhD in progress: Christophe Hauser, « Détection d'intrusions dans les systèmes distribués », started in October 2009, in coordination with Queensland University of Technology, Brisbane, Australia, supervised by Ludovic Mé (20%) and Frédéric Tronel (80%).

PhD in progress: Christopher Humphries, « Visualisation d'évènements de sécurité », started in December 2011, supervised by Christophe Bidan (20%) and Nicolas Prigent (80%).

PhD in progress: Paul Lajoie-Mazenc, « Privacy preserving reputation system in large scale and self organizing systems », started in october 2012, supervised by Emmanuelle Anceaume (50%) and Valérie Viet Triem Tong (50%).

PhD in progress: Regina Marin, « Privacy protection in distributed social networks (Protection de la vie privé dans les réseaux sociaux distribués », started in November 2011, supervised by Christophe Bidan (20%) and Guillaume Piolle (80%).

PhD in progress: Pierre Oboame, « Dependability issues in large scale systems », started in February 2012, supervised by Emmanuelle Anceaume (50%) and Frédéric Tronel (50%).

Some members of the team also participate to the supervision of external PhD students. Sébastien Gambs is co-supervising Ai Thanh Ho (PhD student from the Université de Montréal, Canada), Mohammad Nabil Al-Agga (PhD student from ASAP, Inria Rennes), Miguel Nunez del Prado Cortez (PhD student from LAAS-CNRS, Toulouse), and Moussa Traore (PhD student from LAAS-CNRS, Toulouse). Emmanuelle Anceaume is co-supervising Romaric Ludinard (PhD student from the Inria project Dionysos, Rennes).

9.2.3. *Juries*

Some members of the team have participated to PhD committees:

- Ludovic Mé was a member of the mid-term PhD committees for 3 PhD students of Télécom Sud Paris (Olivier Levillain, Nabil Hacem, and Gustavo Gonzales Granavillo). Télécom SudParis, April 2012.
- Ludovic Mé was a member of the HDR committee (reviewer) for the HDR of Carlos Aguilar entitled « Sécurité, protection de la vie privée et cryptographie : quelques contributions », Université de Limoges, XLIM, June 2012.
- Christophe Bidan was a member of the PhD committee (reviewer) for the PhD of Aymen Boudguiga entitled « Authentification dans les réseaux maillés sans-fils avec la cryptographie basée sur l'identité », Télécom SudParis, September 2012.
- Ludovic Mé was a member of the PhD committee (reviewer) for the PhD of Sheila Becker entitled « Conceptual Approaches for Securing Networks and Systems », Université du Luxembourg and Institut National Polytechnique de Lorraine, October 2012.
- Christophe Bidan was a member of the PhD committee (reviewer) for the PhD of Rim AKROUT entitled « Analyse de vulnérabilités et évaluation de systèmes de détection d'intrusions pour les applications Web », Université de Toulouse, October 2012.
- Emmanuelle Anceaume was a member of the PhD committee for the PhD of Cyril Cassagnes entitled « Architecture Autonome et Distribuée d'Adressage et de Routage pour la Flexibilité des Communications dans l'Internet », Université de Bordeaux - LaBRI, November 2012.
- Christophe Bidan was a member of the PhD committee (reviewer) for the PhD of Nassima KAMEL entitled « Sécurité des cartes à puce à serveur Web embarqué », Université de Limoges, December 2012.

9.3. Popularization

Sébastien Gambs has participated to the following activities:

- High schools: course on the security topic for the high-school professors involved in the new INS option in Bac S, École Normale Supérieure Cachan antenne de Kerlann, France.
- High schools: 5 presentations in high schools in the context of the event « à la découverte de la recherche ».
- High schools: under the supervision of the association « Math.en.Jeans », a presentation about « Definition and quantification of anonymity » has been done in Rennes and Auray.

Nicolas Prigent has participated to:

- the training of some high-school professors involved in the new INS option in Bac S, École Normale Supérieure Cachan antenne de Kerlann, France.

Guillaume Piolle has participated to:

- the training of some high-school professors involved in the new INS option in Bac S, École Normale Supérieure Cachan antenne de Kerlann, France.

CLASSIC Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Conference organization

Gilles Stoltz was the co-chair of the program committee of the 23rd International Conference on Algorithmic Learning Theory (ALT'12); see the edited volume [26]. He was also a member of the program committee of the 25th Conference on Learning Theory (COLT'12).

8.1.2. Organization of seminars

We (co-)organized the following seminars:

- Statistical machine learning in Paris – SMILE (G rard Biau, Gilles Stoltz; see <http://sites.google.com/site/smileinparis/>);
- Parisian seminar of statistics at IHP (Vincent Rivoirard; see <https://sites.google.com/site/semstats>).

8.1.3. Editorial activities, reports written on articles

G rard Biau serves as an Associate Editor for the journals *Annales de l'ISUP*, *ESAIM: Probability and Statistics* and *International Statistical Review*.

Olivier Catoni has been a member of the editorial committee of the joint series of monographs "Math matiques et Applications" between Springer and SMAI until June 2012.

All permanent members of the team reviewed several journal papers during the year.

8.1.4. Participation to national or local evaluation or recruitment committees, to scientific societies

Vincent Rivoirard is a member of the Board of SFdS.

G rard Biau was elected a member of the national board of French universities (CNU) within the applied mathematics section (number 26).

Olivier Catoni is a member of the doctoral commission in mathematics of University Pierre et Marie Curie.

All permanent members of the team participated in several recruitment committees for assistants or full professors in universities.

8.1.5. Honors and distinctions

G rard Biau was elected a member of the Institut Universitaire de France (IUF).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Vincent Rivoirard, Statistiques, 39h, niveau L2, Universit  Paris-Dauphine, France

Licence : Olivier Catoni et Gilles Stoltz, Apprentissage, 20h, niveau L3, Ecole normale sup rieure, France

Licence : G rard Biau, Th orie des probabilit s, 40h, niveau L3, ISUP – Universit  Pierre et Marie Curie, France

Licence : Gilles Stoltz, Statistiques pour citoyens d'aujourd'hui et managers de demain, 40h, niveau L3, HEC Paris, France

Master : Gérard Biau, Statistique mathématique, 30h, niveau M1, Ecole normale supérieure, France

Master : Vincent Rivoirard, Statistique non-paramétrique, 8h, niveau M1, Ecole normale supérieure, France

Master : Vincent Rivoirard, Statistique non-paramétrique, 35h, niveau M1, Université Paris-Dauphine, France

Master : Vincent Rivoirard, Classification et statistique en grandes dimensions, 18h, niveau M2, Université Paris-Sud, France

Master : Gilles Stoltz, Statistiques et théorie de l'information, 10h, niveau M2, Université Paris-Sud, France

Master : Vincent Rivoirard, Méthodes pour les modèles de régression, 21h, niveau M2, Université Paris-Dauphine, France

Master : Vincent Rivoirard, Statistique bayésienne non-paramétrique, 21h, niveau M2, Université Paris-Dauphine, France

Master : Gilles Stoltz, Examineur à l'oral de probabilités et statistiques de l'agrégation de mathématiques, France

8.2.2. Supervision

PhD in progress : Thomas Mainguy, Statistical learning in computational linguistics, since September 2010, supervised by Olivier Catoni

PhD in progress : Emilien Joly, Phase transition of optimal risk and detection of contamination, since September 2011, supervised by Gábor Lugosi and co-supervised by Gilles Stoltz

PhD in progress : Pierre Gaillard, Aggregation of specialized predictors for the forecasting of electricity consumption, since September 2011, supervised by Gilles Stoltz

PhD in progress : Ilaria Giulini, Dimension free PAC-Bayes bounds for the Gram matrix and unsupervised clustering on the sphere of a Reproducing Kernel Hilbert space, since September 2012, supervised by Olivier Catoni

PhD in progress : Paul Baudin, Robust aggregation of predictors for the forecasting of air quality, with measures of uncertainties, since October 2012, supervised by Gilles Stoltz and co-supervised by Vivien Mallet

Several other PhD in progress : Gérard Biau and Vincent Rivoirard [co-]supervise[d] several other PhD students who are not members of our project-team (respectively, Benoît Patra, Clément Levrard, Benjamin Guedj, Svetlana Gribkova, Baptiste Gregorutti, Erwan Scornet, Nedjmeddine Allab for Gérard Biau, and Laure Sansonnet for Vincent Rivoirard)

MSc theses: Gilles Stoltz supervised the MSc theses of Charles-Pierre Astolfi (MVA, ENS Cachan) and Paul Baudin (MVA, ENS Cachan)

8.2.3. Juries

Gérard Biau was a reviewer for the following PhD defenses:

Ekaterina Sergienko, Université Toulouse III, November 2012

Christophe Denis, Université Paris Descartes, November 2012

Emmanuel Onzon, Université Paris VI, November 2012

and a jury member of the following PhD defenses:

Mohamed Achibi, Université Paris VI, July 2012

Moïse Jérémie, Université Paris VI, September 2012

Virgile Caron, Université Paris VI, October 2012

Caroline Meynet, Université Paris-Sud, November 2012

Nicolas Jégou, Université Rennes 2, November 2012

Sarah Ouadah, Université Paris VI, December 2012

Sylvain Girard, Ecole Nationale Supérieure des Mines de Paris, December 2012

Vincent Rivoirard was a jury member for the following habilitation defenses:

Wintenberger Olivier, Université Paris Dauphine, November 2012

Céline Vial, Université Claude Bernard Lyon 1, Décembre 2012

Gérard Biau was a reviewer for the following habilitation defense:

Céline Vial, Université Claude Bernard Lyon 1, Décembre 2012

and a jury member of the following habilitation defense:

Fadoua Balabdaoui, Université Paris-Dauphine, May 2012

8.3. Popularization

Gilles Stoltz gave a conference for an audience of students of “classes préparatoires” at Mathematic Park (<http://www.ihp.fr/fr/seminaire/mathpark-programme>).

CLIME Project-Team

9. Dissemination

9.1. Scientific Animation

- Marc Bocquet is co-chair of the INSU/LEFE MANU scientific committee.
- Marc Bocquet is a member of the Scientific Council of the CERFACS institute in Toulouse, France.
- Marc Bocquet is Associate Editor of the Quarterly Journal of the Royal Meteorological Society.
- Marc Bocquet has co-organised the Les Houches international summer school “Advanced data assimilation for geosciences”, Les Houches, 28 May 2012 - 15 June 2012.
- Marc Bocquet has co-organised the 4th “Colloque national d’assimilation de données”, Nice, 17-19 December 2012.
- Isabelle Herlin is member of the Scientific Council of CSFRS (High Council for Strategic Education and Research in France).
- Isabelle Herlin organised sessions on "Analysis of data of different scales and sources for mesoscale environmental models" for the International Congress on Environmental Modeling and Software (IEMSs2012).
- Isabelle Herlin is a member of Evaluation Committee at Inria.
- Isabelle Herlin is a member of the Scientific Council of OSU-EFLUVE.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master OACOS: Marc Bocquet, Vivien Mallet; Introduction to Data Assimilation for Geophysics; 30 hours; M2; UPMC, X, ENS, ENSTA ParisTech, École des Ponts ParisTech; France.

Master "Nuclear Energy": Marc Bocquet, Vivien Mallet, Victor Winiarek; 12 hours; M2; École des Ponts ParisTech; France.

Master SGE and École des Ponts ParisTech: Vivien Mallet; Air Pollution; 6 hours; M2; École des Ponts ParisTech, Paris 7-Diderot, Paris Est; France.

9.2.2. Supervision

PhD : Mohammad Koohkan, “Modélisation inverse et assimilation de données en qualité de l’air”, University Paris Est, December 20th, 2012, Marc Bocquet.

PhD in progress : Paul Baudin, “Agrégation séquentielle de prédicteurs appliquée à la prévision de la qualité de l’air”, September 2012, Vivien Mallet and Gilles Stoltz.

PhD in progress : Karim Drifi, “Reduced models for image assimilation”, University Paris Centre, October 2009, Isabelle Herlin.

PhD in progress : Yann Lepoittevin, “Tracking of image structures”, University Paris Centre, October 2012, Isabelle Herlin.

Yiguo Wang, "Lidar data assimilation", October 2009, Karine Sartelet, Patrick Chazette, Marc Bocquet.

PhD in progress : Victor Winiarek, “Dispersion atmosphérique en milieu urbain et modélisation inverse pour la reconstruction de sources”, University Paris Est, October 2009, Marc Bocquet.

9.2.3. Juries

- Bocquet, M., HdR, Thibaut Montmerle, “Assimilation des données à moyenne échelle pour l’étude des systèmes précipitants”, 27 January 2012, Toulouse, France.
- Bocquet, M. HdR, Olivier Pannekoucke, “Dynamique et modélisation de l’information dans les modèles météorologiques”, 15 November 2012, Toulouse, France.

9.3. Popularization

- Vivien Mallet introduced mathematical modeling for environmental sciences at the award ceremony for Paris mathematical olympiads.
- Anne Tilloy contributed to La Fête de la Science, which is a national initiative for science popularization to which Inria Paris-Rocquencourt took part

COFFEE Project-Team

8. Dissemination

8.1. Teaching - Supervision - Juries

8.1.1. Teaching

Master : Th. Goudon, Scientific Computing, ENS Paris, France.

Master : F. Berthelin, PDEs and kinetic equations (M2), Nice, France

Master : F. Berthelin & M. Ribot, préparation to agrégation (M2), Nice, France.

Master : Th. Goudon & R. Masson, Mathematical modeling and Scientific Computing for biology (M2), Nice, France.

Master : S. Junca & S. Krell have their teaching duties at IUFM, being in charge of preparation of teachers.

Agrégation : T. Goudon is member of the jury of agrégation, the national competition to hire teachers, in charge of the scientific computing exams.

8.1.2. Supervision

Master & PhD

Master Nice, F. Berthelin, EDO for biological modeling.

Master Nice, S. Junca, Regularizing effect for scalar conservation laws.

Master EPU Nice, T. Goudon & C. Scheid, Simulation of 2D incompressible Euler equations in vortex simulation.

Master ENS Paris, R. Masson & S. Krell, Finite volumes methods for elliptic PDEs

PhD L'Aquila (Italy): M. Twarogowska, Numerical approximation and analysis of mathematical models arising in cells movement, advised by M. Ribot & R. Natalini (defended 02/14/2012).

PhD in progress : Y. Zhang, Modeling and simulation of mass and heat exchanges in nuclear waste storage, starting Sept. 2012, advised by Th. Goudon and R. Masson

8.1.3. Juries

S. Junca : PhD M. Hajjej, "Couches initiales et limites de relaxation aux systèmes d'Euler-Poisson et d'Euler-Maxwell", Clermont-Ferrand, Mars 2012.

Th. Goudon : HDR of A. Gloria, "Propriétés qualitatives et quantitatives en homogénéisation périodique et stochastique", Lille fev. 2012.

Th. Goudon : PhD of I. Guaraldo, "Some analytical results for hyperbolic chemotaxis model on networks", Roma, July 2012 (referee).

Th. Goudon : HDR of R. Turpault, "Modélisation, analyse numérique et simulations de phénomènes complexes pour des systèmes hyperboliques de lois de conservation avec termes sources raides et en électrocardiologie", Nantes, Oct. 2012 (Pdt.)

Th. Goudon : HDR of S. Mancini, "Modèles cinétiques. Applications en volcanologie et neurosciences", Orléans, Nov. 2012 (Pdt.).

R. Masson, PhD of D. Chauveheid, "Ecoulements multi-matériaux et multi-physiques: solveur volumes finis eulérien co-localisé avec capture d'interfaces, analyse et simulations", CMLA.

8.2. Popularization

Th. Goudon is in charge for SMAI, the french society for applied and industrial mathematics, of the animation of "2013, Mathematics of Planet Earth", a event supported by UNESCO. In particular he is member of the Steering Committee of the operation "1 jour, 1 brève" which aims at publishing one text a day devoted to the topics of Mathematics of Planet Earth.

R. Masson is involved in the Atelier de Recherche Prospective MathsInTerre, led by D. Bresch: this network has been created in connection to the worldwide event "2013, Mathematics for the Planet Earth"; this project aims at bringing out several key subjects that deserve a specific attention for future researches.

COMETE Project-Team

8. Dissemination

8.1. Animation of the scientific community

Note: In this section we include only the activities of the permanent internal members of Comète.

8.1.1. Editorial activity

Catuscia Palamidessi is:

Member of the Editorial Board of **Mathematical Structures in Computer Science**, published by the Cambridge University Press.

Member of the Editorial Board of the **Electronic Notes of Theoretical Computer Science**, Elsevier Science.

Co-editor (with Frank Pfenning) of the special issue of **Logical Methods in Computer Science** dedicated to selected papers of FoSSaCS 2013.

Co-editor (with Geoffrey Smith) of the special issue of **Mathematical Structures in Computer Science** dedicated to Quantitative Information Flow.

Co-editor (with Samson Abramsky and Michael Mislove) of the **special issue of Theoretical Computer Science** dedicated to selected papers of MFPS XXV. [33]

Co-editor (with Sebastian Mödersheim) of the **proceedings of TOSCA 2011**, Theory of Security and Applications. [34]

Co-editor (with Mark Ryan) of the proceedings of TGC 2012, Trustworthy Global Computing. [35]

Frank D. Valencia is:

Co-editor of the special issue of **Mathematical Structures in Computer Science** dedicated to the 18th International Workshop on Expressiveness in Concurrency.

Co-editor of the special issue of **Mathematical Structures in Computer Science** dedicated to the 17th International Workshop on Expressiveness in Concurrency.

Konstantinos Chatzikokolakis and Catuscia Palamidessi are:

Co-editors (with Sebastian Mödersheim) of the special issue of the **Journal of Computer Security** dedicated to selected papers of **TOSCA 2011** and **SecCo 2011**.

8.1.2. Steering Committees

Catuscia Palamidessi is member of:

The Council of EATCS, the European Association for Theoretical Computer Science. Since 2005.

The Steering Committee of ETAPS, the European Joint Conferences on Theory and Practice of Software. Since 2006.

The IFIP Technical Committee 1 – Foundations of Computer Science. Since 2007.

The IFIP Working Group 2.2 – Formal Description of Programming Concepts. Since 2001.

The IFIP Working Group 1.7 – Theoretical Foundations of Security Analysis and Design. Since 2010.

Frank D. Valencia member of:

The steering committee of the International Workshop in Concurrency EXPRESS. Since 2010.

8.1.3. Invited Talks

Catuscia Palamidessi has given invited talks at the following conferences and workshops:

Grande Region Security and Reliability Day. Nancy, France. March 2012.

COW 2012. The 19th CREST Open Workshop on *Interference and Dependence* on 30st April - 1st May 2012.

VECoS 2012. 6th International Workshop on Verification and Evaluation of Computer and Communication Systems. CNAM, Paris, France. August 27-28, 2012.

8.1.4. Organization of workshops and conferences

Catuscia Palamidessi has served as PC co-chair (together with Mark Ryan) of **TGC 2012**, the 7th International Symposium on Trustworthy Global Computing. Newcastle, UK, 7-8 September 2012.

Catuscia Palamidessi has co-organized (together with Boris Köpf and Pasquale Malacaria) the **Dagstuhl seminar on Quantitative Security Analysis**. Dagstuhl, Germany, 25-30 November 2012.

8.1.5. Participation in program committees

Catuscia Palamidessi has been/is a member of the program committees of the following conferences:

TGC 2013. The 8th International Symposium on Trustworthy Global Computing. Buenos Aires, Argentina, 30-31 August 2013.

ICALP 2013 Track B. The 40th International Colloquium on Automata, Languages and Programming. Riga, Latvia, 8-12 July 2013.

CSF 2013. The 26th IEEE Computer Security Foundations Symposium. Tulane University, New Orleans, Louisiana, USA, 26-28 June 2013.

LICS 2013. The Twenty-Eighth Annual ACM/IEEE Symposium on Logic in Computer Science. Tulane University, New Orleans, Louisiana, USA, 25-28 June 2013.

FOSSACS 2013. The 16th Int.l Conf. on Foundations of Software Science and Computation Structures. (Part of ETAPS 2013.) Rome, Italy, March 2013.

SOFSEM 2013. 39th International Conference on Current Trends in Theory and Practice of Computer Science. Špindlerův Mlýn, Czech Republic, January 26–31, 2013.

CARDIS 2012. The Eleventh Smart Card Research and Advanced Application Conference. Graz, Austria, 28-30 November 2012.

QEST 2012. International Conference on Quantitative Evaluation of SysTems. London, UK, September 2012.

PPDP 2012. International ACM SIGPLAN Conference on Principles and Practice of Declarative Programming. Leuven, Belgium, September 2012.

CONCUR 2012. 21st International Conference on Concurrency Theory. Newcastle, UK, September 2012.

CSF 2012. The 25th IEEE Computer Security Foundations Symposium. Cambridge MA, USA, June 2012.

POST 2012. First Conference on Principles of Security and Trust. Tallin, Estonia, March 2012.

Frank D. Valencia has been/is a member of the program committees of the following conferences and workshops:

CONCUR 2013. The 24th International Conference on Concurrency Theory. Buenos Aires, Argentina, 27-30 August 2013.

EXPRESS 2012: Combined 19th International Workshop on Expressiveness in Concurrency and 9th Workshop on Structural Operational Semantics. Newcastle upon Tyne, UK, 3 September 2012.

ICE 2012. The 5th International Workshop on Interaction and Concurrency Experience. Stockholm, Sweden, 16 June 2012.

Konstantinos Chatzikokolakis has been/is a member of the program committees of the following conferences and workshops:

ISPEC 2013: 9th International Conference on Information Security Practice and Experience.

QAPL 2013: 11th Workshop on Quantitative Aspects of Programming Languages.

ESOP 2012: 21th European Symposium on Programming.

TGC 2012: 7th International Symposium on Trustworthy Global Computing.

ISPEC 2012: 8th International Conference on Information Security Practice and Experience.

QAPL 2012: 10th Workshop on Quantitative Aspects of Programming Languages .

8.1.6. Participation in other committees

Catuscia Palamidessi serves in the following committees:

President of the selection committee for the **EATCS Best Paper Award** at the ETAPS conferences. Since 2006.

Member of the **EAPLS PhD Award** committee. Since 2010.

8.1.7. Organization of seminars

Frank D. Valencia, Luis Fernando Pino Duque, and Andrés Aristizábal are the organizer of the **Comète-Parsifal Seminar**. This seminar takes place weekly at LIX, and it is meant as a forum where the members of Comète and Parsifal present their current works and exchange ideas.

8.2. Service

Catuscia Palamidessi serves as:

Member of the Comité d'Orientation Scientifique et Technique, Groupe de travail Relation Internationales (COST-GTRI). Since November 2007.

Directrice adjointe du LIX, le Laboratoire d'Informatique de l'Ecole Polytechnique. Since April 2010.

Member of the Comité de These for Mathematics and Computer Science at the École Polytechnique. Since October 2007.

Reviewer for the projects proposal for the program PRIN, sponsored by the Italian MIUR ("Ministero dell'Istruzione, dell'Università e della Ricerca"). Since 2004.

Frank Valencia has served as:

Member of the Evaluation Committee of the LIX/Qualcomm postdoc grants for the year 2012.

8.3. Teaching

Master: Konstantinos Chatzikokolakis has been teaching the course "Concurrence" at the "Master Parisien de Recherche en Informatique" (MPRI) in Paris. Level M2. Total 12 hours.

Master: Miguel E. Andrés, Konstantinos Chatzikokolakis, and Catuscia Palamidessi have been teaching an advanced course on Quantitative Information Flow and on Differential Privacy at **RIO 2012**, the Summer School on Informatics Río Cuarto, Argentine. Total 20 hours. 13-18 February 2012.

Master. Frank D. Valencia has been teaching an advanced course on Process Modeling at **Master Program in Computer Science** of the Pontificia Universidad Javeriana de Cali, Colombia. Total 30 hours. A.Y. 2011-12.

PhD (2009-12) **Andrés Aristizábal**. Ecole Polytechnique. Grant CNRS/DGA. Title of the thesis: *Bisimulation Techniques and Algorithms for Concurrent Constraint Programming*. Defended on 17 October 2012. Co-supervised by Catuscia Palamidessi and Frank D. Valencia.

PhD in progress (2012-) **Marco Stronati**. Ecole Polytechnique. Grant EDX Monge. Co-supervised by Catuscia Palamidessi and Konstantinos Chatzikokolakis.

PhD in progress (2011-). Ecole Polytechnique and Chinese academy of Science, Beijing, China. Co-supervised by Catuscia Palamidessi and Huimin Li.

PhD in progress (2011-) **Nicolás E. Bordenabe**. Ecole Polytechnique. Grant Inria/DGA. Co-supervised by Catuscia Palamidessi and Konstantinos Chatzikokolakis.

PhD in progress (2011-) **Luis Fernando Pino Duque**. Ecole Polytechnique. Grant Inria/DGA. Co-supervised by Catuscia Palamidessi and Frank D. Valencia.

PhD in progress (2010-) **Sophia Knight**. Ecole Polytechnique. Grant Inria/CORDIS. Co-supervised by Catuscia Palamidessi and Frank D. Valencia.

PhD in progress (2009-) **Ivan Gazeau**. Ecole Polytechnique. Grant ANR. Co-supervised by Catuscia Palamidessi and Dale Miller.

8.3.1. PhD defenses

Catuscia Palamidessi has been reviewer for the thesis of the following PhD students:

James Jerson Ortiz Vega (Universidad del Valle, Cali, Colombia). Title of the thesis: *Formal Methods for the Specification and Verification of Distributed and Timed Systems*. Advised Juan Francisco Dias Frias. Defended in September 2013.

Thomas Given-Wilson (University of Technology, Sydney, Australia). Title of the thesis: *Concurrent Pattern Unification*. Advised by Barry Jay. Defended in August 2012.

Jacopo Mauro (University of Bologna, Italy). PhD thesis reviewer. Title of the thesis: *Constraints meet Concurrency*. Advised by Maurizio Gabbrielli. Defended in April 2012.

Catuscia Palamidessi has been member of the committee at the HDR defense of Daniele Varacca, University of Paris VII, December 2012.

COMMANDS Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorial boards, scientific societies

- F. Bonnans is Corresponding Editor of “ESAIM:COCV” (Control, Optimization and Calculus of Variations), and Associate Editor of “Applied Mathematics and Optimization”, “Optimization, Methods and Software”, and “Series on Mathematics and its Applications, Annals of The Academy of Romanian Scientists”.
- F. Bonnans is chairman of the SMAI-MODE group (the optimization group of the French Applied Mathematics Society).

9.1.2. Organization of conferences

The team members have been involved in the organisation of several meetings and conferences, within the SADCO project (<http://itn-sadco.inria.fr>). In particular, F. Bonnans and H. Zidani organised the workshop "Applied and Numerical Optimal Control", in Paris.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

F. Bonnans: Optimal control, 7h, M2, Ensta, France.

F. Bonnans: Continuous Optimization, 18h, M2, Ecole Polytechnique and U. Paris 6, France.

F. Bonnans: Numerical analysis of partial differential equations arising in finance and stochastic control, 24h, M2, Ecole Polytechnique and U. Paris 6, France.

H. Zidani: Optimal control, 14h, M2, Ensta, France.

H. Zidani: Numerical methods for front propagation, 21h, M2, Ensta France

9.2.2. Supervision

PhD & HdR

PhD: Giovanni Granato, Energy management for an electric vehicle with range extender. December 10, 2012, H. Zidani and F. Bonnans.

PhD in progress : Imène Ben-Latifa, Optimal multiple stopping and valuation of swing options in jump models. Oct. 2010, F. Bonnans and M. Mnif (ENIT, Tunis).

PhD in progress : Xavier Dupuis, Optimal control of populations; medical applications. Sept. 2010, F. Bonnans.

PhD in progress : Laurent Pfeiffer, Optimal control of large electrical networks. Sept. 2010, F. Bonnans.

PhD in progress: Zhiping Rao, Hamilton-Jacobi equations with discontinuous coefficients. Sept. 2010, H. Zidani and N. Forcadel.

PhD in progress: Athena Picarelli, First and Second Order Hamilton-Jacobi equations for State-Constrained Control Problems. Nov. 2011, O. Bokanowski and H. Zidani

PhD in progress: Cristopher Hermosilla, Feedback controls and optimal trajectories. Nov. 2011, H. Zidani.

PhD in progress: Mohamed Assellaou, Reachability analysis for stochastic controlled systems. Oct. 2011, O. Bokanowski and H. Zidani.

COMPSYS Project-Team

9. Dissemination

9.1. Scientific Animation

Christophe Alias is a member of the steering committee of IMPACT (international workshop on polyhedral compilation techniques). Christophe Alias, Alain Darte, and Paul Feautrier were members of the program committee of IMPACT'13, which will be held in conjunction with HiPEAC'13.

Laure Gonnord and Fabrice Rastello are the co-animators of the french compilation community, and organized the fifth session in June 2012, in Rennes.

Paul Feautrier is an associate editor of *International Journal of Parallel Programming* and of *Parallel Computing*. Alain Darte is an associate editor of ACM Transactions on Embedded Computing Systems.

Laure Gonnord was a member of the program committee of TAPAS'12 (Tools for Automatic Program Analysis).

In addition to IMPACT'13, Paul Feautrier is a member of the program committee of ParCo'13 (International Parallel Computing Conference). He has reviewed papers for LCTES, DATE and ACM TECS.

In addition to IMPACT'13, Alain Darte was a member of the program committees of DATE'13 (Design, Automation, and Test in Europe), LCTES'12 (Languages, Compilers, Tools, and Theory for Embedded Systems), IPDPS'13 (International Parallel and Distributed Processing Symposium). He has reviewed papers for the DATE'13, LCTES'12, EMSOFT'12, CGO'13 conferences and for the following journals: TSI, Parallel Computing, ACM TECS.

9.2. Workshops and Invited Talks

Alain Darte and Quentin Colombet participated to the 3-days workshop CPC'12 (16th Workshop on Compilers for Parallel Computing), in Padova, Italy, January 11-13, 2012. giving two talks "Kernel offloading with optimized remote accesses" and "Spilling in the light of SSA".

Alain Darte was invited by Jürgen Teich (University of Erlangen-Nuremberg) to give a talk (May 18, 2012) on "Optimizing remote accesses for offloaded kernels, with application to HLS for FPGA", as part of their "invasive computing" project.

Alain Darte was invited to participate to the 4-days workshop ScalPerf'12 (Scalable Approaches to High Performance and High Productivity Computing), in Bertinoro, Italy, September 23-27, 2012. He gave a talk on "Parametric tiling with pipelining or how to automate double-buffering execution style".

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Licence: Christophe Alias gave a L3 course on "Introduction to compilation" at ENSI Bourges and a L2 lab on "Architecture des ordinateurs" at Université Lyon 1. Laure Gonnord has a full teaching activity in Polytech'Lille where she teaches algorithmics, compilation, and basics of hardware.

Master 1: Christophe Alias gave a Master 1 course on "Compilation" at ENS-Lyon.

Master 2: Alain Darte gave a full Master 2 course on "Advanced compilation and program optimizations" at ENS-Lyon.

Master 1 and 2: Christophe Alias is organizer of the Winter Master School “Vérification et certification du logiciel” that was held in January 2012 at ENS-Lyon, as part of the Master of ENS-Lyon.

Internships: Laure Gonnord and Christophe Alias co-supervised the undergraduate internship of Jean-Marie Vincenti, from the Engineering School Polytech’Lille. This internship lasted two months, from June 2012 to July 2012. The topic was about graphical visualization and step-by-step debugging of communicating processes described with an execution trace. Alain Darté advised the M2 internship of Alexandre Isoard on the parametric tiled kernel offloading (see Section 6.5).

9.3.2. Supervision

PhD in progress: Guillaume Iooss, “Semantic program transformations in the polyhedral model”, started in September 2011, at ENS-Lyon and Colorado State University. Advisors: Christophe Alias, Alain Darté, Sanjay Rajopadhye (Colorado State University).

PhD in progress: Alexandre Isoard, “Optimization of remote communications”, started in September 2012, at ENS-Lyon. Advisors: Christophe Alias, Alain Darté.

PhD: Quentin Colombet, “Decoupled (SSA-based) Register Allocators: from Theory to Practice, Coping with Just-In-Time Compilation and Embedded Processors Constraints” [1], ENS-Lyon, December 7, 2012. Advisors: Alain Darté, Fabrice Rastello.

HdR: Fabrice Rastello, “On Sparse Intermediate Representations: Some Structural Properties and Applications to Just In Time Compilation” [2], ENS-Lyon, December 7, 2012.

9.3.3. Juries

Fabrice Rastello was member of the jury for Artur Pietrek’s PhD thesis (Verimag, Université Joseph Fourier), defended December 2, 2012.

Paul Feautrier is one of the referees for Stéphane Mancini’s HdR (TIMA, Grenoble), to be defended February 19, 2013.

Alain Darté was reviewer of Mehdi Amini’s PhD thesis (Ecole nationale supérieure des Mines de Paris), defended December 13, 2012, and entitled “Source-to-Source Automatic Program Transformations for GPU-like Hardware Accelerators”.

As co-advisors, Alain Darté and Fabrice Rastello were of course part of the jury of Quentin Colombet’s PhD thesis [1], defended December 7, 2012, at ENS-Lyon, and entitled “Decoupled (SSA-based) Register Allocators: From Theory to Practice, Coping with Just-In-Time Compilation and Embedded Processors Constraints”.

Alain Darté was part of the jury of Fabrice Rastello’s HdR thesis [2], defended December 7, 2012, at ENS-Lyon, and entitled “On Sparse Intermediate Representations: Some Structural Properties and Applications to Just-In-Time Compilation”.

CONCHA Project-Team

8. Dissemination

8.1. Teaching - Supervision - Juries

8.1.1. Teaching

The LMA has proposed a new Master program starting in 2007, which is called MMS (Mathématiques, Modélisation et Simulation) and has a focus on analysis, modeling, and numerical computations in PDEs; Robert Luce and R. Becker are co-responsables of this Master program. The core of this education is formed by lectures in four fields : PDE-theory, mechanics, numerical analysis, and simulation tools.

This master program includes lectures on physical applications, one of the three proposed application fields is CFD; lectures are provided by the members of the project; especially the following lectures have been given:

- Simulation numérique 1, Robert Luce and Eric Dubach,
- Analyse numérique des EDP, R. Becker and D. Capatina,
- Simulation numérique 2, Robert Luce and Eric Dubach,
- Méthodes numériques pour les EDP, R. Becker,
- Mécanique des fluides, R. Becker,
- Simulation numérique 3, P. Puiseux
- Mécanique des Fluides et Turbulence, Eric Schall, D. Graebing

CONTRAINTE Project-Team

9. Dissemination

9.1. Scientific Animation

- Grégory Batt has organized an international workshop on Design, optimization and control in systems and synthetic biology at ENS Paris during two days (15 speakers, 230 registered participants, 14 nationalities).

Grégory Batt's invited seminars:

- Summer school Naturel et artificiel: le vivant et ses représentations, Berder, Apr 03, invited talk
- Model-based analysis and control of cellular processes workshop, Purdue, IN, USA, Oct 09, contributed talk
- Perspectives en Biologie de Synthèse, Aviesan/Allenvi workshop, Paris, Dec 11, invited talk

He has been a member of the Program Committee of the JOBIM'12 conference. He was a reviewer for Bioinformatics, IEEE Transactions on Computational Biology and Bioinformatics, and Biosystems.

- François Bertaux was invited to short working visits at the Weiss Lab (MIT, Boston, USA) - March and May/June.
- Xavier Duportet's invited seminar and contributed poster presentations:
 - La Biologie de Synthèse, Bar des Sciences, Paris, April 06, invited talk
 - SynBerc retreat, MIT, USA, October 11, poster

He has been involved in technological transfer activities:

- Provisional patent application: High-throughput discovery of recombinase sites towards the engineering of recombinase specificity
- Gen9 Inaugural G-Prize, 3rd place winner, Cambridge, MA

He is a member of Synthetic Biology Scientific Committee at Alliance pour la recherche et l'innovation des industries de santé (ARIIS), Paris.

- François Fages is a member of
 - Editorial Board of **RAIRO Operations Research**,
 - Steering Committee of the International Conference series on Computational Methods in Systems Biology (CMSB).

He is a member of the Scientific Advisory Boards of

- the Center for Systems Biology at Edinburgh, Scotland,
- the Doctorate School Frontières du Vivant of the University Paris Descartes
- the Laboratoire d'Informatique Fondamentale, University of Orléans.

and a member of the

- "Comité de pilotage" of the OSEO BioIntelligence project, coordinated by Dassault-Systemes

François Fages has co-organized the fourth international workshop on “Bin packing and placement constraints” **BPPC’12** associated to CPAIOR’12 in Nantes, June 2012.

He was member of the program committees of CHR’12, CMSB’12, CS2BIO’12, FHIES’12, ICORES’12, SASB’12 and WCB’12. He has reviewed articles for the following journals: ACM Transactions on Computational Logics, Artificial Intelligence, Constraints, BioMedCentral systems biology, Constraints, PLOS One, Rairo OR.

François Fages was reviewer of research grants for

- the Agence Nationale de la Recherche (ANR),
- the Royal Society (London),
- and the Swiss National Science Foundation (SNSF).

Invited seminars:

- Dagstuhl’s seminar on formal methods for chemical reaction networks, Schloss Dagstuhl, Germany, October 2012.
 - Formal methods in systems biology workshop, associated to CAV’12, Berkeley, USA, July 2012.
 - Symposium Biointelligence, Sophia-Antipolis, July 2012.
 - CP meets CAV workshop, Turunc, Turkey, June 2012.
 - 25 ans du LIFO, Orléans, March 2012.
 - Thierry Martinez acted as a member of the Program Committee of CHR’12.
 - Sylvain Soliman acted as reviewer for CMSB’12 and BMC Systems Biology, as member of the Program Committee of JFPC’12. He was also expert/reviewer for the French PEPS biologie-mathématiques-informatique call (CNRS/INSERM/Inria).
- He gave an invited seminar at Institut Curie’s bioinformatics team. “Reaction Graphs to Regulatory Networks - Theory to practice”.
- Szymon Stoma was invited to short working visits at the Weiss Lab (MIT, Boston, USA) - March and May/June.
 - Denis Thieffry is currently
 - member of the Comité Scientifique Sectoriel of the Department *Biologie et Santé* of the ANR;
 - member of the Comité de Pilotage of the LabEx MemoLife (involving teams from IBEns, Collège de France, and ESPCI);
 - member of the CNRS/INSERM ATIP/Avenir Scientific Committee (young group leader grant scheme);
 - member of the board of the PhD Program Complexity in Post-Genomic Biology of the University of Torino;
 - member of the program committees for ECCB-ISMB, JOBIM, CMSB, and SASB;
 - Editor of BioSystems;
 - Associated Editor of PLoS Computational Biology;
 - Adviser for the PLoS Biology Education series.
 - Jannis Uhlendorf gave an invited seminar at the BioComputing group of the Laboratoire d’Informatique Fondamentale de Lille on Real-time control of gene expression in February 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Contraintes is affiliated to the Doctoral school of Mathematical Science of the University Paris Diderot, and to the interdisciplinary Doctoral school “Frontières du Vivant” of the University Paris Descartes.

The following courses have been given by members of Contraintes:

Summer school Scientific Trends at the Interfaces: Biomathematics - Bioinformatics, Roscoff, Grégory Batt (6h) and François Bertaux (6h).

Master M2 course C2-19 on *Computational Methods for Systemic and Synthetic Biology*, Master Parisien de Recherche en Informatique (MPRI) François Fages (responsible, 12h), Grégory Batt (12h), Denis Thieffry (12h).

Master: Cell Systems Biology master curriculum at the Ecole Normale Supérieure, Paris. Denis Thieffry (coordinator).

Master M2 course C2-35-1 on *Constraint Programming*, Master Parisien de Recherche en Informatique (MPRI) Sylvain Soliman (responsible, 24h) [end of the 2011-2012 academic year].

Master M1 course on *Computational Biology*, Master Approches Interdisciplinaires du Vivant (AIV), Grégory Batt (coordinator, 40h).

Master M1 course on Synthetic Biology, AgroParisTech, Xavier Duportet (12h).

Master M1 course on Synthetic Biology, Faculté de Médecine de Paris, Xavier Duportet (4h).

Licence L2 Cours/TD *Informatique*, Université de Paris Dauphine, Faten Nabli (72h).

Science, Innovation and Entrepreneurship non for profit organization: 4 conferences (400 people), Paris, Xavier Duportet (12h)

9.2.2. Supervision

PhD in progress : François Bertaux, Université Pierre et Marie Curie, Paris, Sept 2011, Dir. Dirk Drasdo (EPI BANG) and Grégory Batt

PhD in progress : Xavier Duportet, Université Paris Descartes, Paris, Oct 2010, Dir. Grégory Batt, François Fages and Ron Weiss (MIT)

PhD in progress : Steven Gay, Université Paris Diderot, Paris, Oct 2009, Dir. François Fages and Sylvain Soliman,

PhD in progress : David Fournier, Université Paris Diderot, Paris, Oct 2011, Dir. François Fages and Denis Mulard (General Electric),

PhD in progress : Jean-Baptiste Lugagne, Université Paris Diderot, Paris, Oct 2012, Dir. Grégory Batt, François Fages and Pascal Hersen (MSC)

PhD in progress : Artemis Llamosi, Université Paris Diderot, Paris, Nov 2012, Dir. Grégory Batt, Jean-Marc di Meglio and Pascal Hersen (MSC)

PhD in progress : Thierry Martinez, Université Paris Diderot, Paris, Oct 2009, Dir. François Fages,

PhD in progress : Faten Nabli, Université Paris Diderot, Paris, Oct 2009, Dir. François Fages and Sylvain Soliman

PhD in progress : Pauline Traynard, Université Paris Diderot, Paris, Oct 2012, Dir. François Fages and Denis Thieffry (ENS)

PhD in progress : Jannis Uhlendorf, Université Paris Diderot, Paris, Oct 2009, Dir. Grégory Batt, François Fages and Pascal Hersen (MSC)

PhD in progress : Luma Vittorino, Université Paris Diderot, Paris, Oct 2012, Dir. François Fages,

9.2.3. Juries

PhD Thesis committee of Roberto Amato, Ankita Chaurasia, Francesca Fioretti, Filippo Meno-lascina, and Alessandra Vigilante, University of Naples, Italy, Member Grégory Batt.

HDR of Khallil Djelloul, University of Orléans. Reviewer François Fages.

PhD Thesis defense of Andrés A. Aristizàbal, Ecole Polytechnique. Chairman François Fages.

PhD Thesis committee of Adrien Basso-Blandin, University of Evry. Member François Fages.

PhD Thesis defense of Emmanuel Halloit, University of Nice, Villefranche sur Mer, décembre 2012.
Member Denis Thieffry.

PhD Thesis defense of Guillaume Baptist, Université Joseph Fourier, Grenoble, août 2012. Re-viewer Denis Thieffry.

PhD Thesis defense of Mohamed Hedi Ben Amor, Université Joseph Fourier, Grenoble, juillet 2012.
Member Denis Thieffry.

9.3. Popularization

Our PNAS article attracted the attention of the media. Articles entitled “Ils contrôlent le vivant avec des ordinateurs !”, “Des cellules qui obéissent au doigt et à l’oeil”, “Focusing the phenotype - Controlling genetic expression through external feedback” appeared in l’Humanité Dimanche, le journal du CNRS, and Phys.org. Also, Grégory Batt participated to the radio program “Autour de la question” (RFI).

Two posters, “(Re)programmer le vivant” and “Des cellules pilotées par ordinateur”, were presented during the Fête de la science to a broad audience during two days by Grégory Batt.

Denis Thieffry has two books in press:

- Thieffry D. Gene networks, logical modelling, and regulatory motifs entries. In: Hancock JM, Zvelebil MJ (eds). Dictionary of Bioinformatics and Computational Biology. New York: John Wiley & Sons.
- Faur A, Thieffry D. Cell cycle modelling using logical rules. In: Dubitzky W, Wolkenhauer O, Cho K-H, Yokota H (eds.) Encyclopedia of Systems Biology. Springer.

CONVECS Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Software Dissemination and Internet Visibility

The CONVECS team distributes several software tools: the CADP toolbox (see 5.1), the TRAIAN compiler (see 5.2), and the PIC2LNT translator (see 5.3). In 2012, the main facts are the following:

- We prepared and distributed 11 successive beta-versions (from 2010-h to 2010-m, from 2011-a to 2011-c, and from 2012-a to 2012-b “Zurich”) of CADP.
- We were requested to grant CADP licenses for 1227 different computers in the world.
- We released version 2.7 of the TRAIAN compiler for LOTOS NT in November 2012.
- We released version 2.0 of the PIC2LNT translator from an applied π -calculus to LNT in October 2012.

We constructed the CONVECS Web site (see <http://convecs.inria.fr>) and we updated it with scientific contents, announcements, publications, etc.

By the end of December 2012, the CADP forum (see <http://cadp.inria.fr/forum.html>), opened in 2007 for discussions regarding the CADP toolbox, had over 230 registered users and over 1400 messages had been exchanged.

Other research teams took advantage of the software components provided by CADP (e.g., the BCG and OPEN/CAESAR environments) to build their own research software. We can mention the following developments:

- Formal modeling and verification of BPEL-based Web service composition [62],
- A specific-domain design tool for FPGA-based image and video processing system [63],
- Quantitative timed analysis of interactive Markov chains [49],
- Synchronizability for verification of asynchronously communicating systems [31],
- Deciding choreography realizability [30],
- Automata learning through counterexample guided abstraction refinement [26],
- The Reo+mCRL2 framework for model-checking dataflow in service compositions [52],
- The IDCM analysis tool for components and architectures dedicated to incremental construction [54],
- Rigorous development of composite grid services [60],
- Integrating model-based testing and analysis tools via test case exchange [28], and
- The DFTCalc tool for calculating the failure probability of a dynamic fault tree (DFT) using LNT [61].

Other teams also used the CADP toolbox for various case studies:

- Learning and testing the bounded retransmission protocol [27],
- Specification and validation of a real-time simple parallel kernel for dependable distributed systems [40],
- Abstraction-based malware analysis using rewriting and model checking [32], and
- Model checking of scenario-aware dataflow [58].

9.1.2. Program Committees

In 2012, the members of CONVECS took on the following responsibilities:

- H. Garavel is an editorial board member of STTT (Springer International Journal on Software Tools for Technology Transfer).
- F. Lang was a program committee member for NEPTUNE'2012 (Nice Environment with a Process and Tools Using Norms and Example), Paris, France, June 6-7, 2012.
- F. Lang was a program committee member for ESOC'2012 (European Conference on Service-Oriented and Cloud Computing), Bertinoro, Italy, September 19-21, 2012.
- F. Lang and G. Salaün were program committee members for FMICS'2012 (17th International Workshop on Formal Methods for Industrial Critical Systems), Paris, France, August 27-28, 2012.
- R. Mateescu was a program committee member for GRAPHITE'2012 (1st International Workshop on Graph Inspection and Traversal Engineering), Tallinn, Estonia, March 31 - April 1st, 2012.
- R. Mateescu was a program committee member for TASE'2012 (6th International Symposium on Theoretical Aspects of Software Engineering), Beijing, China, July 4-6, 2012.
- G. Salaün is an editorial board member of SOCA (Springer International Journal on Service Oriented Computing and Applications).
- G. Salaün was a program committee member for COORDINATION'2012 (14th International Conference on Coordination Models and Languages), Stockholm, Sweden, June 14-15, 2012.
- G. Salaün was a program committee chair for FACS'2012 (9th International Symposium on Formal Aspects of Component Software), Mountain View, USA, September 12-14, 2012.
- G. Salaün was a program committee member for FLACOS'2012 (6th International Workshop on Formal Languages and Analysis of Contract-Oriented Software), Bertinoro, Italy, September 19, 2012.
- G. Salaün was a steering committee member for FOCLASA'2012 (11th International Workshop on Foundations of Coordination Languages and Self-adaptation), Newcastle upon Tyne, UK, September 8, 2012.
- W. Serwe was a program committee member for PDMC'2012 (11th International Workshop on Parallel and Distributed Methods in Verification), Imperial College, London, UK, September 17, 2012.

9.1.3. Awards and Distinctions

- H. Garavel is an invited professor at the University of Saarland (Germany) after he received the Gay-Lussac Humboldt Prize in 2011.
- M. Gdemann received the Software Engineering Award of the Ernst Denert Association in 2012.

9.1.4. Lectures and Invited Conferences

- H. Garavel gave a keynote lecture entitled "*Three Decades of Success Stories in Formal Methods*" at FMICS'2012 (Paris, France) on August 28, 2012.
- H. Garavel gave a lecture entitled "*Trois dcennies de russite en mthodes formelles*" in the Aerospace Valley industrial conference on formal methods (Toulouse, France) on November 13, 2012.
- M. Gdemann visited the Institute for Systems and Systems Engineering (ISSE) at the University of Augsburg (Germany) on March 1st, 2012. He gave a tutorial on CADP.
- F. Lang and W. Serwe presented a tutorial on CADP at AFADL'2012 (Grenoble, France) on January 12, 2012.
- R. Mateescu visited the LRI laboratory (University Paris-Sud at Evry) on March 21–22, 2012. He gave a talk entitled "*Extending Temporal Logics in Practice: Model Checking and Applications*" on March 22, 2012.

- R. Mateescu presented a tutorial on CADP at FM'2012 (Paris, France) on August 28, 2012.
- R. Mateescu gave a talk entitled “*Querying Graphs On-the-Fly using a Model Checking Language*” at the LIG laboratory (Grenoble) on September 27, 2012.
- G. Salaün visited the LRI laboratory (University Paris-Sud at Evry) on March 19, 2012. He gave a talk entitled “*Specifying and Verifying a Self-Configuration Protocol for Distributed Applications in the Cloud using LNT and CADP*” on March 19, 2012.
- G. Salaün visited the LINA laboratory (University of Nantes) on March 22–23, 2012. He gave a talk entitled “*Specifying and Verifying a Self-configuration Protocol for Distributed Applications in the Cloud using LNT and CADP*” on March 22, 2012.
- G. Salaün visited the FBK laboratory (Trento, Italy) on March 28, 2012. He gave a talk entitled “*Design and Verification of Distributed Systems*” on March 28, 2012.
- G. Salaün visited the IRIT laboratory (Toulouse) on November 19–21, 2012. He gave a talk entitled “*Design and Verification of Communicating Systems*” on November 19, 2012.
- W. Serwe participated to the kick-off meeting of the Sensation project, held on November 1–2, 2012 in Aalborg (Denmark). He gave a talk entitled “*Model Checking and Performance Evaluation with CADP Illustrated on Shared-Memory Mutual Exclusion Protocols*” on November 2, 2012.
- W. Serwe participated to the Grid'5000 winter school, held on December 3–6, 2012 in Nantes. He gave a talk entitled “*Large Scale Distributed Verification using CADP on Grid'5000*” on December 6, 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

CONVECS is a host team for the computer science master entitled “*Mathématiques, Informatique, spécialité : Systèmes et Logiciels*”, common to Grenoble INP and University Joseph Fourier.

In 2012, we carried out the following teaching activities:

- H. Evrard served as a teaching assistant in a course on “*Algorithmique et structures de données*”, given by Frédéric Wagner to the first year computer science engineering students of ENSIMAG (18 hours).
- H. Evrard served as a teaching assistant in a course on “*Introduction aux réseaux de communication*”, given by Roland Groz to the first year computer science engineering students of ENSIMAG (18 hours).
- H. Evrard served as a teaching assistant in a course on “*Systèmes d'exploitation et programmation concurrente*”, given by Yves Denneulin to the first year computer science engineering students of ENSIMAG (18 hours).
- H. Garavel created a block course entitled “*Advanced Concurrency Theory*” for the bachelor and master students of Saarland University (4 ECTS credits, assistant: Alexander Graf-Brill).
- A. Kriouile served as a teaching assistant in a course on “*Conception de circuits et architecture des ordinateurs*”, given by Frédéric Pétrout to the first year computer science engineering students of ENSIMAG (18 hours).
- F. Lang and W. Serwe gave, jointly with Pascal Raymond (CNRS, Verimag), a course on “*Méthodes formelles de développement*” to the computer science engineering students of CNAM (“*Conservatoire National des Arts et Métiers*”) Grenoble (27 hours).
- F. Lang and W. Serwe gave a course on “*Spécification et vérification de systèmes concurrents et temps-réel*” to the third year computer science engineering students of ENSIMAG (18 hours).
- G. Salaün gave lectures on “*Algorithmics and Object-Oriented Programming*” to the 2nd year computer science engineering students of ENSIMAG (36 hours).
- G. Salaün is co-responsible of the ISI (*Ingénierie des Systèmes d'Information*) department of ENSIMAG since September 1, 2011.

9.2.2. Juries

- G. Salaün was a panel member for Jose Antonio Martin Baena's PhD thesis, entitled "*Secure Adaptation of Software Services*", defended at the University of Málaga, Spain, on July 24, 2012.
- W. Serwe was a core committee / reading committee member of F. P. M. Stapper's PhD thesis, entitled "*Bridging Formal Methods: An Engineering Perspective*", defended at the Technical University of Eindhoven, The Netherlands, on November 8, 2012.

9.3. Popularization

H. Garavel participates to the committee in charge of organizing the Aerospace Valley series of industrial conferences on formal methods. The first conference, held on November 13, 2012, was a success, as it attracted 85 participants, among which 61 industrialists from 33 different companies.

R. Mateescu published a report about the 17th workshop on *Formal Methods for Industrial Critical Systems* [21].

In the context of the 20th anniversary of the Inria research center in Montbonnot, H. Garavel contributed to the collection of articles describing the evolution of computer sciences during the last 20 years [20].

9.4. Miscellaneous Activities

Within the Minalogic *Pôle de compétitivité mondial*, H. Garavel is a member of the operational committee of the EMSOC cluster (Embedded System on Chip).

H. Garavel was a reviewer for the German Excellence Initiative (Engineering Sciences Review Panel ING 14 for Clusters of Excellence), Bonn (Germany), January 10–12, 2012.

H. Garavel was a member of the working group in charge of restructuring the scientific themes of the LIG laboratory.

H. Garavel, F. Lang, R. Mateescu, G. Salaün, and W. Serwe attended the Inria evaluation seminar for teams working on "Embedded Systems and Real-Time", Rungis/Orly (France), March 19–20, 2012.

H. Garavel participated in the 40th Symposium for Research Award Winners of the Alexander von Humboldt Foundation, Bamberg (Germany), March 22–25, 2012.

H. Garavel participated in the "Cérémonie de remise du Prix Gay-Lussac Humboldt 2011", Académie des Sciences – Institut de France, Paris, April 10, 2012.

H. Garavel participated in the Annual Meeting (*Jahrestagung*) of the Alexander von Humboldt Foundation, Berlin, June 19–21, 2012.

H. Garavel was a reviewer for the "*Futur et Ruptures*" joint programme of Institut Mines-Télécom and Fondation Télécom.

F. Lang is a member of the "*commission du développement technologique*", which is in charge of selecting R&D projects for Inria Grenoble – Rhône-Alpes.

R. Mateescu is the correspondent of the "*Département des Partenariats Européens*" for Inria Grenoble – Rhône-Alpes.

G. Salaün was a member of the council of ENSIMAG until October 2012.

G. Salaün is a member of the council of the LIG laboratory.

G. Salaün is a member of the scientific council of Grenoble INP (*Conseil scientifique de l'institut*).

COPRIN Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. International activities

We will not detail the reviewing process done in the project but it can be estimated that over 20 journal papers and 50 conference papers were reviewed by the team this year.

- Julien Alexandre dit Sandretto was invited in the Department of Mechanical Engineering in the University of Melbourne where he mainly worked on the muscle parameter identification using the analogy between muscles and cables with a novel workspace satisfaction method.
- D. Daney has organized and has been a member program committee of IROS 2012 workshop on Assistance and Service Robotics in a Human Environment and an associate editor of ICRA 2013. He has presented the activity of the large scale initiative action PAL to the university of Athens, Athens, Greece, and to the National Taiwan University, Taipei, Taiwan.
- J-P. Merlet is a member of the scientific committee of the European Conference on Mechanism Science (EUCOMES), chairman of the scientific Committee of the Computational Kinematics workshop, a member of the steering Committee of IROS and board member of the Journal of Behavioral Robotics. He is also a board member of the european robotics network EURON which has joined with the industrial robotics network EUROP to constitute the PPP Eurobotics aisbl, of which he is a board member. He is a member of the IFToMM (International Federation for the Promotion of Mechanism and Machine Science) Technical Committees on History and on Computational Kinematics and is one of the 10 members of IFToMM Executive Council, the board of this federation.
- Y. Papegay is a permanent member of the International Steering Committee of the International Mathematica Symposium conferences serie.

9.1.2. National activities

- D. Daney is a member of the scientific committee of the CNR SDA (Centre National de Référence Santé à Domicile et Autonomie) and of the evaluation committee of the ANR TecSan. He has presented the large scale initiative action PAL to the "Centre National de Référence, Santé à Domicile + Autonomie", Paris, the "Pôle service à la personne" PACA, Marseille, the Centre Expertise National Habitat et Logement, Troyes.
- J-P. Merlet is a member of the scientific committee of the CNRS GDR robotique

9.1.2.1. Inria activities

- D. Daney is coordinator of the Large Scale Initiative Personally Assisting Living (PAL)
- J-P. Merlet is a member of the "Bureau du Comité des Projets" of the Sophia-Antipolis Inria center.
- O. Pourtallier is a member of the CSD (doctoral students monitoring), and is responsible of the NICE committee (long term invited scientists and post-doctoral student selection).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

D. Daney gave a lecture on industrial control systems (L3), ITII, Polytech Nice (48h ETP).

D. Daney gave a lecture on medical robotics, Master of Bio-Medical (M2), Univ. Nice Sophia Antipolis (22h ETP).

T. Gayral gave practicals on mechanics (kinematics, dynamics and energy), Polytech'Nice (64h ETP).

J-P. Merlet gave a 8h lecture during the Summer School on Models and Methods in Kinematics and Robotics 2012 (01 July – 08 July 2012) at the Technical University of Cluj-Napoca, Romania.

J-P. Merlet gave a 3h lecture at the Collège de France during the colloque Robotique et Santé on May 2.

O. Pourtallier lectured 30 hours on mathematical tools for engineer for undergraduate students (L1) at university of Nice.

O. Pourtallier lectured 6 hours on game theory to Master OSE (M2), at École des Mines de Paris, Sophia Antipolis

9.2.2. Supervision

HdR: Y. Papegay, De la modélisation littérale à la simulation certifiée, Université de Nice Sophia-Antipolis, June 2012

PhD: S. Bennour, Contribution au Développement d'une Plateforme Robotisée pour la Rééducation Fonctionnelle, Ecole Nationale d'Ingénieurs de Monastir, February 2012

Phd: M. Harshe, Analyse et conception d'un système de rééducation de membres inférieurs reposant sur un robot parallèle à câbles, Université de Nice, December 2012

PhD in progress : J. Alexandre dit Sandretto, Calibration of large parallel robots, 2010-2013, supervisors: D. Daney, G. Trombettoni

PhD in progress :K. Bakal, Indices biomécaniques globaux de capacité de génération de forces, supervisor: P. Gorce (Handibio), J-P. Merlet

PhD in progress :L. Blanchet, Design of large scale wire-driven parallel robots, 2012-2016, supervisor: J-P. Merlet supervisors: D. Daney, J-P. Merlet

PhD in progress :T. Gayral, Calibration of parallel telescope, 2010-2013, supervisors: D. Daney, J-P. Merlet

PhD in progress : H. Qu, Optimization of parallel robots, 2009-2012, supervisor: J-P. Merlet

PhD in progress : R. Ramadour, Manipulation for assistance, 2011-2014, supervisors: F. Chaumette, J-P. Merlet

9.2.3. Juries

- J-P. Merlet has been the member of the jury of 2 PhD defense and of one HdR

9.3. Popularization

- Julien Alexandre dit Sandretto has completed the construction of two small cable-driven robots in order to propose demonstration and lecture for students. The largest robot was presented during the french event "Fête de la science", during October, to four classes (second grade and first grade of high school). The subject of this speech was the High school Mathematics in the robotics. He gave a lecture on fundamental robotics in the Pobot club, and achieved the construction of a Delta parallel manipulator
- J-P. Merlet has completed the construction of one pedagogic wire-driven parallel robot. This robot, together with the robots developed by Julien Alexandre dit Sandretto, are tools that are intended to demonstrate basic concepts of several scientific domains (mathematics, networks, robotics, mechanics, ...) by researchers (not only roboticists) for a large variety of audience
- 180 visitors have attended this year a demonstration by the project team. This has led, for example, to articles in the newspapers Le Monde, Le Figaro, Les Echos, Le Quotidien du Médecin and interviews on RFI, France Culture and France Inter.

CORIDA Project-Team

9. Dissemination

9.1. Scientific Animation

Most of the members of the team are regular reviewers of major journals of the field and participate to major conferences. We give here below a selection of our other activities or responsibilities.

- Xavier Antoine and Karim Ramdani were members of the organizing committee of the “Journées de Metz 2012”.
- Fatiha Alabeau is member of the National Committee of the CNRS, section 41, member of the AERES committees for the CEREMADE (University Paris-Dauphine) and MAP5 (University Paris Descartes) and member of the Administration Council of the S.M.A.I., was member of the organizing committee of MCPIT2013 "Modelling, Control and Inverse Problems for the Planet Earth in all its states", Conference of the GDRE CONEDP and for “Mathematics of the Planet Earth, co-organisation”, november 18–23 2013, Institut Henri Poincaré, Paris, France and of the thematic school of the CNRS, GDRE CONEDP, “Control of PDEs, interactions and applicative challenges”, november 5–9 2012, CIRM Luminy, France, and is member of the editorial board of the journal Evolution Equations and Control Theory (EECT), American Institute of Mathematics and Sciences (AIMS)
- Antoine Henrot is head of Fédération Charles Hermite (FR CNRS 3198) which is a Federation of four scientific units: CRAN (Research Center for Automatic Control), IECN (Institut Elie Cartan of Nancy), LMAM (Mathematical Center of research in Metz), LORIA ((Lorraine Laboratory of IT Research and its Application), elected to the Administrative Council of the University of Lorraine in June 2012, and scientific Delegate for Mathematics at AERES (the French Agency for Evaluation of Research) since September 2012.
- Marius Tucsnak became senior Member of Institut Universitaire de France in 2012 and is member of the editorial boards of ESAIM COCV, Journal of Mathematical Fluid Dynamics (New) and Revue Roumaine de Mathématiques Pures et Appliquées (New).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Most of the members of the team have a teaching position (192 hours a year) in Université de Lorraine.

- Fatiha Alabeau has a full time full professor position in the University of Metz;
- Xavier Antoine has a full time full professor position at INPL;
- Thomas Chambrion has a full time associate professor position at ESSTIN;
- Antoine Henrot has a full time full professor position at INPL;
- Bruno Pinçon has a full time associate professor position at ESIAL;
- Lionel Rosier has a full time full professor position at ESSTIN;
- Jean-François Scheid has a full time associate professor position at ESIAL;
- Marius Tucsnak has a full time full professor position at UHP;
- Julie Valein has a full time associate professor position at ESSTIN.

9.2.2. Supervision

PhD : [11] Ghislain HAINE, “Observateurs en dimension infinie. Application à l’étude de quelques problèmes inverses”, Université de Lorraine, October 22, 2012. Supervisor: Karim Ramdani.

PhD: Jérôme Lohéac, “Contrôle en temps optimal et nage à bas nombre de Reynolds”, Université de Lorraine, December 6th, 2012. Supervisors: Marius Tucsnak and Jean-François Scheid (IECN and EPI Corida).

PhD in progress : Tatiana Manrique, “Stratégies efficaces pour la commande de véhicules hybrides”, Université de Lorraine. Supervisors: Gilles Millerioux (CRAN, Université de Lorraine) and Thomas Chambrion (IECN and EPI Corida).

PhD in progress: Chi Ting Wu, title not available yet, Université de Lorraine. Supervisors: Marius Tucsnak and Julie Valein (IECN and EPI Corida).

CORTEX Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Responsibilities

- Principal Investigator of MATHANA (A. Hutt)
- Member of the Board of Directors in Organization of Computation Neuroscience (A. Hutt)
- Member of the steering committee of the french association for Artificial Intelligence (AFIA) (F. Alexandre)
- Member of the board of directors of the LORIA laboratory (B. Girau).
- Head of the Complex systems and AI department of the LORIA laboratory (B. Girau)
- Member of the scientific culture commission (N. Rougier)
- Elected member of the laboratory council (N. Rougier)
- Member of the Comité du Développement Technologique (L. Bougrain)
- Member of the “Bureau du Comité de Projets” (Steering Committee of the Project-Team Committee) (F. Alexandre, until Aug 2012)
- F. Alexandre and T. Viéville are members (and moderators) of the scientific committee of NeuroComp, the initiative to gather the french community in Computational Neuroscience (annual conference and web site: <http://www.neurocomp.fr/>).

8.1.2. Review activities

- Reviewing for journals: Applied Intelligence, RIA, J. Physiol. (F. Alexandre), Physica A, Physical Review E, Physical Review Letters, Neuroimage, Cognitive Neurodynamics, J. Biological Physics, Mathematical Neuroscience, Philosophical Transactions of the Royal Society A (A. Hutt)
- Reviewing for journals: Applied Intelligence, RIA, J. Physiol. (F. Alexandre), Physical Review Letters, Neuroimage, Cognitive Neurodynamics, Mathematical Neuroscience (A. Hutt)
- Member of program committees: Reconfig (B. Girau), CAP (L. Bougrain, F. Alexandre)
- Reviewing (A. Hutt) for the NWO (Science Foundation Netherlands), the ANR and several french regional and territorial agencies (F. Alexandre)

8.1.3. Workshops, conferences and seminars

- Organization of the NeuroComp/KEOPS'12 workshop, Beyond the retina: from computational models to outcomes in bioengineering. Focus on architecture and dynamics sustaining information flows in the visuomotor system. Bordeaux, October the 10th and 11th (F. Alexandre and T. Viéville). <http://www.neurocomp.fr/neurocomp-2012>
- Co-organization of the “Robots et corps” conference, 18/10/2012, Nancy (N. Rougier)
- Co-organization of CAP'12, French conference on Machine Learning, 23-25/05/2012, Nancy (L. Bougrain)
- Invited speaker and project leader on "Inverse reinforcement learning for a brain-computer interfaces driven robotic arm control", 8th International Summer Workshop on Multimodal Interfaces, eINTERFACE 2012, 02-27/07/2012, Metz (L. Bougrain)
- Invited speaker on “Brain-Machines Interfaces”, "Robots et corps" conference, 18/10/2012, Nancy (L. Bougrain)

- Speaker on "Brain-computer interfaces", meeting on ICT for autonomy during the Autonomic event, 18-19/10/2012, Metz (L. Bougrain)
- Exhibitor on Neuroprosthetics for the Inria Industry meeting on Numerical Simulation for Healthcare and Wellbeing, 21/11/2012, Strasbourg (L. Bougrain)

8.1.4. International cooperations

- in neurophysiology with MPI for Biological Cybernetics (Tubingen)
- in general anaesthesia with University of Auckland (New Zealand)
- on modeling visual attention with university of Chemnitz (Germany)
- in brain-computer interface with the Universidad Autónoma Metropolitana (UAM, Mexico)
- in spike sorting with university of Princeton (USA)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Many courses are given in universities and schools of engineers at different levels (LMD) by most team members, in computer science, in applied mathematics and in cognitive science. Moreover, several members of the team are implied in various kinds of academic responsibilities: Laurent Bougrain is responsible for the relations of the Master In Computer Science with professional partners, Bernard Girau is head of the RAR speciality of this Master, and member of the Conseil de Collegium Science et Technologie of the University of Lorraine

8.3. Popularization

- The other half-time of Thierry Viéville's activity is dedicated to popularization of science (<http://science-info-lycee.fr>, <http://interstices.info>) with about 10 conferences and 20 days of scientific animation.
- Organization of a talk series on Image, Perception, Action & Cognition on a montly basis at the Inria-Nancy Grand Est laboratory (<http://ipac.loria.fr/>, Y. Boniface, N. Rougier).
- Participation to *Les cafés des sciences et techniques*, "Les Robots, le futur... demain ?" 22/11/2012, Epinal (N. Rougier)
- Participation to *Festival du film du chercheur*, 10/06/2012, Nancy (N. Rougier, L. Bougrain)
- Talk on Neuroprosthetics for the Science's day 2012 at Jules Ferry's school, 11/11/2012, Vandoeuvre-lès-Nancy (L. Bougrain)

CQFD Project-Team

8. Dissemination

8.1. Editorial activities

F. Dufour is associate editor of the journal: SIAM Journal of Control and Optimization since 2009.

All the member of the team are regular reviewers for the most important journals in applied probability and statistics.

8.2. Scientific responsibilities

F. Dufour is the leader of the ANR project FAUTOCOES. B. de Saporta is in charge of the tâche 3 of the ANR project FAUTOCOES.

8.3. Organization of workshops and conferences

The team CQFD organized the first french-speaking meeting on the software R in July 2012.

8.4. Administration of the universities and research institutes

F. Dufour is member of the scientific council of the engineering school ENSEIRB-MATMECA.

F. Dufour is member of the scientific council of the Institute of Mathematics of Bordeaux.

F. Dufour is vice-president of the Inria Project Committee.

B. de Saporta is president of the "Congress and Colloquium" commission of the Inria Bordeaux Sud-Ouest.

B. de Saporta is in charge of the seminar of the team "Statistics and Probability" of the Institute of Mathematics of Bordeaux (IMB).

B. de Saporta is correspondent of the cursus *Ingénierie Economique* of the master MIMSE *Ingénierie Mathématique, Statistique et Economique* of the University of Bordeaux.

A. Gégout-Petit is elected member of the CEVU of University Bordeaux Segalen

A. Gégout-Petit is in charge to promote diplomas of UFR Science et Modélisation.

A. Gégout-Petit is member of the Mathematical Institute of Bordeaux council

A. Gégout-Petit is general secretary and elected member of the council of the Société Française de Statistique.

M. Chavent is co-director of the cursus *Modélisation Statistique et Sochastique* of the master MIMSE *Ingénierie Mathématique, Statistique et Economique* of the University of Bordeaux.

J. Saracco is member of the commission Inria "Jeunes Chercheurs".

J. Saracco is member of the council of ENSC

J. Saracco is the leader of the team "Statistics and Probability" of the Institute of Mathematics of Bordeaux (IMB).

H. Zhang is director of the cursus *Ingénierie Mathématique* of the Licence de Mathématiques of the University of Bordeaux.

8.5. Scientific Animation

J. Saracco was member of the AERES visiting committee of the research unit of the "Laboratoire de Probabilités et modèles aléatoires" (LPMA Universités Paris 6 et Paris 7)

B de Saporta, J. Saracco and M. Chavent are elected (deputy) member of the CNU 26.

B. de Saporta belongs to the board of SMAI-MAS group.

A. Gégout-Petit was in the organizing committee of the first "Forum Emploi Mathématique" which was successful and had gather together a thousand of participants in january.

A. Gégout-Petit made a action in order to promote scientific studies with a class of secondary (statistical project with the pupils and presentation of a research project for the pupils in the university.

L. Vézard has presented the objectives of his PhD work and its contribution in the global project of musical informatics to a class of secondary school.

8.6. Teaching - Supervision - Juries

8.6.1. Teaching

Licence : F. Dufour, Probabilités et statistiques, 16 heures, niveau L3, Institut Polytechnique de Bordeaux, école ENSEIRB-MATMECA, France. Probabilités , 10,6 heures, niveau L3, Institut Polytechnique de Bordeaux, école ENSEIRB-MATMECA, France.

Licence : F. Dufour, Probabilités et statistiques, 16 heures, niveau L3, Institut Polytechnique de Bordeaux, école ENSEIRB-MATMECA, France. Probabilités , 10,6 heures, niveau L3, Institut Polytechnique de Bordeaux, école ENSEIRB-MATMECA, France.

Licence : A. Gégout-Petit, Etudes de cas en statistique, 28h, L3 MASS (applied mathematics), Université Bordeaux Segalen, France.

Licence : A. Gégout-Petit, Econométrie et séries chronologiques, 24h, L3 MASS (applied mathematics), Université Bordeaux Segalen, France.

Licence : M. Chavent, Statistique descriptive, 36 ETD ,L1, university Bordeaux Segalen, France

Licence: J. Saracco, Descriptive statistics, 10.5h, L3, First year of ENSC, France

Licence: J. Saracco, Mathematical statistics, 20h, L3, First year of ENSC, France

Licence:J. Saracco, Data analysis (multidimensional statistics), 20h, L3, First year of ENSC, France

Licence: J. Saracco, Mathematics (complement of linear algebra), 20h, L3, First year of ENSC, France

Master : F. Dufour, Méthodes numériques pour la fiabilité, 24 heures, niveau M1, Institut Polytechnique de Bordeaux, école ENSEIRB-MATMECA, France. Probabilités, 20 heures, niveau M1, Institut Polytechnique de Bordeaux, école ENSEIRB-MATMECA, France.

Master : B. de Saporta, Processus aléatoires en finance 30h ETD, M1, université de Bordeaux, France

Master : B. de Saporta, Finance en temps continu, 10h ETD, M2, université de Bordeaux, France

Master : B. de Saporta, Finance en temps discret, 29h ETD, M2, université de Bordeaux, France

Master : B. de Saporta, Processus de Markov, 25h ETD, M2, université de Bordeaux, France

Master : A. Gégout-Petit, Analyse de variance, 36h, M1, université Bordeaux, France.

Master : M. Chavent, Analyse des données 1, 43 ETD, niveau M1, university Bordeaux Segalen, France

Master : M. Chavent, Modèle de régression, 29 ETD, niveau M1, university Bordeaux Segalen, France

Master : M. Chavent, Logiciels de statistique, 12 ETD, niveau M1, university Bordeaux Segalen, France

Master : M. Chavent, Analyse des données 2, 25 ETD, niveau M2, university Bordeaux Segalen, France

Master : M. Chavent, Scoring, 21 ETD, niveau M2, university Montesquieu Bordeaux 4, France

Master: J. Saracco, Mathematics (complement of linear algebra and analysis), 20h, M1, First year of ENSC, France

Master: J. Saracco, Statistical modeling, 20h, M1, Second year of ENSC, France

Master: J. Saracco, training project, 20h, M1, Second year of ENSC, France

Master: J. Saracco, Sampling techniques and experimental designs, 25h, M2, Master "Ingénierie Mathématique, Statistique et Economique", the University of Bordeaux, France

8.6.2. Supervision

HdR : Anne Gégout-Petit, "Contribution à la statistique des processus : modélisation et applications, Université Bordeaux 2, 19 novembre 2012

PhD : Adrien Brandejski, Méthodes numériques pour les Processus Markoviens Déterministes par Morceaux, Université Bordeaux 1, 2 juillet 2012, supervised by F. Dufour and B. de Saporta

PhD in progress : Azaïs Romain, Inférence des processus Markoviens déterministe par morceaux , juillet 2013, supervised by François Dufour and Anne Gégout-Petit

PhD in progress : Camille Baysse, Analyse et optimisation de la fiabilité d'un équipement opto-électronique équipé de HUMS, novembre 2013, supervised by Anne Gégout-Petit and Jérôme Saracco

PhD in progress : Laurent Vezard, "Classification de signaux EEG et synthèse de paramètres musicaux par algorithme évolutionnaire", University of Bordeaux 1, supervised by M. Chavent and P. Legrand.

PhD in progress : Raphaël Coudret, Modélisation statistique de données acquises à haute fréquence : application en environnement et génétique, University of Bordeaux 1, supervised by J. Saracco and G. Durrieu.

PhD in progress : Karim Claudio, Un outil d'aide à la maîtrise des pertes dans les réseaux d'eau potable : mise en place d'un modèle de fuite multi-état en secteur hydraulique instrumenté , University of Bordeaux 1, supervised by J. Saracco and V. Couallier.

PhD in progress : Amaury Labenne, Approche Statistique du diagnostic territorial par la notion de qualité de vie, University of Bordeaux 1, supervised by M. Chavent, J. Saracco and V. Kuentz.

PhD in progress : Isabelle Charlier, Optimal quantization applied to conditional quantile estimation, University of Bordeaux 1 and Université Libre de Bruxelles, supervised by J. Saracco and D. Paindaveine.

8.6.3. Juries

B. de Saporta was a member of the selection committee for an assistant professor position (MdC 26) at University Montesquieu Bordeaux IV.

F. Dufour was referee of the PhD dissertation of C. Illand at Université Paris 6.

F. Dufour was referee of the PhD dissertation of Ariane Lorton at Université Technologique de Troyes.

J. Saracco was referee of the PhD dissertation of Adriana Cucu Gogonel at Université Paris 5.

J. Saracco was president of jury of the PhD of Adriana Christophe Denis at Université Paris 5.

J. Saracco was referee of the PhD dissertation of Adriana Cucu Gogonel at Université Paris 5.

J. Saracco was member of the juries for the HDR of Charles Bouveyron (Université Paris 1) and Julien Jacques (Université de Lille 1).

DAHU Project-Team

7. Dissemination

7.1. Scientific Animation

Organization of workshops and conferences.

- Luc Segoufin organized an international workshop on finite model theory in Les Houches in May 14-18, 2012: <http://www.lsv.ens-cachan.fr/Events/fmt2012/>.
- Serge Abiteboul co-organized with Tova Milo (Tel Aviv) the WebDam-MoDaS Workshop on Web data management and Crowdsourcing, Eilat, Israel 2012
- Serge Abiteboul co-organized with P. Senellart (Telecom Paris) the Webdam “Data in the Wild” Workshop, Paris 2012

Program Committees.

- Serge Abiteboul: International Conference on Database Theory (ICDT’12)
- Serge Abiteboul: World Wide Web (WWW’2012)
- Luc Segoufin: Principle of Database systems (PODS’12).
- Cristina Sirangelo: International Conference on Database Theory (ICDT’13)
- Cristina Sirangelo: ICDT’13 Test of Time Award
- Cristina Sirangelo: 6th Alberto Mendelzon Workshop

Responsibilities.

- Luc Segoufin is since 2009 the coordinator of the european project FoX. Since 2010 he is a member of the steering committee of the Intl. Conf. on Database Theory (ICDT). Since 2010 he is part of the “bureau du comité des projets” à l’Inria Saclay. Since 2011 he is part of the scientific board of Inria. Since 2010 he is responsible of the groupe de travail “Complexité et Modèles Finis” du GDR “Mathématique et Informatique” (<http://www.gdr-im.fr/>).
- Serge Abiteboul is the principal investigator of the European Research Council Grant Webdam on Web Data Management. He is a member of the French Academy of Sciences and of the Academia Europea. He is chairman of the Scientific Council of Société d’Informatique de France, elected in 2012.

Larger audience. School “Imagine the Future in ICT”, organized by ICDT lab. Two courses given by Serge Abiteboul: (i) Data sciences; (ii) Web search engines.

Nomination. Serge Abiteboul has been professor at Collège de France [21] till September 2012. He organized a 10 hours course on Web data management. He also organized a seminar on the topic with for guests: Moshe Vardi, Anastasia Ailamaki, François Bancilhon, Julien Masanès, Victor Vianu, Tova Milo, Georg Gottlob, Gerhard Weikum, Marie-Christine Rousset, Pierre Senellart.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Le module “Teaching” présente vos activités d’enseignement et d’encadrement à présenter comme suit :

Licence : Cristina Sirangelo, Bases de données, 30 heures équivalent TD, L3, École Normale Supérieure de Cachan, France

Doctorat : Cristina Sirangelo, Bases de données et sites Web dynamiques, 18 heures équivalent TD, École Normale Supérieure de Cachan, France

Doctorat : Cristina Sirangelo, Création de sites Web, 18 heures équivalent TD, École Normale Supérieure de Cachan, France

Licence : Serge Abiteboul, Base de données , ENS Cachan and ENS Paris

Master : Serge Abiteboul, Web data management, MPRI Paris

Licence : Émilien Antoine, Algorithmique et complexité, 32h, L3, Université de Paris-Sud, France

7.2.2. Supervision

PhD & HdR :

PhD in Progress: Wojciech Kazana, enumeration of queries, 01/03/2010, Luc Segoufin

PhD in Progress: Nadime Francis, graph databases, 01/09/2011, Cristina Sirangelo and Luc Segoufin

PhD in progress : Émilien Antoine, Data management in social network, 01/10/2010, Serge Abiteboul

7.2.3. Juries

- Luc Segoufin was on the HDR jury of Florent Madeleine at the university of Clermont-Ferrand.
- Luc Segoufin was on the HDR jury of Manuel Bordiski at the university of Paris 7.
- Cristina Sirangelo was on the jury for a MCF position at Ecole Normale Supérieure de Cachan

7.3. Popularization

S.Abiteboul's radio talk shows: Science Publique (France Culture), Place de La Toile (France Culture), Autour de la question (RFI)

S.Abiteboul's interviews in the press:

- Construisons un Web des savoirs, Le Monde
- Le Web redéfinit sans cesse les échanges d'information, Le Figaro 2012
- L'enseignement de l'informatique en classes préparées, 01.Net (avec Colin de La Higuerra)
- Le Big Data est avant tout un effet de mode, O1Net
- Sur les liens entre labos publics et universitaires, 01.Net 2012.
- L'informatique est une science bien trop sérieuse pour être laissée aux informaticiens, Le monde.fr (avec Colin de la Higuera et Gilles Dowek)
- L'important sur Internet, c'est de trouver la bonne information, Lepoint.fr

DANTE Team

9. Dissemination

9.1. Scientific Animation

- Eric Fleury is President of the expert committee for the ANR INFRA call
- Eric Fleury is Co-chair of the Networking group ResCom of the CNRS GDR ASR. He is also a member of the scientific committee of the GDR ASR.
- Eric Fleury is in the steering committee of the IXXI – Rhône-Alpes Complex Systems Institute.
- Eric Fleury has been an expert for the Fund for Scientific Research - FNRS.
- Eric Fleury was PC member of ASE/IEEE International Conference on Social Computing (Social-Com)
- Eric Fleury was PC member of 3rd Workshop on Complex Networks
- Thomas Begin was PC member of ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2012).
- Thomas Begin was PC member of Nouvelles Technologies de la Répartition / Colloque Francophone sur l'Ingénierie des Protocoles (NOTERE/CFIP 2012).
- Paulo Gonçalves is officer of the local liaison board of EURASIP
- Paulo Gonçalves was PC member of the 3rd Workshop on High Speed Network and Computing Environments (SAINT 2012)
- Paulo Gonçalves is organiser of the 4th Workshop on High Speed Network and Computing Environments (COMPSAC 2013, Kyoto)
- Christophe Crespelle was co-chair of the Discrete Mathematics Session of the SMF-VMS Joint Congress of Mathematics, August 2012, Huê, Vietnam.
- Christophe Crespelle was co-organiser of the 14èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (AlgoTel 2012).
- Isabelle Guérin Lassous was vice-chair of the expert committee for the ANR Blanc call
- Isabelle Guérin Lassous is a member of the National Committee - Section 06 of the CNRS
- Isabelle Guérin Lassous was general chair of the 9th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2012).
- Isabelle Guérin Lassous is PC member of international conferences as ITC 2013, IWCMC 2013, ICC 2013, MedHocNet 2013, IPDPS 2013, ICC 2012, Globecom 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

9.2.1.1. Teaching by Eric Fleury

Eric Fleury is a professor at ENS Lyon in the Computer Science Department since 2007. Since 2009 he is the head of the **department of computer science**. **ENS de Lyon** is one of the four Écoles normales supérieures in France.

Licence : "Introduction to Algorithm" (L3), ENS de Lyon, France

Licence : "Architecture, System and Networking" (L3), ENS de Lyon, France

9.2.1.2. Teaching by Thomas Begin

Thomas Begin is an Assistant Professor at Université Claude Bernard Lyon 1 in the Computer Science since 2009. He mostly lectures at the University, though he has a teaching activity at ENS Lyon as well.

Licence : "Networks" (L3), University Lyon 1, France

Master : "Networking" (M1), University Lyon 1, France

Master : "Advanced Networks" (M2), University Lyon 1, France

Master : "Performance Evaluation of Green Networks" (M2), ENS de Lyon, France

9.2.1.3. Teaching by Paulo Gonçalves

Master : Responsible for the teaching axis "Models and Optimization for Emergent Infrastructure". M1/M2 of the Department of Computer Sciences at ENS Lyon (*Informatique fondamentale*)

Eng. school : "Introduction to Compressive Sensing" (5th year), CPE Lyon, France

9.2.1.4. Teaching by Christophe Crespelle

Christophe Crespelle is an Assistant Professor at Université Claude Bernard Lyon 1 (UCBL) in the Computer Science department since 2010. He mostly lectures at UCBL, though he has a teaching activity at ENS Lyon as well.

Licence : "Programming" (L2), UCBL, France

Master : "Network Security Architecture" (M2), UCBL, France

Master : "Security" (M2), UCBL, France

Master : "Future Networks" (M2), UCBL, France

Master : "Complex Networks" (M2), ENS Lyon, France

9.2.1.5. Teaching by Isabelle Guérin Lassous

Isabelle Guérin Lassous is an Professor at Université Claude Bernard Lyon 1 in the Computer Science since 2006. She mostly lectures at the University, though she has a teaching activity at ENS Lyon as well. Isabelle Guérin Lassous also heads the Networking speciality of the Master in computer science of University Lyon 1.

Master : "QoS and multimedia networking applications" (M2), University Lyon 1, France

Master : "Networking" (M2), University Lyon 1, France

Master : "Wireless Networks" (M2), University Lyon 1, France

Master : "Ad Hoc Networks" (M1), University Lyon 1, France

Master : "Network Algorithms" (M1), ENS de Lyon, France

9.2.2. Supervision

PhD : Adrien Friggeri, A Quantitative Theory of Social Cohesion, ENS de Lyon, August 2012, Éric Fleury & Guillaume Chelius

PhD : Qinna Wang, Overlapping community detection in dynamic networks , ENS de Lyon, April 2012, Éric Fleury

PhD : Doreid Ammar, Knowledge Plane for Semantic Networks: Application to Admission Control, University Lyon 1, December 2012, Isabelle Guérin-Lassous & Thomas Begin

PhD : Van Nam Nguyen, Evaluation and improvement of the bandwidth use in 802.11-based multihop wireless networks, University Lyon 1, December 2012, Isabelle Guérin-Lassous & Victor Moraru (IFI, Vietnam)

PhD : Andreea Chis, Méthodes et outils pour la compilation et l'optimisation logicielles des systèmes embarqués sans fils dédiés à des applications, ENS de Lyon, January 2012, Éric Fleury & Antoine Fraboulet

PhD in progress : Lucie Martinet, iBird: Individual Based Investigation of Resistance Dissemination, September 2011, Éric Fleury & Christophe Crespelle

PhD in progress : Benjamin Girault, Ondelettes et graphe d'interactions dynamique : échelle temporelle et spatiale, September 2012, Éric Fleury & Paulo Gonçalves

PhD in progress : Thiago Abreu, Integration of Traffic Awareness in Substitution Networks, March 2011, Isabelle Guérin-Lassous & Thomas Begin

PhD in progress : Roy Shubhabrata, Measurements in the framework of Virtual Networks Development, October 2010, Paulo Gonçalves & Thomas Begin

PhD in progress: Marina Sokol, Clustering and learning techniques for traffic / users classification, October 2010, Philippe Nain (Inria MAESTRO) and Paulo Gonçalves. M. Sokol has interrupted her PhD and is currently on maternity leave (until October 2013).

PhD in progress: Elie Rotenberg, Complex Network Metrology, September 2010, Matthieu Latapy and Christophe Crespelle

PhD in progress: Anh Tuan GIANG, Modeling and Improving the Capacity of Vehicular Ad hoc network, April 2011, Anthony Busson (registered at University Paris XI).

PhD in progress: Sabrina Naimi, Mobility metrics in wireless mobile networks, September 2010, Véronique Vèque and Anthony Busson (registered at University Paris XI).

9.2.3. Juries

- Eric Fleury was president of the HDR jury of Emmanuel Baccelli (UPMC, France).
- Eric Fleury was president of the Ph. D. jury of Mikaila Toko Worou (Université de Nice - Inria Sophia Antipolis, France).
- Eric Fleury was member of the Ph.D. jury and reviewer of DIANA Rémi (Université de Toulouse, France).
- Eric Fleury was member of the Ph.D. jury of Afshin Moin (Université de Rennes, France).
- Eric Fleury was member of the Ph.D. jury of Fabio Rocha-Jimenez-Vieira (UPMC, France).
- Eric Fleury was member of the Ph.D. jury of Thomas Ferrandiz (ISAE, France).
- Thomas Begin was member of the Ph.D. jury of El Hachemi Bendahmane (University of Grenoble, France).
- Paulo Gonçalves was member of the HDR jury of Sandrine Vaton (Telecom Bretagne, France).
- Paulo Gonçalves was member of the Ph.D. jury of Jérôme Van Zaen (EPFL, Switzerland).
- Christophe Crespelle was member of the Ph.D. jury of Massoud Seifi (UPMC, France).
- Isabelle Guérin Lassous was the member of the jury of the second competition of ENS Cachan.
- Isabelle Guérin Lassous was president of the HdR jury of Anne Fladenmuller (UPMC) and of the PhD juries of Bilel Romdhani (INSA Lyon) and Aruna Bianzino (Telecom ParisTech).
- Isabelle Guérin Lassous was reviewer of the PhD juries of Giorgio Corbellini (Grenoble), Mauricio Ituralde (Toulouse), Scott McKenzie Raynel (University of Waikato, New Zealand) and Bafing Sambou (Toulouse).

9.3. Popularization

Eric Fleury was the co-chair of the conference "[Alan Turing's Heritage](#)". This Turing Centenary Conference has been held in Lyon on July 2-4, 2012. At this occasion, a short movie [The Turing Machine Comes True](#) was released on the "Real Turing Machine" built from a [student team](#) from the Computer Science Department of ENS de Lyon. We do not mean to simulate a Turing machine as it is indeed very easy to simulate a Turing machine on a modern computer. The challenge was really to build a purely mechanical Turing's machine using only LEGO bricks, gear, rod, pneumatic jack...

DART Project-Team

9. Dissemination

9.1. Scientific Animation

Samy Meftali was member of the program committee of:

- Conference on Design and Architectures for Signal and Image Processing. DASIP 2012. October 23-25, 2012. Karlsruhe, Germany
- International Conference on EMBEDDED SYSTEMS in TELECOMMUNICATIONS and INSTRUMENTATION, 5-7 novembre 2012, Annaba. Algeria.
- The International Symposium on System-on-Chip Tampere, Finland. October 11-12, 2012.

Vlad Rusu was member of the program committee of the IFIP Joint International Conference on Formal Techniques for Distributed Systems (FMOODS & FORTE 2012).

9.1. Teaching - Supervision - Juries

9.1.1. Teaching

Licence : Frédéric Guyomarch, Algorithmics and programming, 70h, L1, Université Lille 1, France

Licence : Frédéric Guyomarch, Data structures, 50h, L1, Université Lille 1, France

Licence : Frédéric Guyomarch, Architecture, 30h, L1, Université Lille 1, France

Licence : Frédéric Guyomarch, Graph theory, 40h, L2, Université Lille 1, France

Master : Frédéric Guyomarch, Advanced architectures, 30h, M1, Université Lille 1, France

Licence : Samy Meftali, Architectures élémentaires, 90h eqTD, L2, Université Lille 1, France

Licence : Samy Meftali, Architecture, 40h, L3, Université Lille 1, France

Master : Samy Meftali, Architectures évoluées, 68h, M1, Université Lille 1, France

Licence : Philippe Marquet, Introduction to Computer Science, 15h, Secondary Education Teacher Training, Université Lille 1, France

Licence : Philippe Marquet, System Programming, 60h, L3, Université Lille 1, France

Master: Philippe Marquet, Design of Operating System, 42h, M1, Université Lille 1, France

Master: Philippe Marquet, Web of Things: Embedded System Programming, 20h, M1, Université Lille 1, France

Master: Philippe Marquet, Parallel and Distributed Programming, 24h, M1, Université Lille 1, France

Master: Philippe Marquet, Introduction to Innovation and Research, 15h, M2, Université Lille 1, France

Licence : Vlad Rusu, Architectures élémentaires, 30h, L2, Université Lille 1, France

Master : Vlad Rusu, Introduction to Formal Verification with PVS, 20h, M2, Universidad Complutense de Madrid, Espagne

9.1.2. Supervision

PhD : Wendell Rodrigues, *Une Méthodologie pour le Développement d'Applications Hautes Performances sur des Architectures GPGPU: Application à la Simulation des Machines Électriques*, Université de Lille 1, 26-01-2012, Frédéric Guyomarch and Jean-Luc Dekeyser

9.1.3. Juries

Frédéric Guyomarch was the external examiner for Jing Guo's PhD (University of Hertfordshire, UK). entitled *Fully Automated Transformation of Hardware-Agnostic, Data-Parallel Programs for Host-Driven Executions on GPUs*.

Vlad Rusu was on the PhD committee of Michaël Lauer (Université de Toulouse) entitled *Une méthode globale pour la vérification d'exigences temps réel Application à l'Avionique Modulaire Intégrée*

Samy Meftali was on the PhD committee of Yaset OLIVA VENEGAS(INSA Rennes) entitled *High Level Modeling of Run-Time Managers for the Design of Heterogeneous Embedded Systems*

Samy Meftali was on the PhD committee of Amine Anane(Univ. Montréal) entitled *Application du concept des transactions pour la modélisation et la simulation multicoeur des systèmes sur puce*

9.2. Popularization

Pamela Wattebled is chair of the organizing committee of Majecstic 2012. MajecSTIC 2012 is the 9th edition of the conference MajecSTIC. This conference is organized by young researchers. This year it takes place in Lille and organized by Pamela WATTEBLED-MEFTALI (project-team DART), Nicolas GOUVY (project-team FUN) and Adel NOUREDDINE (project-team ADAM).

DEDUCTEAM Team

7. Dissemination

7.1. Scientific Animation

Gilles Dowek has been a PC member of LICS, CSL, TAMC, and ICECCS. He is a member of the Scientific Board of the *Société Informatique de France*. He is a member of the *Commission de réflexion sur l'éthique de la recherche en sciences et technologies du numérique d'Allistene*. He is Deputy scientific director of Inria.

Catherine Dubois has been a PC member of TAP and AFADI. She has been the chair of the TAP steering committee since May 2012.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching activities

Olivier Hermant has taught at ISEP four engineering courses: Preparation to the ACM programming contest, Data bases, Formal methods, and Algorithmics.

Guillaume Burel has taught at ENSIIE five courses: Logic, Formal languages, Compilation, and Semantics of programming languages.

Alejandro Díaz-Caro has been teaching assistant at Paris 10 for four courses: in Mathematics (in two different degrees) and in Methodology of measure in social sciences.

Pierre Néron has been a teaching assistant in Polytech' Jussieu for two courses: Project in C and Introduction to networks.

Gilles Dowek has taught in MPRI a course: Foundations of proof systems. He has coordinated a textbook for high school students [39]. He is a member of the Scientific board of *La main à la pâte*.

7.2.2. Ph.D. supervision

Olivier Hermant supervises the theses of Ronan Saillard, Giang Le Truong, and Vivien Maisonneuve.

Catherine Dubois and David Delahaye supervise the thesis of Mélanie Jacquél and Pierre Nicolas Tollitte.

Catherine Dubois and Francois Pessaux (ENSTA) supervise the thesis of Vincent Benayoun.

Catherine Dubois supervises the research internship of Raphaël Cauderlier.

Guillaume Burel and Gilles Dowek supervise the theses of Ali Assaf and Simon Cruanes.

Gilles Dowek supervises the thesis of Pierre Néron.

7.2.3. Supervision of Masters internship

Catherine Dubois and Olivier Hermant have supervises the Masters internship of Raphaël Cauderlier.

Olivier Hermant and Mathieu Boespflug have supervised the Masters internship of Quentin Carbonneaux.

Guillaume Burel and Gilles Dowek have supervised the Masters internship of Ali Assaf.

Gilles Dowek and Pierre Néron have supervised the Masters internship of Raphaël Bost.

7.2.4. Juries

Gilles Dowek has been a member of the Jury of Vincent Demange. he has been a member of the Jury of the habilitations of Frédéric Blanqui and Sylvain Conchon.

Catherine Dubois has been a member of the jury of Maximiliano Cristia and a member of the jury of Ophaina Taoffenua.

7.3. Popularization

Gilles Dowek has given a talk at the Centre d'Alembert, at the Lycée Jacquard in Paris and at the Lycée Montaigne in Bordeaux.

DEFI Project-Team

9. Dissemination

9.1. Scientific Animation

- Grègoire Allaire is the President of SMAI (Société de Mathématiques Appliquées et Industrielles).
- Grègoire Allaire is a board member of Institut Henri Poincaré (IHP).
- Grègoire Allaire is the chairman of the Gaspard Monge Program in Optimization (PGMO) at the Jacques Hadamard Mathematical Foundation.
- Grègoire Allaire is a member of the following editorial boards: book series "Mathématiques et Applications" of SMAI and Springer, ESAIM/COCV, Structural and Multidisciplinary Optimization, Discrete and Continuous Dynamical Systems Series, Computational and Applied Mathematics, Mathematical Models and Methods in Applied Sciences (M3AS), Annali dell'Università di Ferrara.
- Houssein Haddar is a guest editor (jointly with Fioralba Cakoni) of a special issue of Inverse problems on transmission eigenvalues.
- Jing-Rebecca Li is an Associate Editor of the SIAM Journal on Scientific Computing.

9.1.1. Conference organization

- G. Allaire (Chair), H. Haddar and O. Pantz are co-organizers of PICOF 6th edition (Inverse Problems, Control and Shape Optimization), April 2-4 2012.
- H. Haddar is the organizer of the minisymposium "Inverse Problems and Applications" at CANUM, 2012, 21 mai - 25 mai 2012, Superbesse.
- J.-R. Li is a co-organizer of the mini-symposium "Simulation and modeling applied to diffusion magnetic resonance imaging" at the SIAM Computational Science and Engineering Conference Feb 2013.

9.1.2. Conference attendance

- Nicolas Chaulet, "Reconstruction of a perfectly conducting obstacle coated with a thin dielectric layer", PICOF'12, Palaiseau (France), 4-6/04/2012
- Nicolas Chaulet, "A factorization method for support characterization of an obstacle with a generalized impedance boundary condition", IPMS conference, Antalya (Turkey), 21-26/05/2012
- Olivier Pantz, "The dehomogenization method", Seminar University of Sciences of Tunis (November 2012)
- Olivier Pantz, Participation to the kickoff workshop of the ANR "Geometria", Lyon (October 2012)
- Olivier Pantz, "Numerical Simulation of the Dynamic of Red Blood Cells" Colloquium MAP5, University Paris-Descartes (February 2012)
- Grègoire Allaire, 83rd Annual Meeting of GAMM, Darmstadt (march 2012).
- Grègoire Allaire, Conference Dynacomp, Arcachon (may 2012).
- Grègoire Allaire, Workshop "Exotic Structures and Homogenization", APM12, Saint Petersburg (july 2012).
- Grègoire Allaire, Conference "variational models and methods for evolution", Levico (september 2012).
- Houssein Haddar, Canum, 2012, 21 mai - 25 mai 2012, Superbesse
- Houssein Haddar, Congrès de Méthodes numériques et Modélisation ENIT-LAMSIN, Tunis, 13-15 December 2012.

- Dinh Liem Nguyen, International Conference on Inverse Problems and Related Topics 2012, October 21-26, 2012, Southeast University, Nanjing, China.
- Dinh Liem Nguyen, Conference Inverse Days 2012, December 17-20, 2012, University of Jyväskylä, Jyväskylä, Finland.
- Zixian Jiang, Poster at the conference on Inverse Problems, Control and Shape Optimization (PICOF 2012), Ecole Polytechnique, Palaiseau, France, April 2012.
- Zixian Jiang, Talk in the minisymposium *Inverse Problems in Biomedical engineering* at the International Conference on Inverse Problems and Related Topics (ICIP 2012), Southeast University, Nanjing, China, October 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Nicolas Chaulet, *Equations différentielles et introduction à l'automatique*, ENSTA, Paris (1st year).

Licence: Nicolas Chaulet, *La méthode des éléments finis*, ENSTA, Paris (2nd year).

Licence: O. Pantz, Tutorial Classes in "Numerical analysis et Optimization", 64h, L3, École Polytechnique.

Licence: H. Haddar, Tutorial Classes in "Numerical analysis et Optimization", 64h, L3, École Polytechnique.

Licence: Grégoire Allaire teaches a semester course on numerical analysis and optimization in the second year (senior undergraduate level). See the web page: http://www.cmap.polytechnique.fr/~allaire/cours_X_annee2.html

Master: O. Pantz, Tutorial Classes in "Structural Optimization" (G. Allaire) 14h, M1, École Polytechnique.

Master: O. Pantz, "Troisième Ateliers de Simulation Numérique" , 24h TD, M1, Univeristy of Ouragla, Algeria, December 2012.

Master: O. Pantz, Tutorial Classes and Courses in FreeFem++, 24h, M1, University Badji Mokhtar Annaba, Algeria, April 2012.

Master: O. Pantz, Project training in Numerical Analysis (1 project - "Shape optimization by the Level-Set Method in 3d"), M1, Ecole Polytechnique.

Master: Grégoire Allaire teaches a course on optimal design of structures in the third year (first year of a Master program). See the web page: http://www.cmap.polytechnique.fr/~allaire/cours_X_majeure.html

Master: Grégoire Allaire teaches together with François Golse a course on transport and diffusion in the third year (first year of a Master program). See the web page: http://www.cmap.polytechnique.fr/~allaire/cours_map567.html

Master: Grégoire Allaire teaches together with François Alouges a course on homogenization in the fourth year (second year of a Master program). See the web page: <http://www.cmap.polytechnique.fr/~allaire/homogenization.html>

Master: Housseem Haddar teaches together with Antonin Chambolle a course on Mathematics of Inverse Problems (M2, AN&EDP, Paris 6 and Ecole Polytechnique).

9.2.2. Supervision

PhD in progress: L. Azem, Fracture and damage: Modeling and Simulation, Olivier Pantz (with Zorgati).

PhD in progress : H. T. Nguyen, Simplified models and inverse problems for diffusion MRI, 2011, Jing-rebecca Li (with Denis Grebenkov and Cyril Poupon).

PhD in progress : D. V. Nguyen, Efficient finite-element method to solve PDE problems in diffusion MRI, 2011, Jing-Rebecca Li (with Denis Grebenkov).

PhD in progress : F. Ouaki, On multi-scale numerical methods for multiphasic transport in porous media, 2010, Grégoire Allaire.

PhD in progress : G. Delgado, Optimal design of the draping of composite materials, 2010, Grégoire Allaire.

PhD in progress : G. Michailidis, On topology optimization with feasibility constraints, 2010, Grégoire Allaire (with F. Jouve)

PhD in progress : Z. Jiang, Eddy current probing of axisymmetric tubes, 2010, Housseem Haddar.

PhD in progress : G. Migliorati, Electrostatic Imaging with uncertain backgrounds, 2010, Housseem Haddar (with F. Nobile)

PhD in progress : L. Audibert, Non-destructive testing of concrete like materials, 2012, Housseem Haddar.

PhD in progress : T. Mercier, data assimilation for temprature estimates of nuclear fuel powerplant, 2012, Housseem Haddar.

PhD in progress: M. Chamaillard, Effective boundary conditions for thin periodic coatings, Ecole Polytechnique, 2011, Housseem Haddar (with P. Joly).

Master: O.Pantz, Internship co-supervisor with G. Allaire and D. Shmitt (EDF) of G. Gourlaouen (INSTN, École des Mines de Nancy) on "The Shape Optimization of a Sodium Fast Reactor Core", M2.

PhD: Y. Boukari, Méthodes innovantes en contrôle non destructif des structures: applications à la détection de fissures, Ecole Polytechnique and ENIT, January 2012, H. Haddar and F. Ben Hassen.

PhD: G. Giorgi, Mathematical tools for microwave mammography and prostate cryosurgery, University of Genova, April 2012, H. Haddar and M. Piana.

PhD: D. Nicolas, Couplage de méthodes d'échantillonnage et de méthodes d'optimisation de forme pour des problèmes de diffraction inverse, Ecole Polytechnique, November 2012, G. Allaire and H. Haddar.

PhD: N. Chaulet, Modèles d'impédance généralisée en diffraction inverse, Ecole Polytechnique, November 2012, L. Bourgeois and H. Haddar.

PhD: D.L. Nguyen, Spectral Methods for Direct and Inverse Scattering from Periodic Structures, Ecole Polytechnique, December 2012, H. Haddar and A. Lechleiter.

HdR: O. Pantz, Quelques problèmes variationnels: Optimisation de forme, contacts et analyse asymptotique, Université Paris Sud, December 2012.

DEMAR Project-Team

9. Dissemination

9.1. Scientific Animation

- + D. Guiraud
 1. Associate editor for Journal of Neural Eng. and EMBC'12 conference
 2. Member of the steering committee of "Institut des Technologies pour la Santé"
 3. Chair of the Labex Numev "Aide à la personne malade et déficiente" specific action
- + C. Azevedo-Coste
 1. Board member of IFESS society (international functional electrical stimulation society)
 2. Associate Editor of Paladyn Behavioral Robotics Journal
- + D. Andreu
 1. Co-organizer of the french working group on Control Architectures of Robots of the french GdR Robotique
 2. assistant manager of the Robotic Department (LIRMM)
- + F. Soulier
 - Local coordinator of the Belem (BioElectronics for Medical Engineering) intensive programme for the University of Montpellier 2. Belem is funded by the European Community in the framework of the Erasmus programme.
 - Publication chair and the "parallel-session" supervisor at DCIS'12 (27th conference on Design of Circuits and Integrated Systems) that includes a session on biomedical application and a special session on biomedical systems and devices.
 - Organizing committee of the workshop "Systèmes Embarqués pour la Santé" that takes place in Paris in December, the 6th and 7th 2012. The workshop is part of the CNRS's DEFI-SENS inter-disciplinary initiative on sensory deficiencies and personalized supplementation.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- **UE "medical robotics"** from Institut Telecom / Mines specialisation "Tic santé". David Guiraud teaches the basics of neurophysiology and neuroprosthetics about 10h per year.
- **UE "neuroprotheses"** master 1 & 2 "Tic et santé" and master 2 Human Movement Sciences. David Guiraud teaches muscle function, modeling and the basics for the control through FES and neuroprosthesis about 20h per year.
- **collège de France** june 2012 about neuroprosthesis during a dedicated day to "medical robotics" organized by Jean Paul Laumond.
- **Summer school Université d'Aalborg** "Fourth Annual Aalborg Symposium on The Advances in Neurophysiology and Neural Rehabilitation Engineering of Movement " 11-12 juin 2012, talk about neuroprotheses. <https://smi.hst.aau.dk/events/anres2012>.
- David Andreu, Associate Professor, 200h/y, Engineering school Polytech Montpellier and Master degree, Software engineering, real time OS, discrete event systems, networks, neuroprosthesis.
- Christine Azevedo-Coste, University of Montpellier, Master STIC pour la Sante, Neuroprotheses II, Neurophysiology, 6h/y.

- Christine Azevedo-Coste, University of Montpellier, Master STIC pour la Sante, Neuroprotheses I, Neurophysiology, 1,5h/y.
- Christine Azevedo-Coste, Institut Telecom, Neurophysiology, 1,5h/y.
- Mitsuhiro Hayashibe, University of Montpellier, Master STIC pour la Sante, NeuroprothesesII, EMG signal processing and its use for rehabilitation, 3h/y.
- Mitsuhiro Hayashibe, University of Montpellier, Master STIC pour la Sante, Modele et Regulation, Identification and Control in Biomechanics, 4,5h/y.
- Fabien Soulier, assistant professor at Polytech' Montpellier (ERII) teaching electronics and signal processing.

9.2.2. Thesis Defenses

1. Christine Azevedo-Coste, Philippe Fraise and Charles Fattal supervise **Jovana Jovic**, *Vers une assistance fonctionnelle du transfert et de la posture chez le sujet paraplégique sous électrostimulation : de la simulation à l'expérimentation*. defended on 26th Oct. in Montpellier.
2. Guy Cathébras and Fabien Soulier supervise **Olivier Rossel**, *Dispositifs de mesure et d'interprétation de l'activité d'un nerf*. defended on 26th Nov. in Montpellier.
3. Jérôme Bourien (INM, Montpellier) and Christine Azevedo-Coste supervise **Christophe Michel**, *Modélisation de l'efférence latérale du système auditif périphérique*. defended on 13th Dec. in Montpellier.

9.2.3. Ongoing theses

1. Christine Azevedo-Coste and Bernard Espiau supervise **Maud Pasquier**, *Observation et contrôle de mouvements non cycliques des membres inférieurs et supérieurs en assistance fonctionnelle.*, ANM.
2. David Andreu and Karen Godary supervise **Hélène Leroux**, *Abstraction et composition pour la conception formelle de neuroprothèses*, Thesis ENS, 2011-2014.
3. David Guiraud and David Andreu supervise **Guillaume Coppey**, *Unité implantable de mesure répartie pour suppléance fonctionnelle en boucle fermée*, Thesis CIFRE MXM, 2011-2014.
4. Mitsuhiro Hayashibe and Philippe Fraise supervise **Alejandro González**, *Closed-loop whole body posture control and stability analysis in FES.*, European Commission:CORDIS, 2011-2014.
5. Mitsuhiro Hayashibe, Benjamin Gilles and David Guiraud supervise **Yacine Berranen**, *Volumetric musculoskeletal modeling and simulation.*, CNRS Handicap, 2011-2014.
6. Mitsuhiro Hayashibe and David Guiraud supervise **Zhan Li**, *Computational rehabilitation and neuromuscular control based on reinforcement learning.*, China Scholarship Council (CSC), 2011-2014.
7. Philippe Fraise supervises **Nahema Khadija Sylla**, *Contribution à l'assistance au geste au travail : Une approche ergonomique intégrée.*, Thesis CIFRE DEMAR/PSA, 2012-2015.
8. Guy Cathébras, Fabien Soulier and Serge Bernard supervise **Mariam Abdallah**, *Système d'acquisition de signaux bioélectriques multicanal, programmable et implantable.*, Thesis MENRT, 2012-2015.
9. P. Fraise, C. Azevedo Coste, I. Laffont (CHRU Montpellier, M2H, Euromov, UM1), D. Mottet (M2H, Euromov, UM1) supervise **Nader Rouis**, *Étude et développement de méthodes de rééducation du membre supérieur assistées par stimulation électrique fonctionnelle.*, Thesis NUMEV UM2, 2012-2015.

9.2.4. PostDoc

- Christine Azevedo Coste, David Guiraud and David Andreu supervise Pawel Maciejasz, "Selective neural electro-stimulation" (TIME project).

- François Bonneblanc and Hugues Duffau supervise Pom Charras, "The validation on pre, post and intra-operative evaluations of patients during awake neurosurgeries of slow-growing tumors in the brain", contract Association pour la Recherche sur le Cancer (ARC-France) 'subvention-libre N°3184', post-doctoral fellowship.
- Benjamin Gilles and Mitsuhiro Hayashibe supervise Maxime Tournier, "Constraint-based simulation of the musculoskeletal system" (ANR SoHuSim project).

9.2.5. Internships

- David Guiraud and Pawel Maciejasz supervised Thomas Guiho on "Proposing and implementing the algorithm for automated detection and classification of action potentials in nerve fiber based on multichannel recordings", Master student project and afterwards 3 month training, from Oct. 2011 to Jun. 2012.
- David Andreu supervised Ronald Reboul on "Prototypage d'un séquenceur embarqué au sein d'un implant de stimulation", Engineer final internship, from Apr. 2012 to Sep. 2012.
- David Andreu supervised Jean-François Happe on "Etude de stratégies d'économie d'énergie pour implant de stimulation", Engineer final internship, from Apr. 2012 to Sep. 2012.
- David Andreu supervised Quinchuan Mo on "Traduction automatique de Réseau de Petri en VHDL : optimisation du code en termes de consommation et de surface", Projet Industriel de Fin d'Etudes (engineer final year project), from Sep. 2012 to Feb. 2013.
- David Andreu supervised Yuchen He on "Conception et développement d'un logiciel d'exploitation d'une plateforme de mesure de consommation d'un implant médical", Projet Industriel de Fin d'Etudes (engineer final year project), from Sep. 2012 to Feb. 2013.
- David Andreu supervised Julien Serodes on "Etude de l'architecture numérique basée composants d'un implant médical et de son impact sur la consommation", Projet Industriel de Fin d'Etudes (engineer final year project), from Sep. 2012 to Feb. 2013.
- David Guiraud, Christine Azevedo, Charles Fattal supervised Tigra Wafa on "Implanted electrical stimulation of upper limb in tetraplegic patients", Projet Master 2 TIC SANTÉ, from Oct. 2012 to Jan. 2013.
- David Guiraud, Christine Azevedo, Luc Bauchet, Charles Fattal supervised Thomas GUIHO on "Epidural functional electrical stimulation", Projet Master 2 TIC SANTÉ, from Oct. 2012 to Jan. 2013.

9.2.6. Contract Engineers

- David Andreu supervises Grégory Angles. "Conception et réalisation d'un environnement logiciel, basé sur Eclipse, pour le prototypage rapide sur composants électroniques programmables (HILE-COP)". Computer Science Engineer, Babylone contract (3 years contract, Inria).
- David Andreu supervises Guillaume Magro. "Spécification et prototypage d'un contrôleur de SEF implantable". Industrial Informatics Engineer, Inria Expert Engineer contract (3 years contract, Inria).
- Guy Cathébras, Serge Bernard and Fabien Soulier co-supervise Jérémy Salles "Correction de la version 2 et développement de la version 3 de l'ASIC de stimulation 12 pôles" Microelectronics Design Engineer (1 year contract, NEUROCOM financial support).

DIONYSOS Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. International memberships

- R. Marie and G. Rubino are members of the IFIP WG 7.3 (Working Group in Computer Performance Modeling and Analysis).
- Gerardo Rubino is a member of the Technical Committee on Multimedia Communications of IEEE.

8.1.2. Seminar presentations

- B. Tuffin. Title: "Adword auctions: impact of ranking strategies and competition on search engines revenues". Vrije Universiteit Amsterdam, The Netherlands, January 2012.
- B. Tuffin (joint work with P. Maillé and P. Coucheney). Title: "Introduction to the Network Neutrality Debate. Description of a related model of ISP Inter-Relations: Traffic Exchange, Revenue Sharing, and Disconnection Threat". Université de Montréal, Canada, Nov. 2012.
- B. Tuffin (joint work with P. Maillé and P. Coucheney). Title: "Introduction to the Network Neutrality Debate. Description of a related model of ISP Inter-Relations: Traffic Exchange, Revenue Sharing, and Disconnection Threat". The Chinese University of Hong-Kong, Nov. 2012.
- G. Rubino. Title: "Introduction to Quality of Experience". D2 Department, IRISA, Rennes, France. June 2012.
- G. Rubino. Title: "Time-dependent behavior of Markovian queues". Electrical Engineering, Engineering School, University of the Republic, Montevideo, Uruguay. Oct. 2012.
- G. Rubino. Title: "Time-dependent behavior of Markovian queues". Université de Montréal, Canada. Nov. 2012.

8.1.3. Editorial activity

- Raymond Marie is Associate Editor for Performance Evaluation.
- Bruno Tuffin is associate Editor for INFORMS Journal on Computing.
- Bruno Tuffin is associate Editor for Mathematical Methods of Operations Research.
- Bruno Tuffin is associate Editor for ACM Transactions on Modeling and Computer Simulation.
- Bruno Tuffin was the co-coordinator of the "Analysis" track at the Winter Simulation Conference (WSC'12), Berlin, Germany, December 9-12, 2012. It will be the first time this event leaves North America.
- Bruno Sericola is associate editor for The Open Operational Research Journal.
- Bruno Sericola is associate editor for International Journal of Stochastic Analysis.
- Bruno Sericola is associate editor for ISRN Probability and Statistics.
- Adlen Ksentini is Associate Editor of Hindawi International Journal of Digital Multimedia Broadcasting
- Yassine Hadjadj-Aoul is a member of the editorial board of the International Journal of Computer Networks (IJCN)

8.1.4. Program committees

Bruno Tuffin served as TPC member for

- 2nd International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH), Roma, Italy, 28-31 July 2012.
- 8th Euro-NF Conference on Next Generation Internet (NGI 2012), Blekinge Institute of Technology, Karlskrona, Sweden, June 25-27, 2012.
- First Workshop on Pricing and Incentive in Networks (W-PIN 2012), in conjunction with ACM SIGMETRICS/Performance 2012, London, England, 11 June 2012.
- 9th International Workshop on Economics of Grids, Clouds, Systems and Services (GECON'2012), Berlin, Germany, 27-28 November 2012.
- Track on Simulation Methods and Tools, Winter Simulation Conference (WSC'12), Berlin, Germany, December 9-12, 2012.

Bruno Sericola served in the Program Committee of the following conferences:

- ASMTA 2012, 19th International Conference on Analytical and Stochastic Modelling Techniques and Applications, Grenoble, France, 4–6 June 2012.
- ACCESS 2012, 3rd International Conference on Access Networks, Venice, Italy, 24-29 June 2012.
- NOTERE/CFIP 2012 : Colloque Francophone sur l'Ingénierie des Protocoles - Nouvelles technologies de la répartition, Anglet, France, 29–31 October 2012.

Adlen Ksentini served as TPC member for

- IEEE Global Communication Conference, GLOBECOM 2012 Wireless Network Symposium, December 2012, Anaheim, California, USA
- IEEE International Conference on Communication, ICC 2012 Wireless Network Symposium, June 2012, Ottawa, Canada
- IEEE Wireless Communication and Networking Conference, April 2012, Paris, France

César Viho served as TPC member for

- 3rd International Conference on the Internet of Things (IoT2012), Oct 2012, Wuxi, China.
- 11th African Conference on Research in Computer Science and Applied Mathematics, Oct 2012, Algiers, Algeria.
- TTCN-3 User Conference June 2012, Bangalore, India

Yassine Hadjadj-Aoul served as TPC member for

- IEEE Global Communication Conference, GLOBECOM 2012 Wireless Network Symposium, December 2012, Anaheim, California, USA
- IEEE International Conference on Communication, ICC 2012 Wireless Network Symposium, June 2012, Ottawa, Canada
- IEEE Wireless Communication and Networking Conference, April 2012, Paris, France

Gerardo Rubino served as TPC member of

- CLEI 2012, XXXVIII Conferencia Latinoamericana de Informática (Latin-American Informatics Conference), Medellín, Colombia, October 1–5, 2012.
- RESIM (9th International Workshop on Rare Event Simulation) 2012, Trondheim, Norway, June 25–27, 2012.

8.1.5. Managing research activities

- G. Rubino is a member of the Steering Committee of the international conference QEST (Quantitative Evaluation of SysTems).
- G. Rubino is a member of the Steering Committee of the International Workshop on Rare Event Simulation (RESIM).
- B. Tuffin is a member of the Steering Committee of the International Workshop on Rare Event Simulation (RESIM).
- G. Rubino has been appointed as the Inria representative at the Scientific Committee of the IFCAM (Indo-French Center for Applied Mathematics), a joint international unit between Indian Ministry of Science and Technology and several French partners including the CNRS, the École Polytechnique, the École normale supérieure, Inria, Nice Sophia Antipolis University and the University of Toulouse III - Paul Sabatier.
- Bruno Sericola is responsible for the Inria Rennes - Bretagne Atlantique budget.
- Bruno Sericola is a member of the Inria Evaluation Committee which role is to assess the calibre of research conducted at Inria and to guarantee the quality of its hiring and internal promotions.
- Bruno Sericola is the leader of the research group MAPI (Math Appli Pour l'Info) the goal of which is to improve the collaboration between computer scientists and mathematicians.
- Adlen Ksentini is vice-chair of the Interest Group on QoE of the Technical Committee on Multimedia (IEEE Communication Society).
- César VIHO is responsible of the “Network, Telecommunication and Services” department of Irisa composed of 7 research teams. He is member of the Scientific advisory board (Conseil scientifique) of Irisa. He is now deputy-director of the MATISSE Doctoral school of Electronics, Computer Sciences and Mathematics. In the context of international relations of Irisa, he is responsible of relations with Africa area universities and research centers.
- Gerardo Rubino is a member of the Research Commission of TELECOM Bretagne (advisory board for the research activities of the institution).
- Gerardo Rubino is a member of the CSV (Selection and Validation Committee) of the “Images et Réseaux” (Images and networks) cluster in the French Brittany Region. The cluster includes most companies and academic institutions working in networking and in image-based applications in Western France.
- Gerardo Rubino is the Inria representative at the GIS SISCOM, an association composed of the four main academic institutions in Western France in the area of information and communication sciences: the European University of Brittany-UEB, the Institut TELECOM, the CNRS and Inria, to promote the excellence of the ICT research in Brittany.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence L3: Introduction to networks, 20 hours, Istic/University of Rennes 1, France

Master M1: Introduction to networks, 24 hours, Esir/University of Rennes 1, France

Master M1: Wireless networking, 46 hours, Esir/University of Rennes 1, France

Master M1: Networks and protocols, 24 hours, Istic/University of Rennes 1, France

Master M1: Computer networks, 24 hours, Esir/University of Rennes 1, France

Master M1: Algorithms and graphs, 48 hours, Esir/University of Rennes 1, France

Master M1: Performance and dependability evaluation of computer systems, 54 hours, Istic/University of Rennes 1, France

Master M1: Introduction to graph theory, 14 hours, Esir/University of Rennes 1, France

Master M1: Introduction to networks, 20 hours, Esir/University of Rennes 1, France
 Master M1: Wireless Networks, 48 hours, Esir/University of Rennes 1, France
 Master M2: Multimedia transmission, 48 hours, Esir/University of Rennes 1, France
 Master M2: Introduction to C language, 12 hours, Istic/University of Rennes 1, France
 Master M2: Validation and tests, 6 hours, Istic/University of Rennes 1, France
 Master M2: Quality of service and multimedia, 6 hours, Istic/University of Rennes 1, France
 Master M2: Multimedia transmission, 18 hours, Istic/University of Rennes 1, France
 Master M2: Performance evaluation, 26 hours, Istic/University of Rennes 1, France
 Master M2: Network security, 14 hours, Istic/University of Rennes 1, France
 Master M2: Dependability analysis, 15 hours, Supelec, Rennes, France
 Master M2: Simulation, 5 hours, Telecom Bretagne, Rennes, France
 Master M2: Multimedia streaming over IP (MMR), 50 hours, Esir/University of Rennes 1, France
 Master M2: Multimedia services in IP networks (RSM), 29 hours, Esir/University of Rennes 1, France
 Master M2: Logistic and performance, 8 hours, Faculté de Sciences économiques/University of Rennes 1, France.

8.2.2. Supervision

PhDs

- Sebastián Basterrech, title: “Learning with Random Neural Networks and Reservoir Computing models”; advisor: G. Rubino; date: November 15, 2012.
- Tran Hoang-Hai, title: “ Auctions for competitive network providers ”; advisor: B. Tuffin; date: April 2012.

PhD in progress:

- Romaric Ludinard; title: “Data-aggregation for large-scale distributed networks”; PhD started in April 2011; advisors: B. Sericola from Inria/Dionysos and E. Anceaume from Inria/Cidre
- Damien Le Queré; Cifre Grant, Orange Labs; title: “Conception et étude des performances d’une solution auto-configurable pour les réseaux de transport du futur”; PhD started in January 2012; advisors: B. Sericola and A. Ksentini
- Samira Saggadi; title: “Rare event simulation with application to telecommunications”; PhD started in November 2008; advisor: Bruno Tuffin
- Pablo Sartor; title: “Diameter-constrained reliability: exact analysis and simulation techniques”; PhD started on October 2012; advisors: G. Rubino from Dionysos, P. Robledo from the university of the Republic, Uruguay (joint PhD between this university and the university of Rennes 1, France)
- Laura Aspirot; title: “Fluid limits in performance evaluation”; thesis started in 2010; advisors: Gerardo Rubino from Dionysos, and Ernesto Mordecki from the university of the Republic, Uruguay (PhD of the university of the Republic, Uruguay)
- Leslie Murray; title: “Monte Carlo methods for rare event analysis”; thesis started in 2009; advisors: Gerardo Rubino from Dionysos, and Pablo Robledo from the university of the Republic, Uruguay (PhD of the PEDECIBA, Uruguay)
- Leila Ghazzai, title: “Replication and caching strategies for adaptive video streaming in future information centric networks”; PhD started on October 2012; advisors: G. Rubino, Y. Hadjadj-Aoul

- Nanxing Chen; title: “On passive approach for interoperability testing”; PhD started on October 2009; advisor: C. Viho

8.2.3. *Juries*

- B. Tuffin was a member of the Jury of HDR of Sandrine Vaton, from Telecom Bretagne; title: “Mesure et Analyse du Trafic de Réseaux : Théorie et Pratiques”; date: July 13, 2012.
- B. Tuffin was a member of the jury of PhD of Bahar Kaynar, from Vrije University, The Netherlands; title: “Rare Event Simulation Techniques for Stochastic Design Problems in Markovian Settings”; date: January 2012.
- B. Tuffin was a member of the jury of PhD of Lorenzo Maggi, from Eurecom, France; title: “Cooperative games for Markov decision processes with applications to telecommunications”; date: October 2012.
- B. Tuffin was a member of the jury of PhD (rapporteur) of Pablo Gabriel Romero Rodriguez from Universidad de la República, Montevideo, Uruguay; title: “Mathematical Analysis of Scheduling Policies in Peer-to-Peer Video Streaming Networks”; date: November 2012.
- G. Rubino was a member of the Jury of HDR of Sandrine Vaton, from Telecom Bretagne; title: “Mesure et Analyse du Trafic de Réseaux : Théorie et Pratiques”; date: July 13, 2012.
- G. Rubino was the President of the Jury of PhD of Oscar Olvera Irigoyen, from Telecom Bretagne; title: “Hybrid Home Networks Links Quality Supervision”; date: December 20, 2012.
- C. Viho was the President of the Jury of HDR of Frederic Weis, from University of Rennes 1; title: “Exploiting system approaches in wireless networks”; date: June 6, 2012.
- C. Viho was the President of the Jury of HDR of Laurent Toutain, from Telecom Bretagne; title: “Towards a polymorphic Internet”; date: December 17, 2012.
- C. Viho was the President of the Jury of PhD of Tran Hoang Hai, from the University of Rennes 1; title: “Auctions for competitive Network providers”; date: April 2, 2012.
- C. Viho was a member/reviewer of the Jury of PhD of Ubaid Abbassi, from University of Bordeaux I; title: “Quality-Aware Live and on-Demand Video Streaming in P2P Networks”; date: April 25, 2012.
- C. Viho was the President of the Jury of PhD of Ahmed Ayadi, from Telecom Bretagne; title: “Energy-efficient reliable transport protocols for IP-based low power wireless networks”; date: June 25, 2012.
- C. Viho was a member/reviewer of the Jury of PhD of Jean-Michel Combes, from Telecom Sud Paris; title: “Utilisation d’identifiants cryptographiques pour la sécurisation IPv6”; date: September 28, 2012.
- C. Viho was the President of the Jury of PhD of Heverson Ribeiro, from the University of Rennes 1; title: “Exploiting Rateless Coding in Structured Overlays to Achieve Persistent Storage”; date: October 12, 2012.
- C. Viho was the President of the Jury of PhD of German Castignani, from Telecom Bretagne; title: “Exploiting network diversity”; date: November 7, 2012.
- C. Viho was the President of the Jury of PhD of Sebastian Basterrech, from University of Rennes 1; title: “Learning with Random Neural Networks and Reservoir Computing Models”; date: November 15, 2012.
- C. Viho was a member of the Jury of PhD of Kheira Bekara, from Telecom Sud Paris; title: “Protection des données personnelles côté utilisateur dans le E-commerce”; date: December 18, 2012.

8.3. Popularization

- G. Rubino makes regular presentations to high school students about the research work in general, and specific technical topics in particular. Titles of 2012:
 - “Utilisation du hasard pour résoudre des problèmes déterministes”
 - “Internet comme problème de recherche”
 - “Grands défis en mathématiques : la conjecture de Riemann”
 - “Grands défis en mathématiques : la conjecture $P \neq NP$ ”

8.4. Standardization activities

Participants: Anthony Baire, Arulnambi Nandagoban, César Viho.

The Dionysos team continues to dedicate a significant effort towards standardization and certification in the telecommunications area. We participate in several working groups of the main telecommunication standardization institutes like the IETF (Internet Engineering Task Force), ETSI (European Telecommunication Standardization Institute), etc. We are also active in the main mailing-lists treating new generation networks and protocols. Several proposals of drafts and contributions to the definition of standards and RFCs (Request For Comments) have been published. This year our contributions focus today mainly on IPv6 and related protocols such as 6LoWPAN and CoAP.

8.4.1. IPv6 Ready Logo Program

Participants: Anthony Baire, César Viho.

Dionysos team has also a major role in the world-wide certification process for IPv6 products launched by the IPv6 Forum, the “IPv6 Ready Logo Program”. For details, see <http://www.ipv6ready.org>. This project aims to provide the means needed to test existing IPv6 products to be deployed in the market. Dionysos contributes to the technical part of this Program by defining the certification process itself, specifying required tests, and developing some of the interoperability tests needed. This work is done together with the IPv6 Forum, the ETSI in Europe, the WIDE-project in Japan and the TTA (Telecommunications Technology Association) in Korea.

In 2010 we started a collaboration with the IPSO alliance in order to address the usage of IPv6 on smart objects based on the IEEE 802.15.4 link layer (for instance, sensor networks). These network have special constraints (limited power, packet loss, ...) and new protocols are designed at IETF (6LoWPAN, RPL) to allow using IPv6 with these constraints. We are on the way to provide a certification program for 6LoWPAN.

DISCO Project-Team

9. Dissemination

9.1. Scientific Animation

- + C. Bonnet is a member of the IFAC Technical Committee 2.5 on Robust Control. She is also in the boards of the association *Femmes et Mathématiques* and of the consortium Cap'Maths. She was a member of the Program Committee of the Septième Conférence Internationale Francophone d'Automatique, CIFA 2012, Grenoble. She has been co-organizing the International Workshop 'Low-Order Controllers for Dynamical Systems' November 20th to November 22nd 2012, Supelec/L2S, Paris, France. She is co-chair of the NOC of the first IFAC Workshop on Control of Systems Modeled by Partial Differential Equations, Paris September 2013 and is co-organizing the workshop Modeling and Analysis of Cancer Cells Dynamics, Paris June 2013. She is co-organizer of the "Séminaire du Plateau de Saclay". She has been an evaluator for the French National Research Agency (ANR).
- + Frédéric Mazenc was Associate Editor for the conferences 2013 American Control Conference, Washington, 51th IEEE Conference On Decision and Control, Maui, Hawaii, USA, Septième Conférence Internationale Francophone d'Automatique, CIFA 2012, Grenoble. The 54th Chinese Control and Decision Conference, May 23-25, Taiyuan, China. He is a Member of the Mathematical Control and Related Fields editorial board. He is co-organizer of the 'Séminaire du Plateau de Saclay'. He was an invited speaker at the Workshop 'Observers and Controllers for Complex Dynamical Systems', November 20th to November 22nd 2012, Supelec/L2S, Paris, France. He is evaluator for the National Agency for the Italian Evaluation of Universities and Research Institutes (ANVUR). He is evaluator for Partnership Programme - Joint Applied Research Projects - PCCA of the Romanian National Council for Development and Innovation.
- + S. Olaru is a member of the program committee of the International Conference on System Theory, Control and Computing (2011, 2012) et CIFA 2012.
He is also member of the IFAC Technical Committee 2.5 on Robust Control.
- + A. Quadrat is an Associate Editor of the journal "Multidimensional Systems and Signal Processing" (Springer). With Georg Regensburger, he organized an invited session "Algebraic and symbolic methods in mathematical systems theory" at the forthcoming "5th Symposium on System Structure and Control" (Grenoble, 4-6/02/2013). With Mohamed Barakat and Thierry Coquand, he also organized a forthcoming mini-workshop at Oberwolfach (12-18/5/2013). He proposed a PHC Parrot with the team of Ülle Kotta, Control Systems Department, Tallinn University, Estonia, which has just been accepted. He was invited to the seminar of the Equipe Calcul algébriques et systèmes dynamiques (CASYS), Laboratory of Jean Kuntzmann, University of Grenoble, 09/02, at the Sultan Qaboos University of Oman (10-18/06) where he gave a talk, at RWTH Aachen University (17-21/09), and at RICAM, Linz (16-18/12). Finally, with Hugues Mounier (University of Orsay, L2S) and Sette Diop (CNRS, L2S), he organized a seminar on algebraic systems theory at L2S (<http://pages.saclay.inria.fr/alban.quadrat/Seminar.html>).
- + G. Regensburger co-organized the session AADIOS (Algebraic and Algorithmic Aspects of Differential and Integral Operators Session) at ACA'12 (Sofia, 25-28/06). He was also a program committee of ADG 2012 (Edinburgh, 17-19/09) and publicity chair and web master of MACIS 2011 (Beijing, 19-21/10).
- + Guillaume Sandou is a member of the program committee of the 2013 IEEE Symposium on Computational Intelligence in Production and Logistics Systems, as a part of the 2013 IEEE Symposium Series on Computational Intelligence (Singapore)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Le Ha Vy Nguyen, Applied Informatics in Physics, 16h, Universit Paris-sud
 Licence : Le Ha Vy Nguyen, Signals, Systems, and Control, 38h, L3, Universit Paris-sud
 Licence : Sorin Olaru, Numerical methods and optimization, 38heqTD, niveau L3, Suplec
 Licence : Sorin Olaru, Signals and Systems, 12heqTD, niveau L3, Suplec
 Licence : Guillaume Sandou, Signals and Systems, 63h, L3, Suplec
 Licence : Guillaume Sandou, Mathematics and programming, 18h, L3, Suplec
 Master : Le Ha Vy Nguyen, Information Processing and Source coding, 12h M1, Universit Paris-sud
 Master : Sorin Olaru, Hybrid Systems, 32heqTD, niveau M1, Suplec
 Master : Sorin Olaru, Automatic Control, 55heqTD, niveau M1, Suplec
 Master : Sorin Olaru, Embedded Systems, 18heqTD, niveau M2, Ecole Centrale Paris
 Master : Guillaume Sandou, Automatic Control, 55h, M1, Suplec
 Master : Guillaume Sandou, Numerical methods, 28h, M2, Suplec
 Master : Guillaume Sandou, Optimization, 18h, M2, Suplec
 Master : Guillaume Sandou, Modelling and system stability analysis, 6h, M2, Suplec
 Master : Guillaume Sandou, Control of energy systems, 22h, M2, Suplec
 Master : Guillaume Sandou, Robust control and mu-analysis, 9h, M2, Suplec
 Master : Guillaume Sandou, Systems identification, 32h, M2, ENSTA
 Master : Guillaume Sandou, Embedded Systems, 18h, M2, Ecole Centrale Paris
 Master : Guillaume Sandou, NonLinear systems, 11h, M2, Ecole des Mines de Nantes
 Master : Guillaume Sandou, System Analysis, 22h, M2, Ecole des Mines de Nantes
 Master : Guillaume Sandou, Multivariable control, 12h, M2, Evry University

9.2.2. Supervision

PhD in progress José Luis Avila Alonso, Mathematical Analysis of Acute Myeloid Leukemia, December 31st 2011. University Paris-Sud, STITS. Supervisors : C. Bonnet, J. Clairambault and S.I. Niculescu.
 PhD Mounir Bekaik, Commande des systèmes non linéaires à retard, October 2010-December 2012. University Paris-Sud, STITS. Supervisor: Frédéric Mazenc. Co-Supervisors: Silviu I. Niculescu
 Defence: 19 December 2012.
 PhD in progress Thach Ngoc Dinh, Monotony, Interval Observers and Delays Systems, December 2011 . University Paris-Sud, STITS. Supervisor: Frédéric Mazenc. Co-Supervisors: Silviu I. Niculescu, Silvère Bonnabel.
 PhD in progress Le Ha Vy Nguyen, H_∞ Stability and control of fractional delay systems, September 15th 2011. University Paris-Sud, STITS. Supervisor: C. Bonnet.
 PhD in progress Nikola Stankovic, Commande tolérante aux défauts pour systèmes à retard, September 30th 2010, University Paris-Sud, STITS. Supervisor: Sorin Olaru Co-Supervisor: Silviu I. Niculescu
 HdR : Guillaume Sandou, Contribution au développement de méthodologies pour l'Automatique fondées sur l'optimisation, Universit Paris-Sud, June 2012

9.2.3. Juries

C. Bonnet was a member of the jury of Nadia Maï's HDR entitled "De la dimension infinie la dimension prospective : variations autour du paradigme d'optimalité", Universit de Nice, july 2012.

A. Quadrat was a referee of Debasattam Pal's PhD thesis entitled "Algebro-geometric analysis of multidimensional (n -D) systems", IIT Bombay, and of Anja Korporal's PhD thesis entitled "Symbolic methods for generalized Green's operators and boundary problems", University of Linz. Moreover, he was a member of the jury of Alexandre Benoit's PhD thesis entitled "Algorithmique semi-numérique rapide des séries de Tchebychev", Ecole Polytechnique.

S. Olaru was a referee of Jennifer ZARATE FLOREZ's PhD thesis entitled 'Etudes de commande par dcomposition-coordination pour l'optimisation de la conduite de valles hydro-lectriques ', GIPSA-LAB and of Mohamed Yacine LAMOUDI's PhD thesis entitled "Distributed model predictive control for energy management in building",GIPSA-LAB.

DISTRIBCOM Project-Team

9. Dissemination

9.1. Scientific Animation

A. Benveniste is the Scientific Director of the CominLabs Excellence Center (Laboratoire d'Excellence, part of the program *Investissements d'Avenir* of the french government). He is member of the Strategic Advisory Council of the Institute for Systems Research, Univ. of Maryland, College Park, USA. He is president of the Scientific Committee of the *Common Bell Labs Inria Laboratory*. He is member of the Scientific Council of France Telecom. ⁴ Albert Benveniste is a member of the French Academy of Technologies.

Loïc Hérouët co-organizes the 68NQRT weekly seminar on formal methods. This seminar proposes around 40 talks each year. For more details, see <http://68nqrt.inria.fr>.

Claude Jard was the scientific director of the research of the Brittany extension of the ENS Cachan. He recently moved to Nantes, where he is the director of the CNRS cluster Atlanstic, gathering the public laboratories in ITCS in Pays de la Loire.

Eric Fabre leads the High Manageability joint team of Inria and Alcatel Lucent.

Axel Legay Co-organized the quantitative methods workshop at formal methods days. He also co-organized the winter school on quantitative methods at IT Copenhagen.

Guillaume Aucher was a PC member of AAMAS 2013, an auxiliary reviewer of TARK 2013, and served as a reviewer for the Logic Journal of the IGPL. He has been elected a member of the scientific council of the University of Rennes 1.

François Schwarzentruher was an auxiliary reviewer of TARK 2013 and AAMAS 2013.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Guillaume Aucher, Programmation Impérative 1, 40h eq. TD, L1, University of Rennes 1, France

Licence : Guillaume Aucher, Algorithms for graphs, 20h eq. TD, L3, University of Rennes 1, France

Doctorat : Enseignant, titre du cours, nombre d'heures en $\sqrt{\text{©}}$ equivalent TD, universit $\sqrt{\text{©}}$, pays

Licence : Loïc Hérouët, JAVA courses, 32 h eq TD, L1, INSA, France

Master : Loïc Hérouët, Algorithms courses to students at the aggregation level, 16 h eq TD, aggregation, ENS Cachan-Antenne de Bretagne, France

Master : Eric Fabre, Distributed Algorithms and Distributed Systems, 12h eq. TD, M2 Rech. Comp. Sc., Univ. Rennes 1, France

Master : Eric Fabre, Information Theory, 15h eq. TD, M1, ENS Cachan (Rennes), France

Licence : Claude Jard, Formal languages, Distributed Computing, 44 h eq TD, L1, ENS Cachan-antenne de Bretagne, France

Master : Claude Jard, Algorithms courses to students at the aggregation level, 16 eq TD, aggregation, ENS Cachan-antenne de Bretagne, France

Licence: François Schwarzentruher, Introduction to algorithms (ALGO1), 32h eq TD, L3, ENS Cachan-antenne de Bretagne, France

⁴Only facts related to the activities of DistribCom team are mentioned. Other roles or duties concern the S4 team, to which A. Benveniste also belongs.

Master: François Schwarzentruber, Software design and verification (CVFP), 32h eq TD, M1, ENS Cachan-antenne de Bretagne, France

Licence and master: François Schwarzentruber, Seminars for students (SEMIN1, SEMIN2), 36h eq TD, L3, M1, ENS Cachan-antenne de Bretagne, France

Master: François Schwarzentruber, Complexity theory, 6h eq TD, agrégation, ENS Cachan-antenne de Bretagne, France

Master: François Schwarzentruber, Introduction to discrete mathematics. 9 eq TD, University of Rennes 1, France

Master: François Schwarzentruber, Practical sessions in algorithmics. 6 eq TD, agrégation, ENS Cachan-antenne de Bretagne, France

9.2.2. Supervision

PhD : Ajay Kattapur, Flexible Quality of Service Management of Web Services Orchestrations, Université de Rennes 1, Nov. 8, 2012, Albert Benveniste, Claude Jard

PhD in progress : Rouwaida Abdallah, Synthèse à partir de scénarios, February 2010, Loïc Hélouët, Claude Jard

PhD in progress : Aurore Junier, Network calculus applied to network stability analysis, sept. 2010, C. Jard, A. Bouillard.

PhD in progress : Carole Hounkonou, A methodology for joint network and service self-diagnosis, Oct. 2009, Eric Fabre.

PhD in progress: Cyril Jegourel, statistical model checking for rare-event systems, Axel Legay.

PhD in progress : Bastien Maubert, Logical Foundations of Games with Imperfect Information, University of Rennes 1, 09/2010, Guillaume Aucher and Sophie Pinchinat (S4, Irisa)

PhD : Loig Jezequel, Distributed Optimal Planning in Large Distributed systems, ENS Cachan, Dec. 2012, Eric Fabre

DOLPHIN Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Organizations of sessions, workshops and conferences

- Conference chair and organization of META'2012 Int. Conf. on Metaheuristics, Sousse, Tunisia, Oct 2012.
- Program chair of NIDISC'2012 workshop on Nature Inspired Distributed Computing in conjunction with IEEE/ACM IPDPS'2012, Shanghai, China, May 2012.
- Organization of the Theory of Randomized Search Heuristics Workshop (ThRaSH'2012), Lille, France, May 2012
- Organization of the French summer school on evolutionary computation (EA'2012), Quiberon, France, June 2012
- Co-organization of the evolutionary multiobjective optimization session at EURO 2012 (Vilnius, Lithuania)
- Scientific committee for conference CPAIOR 2012 (Nantes)
- Organization committee for RIO conference 2012 (Valenciennes)
- Co-guest-editor for a special issue on Evolutionary Multiobjective Optimization in the Journal of Multi-criteria Decision Analysis (Wiley)
- Co-organizer of the PPSN'2012 workshop on Theoretical Aspects of Evolutionary Multiobjective Optimization, Taormina, Italy, September 1, 2012, together with Gunter Rudolph (TU Dortmund University, Germany)
- Organization of the "Intelligent optimization in Bioinformatics" session at LION'2012 (LION-BIO), Paris, France, January 2012.

9.1.2. Research management

- Manager (Chargé de mission) of supercomputing for Université Lille 1.
- Scientific leader for Lille of the Grid'5000 nation-wide and EGI european-wide grid infrastructures.
- Scientific leader of the challenge "Large scale combinatorial optimization" of the HEMERA nation-wide grid and cloud computing research action (AEN) of Inria.
- Member of the steering committee of the Aladdin-Grid5000 nation-wide technological development action of Inria.
- Co-leader of the PPF "Supercomputing" at Université Lille 1.
- Coordinator of the High Performance Computing research action at LIFL labs.
- co-leader of the group PM2O of the ROADEF
- secretary of the association Evolution Artificielle
- Scientific co-leader of the EuroWorking Group on Pricing and Revenue Management.
- Board Member of the ROADEF society.

9.1.3. Reviewing

9.1.3.1. Research projects

- Reviewer of research projects, National Science Center, Poland.
- Expert reviewer for the ANR "Emergence" programme.

- Expert reviewer for the CNRS PEPS “Biologie-Mathématiques-Informatique” programme.
- Expert reviewer BQR university of Paris 13
- Expert reviewer for the ANR “Emergence” programme.

9.1.3.2. *Journal papers*

- IEEE Transactions on Computers (IEEE TC).
- Journal of Parallel and Distributed Computing (JPDC).
- Parallel Computing.
- Computational Optimization and Applications (COAP, Springer)
- Engineering Optimization (GENO, Taylor & Francis)
- European Journal of Operational Research (EJOR, Elsevier)
- Journal of Heuristics (HEUR, Springer)
- Knowledge-Based Systems (KNOSYS, Elsevier)
- Evolving Systems
- International Journal on Artificial Intelligence Tools (IJAIT)
- Knowledge and Information Systems (KAIS)
- Memetic Computing
- Soft Computing
- Supercomputing
- Artificial Intelligence Journal
- Evolutionary Computation
- IEEE Transactions on Evolutionary Computation
- Journal of Multicriteria Decision Analysis
- Systems, Man and Cybernetics - Part B
- Theoretical Computer Science
- Computers and operations Research
- Transportation Science
- Transportation Research
- Operation Research

9.1.4. *Program committees*

- IEEE CSE’2012, Track: Distributed and Parallel Computing.
- High Performance Computing & Simulation (HPCS’2012).
- IEEE IPDPS workshops: PCO’2012 and NIDISC’2012.
- Grid’5000 school 2012.
- 6th Learning and Intelligent Optimization Conference, LION 2012 (Paris, France, 2012)
- 12th European Conference on Evolutionary Computation in Combinatorial Optimisation, EvoCOP 2012 (Malaga, Spain, 2012)
- Special Session on Evolutionary Multiobjective Optimization, IEEE Congress on Evolutionary Computation, CEC-EMO 2012 (Brisbane, Australia, 2012)
- Genetic and Evolutionary Computation Conference (Philadelphia, USA, 2012) (GECCO’2012)
- 2nd International Conference on Operations Research and Enterprise Systems, ICORES 2012 (Barcelona, Spain, 2012)

- 13e congrès de la Société française de Recherche Opérationnelle et d'Aide à la décision, ROADEF'2012 (angers, France, 2012)
- Genetic and Evolutionary Computation Conference (GECCO'2012)
- Learning and Intelligent Optimization (LION'2012)
- Parallel Problem Solving from Nature (PPSN'2012)
- Simulated Evolution And Learning (SEAL'2012)
- BIOMA'2012 Fifth Int. Conf. on Bioinspired Optimization Methods and their Applications, Bohinj, Slovenia, May 2012.
- GSC'2012 Workshop (Green Supply Chain 2012, Arras, May 2012.
- EvoPar'2012, 1st EvoApplication track on Parallel Architectures and Distributed Infrastructures, Malaga, April 2012.
- VANETs - from Theory to Practice (VTP 2012) workshop held in conjunction with the WoWMoM conference, San Francisco, USA, June 2012.
- Advisory board of EVOLVE'2012, Mexico, Aug 2012.
- SEAL'12 Ninth Int. Conf. on Simulated Evolution and Learning, Hanoi, Vietnam, Dec 2012.
- GPC'2012 Int. Conf. On Grid and Pervasive Computing, Hong Kong, May 2012.
- IC3'2012 Int. Conf. On Contemporary Computing, New Delhi, India, Aug 2012.
- SCCG'2012 Int. Workshop on Soft Computing Techniques in Cluster and Grid Computing Systems in conjunction with Int. Conf. On P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), Victoria, Canada, Nov 2012.
- TPNC'2012 Int. Conf. on the Theory and Practice of Natural Computing, Tarragona, Spain, Sept 2012.
- INNOV'2012 Int. Conf. on Communications, Computations, Networks and Technologies, Venice, Italy, Oct 2012.
- HPCS'2012 Int. Conf. on High Performance Computing and Simulation, Madrid, Spain, July 2012.
- GECCO'2012 (Genetic and Evolutionary Computation Conference), Philadelphia, USA.
- PPSN XII (Parallel Problem Solving Conference), Taormina, Italy, Sept 2012.
- EvoCop'2012 (Int. Conf of Evolutionary Computation for Combinatorial Optimization), Malaga, Spain, Apr 2012
- EvoBio'2012 (European Workshop on Evolutionary Computation and Bioinformatics), Malaga, Spain, Apr 2013.
- NPC'2012 (IFIP NPC International Conference on Network and Parallel Computing), Gwangju, Korea, Sept 2012
- BICCIB'2012 (International Conference on Biologically Inspired Computing and Computers in Biology), San Diego, USA, May 2012

9.1.5. Phd committees

L. Brotcorne was a jury member of the following PhD thesis:

- Pierre Lebodic, “ Variantes non standards de Problèmes d'optimisation combinatoires”, Université de Paris Sud, Sept 2012, Jury member (referee): L. Brotcorne.

C. Dhaenens was a jury member of the following PhD thesis:

- Ahmed Atahran, “Etude et résolution d'un problème de Transport à la demande”, Université de Tours, Dec 2012. Jury: C. Dhaenens (referee), C. Lenté, O. Péton, F. Semet, V. T'kindt, R. Wolfer Cavallo.
- Nadarajen Veerapen, “contrôle autonome d'opérateurs pour la recherche locale”, Université d'Angers, Nov 2012. Jury: L. Bordeaux, C. Dhaenens (referee), Y. Hamadi, B. Mazure, F. Saubion.

L. Jourdan was a jury member of the following PhD thesis:

- Daniel de Angelis Cordeiro, “The impact of cooperation on new high performance computing platforms”, Université de Grenoble, encadrant : Denis Trystam - Feb 2012 Jury member (referee): L. Jourdan
- Rong-Qiang Zeng *Métaheuristiques Multi-objectif basées sur des voisinages pour l’approximation d’ensembles de Pareto* Université d’Angers, encadrants : Jin-Kao Hao, Matthieu Basseur - July 2012 - Jury member (referee): L. Jourdan
- Cecile Vila, “Optimisation multicritère prenant en compte les préférences de panels d’usagers: Application à l’éclairage de bureaux”, ENTPE Lyon, Dec 2012, L. Jourdan (referee).
- Frédéric Lardeux, “Algorithmes autonomes et modélisations de problèmes”, Université d’Angers, encadrant : Frederic Saubion - Nov 2012- Jury member (referee): L. Jourdan

N. Melab participate to the following Phd/HDR juries:

- Mohamed Esseghir Lalami, “Contribution à la résolution de problèmes d’optimisation combinatoire: méthodes heuristiques et parallèles”, Université de Toulouse, Oct 2012, Jury: N. Melab (referee)
- Mouad Yagoubi, “Optimisation évolutionnaire multi-objectif parallèle : application à la combustion Diesel”, Université de Paris Sud XI, July 2012, Jury member: N.Melab.
- Imen Ketata, “Méthode de découverte de sources de données en environnement de grille de données tenant compte de la sémantique”, Université Paul Sabatier, Jan 2012, Jury member: N.Melab.

E-G. Talbi participate to the following Phd/HDR juries:

- C. Rego (HDR), “Heuristic search and learning for combinatorial optimization”, University of Versailles Saint-Quentin en Yvelines, Jan 2012, Jury : A. Bui, F. Glover, A. Lokketangen, C. Roucairol, E-G. Talbi (reviewer), M. Widmer.
- D. Delahaye (HDR), “Modélisation et optimisation du trafic aérien”, Ecole Nationale d’Aviation Civile de Toulouse, Mar 2012, Jury : J-K. Hao, M. Mongeau, M. Sevaux, M. Schoenauer, E-G. Talbi (reviewer).
- Jesica De Armas Adrian, “Cutting problems: Parallel exact and approximate approaches for mono-objective and multi-objective formulation”, University of La Laguna, Tenerife, Spain, Apr 2012, Reviewer.
- I. Michael Scriven, “Derivation and application of approximate electromagnetic noise models using decentralized parallel particle swarm optimization”, Griffith University, Brisbane, Australia, July 2012, Jury : A. Lewis, E-G. Talbi, J-W. Lu.
- Tony Wauters, “Reinforcement learning enhanced heuristic search for combinatorial optimization”, University of Gant, Belgium, Nov 2012, Jury: D. Cattrysse, P. De Causmaecker, A. Nowé, E-G. Talbi, K. Tuyls, G. Vanden Berghe, K. Verbeeck
- Afetah Moghaddam, “Production scheduling - Unavailability of the resources”, Université Technologique de Troyes, Troyes, France, Nov 2012, Jury: R. Aggoune, H. E. Aguirre, L. Amodeo, N. Sauer, E-G. Talbi, J. Teghem, F. Yalaoui
- Yuhan Guo, “Metaheuristics for solving large size long-term car pooling problem and an extension”, Université d’Artois, Béthune, France, Nov 2012. Jury: V-D. Cung, G. Goncalves, J-K. Hao, T. Hsu, M-J. Huguet, E-G. Talbi. President.
- Carlos Segura Gonzalez, “Parallel optimization schemes: A hybrid scheme based on hyperheuristics and evolutionary computation”, Dec 2012, University of La Laguna, Tenerife, Spain. Reviewer.
- S. Puechmorel (HDR), “Modèles dynamiques en gestion du trafic aérien”, Dec 2012, Ecole Nationale d’Aviation Civile de Toulouse, Reviewer.

9.1.6. Commission

- President of the Technological Development Commission (CDT) of Inria Lille.
- Member of the admission committee of associate professors (COS- MCF) in computer science at Université du Littoral - Côte d'Opale.
- Expert member for the AEQES Belgium agency for the evaluation of teaching - evaluation of Bachelor and Master in computer science and engineering teaching at UMONS, UCL and ULB universities.
- Presidence of the CER commission of the Lille Inria center (Commission des Emplois de Recherche).
- Member of the admission committee of associate professors (COS- MCF) in operations research at Université de Tours.
- Member of the admission committee of associate professors (COS- MCF) in operations research at Université de Grenoble.
- Member of the admission committee of associate professors (COS- MCF) in Applied Mathematics at Université Lille 3.
- Invited Member on the Inria CR Evaluation Commission.
- Invited Member of the Inria COST GTRI.
- Président du jury du prix de la TSL (Transportation and Logistics Sections) Informs 2012.
- Membre de la commission de selection des Bourses Eole attribuées par le réseau Franco Néerlandais
- Déléguée Scientifique des Relations Internationale du Centre de Lille

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : C. Dhaenens, Algorithmics, 30h, L3, Engineering school Polytech'Lille.

Licence : C. Dhaenens, Graphs and combinatorics, 90h, L3, Engineering school Polytech'Lille.

Licence : L. Jourdan, Data mining, 25h, L1, Université de Lille 1, France,

Licence: L. Jourdan, Initiation à la programmation, 54h, L1, Université de Lille 1, France

Licence : L. Jourdan, Programming, 54h, L1, Université de Lille 1, France

Licence : F. Clautiaux, Object oriented programming, 80h, DUT informatique, Université de Lille 1, France

Licence : F. Clautiaux, Mathematical tools for modelling, 64h, DUT informatique, Université de Lille 1, France

Licence : F. Clautiaux, Object oriented design, 48h, DUT informatique, Université de Lille 1, France

Licence : F. Clautiaux, Operating systems, 48h, DUT informatique, Université de Lille 1, France

Licence: A. Liefoghe, Algorithmic and Data structure, 36h, L2, Université de Lille 1, France

Licence: A. Liefoghe, Algorithmic - Operations Research, 36h, L3, Université de Lille 1, France

Master: A. Liefoghe, Decision Support Systems mining, 24h, M1, Université de Lille 1, France,

Master: A. Liefoghe, Databases, 30h, M1, Université de Lille 1, France

Master: A. Liefoghe, Object-oriented Design and Programming, 52h, M1, Université de Lille 1, France

Master: A. Liefoghe, Combinatorial Optimization, 10h, M2, Université de Lille 1, France

Master: N. Melab, Co-head of the supercomputing (Calcul Scientifique) master 2 at Université Lille 1.

Master: N. Melab: Operations Research, 82h, M2, Université Lille 1

Master: N. Melab, Supercomputing, 55h, M1 et M2, Université Lille 1
 Master: C. Dhaenens, Operations Research, 70h, M1, , Engineering school Polytech'Lille.
 Master: E-G. Talbi, Operations research, 40h, M1, Polytech'Lille, France
 Master: E-G. Talbi, Data mining, 35h, M2, Polytech'Lille, France
 Master: E-G. Talbi, Advanced Optimization, M2, Polytech'Lille, France
 Master: L. Jourdan, Informatique Décisionnelle, 70h, M1 et M1 FA , Université de Lille 1, France,
 Master: L. Jourdan, Mise à niveau en informatique décisionnelle et en recherche opérationnelle 25h, M1, Université de Lille 1, France
 Administration: head of apprenticeship in Computer Sciences at UFR IEEA
 Master: B. Derbel, co-supervisor of the Master 2 MOCAD (Complex Models, Algorithms, Data)
 Master: B. Derbel, Combinatorial Optimization, 35h, M2, Université de Lille 1, France
 Master: B. Derbel, Grid Computing, 16h, M2, Université de Lille 1, France
 Master: B. Derbel, Parallel and Distributed Programming, 12h, M1, Université de Lille 1, France
 Master: B. Derbel, Advanced Object Programming, 52h, M1, Université de Lille 1, France
 Master: B. Derbel, Design of Distributed Applications, 60h, M1, Université de Lille 1, France

9.2.2. Supervision

PhD soutenues :

PhD : Ahcène Bendjoudi, Hierarchical parallel branch and bound on large scale Grids, June 2012, E-G. Talbi and N. Melab.

PhD in progress :

- S. Afsar, Bilevel approaches for energy pricing problems, Oct 2011, L. Brotcorne
- O. Bahri, Multi-objective optimization and possibility theory, Dec 2012, E-G. Talbi, N. Ben Amor
- M. Bué, Définition d'offres de services en tenant compte du comportement de réservation hôtelière des clients , Oct 2012, L. Brotcorne and F. Clautiaux
- I. Chakroun, Méthodes B&B parallèles sur GPU, N.Melab.
- N. Dahmani, Multi-objective packing problems, Sept 2013, F. Clautiaux and E-G. Talbi
- M. Diaby, Yield Management and Supply chain Management, Sept 2010, L. Brotcorne and E-G. Talbi
- M. Djamai, Méthodes exactes arborescentes pair-à-pair sur grilles de calcul, Sept 2009, B. Derbel et N.Melab.
- S. Dufourny, Optimization of economic decisions in a competitive business management simulator, Oct 2011, C. Dhaenens
- N. Dupin, Robust scheduling of nuclear outages, Apr 2011, M. Porcheron, E-G. Talbi, F. Vanderbeck
- J. Hamon, Analysis of data from high throughput genotyping: cooperation between statistics and combinatorial optimization, C. Dhaenens
- J. Jacques, Knowledge extraction by optimization methods for improving the process of inclusion in clinical trials, Oct 2010, C. Dhaenens and L. Jourdan
- S. Jacquin, Hybrid approaches for optimization problems under uncertainty, Oct 2012, E-G. Talbi, L. Jourdan
- Y. Kessaci, Métaheuristiques multiobjectifs pour l'ordonnancement d'applications sur Clouds, Oct 2009, N. Melab and E-G. Talbi.
- F. Legillon, Métaheuristiques pour l'arbitrage d'applications sur fédérations de Clouds, Oct 2011, N. Melab and E-G. Talbi.

- R. Leroy, Parallel Tree-based Exact Algorithms using Heterogeneous Many and Multi-core Computing for Solving Challenging Problems in Combinatorial Optimization, Oct 2012, N.Melab.
- K. Seridi, Métaheuristiques multiobjectives pour le biclustering, Oct 2009, L. Jourdan and E-G. Talbi
- A. Sthathakis, Satellite payload reconfiguration optimization, Oct 2011, P. Bouvry, G. Danoy, E-G. Talbi
- B. Tounsi, Bi-level modeling and solving of transportation problems, Oct 2012, L. Brotcorne
- T-D. Tran, Benchmarking Continuous Multiobjective Optimization Algorithms, Dec 2012, D. Brockhoff and E-G. Talbi.
- T-T. Vu, Méthodes exactes pair-à-pair en environnement virtualisé volatile et à large échelle, Oct 2011, B. Derbel et N.Melab.

DRACULA Project-Team

9. Dissemination

9.1. Scientific Animation

The year 2012 was marked by the following events:

- The edition of 6 volumes of the journal MMNP (Mathematical Modelling of Natural Phenomena) on the following topics: cancer modeling, solitary waves, epidemiology, modelling phenomena on micro- and nano-scale, immunology, biological oscillations (see <http://journals.cambridge.org/action/displayJournal?jid=MNP>).
- The co-organization of a monthly seminar (INRIabcd, every last friday), jointly with Inria team BEAGLE, and the organization of a seminar on biomathematics (on thursday, twice a month) (see archives for 2012 : <http://bsmc.insa-lyon.fr/~M3B/fr/seminaire.php?annee=2012>).
- Organization of the Third International Conference of the Moroccan Society of Applied Mathematics (SM2A), Marrakesh, 10-13 September (see <http://sm2a-2012.ucam.ac.ma/en/index.html>).
- Organization of a workshop dedicated to "cell population dynamics", Tunis, 26-28 November 2012 (<http://euromedbiomaths.org/atelier-M3CD-Tunis/>).
- Organization of a summer school dedicated to the interactions between stochastic and deterministic approach for population dynamics, Paris, 06-14 September 2012 (see <http://www.cmap.polytechnique.fr/~ecolemathbio2012/index.php>).

9.2. Teaching - Supervision

9.2.1. Teaching

Licence : Thomas LEPOUTRE, Dynamique de populations, 12h, L3, ENS Lyon.

Licence : Thomas LEPOUTRE, Dynamique de populations structurées, 9h, L3, ENS Cachan, Paris.

Licence : Samuel BERNARD, Algèbre linéaire et analyse matricielle, 38h, L3, INSA Lyon.

Licence : Laurent PUJO-MENJOUET, EDP réaction-diffusion, 15h, L3, UCBL Lyon.

Licence : Laurent PUJO-MENJOUET, EDO-Systèmes dynamiques, 40h, L3, INSA Lyon.

Licence : Laurent PUJO-MENJOUET, Équations différentielles et EDP, 36h, L3, UCBL Lyon.

Licence : Laurent PUJO-MENJOUET, Fonctions de plusieurs variables, 36h, L2, UCBL Lyon.

Licence : Laurent PUJO-MENJOUET, Suite et série de fonctions, 36h, L2, UCBL Lyon.

Licence : Laurent PUJO-MENJOUET, Projet Etudiant, 09h, L2, UCBL Lyon.

Licence : Romain Yvinec, Équations différentielles Ordinaires, 18h, L2, UCBL Lyon.

Licence : Romain Yvinec, Mesure et intégration, 24h, L3, UCBL Lyon.

Licence : Philippe MICHEL, Analyse appliquée, 56h, L3, ECL Lyon.

Licence : Philippe MICHEL, Analyse numérique, 16h, L3, ECL Lyon.

Licence : Philippe MICHEL, Probabilités et statistique, 16h, L3, ECL Lyon.

Licence : Philippe MICHEL, Optimisation 16h en L3, ECL Lyon.

Licence : Philippe MICHEL, Projet d'études, 20h, L3, ECL Lyon.

Master : Thomas LEPOUTRE, Préparation à l'agrégation, calcul scientifique, 30h, M2, UCBL Lyon.

Master : Thomas LEPOUTRE, Equations de Hamilton Jacobi, 18h, M2, ENS Lyon.

Master : Fabien CRAUSTE, Equations structurées et hématopoïèse, 2h, M2, UCBL Lyon.
 Master : Samuel BERNARD, Modélisation en biologie, 4h, M2, ENS Lyon.
 Master : Laurent PUJO-MENJOUET, Modélisation en biologie et médecine, 4h, M2, ENS Lyon.
 Master : Laurent PUJO-MENJOUET, EDP et modélisation, 30h, M1, INSA Lyon.
 Master : Laurent PUJO-MENJOUET, Projets tutorés, 3h, M1, UCBL Lyon.
 Master : Laurent PUJO-MENJOUET, Systèmes dynamiques, 27h, M1, UCBL Lyon.
 Master : Laurent PUJO-MENJOUET, EDP et Structures biologiques, 18h, M2, UCBL Lyon.
 Master : Laurent PUJO-MENJOUET, EDP pour l'hématopoïèse, 18h, M2, UCBL Lyon.
 Master : Romain YVINEC, Equations de transport en biologie, 12h, M2, UCBL Lyon.
 Master : Philippe MICHEL, Algorithmes pour la décision en entreprise, 16h, M2, ECL Lyon.
 Master : Philippe MICHEL, Mathématiques appliquées à la biologie, 20h, M1, ECL Lyon.
 Master : Philippe MICHEL, Systèmes embarqués collaboratifs, 12h, M1, ECL Lyon.
 Master : Philippe MICHEL, Projet Application - Recherche, 10h, M1, ECL Lyon.

9.2.2. Supervision

PhD : Erwan Hingant, Contributions à la modélisation mathématique et numérique de problèmes issus de la biologie - Applications aux Prions et à la maladie d'Alzheimer, Université Claude Bernard, Lyon 1, September 17th 2012, co-advised by Ionel Sorin Ciuperca and Laurent Pujou-Menjouet.

PhD : Emmanuelle Terry, Modélisation mathématique des dynamiques de la réponse immunitaire T CD8, aux échelles cellulaire et moléculaire, Université Claude Bernard, Lyon 1, October 12th 2012, co-advised by Fabien CRAUSTE and Olivier GANDRILLON.

PhD : Romain Yvinec, Modélisation probabiliste en biologie moléculaire et cellulaire, Université Claude Bernard, Lyon 1, October 05th 2012, co-advised by Mostafa Adimy and Laurent Pujou-Menjouet.

PhD : Latifa Bouguerra, University of Alger, Algerian government scholarship, started October 2012, co-advised by Mostafa Adimy and Rachid Boudchich.

PhD : Youssef Bourfia, University of Marrakech, IRD grant, started October 2010, co-advised by Mostafa Adimy and Hassan Hbid.

PhD : Abdennasser Chekroun, ICJ UMR 5208, Lyon 1, Algerian government scholarship, started October 2012, advised by Mostafa Adimy.

PhD : Raouf El Cheikh, ICJ UMR 5208, Lyon 1, salarié, started October 2011, advised by Samuel Bernard.

PhD : Nathalie Eymard, ICJ UMR 5208, Lyon 1, salariée, started October 2009, advised by Vitaly Volpert.

PhD : Mohamed Helal, University of Sidi Bel Abbes, Algeria, Algerian government scholarship, started October 2011, co-advised by Laurent Pujou-Menjouet and Abdelkader Lakmeche.

PhD : Marine Jacquier, ICJ UMR 5208, Lyon 1, started October 2012, co-advised by Mostafa Adimy and Fabien Crauste.

PhD : Lila Sebaa, University of Alger, Algerian government scholarship, started October 2009, co-advised by Mostafa Adimy and Rachid Boudchich.

PhD : Alen Tosenberger, ICJ UMR 5208, Lyon 1, advised by Vitaly Volpert.

9.3. Popularization

Thomas Lepoutre is a member of the website Images des Mathématiques (see, <http://www.cmap.polytechnique.fr/~ecolemathbio2012/index.php>), reviewing press articles concerning mathematics. He also participated to the programm MathaLyon, spending one day in Collège de l'Isle à Vienne (38), animating Mathematical stands for students.

DREAM Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Journal editorial board

- *AAI: Applied Artificial Intelligence* (M.-O. Cordier).
- *ARIMA: Revue Africaine de la Recherche en Informatique et en Mathématiques Appliquées* (M.-O. Cordier).
- *Revue I3* (M.-O. Cordier).
- *Revue JESA (Journal Européen des Systèmes automatisés)* (M.-O. Cordier).
- *Interstices webzine* (M.-O. Cordier).
- *Bulletin AFIA* Invited editors of the special issue on "Intelligence Artificial and Agronomy": T. Guyet, M.-O. Cordier

8.1.2. Conference program committees and organizations

- Program committee member of KR'2012, ECAI 2012, RFIA'2012 (M.-O. Cordier)
- Program committee member of RFIA'2012 (T. Guyet).
- Program committee member of ECAI 2012, EGC 2013 (R. Quiniou).
- Program committee members of FOSTA workshop at EGC 2013 (T. Guyet, R. Quiniou).
- Organization committee member of CIDN workshop at EGC 2013 (T. Guyet).
- Organization committee members of EGC 2014 scheduled in Rennes (T. Guyet, R. Quiniou).
- Steering Committee of RFIA'2014 (T. Guyet).

8.1.3. Scientific and administrative boards

- ECCAI fellow + Honoric member of AFIA (Association Française d'Intelligence Artificielle): M.-O. Cordier
- Member of "Agrocampus-Ouest" scientific board: M.-O. Cordier.
- Member of "Conseil d'administration de l'ISTIC", "Comité scientifique de l'ISTIC", "Direction scientifique de l'Irisa": M.-O. Cordier
- Member of the "AAAI" award committee: M.-O. Cordier.
- Member of the "Prix de thèse AFIA 2012" award committee (selects the best French PhD thesis in the Artificial Intelligence domain): M.-O. Cordier.
- Chair of the INRA CSS-MBIA (Commission scientifique spécialisée "Mathématiques, Biologie et Intelligence Artificielle"): M.-O. Cordier.
- Member of the CoNRS (Comité national recherche scientifique (since october 2012) : M.-O. Cordier
- Member of the AFIA board: T. Guyet.
- Member of the COREGE (Research Committee-COMité de la REcherche du Grand Etablissement) of Agrocampus-Ouest: T. Guyet.
- External evaluator for the portuguese FCT (Portuguese Foundation For Science and Technology): T. Guyet.
- Member of the Payote-Network board: T. Guyet.

8.1.4. Misc

- Expert for specifying “methods and tools for exploring and analyzing simulation results” in the INRA inter-department project "Paysage Virtuel" (Virtual Landscape) (T. Guyet).
- Organization of the “Turing day” in october 2012 (M.-O. Cordier)
- Invited talk at CIDN workshop at EGC 2012 (R. Quiniou).
- Invited talk at Assises du GDR I3, Porquerolles, 2012, May 10 (Y. Moinard).
- Seminar in the Reasoning and Decision theme at IRIT (Toulouse, 2012, june 15) (Y. Moinard).
- Invited lectures at the “Logic Summer School”, Canberra, Australie, december 2012 (M.-O. Cordier)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Many members of the EPI DREAM are also faculty members and are actively involved in computer science teaching programs in ISTIC, INSA and Agrocampus-Ouest. Besides these usual teachings DREAM is involved in the following programs:

Master: *Module DSS: Apprentissage sur des données séquentielles symboliques*, 10 h, M2, ISTIC University of Rennes (R. Quiniou).

Master: *Module OCI : Interfaces graphiques en C++/GTKMM*, M2, ISTIC University of Rennes (T. Guyet),

Master: *Géoinformation*, M2, Agrocampus Ouest Rennes (L. Bonneau, T. Guyet, K. Sedki)

8.2.2. Supervision

PhD in progress: Tassadit Bouadi, “Analyse interactive de résultats de simulation et découverte de connaissances. Application à l’aide à la décision dans le domaine agroécologique pour l’amélioration de la qualité des eaux des bassins versants”, january 1st 2010, co-supervisors Marie-Odile Cordier, René Quiniou and Chantal Gascuel, ANR project Acassya grant

PhD in progress: Yulong Zhao, “Modélisation d’agroécosystèmes dans un formalisme de type systèmes à événements discrets et simulation de scénarios utilisant des outils de model-checking. Application à l’étude des impacts des changements climatiques et des pratiques agricoles sur les flux de nutriments vers les eaux de surface.”, october 1st 2010, supervisor Marie-Odile Cordier and Chantal Gascuel

PhD in progress: Philippe Rannou, “Modèle rationnel pour humanoïdes virtuels”, october 1st 2010, co-supervisors Marie-Odile Cordier and Fabrice Lamarche

8.2.3. Juries

- Committee member of Romain Tavenard’s PhD defence (Univ. Rennes1): M.-O. Cordier
- Committee member of Nuno Belard’s PhD defence (Univ. Toulouse): M.-O. Cordier
- Committee member of Annie Foret’s HDR defence (Univ. Rennes1): M.-O. Cordier
- Committee member of Vincent Armant’s PhD defence (Univ. Paris11): M.-O. Cordier
- Committee member of Christophe Salperwyck’s PhD defence (Université de Lille): R. Quiniou.
- External member of the INRA jury for the recruitment of computer science engineers: T. Guyet

DYLISS Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Administrative functions: scientific committees, journal boards

- Scientific Advisory Board of ITMO Genetics Genomics and Bioinformatics [J. Nicolas].
- Scientific Advisory Board of GDR BIM "Molecular Bioinformatics"[J. Nicolas].
- Member of the section 01 of the Comité National de la Recherche Scientifique [A. Siegel]
- Member of the IRISA laboratory council [F. Coste]
- Scientific Advisory Board of Biogenouest [J. Bourdon, J. Nicolas, A. Siegel].
- Steering committee of the International Inference community (ICGI) [F. Coste]
- Academic editor: Plos One [J. Bourdon]
- Recruitment committees: junior and senior research (CNRS) [A. Siegel], assistant professor (Ircyn, Univ. Nantes) [A. Siegel, D. Eveillard], professor (Lille) [A. Siegel]
- Referee: IET Systems Biology, Bioinformatics, BMC Bioinformatics, PLoS One, Annals of combinatorics, Medical & Biological Engineering & Computing, Theoretical Computer Science, Algorithmic Learning Theory '12
- Member of SCAS (Service Commun d'Action Sociale) of Univ. Rennes 1 [C. Belleannée]

8.1.2. JOBIM

JOBIM JOBIM is the scientific yearly appointment of the French-speaking bioinformatics community. The official languages of the conference are English and French. It has been organized in Rennes this year from 3 to 6 July 2012 (P. Peterlongo, C. Lemaitre and teams Genscale and Dyliss) and chaired by F. Coste and D. Tagu (Inra). Invited speakers were David B. Searls, University of Pennsylvania, Hugues Roest Crollius, Ecole Normale Supérieure, Pierre Baldi, University of California in Irvine, Ivo Hofacker, Institute for Theoretical Chemistry, Toni Gabaldon, Centre for Genomic Regulation, Martin Vingron, Max Planck Institute for Molecular Genetics and Bertil Schmidt, Johannes Gutenberg University Mainz. The program contained 33 papers (acceptance rate 50%) grouped into ten scientific sessions including sequence analysis, the study of protein interactions, and works on regulation and evolution.

[25] [Online publication]

8.1.3. Ecole Jeunes Chercheurs en Informatique-Mathématiques (GDR IM)

The GDR Informatique Mathématique has organized a young researcher seminar from 19 to 23 March in Rennes (Chair: A. Siegel. Organization M.-N. Georgeault and E. Lebret) <http://ejcim2012.irisa.fr>. It gathered 93 participants and proposed several courses including biological sequence linguistics (J. Nicolas and F. Coste), time modelling for dynamic systemchecking (D. Eveillard) and practical applications of discrete dynamic systems (J. Bourdon and A. Siegel).

8.1.4. Local meetings

- **IDEALG annual meeting** The IDEALG annual meeting has been organized in Irisa/Inria Rennes from 27 to 28 September 2012. Dyliss is participating to bioinformatics studies for the development of an integrated platform on seaweed omics data.
- **Seminar** A weekly seminar of bioinformatics is organized within the laboratory. Attendees are member of the symbiose team, biologists from Brittany and computer scientists from the laboratory. [\[web site\]](#).

8.1.5. Conference program committees

- Cap'2012 [F. Coste]
- JOBIM [F. Coste/co-head, J. Bourdon, J. Nicolas, A. Siegel]
- ICGI'12 [F. Coste]
- Numeration [A. Siegel]

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: C. Belleannée, Langages formels, 22h, L3 informatique, Rennes1, France.

Licence: C. Belleannée, Architecture des ordinateurs, 50h, L3 informatique, Rennes1 France.

Licence: C. Belleannée, Bases de données, 21h, L3 Miage par alternance, Rennes1 France .

Licence: G. Andrieux, TIC : Technologies de l'information et de la communication, 32h, L1, Univ. Rennes 1, France.

Licence : G. Garet, Office automation, 20h, L1, Univ. Rennes 1, France.

Licence : G. Garet, Functional algorithm, 24h, L1, Univ. Rennes 1, France.

Licence : G. Garet, Programming, 22h, L3, Univ. Rennes 1, France.

Licence: V. Picard, Scheme 14h, L1, INSA Rennes, France

Licence: V. Picard, Architecture et systèmes, 24h, L3, ENS Rennes/Univ. Rennes 1, France

Licence: V. Picard, Initiation Unix, 2h, L3, ENS Rennes, France

Licence: S. Prigent, learning PHP/SQL, 12h, L3 (3ème année ingénieur), Ensai, Rennes, France

Licence: S. Prigent, Database, 42h, L1, Ensai, Rennes, France

Licence: S. Prigent, An introduction to R, 9h, L1, Ensai, Rennes, France

Master: V. Picard, Préparation à l'agrégation de mathématiques option D: épreuve de modélisation, 12h, L2, ENS Rennes/Univ. Rennes 1, France

Master: C. Belleannée, Préférences Logique et contraintes, 32h, M1 informatique, Rennes1 France

Master: C. Belleannée, Architecture matérielle et interface au système, 28h, M2 informatique, Rennes1 France

Master: F. Coste, Apprentissage Supervisé, 15h, M2 Informatique, Univ. Rennes 1, France

Master: F. Coste, Données Séquentielles Symboliques, 10h, M2 Informatique, Univ. Rennes 1, France

Doctorat : J. Bourdon, Applications de systèmes dynamiques discrets, 2h, Ecole Jeunes Chercheurs en Informatique Mathématique, Rennes, France

Doctorat : J. Bourdon, Réseaux biologiques semi-quantitatifs : dynamique et propriétés émergentes , 2h, Ecole thématique OSUR sur les systèmes complexes, Rennes, France

Doctorat : F. Coste & J. Nicolas, Linguistique des séquences biologiques, 4h, Ecole Jeunes Chercheurs en Informatique Mathématique, Rennes, France

Doctorat: D. Eveillard, Modélisation du temps pour la vérification des systèmes dynamiques, 2h, Ecole Jeunes Chercheurs en informatique mathématique, Rennes, France.

Doctorat: D. Eveillard, From Omics data to models, 4h, Ecole Thématique Ecologie et Génomique Environnementale, Aussois, France.

Doctorat : A. Siegel, Introduction aux systèmes dynamiques, 2h, Ecole Jeunes Chercheurs en Informatique Mathématique, Rennes, France

8.2.2. Seminars

- J. Bourdon , *Quelques outils pour étudier la dynamique des réseaux génétiques*, 10th days of the GenOuest platform: biological networks, 2012.
- F. Coste, *Characterization of protein families: overpassing HMM expressivity*, second meeting Idealg, Rennes sept. 2012
- D. Eveillard, *Temporal and quantitative behaviors of biological systems - Can we learn something by modeling via a systems biology viewpoint ?*, séminaire de la station biologique de Roscoff, Roscoff.
- D. Eveillard, *Quantitative modeling of biological systems*, Biocore seminar, Inria Sophia-Antipolis.
- G. Andrieux, *Analyzing Large Models of TGFbeta with Cadbiom and the Process Hitting*, Ecole Jeunes Chercheurs en Informatique Mathématique 2012, Rennes.
- S. Prigent, *Methods of metabolic network reconstruction: corresponding contributions*, second meeting Idealg, Rennes sept. 2012
- S. Prigent, *Reconstruction de réseaux métaboliques par la programmation logique*, Ecole Jeunes Chercheurs en Informatique Mathématique 2012, Rennes.
- S. Prigent, *Que nous apprend la reconstruction d'un réseau métabolique ?*, 10th days of the genouest platform: biological networks, 2012.
- A. Siegel, *A review on Pisot conjecture, coincidence conditions and related graphs*, TU Wien, department of mathematics, 2012.
- A. Siegel, *Using constraints programming to investigate the robustness of biological networks reconstruction*, University of Chile, 2012.
- A. Siegel, *Quelques approches formelles pour tester la robustesse de processus de reconstruction de réseaux*, Séminaire du réseau NetBio, 2012.
- V. Wucher. *Modélisation d'un réseau de régulation d'ARN pour prédire des fonctions de gènes impliqués dans le mode de reproduction du puceron du pois*. Journées "Bioinformatique des ARNnc", Toulouse.

8.2.3. Supervision

HdR : Jérémie Bourdon, *Sources probabilistes : des séquences aux systèmes*, Université de Nantes, 5 décembre 2012 [28].

PhD in progress : Oumarou Abdou-Arbi *Analyse Automatisée et générique des réseaux métaboliques en nutrition*, started in October 2010, supervised by A. Siegel and T. Tabsoba (Burkina-Faso).

PhD in progress : Geoffroy Andrieux, *Discrete approach modeling of biological signaling pathway*, started in October 2010, supervised by N. Théret (Inserm) and M. Le Borgne

PhD in progress : Andres Aravena, *Introduire des approches combinatoires dans des modèles probabilistes pour la découverte d'évènements de régulation d'un système biologique à partir de données hétérogènes*, started in July 2011, supervised by A. Maass (CMM, University of Chile) and A. Siegel.

PhD in progress : Gaëlle Garet, *Discovery of enzymatic functions in the framework of formal languages*, started in October 2011, supervised by J. Nicolas and F. Coste.

PhD in progress : Clovis Galiez, *Syntactic modelling of protein structure.*, started in October 2012, supervised by F. Coste.

PhD in progress : Vincent Picard, *Analyse dynamique d'algorithmes et dynamique symbolique pour l'étude de modèles semi-quantitatifs en biologie des systèmes*, started in September 2012, supervised by A. Siegel and J. Bourdon.

PhD in progress : Sylvain Prigent, *Modélisation par contraintes pour le contrôle génomique et physiologique de l'adaptation des algues brunes à la salinité de l'eau*, started in October 2011, supervised by A. Siegel and T. Tonon (UMR 7150, station biologique de Roscoff)

PhD in progress : Santiago Videla, *Applying logic programming to the construction of robust predictive and multi-scale models of bioleaching bacteria*, started in November 2011, supervised by A. Siegel

PhD in progress : Valentin Wucher, *Modélisation d'un réseau de régulation d'ARN pour prédire des fonctions de gènes impliqués dans le mode de reproduction du puceron du pois*, started in November 2011, supervised by J. Nicolas and D. Tagu (INRA)

8.2.4. Juries

- *Member of habilitation thesis jury.* J. Bourdon, Université de Nantes [A. Siegel].
- *Member of Ph-D thesis jury.* P. Vanier, Université de Marseille [A. Siegel]. M. Noual, ENS Lyon [A. Siegel]. P. Bordron, Univ. Nantes [D. Eveillard]
- *Referee of Ph-D thesis.* S. Thiele, University of Potsdam [A. Siegel]. N. Loira, University of Bordeaux [A. Siegel].

E-MOTION Project-Team

7. Dissemination

7.1. Animation of the scientific community

7.1.1. conferences and workshops

- C. Laugier organised a workshop on intelligent vehicles during IROS' 12.
- C. Laugier was program chair of IEEE/RSJ IROS 2012 conference in Vilamoura (Portugal, oct. 2012).
- C. Laugier co-organised workshop at the IEEE/RSJ IROS 2012 conference in Vilamoura (Portugal, oct. 2012).
- A. Spalanzani organised a workshop on Assistance and Service robotics in a human environment during IROS' 12.
- C. Laugier was member of the conference editorial Board and member of the Program Committee of the IEEE ICRA 2012 conference (Mineapolis, may 2012).
- A. Spalanzani was associate editor of the Ro-Man 2012 conference.
- A. Martinelli was Associate Editor at ICRA 2012.
- C. Laugier co-organized with Philippe Martinet a workshop on intelligent vehicles during IEEE/RSJ IROS' 12 in Algarve (Portugal).
- A. Spalanzani co-organized with D. Daney, JP Merlet and O. Simonin a workshop on Assistance and Service robotics in a human environment during IEEE/RSJ IROS' 12 in Algarve (Portugal).
- C. Laugier has been appointed as program co-chair at the IEEE/RSJ IROS 2012 conference (Algarve, Portugal).
- C. Laugier is co-chair of the IEEE RAS Technical Committee on "Autonomous Ground Vehicles and Intelligent Transportation Systems". He co-organized in this scope several scientific events in 2012 (workshops, special sessions of International conferences, a journal special issue in "Robotics and Automation Magazine" to be published in 2013). - C. laugier was Associate Editor for the part "Fully Autonomous Driving" of the Springer "Handbook on Intelligent Vehicles" published in March 2012.
- C. Laugier has been invited as an Associated Editor (with A. Zelinsky, A. Broggi and U. Ozgüner) for chapter "Intelligent Vehicles" of the 2nd edition of the Springer "Handbook of Robotics" to be published in 2013-14.
- A. Spalanzani co-organised a workshop at the IEEE/RSJ IROS 2012 conference in Vilamoura (Portugal, oct. 2012).
- C. Laugier was member of the conference editorial Board and member of the Program Committee of the IEEE ICRA 2012 conference (Mineapolis, may 2012)
- C. Laugier was program chair of IEEE/RSJ IROS 2012 conference in Vilamoura (Portugal, oct. 2012)
- C. Laugier co-organised workshop at the IEEE/RSJ IROS 2012 conference in Vilamoura (Portugal, oct. 2012).
- C. Laugier was a member of the program committee of the FSR 2012 conference (Japan, march 2012)

7.1.2. invited talks

- C. Laugier has given a seminar entitled "Autonomous Mobility in Human Environments" at the University of Tokyo on March 2012.
- C. Laugier has given an invited talk entitled "Situation Awareness and Collision Risk Assessment: Application to Autonomous Vehicles in Open Dynamic Environments" at the Workshop on Field and Service Robotics in Sendai on March 2012.
- C. Laugier and S. Lefevre have given an invited talk entitled "Embedded Perception and Situation Awareness for improving Driving Safety" at the 2nd Workshop Berkeley-Inria-Stanford in Paris on May 2012.
- C. Laugier has given an invited talk entitled "Human Centered Robotics and Mobility" at the NTU-IRiCE Workshop on Robotics and Automation in Taipei on May 2012.

7.1.3. others

- A. Spalanzani, M. Perrollaz, P Stein, A. Escobedo, J. Rios and C. Laugier have presented the robotic wheelchair at the innorobo 2012 fair, march 2012.
- C. laugier participated as panelist expert to the large public event “Talents de Rhône-Alpes: Homme/Robot qui aura la main?” in Lyon on December 18th 2012.
- F. Breton and C. laugier have published a vulgarization article entitled “Les robots apparaissent dans l’espace de vie des humains”, October 2012.
- A. Martinelli was reviewer of the PhD thesis of Stephan Weiss at ETHZ in March 2012.
- A. Spalanzani and C. Laugier participated to the organization of the French-Mexican summer school on robotics and vision (SSIR’12) in Ensenada (Mexico).
- M. Perrollaz made a talk at the "Fête de la science", oct 2012.

7.2. Teaching

- Master MOSIG: “autonomous Robotics”, C. Laugier (responsible), A. Martinelli, M. Perrollaz, A. Nègre, 24h, M2, MOSIG-INP, France.
- Master CNAM: “Basic technologies for autonomous Robotics”, C. Laugier, CNAM, France.
- Doctorat (école d’été): “autonomous Robotics”, C. Laugier, 6h, SSIR’12, Ensenada, June 2012, Mexico.
- Ecole d’Ingénieur : “Programmation structurée en C”, M. Perrollaz, 36h, L3, Phelma, Grenoble-INP, France.

PhD & HdR :

- PhD in progress: Chiara Troiani, vision and inertial sensor fusion for 3D navigation, 2011, A. Martinelli.
- PhD in progress: Jorge Rios-Martinez, Comfortable navigation using social conventions, 2009, A. Spalanzani.
- PhD in progress: Arturo Escobedo, Shared Control navigation, 2011, A. Spalanzani.
- PhD in progress: Raphael Laurent, Bayesian modelling to implement and compare different theories of speech communication, 2011, P. Bessière.
- PhD in progress: Stéphanie Lefèvre, context-aware bayesian filtering for collision prediction at roads intersections, defended in 2012, C. Laugier
- PhD in progress: Gabriel Synnaeve, Bayesian programming applied to a multi-player video games, defended in 2012, P. Bessière.
- PhD in progress: Alessandro Renzaglia, 3D coverage by using stochastic approach, defended in 2012, A. Martinelli.

ESPRESSO Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Invited Lectures

Jean-Pierre Talpin gave a series of invited lectures on synchronous programming and on Polychrony at the Ecole Centrale de Pékin and at Beihang University, May 2012, in Beijing, China.

Jean-Pierre Talpin was invited at the 2012 ACM/IEEE Conference on Logic in Computer Science, in June 2012, Dubrovnik, to receive the ACM/IEEE LICS Test of Time Award. He gave a short presentation on the technical challenges and theoretical breakthroughs of his awarded paper: “A type and effect discipline”, with his co-author Pierre Jouvelot.

Jean-Pierre Talpin participated to the Dagstuhl meeting on Architecture-Driven Semantic Analysis of Embedded Systems in June 2012, and presented the tools developed by ESPRESSO for co-modeling embedded software architectures with Polychrony.

Jean-Pierre Talpin gave an invited presentation on extending AADL with a timed annex at the AADL standardisation committee and SAE conference, October 2012 in Phoenix, a followup of which is the definition by the ESPRESSO project-team of a synchronous annex for AADL.

8.1.2. Conferences

Jean-Pierre Talpin is a member of the steering committee of the ACM-IEEE conference on methods and models for co-design (MEMOCODE) and of the editorial board of the EURASIP Journal on Embedded Systems. He served as technical program committee member for the following conferences:

HLDVT'11 <http://www.hldvt.com/11>

SAC'11 <http://www.acm.org/conferences/sac/sac2011>

SIES'11 <http://www.mrtc.mdh.se/sies2011>

Jean-Pierre Talpin co-organized with Elisabeth Leuret the 19th. edition of the synchronous programming workshop, held in Le Croisic, November 2012 (<http://synchron2012.inria.fr>).

Thierry Gautier served as technical program committee member for the conference ESLsyn 2012 (<http://www.eccsi.org/eslsyn2012>) and MEMOCODE 2012 (<http://memocode.irisa.fr/2012/MEMOCODE%202012.html>).

8.2. Teaching - Supervision - Juries

8.2.1. Juries

Jean-Pierre Talpin served as referee and president at the thesis defense of Mikel Cordovilla, entitled “Environnement de développement d’applications multi-périodiques sur plateforme multi-cœur: la boîte à outils SchedMCore”, held on April 2, 2012 at ONERA.

Paul Le Guernic served as examiner at the Habilitation thesis defense of Abdoulaye Gamatié, entitled “Design and analysis for multi-clock and data-intensive applications on multiprocessor systems-on-chip”, held on November 15, 2012 at Université de Lille 1. He served also as referee at the thesis defense of Michaël Lafaye, entitled “Modélisation de plate-forme avionique pour exploration de performance en avance de phase”, held on November 19, 2012 at Télécom ParisTech.

Jean-Pierre Talpin served on the Professor selection committee of ENSEEIHT in May 2012.

Thierry Gautier served on an Associate Professor selection committee of Université de Rennes 1 in May 2012.

Loïc Besnard served as president in a jury for the competitive selection of engineers at CNRS in October 2012.

Paul Le Guernic served as “rapporteur” of Inria Research Center Rennes - Bretagne-Atlantique at the Regional symposium of Higher Education and Research (Assises territoriales de l’enseignement supérieur et de la recherche) in Nantes and Rennes.

EXMO Project-Team

8. Dissemination

8.1. Scientific Animation

- Jérôme Euzenat is founding member of the "Semantic Web Science Association" (steering committee for the ISWC conference series).
- Editorial board of *Journal of Web Semantics*, *Journal on Data Semantics* and *Semantic web journal* (Jérôme Euzenat).
- Jérôme David has been tutorial chair (with Irwin King) of the 21st International World Wide Web Conference (WWW).
- Jérôme Euzenat has been co-chairman (with Manfred Hauswirth and Josie Xavier Perreira) of the "Experiment and evaluation" track of the 11th "International Semantic Web Conference" (ISWC, Boston, MA US), 2012
- Jérôme Euzenat has been programme committee member for the 2012 issues of the conferences International Semantic Web Conference (ISWC), Worldwide Web Conference (WWW), National Conference on Artificial Intelligence (AAAI) International conference on Knowledge Engineering and Knowledge Management (EKAW), Formal Ontologies for Information Systems (FOIS), International Conference on Conceptual Modelling (ER).
- Jérôme David has been programme committee member of the International Conference on Mobile Web Information Systems (MobiWIS) 2012.
- Jérôme David has been programme committee member for the 2012 issues of the Ontology matching workshop (OM), Artificial Intelligence meets the Web of Data workshop (AIMWD) and Downscaling the Semantic Web workshop (Downscale).
- Cassia Trojahn has been programme committee member for the 2nd International Workshop on Evaluation of Semantic Technologies (IWEST) and the 7th International Workshop on Ontology Matching (OM).
- Jérôme Euzenat has also been programme committee member for the ESWC international workshop on the "evaluation of semantic technologies (iWEST)", IJCAR workshop on "OWL reasoner evaluation", ECAI workshop on "Cooking with computers", ECAI workshop on "Artificial intelligence meets the web of data", ISWC workshop on "Knowledge evolution and ontology dynamics" (EvoDyn).
- Jérôme Euzenat has organised (with Pavel Shvaiko, Anastasios Kementsietsidis, Ming Mao, Natasha Noy and Heiner Stuckenschmidt) the 7th "Ontology matching" workshop of the 11th ISWC, Boston (MA US), 2012 [22].
- Jose Luis Aguirre, Jérôme Euzenat and Cássia Trojahn dos Santos have organised (with many other colleagues) the Ontology Alignment Evaluation Initiative 2012 at the "Ontology matching" workshop of the 11th ISWC, Berlin (MA US), 2012 [7].
- Cassia Trojahn dos Santos has organised the SEALS meeting welcoming 20 people for four days in Grenoble.
- Jérôme Euzenat has been consulted by the ISO OntoIOP working group (ISO/TC 37/SC 3 "Systems to manage terminology, knowledge and content") on alignment formats (2012).
- Invited conference on "The web of data as an AI playground", ECAI "AI and linked data" workshop, Montpellier (FR), 27/08/2012 (Jérôme Euzenat)
- Invited conference on "Distributed and dynamic knowledge for real", OntoBras conference, Recife (BR), 21/09/2012 (Jérôme Euzenat)

- Seminar on “Linked data from your pocket: The Android RDFContentProvider”, Prague University of Economics, Prague (CZ), 11/12/2012 (Jérôme David)
- Seminar on “Ontology alignment metadata”, Open ontology repository metadata workshop, Conference call, 24/04/2012 (Jérôme Euzenat)
- Seminar on “What you say is what I get; what you don’t say is what I don’t get”, Dagstuhl seminar on «Cognitive approaches to the semantic web», Wadern (DE), 30/05/2012 (Jérôme Euzenat)
- Seminar on “Quelques questions sur les réseaux d’ontologies”, Limos seminar, Clermont-Ferrand (FR), 14/06/2012 (Jérôme Euzenat)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: Jérôme David, Outils Informatique (c2i), 18, L1, UPMF, France

Licence: Jérôme David, Développement Mobile, 25, L3, UPMF, France

Licence: Jérôme David, Introduction à Java, 24, L3, UPMF, France

Licence: Jérôme David, Programmation Avancée, 20, L3, UPMF, France

Licence: Jérôme David, Introduction aux bases de données relationnelles, 8, L2, UPMF, France

Master: Jérôme David, Programmation Java 2, 30, M1-M2, UPMF, France

Master: Jérôme David, JavaEE, 30, niveau M2, UPMF, France

Master: Jérôme David, Développement Web Mobile, 30, M2, UPMF, France

Master: Jérôme David, Interface Homme Machine 2, 30, M2, UPMF, France

Master: Jérôme Euzenat, Semantic web: from XML to OWL, 27heqTD, M2R, Université Joseph Fourier & INPG, France

Post-graduate level: Jérôme Euzenat, Ontology matching, 4heqTD, European Summer School on Ontology Engineering and the Semantic Web, Spain

8.2.2. Supervision

PhD: Melisachew Wudage Chekol, Static analysis of semantic web queries [4], Université de Grenoble, 19/12/2012, supervisors: Jérôme Euzenat and Nabil Layaida

PhD in progress: Zhengjie Fan, Ontology-based data interlinking, 1/1/2011, supervisors: Jérôme Euzenat and François Scharffe

PhD in progress: Tatiana Lesnikova, Multilingual data interlinking, 1/10/2012, supervisors: Jérôme Euzenat and Jérôme David

PhD in progress: Armen Inants, Ontology alignment algebra, 1/12/2012, supervisor: Jérôme Euzenat

8.2.3. Juries

- PhD: David Rouquet, Multilinguisation d’ontologies dans le cadre de la recherche d’information translingue dans les collections d’images accompagnées de textes spontanés, Université de Grenoble, 6/4/2012, Valérie Bellynck and Christian Boitet
- PhD: Nathalie Abadie, Formalisation, acquisition et mise en œuvre de connaissances pour l’intégration virtuelle de bases de données géographiques: les spécifications au cœur du processus d’intégration, Université Paris-Est, 20/11/2012, Anne Ruas and Sébastien Mustière
- PhD: Anna Tordai, On combining alignment techniques, Vrije Universiteit Amsterdam, 2/12/2012, Guus Schreiber and Bob Wieliga
- PhD: Duy Hoa Ngo, Enhancing Ontology Matching Quality By Using Machine Learning, Graph Matching And Information Retrieval Techniques, Université de Montpellier 2, 14/12/2012, Zohra Bellahsène

8.3. Popularization

- Jérôme Euzenat gave a presentation on *Library resources and the web of data: the missing link* at the Millenium club (group of librarians) days, Montbonnot (FR), 28/03/2012.
- Jérôme Euzenat coordinated of the INTech technology watch seminar on *L'ouverture des données: technologies et usages (Open data: technology and use)*, 7 presentations, 12 demonstrations, 80 participants, Montbonnot, 5/6/2012.
- Jérôme Euzenat has been interviewed by Françoise Breton, “l'émergence d'un web des connaissances”, published on the Inria Grenoble Rhône-Alpes web site ¹, 25/09/2012.

¹<http://www.inria.fr/centre/grenoble/actualites/l-emergence-d-un-web-des-connaissances>

FLOWERS Project-Team

9. Dissemination

9.1. Animation of the Scientific Community

9.1.1. Editorial boards

Pierre-Yves Oudeyer has worked as Editor of the IEEE CIS AMD Newsletter, and member of the IEEE CIS Technical Committee on Autonomous Mental Development.

Pierre-Yves Oudeyer has worked as Associate Editor for IEEE Transactions on Autonomous Mental Development, *Frontiers in Neurorobotics* (Frontiers Foundation), *International Journal of Social Robotics* (Springer).

Pierre-Yves Oudeyer has worked as member of the editorial board of the book series *Advances in Interaction Studies*, John Benjamins Publishing Company.

9.1.2. Steering committees

Pierre-Yves Oudeyer has worked as member of the Steering Committee of the International Conference on Epigenetic Robotics, and participated to the setting up of the second joint conference with IEEE ICDL, i.e. the IEEE ICDL/Epirob conference that was held in San Diego, US.

Manuel Lopes participated in the steering committee of the IEEE TC on Robot Learning.

9.1.3. Conference Organization

Pierre-Yves Oudeyer co-organized the third International Workshop on Human Behavior Understanding, and was co-editor of the proceedings [67], [59]: <http://www.cmpe.boun.edu.tr/hbu/2012/> (together with A. A. Salah, Cetin Mericli and Javier Ruiz-del-Solar).

9.1.4. Program Committees

Freek Stulp was on the program committee of the IEEE International Conference on Development and Learning/Epigenetic Robotics.

Pierre-Yves Oudeyer was a member of the following program committees: IEEE ICDL-EPIROB 2012; IEEE RAS International Conference on Humanoid Robots (HUMANOIDS); 3rd International Workshop on Human-Behaviour Understanding (HBU).

Manuel Lopes was on the program committee of STAIRS/ECAI, AAAI, Inter. Conf. on Autonomous Robot Systems and Competitions and European Workshop on Reinforcement Learning (EWRL).

9.1.5. Journal Reviews

David Filliat reviewed papers for the journals: *Autonomous Robots*, *Robotics and Autonomous Systems* and *Journal of Visual Communication and Image Representation*.

Freek Stulp reviewed papers for the journals: *IEEE Transactions on Robotics*, *Transactions on Mechatronics*, *IEEE Transactions on Control Systems Technology*.

Pierre-Yves Oudeyer reviewed papers for the journals: *IEEE Transactions on Autonomous Mental Development*, *Neural Networks*.

Manuel Lopes reviewed for the journals: *IEEE Transactions on Robotics*, *IEEE Transactions on Autonomous Mental Development*, *Robotics and Autonomous Systems* and *Advanced Robotics*.

Alexander Gepperth was a reviewer for the journals "*Cognitive Computation*", "*Neural Processing Letters*" and "*Intelligent Transportation Systems*".

Thomas Degris was a reviewer for the *Neural Computation Journal* and *Revue d'Intelligence Artificielle*.

9.1.6. Conference Reviews

Alexander Gepperth reviews articles for the International Conference on Neurally Inspired Processing (ICONIP) and the ACM/IEEE HRI conference.

Freek Stulp was reviewer for IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), IEEE International Conference on Development and Learning (ICDL-EpiRob), IEEE-RAS International Conference on Humanoid Robots (Humanoids), IEEE International Symposium on Robot and Human Interactive Communication (ROMAN).

David Filliat was reviewer for IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Advanced Concepts for Intelligent Vision Systems (ACIVS), International Conference on Control, Automation, Robotics and Vision (ICARCV) and the 10th International IFAC Symposium on Robot Control (SYROCO).

Pierre-Yves Oudeyer was a reviewer for the conferences IEEE ICDL-EPIROB, Humanoids, ICRA.

Pierre Rouanet has reviewed papers for the IEEE 2012 ICRA conference, IEEE 2011 IROS conference and IEEE HRI 2011 workshop "Expectations in intuitive HRI".

Thomas Cederborg has reviewed one paper for the IROS 2012 conference, one paper for the ICDL-EpiRob 2012 conference and one paper for the HBU 2012 conference.

Jonathan Grizou has reviewed papers for the IEEE ICDL 2012 conference.

Sao Mai Nguyen has reviewed a paper for IROS 2012, ICDL 2012 and a workshop of IROS 2012.

Olivier Mangin has reviewed papers for the Humanoid 2012 conference, for the Human Behavior Understanding 2012 workshop, and for the ICRA 2013 conference.

Thomas Degris has reviewed papers for the ICDL Epirob 2012 conference.

9.1.7. PhD Jury

Pierre-Yves Oudeyer was rapporteur in the PhD jury of Matthias Rolf (Bielefeld University, Germany), for its PhD entitled "Goal babbling for an efficient bootstrapping of inverse models in high dimensions", as well as rapporteur in the PhD jury of Duong Dang (LAAS CNRS, France), for its PhD entitled "Manipulation et locomotion en robotique humanoïde avec optimisation en temps réel des pas", and also participated to the PhD jury of John Nassour (Univ. Versailles, France; and TUM, Germany), for its PhD entitled "Success-failure learning for humanoid: study on bipedal walking".

David Filliat was rapporteur in the PhD jury of Mathieu Dubois (Méthodes probabilistes basées sur les mots visuels pour la reconnaissance de lieux par un robot mobile, 20/02/12), of Thomas Moulard (Optimisation numérique pour la robotique et exécution de trajectoires référencées capteurs, 17/09/12), of Fengchun Dong (Vision sensor design and evaluation for autonomous navigation, 22/11/12), of Ahmad Mohammed Hasasneh (Robot semantic place recognition based on deep belief networks and a direct use of tiny images, 23/11/12) and participated in the jury of Pierre Rouanet (Apprendre à un robot à reconnaître des objets visuels nouveaux et à les associer à des mots nouveaux : le rôle de l'interface, 04/03/12).

Manuel Lopes acted as member of the advising committee for the PhD thesis of: Pedro Sequeira entitled "Biologically-inspired Mechanisms to Enhance Learning in Autonomous Agents", Instituto Superior Técnico, Lisbon, Portugal, and Salomon Ramire entitled "Active Vision in the Peripersonal Space for Humanoid Robots", University of Plymouth, England.

Alexander Gepperth is/will be rapporteur in the PhD jury of Michael Garcia Ortiz, for his PhD entitled "Driver Behavior Prediction in intelligent vehicles", to be submitted to the university of Bielefeld, Germany in January 2013.

9.1.8. Expertise

David Filliat reviewed projects for the 'Programme Evaluation-orientation de la Coopération Scientifique (ECOS)'.

Pierre-Yves Oudeyer was expert for the European Commission for review and evaluations of several FP7 projects and calls (ICT and FET). He was also reviewer for ANR projects', and was a member of Commission de Développement Technologique, Inria Bordeaux Sud-Ouest.

Manuel Lopes participated in the Cost-Gtri: Groupe de travail des relations internationales du comite d'orientation scientifique et technologique.

Thomas Degris reviewed a project proposal in Reinforcement Learning for the The Netherlands Organisation for Scientific Research (NWO).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

License: Introduction à Matlab, 21 heures. L3 - ENSTA ParisTech (Alexander Gepperth)
 License: Traitement numérique du signal , 21 heures. L3 - ENSTA ParisTech (Alexander Gepperth)
 Master : Robotique de Comnpagne, 12 heures. M2, ENSTA - Paris Tech (Manuel Lopes).
 Master : Robotique Mobile, 24 heures. M2, ENSTA - ParisTech (David Filliat).
 Master : Vision pour la robotique, 12 heures. M2, University Pierre et Marie Curie (David Filliat).
 License : Introduction to Matlab, 21 heures. L3, ENSTA - ParisTech (David Filliat).
 License : Projet informatique, 21 heures. L3, ENSTA - ParisTech (David Filliat).
 Licence 2 : Graphe, Langage, Cryptologie, 21 heures. Ple Universitaire Francais de Ho Chi Minh Ville
 Master : Option Robotique, Projet Robot Autonome, 32 heures. ENSEIRB, Bordeaux, France.
 Licence : Mathématique, 64 heures, niveau (L2), Pôle Universitaire Français, Ho Chi Minh ville (Olivier Mangin)
 Licence : Programmation système, 30 heures, niveau (L2), Pôle Universitaire Français, Ho Chi Minh ville (Olivier Mangin)

9.2.2. Supervision

PhD & HdR :

HdR: Pierre-Yves Oudeyer defended his HdR, entitled “Developmental constraints on the evolution and acquisition of sensorimotor and social skills”, at University of Bordeaux, 18 May, 2011.

HdR : David Filliat, Navigation, Perception et Apprentissage pour la robotique, University Pierre et Marie Curie, 12 Juillet 2011.

PhD defended by Pierre Rouanet ([21]), “Apprendre à un robot à reconnaître des objets visuels nouveaux et à les associer à des mots nouveaux : le rôle de l’interface”, at University Bordeaux I, march 2012 (superv. Pierre-Yves Oudeyer).

PhD in progress : Louis-Charles Caron, Developmental learning in multimodal sensory-motor loops, started january 2012 (superv. Alexander Gepperth).

PhD in progress : Natalia Lyubova, A developmental approach to perception for a humanoid robot, started nov 2010 (superv. David Filliat).

PhD in progress : Matthieu Lapeyre, Developmental constraints for biped humanoid walking, started oct. 2010 (superv. Pierre-Yves Oudeyer and Olivier Ly).

PhD in progress : Mai Nguyen, Bootstrapping Intrinsically Motivated Learning with Human Demonstration, started oct. 2010 (superv. Pierre-Yves Oudeyer).

PhD in progress : Fabien Bénureau, Cumulative, hierarchical and intrinsically motivated learning of robot skills, started oct. 2010 (superv. Pierre-Yves Oudeyer).

PhD in progress : Jonathan Grizou, Fluid simultaneous learning of task and feedback models, started oct. 2011 (superv. Manuel Lopes and Pierre-Yves Oudeyer).

PhD in progress : Olivier Mangin, Learning of sensorimotor primitives with Non-Negative Matrix Factorization, started oct. 2010 (superv. Pierre-Yves Oudeyer).

PhD in progress : Thomas Cederborg, A unified view of context-dependant skill learning and language acquisition, started oct. 2009 (superv. Pierre-Yves Oudeyer).

Master internships and others:

- J. Grizou supervised the 6 month master 2 internship of Mathieu Duteil Master thesis project, coming from "Université Pierre et Marie Curie", where he studied Intelligent Systems and Robotics. The project consisted in detecting if humans provide non-verbal feedback during interactions with robots. Mathieu did several user studies to record the necessary data using several human-machine interaction protocols, recording the commands provided by the person, the sounds and the facial expressions. With this data he tested several kernel based methods to allow classifying the relevant feedback from the human.
- J. Grizou supervised two middle school students. The purpose of such one week internship is to allow pre high-school students to discover what being a researcher means as well as discovering some simple technological setup.
- F. Benureau supervised one middle school student, Victor Melançon, 16 years old, for one week internship. He worked on a visualization and control of the motion of robotic arm using a interface created during the internship using Processing. The goal was to elaborate an aesthetically pleasing visualization of the robot motion that would engage non-expert users in an interaction with the robot. The project was also the opportunity to learn the basics of programming and robot control.
- M. Nguyen supervised the internship of Thomas Huet (ENS Paris) for a 2 months internship entitled : "Learning Methods for Robotic Models in a Fishing Experiment".
- P-Y. Oudeyer supervised the 3 months master 1 internship of Sébastien Forestier (ENS Cachan). The project consisted in experimenting the SAGG-RIAC architecture on the Ergo-Robots, and it was shown to allow successful learning of inverse kinematics.

9.3. Invited talks

Pierre-Yves Oudeyer:

- (5th december 2012) *Developmental mechanisms for life-long autonomous learning in robots and humans*, FIAS Winter School on Intrinsic Motivation: From Brains to Robots, Frankfurt, Germany.
- (18th october 2012) *Le rôle du corps en robotique développementale*, Conférence "Corps et Robots", ARCO/IPac, Inria Nancy, France.
- (12th october 2012) *A Robotic Platform for Scalable Life-Long Learning Experiments*, IROS 2012 Workshop on Learning and Interaction in Haptic Robots, Vilamoura, Algarve, Portugal.
- (5th october 2012) *Developmental mechanisms for life-long autonomous learning*, INNS Symposium on Autonomous Learning, 2012 International Neural Network Society Winter Conference (INNS-WC2012).
- (6th september 2012) *The challenges of active exploration and learning in high-dimensional continuous spaces*, GdR CNRS Robotique et Neurosciences.
- (31st august 2012) *Developmental mechanisms for life-long autonomous learning in robots*, Frontiers of AI track, 20th European Conference on Artificial Intelligence (ECAI 2012).
- (6th july 2012) *Bootstrapping language development out of multimodal sub-symbolic sensorimotor learning in robots*, Symposium on Origins of Communication and Language, Epigenetic Modeling and Ethodological Observation, Konrad Lorenz Institute, Altenberg, Austria.
- (5th april 2012) *Developmental autonomous learning*, Séminaire du laboratoire L3i de l'Université de La Rochelle.
- (30th january 2012) *Les modèles robotiques: un nouveau langage pour comprendre le vivant*, Colloque "Mathématiques pour tous?", organisé par l'UNESCO en partenariat avec l'IHES et la Fondation Cartier pour l'Art Contemporain, UNESCO, Paris, France.
- (26th january 2012) *From the language Gavagai problem to the motor Gavagai problem: Modeling language acquisition as an instance of general multimodal context-dependant learning by imitation*, Workshop on Socio-Cognitive Mechanisms of Symbolic Communication, Tilburg University, Tilburg, The Netherlands.

Freek Stulp:

- (february 2012) Invited talk at a meeting of the EU IP project “HANDLE: Developmental pathway towards autonomy and dexterity in robot in-hand manipulation”. Benicassim, Spain. Title: *Motion Primitives and Direct Reinforcement Learning for Robot Manipulation*.
- (november 2012) Invited talk at “Journée Evolution Artificielle Thématique” in Paris, France. Title: *From Episodic Reinforcement Learning and Quantum Mechanics to Evolutionary Optimization*.

Manuel Lopes:

- (december 2012), *Active and Social Learning for Robots*, Bosch Research, Palo Alto, USA.
- (september 2012) *Autonomous Exploration Through Curiosity and Social Guidance*, Evo-Devo-Robo: Evolutionary Robotics and Developmental Robotics, GECCO, Philadelphia, USA.
- (july 2012) *Interactive Learning in Social Robots*, German-French Workshop: Perspectives on Cognitive Interaction and Technology, Bielefeld, Germany, 2012.
- (april 2012) “*Ces robots qui nous imitent*”, Unithé ou café, Bordeaux.

Thomas Degris:

- (march 2012) *Off-policy Actor-critic: Algorithm and empirical evaluations*, 7th Workshop on Reinforcement Learning, Policy Approximation, Barbados.
- (march 2012) *Formalizing Curiosity, Social interaction and Maturation*, 7th Workshop on Reinforcement Learning, Policy Approximation, Barbados.

9.4. Popularization

9.4.1. Popular Science Articles

Filliat, D. (2012) Vers une cartographie sémantique d’environnements intérieurs. *Réalités Industrielles*, Février 2012.

Oudeyer, P-Y. (2012) GX-29 n’est pas un objet comme les autres, *Sciences et Avenir Hors-Série*, dec/jan 2011, “Qu’est-ce-que l’homme”. <http://flowers.inria.fr/documents/SciencesEtAvenirDec2011.pdf>

Oudeyer, P-Y. (2012) Les Robots Curieux, *DocSciences 14*, Alan Turing: La pensée informatique. <http://www.pyoudeyer.com/DocSciencesErgoRobots12.pdf>.

Ly, O., Oudeyer, P-Y., Langlois, A. (2012) Le déséquilibre de l’apprentissage, *Interstices*. http://interstices.info/jcms/int_68096/le-desequilibre-de-lapprentissage

9.4.2. Popular Science Radio Broadcast

France Culture (2012), interview of P-Y. Oudeyer, La robotique pour mieux comprendre l’homme, (Interview, 45 mn), Emission « Continent Sciences » de Stéphane Deligeorges. <http://www.franceculture.fr/emission-continent-sciences-pierre-yves-oudeyer-2012-01-16>

France Info (2012), interview of P-Y. Oudeyer, Robotique et Sciences Cognitives (Interview, 5 minutes). <http://www.pyoudeyer.com/FranceInfo19Jan2012.mpg>

RCF Aquitaine (october 2012) interview of Fabien Benureau. It allowed us to communicate on PhD work on autonomous intrinsic motivation algorithms done at our lab.

9.4.3. Popular Science Videos

Ly, O., Oudeyer, P-Y., Langlois, A. (2012) Le déséquilibre de l’apprentissage, Inria (selected in category “hors-compétition” at Festival du Film de Chercheur à Nancy, to be used as support in schools). http://interstices.info/jcms/int_68096/le-desequilibre-de-lapprentissage

Langlois, A., Oudeyer, P-Y. (2012) Alan Turing et la robotique développementale (interview of Pierre-Yves Oudeyer), Vidéotheque Inria. http://www.pyoudeyer.com/turing_oudeyer_inria_2012.mp4

9.4.4. Popular Science Talks

(4th august 2012) “Un robot peut-il apprendre comme un enfant?”, Marathon des Sciences, Festival d’astronomie de Fleurance, Fleurance, France. <http://www.festival-astronomie.com/>

(30th january 2012), P-Y. Oudeyer: "Les modèles robotiques: un nouveau langage pour comprendre le vivant", Colloque "Mathématiques pour tous?", UNESCO, organisé par l'UNESCO en partenariat avec l'IHES et la Fondation Cartier pour l'Art Contemporain, UNESCO, Paris, France. <http://www.science.gouv.fr/fr/agenda/bdd/res/4374/colloque-mathematiques-pour-tous-/>

(14th december 2012), P-Y. Oudeyer, "Design et Auto-Design de Comportements et d'Interactions chez les Robots", Escales du Design, Bordeaux.

9.4.5. Museum exhibitions, science festivals and general public demonstrations

9.4.5.1. Ergo-Robots, exhibition "Mathematics, a Beautiful Elsewhere" at Fondation Cartier pour l'Art Contemporain

The FLOWERS team, in collaboration with University Bordeaux I/Labri, has participated as a central actor of the exhibition "Mathematics: A Beautiful Elsewhere" at Fondation Cartier pour l'Art Contemporain in Paris. This installation, called "Ergo-Robots/FLOWERS Fields" was made in collaboration with artist David Lynch and mathematician Mikhail Gromov (IHES, France), and shows computational models of curiosity-driven learning, human-robot interaction as well as self-organization of linguistic conventions. This exhibition, at the crossroads of science and art, allowed to disseminate our work towards the general public, explaining concepts related to learning mechanisms in humans and robots to a large audience (80000 visitors). This was also an opportunity for experimenting and improving our technologies for life-long robot learning experimentation. For one of the first times in the world outside the laboratory, we demonstrated how it is possible to achieve experimentation with learning robots quasi-continuously for 5 months. This opens novel stimulating scientific perspectives in the field of developmental robotics. This experimentation was presented through large audience radios, magazines and newspapers (France Inter, France Culture, RFI, Sciences et Avenir, Tangente, Financial Times, Daily Telegraph, Liberation, ...).

More information available at: <http://flowers.inria.fr/ergo-robots.php> and <http://fondation.cartier.com/>.



Figure 30. The Ergo-Robot experiment: robot learning experiment running continuously for 5 months at Fondation Cartier pour l'Art Contemporain, exhibition "Mathématiques: Un Dépaysement Soudain".

9.4.5.2. Cap Sciences exhibition on “Brain and Cognition”

Cap Sciences is an organization in Bordeaux to promote and to communicate about science to the public. Cap Sciences is preparing an exhibit about the brain starting in February 2013. The Flowers team will contribute to this exposition by setting up a booth to explain the complexity of the processing required for intelligent artificial systems (e.g. robots) to transform observations from the environment to actions done in this environment, such processing being done continuously by all living beings, most notably by nervous systems and brains. To explain this idea, the Flowers team is working on a game for the visitors of the exhibit: a player has to drive forward a mobile robot, specifically an iRobot Roomba, while avoiding obstacles. The difficulty for the visitor in this game is that the player is not able to watch the robot in its environment: the player has to control it using only the sensory-information displayed on a computer screen (see figure 31). The player wins when the robot has traveled a given distance in a straight line and in limited time without bumping into an obstacle. This exhibit will start in February 2013 and last for a year. After that, it may move to different locations. More than 100,000 visitors are expected in Cap Sciences, half of them will come from elementary schools. The data generated by the robot and the visitors will be logged and will be available for research on life long learning with robots.

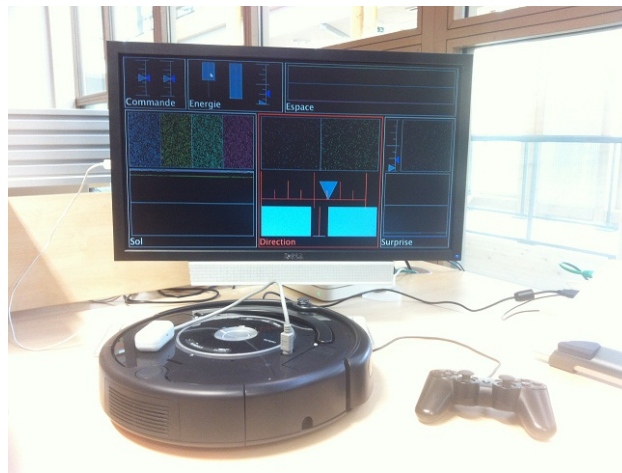


Figure 31. Picture of the mobile robot with the computer screen displaying the sensori-motor information the visitor needs to use to control the robot using a joystick.

9.4.5.3. Robots at International Exposition held in Yeosu, South Korea

. In collaboration with Rhoban project/Labri/CNRS/Univ. Bordeaux I, the Flowers team participated to a project where several robots were elaborated and installed at the May 12, 2012 - August 12 2012 International Exposition held in Yeosu, South Korea (600k visitors). Exhibited robots were three humanoids (one dancing, two playing on a spring) and five musicians (arms only) playing musical instruments (electric guitar, electric bass guitar, keytar, drums, DJ turntables). Robots were installed inside the french ward, in a specific room named botanic garden. Humanoids were closed to the audience to allow interaction between people and robots (see Figure 33) while musicians robots were higher on a dedicated wall to increase visibility of the show (see Figure 32).

9.4.5.4. Science Festivals:

- 13 october 2012 : Lab visit and robot demonstration for the 'Fete de la science' in the robotics lab at ENSTA ParisTech, Palaiseau.



Figure 32. Exhibited musician robots on the wall of the french ward



Figure 33. Exhibited humanoid robots on the wall of the french ward

- 9, 10 et 11 Février 2012: Aquitec exhibiton. Aquitec is an opportunity for high-school students to discover jobs and formations directly from the schools and institutes that exhibit there. We presented few robotic platforms. (Fabien Benureau and Jonathan Grizou)

9.4.6. Press

Web links to the following press items are available on <http://flowers.inria.fr/press.php>.

9.4.6.1. TV

Universcience TV, jan. 2012: "Art et maths".

France 2, Tele-matin, jan. 2012: "Les Maths: le 'probleme' des enfants".

France TV/Culturebox, jan. 2012: "Mathematiques: Un Depaysement Soudain" A la Fondation Cartier pour l'Art Contemporain.

9.4.6.2. Radio

France Info, 19 jan. 2012: "Robotique et sciences cognitives" (3mn).

France Culture, jan. 2012, Entretien sur le sujet "La robotique pour mieux comprendre l'homme" (45 mn), Emission Continent Sciences de Stephane Deligeorges. A propos du contexte scientifique dans lequel s'inscrit le projet Ergo-Robots.

9.4.6.3. Magazines

Jan 2012: Sciences et Avenir Hors-Serie, Numero Special "Qu'est-ce-que l'homme": "GX-29 n'est pas un objet comme les autres".

9.4.6.4. Newspapers

Sud-Ouest, march, 2012: "Les Etonnants robots de la Fondation Cartier".

FLUMINANCE Project-Team

8. Dissemination

8.1. Scientific Animation

Christophe Collewet

- Member of the irstea evaluation committee
- Member of the ecotechnologies department committee

Patrick Héas

- Seminar Image group GREYC, December 2012
- Reviewing in IEEE trans. on Geosciences and Remote Sensing (TGRS) and in IEEE trans. on Image Processing (IP)

Dominique Heitz

- Member of IRSTEA "Comité directeur des Systèmes d'Information"
- Member of IRSTEA "Comité Technique Spécial"
- Responsible of the IRSTEA ACTA Team

Cédric Herzet

- Organization committee "Journées "Apprentissage et Parcimonie" October 2012
- Technical program committees of ICASSP 2013 and SPARS 2013
- project reviewer for the "Fond National de la Recherche Scientifique" (FNRS), Belgique

Etienne Mémin

- Invited conference "Conf'luences" IMFT, Toulouse, April 2012.
- Invited conference "Journée LEFE/MANU de l'INSU", ENS Paris, March 2012
- Invited conference "Workshop on Topology in Fluid flow visualization", Pisa, June 2012
- Seminar LFD-FIUBA, Buenos Aires, November 2012
- Reviewer of FET Open projects
- Reviewer for NWO (Netherlands Organisation for Scientific Research) Vici projects
- Associate editor of the Journal of Computer Vision
- Associate editor of the journal of Image and Vision Computing
- Scientific committee and Organisation committee of the International Conference on Ensemble Methods in Geophysical Sciences, Toulouse, November 2012
- Reviewing for Tellus-A, IEEE Im. Proc., IEEE trans. Pat. Anal. Mach. Intel. , Int. Journ. Comp. Vis., Im. Vis. Comp., Exp in Fluids, ECCV'12
- Responsible of the "Commission Développement Technologique" Inria-IRISA Rennes
- member of the "Commission Personnel" Inria-IRISA Rennes

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Dominique Heitz, Mécanique des fluides, 30h, niveau L2 INSA Rennes

Master : Patrick Héas, Modélisation Statistique des Images, Mastere SISEA, 15h , niveau M2, Université de Rennes 1.

Master : Dominique Heitz, Mécanique des fluides, 25h, niveau M1, Dep GMA INSA Rennes

Master : Cedric Herzet, Analyse de données, Mastere de Statistiques et Econométrie, 10h, niveau M1, Université de Rennes I

Master : Etienne Mémin, Analyse du mouvement, Mastere Informatique, 15h, niveau M2, Université de Rennes 1.

Master : Etienne Mémin, Vision par ordinateur , 15h, niveau M2, ESIR Université de Rennes 1.

8.2.2. Supervision

PhD & HdR :

PhD : Christophe Avenel, Suivi de courbes libres fermées déformables par processus stochastiques, Université de Rennes I, 08/12/2011, Etienne Mémin et Patrick Pérez

PhD : Pierre Dérian, Estimation multi-échelle de mouvements de Fluides turbulents dans des séquences d'images, Université de Rennes I, 07/11/2012, Patrick Héas et Etienne Mémin

PhD in progress : Ioana Barbu, Estimation volumique de mouvement fluides /'a partir de séquence d'images, 01/11/2010, Cédric Herzet et Etienne Mémin

PhD in progress : Sébastien Béyou, Filtre d'ensemble pour l'assimilation de données images, 01/11/2010, Francois Le Gland et Etienne Mémin

PhD in progress : Qui Dao, Commande des écoulements fluides par asservissement visuel, 01/10/2010, Christophe Collewet

PhD in progress : Cordelia Robinson, Assimilation de données images dans un modèle LES : application à la reconstruction d'écoulements turbulents tridimensionnels , 01/11/2011, Dominique Heitz et Etienne Mémin

PhD in progress : Yin Yang , Assimilation d'images par techniques variationnelle ensembliste , 01/11/2011, Etienne Mémin

PhD in progress : Véronique Souchaud, Estimation directe de décomposition orthogonales propres à partir de séquences d'images, 01/11/2009, Cédric Herzet et Etienne Mémin

8.2.3. Juries

Etienne Mémin

- Président du Jury de th/ese de Pierre Alain, Université de Bretagne Sud, mai 2011.
- Examineur Jury HDR d'Arthur Vidard, Université J. Fourier, decembre 2012.

FOCUS Project-Team

8. Dissemination

8.1. Scientific Animation

M. Bravetti: Program Committee member of the following conferences: ESOC 2012: European Conference on Service-Oriented and Cloud Computing; SITIS 2012 (IBCS): The 8th International Conference On Signal-Image Technology and Internet-Based Systems, Track on Internet-Based Computing and Systems; WS-FMDS 12: 2nd Workshop on Formal Methods in the Development of Software; CLOUD 2012: 5th IEEE International Conference on Cloud Computing; ICST 2012: 5th IEEE International Conference on Software Testing, Verification, and Validation; IADIS: International Conference on Applied Computing 2012; PLACES 2012: 5th Int. Workshop on Programming Language Approaches to Concurrency and Communication-cEntric Software; WS-FM 2012: 9th International Workshop on Web Services and Formal Methods.

Member of the editorial board of the journal J.UCS Journal of Universal Computer Science.

M. Dalla Preda: Program Committee member of the following conferences: 5th IEEE international conference Malware 2012; Software Security and Protection Workshop 2012; Workshop on Program Protection and Reverse Engineering 2012.

U. Dal Lago: Program Committee member of the following conferences: 39th International Colloquium on Automata, Languages and Programming (ICALP 2012); Third International Workshop on Developments in Implicit Complexity (DICE 2012).

Invited speaker at Second International Workshop on Linearity, Tallin, Estonia, 1 April, 2012. Guest Editors of a special number of Theoretical Computer Science devoted to DICE 2012.

Member of the organising committee of the “Logic and interactions 2012” weeks, Marseille 30 January – 2 March 2012.

M. Gaboardi: Program Committee member for the Third Workshop on Developments in Implicit Computational Complexity

Invited speaker at the ASL meeting special session on Structural Proof Theory and Computing April 2-3, 2012, Madison, USA.

I. Lanese: Program Committee member of the following conferences: 9th International Workshop on Web Services and Formal Methods (WS-FM 2012); 5th Interaction and Concurrency Experience (ICE 2012).

Co-chair of the Service Oriented Architectures and Programming track of the 27th Annual ACM Symposium on Applied Computing (SAC 2012). Workshop Co-Chair of ESOC 2012, the European Conference on Service-Oriented and Cloud Computing 19-21 September 2012, Bertinoro, Italy.

Member of the organising committee of the 5th Interaction and Concurrency Experience (ICE 2012).

C. Laneve: Program Committee member of the following conferences: 23rd International Conference on Concurrency Theory (CONCUR); 22nd European Symposium on Programming (ESOP).

Invited speaker at 7th International Symposium on Trustworthy Global Computing Newcastle upon Tyne, UK, 7-8 September 2012.

M. Gabbrielli: Member of the editorial board of the Int’l Journal Theory and Practice of Logic Programming. Member of the program committee of the 9th International Workshop on Constraint Handling Rules; Fifteenth International Symposium on Practical Aspects of Declarative Languages (PADL’13).

Expert Committee member for 2012 EAPLS Best Ph.D. Dissertation award.

Organizer of the 2012 Bertinoro school for Ph.D. students in computer science (BISS 2012).

S. Martini: Program Committee member of the Second International Workshop on Linearity (FOPARA), Tallinn, Estonia.

Invited speaker at Pisa Summer Workshop on Proof Theory, Pisa, Italy.

D. Sangiorgi: Member of the editorial board of the journals: Logical Methods in Computer Science, Acta Informatica, and Distributed Computing, Foundations and Trends in Programming Languages.

Program Committee member of the conferences: 38th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM); Twenty-Seventh Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2012); 39th International Colloquium on Automata, Languages and Programming (ICALP 2012),

Invited speaker at the Milner Symposium, 15-18 April 2012, Edimburgh UK, 2012 Microsoft Summer School on Concurrency, August 22-29 2012, St. Petersburg, Russia.

Co-director of the International School HATS-FMCO on Formal Models for Components and Objects, 24-28 September 2012 University Residential Center of Bertinoro, Italy.

G. Zavattaro: Program Committee member of the following conferences: 6th International Workshop on Reachability Problems; 9th International Symposium on Formal Aspects of Component Software (FACS); 4th Fourth International Conferences on Advanced Service Computing (SERVICE COMPUTATION 2012); 6th IEEE International Symposium on Theoretical Aspects of Software Engineering (TASE); 5th IEEE International Conference on Cloud Computing (CLOUD 2012).

Invited speaker at 3rd International Workshop on Interactions between Computer Science and Biology (CS2Bio'12), 16 June 2012, Stockholm, Sweden.

Member of the Editorial Board of the Journal of Software (JSW), Academy Publisher.

General Chair of ESOC 2012, the European Conference on Service-Oriented and Cloud Computing 19-21 September 2012, Bertinoro, Italy.

8.2. Popularization

Simone Martini has carried out extended work of scientific divulgation:

- member of the technical committee of Olimpiadi del Problem Solving (at Italian Ministry of Education);
- consultant of the Minister of Education on admission tests for high school professorship admission;
- the talks “Quello che i calcolatori possono e non possono fare”, MassaScienza, Massa Carrara; Lingua universalis: Calcolo, informatica e linguaggio, workshop T4T, Turin; Alan Turing pioniere dell'era digitale, ScienzaGiovane, Bologna; Calcolo e simboli: la scienza digitale, Accademia delle Scienze di Bologna and Accademia di Agricoltura Scienze e Lettere di Verona;
- the paper [21].

Ugo Dal Lago and Simone Martini have given short presentations at “Scienzagiovane”, a forum of science popularisation in Bologna mainly targeting high-school students.

8.3. Teaching - Supervision

8.3.1. Teaching

Below are the teaching activities of the Focus members during 2011.

- Mario Bravetti

Undergraduate: “Tecnologie Web”, 46 hours, 3rd year, University of Bologna, Italy.

Master: “Tecnologie Web Avanzate”, 46 hours, 1st or 2nd year, University of Bologna, Italy.

- Ugo Dal Lago
 - Undergraduate: “Introduction to Programming in Python”, 20 hours, 1st year, University of Bologna, Italy.
 - Undergraduate: “Optimization”, 36 hours, 2nd year, University of Bologna, Italy.
- Maurizio Gabbrielli
 - Undergraduate: “Programming languages”, 40 hours, 2nd year, University of Bologna, Italy.
 - Master: “Artificial Intelligence”, 60 hours, 2nd year, University of Bologna, Italy.
- Marco Gaboardi
 - Master: “Advanced Programming”, 40 hours. 1st or 2nd year. University of Pennsylvania, USA.
- Ivan Lanese
 - Undergraduate: “Programmazione”, 40 hours, 1st year, University of Bologna, Italy.
- Cosimo Laneve
 - Undergraduate: “Programmazione”, 90 hours, 1st year, University of Bologna, Italy.
 - Master: “Analisi di Programmi”, 42 hours, 1st year, University of Bologna, Italy.
- Simone Martini
 - Undergraduate: “Introduction to programming in Python”, 58 hours, 1st year, University of Bologna, Italy.
 - Undergraduate: “Computer abilities for biologists”, 8 hours, 1st year, University of Bologna, Italy.
 - Master: “Types and programming languages”, 40 hours, 1st year, University of Bologna, Italy.
 - Master: “Basic Computability”, 12 hours, 1st year and 2nd year, University of Bologna, Italy.
 - Master: “Logical foundations of computer science”, 40 hours, 1st year, University of Bologna, Italy.
- Davide Sangiorgi
 - Undergraduate: “Operating Systems”, 110 hours, 2nd year, University of Bologna, Italy.
 - Master: “Models for concurrency”, 15 hours, 2nd year, University of Bologna, Italy.
- Gianluigi Zavattaro
 - Master: “Informatica Teorica”, 72 hours, 1st year, University of Bologna, Italy.
 - Master: “Linguaggi di Programmazione”, 48 hours, 2nd year, University of Bologna, Italy.
- Jacopo Mauro
 - Undergraduate: “Algoritmi e strutture dati”, 20 hours, 1st year, University of Bologna, Italy.
- Giulio Pellitta
 - Undergraduate: “Laboratorio di Operating Systems”, 40 hours, 2nd year, University of Bologna, Italy.
 - Undergraduate: “Attività di supporto alla didattica universitaria di Informatica nell’ambito della Piattaforma di e-learning A3”, 130 hours, 1st year, University of Bologna, Italy.
 - Undergraduate: “Laboratorio Informatica 1”, 60 hours, 1st year, University of Bologna, Italy.
- Elena Giachino
 - Undergraduate: “Programmazione”, 40 hours, 1st year, University of Bologna, Italy.

8.3.2. Supervision

Completed Phd thesis:

- Jacopo Mauro, “Constraints meet concurrency”. Dottorato di Ricerca in Informatica, University of Bologna, April 2012 Supervisors: M. Gabbrielli. [10]
- Claudio Mezzina, “Réversibilité dans le pi calcul d’ordre supérieur”, April 2012, University of Grenoble and University of Bologna, Supervisors: Jean-Bernard Stefani and Davide Sangiorgi. [11]

Below are the details on the PhD students in Focus: starting date, topic or provisional title of the thesis, supervisor(s). These are all PhDs in progress.

- Ornella Dardha, january 2011, Types for processes, D. Sangiorgi.
- Ferdinanda Camporesi, january 2009, Analysis of system biology, R. Cousot (Ecole Normale, Paris) and M. Gabbrielli
- Tudor Alexandru Lascu, january 2011, Formal methods for modelling and analyzing concurrent systems, C. Laneve and G. Zavattaro
- Jean-Marie Madiot, september 2011, Types, proofs and proof techniques for process calculi, D. Hirschhoff and D. Sangiorgi.
- Giulio Pellitta, january 2011, Implementations of geometry of interaction, S. Martini.
- Paolo Parisen Toldin, january 2010, Implicit computational complexity for probabilistic classes, S. Martini.
- Michele Alberti, december 2011; Separation results in the algebraic lambda-calculus; L. Regnier (Marseille) and S. Martini
- Marco Solieri, december 2011; Complexity of reduction in sharing graphs, S. Guerrini (Paris Nord) and S. Martini.

A few other PhD students are (co)-supervised by members of Focus, but currently are not in the Focus team (some of them might be added in 2013):

- Sara Zuppiroli (Bologna), january 2010; models for quantum computing; U. Dal Lago.
- Roberto Amadini (Bologna), january 2012, Constraint Programming, M. Gabbrielli.
- Alessandro Rioli (Bologna), january 2012; bisimulation equivalence in quantum lambda calculi; U. Dal Lago.

8.3.3. Juries

D. Sangiorgi has been rapporteur and member of the evaluation committee of the “Habilitation a Diriger des Recherche” (HDR) of Ludovic Henrio, Université de Nice, and Daniele Varacca, Université Paris 7.

U. Dal Lago has been rapporteur and member of the PhD jury for Antoine Madet, Université Paris 7.

FORMES Team

9. Dissemination

9.1. Scientific Animation

Frédéric Blanqui is member of the steering committee of the international conference on rewriting techniques and its applications (RTA).

Frédéric Blanqui was member of the program committee of the 6th International Workshop on Higher-Order Rewriting (HOR'12).

Jean-Pierre Jouannaud was member of the program committee of WOLLIC'2012.

Jean-Pierre Jouannaud is a member of the steering committee of LICS.

Jean-Pierre Jouannaud is a member of the Advisory Committee of Academia Sinica, Taipei.

Jean-Pierre Jouannaud is a member of the committee for the Ackermann prize (2011–2013).

Jean-Pierre Jouannaud was a member of the committee for the LICS test of time award (2012).

Vania Joloboff was invited speaker at China Open Source Week in Nanjing.

Vania Joloboff was invited speaker at a professional embedded systems workshop in Tokyo.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Ming Gu is the director of the School of Software, Tsinghua. She teaches at all levels.

Last year undergraduate: Jianqi Li, An Introduction to Theories of Software, 16 hours, L1, Tsinghua University, China

Licence : Jean-François Monin, Introduction to Interactive Proof of Software, 50 hours, L3, Tsinghua University, China

This course is expected to attract students in the FORMES group via the local PhD program; already one of them (2009) is currently a PhD student of Jean-Pierre Jouannaud, another (2010) in is the PhD track with Gu Ming and 2 others (2010) work with Jean-François Monin and Vania Joloboff.

Licence : Jean-François Monin, Introduction to Functional Programming, 25 hours, L3, Beijing Jiatong University, China

Master: He Fei, Formal verification for software systems, 32 hours, Tsinghua University, China

Master: Jianqi Li, The Formal Semantics of Programming Languages, 32 hours 2012, M1, Tsinghua University, China

Master : Jean-François Monin, Complements on Coq, 25 hours, M1-M2, Beijing University (PKU), China

Doctorate : Frédéric Blanqui, Introduction to domain theory and topology, 3 hours, ISCAS, Beijing, China

Doctorate : Jean-François Monin, Coq Summer School, 20 hours, ECNU Shanghai, China

9.2.2. Supervision

PhD & HdR :

PhD in progress : Jiaxiang LIU, Decreasing diagrams for confluence, Sept. 2011 Jean-Pierre Jouannaud

PhD in progress : Qian WANG, A Complete Formalization of Coq Modulo Theory, Sept. 2010, Jean-Pierre Jouannaud

PhD in progress : Xiaomu SHI, Formalisation and Proof of an Instruction Set Simulator, nov. 2009, Jean-François Monin and Vania Joloboff

PhD in progress : Kim Quyen LY, Automated Verification of Termination Certificates, nov. 2010, Frédéric Blanqui

9.2.3. *Juries*

Jean-Pierre Jouannaud: ENS-Cachan, habilitation, Florent Jacquemard (rapporteur)

Jean-François Monin: Paris-7, PhD, Stéphane Glondu (rapporteur)

Jean-François Monin participated to the recruitment of Chinese students for the polytechnic engineering schools of Grenoble, Marseille, Montpellier and Nice.

9.3. Popularization

Jean-Pierre Jouannaud gave presentations about formal proofs and related topics at Tsinghua, one in the department of applied mathematics in november 2011, and one in the department of computer science in june 2011.

Vania Joloboff has given presentations about simulation at

- Shanghai Fudan University
- Guangzhou Normal University
- a workshop in Japan about Trustworthy Embedded Systems

Jean-François Monin gave presentations about formal methods and our research at FORMES to Jiaotong (Shanghai) in June 2011, UPC (Qingdao) in October 2012, HIT (Harbin) in November 2012 and ECNU (Shanghai) in December 2012.

Jean-François Monin initiated formal agreements between several Chinese universities (Wuhan university, Beijing Jiaotong, UPC, HIT) and the Polytech Group or UJF, and developed the existing formal cooperation between Beihang and UJF.

FUN Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Conference organization

Program (co-)chairs

- Nathalie Mitton is/was program chair or co-program chair for iThings 2012, EPRA 2012 and AdHocNets 2012.

Program committee members

- Nathalie Mitton is/was in the Technical Program Committee (TPC) for LoGASN 2012, WPMC 2012, iThings 2012, WWASN 2012, CMC 2012.
- Tahiry Razafindralambo is/was a TPC member for BIONETICS 2012, ALGOTEL 2012, MSWIM 2012, DCOSS 2012, PE-WASUN 2012, MASS 2012.

8.1.2. Editorial activity

- Nathalie Mitton and Xu Li are editorial board members of AHSWN since 2011
- Nathalie Mitton is editorial board member of AdhocNetworks since 2012
- Xu Li is editorial board member of Parallel and Distributed Computing and Networks since 2010
- Xu Li is associate editor, European Transactions on Telecommunications since 2011
- Nathalie Mitton is guest editor for special issues in Eurasip journal (2012)
- Nathalie Mitton and Xu Li are guest editors of special issue in Springer PPNA (2012)
- Xu Li is guest editor of special issues in Elsevier's COMCOM, JCM and AHSWN (2011)

8.1.3. Misc

- + Nathalie Mitton is member of the ANR programme blanc SIMI3.
- + Nathalie Mitton is a member of the Inria COST-GTAI, Technological development committee (CDT) and Building User committee (CUB).
- + Tahiry Razafindralambo is a member of the Inria Lille Nord Europe Research Center committee and a member of CNU section 27 of Université de La Réunion (2012).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Tahiry Razafindralambo, Wireless networks, 40h eqTD, Université de la Réunion, France

Master : Nathalie Mitton, Wireless sensor networks, 30h eqTD, Université Lille 1, France

Master : Nathalie Mitton, RFID Middlewares, 16h eqTD, Institut Telecom and Université Lille 1, France

8.2.2. Juries

Nathalie Mitton was committee member of the following PhD thesis:

- Yacine Mezali, UPMC, Paris, France, March 2012
- Oscar Botero, Institut Telecom, France, May 2012
- Nazim Abdeddaim, Université de Grenoble, France, October 2012
- Gilles Fritz, ESISAR, INP, France, December 2012

GALAAD Project-Team

8. Dissemination

8.1. Scientific Animation

Laurent Busé

- was a member of the program committee of the 2012 ISSAC international conference,
- is a member of the committee of "agrégation de mathématiques".

Evelyne Hubert

- is an associate editor of the Journal of Symbolic Computation (<http://www.journals.elsevier.com/journal-of-symbolic-computation>),
- is part of the Advisory Board of the MEGA conference series and co-edited this year a special issue of the Journal of Symbolic Computation,
- is part of the local Inria Committee for Invited Professors and Postdoctoral Fellows and was elected to the new hiring committee at the mathematics department of the University of Nice (CPRH 25-26-60).

Bernard Mourrain

- is an associate editor of the Journal of Symbolic Computation (<http://www.journals.elsevier.com/journal-of-symbolic-computation>),
- is member of the Advisory Board of the MEGA conference series,
- is chair of the local Inria Committee for Courses and Conferences.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Laurent Busé teaching activities:

Master : *Courbes et Surfaces*, 42h ETD, first year of Master MAM4 of the EPU, University of Nice.

Master MDFI: *Elimination theory*, 13h, University of Luminy, Marseille.

Mathieu Collowald teaching activities:

L1 MASS : Statistics (Exercices), 20h, University of Nice-Sophia Antipolis.

L1 I : Algebra (Exercices), 44h, University of Nice-Sophia Antipolis.

André Galligo teaching activities:

Master : *Introduction to random polynomials and matrices*, University of Buenos Aires, Argentina, 20h.

Bernard Mourrain teaching activities:

Master 2: *Computational Algebra for Real Geometry* 30h ETD, Master 2 of Mathematics, Lab. J.A. Dieudonné.

Master MDFI: *Elimination theory*, 15h, University of Luminy, Marseille.

8.2.2. Supervision

8.2.2.1. Defended Habilitation thesis

Evelyne Hubert was awarded her habilitation in mathematics from the University of Nice in September 2012. The Jury consisted of Elizabeth Mansfield (University of Kent, UK), Michael Singer (North Carolina State University, USA), Emilio Musso (Politecnico de Torino, Italy), Pascal Chossat (University of Nice), Bruno Salvy (Inria Paris), Bernard Mourrain (Inria Méditerranée).

8.2.2.2. Ph.D. thesis in progress

Marta Abril Bucero, Moment matrices, real algebraic geometry and polynomial optimization. Advisor: Bernard Mourrain.

Mathieu Collowald, Integral representation of shapes for feature conservation or extraction. Advisors: Evelyne Hubert and Bernard Mourrain.

Abdallah Lachaal, Geometric computing with procedural models and applications. Advisor: Bernard Mourrain.

8.2.2.3. Internship

Valentin Michelet, *Intersection courbe/surface au moyen des représentations matricielles*, 3 months, Master1.

Baptiste Mourrain, *A dynamic web application*, 1 month, first year of engineer school.

Zora Abdoul Kaid, *Isoparametrisation of multi-patch surfaces*, 3 months, MAM4, Master1.

Rémy Abdeljalil, *Adaptative approximation of point sets by T-splines surfaces*, 3 months, MAM4, Master1.

8.2.3. Juries

Bernard Mourrain was member of the HDR of Evelyne Hubert, of the Ph.D. committee of R. Lebreton "Contribution à l'algorithmique détendue et à la résolution des systèmes polynomiaux", École Polytechnique (11/12/2012), of the PhD of C. Preusakarn "Reconstructing of Plant Architecture from 3D Laser Scanner Data", University of Montpellier 2, (19/12/2012).

André Galligo was a member of the PhD of Santiago Laplagne, "Algoritmos de Algebra Conmutativa en Anillos de Polinomios" University of Buenos Aires (Argentina), Avpil 2012, of the PhD of Nelly Villamizar, "Algebraic Geometry of Splines". University of Oslo (Norway), December 2012.

GALEN Team

9. Dissemination

9.1. Scientific Animation

- **Andreas Argyriou**
 - **Conference Committee:** International Conference on Machine Learning (ICML), Neural Information Processing Systems (NIPS), Workshop on Optimization for Machine Learning (in NIPS).
 - **Invited Seminars/Presentations:** Télécom ParisTech - FR, École des Mines de Paris - FR, Imperial College - UK, Queen Mary University London - UK.
- **Matthew Blaschko**
 - **Conference Committee:** International Conference on Robotics and Automation (ICRA), British Machine Vision Conference (BMVC - area chair), Asian Conference on Computer Vision (ACCV), Neural Information Processing Systems (NIPS), Medical Image Computing and Computer Assisted Intervention (MICCAI), Medical Computer Vision Workshop (at MICCAI), European Conference on Computer Vision (ECCV)
 - **Journal Reviewing Services:** Journal of Machine Learning Research, International Journal of Computer Vision, IEEE Transactions on Pattern Analysis and Machine Intelligence, Computer Vision and Image Understanding
 - **Invited Seminars/Presentations:** Katholieke Universiteit Leuven - BE, Stanford University - USA, Google - Mountain View, Institute of Science and Technology - Austria, Johns Hopkins University - USA, Schlumberger - Paris - FR, Ecole Normale Supérieure - FR.
- **Iasonas Kokkinos**
 - **Editorial Activities:** Image and Vision Computing Journal.
 - **Conference Committee:** IEEE International Conference on Computer Vision (CVPR - area chair), Perceptual Organization in Computer Vision (POCV - organizer) , Asian Conference on Computer Vision (ACCV), ACCV workshop on Detection and Tracking in Challenging Environments.
 - **Journal Reviewing Services:** IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Image Processing, Computer Vision and Image Understanding, SIAM Journal on Imaging Sciences, EURASIP Journal on Image and Video Processing.
 - **Invited Seminars/Presentations:** Ecole Normale Supérieure - FR, Carnegie Mellon University - USA, Johns Hopkins University - USA, Schlumberger - Paris - FR, National Technical University of Athens - GR.
- **Pawan Kumar**
 - **Conference Committee:** IEEE Conference on Computer Vision and Pattern Recognition (ICCV), European Conference on Computer Vision (ECCV), Advances in Neural Information Processing Systems (NIPS).
 - **Journal Reviewing Services:** IEEE Transactions on Pattern Analysis and Machine Intelligence, Journal of Machine Learning Research.
 - **Workshop and Tutorials Organization:** European Signal Processing Conference tutorial on *Learning with Inference for Discrete Graphical Models*, Biomedical Image Analysis Summer School.

- **Invited Seminars/Presentations:** University of Cambridge - UK, University of Oxford - UK, Institute of Science and Technology - AT, University of Heidelberg - DE, Stanford University - USA.
- **Nikos Paragios**
 - **Editorial Activities:** IEEE Transactions on Pattern Analysis and Machine Intelligence, International Journal of Computer Vision, Medical Image Analysis, Computer Vision and Image Understanding, Image and Vision Computing Journal, Machine Vision and Applications, SIAM Journal in Imaging Sciences.
 - **Conference Committee:** IEEE International Conference in Computer Vision (CVPR), IEEE Computer Vision and Pattern Recognition (ICPR - area chair), Medical Image Computing and Computer Assisted Intervention (MICCAI - area chair), IEEE International Symposium on Biomedical Imaging (ISBI), International Symposium on Visual Computing (ISVC), International Conference on Functional Imaging and Modeling of the Heart (FIMH), Medical Computer Vision Workshop (at MICCAI).
 - **Workshop and Tutorials Organization:** European Signal Processing Conference tutorial on *Learning with Inference for Discrete Graphical Models*, Biomedical Image Analysis Summer School.
 - **Journal Reviewing Services:** IEEE Transactions on Medical Imaging.
 - **Invited Seminars/Presentations:** University of Pennsylvania- USA, Stony-Brook University - USA, Clermont-Ferrand University - FR, IEEE International Symposium on Biomedical Imaging (ISBI) - ES, Medical Computer Vision Workshop (MICCAI) - FR, Centre Oscar Lambret - FR.
 - **Distinctions:** Member of the SAFRAN Conglomerate Scientific Council.

9.2. Teaching - Supervision - Committees

Participants: Matthew Blaschko, Iasonas Kokkinos, Pawan Kumar, Nikos Paragios.

9.2.1. Teaching

Master : Structure Prediction, 24, M1, Ecole Centrale de Paris [M. Blaschko]

Master : Discrete Optimization, 12, M1, Ecole Centrale de Paris [P. Kumar]

Master : Signal Processing, 36, M1, Ecole Centrale de Paris, France [I. Kokkinos]

Master : Computer Vision, 36, M1, Ecole Centrale de Paris, France [I. Kokkinos]

Master : Pattern Recognition, 24, M2, Ecole Centrale de Paris/Ecole Normale Supérieure-Cachan, France [I. Kokkinos]

Master : Advanced Mathematical Models in Computer Vision, 24, M2, Ecole Centrale de Paris/Ecole Normale Supérieure-Cachan, France [N. Paragios]

N. Paragios is in charge of the option Medical Imaging, Machine Learning and Computer Vision at the Department of Applied Mathematics of Ecole Centrale de Paris. This option consists of 7 classes in the above mentioned fields, 180 hours of teaching and is also directing the associated M.Sc. (M2) program of the ENS-Cachan in Applied Mathematics, Machine Learning and Computer Vision at Ecole Centrale de Paris.

9.2.2. Supervision

PhD in progress : Stavros Alchatzidis, "Message Passing Methods, Parallel Architectures & Visual Processing", 2011-2014, Nikos Paragios (supervisor)

PhD in progress : Pierre-Yves Baudin, "Knowledge-based Segmentation of the Human Skeletal Muscle through Learning & Inference of Random Walks", 2009-2013, Nikos Paragios & Pierre Carlier (supervisors)

PhD in progress : Xiang Bo, "Pose-Invariant Knowledge-based Segmentation with Higher Order Graphs", 2009-2013, Nikos Paragios (supervisor)

PhD in progress : Haithem Boussaid, "Learning-based mid-level processing for computer vision and medical imaging", 2010-2014, Iasonas Kokkinos (supervisor)

PhD in progress : Enzo Ferrante, "2D-to-3D Multi-Modal Deformable Image Fusion", 2012-2015, Nikos Paragios (supervisor)

PhD in progress : Vivien Fecamp, "Linear-Deformable Multi-Modal Deformable Image Fusion", 2012-2015, Nikos Paragios (supervisor)

PhD in progress : Katerina Gkirtzou, "Kernels, Machine Learning & Biomedical Imaging-driven Computational Anatomy", 2009-2013, Nikos Paragios (supervisor)

PhD in progress : Nicolas Honnorat, "Detection, Segmentation & Tracking of Guide-Wires in Interventional Imaging", 2009-2013, Nikos Paragios (supervisor)

PhD in progress : Puneet Kumar, "Weakly Supervised Learning for Object Detection and Semantic Segmentation", 2010-2013, Pawan Kumar (supervisor)

PhD in progress : Helene Langet, "Sampling and Motion Reconstruction in Three-dimensional X-Ray Interventional Imaging", 2010-2013, Gilles Fleury & Nikos Paragios (supervisors)

PhD in progress : Fabrice Michel, "Metric Learning & Mono/Multi-modal Data Fusion", 2009-2013, Nikos Paragios (supervisor)

PhD in progress : Sarah Parisot, "Graph-based Detection, Characterization & Segmentation of Brain Tumors", 2010-2013, Nikos Paragios (supervisor)

PhD in progress : Stavros Tsogkas, "Learning-based mid-level processing for computer vision and medical imaging", 2011-2014, Iasonas Kokkinos (supervisor)

9.2.3. Committees

Nikos Paragios: Emmanuel Caruyer (Reviewer - University of Nice-Sophia Antipolis), Yangming Ou (external member - University of Pennsylvania), Karima Ouji (Chair - Ecole Centrale de Lyon), Olivier Whyte (Chair - ENS-Cachan), Xiang Zheng (external member - StonyBrook University)

GALLIUM Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Conference organization

Didier Rémy co-chaired the OCaml Users and Developers Workshop (OUD 2012), affiliated with ICFP 2012, which took place in Copenhagen, Denmark in September 2012.

Didier Rémy is organizing the next meeting of IFIP working group 2.8 “Functional programming”, which will take place in Aussois, France, in October 2013.

9.1.2. Editorial boards

Xavier Leroy was co-editor in chief of the Journal of Functional Programming until March 2012, when he stepped down at the end of his 5-year term.

Xavier Leroy is a member of the editorial boards of Journal of Automated Reasoning, Journal of Functional Programming, and Journal of Formalized Reasoning.

9.1.3. Program committees

Damien Doligez was a member of the program committee of the International Workshop on the TLA+ Method and Tools 2012 (TLA 2012), a satellite event of Formal Methods 2012 (FM 2012)

Xavier Leroy was a member of the program committees of the ACM symposium on Principles of Programming Languages (POPL 2013) and of the European Symposium on Programming (ESOP 2013). He was a member of the external review committee for the ACM conference on Programming Languages Design and Implementation (PLDI 2013).

François Pottier was a member of the program committees of the ACM workshops on ML (ML 2012), on Higher-Order Programming with Effects (HOPE 2012), and on Programming Languages meets Program Verification (PLPV 2013). He was a member of the external review committee for the ACM symposium on Principles of Programming Languages (POPL 2013).

Na Xu was a member of the program committee of the ACM SIGPLAN Workshop on Partial Evaluation and Program Manipulation (PEPM 2013).

9.1.4. Steering committees

Xavier Leroy is a member of the steering committees for the Certified Programs and Proofs (CPP) conference and for the ACM PLPV workshop.

François Pottier is a member of the steering committee for the ACM TLDI workshop.

Didier Rémy is a member of the steering committee of the OCaml Users and Implementors Workshop.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: “Algorithmique et programmation” (INF431), 13h30, L3, École Polytechnique, France. Lecturer: François Pottier (*professeur chargé de cours*).

Licence: “Algorithmique et programmation”, 40h, L3, École Polytechnique, France. Teaching assistant: Jonathan Protzenko.

Licence: “Bases de données”, 26h, L1, U. Paris Diderot, France. Teaching assistant: Julien Cretin.

Licence: “Principe de fonctionnement des machines binaires”, 33h, L1, U. Paris Diderot, France. Teaching assistant: Julien Cretin.

Licence: “Travaux dirigés de Caml Light”, 36h, L1 (classes préparatoires MPSI), Lycée Louis-le-Grand, France. Teaching assistant: Gabriel Scherer.

Master: “Functional programming and type systems”, 30h, M2, MPRI master (U. Paris Diderot and ENS Paris and ENS Cachan and Polytechnique), France. Lecturers: Xavier Leroy (12h) and Didier Rémy (18h).

Master: “Modal Web”, 36 hours, M1, École Polytechnique, France. Teaching assistant: Jonathan Protzenko.

Doctorat: “Proving a compiler: mechanized verification of program transformations and static analyses”, 7h, Oregon Programming Languages Summer School, USA. Lecturer: Xavier Leroy.

9.2.2. Supervision

PhD: Nicolas Pouillard, “A unifying approach to safe programming with first-order syntax with binders”, U. Paris Diderot, defended January 13th, 2012, supervised by François Pottier.

PhD: Tahina Ramananandro, “Mechanized formal semantics and verified compilation for C++ objects”, U. Paris Diderot, defended January 10th, 2012, supervised by Xavier Leroy.

PhD in progress: Julien Cretin, “Coercions in typed languages”, since December 2010, supervised by Didier Rémy.

PhD in progress: Alexandre Pilkiewicz (currently employed by Google in New York), “Verifying polyhedral optimizations”, U. Paris Diderot, since December 2008, supervised by François Pottier

PhD in progress: Jonathan Protzenko, “Fine-grained static control of side effects”, U. Paris Diderot, since September 2010, supervised by François Pottier.

PhD in progress: Gabriel Scherer, “Modules and mixins”, U. Paris Diderot, since October 2011, supervised by Didier Rémy.

PhD in progress: Jacques-Henri Jourdan, “Formal verification of static analyzers for critical embedded software”, U. Paris Diderot, since September 2012, supervised by Xavier Leroy.

9.2.3. Juries

Xavier Leroy was reviewer (*rapporteur*) for the Ph.D. of Robert Dockins (Princeton University, August 2012), Antonis Stampoulis (Yale University, October 2012), and Delphine Demange (ENS Cachan Bretagne, October 2012). He was a member of the Ph.D. jury of Ricardo Bedin França (U. Toulouse, April 2012). Xavier Leroy chaired the Habilitation jury of Fabrice Rastello, ENS Lyon, December 2012.

François Pottier was an external examiner for the Habilitation defense of Etienne Lozes (École Normale Supérieure de Cachan, July 3, 2012) and for the Ph.D. defense of Jérémy Planul (École Polytechnique, February 8, 2012), Thibaut Balabonski (Université Paris Diderot, November 16, 2012), and Antoine Madet (Université Paris Diderot, December 6, 2012).

9.3. Popularization

Jacques-Henri Jourdan participated in the organization of the *Castor* computer science contest (<http://castor-informatique.fr/>). This contest aims at making computer science more popular in French high schools and junior high schools. It attracted over 90,000 participants.

Xavier Leroy gave a popular science talk on critical avionics software at the December 2012 “Jam session” meeting of Inria Alumni.

Jonathan Protzenko, along with two other PhD students, is curating the Junior Seminar in Rocquencourt, where he coaches other PhD students into presenting their work in front of a friendly audience.

Gabriel Scherer set up a research blog for the Gallium project-team, to highlight small chunks of work of the team members in an informal and popularized style. For example, Valentin Robert, Thomas Braibant and Jacques-Henri Jourdan described various aspects of their interaction with the Coq proof assistant, some of which eventually resulted in small improvements integrated by the Coq development team. Articles are published approximately once a week, and the blog gets on average 500 visits a day.

GAMMA3 Project-Team

6. Dissemination

6.1. Teaching - Supervision - Juries

6.1.1. Teaching

Doctorat : F. Alauzet : Vérification des simulations numériques en mécanique des milieux continus, Cours de 2h au Collège de Polytechnique (Paris) avec A. Dervieux

Master (ou équivalent) : F. Alauzet: Simulation numérique en géométries complexes, niveau M1, 36 heures, École Centrale Paris

Master (ou équivalent) : A. Loseille : CAO et maillage, 35 heures, niveau M2, UPEC (Université Paris-Est Créteil), France

Licence (ou équivalent) : A. Loseille : Introduction à la discrétisation des équations aux dérivées partielles, 12 heures, niveau L3, ENSTA, France

Master (ou équivalent) : A. Loseille : Programmation pour la simulation numérique, 30 heures, niveau M1, ENSTA, France

6.1.2. Supervision

HdR : Frédéric Alauzet, Contributions aux méthodes numériques pour l'adaptation de maillage en Mécanique des Fluides, Université Paris 6, 28 Juin 2012

GANG Project-Team

7. Dissemination

7.1. Teaching - Supervision - Juries

7.1.1. Teaching

Master MPRI University of Paris Diderot:

- M. Habib, graph algorithms, 12 hours;
- P. Fraigniaud, "Algorithmique distribuée pour les réseaux", 12 hours;
- C. Delporte and H. Fauconnier, "Algorithmique distribuée avec mémoire partagée"; C. Delporte, 12 hours and H. Fauconnier, 12 hours;
- L. Viennot, "Structures de données distribuées et routage", 12 hours.

Master Professional University of Paris Diderot:

- M. Habib, Search Engines, 50 hours;
- M. Habib, Parallelism and mobility which includes peer-to-peer overlay networks, 50 hours;
- C. Delporte, Distributed programming, 85 hours;
- H. Fauconnier, Internet Protocols and Distributed algorithms, 85 hours.

Master: F. Mathieu, Peer-to-Peer Techniques, 30 hours, University of Paris 6;

D.U.T. : Y. Boufkhad, computer science and networks, 192 hours, University of Paris Diderot;

U.F.R.: F. de Montgolfier, foundation of computer science, algorithmics, and computer architecture, 192 hours, University of Paris Diderot;

Master: F. de Montgolfier, Peer-to-Peer theory and application, M2, University of Marne-la-Vallée.

7.1.2. Supervision

PhD : Hervé Baumann, "Diffusion décentralisée d'information dans les systèmes distribués", University of Paris Diderot, september 24, 2012

Xavier Koegler, "Protocoles de population, jeux et grandes populations", University of Paris Diderot, september 13, 2012

PhD in progress : François Durand, "Manipulabilité des systèmes de vote et applications aux réseaux", since 2012, supervised by Fabien Mathieu and Ludovic Noirie

Jérémie Dusart, "Parcours de graphes de cocomparabilité", since 2011, supervised by Michel Habib
Antoine Mamcarz, "Algorithmes de décomposition de graphes", since 2010, supervised by Michel Habib

The-Dang Huynh , "Extensions de PageRank et Applications aux Réseaux Sociaux", since 2012, supervised by Fabien Mathieu and Dohy Hong

Hung Tran, Failure detection with Byzantine adversary, since 2010, supervised by Hugues Fauconnier and Carole Delporte

7.1.3. Juries

HdR review: L. Viennot reviews Arnaud Legout's HDR thesis on "Efficacité et vie privée : de BitTorrent à Skype";

PhD review: L. Viennot reviews Bio Mikaila Toko Worou's PhD thesis on "Outils algorithmiques de détection des communautés dans les réseaux";

PhD thesis : L. Viennot was examiner of Quentin Godfroy's thesis on "From spanners to multipath spanners"

F. Mathieu was examiner of Claudio Testa's thesis "On the congestion control of Peer-to-peer applications: the LEDBAT case".

GECO Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Conference organization

- “INDAM meeting on Geometric Control and sub-Riemannian Geometry”, Cortona, Italy, May 21 - 25, 2012 (co-organizers: D. Barilari, U. Boscain, D. Prandi, M. Sigalotti).
- “Workshop Architecture Hybride et Contraintes”, Paris, June 4th-5th 2012 (co-organizer: M. Sigalotti)

8.1.2. Editorial activity

- U. Boscain is Associate Editor of Journal of Dynamical and Control Systems, ESAIM Control, Optimisation and Calculus of Variations, Mathematical Control and Related Fields. He is also referee for Journal of Differential equations, AIMS Book series: Applied mathematics, SIAM J. Control Optim., Automatica, Rendiconti dei Lincei, Matematica ed Applicazioni, Physica A...and for the conferences ACC, CDC, MTNS...
- M. Sigalotti is Associate Editor of Journal of Dynamical and Control Systems. He is also referee for IEEE TAC, SIAM J. Control Optim., Automatica, MathSciNet, Journal of Functional Analysis...and for the conferences CDC, ACC, IFAC...

8.2. Teaching - Supervision - Juries

8.2.1. Prizes

- Emmanuel Trélat obtained the Felix Klein Prize (see Section “Highlights of the year”).
- Jacek Jendrej won the *Prix du Centre de Recherche, Promotion 2009* by École Polytechnique for his stage made in 2012 under the supervision of Davide Barilari.

8.2.2. Supervision

PhD & HdR

PhD in progress: Dario Prandi, “Geometric control and PDEs”, 1/9/2011, supervisors: Ugo Boscain, Mario Sigalotti.

PhD in progress: Moussa Gaye, “Some problems of geometric analysis in almost-Riemannian geometry and of stability of switching systems”, 1/9/2011, supervisors: Ugo Boscain, Paolo Mason.

8.2.3. Juries

- U. Boscain was *rapporteur* of the PhD thesis of O. Cots (ICB, Dijon), defended the 20/11/2012.
- M. Sigalotti was *supervisor* of the PhD thesis of F. El Hachemi (CRAN, Nancy), defended the 5/12/2012.

8.3. Popularization

- D. Sugny cosigned a popularization paper with M. Lapert, Y. Zhang, M. Janich and S. J. Glaser for the “Actualités scientifiques du CNRS” (october 2012) on the optimal control in IMR (see [20]).
- M. Sigalotti was a speaker at the seminar Unithé of the Saclay CRI on November 2012. Title of the seminar: “Copier les algos du cerveau”.

GENSCALE Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Meeting organization and scientific animation

- **JOBIM** the annual french conference on computational biology was organised this year by Genscale. C. Lemaitre and P. Peterlongo coordinated the organisation committee. JOBIM 2012 took place from the 3rd to the 6th of June at Université Rennes 1 and gathered 375 participants mainly from France and french-speaking countries, bringing together researchers from the mathematical, computational and life sciences. The program was of high quality, including 7 international key-note speakers and 33 selected communications, along with 112 exposed posters and 6 industrial partners, participating through communications and exhibitions. This conference is a cornerstone in the French (speaking) computational biology research. It enables the whole community to meet, to share scientific results and to organize the discipline. Moreover, it provided a large visibility to the host city and to the organizing team. [web site: <http://jobim2012.inria.fr/>].
- **Seminar** A weekly seminar of bioinformatics is organized within the laboratory. Attendees are member of the ex-symbiose team (now teams Genscale, Dyliss and Genouest), biologists from Brittany and computer scientists from the laboratory. [web site: <http://symbiose.irisa.fr/symbiose-seminars>]
- **Discussion group on NGS** This working group brings together biologists and computational scientists, mainly from Rennes. Approximatively every two months, it enables to share experiences, raise new questions or propose news solutions about NGS issues. This groups is highly appreciated, between 40 and 50 persons attend this events and some from distant sites (Roscoff, Nantes) follow the meeting through visioconference. [web site: <http://ngs.genouest.org/>]
- **Sessions organised at ISMP 2012** Sessions “Bioinformatics and Combinatorial Optimization I” and “Combinatorial Optimization: Distance geometry applications” were organised at the 21st International Symposium on Mathematical Programming (ISMP 2012) in Berlin. <http://ismp2012.mathopt.org/>
- **Winter School : Algorithms in Structural Bio-informatics**, was co-organised by R. Andonov in december 2012 at Inria Sophia Antipolis.
- **Bioinformatics tutorials**, at CARI (Conference Africaine de Recherche en Informatique) in Alger (Algérie), organized by D. Lavenier [web site: <http://cari-info.org/>]

9.1.2. Conference program committees

- International Conference on Field Programmable Logic and Applications (FPL) [D. Lavenier]
- International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA) [D. Lavenier]
- Southern Programmable Logic Conference (SPL) [D. Lavenier]
- International Conference on ReConFigurable Computing and FPGAs (ReConFig) [D. Lavenier]
- Workshop on Emerging Parallel Architectures (WEPA 2012) [D. Lavenier]
- ACM International Conference on Computing Frontiers (UCHPC Workshop) [D. Lavenier]
- IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP) [D. Lavenier]
- IEEE International Conference on Parallel and Distributed Systems (ICPADS 2012) [D. Lavenier]

- Workshop on Computational Optimization (WCO12), Wroclaw, Poland, September 9–12, 2012 [A. Mucherino, R. Andonov]
- Data Mining in Agriculture (DMA12), Berlin, Germany, July 20, 2012. [A. Mucherino]
- 21st International Symposium on Mathematical Programming (ISMP12), Berlin, Germany, August 19–24, 2012 [A. Mucherino, R. Andonov]
- JOBIM'2012 [D. Lavenier, C. Lemaitre, P. Peterlongo]
- SeqBio 2012 [P. Peterlongo]

9.1.3. Administrative functions: scientific committees, journal boards

- Member of the administrative council of ISTIC [R. Andonov]
- ANR Evaluation Committee (Numerical Models Program) [D. Lavenier]
- Reviewer for NSF projects [D. Lavenier]
- Recruitment committees: 2 assistant professors [P. Peterlongo, D. Lavenier], 5 Inra engineers [F. Legeai]
- Member of the Editorial Board of The Scientific World JOURNAL, bioinformatics domain [D. Lavenier]
- Member of Inria CDT [D. Lavenier]
- Member of the RAPSODYN Governing Council [D. Lavenier]
- MESR/DGRI - MEI Expert (International Cooperation Program) [D. Lavenier]
- Inria center referee of Scientific mediation [P. Peterlongo]
- Member of the redaction committee Ouest Inria [P. Peterlongo]
- publication reviewing for NAR, BMC Genomics, Bioinformatics, briefing in Bioinformatics, BMC Bioinformatics, PLoS One, European Journal of Entomology, Bulletin of entomological research, Symmetry, Mathematical Programming, RECOMB, International Journal of Reconfigurable Computing, journal of experimental algorithms, Recent Patents on DNA and Gene Sequence [D. Lavenier, F. Legeai, A. Mucherino, C. Lemaitre, P. Peterlongo].

9.1.4. Invited talks

- D. Lavenier gave an invited talk at CARI (Conference Africaine de Recherche en Informatique) in Alger (Algerie)
- A. Mucherino gave an invited talk at IMECC, UNICAMP, Campinas (Brazil)
- A. Mucherino gave an invited talk at BIA, INRA, Toulouse
- A. Mucherino gave an invited talk at the Department of Informatics, University of Florence (UNIFI), Florence (Italy)
- P. Peterlongo gave an invited talk at “Journée axe génomique biogenouest” (Nantes)
- C. Lemaitre gave an invited talk at Inria Bonsai team in Lille
- C. Lemaitre gave an invited talk at “Séminaire BioSticker”, LINA (Nantes)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : A. Mucherino, R. Andonov, P. Peterlongo, Graph algorithms, 130h, L3, Univ. Rennes 1, Rennes France.

Licence : R. Andonov, Algorithmics, 20h, L3, Univ. Rennes 1, Rennes France.

Licence : D. Lavenier, Computer Architecture and system, 70 h, L3 - ENS Magister, Rennes, France

Master : R. Andonov, Advanced algorithmics, 20h, M1, Univ. Rennes 1, Rennes France.

Master : R. Andonov, A. Mucherino, Operations research, 94h, M1, Univ. Rennes 1, France.

Master : G. Chapuis, Compilation, 41h, M1, Univ. Rennes 1, France.

Master : D. Lavenier, Bioinformatics, 20h, M2, Angers, France

Master : A. Mucherino, Initiation to systems and networks, 41h, M2, Univ. Rennes 1, France

Master : C. Lemaitre, P. Peterlongo, Text algorithmics for Bioinformatics, 40 h, M1, Univ. Rennes 1, France.

Master : C. Lemaitre, Dynamical systems for biological networks, 23h, M2, Univ. Rennes 1, France

Master : F. Legeai, Bioinformatics, 4h, M2, Univ. Rennes 1, France.

Master : A. Mucherino, R. Andonov, P. Peterlongo, Sequence and structure algorithms, 50h, M2, Univ. Rennes 1, France

9.2.2. Supervision

PhD Defense: Rayan Chikhi, *Computational methods for de novo assembly of next-generation sequencing data* [10], ENS Cachan, defended on July 2nd 2012, supervised by D. Lavenier [online manuscript: <http://tel.archives-ouvertes.fr/tel-00752033/>]

PhD in progress : Guillaume Chapuis, *Bioinformatique parallèle*, Univ. Rennes 1, started in October 2010, supervised by D. Lavenier and R. Andonov

PhD in progress : Mathilde Le Boudic-Jamin, *Through Flexible Protein-Protein Docking*, Univ. Rennes 1, started in October 2011, supervised by R. Andonov

PhD in progress : Nicolas Maillet, *Algorithme pour l'assemblage de données NGS de métagénomique*, Univ. Rennes 1, started in November 2010, supervised by D. Lavenier and P. Peterlongo

PhD in progress : Erwan Scaon, *Modèles et algorithmes pour l'assemblage de novo de génomes à forte redondance*, Univ. Rennes 1, started in October 2012, supervised by D. Lavenier and C. Lemaitre

PhD in progress : François Moreews, *Environnement intégré de conception et d'exécution de workflows en bioinformatique: du prototypage au calcul intensif. Applications à la recherche de motifs de régulation dans les génomes*, Univ. Rennes 1, started in November 2012, supervised by D. Lavenier and S. Lagarigue

9.2.3. Juries

- *President of Ph-D thesis jury.* N. Abbas, ENS Cachan [R. Andonov]
- *Member of Ph-D thesis juries.* I. Wohlers, Univ. Amsterdam [R. Andonov], A. Nicolas, Université de Rennes 1 [R. Andonov], R. Saidi, Université de Clermont-Ferrand [R. Andonov], O. Gaci Université du Havre [R. Andonov]
- *Referee of Ph-D thesis.* T. Tan Truan, Université de Lille [D. Lavenier]

9.3. Popularization

- Participation to the event "A la découverte de la recherche" (presentation of the research activity to high school students) [D. Lavenier]

GEOMETRICA Project-Team

8. Dissemination

8.1. Animation of the scientific community

8.1.1. Editorial boards of scientific journals

P. Alliez is an associate editor of *ACM Transactions on Graphics* and *Graphical Models*.

J-D. Boissonnat is a member of the editorial board of the *Journal of the ACM*, *Discrete and Computational Geometry*, *Algorithmica*, the *International Journal of Computational Geometry and Applications* and the electronic *Journal of Computational Geometry*. He is also a member of the editorial advisory board of the Springer Verlag book series *Geometry and Computing*.

F. Chazal is an associate editor of *Graphical Models* and *SIAM journal on Imaging Science*.

S. Oudot is co-editor with T. Dey of the special issue of *Discrete and Computational Geometry* on SoCG 2012.

Olivier Devillers is a member of the Editorial Board of *Graphical Models*.

Monique Teillaud is a member of the Editorial Boards of CGTA, *Computational Geometry: Theory and Applications*, and of IJCGA, *International Journal of Computational Geometry and Applications*.

M. Yvinec is a member of the editorial board of *Journal of Discrete Algorithms*.

P. Alliez, M. Teillaud (review manager until April 30th), and M. Yvinec are members of the CGAL editorial board.

8.1.2. Conference program committees

Pierre Alliez was a program committee member of EUROGRAPHICS main conference, EUROGRAPHICS Symposium on Geometry Processing and International Workshop on Point Cloud Processing (a CVPR workshop).

Steve Oudot was a program committee member of SoCG 2012 (ACM Symposium on Computational Geometry).

Frédéric Chazal was a program committee member of ATMCS 2012 (5th conf. on Algebra and Topology: Methods, Computation and Science), SMAI-SIGMA 2012 conference, SMAI-MAIRCI workshop 2012, ICPRAM 2012 and 2013 (International Conference on Pattern Recognition Applications and Methods).

Frédéric Chazal is a program committee member of SoCG 2013 (ACM Symposium on Computational Geometry).

David Cohen-Steiner was a program committee member of the EUROGRAPHICS Symposium on Geometry Processing.

J-D. Boissonnat was a program committee member of "Mathematical Methods for Curves and Surfaces", Geometric Modeling and processing (GMP 2012), EUROGRAPHICS Symposium on Geometry Processing (SGP 2012)

Florent Lafarge was program chair of IEEE CVPR workshop on Point Cloud Processing and a program committee member of EUROGRAPHICS short papers and ISPRS congress.

8.1.3. Steering committees

Monique Teillaud is a member of the Computational Geometry Steering Committee.

8.1.4. Ph.D. thesis and HDR committees

Pierre Alliez was a referee and member of the Ph.D. defense committee of Nicolas Mellado (Inria Bordeaux) and David Bommès (RWTH Aachen).

Steve Oudot was a member of the Ph.D. defense committee of Arijit Ghosh (Inria Sophia-Antipolis).

Jean-Daniel Boissonnat was a member of the HDR defense of Eric Colin de Verdière (ENS Ulm)

Olivier Devillers was a member of the Ph.D. defense committee of Daniela Maftuleac (Univ. Marseille)

8.1.5. Inria committees

F. Chazal is the chair of the “Commission scientifique” at Inria Saclay - île de France.

Monique Teillaud is a member of the Inria Evaluation Committee.

She coordinated the working group on life of software of the evaluation committee. She is a member of the working group on the Inria software database (BIL).

She was a member of the national Inria CR2 and DR2 recruitment committees, as well as a member of the Inria Starting and Advanced Research Positions committees.

She is also a member of both Inria Sophia CDT (Committee for Technologic Development) and Inria national CDT.

Florent Lafarge is a member of the comité de Suivi Doctoral (CSD) of Inria Sophia.

Pierre Alliez is a member of the comité de médiation scientifique of Inria Sophia Antipolis - Mediterranee.

8.1.6. Other committees

J.-D. Boissonnat is a member of the working groups GP1 (Modèles et calcul) and GP2 (Logiciels et systèmes informatiques) de l’Alliance des sciences et technologies du numérique (Allistène).

J.-D. Boissonnat is a member of the AERES Board (Evaluation Agency for Research and Higher Education).

J.-D. Boissonnat chaired the Visiting Committee of the Geometric Modeling and Scientific Visualization Center of the King Abdullah University of Science and Technology (KAUST, Saudi Arabia, 2012).

J.-D. Boissonnat chaired the recruitment committee of ENS Lyon (PU n°4037 / CS 27)

F. Chazal is a member of the Scientific Council of AMIES (Agence pour les Mathématiques en Interaction avec l’Industrie et la Société)

F. Chazal is a member of the “Comité de pilotage” of the MAIRCI and SIGMA (ex-AFA) groups of the SMAI.

F. Chazal is a member of the “Bureau du Comité des Projets” at Inria Saclay.

M. Glisse is a member of the experts group of AFNOR for the standardization of the C++ language within the ISO/WG21 working group.

M. Teillaud was a member of the LIAMA Visiting Committee.

8.1.7. Conference organization

J.-D. Boissonnat chairs the scientific committee of the Jacques Morgenstern Colloquium.

Monique Teillaud organized the *Minisymposium on publicly available geometric/topological software* (with Menelaos Karavelas), Chapel Hill, USA, June 17&19, 2012.

Monique Teillaud was a member of the scientific committee of the workshop SIGMA’2012: Signal, Image, Geometry, Modelling, Approximation, Marseille, November 19-23.

CGAL developers meeting, Inria, December 17-21.

8.1.8. Web site

M. Teillaud is maintaining the Computational Geometry Web Pages <http://www.computational-geometry.org/>, hosted by Inria. This site offers general interest information for the computational geometry community, in particular the Web proceedings of the Video Review of Computational Geometry, part of the Annual Symposium on Computational Geometry.

8.2. Teaching

We give here the details of courses. Web pages of the graduate courses can be found on the web site :

<http://www.inria.fr/sophia/geometrical/>

Traitement numérique de la géométrie, Lorsque nos maths s'incarnent dans les ordinateurs, Monique Teillaud, 3h, Centre de Formation d'Apprentis de l'Industrie, Avignon.

“à quoi sert un triangle ?”, Monique Teillaud, 2x2h, Collège Le Prés des Roures, Le Rouret, in the framework of the national Week of Mathematics.

Master: Computational Geometry: from Theory to Applications, Steve Oudot, 20h ETD, M1, École Polytechnique.

Master: Géométrie algorithmique, Olivier Devillers, 13h ETD (2011-2012) 24h ETD (2012-2013), M1, Université de Nice.

Master: Algorithmes géométriques: théorie et pratique, Pierre Alliez, Olivier Devillers, and Monique Teillaud, 28h ETD, M2, Université de Nice.

Master: Computational Geometry Learning, J.-D. Boissonnat, F. Chazal and M. Yvinec, 25h, M2, MPRI (Paris).

Master: Computational Geometry: from Theory to Applications, S. Oudot, 20h, M1, école Polytechnique.

Master: Maillages 3D et applications, P. Alliez, 21h, Ecole des Ponts ParisTech (Paris).

Master: Mathématiques pour la géométrie, P. Alliez, 24h, EFREI (Ecole d'Ingénieur des Technologies de l'Information et de la Communication, Paris).

Doctorat: Geometric Inference, F. Chazal and D. Cohen-Steiner, 20h, Université Paris Sud (Orsay).

Master: Markov Random Fields, F. Lafarge, 9h, EPU Sophia Antipolis.

Master: Image segmentation, F. Lafarge, 11h, University of Nice Sophia Antipolis.

Doctorat: Introduction to Geometric Inference, F. Chazal, 3h, Neuchâtel University.

8.2.1. Ph.D. theses

Arijit Ghosh, Piecewise Linear Reconstruction and Meshing of Submanifolds of Euclidean Space, Université de Nice-Sophia Antipolis, May 30, 2012, J-D. Boissonnat.

Bertrand Pellenard, Generation of quadrangle meshes. Université de Nice-Sophia Antipolis, Dec 18, 2012, P. Alliez.

Claire Caillierie, Sélection de modèles pour l'inférence géométrique, Université Paris XI, started September 2008, Frédéric Chazal and Pascal Massart (in progress).

Alexandre Bos, Topological methods for geometric data classification, Université Paris XI, started September 2010, Frédéric Chazal and Steve Oudot (in progress).

Mikhail Bogdanov, Triangulations in non-Euclidean spaces, started October 1st 2010, Monique Teillaud (in progress).

Yannick Verdié, Urban scene analysis from unstructured point data, Université de Nice-Sophia Antipolis, started November 2010, Florent Lafarge (in progress).

Mickael Buchet, Topological and geometric inference from measures, Université Paris XI, started October 2011, Frédéric Chazal and Steve Oudot (in progress).

Ross Hemsley, Probabilistic methods for the efficiency of geometric structures and algorithms, started October 1st 2011, Olivier Devillers (in progress).

Clément Maria, Data structures for simplicial complexes, Université de Nice-Sophia Antipolis, started October 1, 2011, J-D. Boissonnat (in progress).

Simon Giraudot, Robust Shape Reconstruction, Université de Nice-Sophia Antipolis, started November 2011, Pierre Alliez (in progress).

Xavier Rolland-Névière, Robust watermarking of 3D Shape, Université de Nice-Sophia Antipolis, started November 2011, Pierre Alliez and Gwenael Doerr from Technicolor (in progress).

Sven Oesau, Reconstruction of indoor scenes, Université de Nice-Sophia Antipolis, started April 2012, Pierre Alliez and Florent Lafarge (in progress).

Manish Mandad, Robust Shape Approximation, Université de Nice-Sophia Antipolis, started November 2012, Pierre Alliez (in progress).

Rémy Thomasse, Smoothed complexity of geometric structures and algorithms, started December 1st 2012, Olivier Devillers (in progress).

8.2.2. Internships

Internship proposals can be found on the web at <http://www.inria.fr/sophia/geometrical/>

Manish Mandad, Shape approximation with guarantees, Master CBB (France).

Mathier Schmitt, Meshing of the hyperbolic octagon, L3 ENS Lyon (Monique Teillaud).

Claudia Werner, Triangulations on the sphere, Hochschule für Technik Stuttgart (Monique Teillaud)

8.3. Participation to conferences, seminars, invitations

8.3.1. Invited Talks

Frédéric Chazal, “Topological Data Analysis using distance based functions”, 4th International Workshop on computational Topology in Image context, Bertinoro, Italy, february 2012.

Olivier Devillers, “EuroCG-2012”, Delaunay triangulation, theory vs practice, March 19th.

Pierre Alliez, “Robust Shape Reconstruction”, Dive with an Expert Seminar, Schlumberger Montpellier Technology Center, May 2012.

J-D. Boissonnat, “Aspects algorithmiques de la triangulation des variétés”, Colloque Mathématiques et Formation des Ingénieurs”, Coetquidan, Juin 2012.

Frédéric Chazal, “Topological Data Analysis using distance based functions”, Dynamics, Topology and Computations (DyToComp 2012 - satellite conference of 6th European Congress of Mathematics), Bedlewo Poland, June 2012.

Frédéric Chazal, “Detection and Approximation of Linear Structures in Metric Spaces” Workshop on Algorithms for Modern Massive Data Sets (MMDS 2012), Stanford USA, July 2012.

J-D. Boissonnat, “Delaunay-type structures for manifolds”, Workshop on Applied and Computational Topology (ATMCS), Edinburgh July 2012.

Pierre Alliez, “Advances in Architectural Geometry”, Paris, September.

Pierre Alliez, “MICCAI workshop on Mesh Processing in Medical Image Analysis”, Nice, October.

Pierre Alliez, “3DIMPVT: 3D Imaging, Modeling, Processing, Visualization and Transmission”, Zurich, October.

J-D. Boissonnat, “Provably good meshes”, Dive with an Expert Seminar, Schlumberger Montpellier Technology Center, October 2012.

Frédéric Chazal, “Persistence Stability for Geometric complexes” , Workshop on Algebraic Topology and Machine Learning, NIPS 2012, Lake Tahoe USA, December 2012.

8.3.2. Seminars

Members of the project have presented their published articles at conferences. The reader can refer to the bibliography to obtain the corresponding list. We list below all other talks given in seminars, summer schools and other workshops.

Olivier Devillers, «Constructions incrémentielles randomisées», journées Présage, january 12-13.

Marc Glisse, «Complexité moyenne et Visibilité 3D», journées Présage, january 12-13.

Olivier Devillers, Olivier Devillers, «Delaunay triangulations, theory vs. practice», journées de géométrie algorithmique, avril 2-6.

Clément Maria, “A Data Structure to Represent Simplicial Complexes“, journées de géométrie algorithmique, avril 2-6.

Ross Hemsley, “Pivot Walk - A Faster Walking Strategy for Point Location” , journées de géométrie algorithmique, avril 2-6.

Ramsay Dyer, “Stability of Delaunay-type structures for manifolds”, journées de géométrie algorithmique, avril 2-6.

Frédéric Chazal, “Geometric Inference using distance-like functions”, Minisymposium on Computational Geometric Learning, Exploring geometric structures in high dimensions, CG:APT, SoCG 2012.

Frédéric Chazal, “Persistence Stability for Geometric complexes”, Workshop on Topological data analysis and machine learning theory, Banff Canada, October 2012.

Olivier Devillers, «Hypergraphes de régions vides I : point de vue de la géométrie algorithmique», journées Présage, october 18-19.

Marc Glisse, «Complexité moyenne en visibilité, sans les logs», journées Présage, october 18-19.

Frédéric Chazal, “Detection and Approximation of Linear Structures in Metric Spaces”, SMAI-SIGMA Conference 2012, CIRM Luminy France, November 2012.

Ramsay Dyer, “Stability of Delaunay-type structures for manifolds”, SMAI-SIGMA Conference 2012, CIRM

Clément Maria, “A space and time efficient implementation for computing persistent homology”, Computational Geometric Learning Workshop, Berlin, december 2012.

Pierre Alliez, “The CGAL Library and Mesh Generation”, Graduate school of the EUROGRAPHICS Symposium on Geometry Processing, July 2012.

8.3.3. *The Geometrica seminar*

<http://www.inria.fr/sophia/geometrica/>

The GEOMETRICA seminar featured presentations from the following visiting scientists:

Xianhai Meng (Beihang University, China): Mesh Generation and 3D Geological Modeling.

Thijs van Lankveld (University of Utrecht). Reconstructing urban geometry per surface from point samples. March 19.

Vincent Vidal (LIRIS, Lyon, France). Modèles graphiques pour segmenter et remailler les maillages surfaciques triangulaires. April 11.

Mark Blome (Konrad-Zuse-Zentrum für Informationstechnik, Berlin). Modeling of complex 3D nano-photonic devices using Computer Aided Design techniques. July 3.

Benjamin Burton (University of Queensland, Australia). Unknot recognition and the elusive polynomial time algorithm. October 3.

8.3.4. *Scientific visits*

Clément Maria visited Pr. Coutsias (University of New Mexico) for one week in september and Pr. Dey (Ohio State University) for one week.

Pierre Alliez, RWTH Aachen, October 10-12.

Olivier Devillers, EPI RAP, November 19-21.

Ross Hemsley, EPI RAP, November 19-21.

Florent Lafarge, University of Auckland, December 17- January 11.

GEOSTAT Project-Team

8. Dissemination

8.1. Scientific Animation

- H. Yahia is a member of the editorial board of Elsevier's journal *Digital Signal Processing* (<http://www.journals.elsevier.com/digital-signal-processing/editorial-board>).
- H. Yahia is a member of the editorial board of *Frontiers in fractal physiology* (http://www.frontiersin.org/Fractal_Physiology/editorialboard).
- H. Yahia is a member of CNU's section 61 (CNU: *Conseil National des Universités*).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : K. Daoudi was invited by the Moroccan CNRST within the FINCOME'2012 program (<http://www.fincome.cnrst.ma/>) to give a 20 hours lecture on speech processing at the Master2 InfoTelecom of the faculty of sciences, Rabat (<http://www.fsr.ac.ma/MIT/>).

8.2.2. Supervision

PhD : R. Jourani, title: *reconnaissance automatique du locuteur par GMM à grande marge*, co-supervised between University Paul Sabatier (Toulouse, France) and Rabat-Agdal University (Morocco), defended September 6th, 2012, supervisors: K. Daoudi and R. André-Obrecht.

PhD in progress : V. Khanagha, title: *novel multiscale methods for nonlinear speech analysis using the Microcanonical Multiscale Formalism*, PhD started in 2009, supervisors: H. Yahia and K. Daoudi, to be defended on January 16th, 2013.

PhD in progress : S. Maji, title: *méthodes multiéchelles en traitement du signal pour l'optique adaptative*, PhD started in 2010, supervisor: H. Yahia.

PhD in progress : H. Badri, title: *sparse representation and gradient manipulation: application to multidimensional signals, natural and synthetic*, PhD started in 2012, supervisors: H. Yahia, D. Aboutajdine.

PhD in progress : A. Tamim, title: *image processing for the segmentation and temporal evolution of moroccan upwelling*, PhD started in 2010, supervisors: K. Daoudi, D. Aboutajdine, H. Yahia.

8.2.3. Juries

- H. Yahia was a member of Mr. Binbin Xu's PhD jury. The PhD was defended on July 11th, 2012, at Université de Bourgogne. Title: *étude de la dynamique des ondes spirales à l'échelle cellulaire par modèles expérimental et numérique*. The jury was composed of: Professor O. Meste, Dr. H. Yahia, Professors V. Kazantsev, M. Nadi, J.-M. Bilbault, S. Binczak, Dr. G. Laurent and Dr. S. Jaquir.
- H. Yahia and K. Daoudi were members of H. Badri's master internship jury. The defence took place on October, 13th, 2012, at Rabat University, Morocco.

8.3. Diffusion

- H. Yahia was an invited speaker at the EGU (European Geophysical Association) General Assembly, held in Vienna, Austria, from April 22th to April 27th, 2012. Session NP3.1 ("Nonlinear, scaling and Complex Physical and Biogeophysical Processes in the Atmosphere and Ocean") [14].

- K. Daoudi was invited from April 11th to April 22th, 2012, by Concordia University (Montreal, Canada), for a visit to Concordia and Sherbrooke universities. K. Daoudi has given a talk at Concordia on April 16th.
- K. Daoudi was invited from September 13th to September 15th, 2012, by the Speech Group at Microsoft Research (Redmond, USA) and has given a talk on September 14th on the subject of nonlinear signal processing for speech.
- H. Yahia participated to the CNU session held in Saint Malo, France, on January, 23th, 24th, 2012.
- H. Yahia was invited by F. Schmidt, head of the LOG (Laboratoire d'Océanologie et de Géosciences, UMR CNRS 8187 and Université du Littoral), to make a lecture on the subject: *structure multiéchelle des signaux complexes et circulation océanique*, on June, 29th, 2012.

GRACE Team

8. Dissemination

8.1. Scientific Animation

- D. Augot is editor for the journal “RAIRO - Theoretical Informatics and Applications”
- D. Augot was editor of a special issue of Designs, Codes and Cryptography.
- D. Augot is co-organizer, with P. Loidreau, of the French CCA (Coding, Cryptography and Algorithms) seminar, <http://cca.saclay.inria.fr>, held in Paris three times per year.
- D. Augot was in the program committee of YACC 2012, Porquerolles.
- D. Augot was a reviewer for IEEE Transactions on Information Theory, Designs, Codes and Cryptography, SIAM Journal on Discrete Mathematics, Journal of Symbolic Computation, AAECC.
- B. Smith was a reviewer for ANTS, Eurocrypt, Asiacrypt, PQCrypto, RAIRO ITA, ETRI Journal.
- B. Smith contributes to the American Mathematical Society’s Mathematical Reviews (MathSciNet).
- A. Zeh was reviewer for Advances in Mathematics of Communications (AMC), IEEE Communications Letters and IEEE Transactions on Information Theory.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master MPRI : Daniel Augot, Error correcting codes and applications to cryptography, 24, M2, U. Paris Diderot, ENS Ulm, ENS Cachan, Polytechnique, U. Paris Sud, U. P. et M. Curie, France.

Master MPRI : F. Morain, arithmetic algorithms for cryptology, 9h, M2, U. Paris Diderot, ENS Ulm, ENS Cachan, Polytechnique, U. Paris Sud, U. P. et M. Curie, France.

Master MPRI: B. Smith, arithmetic algorithms for cryptology, 12h, M2, U. Paris Diderot, ENS Ulm, ENS Cachan, Polytechnique, U. Paris Sud, U. P. et M. Curie, France

Master : F. Morain, 9 lectures of 1.5h, 3rd year course “cryptology” at École polytechnique (M1).

Master: B. Smith, 10 practical classes of 2h, 3rd year course “cryptology” at École polytechnique (M1).

Licence : F. Morain, 10 lectures of 1.5h, 1st year course “Introduction à l’informatique” (INF311) at École polytechnique (L2).

Licence: B. Smith, 20 TDs of 2h, 1st year course “Introduction à l’informatique” (INF311) at École polytechnique (L2).

Licence: A. Couvreur, 4 TP’s of 2h on Matlab Programming for 1st year students at École Polytechnique (L2).

8.2.2. Supervision

PhD: Guillaume QUINTIN, “Sur l’algorithme de d’ecodage en liste de Guruswami–Sudan sur les anneaux finis”, École polytechnique, defended 2012/11/22.

PhD in progress : Cécile GONÇALVES, Advanced cardinality algorithms for cryptographically interesting curves, 01/10/2011, F. Morain and B. Smith

8.2.3. Juries

- D. Augot was an examiner in the jury of Julia Pielant, “Tours de corps de fonctions algébriques et rang de tenseur de la multiplication dans les corps finis”, Université d’Aix-Marseille, December 12 2012.

- D. Augot was an examiner in the jury of Guillaume Quintin, “Sur l’algorithme de décodage en liste de Guruswami-Sudan sur les anneaux finis”, école Polytechnique, November 22 2012.
- D. Augot was an examiner in the jury of Anja Becker, “La technique de représentation – Application à des problèmes difficiles en cryptographie”, UVSQ, October 26 2012.
- D. Augot was an examiner in the jury of Amar Siad, “Protocoles de génération des clés pour le chiffrement basé sur de l’identité”, Université Paris 8, December 21 2012.
- F. Morain was president of the jury of Stéphane Jacob, Mars 08 2012 (Protection cryptographique des bases de données: conception et cryptanalyse).
- B. Smith was an examiner in the jury of Jean-Pierre Flori, “Fonctions booléennes, courbes algébriques et multiplication complexe”, Télécom ParisTech, February 3 2012.

8.3. Popularization

- D. Augot made a presentation in the high school at Courcouronnes “Quand $1 \oplus 1 = 0$ ”.
- D. Augot was interviewed by French novelist François Bon.
- F. Morain gave a talk on “Turing et la cryptanalyse”, during the special days for the centenary of the birth of Turing, Nancy 2012/09/20.

GRAND-LARGE Project-Team

7. Dissemination

7.1. Scientific Animation

Christine Eisenbeis

- NPC 2012, the 9th Ifip International Conference on Network and Parallel Computing, Gwangju, Korea, September 6-8, 2012, program committee;
- UCNC 2012, 11th International Conference on Unconventional Computation and Natural Computation, Orléans, September 3-7, 2012, program committee;
- member of IFIP WG 10.3;
- IJPP (International Journal on Parallel Programming) editorial board.

Laura Grigori

- Member of Program Committee of IEEE International Parallel and Distributed Processing Symposium IPDPS 2012.
- Member of Program Committee of IEEE/ACM SuperComputing SC12 Conference, 2012.
- Member of the Best Paper Awards and Best Student Paper Award Jury, IEEE/ACM Supercomputing 2012, Conflict Chair for Algorithms, Supercomputing 2012.
- Member of Program Committee of HiPC 2012, 19th IEEE Int'l Conference on High Performance Computing.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence : Cédric Bastoul, Réseaux niveau licence, IUT d'Orsay (60h), Système niveau licence, IUT d'Orsay (40h).

Master : Christine Eisenbeis, coordinatrice du module "Optimisations et compilation" du M2 recherche NSI ("Nouveaux systèmes informatiques") de l'université Paris-Sud 11. 6 heures de cours.

Master: L. Grigori teaches in "Calcul Haute Performance" of M2 recherche NSI of University Paris Sud 11.

Polytech 5th year: L. Grigori teaches the "Parallel Computing" class.

7.2.2. Supervision

HdR : Marc Baboulin, "Fast and reliable solutions for numerical linear algebra solvers in high-performance computing", université Paris-Sud 11, 5 décembre 2012.

HdR : Cédric Bastoul, "Contributions à l'optimisation des programmes de haut niveau", université Paris-Sud 11, 12 décembre 2012.

PhD: Simplicé Donfack, Solving Systems of Equations on Petascale Machines, University Paris Sud 11, 7 March 2012, PhD Supervisor: L. Grigori

PhD in progress: Amal Khabou, Dense matrix computations: communication cost and numerical stability, University Paris Sud 11, 11 February 2013, PhD Supervisor: L. Grigori

PhD in progress: Sophie Moufawad, Communication Avoiding preconditioners, University Paris Sud 11, Supervisor: L. Grigori

7.3. Popularization

Christine Eisenbeis a contribué au manuel scolaire d'enseignement de l'informatique en terminale S [39]. Elle est intervenue à la table ronde "Qu'en disent les femmes scientifiques" du colloque "Effets de genre dans les sciences et les technologies", organisé par le Centre Interdisciplinaire d'Étude de l'Évolution des Idées, des Sciences et des Techniques (CIEEIST, Centre d'Alembert) à Orsay les 9 et 10 mai 2012.

GRAPHIK Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Organization of Conferences/Workshops

ECAI 2012 (European Conference on Artificial Intelligence), held in August 2012 in Montpellier, gathered more than 750 participants. This major conference in artificial intelligence was locally organized by the LIRMM, mainly by the teams Coconut and GraphIK. <http://www2.lirmm.fr/ecai2012/>

GKR@IJCAI 2013 (International workshop on graph structures for knowledge representation and reasoning) will be held for the third time in conjunction with IJCAI. This workshop was initiated by Madalina Croitoru in 2009. The GKR post proceedings of 2011 were published in a Springer volume [43].

MPREF'13 (Multidisciplinary Workshop on Advances in Preference Handling): will be held in conjunction with IJCAI'13 and will be co-organized by Souhila Kaci. This workshop promotes the broadened scope of preference handling and continues a series of events on preference handling at AAI-02, Dagstuhl in 2004, IJCAI-05, ECAI-06, VLDB-07, AAI-08, ADT-09, ECAI-2010 and ECAI-2012. Since 2008, this series of workshops is organized by the multidisciplinary working group on Advances in Preference Handling, which is affiliated to the Association of European Operational Research Societies EURO.

Souhila Kaci will also co-organize the "Uncertain Reasoning" Track at FLAIRS'13.

9.1.2. Editorial Boards

ICCS (International Conference on Conceptual Structures)

RIA (Revue Francophone d'Intelligence Artificielle)

9.1.3. Program Committees

International: IJCAI 2013 (senior PC and PC), KR 2012 (Principles of Knowledge Representation and Reasoning), RR 2012-2013 (Reasoning the Web), ECAI 2012 (European Conference on Artificial Intelligence), Datalog 2.0 2012, SGAI 2012-2013 (SGAI International Conference on Artificial Intelligence), FUZZ-IEEE 2012 (International Conference on Fuzzy Systems), Effost 2012 (European Federation of Food Science and Technology), MPREF'12 (Multidisciplinary Workshop on Advances in Preference Handling, in conjunction with ECAI), WL4AI'12 (Weighted Logics for AI, in conjunction with ECAI), FLAIRS'12 (Florida Artificial Intelligence Research Society), ICAART 2012-2013 (International Conference on Agents and Artificial Intelligence), Web Science 2012-2013

National: JIAF 2012 (Journées d'Intelligence Artificielle Fondamentale), RFIA 2012 (Reconnaissance des Formes et Intelligence Artificielle), IC 2012-2013 (Ingénierie des Connaissances), LFA 2012 (rencontres francophones sur la Logique Floue et ses Applications).

9.1.4. Invited Talks

Keynote Talks at International Conferences

- RuleML: Ontology-Based Query Answering with Existential Rules, Marie-Laure Mugnier, Montpellier, August 2012. <http://dbis.informatik.tu-cottbus.de/ruleml2012/>
- Effost 2012: Food science and knowledge engineering: a challenging encounter, Patrice Buche, November 2012. <http://www.effostconference.com/index.html>

Invited Talks at International Workshops

- Workshop Datalog 2.0: Existential Rules: A Graph-based View, Marie-Laure Mugnier, Vienne, September 2012. <http://www.dbai.tuwien.ac.at/datalog2.0/>
- MPREF'12: What do we prefer? From philosophical stimulus to Artificial Intelligence solutions, Souhila Kaci, Montpellier, August 2012.

Invited Seminars

- Jean-François Baget and Marie-Laure Mugnier. Existential Rules: Decidability and Algorithms, Department of Computer Science, University of Oxford, December 2012.
- Madalina Croitoru and Jérôme Fortin. Graph based Knowledge Representation and Reasoning, Department of Computer Science, University of Aberdeen, January 2012.

9.1.5. Scientific Advisory Boards

- ABES (National Bibliographic Agency for Universities) Scientific Advisory Board, Michel Chein (since its creation in 2010)
- Advisory Board of the Center of Excellence in Semantic Technologies (MIMOS, Malaysia), Marie-Laure Mugnier (since its creation in 2008)
- Scientific board of INRA-CEPIA department (Caractérisation et Elaboration des Produits Issus de l'Agriculture – Agricultural Products Engineering), Marie-Laure Mugnier (since September 2011)

9.1.6. Expertise Tasks:

Experts for ANR, INRA and Inria (project proposal reviewing); reviewers for Artificial Intelligence Journal, JAIR (Journal of Artificial Intelligence Research), IEEE Transactions on Fuzzy Systems, Journal of Visual Languages & Computing, European Journal of Operational Research, ...

9.1.7. Local Collective Tasks:

LIRMM Scientific Council (Jean-François Baget), Vice-chair of “Expert Pool” section 27–Computer Science (Michel Leclère), member of Expert Pool Section 27 (Marie-laure Mugnier), LIRMM Laboratory Council (Marie-Laure Mugnier until Oct. 2012, Souhila Kaci from Oct. 2012).

9.1.8. Participation to the W3C RDF Working Group

(Jean-François Baget) The mission of the RDF Working Group, part of the Semantic Web Activity, is to update the 2004 version of the Resource Description Framework (RDF) Recommendation. The scope of work is to extend RDF to include some of the features that the community has identified as both desirable and important for interoperability based on experience with the 2004 version of the standard, but without having a negative effect on existing deployment efforts. <http://www.w3.org/2011/01/rdf-wg-charter>

9.2. Teaching - Supervision - Juries**9.2.1. Teaching**

The next table details the number of lecture hours as well as the number of module responsibilities for each team member.

Name	Position	2011/12	Cursus (*)	Module Resp. (per year)
J.-F. Baget	Research Scientist	40	M (UM2)	1
M. Croitoru	Assistant Prof.	96	L (IUT) and M	2
M. Chein	Emeritus Prof.	0		
J. Fortin	Assistant Prof	192	Polytech	2
S. Kaci	Professor	198	L and M(UM2)	3
M. Leclère	Assistant Prof.	96	L and M (UM2)	1
M. -L. Mugnier	Professor	192	L and M (UM2)	4
R. Thomopoulos	Research Scientist	0		no
L. Guizol	PhD	64	L	no
M. König	PhD	64	L	no
B. Paiva Lima	PhD	64	L (UM2)	no
M. Thomazo	PhD	64	L and M1 (UM2)	no

(*) L = Licence, M = Master (M1 = first year, M2 = second year), UM2 = Univ. Montpellier 2 (Sciences), IUT = Institute of Technology of UM2 (Licence Cursus), Polytech = Engineering School of UM2, UM3 = Univ. Montpellier 3 (Art and Humanities)

Globally, the team ensures the courses in logics (propositional logic and first-order logic in L, logics for Artificial Intelligence in M2) at the Montpellier 2 University, as well as the Master courses in Artificial Intelligence, Decision Support, Knowledge Representation and Knowledge Engineering. We are also responsible of modules in Web Technologies (Professional L at IUT) and Databases (L). Michel Leclère, on sabbatical leave since Feb. 2012, and Madalina Croitoru, on Inria delegation, ensured each a half-service.

We have some specific responsibilities in the Computer Science Master:

- Michel Leclère is co-responsible of the master speciality DECOL (about 20 students) started in September 2011.
- Marie-Laure Mugnier is co-responsible of the Computer Science Master started in September 2011 (about 240 students), which gathers six specialties.

9.2.2. Supervision

9.2.2.1. PhDs

No PhD was defended in 2012.

PhD in progress : Michaël Thomazo, Querying knowledge bases: decidability, complexity and algorithms, Sept. 2010, Marie-Laure Mugnier and Jean-François Baget

PhD in progress : Bruno Paiva Lima da Silva, Comparing Storage Systems for Large knowledge bases, Oct. 2010, Jean-François Baget and Madalina Croitoru

PhD in progress : Tjitze Rienstra, Dynamic argumentation systems, Oct. 2010, Souhila Kaci and Leon van der Torre (University of Luxembourg)

PhD in progress : Malanie König, Algorithms for querying large knowledge bases, Oct. 2011, Michel Leclère and Marie-Laure Mugnier

PhD in progress : Léa Guizol, Entity identification in metadata bases, Oct. 2011, Michel Leclère and Madalina Croitoru

PhD in Progress: Akila Ghersedine, Creating and enriching lists of authorities from heterogeneous resources, Apr. 2012, Michel Leclère and Marie-Laure Mugnier

9.2.2.2. Internships

- Joris Lamare (ENS Cachan, 6 weeks)
- Swan Rocher (Master 1 UM2, 2 months + 3 months TER)
- Clément Sipieter (Master 1 UM2, 2 months)
- Patricio Mosse (Master 2, 6 months)
- Awa Diattara (Master 2, 6 months)

9.2.3. Juries

- Patrice Buche
 - Reviewer (PhD): Interrogation personnelle des systèmes d'information dédiés au transport : une approche bipolaire floue, Nouredine Tamani, IRISA, ENSSAT Lannion, April 2012
 - Reviewer (PhD): Approches hybrides pour la recherche sémantique de l'information : Intégration des bases de connaissances et des ressources semi-structurées. Yassine Mrabet, University of Paris-Sud, July 2012
- Madalina Croitoru
 - Reviewer (PhD): Decision Support Systems for Brain Tumor Diagnosis: Classification and Evaluation Approaches, Javier Vicente Robledo, University of Valencia, October 2012

- Marie-Laure Mugnier
 - President of jury (PhD): Structuration de débats en ligne à l'aide d'annotations socio-sémantiques, Antoine Seilles, University of Montpellier 2, April 2012
 - Reviewer (PhD): Extraction de motifs de graphes pour caractériser des sources de données RDF, Adrien Basse, University of Nice, December 2012
 - President of jury (PhD): Enhancing Ontology Matching by Using Machine Learning, Graph Matching and Information Retrieval Techniques, DuyHoa Ngo, University of Montpellier 2, December 2012.
 - Jury member(PhD): Static analysis of semantic web queries, Melisachew Wudage Chekol, University of Grenoble, December 2012.
- Michel Chein
 - Jury Member (HDR): Knowledge Representation meets DataBases for the sake of ontology-based data management, François Goasdoué, University Paris-Sud, June 2012.

9.3. Popularization

- Jérôme Fortin gave a talk about argumentation during the CIAG (Carrefours de l'Innovation Agronomique) in Clermont-Ferrand http://www.inra.fr/ciag/colloques_alimentation/cereales. This presentation led to an article published in *Innovations Agronomiques* [19].
- Patrice Buche gave a talk about argumentation to JTIC (Congress on Cereals) <http://www.jtic.eu/>, <http://www4.inra.fr/cepia/Restez-informes/Evenements/Les-videos-et-diaporamas-des-conferences-passees/JTIC-2012> in Reims. [38].

HIEPACS Project-Team

9. Dissemination

9.1. Scientific Animation

Olivier Coulaud is member of the Inria COST GTAI committee (in charge of incentive actions), of the C3I GENCI committee and of the scientific board of the regional computing mesocentre. Moreover, he is the leader of the Inria PlaFRIM computing platform.

Luc Giraud has been member of the scientific committee of the international conferences SuperComputing'12, PDSEC'12 and VecPar'12. He was member of the selection committee for the ANR MN programme. He is also member of the editorial board of the SIAM Journal on Matrix Analysis and Applications (SIMAX), expert for the Dutch FWO programme and for the Italian VQR 2004-2010 programme.

Jean Roman is the Deputy Scientific Director of the Inria research domain entitled *Applied Mathematics, Computation and Simulation* and is in charge at the national level of the Inria activities concerning High Performance Computing. He is member of the "Strategic Comity for Intensive Computation" of the French Research Ministry, of the GENCI WP2 - FRANCE for PRACE and is member of the "Scientific Board" of the CEA-DAM. He has been member of the scientific committee of the international conference EuroMicro PDP'12 (IEEE).

Finally, the HiePACS members have contributed to the reviewing process of several international journals (Applied Numerical Mathematics, Numerical Linear Algebra with Applications, Parallel Computing, SIAM J. Numer. Analysis, SIAM J. Scient. Comp., ...), to the reviewing process of international conferences (IEEE IPDPS 2013, Supercomputing 2012, vecPar 2012, ...), and have acted as experts for the research agency ANR-MN.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

In the following are listed the lectures given by the HiePACS members.

Undergraduate level

1. A. Esnard: Operating system programming, 36h, University Bordeaux I; Using network, 23h, University Bordeaux I.
2. A. Esnard: in charge of the computer science certificate for Internet (C2i) at the University Bordeaux I.

Post graduate level

1. O. Coulaud: Paradigms for parallel computing, 28h, ENSEIRB-MatMeca, Talence; Code coupling, 6h, ENSEIRB-MatMeca, Talence.
2. A. Esnard: Network management, 27h, University Bordeaux I; Programming distributed applications, 60h, ENSEIRB-MatMeca, Talence.
3. L. Giraud: Introduction to intensive computing and related programming tools, 20h, INSA Toulouse; Introduction to high performance computing and applications, 20h, ISAE-ENSICA; On mathematical tools for numerical simulations, 10h, ENSEEIHT Toulouse; Parallel sparse linear algebra, 11h, ENSEIRB-MatMeca, Talence.
4. A. Guermouche: Network management, 92h, University Bordeaux I; Network security, 64h, University Bordeaux I; Operating system, 24h, University Bordeaux I.
5. J. Roman: Parallel sparse linear algebra, 10h, ENSEIRB-MatMeca, Talence; Parallel algorithms, 22h, ENSEIRB-MatMeca, Talence.
6. X. Vasseur: Solution of PDE, 16 h, ENSEEIHT Toulouse; Linear Algebra and Optimization, 25 h, ISEA-ENSICA, Toulouse; Introduction to MPI, 11 h, ENM, Toulouse; Introduction to Fortran 90, 5 h, CERFACS, Toulouse.

9.2.2. Supervision

Defended PhD thesis

1. Jérôme Soumagne, “*An In-situ Visualization Approach for Parallel Coupling and Steering of HPC Applications using Files in Distributed Shared Memory*”, Université Bordeaux I, defended on 14 Dec. 2012, advisors: J. Bidiscombe (CSCS), A. Esnard and J. Roman.

PhD in progress :

1. Rached Abdelkhalek, “*Modélisation et imagerie sismique sur accélérateurs matériels*”, starting Jan. 2008, advisors: O. Coulaud, G. Latu (CEA) and J. Roman.
2. Yohann Dudouit, “*Scalable parallel elastodynamic solver with local refinement in geophysics*”, starting Oct. 2010, advisors: L. Giraud and S. Pernet (CERFACS).
3. Arnaud Etcheverry, “*Toward large scale dynamic dislocation simulation on petaflop computers*”, starting Oct. 2011, advisors: O. Coulaud and J. Roman.
4. Andra Hugo “*Composabilité de codes parallèles sur plateformes hétérogènes*”, starting Oct. 2011, advisors: A. Guermouche, R. Namyst and P-A. Wacrenier.
5. Alexis Praga, “*Parallel atmospheric chemistry and transport model solver for massively platforms*”, starting Oct. 2011, advisors: D. Cariolle (CERFACS) and L. Giraud.
6. Stojce Nakov, “*Parallel hybrid solver for heterogenous manycores: application to geophysics*”, starting Oct. 2011, advisors: E. Agullo and J. Roman.
7. Fabien Rozar, “*Peta and exaflop algorithms for turbulence simulations of fusion plasmas*”, starting Nov. 2012, advisors: Guillaume Latu (CEA) and Jean Roman.
8. Pablo Salas Medina, “*Parallel eigensolvers for large scale combustion chamber simulations*”, starting June 2010, advisors: L. Giraud and X. Vasseur (CERFACS).
9. Moustapha Salli, “*Design of a massively parallel version of the SN method for neutronic simulations*”, starting Oct. 2012, advisors: Laurent Plagne (EDF), Pierre Ramet and Jean Roman.
10. Clément Vuchener, “*Algorithmique de l'équilibrage de charges pour des couplages de codes complexes*”, starting Sept. 2010, advisors: A. Esnard and J. Roman.
11. Mawussi Zounon, “*Numerical resilient algorithms for exascale*”, starting Oct. 2011, advisors: E. Agullo and L. Giraud.

9.2.3. Juries

PhD thesis defences

1. J. Charles, Amélioration des performances de méthodes Galerkin discontinues d'ordre élevé pour la résolution numérique des équations de Maxwell stationnaires sur des maillages simples, Université de Nice-Sophia Antipolis, spécialité Mathématiques, April 26, Referee: L. Giraud.
2. S. Duminil, Extrapolation vectorielle et applications aux équations aux dérivées partielles, Université du Littoral Côte d'Opale, spécialité Mathématiques Appliquées, July 6, Referee: L. Giraud.
3. S. Detournay, Multigrid methods for zero-sum two player stochastic games, Ecole Polytechnique and Inria, September 25th, Member: X. Vasseur.
4. C. Obrecht, High Performance Lattice Boltzmann Solvers on Massively Parallel Architectures with Applications to Building Aerulics, INSA de Lyon, spécialité Mécanique - Energétique - Génie Civil - Acoustique, December 11, Referee: J. Roman.
5. S. Jauré, Methodology for conjugate heat transfer simulations relying on Large Eddy Simulations in massively parallel environments, Institut National Polytechnique de Toulouse, spécialité Dynamique des Fluides, December 14, Member: L. Giraud.

HdR defences

1. N. Raveu, Contribution à la modélisation de dispositifs hyperfréquences par méthode modale, Institut National Polytechnique de Toulouse, spécialité Electronique, November 29, Member: L. Giraud.

HIPERCOM Project-Team

8. Dissemination

8.1. Scientific Animation

Pascale Minet took an active part in the dissemination of the results obtained in the OCARI project, dealing with energy efficient industrial wireless sensor networks.

Pascale Minet was member of the program committee of:

- AdHocNets 2012, Fourth International ICST Conference on Ad Hoc Networks, October 2012.
- DCNET 2012, International Conference on Data Communication Networking, July 2012,
- ECRTS 2012, 24th EUROMICRO Conference on Real-Time Systems, July 2012.
- ETFA 2012, 17th IEEE International Conference on Emerging Technologies & Factory Automation, September 2012.
- ICN 2012, the 11th International Conference on Networks, February 2012.
- ICWCUCA 2012, the third International Conference on Wireless Communications in Unusual and Confined Areas, August 2012.
- IFIP Wireless Days 2012, November 2012.
- IUCC 2012, the 11th IEEE International Conference on Ubiquitous Computing and Communications, August 2012.
- IWCMC 2012, the 8th International Wireless Communications and Mobile Computing Conference, July 2012.
- PAEWN 2012, International workshop on Performance Analysis and Enhancement of Wireless Networks, April 2012.
- PIMRC 2012, 23rd International Symposium on Personal, Indoor and Mobile Radio Communications, September 2012.
- RTNS 2012, 19th International Conference on Real-Time and Network Systems, September 2012.
- SNPD 2012, 11th International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing, June 2012.
- WINSYS 2012, International Conference on Wireless Information Networks and Systems, July 2012.

Pascale Minet was also reviewer for the following journals:

- IEEE Transactions on Industrial Informatics,
- IEEE Transactions on Vehicular Technology,
- IEEE Communication Letters,
- Real-Time Systems,
- International Journal of Communications,
- International Journal of Distributed Sensor Networks,
- Computer Communications Journal.

Paul Muhlethaler was reviewer for:

- the call 8 of the European commission : "Networks of the future".
- the European MONET project "Mechanisms for Optimization of hybrid ad-hoc networks and satellite NETWORKS".

He was also member of:

- the Steering committee of MobileHealth 2012. 2nd ACM MobiHoc Workshop on Pervasive Wireless Healthcare In Conjunction With MobiHoc 2012 Conference. June 11th. Hilton Head Island, South Carolina, USA,
- the Technical committee of The First International Workshop on Performance Evaluation and Modeling in Wireless Networks. PEMWN 2012. November 22, Tunis, Tunisia.

C'edric Adjih was member of the program committee of:

- AINTEC 2012, ACM Asian Internet Engineering Conference, November 2012.
- MILCOM 2012, IEEE Military Communications Conference, October 2012.
- VTC 2012 Fall, IEEE 76th Vehicular Technology Conference, September 2012.
- PEMWN 2012, First International Workshop on Performance Evaluation and Modeling in Wireless Networks, November 2012.

He was also reviewer for the Journal: Transactions on Sensor Networks.

Aline Carneiro Viana has been performing remote reviews of short proposals for the FET-Open program of the European Commission since January 2011. **Aline Carneiro Viana** was the general and TPC co-chair of the 4th ACM International Workshop on Hot Topics in Planet-Scale Measurement (HotPlanet 2012), together with Ahmed Helmy.

She was the Publicity Chair of:

SECON'12 *9th Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks*, Seoul, Korea, June 2012

ExtremeCom'12 *4th Extreme Conference on Communication*, Zurich, Switzerland, March 2012.

Aline Carneiro Viana has also served in the program committee for the [SECON'12] *9th Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks*, Seoul, Korea, June 2012.

Emmanuel Baccelli is TPC for IEEE SECON, IEEE Globecom PerGroup, IEEE ICC NovaEnEv, ACM Mobihoc Mobile Health. Co-organizer of international conferences ACM SESP.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : **Pascale Minet** taught:

- Networks and quality of service in Master Systèmes Electroniques et Traitement de l'Information, at INSTN (Saclay).
- Mobile ad-hoc networks: medium access, routing and quality of service in Master Ingénierie informatique of the university of Marne-la-Vallée.
- Mobile ad hoc networks and wireless sensor networks: medium access, routing and energy efficiency in Master ScTIC (Systèmes complexes, Technologies de l'Information et du Contrôle) of the University of Paris 12.

8.2.2. Supervision

HdR : **Emmanuel Baccelli**, "IP-Disruptive Wireless Networking: Integration in the Internet", University Pierre et Marie Curie - Paris VI, December 2012.

PhD :

- **Salman Malik**, "Evaluation et Optimisation des Réseaux Sans Fil Denses", University Pierre et Marie Curie - Paris VI, November 2012, Philippe Jacquet, adviser.

- **Yacine Mezali**, "Algorithme de Géolocalisation Intérieure par Différenciation de Signaux WiFi", University Pierre et Marie Curie - Paris VI, March 2012, Philippe Jacquet, adviser.
- **Iskander Banaouas**, "Analyse et Optimisation des Protocoles d'Accès dans les Réseaux sans fil Ad Hoc", University Pierre et Marie Curie - Paris VI, February 2012, Paul Muhlethaler, adviser.
- **Ana Cristina B. Kochem Vendramin**, "Cultural Grant: um protocolo de roteamento baseado em inteligência coletiva para redes tolerantes a atrasos", Federal Technological University of Paraná, June 2012, Anelise Munaretto Fonseca, Myriam R. De B. da Silva Delgado, and Aline Carneiro Viana.

8.2.3. Juries

Pascale Minet was member of the Gilles Kahn 2012 jury awarding an excellent 2011 PhD thesis in Computer Science.

PhD :

- Michael Lauer, "Une Méthode Globale pour la Vérification d'Exigences Temps Réel - Application à l'Avionique Modulaire intégrée", University of Toulouse, June 2012, Pascale Minet, reviewer.
- Geovanny Mauricio Itturalde Ruiz, "Performances des Réseaux LTE", University of Toulouse, October 2012, Pascale Minet, reviewer.
- Mohamed-Haykel Zayani, "La Prédiction de Liens dans les Réseaux Sans-fil Dynamiques Centrés sur l'Être Humain", Telecom SudParis and University Pierre et Marie Curie - Paris VI, October 2012, Pascale Minet, reviewer.
- Yasir Faheem, "Energy Efficient Routing In Wireless Sensor Networks", University Paris XIII, November 2012, Paul Muhlethaler, president.
- Youghourta Benfattoum, "Network Coding for Quality of Service in Wireless Multi-hop Networks", University Orsay, November 2012, Paul Muhlethaler, examiner.
- Ibrahim Amadou, INSA Lyon, France, September 2012, Aline Carneiro Viana, reviewer.

8.3. Popularization

- **Fête de la Science organized by Inria**, in Rocquencourt, October 2012. The HIPERCOM team was very active and presented several demonstrations coordinated by Cédric Adjih. The demonstration prepared by Cédric Adjih, Nadjib Achir, Ichrak Amdouni, Hana Baccouch, Ines Khoufi, Erwan Livolant, Ridha Soua and Ala-Edin Weslati concerned the principles of wireless sensor networks, the energy-efficient routing protocol and the node coloring algorithm running in the OCARI network to maximize network lifetime.
- Cédric Adjih with the help of Ridha Soua and Ines Khoufi organized several demonstrations of wireless sensor networks for undergraduates and students who visited Inria in March, October and December 2012, respectively.

I4S Team

9. Dissemination

9.1. Scientific Animation

L. Mevel is part of the IOMAC organisation committee. He is also reviewer for numerous journals and conference boards. He is associate editor of Journal of Modelling and Simulation in Engineering. He is part of the local organizing committee of EWSHM 2014.

9.2. Teaching - Supervision - Juries

9.2.1. Supervision

PhD in progress : Ambient diagnosis and early instability monitoring for helicopter rotor : Ahmed Jhinaoui, ,since June 2010, L.Mevel and J. Morlier (ISAE)

PhD in progress : Algorithms for monitoring and localization of damage. Luciano Marin, since October 2010, L.Mevel and D. Bernal (University of NorthEastern, Boston, USA)

PhD in progress : Aeroelastic instability early detection methods in frequency domain. Philippe Mellinger, since June 2011, L. Mevel and C. Meyer (Dassault Aviation)

IBIS Project-Team

8. Dissemination

8.1. Editorial, animation, and reviewing activities

Guillaume Baptist

Type	Journal, conference, agency
Editor	French-language web site on synthetic biology, theoretical biology, and philosophy, http://www.cellule-et-futur.fr

Eugenio Cinquemani

Type	Journal, conference, agency
Associate Editor	European Control Conference (ECC) 2012

Hidde de Jong

Type	Journal, conference, agency
Member Editorial Board Member Editorial Board	Journal of Mathematical Biology ACM/IEEE Transactions on Computational Biology and Bioinformatics
Member Editorial Board Member Program Committee	Biosystems CMSB 12, DKRC 12, ECCB 12, IEEE BIBM 12, JOBIM 12, PAIS 12, QR 12
Member Scientific Advisory Board Member Review Committee President Recruitment Committee Member PhD Committee Member PhD Advisory Committee	Microbiology and Food Chain Department, INRA International Human Frontier Science Program (HFSP) Assistant-professor ENS, Paris, department of Biology Sara Berthoumieux (Université Joseph Fourier) Matthieu Trauchessec (CEA/Metabolic Explorer and Université Joseph Fourier), Caroline Baroukh (Inria/INRA and Université de Montpellier 2)
Coordinator (with C. Ambroise and F. Molina)	Working group on Transcriptome, protéome, modélisation, inférence et analyse des réseaux biologiques of GDR CNRS 3003 Bioinformatique moléculaire
Advisor Project reviews	Grenoble team for iGEM 2012 competition ANR, Région Aquitaine, FRS, CNRS, Technical University Munich, NWO

Johannes Geiselmann

Type	Journal, conference, agency
Member Recruitment Committee Member Recruitment Committee Member PhD Committee	Professor in bioinformatics, INSA Lyon Assistant-professor, Université Joseph Fourier John Lalith (ENS Lyon), Axelle Dawidas (Université Joseph Fourier), Sara Berthoumieux (Université Joseph Fourier), Guillaume Baptist (Université Joseph Fourier), Jérôme Izard (Université Joseph Fourier)
Member PhD Advisory Committee	Khady Sall (CEA and Université Joseph Fourier), Xuejiao Jiang (Université Claude Bernard, Lyon)
Advisor	Grenoble team for iGEM 2012 competition

Stéphane Pinhal

Type	Journal, conference, agency
Advisor	Grenoble team for iGEM 2012 competition

Delphine Ropers

Type	Journal, conference, agency
Member Recruitment Committee Member Organization Committee Member PhD Committee Member PhD Advisory Committee Advisor Project reviews	Ingénieur de recherche INRA SeMoVi (Séminaire de Modélisation du Vivant) Jérôme Izard (Université Joseph Fourier) Claire Villiers (Université Joseph Fourier) Grenoble team for iGEM 2012 competition CNRS

Valentin Zulkower

Type	Journal, conference, agency
Advisor	Grenoble team for iGEM 2012 competition

8.2. Other administrative activities

Eugenio Cinquemani is member of the Comité des Utilisateurs des Moyens Informatiques (CUMI) and of the Commission des Emplois Scientifiques at Inria Grenoble - Rhône-Alpes.

Hidde de Jong is local representative of the Department of International Relations of Inria at the Grenoble - Rhône-Alpes research center. He is also member of the working group on International Relations of the Conseil d'Orientation Scientifique et Technique (COST) of Inria.

Johannes Geiselmann is head of the Control of Gene Expression group in the Laboratoire Adaptation et Pathogénie des Microorganismes (UMR 5163) and director of the laboratory.

Yves Markowicz is director of the BSc department at Université Joseph Fourier.

François Rechenmann is leader of the editorial committee of the Interstices website (<http://interstices.info>).

François Rechenmann has been commissioned by the Director of Inria Grenoble - Rhône-Alpes to help and to coach PhD students, in the research center, who encounter problems of various sorts during their thesis.

Delphine Ropers represents Inria Grenoble - Rhône-Alpes in the scientific board of IXXI, the Complex Systems Institute in Lyon (<http://www.ixxi.fr>). She is also member of the Commission de Formation Permanente at Inria Grenoble - Rhône-Alpes.

Diana Stefan is a representative of the PhD candidates within the committees of the Doctoral School MSTII in Grenoble.

8.3. Seminars, presentations, and PhD thesis defenses**Guillaume Baptist**

Title	Event and location	Date
Les réseaux de régulation chez la bactérie Escherichia coli	PhD thesis defense, Université Joseph Fourier	Aug. 2012

Sara Berthoumieux

Title	Event and location	Date
Methods for identification of biochemical network models	PhD thesis defense, Université Claude Bernard, Lyon	Jun. 2012

Eugenio Cinquemani

Title	Event and location	Date
Identifiability and identification of dynamic models of biochemical regulatory networks	INRIabcd seminar, Inria Grenoble - Rhône-Alpes, Villeurbanne	Feb. 2012
Structural and practical identifiability of approximate metabolic network models	16th IFAC symposium on System Identification (SYSID), Brussels (Belgium)	Jul. 2012

Hidde de Jong

Title	Event and location	Date
Piecewise-linear modeling of gene regulatory networks	Invited talk at Workshop on Structural Dynamical Systems (SDS-12), Monopoli (Italy)	Jun. 2012
Shared control of gene expression in bacteria by transcription factors and global physiological state	Invited talk at Workshop on design, optimization and control in systems and synthetic biology, Paris	Jun. 2012
Modeling of gene regulatory networks	ICGEB Course on Advances in bioinformatics tools for the analysis of high-throughput omics data, Santiago (Chili)	Jul. 2012
Identification of metabolic network models from high-throughput data sets	Invited talk at Workshop on Statistical and dynamical models in biology and medicine, Stuttgart	Oct. 2012
Shared control of gene expression in bacteria by transcription factors and global physiological state	Invited talk at Journées Microbiologistes de l'INRA, Avignon	Nov. 2012
Integration of high-throughput datasets through dynamical modeling of regulatory networks	Tutorial at PROSPECTOM Workshop, Grenoble	Nov. 2012
Modélisation mathématique des réseaux de régulation génique	Closing conference of séminaire interacadémique des inspecteurs généraux et régionaux de mathématiques, Grenoble	Nov. 2012

Johannes Geiselmann

Title	Event and location	Date
Systems biology of Escherichia coli	Seminar at Université Claude Bernard, Lyon	Feb. 2012
The carbon catabolite repression network of Escherichia coli	Conference on Microbial Systems Biology, Taipei (Taiwan)	May 2012

Jérôme Izard

Title	Event and location	Date
Growth control and gene regulation in Escherichia coli	PhD thesis defense, Université Joseph Fourier	Dec. 2012

Delphine Ropers

Title	Event and location	Date
Modeling the gene expression machinery in Escherichia coli Complex regulatory networks in bacteria: How bacteria face the unexpected	Séminaire de Modélisation du Vivant (SeMoVi), Inria Grenoble - Rhône-Alpes	Apr. 2012
	Ecole de Systèmes Complexes, Rennes	Oct. 2012

Diana Stefan

Title	Event and location	Date
Structural and parametric identification of bacterial regulatory networks A case study on the gene network regulating motility in E. coli	Poster presentation at journée scientifique de l'ARC6	Nov. 2012

8.4. Popular science writing

The members of IBIS are actively involved in the dissemination of research results in systems biology and bioinformatics to a wider, non-specialist audience. François Rechenmann is leader of the editorial committee of the Interstices (<http://interstices.info>). Interstices offers pedagogic presentations of research themes and activities in the computer science domain, including at its interface with life sciences.

In the context of the **Math C2+ initiative** for high-school students, François Rechenmann has led two sessions of a workshop introducing the notion of algorithm. The objective set to the students was to design an algorithm for sorting a stack of objects, such as pancakes, according to their size and through only one type of swapping operation (see <http://interstices.info/algo-crepes> for the presentation of the algorithm).

8.5. Teaching

Four members of the IBIS team are either full professor, associate professor or assistant professor at the Université Joseph Fourier or the Université Pierre Mendès-France in Grenoble. They therefore have a full teaching service (at least 192 hours per year) and administrative duties related to the organization and evaluation of the university course programs on all levels (from BSc to PhD). Besides the full-time academic staff in IBIS, the following people have contributed to courses last year.

Eugenio Cinquemani

Subject	Year	Location	Hours
Identification of dynamical models of genetic networks	5	INSA de Lyon	4

Hidde de Jong

Subject	Year	Location	Hours
Modeling and simulation of genetic regulatory networks	5	INSA de Lyon	16
Modeling and simulation of genetic regulatory networks	5	ENS, Paris	8

Delphine Ropers

Subject	Year	Location	Hours
Modeling and simulation of genetic regulatory networks	4	Université Joseph Fourier	7.5
Modeling and simulation of genetic regulatory networks	5	INSA de Toulouse	4

Diana Stefan

Subject	Year	Location	Hours
Automatique et traitement du signal	2	INPG Phelma	32

Valentin Zulkower

Subject	Year	Location	Hours
Mathématiques générales (algèbre, géométrie, ...)	1	Université de Grenoble	45
Mathématiques générales (analyse, séries de Fourier, calcul matriciel)	1	Polytech Grenoble	90

Hidde de Jong organized with Daniel Kahn a module on the modeling of genetic and metabolic networks at INSA de Lyon.

IMAGINE Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Organization of conferences and editorial boards

- Marie-Paule Cani
 - General co-chair with Beryl Plimmer of the Expressive 2012 conference, co-sponsored by ACM SIGGRAPH and Eurographics, which grouped three international even in Annecy, in June 2012: Sketch-Based Interfaces and Modeling (SBIM), Non-protorealistic Animation & Rendering (NPAR) and Coputational Aesthetics (CAe).
 - Editorial boards of Computer Graphics Forum and of Graphical Models.
 - Steering committees of Shape Modelling International (SMI) and of SBIM.
- Stefanie Hahmann
 - SPM 2012 paper chair
 - Journal CAD Vol. 45 No.2 (Elsevier), Special Issue of SPM 2012, co-editor
 - Journal Graphical Models Vol. 74 No. 6 (Elsevier), Special Issue on Geometric Modling, co-editor
- Jean-Claude Léon
 - Local chair of EXPRESSIVE 2012 conference
- Rémi Ronfard
 - Member of the program committees for the international conferences on Computational Aesthetics (CAE), Interactive Digital Storytelling (ICIDS) and Motion in Games (MIG).
 - Organization of the 3rd international workshop on 3D Cinematography in Providence, USA, during the CVPR conference, with an audience of 100 participants. The 3D Cinematography series of workshops is devoted to all areas of computer vision contributing to the generation of 3D content from live action video, including structure from motion, binocular and trinocular stereo, multi-view stereo, geometric modeling, 3D signal processing, plenoptic modeling and light field cameras.

9.1.2. Management and administration of scientific organisations

- Marie-Paule Cani
 - Co-chair with Laurence Nigay of the axis "Authoring Augmented Reality" of the LaxeB Persyval.
 - Member of the executive board of the GDR Informatique Graphique (IG), a french virtual lab sponsored by CNRS.
 - Elected member of the executive committee of EG-France, the french chapter of eurographics.
 - Elected to the executive committee of Eurographics, where she will serve as second vice president from January 2013.
 - Member of the ACM Publication board (monthly audi-confs plus two in person meetings a year, to handle new publications, changes of editors in chiefs and the publication strategy of the ACM.
- François Faure

- Member of the Conseil du Laboratoire at LJK.
- Stefanie Hahmann
 - President of GTMG (Groupe de Travail en Modelisation Géométrique) part of GDR IM and GDR IG.
 - Member of the Conseil du Laboratoire at LJK.
 - Vice chair of SIAM activity group Geometric Design.
 - Responsible of Maths-Info Department of the Grenoble doctoral school MSTII.
- Olivier Palombi
 - Member of the scientific board of ECCAMI (Excellence center for computer assisted medical interventions).
- Rémi Ronfard
 - Responsible of the *Géométrie and Images* department at LJK.
 - Member of the Conseil du Laboratoire at LJK.
 - Coordinator of a *thematic action* of the national GDR ISIS, on face, gesture, action and behavior (Visage, geste, action et comportement), together with Catehrine Achard and Patrick Horain (Télécom Paris Tech).

9.1.3. Public dissemination

- Marie-Paule Cani gave two key-note talks in Febuary 2012, "Towards expressive modelling of animated virtual worlds", respectively within the key-note speech of the LIG laboratory (Laboratoire d'informatique de Grenoble) and in the Polaris colloquium "From real to virtual" sponsored by Inria Lille.
- In March 2012, Marie-Paule Cani gave the talk "Are women afraid of computer science" at the European Research Center of Xerox, at the occasion of the "woman day".
- In May, Marie-Paule Cani gave courses on modeling and animation of virtual worlds, respectively within the cursus for high-school professors in computer sciences set up by Inria, and within a symposium for "classes préparatoire" professors organized by Ensimag/Grenoble INP.
- In November 2012, Marie-Paule Cani gave a course on "high-level models for intuitive modelling and animation" to the french PhD students in Computer Graphics, within the doctoral school day in Calais co-organized by the GDR IG (Informatique Graphique) and by the french Computer Graphics association (AFIG).
- Olivier Palombi gave a talk in *journée des sciences de l'université de Gène* in Italia.
- The images of the flat torus rendered by Damien Rohmer (see chap. 6.2.2) have been published in several magazines: [NewScientist](#), [Magazine Science](#), [Universcience](#), [Wired](#), [IO9](#), [The Aperiodical](#), [Images des mathématiques](#).

9.2. Teaching - Supervision

9.2.1. Responsibilities of academic programs

- Responsible of the French [Campus numérique](#) of anatomy, Olivier Palombi.
- Responsible and national leader of the project SIDES (<http://side-sante.org/>). All the French medical schools (43) have planed to use the same e-learning framework (SIDES) to manage evaluations (examen) and to create a large shared database of questions. Olivier Palombi
- Marie-Paule Cani and then François Faure were responsible of the GVR-(Graphics, Vision and Robotic) programm in the MOSIG Master.

Note that MOSIG is joint master program between University Joseph Fourier (UJF) and Institut Polytechnique de Grenoble (INPG) taught in English since it hosts a number of internal students. It belongs to the doctoral school MSTII.

9.2.2. Educational activities

- Marie-Paule Cani, 200 hours a year, Professor ENSIMAG/Grenoble INP.
- Stefanie Hahmann, 200 hours a year, Professor ENSIMAG/Grenoble INP, M2R MIA.
- Jean Claude Léon, 96 hours a year, Professor ENSE3/Grenoble INP.
- Olivier Palombi, 200 hours a year, Professor UJF, medicine.
- Damien Rohmer, 200 hours a year, Assistant Professor CPE Lyon.
- Rémi Ronfard, 18 hours, M2 Pro, UJF.

IMARA Project-Team

9. Dissemination

9.1. Scientific Animation

- An interdisciplinary workshop on inference, “**Information processing in complex systems with applications to traffic forecasting**” was organized on June 12, 2012 at Inria Paris-Rocquencourt. The intent was to bring together researchers from statistics, statistical mechanics and machine learning interested in the development of methods and algorithms to process data emerging from complex systems. Organizers were Cyril Furtlehner (TAO), Fabien Moutarde (CAOR, Mines-ParisTech) and Jean-Marc Lasgouttes.
- Guy Fayolle is
 - Scientific advisor at the *Robotics Laboratory of Mines ParisTech*.
 - Associate editor of the journal *Markov Processes and Related Fields*,
 - Regular reviewer for some journals of high repute (PTRF, MPRF, QUESTA, IEEE-IT, JSP), and also for the *AMS Mathematical Reviews*.
 - Member of the working group IFIP WG 7.3.
 - Program committee member of the regular *Int. Symposium on Computer and Information Sciences*, held in Paris at IHP in 2012. The chairman-organizer is E. Gelenbe (Imperial College, UK).

He was invited at the *Séminaire de Probabilités* of Institut Fourier (Grenoble, 11 dec. 2012) to speak on *Asymptotics of Random Walks in the Quarter Plane*. He participated in the redaction of the proposal MACCA (*Marches aléatoires confinées dans des cônes: aspects probabilistes, combinatoires et algébriques*), to be submitted January 2013. This project will be managed from the *Laboratoire de Mathématiques et Physique Théorique* à Tours (LMPT).

- Jean-Marc Lasgouttes has been reviewer for Euro Working Group on Transportation (EWGT 2012) and European Journal on Operation Research (EJOR).
- Gérard Le Lann was invited keynote speaker at Vehicular Communications and Applications (VCA 2012) Workshop (MED-HOC-NET 2012), Cyprus, June 2012.
- Philippe Morignot has been re-elected member of the steering committee of the French association for Artificial Intelligence (AFIA). He is Editor-in-Chief of the newsletter of this association. He is reviewer of the International Journal of Advanced Robotics Systems.
- Fawzi Nashashibi is:
 - Scientific advisor at the *Robotics Laboratory of Mines ParisTech*.
 - Supervisor of 2 PhD thesis at Mines ParisTech in 2012: Mr. Raoul de Charette de la Contrie and Miss Anne-Sophie Puthon and supervisor of 4 PhD thesis at Inria: B. Lefaudeux, H. Li, G. Tréhard, P. Merdrignac.
 - Supervisor of 2 PhD thesis at the École Polytechnique d’Alger: Mr. Samir Meniche et Mr. Madjid Hank.
 - Associate editor of the journal *Traitement du signal*,
 - Associate editor and reviewer of major conferences in ITS and Robotics (IEEE IV, IEEE, ITSC, IEEE ICRA, IEEE ICARCV, IEEE ICVES,...)
 - Regular reviewer for some journals of high repute (Transportation Research Part C, IJVAS, IEEE Transactions on Instrumentation and Measurement, IEEE Robotics and Automation Magazine, IEEE Transactions on ITS, IEEE TVT,...).

- Member of the European working group on Automation of the iMobility Forum.
- Member of the International Committee on Vehicle Highway Automation (AHB30)
- Member of the Technical Program Committee of the 12th International Conference on Control, Automation, Robotics and Vision (ICARCV 2012) in Guangzhou (China). He was organizer and chairman of the invited session entitled “*Coordinated Guidance of Multiple Autonomous Robots/vehicles*”.

Fawzi Nashashibi was an invited keynote speaker at the “*Workshop on Navigation, Perception, Accurate Positioning and Mapping for Intelligent Vehicles*”, at IEEE International Intelligent Vehicles Symposium (June 3-7), Alcalá de Henares (Spain). He was a keynote speaker at the seminar entitled “*Electric vehicles and urban integration*”, June 8th, Mines ParisTech. He was an invited speaker at the plenary meeting of MOV’EO on November 29th with a round table dedicated to the “*Connected Vehicle*”.

- Evangeline Pollard was a member of the Technical Program Committee of the International Conference on Information Fusion. She was the chairman of the session entitled “*Localization, Navigation and Mapping*” for the 12th International Conference on Control, Automation, Robotics and Vision (ICARCV 2012) in Guangzhou (China). She is reviewer for several international journals and conferences: IEEE International Conference on Robotics and Automation (ICRA’12), IEEE International Conference on Vehicular Electronics and Safety (ICVES’12), Journal of Selected Topics in Signal Processing, IEEE Transactions on Vehicular Technology, Journal of Zhejiang University Science C (Computers & Electronics).
- Oyunchimeg Shagdar is an associate editor of Wiley International Journal of Communication Systems. She was a member of Technical Program Committee of the IARIA International Conference on Emerging Network Intelligence (Emerging 2012). She is a reviewer of a number of international journals and conferences, including IEEE Communications Magazine, IEEE Communications Letter, IEICE Transactions on Communications, IEEE Vehicular Technology Conference (VTC), and IEEE International Conference on Communications (ICC).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Fawzi Nashashibi

Licence: “*Programmation avancée*”, 84h, niveau (L1), Université Paris-8 Saint-Denis, France

Master: “*Vision pour la robotique*”, 16h, 2nd year (MAREVA), Mines ParisTech, France

“*Programmation C++/OpenGL*”, 16h, 2nd year (MAREVA), Mines ParisTech, France

“*Programmation avancée et infographie 3D*”, 25h, niveau (M1), Ecole d’ingénieurs ESILV, France

“*Synthèse d’images*”, 12h, niveau (M2), INT Sud Telecom, France.

Jean-Marc Lasgouttes

Master: “*Analyse de données*”, 59.5h, second year of Magistère de Finance (M1), University Paris 1 Panthéon Sorbonne, France

Gérard Le Lann

Master: “*Communications et coordination temps réel dans les réseaux véhiculaires ad hoc*”, Module du cours de 5ème année “*Réseaux temps réel*”, INSA Lyon, January 2011

“*Vehicular Ad Hoc Networks*”, Module de Master, TELECOM Bretagne, Rennes, June 2011

Victorin Martin

Licence: “*Statistiques*”, 9h, first year of Ecole Centrale Paris (L3) Châtenay-Malabry, France

Philippe Morignot

Licence: “*Constraint programming*”, 15h, L3, Epita (Le Kremlin-Bicêtre)

Licence: “Linear programming”, 15h, L3, Epita (Le Kremlin-Bicêtre)

Licence: “Rule-based systems”, 15h, L3, Epita (Le Kremlin-Bicêtre)

9.2.2. Supervision

PhD: Manabu, “Communications Management in Cooperative Intelligent Transportation Systems”, Mines Paris Tech, defended on December 20, 2012, supervisor: Arnaud de La Fortelle, co-supervisor Thierry Ernst

PhD: Hao Li, “Cooperative perception: application in the context of intelligent vehicles systems”, Mines ParisTech, defended on the 21st September 2012, supervisor: Fawzi Nashashibi

PhD in progress: Victorin Martin, “Modélisation probabiliste et inférence par propagation de croyances: application au trafic routier”, from 01/12/2009, supervisor Arnaud de La Fortelle, co-supervisors Cyril Furtlehner and Jean-Marc Lasgouttes

PhD in progress: Benjamin Lefaudeux, “Multi-sensors fusion for dynamic road mapping: application to autonomous vehicles”, from 01/10/2012, supervisor: Fawzi Nashashibi

PhD in progress: Ines Ben Jemaa, “Communications and Management Control for Cooperative Vehicular Systems”, from January 01, 2011, supervisor: Arnaud de La Fortelle, co-supervisor Paul Muhlethaler, Oyunchimeg Shagdar

PhD in progress: Guillaume Tréhard, “Autonomous urban driving: dealing with intersections”, from 01/10/2012, supervisor: Fawzi Nashahibi, co-supervisor: Evangeline Pollard

PhD in progress: Pierre Merdrignac, “Development of cooperative perception and communication system for vulnerables’ safety enhancement”, started at the 1st October 2012, supervisor: Fawzi Nashashibi, co-supervisor: Oyunchimeg Shagdar, Evangeline Pollard

9.2.3. Juries

Fawzi Nashashibi was a reviewer of the following HDR thesis defense:

- Mr. Alain Lambert, “Contribution à la navigation en robotique mobile”, University of Orsay Paris-Sud, Orsay, 10/12/2012.
- Mr. Raphaël Labayrade, “Perceptions artificielle et humaine pour l’amélioration de la sécurité et du confort dans les espaces construits”, University Pierre et Marie Curie (Paris 6), Paris, 06/04/2012.

Fawzi Nashashibi was a reviewer of the following PhD thesis defense:

- Mr. Sébastien Demmel, “Building an augmented map for road risk assessment”, Queensland University of Technology (Australia) and University of Versailles Saint-Quentin-en-Yvelines, Vélizy, 14/12/2012.
- Mr. Antoine Zanuttini, “Du photoréalisme au rendu expressif en image 3D temps réel dans le jeu vidéo : programmation graphique pour la profondeur de champ, la matière, la réflexion, les fluides et les contours. ”, University of Saint-Denis (Paris-8), St-Denis, 16/11/2012.
- Miss Edwige Lelièvre, “Des jeux de rôle en ligne tridimensionnels aux jeux à réalité alternée : expérience esthétique, création et expérimentation”, University of Saint-Denis (Paris-8), St-Denis, 09/11/2012.
- Mr. David Marquez-Gamez, “Towards visual navigation in dynamic and unknown environment: trajectory learning and following, with detection and tracking of moving objects”, INSA (University of Toulouse), Toulouse, 26/10/2012.
- Mr. Naveed Mohammad, “Contribution to the use of 3D lidars for autonomous navigation: calibration and qualitative localization”, University of Toulouse, Toulouse, 01/02/2012.

Fawzi Nashashibi was an examiner of the following PhD thesis defense:

- Mr. Benoît Chrétien, “Simulation of a new automotive concept based on a centralized approach for driver assistance system activation decision”, University Evry-Val-d’Essonne, Evry, 06/01/2012.
- Mr. Raoul de Charette de la Contrie, “Vision Algorithms for Rain and Traffic Lights in Driver Assistance Systems”, Mines ParisTech, Paris, 17/09/2012.
- Mr. Hao Li, “Cooperative Perception: Application in the Context of Outdoor Intelligent Vehicle Systems”, Mines ParisTech, Paris, 21/12/2012.

9.3. Popularization

- Several members of the project-team participated to demonstrations at the national “Fête de la Science”, October 10-13.
- Philippe Morignot presented the domain of Artificial Intelligence to three college students (TPE, Travaux Pratiques Encadrés) from the Lycée Jules Ferry, Versailles.

IMEDIA2 Team

8. Dissemination

8.1. Scientific Animation

8.1.1. The ImageCLEF2012 Plant Task Identification Organisation and participation

Participants: Vera Bakic, Itheri Yahiaoui, Sofiene Mouine, Saloua Ouertani-Litayem, Wajih Ouertani, Anne Verroust-Blondet, Hervé Goëau.

We organized for the second year the plant task identification at the ImageCLEF evaluation forum for the cross-language annotation and retrieval of images (<http://www.imageclef.org/2012/plant>). The ImageCLEF's plant identification task [21] provides a testbed for the system-oriented evaluation of plant identification, more precisely on the 126 tree species identification based on leaf images. Three types of image content were considered: Scan, Scan-like (leaf photographs with a white uniform background), and Photograph (unconstrained leaf with natural background). The main originality of this data is that it was specifically built through a citizen sciences initiative conducted by Tela Botanica, a French social network of amateur and expert botanists. This makes the task closer to the conditions of a real-world application. With a total of eleven groups from eight countries and with a total of 30 runs submitted, involving distinct and original methods, this second year pilot task confirmed Image Retrieval community interest for biodiversity and botany, and highlights further challenging studies in plant identification.

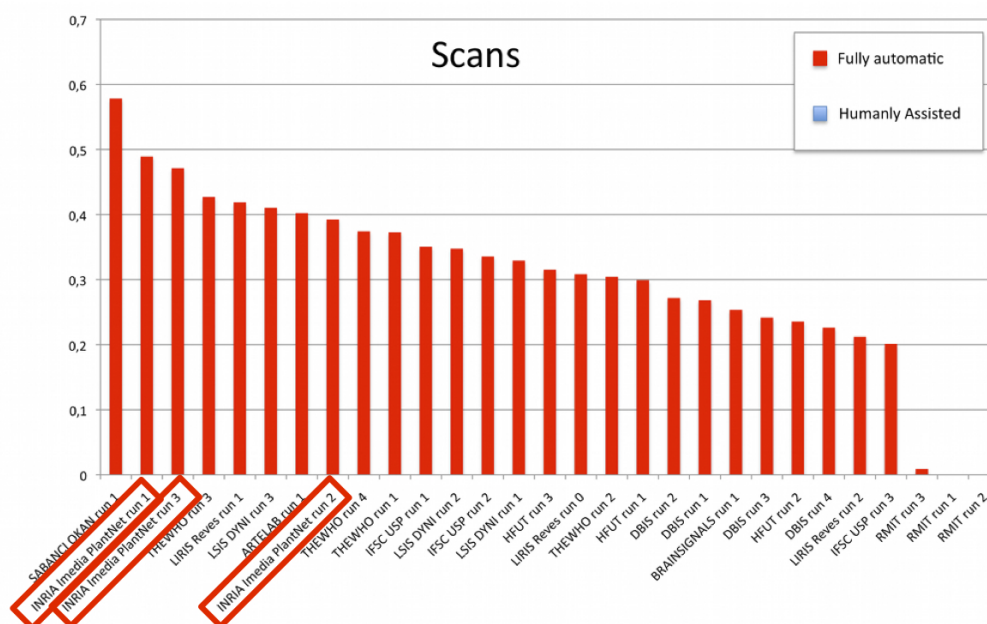


Figure 6. IMEDIA2's results at ImageCLEF2012 on Scan leaf images.

For the second year, members of IMEDIA2 team participated within the PI@ntNet project to the ImageCLEF plant identification task [20]. The runs submitted used very distinct approaches sometimes relying on similar extracted features. For Scan and Scan-like categories, the first two runs combined distinct local and contour approaches in two ways (late and early fusion), while the third run explored the learning capacity of a multi-class SVM technique on a contour based descriptor. For Photograph, our runs used local features positioned towards the center of the image to reduce the impact of background features. In the second run, an automatic segmentation with a rejection criterion was attempted. In the third run, points were associated with interesting zones. In general, even if they were distinct, the methods used performed very well.

8.1.1.1. *Nozha Boujemaa*

- Re-elected member in the Steering Board of NEM ETP (Networked and Electronic Media European Technology Platform) and acting as Inria representative.
- Scientific coordinator of PI@ntNet.
- Member of the steering committee of CHORUS+.
- Founding member of the ACM ICMR "ACM International Conference on Multimedia Retrieval" born from the fusion of: ACM MIR (International Conference on Multimedia Information Retrieval) and ACM CIVR (International Conference on Image and Video Retrieval)
- Member of the steering committee of ACM ICMR.
- Responsibilities within Inria: Director of the Inria Saclay Ile-de-France research center.

8.1.1.2. *Anne Verroust-Blondet*

- Member of the steering committee of PI@ntNet (WP5 co-leader: "Dissemination").
- Member of the steering committee of I-SEARCH (WP4 leader).
- Member of the committee for the "Corpus, data and tools for research in Humanities and Social Sciences" 2012 programme of the Social Sciences and Humanities department of the French National Research Agency (ANR).
- Member of the committee for the "COOPERATION 2011 - Partnerships of Production and Research Institutions in Focused Research and Technology Sectors" national action of the Ministry of Education, lifelong learning and religious affair of the Hellenic Republic.
- Expert for the Austrian Science Fund (FWF).
- Member of the steering committee of the CNRS GDR IG (Informatique Graphique).
- Member of the technical programme committee of the Fourth International Conference on Advances in Multimedia (MMEDIA 2012).
- Member of the editorial board of the "Revue Electronique Francophone d'Informatique Graphique" (REFIG).

8.2. Teaching - Supervision - Juries

8.2.1. *Teaching*

Licence : Amel Hamzaoui, Algorithm and programming, 48 hours/year, L1, Orsay Paris 11 University, France.

Licence : Amel Hamzaoui, Web programming, 24 hours/year, L1, Orsay Paris 11 University, France.

Licence : Sofiene Mouine, C2I, 36 hours/year, L2, Paris 1 (Panthéon-Sorbonne) University, France.

Licence : Saloua Ouertani-Litayem, C2I, 48 hours/year, L1, Institut Henri Piéron, Paris 5 University, France.

Licence : Asma Rejeb Sfar, Algorithms, 32 hours/year, L1, Paris Dauphine University, France.

8.2.2. *Supervision*

PhD: Amel Hamzaoui, Shared-Neighbours methods for visual content structuring and mining, Université Paris 11 Orsay, May 10 2012, Nozha Boujemaa and Alexis Joly;

PhD in progress: Esmâ Elghoul, 3D model segmentation, October 2010, Anne Verroust-Blondet;

PhD in progress: Sofiene Mouine, Geometric models for a local description of images, October 2010, Anne Verroust-Blondet and Itheri Yahiaoui;

PhD in progress: Wajih Ouertani, Relevance feedback on local features: application to plants annotations and identification, October 2008, Nozha Boujemaa and Michel Crucianu;

PhD in progress: Saloua Ouertani-Litayem, Visual similarity sensitive hashing methods for semantic image search in very large collections of images, October 2009, Nozha Boujemaa and Alexis Joly;

PhD in progress: Asma Rejeb Sfar, Machine Identification of Biological Shapes, October 2010, Nozha Boujemaa, Donald Geman;

PhD in progress: Mohamed Riadh Trad, Scalable information retrieval in distributed architectures, October 2009, Nozha Boujemaa and Alexis Joly;

PhD in progress: Zahraa Yasseen, Sketch-based approaches using images and curves, February 2011, Anne Verroust-Blondet.

8.2.3. *Juries*

Anne Verroust-Blondet has been a jury member (rapporteur) of Thibault Luginbuhl PhD thesis, "Régularisation de Surface 3D par une approche fondée sur un modèle", Télécom ParisTech, January 2012.

IN-SITU Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Keynote addresses and Invited Lectures

Michel Beaudouin-Lafon: “Instrumental Interaction in Multisurface Environments”, Adobe Research, San Francisco, USA, January 2012.

Michel Beaudouin-Lafon: “Instrumental Interaction in Multisurface Environments”, CMU Silicon Valley, San Jose, USA, February 2012.

Michel Beaudouin-Lafon: “BayScope: Multisurface Interaction With Large Displays ”, Inria Silicon Valley workshop, Berkeley, USA, February 2012.

Michel Beaudouin-Lafon & Wendy Mackay: “Co-adaptive Instruments and Multisurface Environments”, University of California, Irvine, USA, April 2012.

Michel Beaudouin-Lafon & Wendy Mackay: “Co-adaptive Instruments and Multisurface Environments”, University of California, San Diego, USA, April 2012.

Michel Beaudouin-Lafon: “Of Tools and Instruments”, Dagstuhl Seminar on Interaction Beyond the Desktop, August 2012.

Michel Beaudouin-Lafon: “Du Geste à l’Instrument”, FITG, Lille, November 2012.

Michel Beaudouin-Lafon: “DataSense - Interaction and Visualization”, Launch of Labex Digicosme, Ecole Polytechnique, Palaiseau, France, September 2012.

Wendy Mackay: “Medical Applications and Paper Substrates”, Workshop on Cognitive Aids, Berkeley, California, USA, May, 2012.

Wendy Mackay: “Asking Research Questions”, Seminar, Stanford University, March 2012.

Wendy Mackay: “Supporting multi-surface interaction in Medical Emergencies”, Inria Silicon Valley Workshop, Workshop on Cognitive Aids, Berkeley, California, USA, 2012.

Wendy Mackay: “Co-Adaptative Paper”, Dagstuhl Seminar on Interaction Beyond the Desktop, August 2012.

Wendy Mackay: “Creative Composition with Interactive Paper from creative expression to generative power”, Invited Seminar, Massachusetts Institute of Technology, Massachusetts, USA, October 2012.

Wendy Mackay: “Creative Composition with Interactive Paper from creative expression to generative power”, Invited Seminar, McGill University, Montreal Canada, October 2012.

Jérémy Garcia: “Interactive Paper for Musical Composition”, Seminar Les Nouveaux Espaces de la Notation Musicale – GRAME, Lyon, France, April 2012

Stéphane Huot: “Designing Advanced Interaction for High-Resolution Visualization Platforms”, 6th Seminar of Institut Farman – ENS Cachan, Cachan, France, November 2012

Emmanuel Pietriga: “Interfaces graphiques innovantes pour la visualisation de masses de données et le contrôle de systèmes complexes”, SIGCHI Local Chapter, Toulouse, France, June 2012

Cyprien Pindat: “JellyLens: Content-Aware Adaptive Lenses”, VISU 2012 seminar, Paris, France, September 2012

Theophanis Tsandilas: “Interpreting Strokes on Paper with a Mobile Assistant”, Forum sur l’interaction Tactile et Gestuelle, Tourcoing, France, November 2012

Theophanis Tsandilas: “Supporting Music Composition with Paper and Computers”, Inria Sophia Antipolis, France, November 2012

8.1.2. Journal editorial board

Communications of the ACM (CACM), ACM: Wendy Mackay (Member of Editorial Board)

Transactions on Computer-Human Interaction (TOCHI), ACM: Michel Beaudouin-Lafon (Associate Editor)

International Journal of Human-Computer Studies (IJHCS), Elsevier: Michel Beaudouin-Lafon (Member of the Advisory Board)

International Journal on Semantic Web and Information Systems (IJSWIS): Emmanuel Pietriga (Editorial board, special issue on Visualisation of and Interaction with Semantic Web Data)

Journal of Computer-Supported Cooperative Work (JCSCW), Springer: Michel Beaudouin-Lafon (Member of the Advisory Board)

Journal of Visual Languages and Computing (JVLC), Elsevier: Emmanuel Pietriga (Guest Editor)

8.1.3. Journal reviewing

Transactions on Computer-Human Interaction (TOCHI), ACM: Caroline Appert, Olivier Chapuis, Wendy Mackay, Emmanuel Pietriga

Transactions on Visualization and Computer Graphics (TVCG): Anastasia Bezerianos

International Journal of Human-Computer Studies (IJHCS), Elsevier: Caroline Appert, Anastasia Bezerianos

Human-Computer Interaction (HCI), Taylor & Francis: Michel Beaudouin-Lafon, Olivier Chapuis

Software: Practice and Experience, Wiley: Emmanuel Pietriga

8.1.4. Conference organization

ACM CHI 2013 Program Committee Meeting - ACM Conference on Human Factors in Computing Systems: Wendy Mackay (General Chair), Michel Beaudouin-Lafon (Technical Program Committee Co-Chair)

ACM CHI 2012 - ACM Conference on Human Factors in Computing Systems: Caroline Appert (Program Committee member), Olivier Chapuis (Program Committee member), Emmanuel Pietriga (Program Committee member)

ACM ECRC 2012 - First ACM European Computer Research Congress: Michel Beaudouin-Lafon (Organizing Committee member)

ACM UIST 2012 - ACM Symposium on User Interface Software and Technology: Caroline Appert (Program Committee member)

ACM NordiCHI 2012 - Nordic forum for human-computer interaction research: Emmanuel Pietriga (Program Committee member)

IEEE VL/HCC 2012 - IEEE Symposium on Visual Languages and Human Centric Computing: Emmanuel Pietriga (Program Committee member)

IEEE Symposium on Visual Languages and Human Centric Computing: Emmanuel Pietriga (Steering Committee member, chair since September 2011)

IEEE PacificVis 2012 - Pacific Visualization Symposium: Anastasia Bezerianos (Program Committee member)

ACM WWW 2012 (Tutorials) - ACM World Wide Web: Emmanuel Pietriga (Program Committee member)

ACM CHI 2012 Panel “RepliCHI”: Wendy Mackay (Panelist and Co-Organizer)

SIGRAD 2012 - Eurographics Nordic forum for computer graphics and visualization

8.1.5. Conference reviewing

ACM CHI 2012: Caroline Appert, Michel Beaudouin-Lafon, Anastasia Bezerianos, Olivier Chapuis, Jérémie Garcia, Stéphane Huot, Wendy Mackay, Mathieu Nancel, Emmanuel Pietriga, Daniel Spelmezan, Theophanis Tsandilas

ACM UIST 2012: Michel Beaudouin-Lafon, David Bonnet, Olivier Chapuis, Stéphane Huot, Wendy Mackay, Mathieu Nancel, Emmanuel Pietriga, Theophanis Tsandilas, Julie Wagner

ACM CSCW 2012 - ACM Conference on Computer Supported Cooperative Work: Emmanuel Pietriga

ACM EICS 2012 - ACM Symposium on Engineering Interactive Computing Systems: Emmanuel Pietriga

ACM MobileHCI 2012 - ACM Conference on Human Computer Interaction with Mobile Devices and Services: Olivier Chapuis, Stéphane Huot, Daniel Spelmezan

ACM NordiCHI 2012: David Bonnet, Olivier Chapuis, Can Liu, Mathieu Nancel

ACM DIS 2012 - ACM Conference on Designing Interactive Systems: Michel Beaudouin-Lafon, Mathieu Nancel

TEI 2012 - Conference on Tangible Embedded and Embodied Interaction: Caroline Appert

IUI 2012 - International Conference on Intelligent User Interfaces: Michel Beaudouin-Lafon, Stéphane Huot

IEEE InfoVis 2012 - IEEE Information Visualization Conference: Anastasia Bezerianos, Emmanuel Pietriga

IEEE PacificVis 2012 - IEEE Pacific Visualization Symposium: Anastasia Bezerianos, Mathieu Nancel

IEEE VAST 2012 - Visual Analytics Software and Technology: Anastasia Bezerianos, Emmanuel Pietriga

IEEE SciVis 2012 - Visual Analytics Software and Technology: Emmanuel Pietriga

Ergo'IHM 2012: Stéphane Huot

8.1.6. Scientific associations

ACM: Michel Beaudouin-Lafon member of the ACM Europe Council (since 2009)

ACM SIGCHI Paris Local Chapter: Anastasia Bezerianos (Vice Chair), Julie Wagner (Seminars Co-Organizer, Webmaster)

AFIHM (French speaking HCI association): Michel Beaudouin-Lafon member of the Scientific Board (CPPMS), Stéphane Huot member of the Scientific Board (CPPMS) since 2012

ACM SIGCHI: Wendy Mackay, member of CHI Conference Management Committee (since 2011)

8.1.7. Evaluation committees and invited expertise

European Research Council (ERC): Michel Beaudouin-Lafon (SYNERGY Grants panel member)
Steering Committee for ANR CONTINT, National Research Agency, member: Michel Beaudouin-Lafon

ALLISTENE (Alliance des Sciences et Technologies du Numérique) working group on Knowledge, Content and Interaction, members: Wendy Mackay, Michel Beaudouin-Lafon

IRCAM (Paris) Scientific Committee, member: Michel Beaudouin-Lafon

TELECOM ParisTech Research Committee, member: Michel Beaudouin-Lafon

CIGREF Scientific Council, member: Michel Beaudouin-Lafon

Expert reviewer for NSERC (Canada): Michel Beaudouin-Lafon

Expert reviewer for ANR: Caroline Appert, Olivier Chapuis, Stéphane Huot, Emmanuel Pietriga, Wendy Mackay

Univ. Paris-Sud hiring committee, Commission Consultative des Spécialistes de l'Université 27ème section (computer science), members: Michel Beaudouin-Lafon, Stéphane Huot, Wendy Mackay

Univ. Paris-Sud hiring committee, Comité de Sélection 27ème section (computer science), members: Michel Beaudouin-Lafon

Univ. Paul Sabatier (Toulouse) hiring committee, Comité de Sélection 27ème section (computer science), members: Caroline Appert, Stéphane Huot

8.1.8. Awards

Wendy Mackay: European Research Council Advanced Grant

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Caroline Appert (Lecturer), "Evaluation of interactive systems", 50h, ICT Labs Masters in Computer Science - Human-Computer Interaction and Design Specialty (M1), Université Paris-Sud, France

Master : Caroline Appert, "Internships coordination", 5h, Research Masters in Computer Science - Interaction Specialty (M2), Université Paris-Sud, France

Master : Michel Beaudouin-Lafon, "General Master coordination", 10h, ICT Labs Masters in Computer Science - HCID Specialty (M1), Université Paris-Sud, France

Master : Michel Beaudouin-Lafon, "General Master coordination", 10h, Research Masters in Computer Science - Interaction Specialty (M2), Université Paris-Sud, France

Master : Michel Beaudouin-Lafon (Lecturer), "Fundamentals of Human-Computer Interaction", 25h, Research Masters in Computer Science - HCI Specialty (M2) & ICT Labs Masters in Computer Science - Human-Computer Interaction and Design specialty(M1), Université Paris-Sud, France

Master : Michel Beaudouin-Lafon (Lecturer), "Groupware and Collaborative Interaction", 20h, Research Masters in Computer Science - Interaction Specialty (M2), Université Paris-Sud, France

Master : Michel Beaudouin-Lafon (Lecturer), "Human-Computer Interaction project", 15h, ICT Labs Masters in Computer Science - Human-Computer Interaction and Design specialty (M1), Université Paris-Sud, France

Master : Anastasia Bezerianos (Lecturer), "General Master coordination", 10h, Masters in Computer Science - ICT Labs Masters in Computer Science - Human-Computer Interaction and Design specialty (M1), Université Paris-Sud, France

Master : Anastasia Bezerianos (Lecturer), "General Master coordination", 10h, Research Masters in Computer Science - Interaction Specialty (M2), Université Paris-Sud, France

Master : Anastasia Bezerianos (Lecturer), "Programming of Interactive Systems", 24h, ICT Labs Masters in Computer Science - Human-Computer Interaction and Design specialty (M1), Masters in Computer Science - M1 Classic & MIAGE, Université Paris-Sud, France

Master : Anastasia Bezerianos (Lecturer), "Mixed Reality and Tangible Interaction", 12h, Research Masters in Computer Science - Interaction Specialty (M2), Université Paris-Sud, France

Master : Anastasia Bezerianos (Lecturer), "Design and Evaluation of Interactive Systems", 24h, ICT Labs Masters in Computer Science - Human-Computer Interaction and Design specialty (M1), Université Paris-Sud, France

Licence : Anastasia Bezerianos (Lecturer), "Développement Logiciel", 10h, Licence Mention Informatique (L2), Université Paris-Sud, France

3eme année : Anastasia Bezerianos (Lecturer), “Interaction Homme-Machine”, Polytech Paris-Sud, France

Master : David Bonnet (Teaching Assistant), “Fundamentals of Human-Computer Interaction”, 25h, Research Masters in Computer Science - HCI Specialty (M2) & ICT Labs Masters in Computer Science - Human-Computer Interaction and Design specialty (M1), Université Paris-Sud, France

Licence : David Bonnet (Teaching Assistant), “Développement Logiciel”, 40h, Licence 2 Mention Informatique, Université Paris-Sud, France

Licence : Jérémie Garcia (Teaching Assistant), “Développement Logiciel”, 33h, Licence 2 Mention Informatique, Université Paris-Sud, France

Master : David Bonnet (Teaching Assistant), “Programming of Interactive Systems”, 26h, Masters in Computer Science - HCID Specialty (M1), M1 Classic, MIAGE, Université Paris-Sud, France

Licence : Jérémie Garcia (Teaching Assistant), “Vie Artificielle”, 32h, Licence 2 Mention Informatique, Université Paris-Sud, France

Undergraduate and Master: Wendy Mackay (Lecturer) “CS.377 Prototyping Interactive Systems”, 40h, Computer Science, Stanford University, USA.

Undergraduate and Master: Wendy Mackay (Lecturer) “CS.294h Design of Interactive Systems”, 40h, Computer Science, Stanford University, USA.

Master : Wendy Mackay (Lecturer) “Design and Evaluation of Interactive Systems” 24h, ICT Labs Masters in Computer Science - HCID Specialty (M1), Université Paris-Sud, France

Master : Wendy Mackay (Lecturer) “Design and Evaluation of Interactive Systems” 24h, Research Masters in Computer Science - HCID Specialty (M1), Université Paris-Sud, France

Master : Wendy Mackay (Lecturer) “Design and Evaluation of Interactive Systems” 24h, Professional Masters in Computer Science - HCID Specialty (M1), Université Paris-Sud, France

Master : Wendy Mackay (Lecturer) “Fondements de la Recherche” 24h, Research Masters in Computer Science - all three specialties (M2), Université Paris-Sud, France

Master : Mathieu Nancel (Teaching Assistant), “Programming of Interactive Systems”, 29h, Masters in Computer Science - M1 Classic & MIAGE, Université Paris-Sud, France

Licence : Mathieu Nancel (Teaching Assistant), “Certificat Informatique et Internet”, 3h (tutoring), Licence Mention Informatique (L1), Université Paris-Sud, France

3eme année : Mathieu Nancel (Teaching Assistant), “Bases de données”, 20h, Polytech Paris-Sud, France

3eme année : Mathieu Nancel (Teaching Assistant), “Interaction Homme-Machine”, 24h, Polytech Paris-Sud, France

Master : Theophanis Tsandilas (Guest Lecturer), “Introduction to Human-Computer Interaction”, 4.5h, DMKM Erasmus Mundus (M2), Polytech’Nantes, France

Master Thesis Supervision: Anastasia Bezerianos, Olivier Chapuis, “Navigating large information spaces on wall displays using mobile devices”, student: Stelios Frantzeskakis, Université Paris-Sud, France

Master Thesis Supervision: Theophanis Tsandilas, Anastasia Bezerianos, “Linking digital tabletops with physical paper for creative interactions”, student: Jérônimo Barbosa, Universidade Federal de Pernambuco (CIn/UFPE), Recife, Brazil

Master Thesis Supervision: Olivier Chapuis, Carolien Appert “Focus+Context Navigation and Interaction on Graphical Tablets”, student: Lei Chen, Telecom Brest, France

8.2.2. Supervision

HDR: Emmanuel Pietriga, “Languages and Interaction Techniques for the Visualization and Manipulation of Massive Datasets”, Université Paris-Sud, June 8th, 2012.

Ph.D.: Mathieu Nancel, “Designing and Combining Interaction Techniques in Large Display Environments”, Université Paris-Sud, December 5th, 2012, Michel Beaudouin-Lafon and Emmanuel Pietriga.

Ph.D.: Julie Wagner, “A Body-centric Framework for Generating and Evaluating Novel Interaction Techniques”, Université Paris-Sud, December 6th, 2012, Wendy Mackay and Stéphane Huot.

Ph.D.: Émilien Ghomi, “Studying expert practices as a basis for designing expressive interaction techniques”, Université Paris-Sud, December 17th, 2012, Michel Beaudouin-Lafon and Stéphane Huot.

Ph.D.: Micheline Elias, “Semantic Information Retrieval and Visualization in Business Intelligence Dashboards”, École Centrale de Paris, October 14th, 2012, Anastasia Bezerianos and Marie-Aude Aufaure (École Centrale de Paris)

Ph.D. in progress: David Bonnet, “Gesture-based interactions and instrumental interaction”, started in September 2011, Michel Beaudouin-Lafon and Caroline Appert

Ph.D. in progress: Jérémie Garcia, “Supporting creative activities with interactive paper”, started in September 2010, Wendy Mackay and Theophanis Tsandilas

Ph.D. in progress: Cyprien Pindat, “Multi-dimensional exploration of complex multi-scale data”, started in September 2010, Claude Puech, Olivier Chapuis and Emmanuel Pietriga

Ph.D. in progress: Can Liu, “Collaborative Multiscale Navigation and Interaction”, started in September 2012, Michel Beaudouin-Lafon, Olivier Chapuis and Eric Lecolinet (Télécom Paris-Tech)

Ph.D. in progress: Daniel Strazzulla, “Multimedia Communication”, started in September 2012, Wendy Mackay

8.2.3. *Juries*

Sarah Alaoui (LIMSI, Univ. Paris-Sud, Orsay): Michel Beaudouin-Lafon (president), December 2012.

Jérôme Azé (LRI, Univ. Paris-Sud, Orsay - Habilitation): Michel Beaudouin-Lafon (president), November 2012.

Géry Casiez (LIFL, Univ. Lille 1, Lille - Habilitation): Michel Beaudouin-Lafon, (reviewer), November 2012.

Mathias Baglioni (Télécom ParisTech, Paris): Stéphane Huot (examiner), April 2012.

Aurélie Cohé (Univ. Bordeaux 1, Bordeaux): Caroline Appert (examiner), December 2012.

Micheline Elias (PhD, École Centrale de Paris, October 14th, 2012): Anastasia Bezerianos (advisor).

Mathieu Nancel (Ph.D., Université Paris-Sud, December 5th, 2012), Michel Beaudouin-Lafon (director) and Emmanuel Pietriga (advisor).

Emmanuel Pietriga (HDR, Université Paris-Sud, June 8th, 2012), Wendy Mackay (jury).

Julie Wagner (Ph.D., Université Paris-Sud, December 6th, 2012), Wendy Mackay (director) and Stéphane Huot (advisor).

Émilien Ghomi (Ph.D., Université Paris-Sud, December 17th, 2012), Michel Beaudouin-Lafon (director) and Stéphane Huot (advisor).

8.3. Popularization

- Wendy Mackay: “Les Dossiers de la Recherche, Entretien avec Wendy Mackay : Les tablettes seront de plus en plus interactives”, *La Recherche*, June 2012
- Michel Beaudouin-Lafon, Romain Primet: “La Plateforme WILD”, Presentation of WILD to High School students, November 2012.

- Michel Beaudouin-Lafon, Romain Primet: "WILD: An interactive platform for visualizing high-resolution data" Delegation from Chile (government and academia), November 2012.
- Wendy Mackay, Romain Primet: "WILD: une plateforme de visualisation interactive haute résolution" Presentation of WILD to HEC students, December 2012.
- Emmanuel Pietriga, Roman Primet: "La Plateforme WILD", Presentation of WILD to visitors from the French Ministry of Research and Inria's Administration Council, April 2012.
- Roman Primet: Presentation of WILD to industrial visitors of LRI, Visite des Industriels, Fête de la Science, October 2012.
- Theophanis Tsandilas, Julie Wagner, and Émilien Ghomi: Presentations for "Who is interaction design?", Centre Pompidou, Future en Seine, June 2012.

INDES Project-Team

9. Dissemination

9.1. Seminars and conferences

- **Pejman Attar** gave a talk about “Safe and Secure Concurrency” at Paris 6 University. In November 2012, he presented the work “A CPS definition of Esterel” by B. Serpette at the workshop Synchron’12 at Le Croisic.
- **Gérard Berry** gave an invited talk in April 2012, at Edinburgh, “Reconciling Semantics and Implementation”, for the Milner Symposium. He gave the talk “Informatique et art, quel avenir?” at the Villa Medici, Rome, in February. He gave an invited conference at IRCAM “Parler du temps, mais de manière formelle”, in Paris in June, and “Turing et ses contemporains: machines, langages, logiques” a talk at ENS Lyon in July.
- **Iaria Castellani** participated in the workshop CoTiCo (Contracts and Behavioural Types), in Lucca, Italy, where she presented her current work on session types for security. In October 2012, she participated in the kick-off management committee meeting of the BETTY european Action, in Brussels.
- **Cyprien Nicolas** gave a talk about Hop at a Free and Open Source Software event named *Journées Méditerranéennes du Logiciel Libre* (JM2L). JM2L are a small local event, proposing around 30 conferences over two days, and targeting general public. It welcomed around 250 participants.
- **José Santos** gave a talk about his work on information flow in the CREST Open Workshop on Interference and Dependence organized by the Department of Computer Science of the University College of London in May 2012. In June 2012, he presented the article [12] in the Programming Languages and Analysis for Security (PLAS) Workshop in Beijing, China.
- **Tamara Rezk**, presented the work on the Mashic compiler in the Computer Security Foundations conference in Harvard, Boston, June 2012. In June 2012, she chaired the PLAS workshop, Beijing. In October 2012, she was invited to the Dagstuhl Seminar *Web Application Security* where she also participated to the *JavaScript sessions*.
- **Manuel Serrano** participated in a one-week seminar in Dagstuhl on Dynamic Languages, where he gave a talk on HipHop. He also participated in a one-week IFIP seminar which took place in Austin, Texas. He gave a talk on diffuse computing.

9.2. Animation

- **Gérard Berry** is a member of the *Académie des sciences*, of the *Académie des technologies*, and the *Academia Europaea*. He is member of the steering committee of the ANR.
- **Iaria Castellani** is member of the editorial board of *Technique et Science Informatiques*. She was a member of the programme committee of EXPRESS’12.
- **Tamara Rezk** was a member of the programme committees of Bytecode, PLAS (co-chair with Sergio Maffeis), ARES, and LatinCrypt. She is a member of the programme committee of JAIIO’13. She was a reviewer for CSF’12, Crypto’12, CCS’12, and the QIF journal.
- **Manuel Serrano** is the coordinator of the ANR DEFIS project PWD. He served on the program committees of the following conferences:
 - TFP’12, Symposium on Trends in Functional Programming.
 - COORDINATION’12, 7th International Federated Conferences on Distributed Computing Techniques.

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Licence: **Johan Grande**, *Structures de données et programmation*, 6 ETD, L1, University of Nice. **Vincent Prunet**, *Algorithms and Data Structures*, 42 ETD, L2, Lycée International de Valbonne (24 hours in 2012), (Inria action to promote early CS courses in all scientific curricula).

Master: **Iliaria Castellani**, *Programmation et sécurité des applications du web*, 13.5 ETD, M2, University of Nice Sophia Antipolis. **Tamara Rezk**, *Programmation et sécurité des applications du web*, M2, University of Nice. *Programming the Diffuse Web*, 13.5 ETD, M2, University Paris 6 (UPMC), France. **Manuel Serrano**, *Programming the Diffuse Web*, 13.5 ETD, M2, University Paris 6 (UPMC), France.

PhD: **Pejman Attar** gave a 3 hour open course for PhD students on “Multi- core Languages and their problems” at the University of Eindhoven, Netherlands.

9.3.2. Supervision

PhD in progress: **Pejman Attar**, *Safe and secure reactive programming for multicore architectures*, University of Nice, 1/10/2010, **Frédéric Boussinot** and **Iliaria Castellani**.

PhD in progress: **Cyprien Nicolas**, *Orchestrating multi-tier programming languages*, University of Nice, 1/09/2010, **Gérard Berry** and **Manuel Serrano**.

PhD in progress: **Johan Grande**, *Conception et implantation d'un langage de programmation concurrente modulaire*, University of Nice, 1/10/2010, **Gérard Boudol** and **Manuel Serrano**.

PhD in progress: **Yoann Couillec**, *Langages de programmation et données ouvertes*, University of Nice, 1/10/2012, **Manuel Serrano** and **Patrick Valduriez**.

PhD in progress: **José Santos**, *Language based approach for information flow analysis in distributed mobile code*, University of Nice, 1/12/2010, **Gérard Boudol** and **Tamara Rezk**.

9.3.3. Juries

Manuel Serrano was a member of the jury of the PhD Thesis of Luca Saiu (Universities Paris 13). He was a member of the selection committee of PPS (Paris 6).

9.4. Popularization

The Web is becoming the richest platform on which to create computer applications. Its power comes from three elements: modern Web browsers enable highly sophisticated graphical user interfaces (GUIs) with 3D, multimedia, fancy typesetting, among others; calling existing services through Web APIs makes it possible to develop sophisticated applications from independently available components; and open-data availability allows access to a wide set of information that was unreachable or that simply did not exist before. The combination of these three elements has already given birth to revolutionary applications such as GoogleMaps, radio podcasts, and social networks.

The next step is likely to be incorporating the physical environment into the Web. Recent electronic devices are equipped with various sensors (GPS, cameras, microphones, metal detectors, speech commands, thermometers, motion detection, and so on) and communication means (IP stack, telephony, SMS, Bluetooth), which enable applications to interact with the real world. Web browsers integrate these features one after the other, making the Web runtime environment richer every day. The future is appealing, but one difficulty remains: current programming methods and languages are not ideally suited for implementing rich Web applications. This is not surprising as most have been invented in the 20th century, before the Web became what it is now.

Traditional programming languages have trouble dealing with the asymmetric client-server architecture of Web applications. Ensuring the semantic coherence of distributed client-server execution is challenging, and traditional languages have no transparent support for physical distribution. Thus, programmers need to master a complex gymnastics for handling distributed applications, most often using different languages for clients and servers. JavaScript is the dominant Web language but was conceived as a browser only client language. Servers are usually programmed with quite different languages such as Java, PHP, Ruby, etc. Recent experiments such as Node.js propose using JavaScript on the server, which makes the development more coherent; however, harmonious composition of independent components is still not ensured.

In 2006, three different projects, namely, GWT from Google, Links from the University of Edinburgh, and HOP from Inria (<http://www.inria.fr>) [4], offered alternative methods for programming Web applications. They all proposed that a Web application should be programmed as a single code for the server and client, written in a single unified language. This principle is known as multitier programming.

Links is an experimental languages in which the server holds no state and functions can be symmetrically called from both sides, allowing them to be declared on either the server or the client. These features are definitely interesting for exploring new programming ideas, but they are difficult to implement efficiently, making the platform difficult to use for realistic applications.

GWT is more pragmatic. It maps traditional Java programming into the Web. A GWT program looks like a traditional Java/Swing program compiled to Java bytecode for the server side and to JavaScript for the client side. Java cannot be considered as the unique language of GWT, however. Calling external APIs relies on Javascript inclusion in Java extensions. GUIs are based on static components declared in external HTML files and on dynamic parts generated by the client-side execution. Thus, at least Java, Javascript, and HTML are directly involved.

The HOP language takes another path relying on a different idea: incorporating all the required Web-related features into a single language with a single homogeneous development and execution platform, thus uniformly covering all the aspects of a Web application: client-side, server-side, communication, and access to third-party resources. HOP embodies and generalizes both HTML and JavaScript functionalities in a Scheme-based platform that also provides the user with a fully general algorithmic language. Web services and APIs can be used as easily as standard library functions, whether on the server side or client side.

In order to popularize HOP, we have written a paper for targeting engineers which presents an overview of the HOP language and its development environment. It has been simultaneously published in ACM Queue and Communications of the ACM [16]. We have also given several demonstrations of the system. In particular, Cyprien Nicolas has co-developed application software for an educational cable robot (Coprin) presented at the Fête de la Science, in November. The demo consisted in a Cable bot built by a Coprin student and piloted by Hop, the software being written by a Indes student. The demo took place in front of four classes of High School students.

9.5. Transfer

9.5.1. Diffuse Robotics

Dissemination of the HOP technology has become a priority for the team now that HOP is actually used to develop large projects. In 2012, a further step was taken with the allocation of dedicated resources missioned to develop and transfer the application portfolio to the industry. The team has focused on bringing web awareness to personal assistance robots developed by the Coprin team, also at Inria CRISAM, in line with one of the top strategic orientations of Inria. Using web protocols as a native framework greatly simplifies the integration of the robot as a web entity, and the use of remote web services to manage, monitor or extend the features of the robot. The behavior of a HOP robot is specified in HOP and orchestrated within diffuse HOP run time agents embedded within the robot elements, in charge of handling communication and control between platforms and with remote web services. The project, code-named *Diffuse Robotics*, builds on the experience gained in using HOP for home automation over the recent years, adding in 2012 the support of versatile robotic computing platforms and associated mechanics and sensor hardware and a state of the art plug and play framework for

automatic device and service discovery. Among the direct benefits of relying on a web framework are the ability to use any web enabled device such as a smartphone or tablet to drive the robot. Also, it is much simpler to put in place remote diagnostic and monitoring services by leveraging on existing robot sensors and the HOP framework.

IPSO Project-Team

7. Dissemination

7.1. Scientific Animation

7.1.1. Editorial activities

- P. Chartier is member of the editorial board of "M2AN"
- P. Chartier is member of the editorial board of "ESAIM Proceedings"
- P. Chartier is member of the editorial board of "Mathematical Analysis"
- N. Crouseilles is member of the editorial board of "International Journal of Analysis" <http://www.hindawi.com/journals/analysis/>
- A. Debussche is member of the editorial board of "SINUM"
- A. Debussche is member of the editorial board of "Differential and Integral Equations"
- A. Debussche is a member of the editorial board of "Potential Analysis"
- A. Debussche is a member of the editorial board of "ESAIM Proceeding"
- A. Debussche is a member of the editorial board of the collection "Mathématiques & Applications" edited by Springer
- A. Debussche is the editor in chief of "Stochastic Partial Differential Equations: Analysis and Computations"
- M. Lemou is associate editor of "Annales de la faculté de Toulouse"

7.1.2. Conference and workshop organization

- P. Chartier, A. Debussche and E. Faou were members of the programm committee of DD21: 21th International Conference on Domain Decomposition Methods, 25-29 June 2012, Rennes, France.
- N. Crouseilles was member of the organization committee of the workshop WASPs 20-26 may 2012 <http://www.math.univ-toulouse.fr/~cnequles/WAPs2012.html>
- A. Debussche organizes the semester "Perspectives in Analysis and Probability" to be held in Rennes in 2013. Among others, there will be two international conferences, 3 workshops and 1 summer school.

7.1.3. Administrative activities

- P. Chartier is member of the bureau of the Comité des Projets at Inria-Rennes.
- M. Lemou is partly in charge of the Master 2
- M. Lemou is member of the scientific committee of the Lebesgue Center (Labex)
- F. Méhats is member of the CNU, Section 26.
- F. Méhats is the head of the numerical analysis department of IRMAR.
- A. Debussche is member of the board of directors of the ENS Cachan.
- A. Debussche is member of the Executive Board of the Lebesgue Center, Labex funded by the french government.

7.1.4. Talks in seminars and conferences, mini-courses

- P. Chartier was plenary speaker at the Tenth International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2012) in honor of Gerhard Wanner, Greece, September 19-25, 2012.

- P. Chartier was plenary speaker at the Workshop INNOVATIVE TIME INTEGRATION, Innsbruck, Austria, May 13-16, 2012.
- E. Faou was plenary speaker at the conference NUMDIFF13 (september 2012), Halle, Germany.
- E. Faou gave a lecture at the Winter School "Dynamics and PDEs", Saint-Etienne de Tinée.
- G. Vilmart was keynote speaker at the Special session on "Algebraic structures in numerical analysis of differential equations", Universidad Jaume I (IMAC), Castellon (Spain), May 2012.
- A. Debussche was plenary speaker at the conference "Recent Developments in Stochastic Analysis", EPFL Lausanne, february 2012.
- A. Debussche was plenary speaker at the conference "Stochastic Analysis and Stochastic PDEs", University of Warwick, april 2012
- A. Debussche was plenary speaker at the conference "NASPDE12 - Numerical Analysis of Stochastic PDEs", University of Warwick, june 2012
- A. Debussche was plenary speaker at the conference "Stochastic Partial Differential Equations (SPDEs) Follow-up Meeting" in Cambridge, september 2012.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence : P. Chartier, "Equations différentielles", 36, L3, ENS Cachan-Bruz

Master : N. Crouseilles, "Numerical methods for kinetic equations", 18H, M2, University of Rennes 1

Master: E. Faou, "Modélisation et analyse numérique des EDPs", ENS Paris, in collaboration with D. Lannes

Master 1 and 2: M. Lemou, "Equations elliptiques" and "Equations hyperboliques"

7.2.2. Supervision

PhD : Charles-Edouard Bréhier, "Analyse numérique d'EDP stochastiques hautement oscillantes", defended the 27th of november 2012 (supervised by A. Debussche et E. Faou).

7.2.3. Juries

- Nicolas Crouseilles: member of the PhD-jury of A. Crestetto, 4 october, 2012 (Strasbourg).
- A. Debussche was member of the jury for Yohann Offret (PhD, Rennes, juin 2012), Florent Barret (Hdr, Ecole Polytechnique, juillet 2012), Maxime Gazeau (PhD, Ecole Polytechnique, octobre 2012), Bruno Saussereau (Hdr, Besancon, novembre 2012)
- M. Lemou was member of the jury for E. Franck (PhD, Paris 6) and S. Soulaïman (PhD, IRMAR).

7.3. Popularization

S. Fiorelli-Vilmart and G. Vilmart, Les planètes tournent-elles rond?, submitted for publication in "Interstices" Theme 2012-2013 "Invariants et similitudes" of TIPE in preparatory classes.

KERDATA Project-Team

9. Dissemination

9.1. Scientific Animation

Gabriel Antoniu:

- General Co-Chair of the ScienceCloud 2012 International workshop held in conjunction with the ACM HPDC 2012 conference.
- Local Chair of the 7th International Workshop of the Joint Inria-UIUC-ANL Lab for Petascale Computing, Rennes, June 2012.
- Track chair at IEEE CloudCom 2012 international conference.
- Editor for a Special Issue of Concurrency and Computation: Practice and Experience Journal on Cloud Computing for Data-driven Science and Engineering, 2012.
- Program Committee member (selection): ACM HPDC 2012, ACM/IEEE SC 2013, IEEE/ACM CCGRID 2013, ICCCN 2012, IEEE HPCC 2012, IEEE AINA 2012, IEEE CloudCom 2012, ICPADS 2012.
- Coordinator for the MapReduce ANR project (see Section 8.1).
- G. Antoniu and B. Thirion (PARIETAL Project-Team, INRIA SACLAY – ÎLE-DE-FRANCE) co-lead the AzureBrain Microsoft-Inria Project (2010-2013).
- Coordinator for the DataCloud@work Associate Team, a project involving the KerData and MYRIADS Inria Teams in Rennes and the Distributed Systems Group from Politehnica University of Bucharest (2010–2012).
- Local coordinator for Inria Rennes – Bretagne Atlantique Research Center in the SCALUS Project of the Marie-Curie Initial Training Networks Programme (ITN), call FP7-PEOPLE-ITN-2008 (2009-2013).

Alexandru Costan:

- Organizer of the 1st Workshop on Big Data Management in Clouds BDMC2012 in conjunction with EuroPar 2012, see <http://www.irisa.fr/kerdata/bdmc/>
- Program Committee member: CloudCom 2012, ScienceClouds 2012, EIDWT 2012
- Reviewer: J. of Parallel and Distributed Computing, IEEE Internet Computing, Concurrency and Computation: Practice and Experience, Intl. J. of Grid and Utility Computing, Innovative Studies Intl. J., Scalable Computing: Practice and Experience, Simulation Modelling Practice and Theory, HPDC 2012, AINA 2012, RenPar 2012

Luc Bougé:

- Since September 2012: Scientific coordinator for the Information & Communication Science & Technology Department of the National Research Agency (ANR).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Gabriel Antoniu:

Master (Engineering Degree, 5th year): Grid and cloud computing, 18 hours (lectures), M2 level, Ecole Supérieure d'Informatique, Electronique, Automatique, Paris, France.

Master: Grid, P2P and cloud data management, 18 hours (lectures), M2 level, University of Nantes, ALMA Master, Distributed Architectures module, France.

Master: Peer-to-Peer Applications and Systems, 10 hours (lectures), M2 level, ENS Cachan - Brittany, M2RI Master Program, PAP Module, France.

Alexandru Costan

- Object-oriented programming, 18h, L3, ENS Cachan - Antenne de Bretagne
- Databases, 28h, L2, INSA Rennes, France
- Object-oriented design, 28h, M1, INSA de Rennes
- Practical case studies, 16h, L3, INSA de Rennes

Matthieu Dorier:

- Java programming (lectures, seminars, practical sessions), L1 level, INSA de Rennes, 56h.
- Programming techniques (seminars, practical sessions), L3 level, ENS Cachan - Antenne de Bretagne 42h

9.2.2. Supervision

PhD & HdR :

PhD: Viet-Trung Tran, Scalable data-management systems for Big Data, thesis started in October 2009 co-advised by Gabriel Antoniu and Luc Bougé. Date of defense: 21 January 2013.

PhD in progress : Housseem Chihoub, Consistency issues in cloud storage systems, thesis started in October 2010 co-advised by Maria Pérez (UPM - Madrid) and Gabriel Antoniu.

PhD in progress : Matthieu Dorier, Scalable I/O for postpetascale HPC systems, thesis started in October 2011 co-advised by Gabriel Antoniu and Luc Bougé.

PhD in progress : Radu Tudoran, Scalable data sharing for Azure clouds, thesis started in October 2011 co-advised by Gabriel Antoniu and Luc Bougé.

9.2.3. Juries

Gabriel Antoniu served as a member of Inria's national Jury for hiring researchers (junior positions, confirmed positions and starting research positions).

Gabriel Antoniu served as a Referee and as a Chair for a PhD Jury at the University of Bordeaux; as a Chair for a PhD Jury at the University of Nantes.

9.2.4. Miscellaneous

Gabriel Antoniu serves as a member of Inria's Evaluation Committee.

Luc Bougé serves as Head of the Computer Science Department of ENS Cachan - Brittany.

LAGADIC Project-Team

9. Dissemination

9.1. Scientific Animation

- *Editorial boards of journals*
 - Eric Marchand and Paolo Robuffo Giordano are Associate Editors of the IEEE Trans. on Robotics.
 - François Chaumette is in the Editorial Board of the Int. Journal of Robotics Research. He has also been Associate Editor of the Int. Journal of Optomechatronics from its creation in 2007 till September 2012.
- *Technical program committees of conferences*
 - François Chaumette: ICRA'12, RSS'12, ISPRS'12, IROS'12, SYROCO'12, ISOT'12, WRV'13, ICRA'13
 - Eric Marchand: RFIA'12, Coresa'12, ICRA'12, RSS'12, ICRA'13
 - Patrick Rives: ICRA'12, RFIA'12, Innorobo'12, Vicomor'12
- *Selection committees*
 - François Chaumette was in the selection committee for a Professor position at the “Université de Strasbourg” and at the “Université Paul Sabatier” in Toulouse.
 - Alexandre Krupa was in the selection committee for an Assistant Professor position at the “Université de Strasbourg” and at the “Université de Franche-Comté”.
 - Eric Marchand was in the selection committee for an Assistant Professor position at the “Université de Strasbourg” and at “Ensicaen” in Caen. He was in the selection committee for a Professor position at the “Université de Rennes 1”.
 - Patrick Rives was in the selection committee of Starting and Advanced Research positions at Inria.
- *Participation in seminars, invitation*
 - François Chaumette has been invited to give a talk at the 4th Cimat Robotics Workshop in Guanajuato, Mexico [21] and to the 3rd French-Sino Symposium on Virtual Reality in Qingdao, China [22].
 - Eric Marchand has been invited to give a talk at the Workshop on Fundamental and Applied 3D Computer Vision in honor of Richard Hartley in Clermont Ferrand [23].
 - Patrick Rives has been invited to give a talk at the RFIA Atelier Monument 3D (Lyon, France, January 2012) [24], Innorobo Conference on Service Robotics (Lyon, France, March 2012) [25], and IROS Workshop Vicomor (Vilamoura, Portugal, October 2012) [26].
- *Animation at the international level*
 - François Chaumette has been elevated to IEEE Fellow in November 2012. He served as expert for the ERC Starting Grants and has been appointed to be a panel member of the ERC Consolidator Grants. He was in the 2012 and 2013 IEEE RAS chapter of the year award nomination committee.
- *Animation at the national level*
 - François Chaumette and Patrick Rives are members of the scientific council of the “GdR Robotique” and JNRR.

- François Chaumette served for the ANR Contint monitoring committee.
- Patrick Rives is an expert for Oseo (Agence Nationale pour la Valorisation), Agence Nationale de la Recherche (ANR) and the Swiss National Science Foundation.
- Patrick Rives is a member of the Inria evaluation committee.
- Alexandre Krupa is a member of the Inria Cost-GTAI in charge of the evaluation of the ADTs (“Actions de développements technologiques”).
- François Chaumette is a member of the animation committee of Inria’s thematic domain “Perception, cognition, interaction”.
- *Animation at the regional and local levels*
 - Eric Marchand is in the board of the “Images et réseaux” competitiveness cluster.
 - Eric Marchand is a member of the scientific council of the École supérieure d’ingénieurs de Rennes (ESIR).
 - François Chaumette is the president of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes Bretagne Atlantique and Irisa. He is a member of the Head team of Inria Rennes Bretagne Atlantique.
 - Eric Marchand is a member of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes Bretagne Atlantique and Irisa. He is particularly in charge of Irisa Ph.D. students.
 - Marie Babel and Fabien Spindler are members of the “Comité de centre” of Inria Rennes Bretagne Atlantique.
 - Fabien Spindler is a member of the “Commission développement durable” of Inria Rennes Bretagne Atlantique.
 - Alexandre Krupa is a member of the CUMIR (“Commission des Utilisateurs des Moyens Informatiques”) of Inria Rennes Bretagne Atlantique.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Marie Babel:

Master INSA3: “Statistical Signal Processing”, 24 hours, M2, Institut National des Sciences Appliquées de Rennes

Master INSA1: “Assembler”, 30 hours, L3, Institut National des Sciences Appliquées de Rennes

Master INSA2: “Computer science project”, 30 hours, M1, Institut National des Sciences Appliquées de Rennes

Master INSA2: “Image analysis”, 18 hours, M1, Institut National des Sciences Appliquées de Rennes

Master INSA1: “Remedial math courses”, 24 hours, L3, Institut National des Sciences Appliquées de Rennes

Master INSA1: “Risk Management for Information Systems”, 8 hours, L3, Institut National des Sciences Appliquées de Rennes

François Chaumette:

Master ESIR3: “Visual servoing”, 12 hours, M2, Ecole supérieure d’ingénieurs de Rennes

Ph.D.: IEEE RAS Summer School on Robot Vision and Applications: “Visual servoing”, 4.5 hours, Universidad de Chile, Santiago.

Alexandre Krupa:

Master SIBM (Signals and Images in Biology and Medicine): “Medical robotics guided from images”, 4.5 hours, M2, Université de Rennes 1, Brest and Angers

Eric Marchand:

Master ESIR2: “Colorimetry”, 24 hours, M1, Ecole supérieure d’ingénieurs de Rennes

Master ESIR2: “Computer vision”, 24 hours, M1, Ecole supérieure d’ingénieurs de Rennes

Master ESIR3: “Special effects”, 24 hours, M2, Ecole supérieure d’ingénieurs de Rennes

Master ESIR3: “Computer vision: tracking and recognition”, 24 hours, M2, Ecole supérieure d’ingénieurs de Rennes

Master MRI: “Computer vision: geometry”, 24 hours, M2, Université de Rennes 1.

9.2.2. Supervision

HdR: Marie Babel, “From image coding and representation to robotic vision”, Université de Rennes 1, defense in June 2012 [10]

HdR: Alexandre Krupa, “Contributions à l’asservissement visuel échographique”, Université de Rennes 1, defense in December 2012 [13]

Ph.D.: Maxime Meilland, “Cartographie RGB-D dense pour la localisation visuelle temps-réel et la navigation autonome”, Ecole des Mines de Paris, defense in March 2012, supervised by Patrick Rives and Andrew Comport (I3S/CNRS) [14]

Ph.D.: Alexandre Chapoulie, “Contributions aux méthodes de détection visuelle de fermeture de boucle et de segmentation topologique de l’environnement”, Université de Nice-Sophia Antipolis, defense in December 2012, supervised by Patrick Rives and David Filliat (ENSTA) [11]

Ph.D.: Laurent Coutard, “Appontage automatique d’avions par asservissement visuel”, Université de Rennes 1, defense in December 2012, supervised by François Chaumette [12]

Ph.D. in progress: Tao Li, “Commande d’un robot de télé-échographie par asservissement visuel échographique”, started in October 2009, supervised by Alexandre Krupa

Ph.D. in progress: Pierre Martin, “Augmented reality on smartphones”, started in February 2010, supervised by Eric Marchand

Ph.D. in progress: Rafik Sekkal, “Features extraction and robust tracking of objects for video representation”, started in October 2010, supervised by Marie Babel

Ph.D. in progress: Antoine Petit, “3D model-based tracking of complex objects in a spatial context”, started in December 2010, supervised by Eric Marchand

Ph.D. in progress: Manikandan Bakthavatchalam, “Utilisation des moments photométriques en asservissement visuel”, started in October 2011, supervised by François Chaumette

Ph.D. in progress: Bertrand Delabarre, “An information theoretic approach for navigation in robotics”, started in October 2011, supervised by Eric Marchand

Ph.D. in progress: Tawsif Gokhool, “Représentations valides à long terme pour la navigation et l’apprentissage des modèles 3D”, started in February 2012, supervised by Patrick Rives

Ph.D. in progress: Romain Drouilly, “Représentation hybride métrique, topologique et sémantique d’environnement 3D pour la localisation temps réel”, started in May 2012, supervised by Patrick Rives

Ph.D. in progress: Le Cui, “Nano-manipulation par asservissement visuel”, started in October 2012, supervised by Eric Marchand

Ph.D. in progress: Riccardo Spica, “Autonomous vision-based two-hand manipulation strategies for humanoid robots”, started in December 2012, supervised by Paolo Robuffo Giordano and François Chaumette

9.2.3. Juries

- François Chaumette: Pierre Lebraly (Ph.D., president, Institut Pascal, Clermont-Ferrand), Adrien Durand Petiteville (Ph.D., reviewer, Laas, Toulouse), Pierre Rouanet (Ph.D., president, Inria Bordeaux), Moslem Kazemi (Ph.D., reviewer, Simon-Fraser University, Vancouver), Baptiste Charrette (Ph.D., reviewer, Institut Pascal, Clermont-Ferrand)
- Eric Marchand: Maxime Meilland (Ph.D., reviewer, Inria Sophia Antipolis), Pauline Merveilleux (Ph.D., reviewer, MIs, Amiens), Cédric Demonceaux (HDR, reviewer, Université de Bourgogne, Le Creusot)
- Patrick Rives: Mohamed Marouf (Ph.D., Ecole des Mines de Paris), Alessandro Victorino (HDR, Heudiasyc, Compiègne), Pauline Merveilleux (Ph.D., reviewer, MIs, Amiens), Cédric Demonceaux (HDR, reviewer, Université de Bourgogne, Le Creusot), Baptiste Charrette (Ph.D., reviewer, Institut Pascal, Clermont-Ferrand)

9.3. Popularization

- Due to the visibility of our experimental platforms, the team is often asked to present its research activities to students, researchers or industry. Our panel of demonstrations allows us to highlight recent results concerning the positioning of an ultrasound probe by visual servoing, the construction of a tower by combining 3D model-based visual tracking and visual servoing techniques to pick up cubes that are assembled, the navigation of a mobile robot in urban environments, and vision-based detection and tracking for space navigation in a rendezvous context.
- Fabien Spindler is a member of the editorial board of “Ouest Inria”, the internal journal at Inria Rennes Bretagne Atlantique.
- Eric Marchand was co-author of an article entitled "FlyVIZ : un casque qui permet de voir dans toutes les directions" in Interstice, which is an online French popularization magazine for research in computer science.

LEAR Project-Team

9. Dissemination

9.1. Scientific Animation

- Conference, workshop, and summer school organization:
 - Z. Harchaoui: Co-organizer of the ICML 2012 Workshop on New Trends in RKHS and kernel-based methods, July 2012.
 - Z. Harchaoui: Co-organizer of the Optimization and Statistical Learning workshop, Les Houches, January 2013.
 - C. Schmid: Co-organizer of the Inria Visual Recognition and Machine Learning Summer School, Grenoble, July 2012. Attracted a total of 182 participants (48 from France, 94 from Europe and 40 from America and Asia).
 - C. Schmid: Co-organizer IPAM workshop Large Scale Multimedia Search, January 9–13, 2012.
- Editorial boards:
 - C. Schmid: International Journal of Computer Vision, since 2004.
 - C. Schmid: Foundations and Trends in Computer Graphics and Vision, since 2005.
 - J. Verbeek: Image and Vision Computing Journal, since 2011.
- General chair:
 - C. Schmid: CVPR '15.
- Program chair:
 - C. Schmid: ECCV '12.
- Area chair:
 - J. Verbeek: BMVC '12, ECCV '12
 - C. Schmid: NIPS '12, CVPR '13, ICCV '13
- Program committees:
 - AISTATS 2012: Z. Harchaoui.
 - BMVC 2012: T. Mensink.
 - CVPR 2012: Z. Harchaoui, T. Mensink, C. Schmid, J. Verbeek.
 - ECCV 2012: M. Douze, T. Mensink, J. Verbeek.
 - ICML 2013: Z. Harchaoui, J. Mairal.
 - NIPS 2012: Z. Harchaoui, J. Verbeek.
 - WACV 2013: R. Cinbis.
 - NIPS computational biology workshop 2012: J. Mairal.
- Prizes:
 - C. Schmid was nominated IEEE Fellow, 2012.
 - Best paper award of Pattern Recognition journal in 2009 for the paper *Description of interest regions with local binary patterns*. M. Heikkila, M. Pietikainen, C. Schmid. Pattern Recognition Volume 42, Issue 3, March 2009, Pages 425-436, <http://hal.inria.fr/inria-00548650/en>.

- We participated in the Multimedia Event Detection track of TrecVid 2012, one of the major benchmarks in automatic video analysis. We ranked 2-nd out of 17 participants for the pre-specified event category task, and first out of 13 participants on the ad-hoc event category task.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Courses taught by team members in 2012:

- Z. Harchaoui, Kernel-based methods for statistical machine learning, 18h, M2, Grenoble University, France.
- Z. Harchaoui, Tutorial on large-scale learning, 1h, ENS-Inria Visual Recognition and Machine Learning Summer School 2012, Grenoble, France.
- J. Revaud and M. Douze, Multimedia Databases, 18h, M2, ENSIMAG, France.
- C. Schmid, Object recognition and computer vision, 10h, M2, ENS ULM, France.
- C. Schmid and J. Verbeek, Machine Learning & Category Representation, 18h, M2, ENSIMAG, France.
- C. Schmid, Tutorial on image search and classification, 3h, Inria Visual Recognition and Machine Learning Summer School 2012, Grenoble, France.

9.2.2. Supervision

PhD theses defended in 2012:

- A. Gaidon, *Structured Models for Action Recognition in Real-world Videos - Modèles Structurés pour la Reconnaissance d'Actions dans des Vidéos Réalistes* [1], Université de Grenoble, 25/10/2012, advisers: Z. Harchaoui and C. Schmid.
- T. Mensink, *Apprentissage de Modèles pour la Classification et la Recherche d'Images* [2], Université de Grenoble, 26/10/2012, advisers: J. Verbeek, G. Csurka, and C. Schmid.
- A. Prest, *Weakly supervised methods for learning actions and objects* [3], ETHZ, 4/9/2012, advisers: V. Ferrari, and C. Schmid.
- G. Sharma, *Semantic description of humans in images*, Université de Caen, 17/12/2012, advisers C. Schmid and F. Jurie.

9.2.3. Juries

Participation in PhD defense juries:

- J. Verbeek, jury member of PhD committee for N. Elfiky, Computer Vision Centre, Barcelona, Spain, June 2012.
- C. Schmid, jury member of PhD committee for S. Bak, Université of Sophia-Antipolis, July 2012.
- C. Schmid, jury member of PhD committee for O. Duchenne, ENS Cachan, November 2012.
- C. Schmid, jury member of PhD committee for A. Joulin, ENS Cachan, December 2012.

9.3. Invited presentations

- Z. Akata: Seminar at Computer Vision and Machine Learning group, Institute of Science and Technology, Vienna, Austria, December 2012.
- A. Gaidon: Presentation at MSR-Inria CVML workshop, Microsoft Research, Cambridge, UK, April, 2012.
- A. Gaidon: Seminar at ETH Zürich, Switzerland, April, 2012.
- A. Gaidon: Seminar at Xerox Research Center Europe (XRCE), Meylan, France, May, 2012.
- Z. Harchaoui: Seminar at Gatsby Neuroscience Unit, UCL, London, March 2012.
- Z. Harchaoui: Presentation at International Symposium in Mathematical Programming, Berlin, August 2012.
- Z. Harchaoui: Seminar at UC Berkeley, September 2012.
- Z. Harchaoui: Presentation at ECML/PKDD Discovery Challenge, Bristol, September 2012.
- Z. Harchaoui: Seminar at Visual Geometry group, Oxford University, October 2012.
- J. Mairal: Seminar at Parietal team, Neurospin, CEA - Inria, Saclay, France, November 2012.
- J. Mairal: Seminar at Institut Curie, Paris, France, November 2012.
- J. Mairal: Seminar at Willow and Sierra teams, Inria, Paris, France, November 2012.
- J. Mairal: Seminar at EPFL, Lausanne, Switzerland, November 2012.
- T. Mensink: Seminar at Computer Vision and Machine Learning group, Institute of Science and Technology, Vienna, Austria, March 2012.
- C. Schmid: Workshop on Large Scale Multimedia Search, Los Angeles, January 2012.
- C. Schmid: Seminar at New York University, May 2012.
- C. Schmid: Seminar at Google, Zürich, May 2012.
- C. Schmid: Seminar at ETHZ, Zürich, May 2012.
- C. Schmid: Keynote speaker at ACM International Conference on Multimedia Retrieval (ICMR), Hong Kong, June 2012.
- C. Schmid: Keynote speaker at the International Symposium on Visual Computing, Crete, July 2012.
- C. Schmid: Tutorial on modern features at ECCV 2012, Florence, October 2012.
- C. Schmid: First international workshop on visual analysis and geo-localization of large-scale imagery in conjunction with ECCV'12, Florence, October 2012.
- C. Schmid: Keynote speaker at GdR ISIS, Le Touquet, November 2012.
- C. Schmid: Seminar at UC Berkeley, December 2012.
- J. Verbeek: Seminar at TEXMEX group, Inria, Rennes, France, April 2012.
- J. Verbeek: Seminar at Computer Vision and Machine Learning group, Institute of Science and Technology, Vienna, Austria, June 2012.
- J. Verbeek: Seminar at Computer Vision Centre, Barcelona, Spain, June 2012.

9.4. Popularization

- C. Schmid will present in 2013 the research area of visual recognition to a group of school teachers as well as to a class of high school students.

LFANT Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorships

K. Belabas acts on the editorial board of *Journal de Théorie des Nombres de Bordeaux* since 2005 and of *Archiv der Mathematik* since 2006.

H. Cohen is an editorial board member of *Journal de Théorie des Nombres de Bordeaux*; he is an editor for the Springer book series *Algorithms and Computations in Mathematics (ACM)*.

J.-M. Couveignes is associate editor of *Séminaires et Congrès* since 2008, of *Mathematics of Computation* since 2008, of *London Mathematical Society Journal for Computation and Mathematics* since 2009 and of *Publications mathématiques de Besançon* since 2010.

A. Enge is an editor of *Designs, Codes and Cryptography* since 2004.

9.1.2. Invited talks

- A. Enge: “Class polynomials for abelian surfaces by complex approximations” at *Number Theory, Discrete Mathematics and Their Applications*, Tsinghua University, China, 25–27/05

9.1.3. Conference organisation and programme committees

A. Enge acts on the scientific advisory board of the *Journées Nationales de Calcul Formel*.

9.1.4. Seminar

The following external speakers have given a presentation at the LFANT seminar, see

<http://lfant.math.u-bordeaux1.fr/index.php?category=seminar>

- Charles Boyd (Amherst): “Paridroid”
- Loïc Grenié (Bergamo): “A modular HNF”, “bnfinit ()”
- Vassily Golyshev (Bonn): “Searching for congruences of Galois representations ”
- Marco Streng (Warwick): “Smaller class invariants for quartic CM-fields”
- Gaëtan Bisson (Sydney): “Un algorithme à la Pollard pour le problème du sac à dos”
- Bruno Salvy: “Itération de Newton: du numérique à la combinatoire, et réciproquement”
- Bernhardt Schmidt (Singapore): “Values and ideals in combinatorial problems”
- Fernando Mario (Berlin): “Packings of bodies in Euclidean space”
- Luca De Feo (Versailles): “Towards Quantum-Resistant Cryptosystems from Supersingular Elliptic Curve Isogenies”

9.1.5. Research administration

K. Belabas is the head of the mathematics department of University Bordeaux 1. He also leads the computer science support service (“cellule informatique”) of the Institute of Mathematics of Bordeaux and coordinates the participation of the institute in the regional computation cluster PlaFRIM.

He is a permanent invited member of the councils of both the math and computer science department (UFR) and the Math Institute (IMB).

J.-P. Cerri is an elected member of the scientific council of the Mathematics Institute of Bordeaux (IMB) and responsible for the bachelor programme in mathematics and informatics.

Since January 2011, J.-M. Couveignes is involved in the *GDR mathématiques et entreprises* and in the *Agence pour les mathématiques en interaction avec l'entreprise et la société*.

A. Enge is responsible for the international affairs of Inria–Bordeaux-Sud-Ouest and a member of the COST-GTRI, the Inria body responsible for evaluating international partnerships.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- K. Belabas
Algèbre et Calcul Formel, 100h, M2, Université Bordeaux 1, France
- J.-P. Cerri
Cryptographie et Arithmétique, 24h, L3, Université Bordeaux 1, France
Arithmétique, 36h, M1, Université Bordeaux 1, France
Algorithmic Number Theory, 70h, M2, Université Bordeaux 1, France
- J.-M. Couveignes
Algorithms for public key cryptograph, 40h, M2, Université Bordeaux 1, France
Algorithms for number fields, 40h, M2, Université Bordeaux 1, France
Algorithms for Modular Curves, Jacobians and Forms, 16h, Tsinghua University, Beijing, China
- A. Enge:
Elliptic Curves in Cryptologie, 14h, L2–PhD, Tsinghua University, Beijing, China
- P. Lezowski: Moniteur and ATER at Université Bordeaux 1
MHT411: Groupes, anneaux, corps, TD, 40h, L2, Université Bordeaux 1, France
MIMI1002: Fondamentaux pour les Mathématiques et l'Informatique, cours–TD, 80h, L1, Université Bordeaux 1, France
- N. Mascot: Moniteur at Université Bordeaux 1
MOSE1003: Analyse et algèbre, cours–TD, 36h h, L1, Université Bordeaux 1, France
MIMI1001: Bases de l'analyse, cours–TD, 37.5h, L1, Université Bordeaux 1, France
- A. Page: Moniteur at Université Bordeaux 1
MICP3022: Maths analyse II, TD, 42h, L2, Université Bordeaux 1, France
M1mi2012: Algèbre 1, TD, 18h, L1, Université Bordeaux 1, France

9.2.2. Supervision

- K. Belabas, A. Enge
PhD Aurel Page, *Méthodes explicites pour les groupes arithmétiques*, University Bordeaux
- K. Belabas, J.-M. Couveignes
PhD Nicolas Mascot, *Calcul de représentations galoisiennes modulaires*, University Bordeaux
- K. Belabas, P. Stevenhagen
PhD Athanasios Angelakis, *Number fields sharing the same abelianized Galois group*, ALGANT, University Bordeaux and University Leiden
- K. Belabas, T. Dokchitser, P. Stevenhagen
PhD Julio Brau, *Computing Galois representations attached to elliptic curves*, ALGANT, University Bordeaux and University Leiden

- A. Enge, D. Robert
PhD Enea Milio, *Isogénies entre surfaces abéliennes*, University Bordeaux

9.2.3. Juries

- K. Belabas
PhD Pierre Lezowski, *Questions d'Euclidianité*, University Bordeaux, 07/12 (committee).
HdR Emmanuel Thomé *Théorie algorithmique des nombres et applications à la cryptanalyse de primitives cryptographiques*, University Nancy-Lorraine, 13/12 (referee, committee).
- A. Enge
PhD Jean-Pierre Flori, *Fonctions booléennes, courbes algébriques et multiplication complexe*, Télécom Paristech, 03/02 (president)
PhD Aurélien Bajolet, *Aspects numériques de l'analyse diophantienne*, University Bordeaux, 07/12 (committee)

9.3. Popularization

N. Mascot and A. Page have given a presentation “Cryptologie” for the Fête de la Science.

J.-M. Couveignes has given a presentation at the seminar “Unithé ou café” of INRIA Bordeaux–Sud-Ouest on “Vous trouvez ça complexe? Tant mieux!”.

A. Enge has contributed to the Inria exhibition around Turing, computing machines and cryptology for the Fête de la Science.

A. Enge has given a presentation “Petit théorème de Fermat et courbes elliptiques, les mathématiques au service du secret” for the yearly meeting of Association des professeurs de mathématiques de l'enseignement public.

LOGNET Team

8. Dissemination

8.1. Scientific Animation

Members of the LogNet team commonly participate in the reviewing of conference and journal papers.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Luigi Liquori, Peer-to-peer 1, 31.5hTD, M2, Université of Nice Sophia-Antipolis;

8.2.2. Supervision

PhD: Petar Maksimovic, “Development and Verification of Probability Logics and Logical Frameworks”, Faculty of Technical Sciences, University of Novi Sad, Serbia and the University of Nice Sophia Antipolis, end of June 2012, Silvia Ghilezan and Luigi Liquori

PhD: Vincenzo Ciancaglini, “Extending the reach of overlay networks through distributed gateways: design, modeling and applications”, Université de Nice-Sophia Antipolis, Juin 2013, Luigi Liquori, Jean-Christophe Pazzaglia (SAP).

PhD in progress: Thao Nguyen, “Trust and reputation management in online marketplaces”, Université de Nice-Sophia Antipolis, November 2010, Luigi Liquori and Bruno Martin (UNICE).

PhD in progress: Riccardo Loti, “Modeling and evaluation of protocols for Delay Tolerant Networks exploiting DHT, Content driven routing, and rateless codes”, Université de Nice-Sophia Antipolis and University of Turin Italy, January 2011, Luigi Liquori and Rossano Gaeta (UNITO).

PhD in progress: Giang Ngo, “Inter-heterogeneous overlay co-operation”, Université de Nice-Sophia Antipolis and HUST, Hanoi Institute of Science and Technology, Vietnam, October 2011, Luigi Liquori and Nguyen Chan Hung (HUST).

8.2.3. Juries

- Referee of the Claudia Tavares Ph.d., “Un système de types pour la programmation par réécriture embarquée”, Loria, 2012.

8.3. Popularization

The LogNet team has conducted a dozen circa of sessions of popularization of the myMed software (typically an “atelier de formation au réseau social myMed”). Public are typically students, administration people of many town or institutions (CG06, Mairies, Hospital, etc.).

MACS Project-Team

8. Dissemination

8.1. Scientific Animation

Dominique Chapelle

- Associate editor of international journals *Computers & Structures* and *M2AN*
- Guest editor-in-chief (with J.-F. Gerbeau) for *M2AN* special issue “Direct and inverse modeling of the cardiovascular and respiratory systems”
- Frequent reviewer for journals *Computer Methods in Applied Mechanics and Engineering*, *IJNME*
- Program committee of conference “Functional Imaging and Modeling of the Heart 2013”
- Invited lecturer at Mayneord-Phillips Summer School (Oxford, 2–6 July 2012)
- Invited seminars at ETH-Zürich 17/10, CMAP (Ecole Polytechnique) 13 Nov.

Philippe Moireau

- Reviewer this year for *M2AN* *BMMB* and *EJSOL* journals and the American Control Conference
- Project expert reviewer this year for the ANR and the Region Aquitaine
- Invited lecturer at Mayneord-Phillips Summer School (Oxford, 2–6 July 2012) on “Parameter calibration and identification for the cardiovascular system”
- Invited lecturer at Medisys Lab - Philips Research Seminar on “Joint state-parameter estimation for PDEs by observer and optimal filtering strategies”
- Speaker at “PICOOF 2012” Conference on “Improving Numerical Analysis Using Observers - the Second-Order Hyperbolic Case”

Alexandre Imperiale

- Speaker at “CANUM 2012” Conference on “Numerical convergence of semi-discrete time and space under-sampled observers for vibrating systems. Application to the wave equation”, May 2012
- Speaker at Medisys Lab - Philips Research Seminar on “Methodological framework for estimation in a cardiac model using tagged-MR images”, July 2012
- Speaker at Inria-Rocquencourt Junior Seminar on “Concepts of data assimilation in cardiac modeling”, April 2012

Annabelle Collin

- Poster at “CANUM 2012” Conference on “A surface-based electrophysiological model motivated by cardiac atria modeling and relying on asymptotic considerations”, May 2012
- Speaker at Junior Seminar Marne-La-Vallée on “A surface-based electrophysiology model relying on asymptotic analysis with physiological simulations”, November 2012

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Philippe Moireau

Bachelor degree: “MA103 - Introduction aux EDP et à leur approximation numérique”, 14h, M1, ENSTA ParisTech, France

Master: “MA201 - La méthode des éléments finis”, 14h, M2, ENSTA ParisTech, France

Annabelle Collin

Bachelor degree: "Sequences, series, integration" , UPMC, spring 2012

Bachelor degree: "Linear algebra", UPMC, fall 2012

8.2.2. Supervision

PhD & HdR :

Master internship: Alexandre Routier, “Image-based observation operators for data assimilation in cardio-mechanics using currents”, INSA Rouen, june-october 2012, Advisors: A. Imperiale and P. Moireau

Master internship: Silvia Rosellini, “Towards a finite element mesh of a complete human heart”, Pisa University, june-october 2012, Advisor: A. Collin

PhD in progress: Annabelle Collin, “Dimensional reduction and electro-mechanical coupling for the modeling of electrophysiology and muscle contraction”, UPMC, started September 2011, advisors D. Chapelle and J.-F. Gerbeau

PhD in progress: Alexandre Imperiale, “Image-based observation operators for data assimilation in cardio-mechanics”, UPMC, started October 2010, advisors D. Chapelle and P. Moireau

PhD defended in May: Daniele Trimarchi, “Analysis of downwind sail structures using non-linear shells finite elements – Wrinkle development and fluid interaction effects”, University of Southampton, co-supervision D. Chapelle

8.2.3. Juries

Dominique Chapelle

- Thesis committee chairman: R. Sheshka, Ecole Polytechnique, 21 Sept.
- Thesis committee: D. Lopez, Ecole Polytechnique, 15 Oct.
- Thesis committee: C. Bertoglio, UPMC, 23 Nov.

8.3. Popularization

Dominique Chapelle

- Participation to an interview on “la Météo du Coeur” for new site inriality
- Speaker in “Débat citoyen” (Inria-Saclay, 19/11)
- Participation in “Rencontre Inria Industrie” on numerical simulation for medicine (Strasbourg, 21/11)

Philippe Moireau

- Participation to an interview on “la Météo du Coeur” for new site inriality

Annabelle Collin

- Best Poster Award at “CANUM 2012” Conference on “A surface-based electrophysiological model motivated by cardiac atria modeling and relying on asymptotic considerations”

MADYNES Project-Team

9. Dissemination

9.1. Scientific Animation

Olivier Festor is the Co-Chair together with Aiko Pras from University of Twente of the IFIP Working-Group 6.6 on Network and systems management. This working group is actively involved the animation of most major conferences in this research area and organizes frequent meetings and workshops on the domain.

Olivier Festor is the Co-chair together with Lisandro Zambenedetti Grandvile from the Federal University of Rio Grande do Sul (UFRGS) of the Internet Research Task Force (IRTF) Network Management Research Group since march 2011. We organized a Flow management workshop at the Inria premises in Paris during IETF 83.

Olivier Festor served as a TPC Member of the following 2012 events: IEEE/IFIP Network Operations and Management Symposium (NOMS'2012); IFIP IEEE in conjunction with ACM CNSM'2012; ICCVE'2012; Globecom CSSM'2012; PST 2012, AFRICOMM 2012 and Policy 2012.

Olivier Festor was Student Travel Grants co-chair for the IEEE/IFIP Network Operations and Management Symposium (IEEE NOMS'2012).

Olivier Festor is member of the board of editors of the Springer Journal of Network and Systems Management. He is member of the editorial board of the IEEE Transactions on Network and Service Management.

Olivier Festor server as a TPC Co-chair of the IEEE International Conference on Communications (IEEE ICC), Communication and Information System Security Symposium 2012. He also serves as a TPC member of the 2012 ICC Communication Software Services and Multimedia Applications Symposium (CSSMA).

Olivier Festor is the Research Director of EIT ICT Labs.

Isabelle Chrisment the Co-Chair together with Ahmed Serhrouchni from Telecom ParisTech of the IFIP Task Force 6.5 on Secure Networking This Task Force provides a framework for the organization of activities within the scope of secure networking. It facilitates international cooperation activities and exchanges in this area.

Isabelle Chrisment served as a TPC member of : the 6th International IFIP Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS'2012); the 13th joint TC6 and TC11 International IFIP Conference on Communications and Multimedia Security (IFIP CMS'2012) ; the Communication and Information Systems Security Symposium in the IEEE International Conference on Communications (IEEE ICC'12); the 14th french-speaking workshop on Algorithms in Telecommunications (Algotel'2012).

Remi Badonnel served as a TPC member of : the IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS'2012, PhD Symposium); the IEEE International Conference on Communications (IEEE ICC'12, CISS); the IEEE/IFIP Network Operations and Management Symposium (IEEE/IFIP NOMS'2012); the IEEE/IFIP International Workshop on Management of the Future Internet (IEEE/IFIP MANFI'2012); the International Conference on Cloud Computing and Services Science (CLOSER'2012).

Remi Badonnel chaired sessions at the following conferences:

- the IEEE International Conference on Communications (IEEE ICC'12, CISS),
- the IEEE/IFIP Network Operations and Management Symposium (IEEE/IFIP NOMS'2012),
- the IEEE/IFIP International Workshop on Management of the Future Internet (IEEE/IFIP MANFI'2012),
- the IEEE/IFIP/In Assoc. with ACM SIGCOMM International Conference on Network and Service Management (IEEE/IFIP/In Assoc. with ACM SIGCOMM CNSM'2012).

Ye-Qiong Song served as a TPC Member of the following 2012 events: the 17th IEEE international conference on Emerging Technologies & Factory Automation (ETFFA'2012) ; the 9th IEEE international conference on Embedded Software and Systems (ICCESS 2012) ; the 9th IEEE international workshop on Factory Communication Systems (WFCS 2012) ; the 10th International Conference On Smart homes and health Telematics (ICOST 2012); Workshop on Assistance and Service robotics in a human environment at IROS 2012; the International Workshop on Cooperative Robots and Sensor Networks (RoboSense 2012) in conjunction with the 3rd International Conference on Ambient Systems, Networks and Technologies (ANT-2012) ; the IEEE International Conference on Internet of Things (iThings 2012) ; the 11th International Workshop on Real-Time Networks (RTN 2012).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

There is a high demand on networking courses in the various universities in which LORIA takes part. This puts high pressure on MADYNES members which are all in charge of numerous courses in this domain. Especially the team professors and associate professors ensure more than the required amount of teaching obligation in their respective institutions: IUT, bachelor, master, ESIAL/TELECOM Nancy and École des Mines de Nancy engineering schools. In this section, we only enumerate the courses that are directly related to our research activity.

Laurent Andrey is the Head of Department of the Charlemagne IUT specialization on multimedia networking.

André Schaff is the Director of the ESIAL/TELECOM Nancy Engineering School. Isabelle Chriment is co-directing the school and is in charge of the students recruitment process. Remi Badonnel is heading the Telecommunications and Networks specialization of the 2nd and 3rd years at the ESIAL/TELECOM Nancy engineering school, and is also in charge of the 2nd year design and development projects at the same school. They teach the networking related courses in this cursus.

Laurent Ciarletta is heading the specialization Safe Systems Architecture of the Computer Science and IT department of the Ecole des Mines de Nancy ("Grande Ecole", Engineering School, Master degree level). He is most notably in charge of Advanced Networking, Middleware, Component-based software development, Pervasive Computing, Networking and Systems courses at the Ecole des Mines de Nancy. Notably, within the ARTEM alliance (ICN - Business School, Mines Nancy, Ecole d'Art / School of Art), he is a member of the Research Comitee, more specifically with the "Smart Working Spaces" research theme, and he is co-responsible for the "Businesses: the digital challenge *CORP 3.0*, *Entreprises : le défi numérique* and the *Imagineries and the Workspaces*, 2 classes within the ARTEM alliance (over 90 hours).

Team members are teaching the following courses:

Licence : Laurent Andrey, Introduction to networks, 56, niveau L1 (DUT), IUT nancy-Charlemagne, France

Licence : Laurent Andrey, Introduction to network services, 38, niveau L2 (DUT), IUT nancy-Charlemagne, France

Ecole Ingénieur : Rémi Badonnel, Networks and Services Management, 24, niveau M2 Ingénieur, TELECOM Nancy, France

Ecole Ingénieur : Rémi Badonnel, Industrial Project, 25, niveau M2 Ingénieur, TELECOM Nancy, France

Ecole Ingénieur : Rémi Badonnel, Networks and Systems, 32, niveau M1 Ingénieur, TELECOM Nancy, France

Ecole Ingénieur : Rémi Badonnel, Advanced Courses on Networks and Systems, 34, niveau M1 Ingénieur, TELECOM Nancy, France

Ecole Ingénieur : Rémi Badonnel, Algorithmics, Data Structures and Algebra, 32, niveau L3 Ingénieur, TELECOM Nancy, France

- Ecole Ingénieur : Rémi Badonnel, Design and Development Project, 16, niveau M1 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Rémi Badonnel, Initiation to Research Project, 18, niveau M1 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Rémi Badonnel, Object-Oriented Programming, 32, niveau L3 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Rémi Badonnel, XML Design and Development, 20, niveau L3 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Networking and Information System, 5, niveau L3 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Bootcamp (programming bootcamp), 16, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Operating Systems, 16, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Networking, 27, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Advanced Networking and Ambient Systems, 18, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Embedded Systems, 14, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Advanced Software Engineering, 18, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Middleware, 6, niveau M2 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Laurent Ciarletta, Android development, 12, niveau M1 and M2 Ingénieur, Collegium Ingenieur and Mines Nancy, France
- Master : Isabelle Chrisment, Sécurité des Réseaux et des Services, 12hTD, niveau M2, université de Lorraine, France
- Ecole Ingénieur : Isabelle Chrisment, Langage C et Shell, 42hTD, niveau L3 Ingénieur, Telecom Nancy
- Ecole Ingénieur : Isabelle Chrisment, Réseaux et Systèmes, 60hTD, niveau M1 Ingénieur, Telecom Nancy
- Ecole Ingénieur : Isabelle Chrisment, Réseaux et Systèmes Avancés, 30hTD, niveau M1 Ingénieur, Telecom Nancy
- Ecole Ingénieur : Isabelle Chrisment, , Routage Internet, 50hTD, niveau M2 Ingénieur, Telecom Nancy
- Master : Isabelle Chrisment, Sécurité des Réseaux et des Applications, 18hTD, niveau M2, université de Lorraine, France
- Ecole Ingénieur : Olivier Festor, P2P Algorithms, Protocols and Applications, 12, niveau M2 Ingénieur, Telecom Nancy & ENSEM, France
- Ecole Ingénieur : Olivier Festor, Voix sur IP, Protocols and Applications, 9, niveau M2 Ingénieur, Telecom Nancy, France
- Ecole Ingénieur : Abdelkader Lahmadi, Elements of Distributed Computing: algorithms and systems, 12, niveau M2 Ingénieur, ENSEM, France
- Ecole Ingénieur : Abdelkader Lahmadi, Internet Protocols and Applications, 15, niveau M2 Ingénieur, ENSEM, France
- Ecole Ingénieur : Abdelkader Lahmadi, Wireless Sensor Network Programming, 12, niveau M2 Ingénieur, ENSEM, France

Ecole Ingénieur : Abdelkader Lahmadi, Operating Systems and C language programming, 30, niveau M1 Ingénieur, ENSEM & Ecole des Mines de Nancy, France

Ecole Ingénieur : Abdelkader Lahmadi, Real time systems: concepts and programming, 30, niveau M1 Ingénieur, ENSEM & Ecole des Mines de Nancy, France

Ecole Ingénieur : Abdelkader Lahmadi, Relational Database, 20, niveau M1 Ingénieur, ENSEM, France

Ecole Ingénieur : Abdelkader Lahmadi, Java Programming, 50, niveau L1 Ingénieur, ENSEM, France

Ecole Ingénieur : Abdelkader Lahmadi, Computer Architecture ,50, niveau L1 Ingénieur, ENSEM, France

Ecole Ingénieur : Abdelkader Lahmadi, Techniques and Tools for Programming, 50, niveau L1 Ingénieur, Telecom Nancy, France

Licence : Thomas Silverston, De la Puce à l'Internet, 60, niveau L1, université de Lorraine, France

Master : Thomas Silverston, Réseaux Avancés, 87, niveau M2, université de Lorraine, France

Master : Thomas Silverston, Introduction aux Réseaux, 26, niveau M2, université de Lorraine, France

Master : Thomas Silverston, Voix sur IP, Contenu Multimédia, 38, M2, université de Lorraine, France

Licence : Thomas Silverston, Introduction aux Réseaux, 8, L3, université de Lorraine, France

Master : Ye-Qiong Song, Performance evaluation, 20, niveau M2, Université de Lorraine, France

Ecole Ingénieur : Ye-Qiong Song, Networking, 40, niveau M2, ENSEM - Université de Lorraine, France

Ecole Ingénieur : Ye-Qiong Song, Database, 10, niveau M1, ENSEM - Université de Lorraine, France

Ecole Ingénieur : Ye-Qiong Song, Algorithmic and programming (Java), 120, niveau L3, ENSEM - Université de Lorraine, France

9.2.2. Supervision

PhD : Sheila Becker, Conceptual Approaches for Securing Networks and Systems, University of Luxembourg and Université de Lorraine, 10/2012, Thomas Engel, Olivier Festor, Radu State.

PhD in progress : Oussema Dabebbi, Dynamic risk management in Voice over IP services, oct., 2009, Supervised by Remi Badonnel and Olivier Festor

PhD in progress : Martin Barrere, Cooperative Vulnerability Management ,oct., 2010, Supervised by Remi Badonnel and Olivier Festor

PhD in progress : Monitoring and Security in P2P file sharing networks. Juan Pablo Timpanaro, May 2010, Isabelle Chrisment

PhD in progress : César Bernardini, Réseau orienté-contenu basé sur les communautés d'utilisateurs, 01/11/2011, Olivier Festor et Thomas Silverston

PhD in progress : Patrick Olivier Kamgueu, Energy management in WSNs, juin, 2012, Supervised by Emmanuel Nataf and Olivier Festor in France, Thomas Djotio in Cameroun

PhD in progress : Jamila Ben Slimane, Joint allocation of time slot and frequency channels in wireless sensor networks, oct., 2008, Supervised by Ye-Qiong Song and Mounir Frikha

PhD in progress : François Despaux, Delay evaluation in wireless sensor networks for providing QoS, November 2011, Supervised by Ye-Qiong Song and Abdelkader Lahmadi

PhD in progress : Kevin Roussel : Dynamic management of QoS and energy in heterogenous sensor and actuator networks for e-health applications, December 2012, Supervised by Ye-Qiong Song

9.2.3. Juries

Team members participated to the following Ph.D. defense committees :

- Rafik Makhoulfi, Ph.D. in Computer Science from Université Technologique de Troyes. Title: *Vers une gestion adaptative des réseaux complexes: cas de la surveillance de données agrégées*, February 2012. (Olivier Festor)
- Fernando Menezes Matos, Ph.D. in Computer Science from University of Coimbra. Title: *QoS for Multi-Domain Services in Next Generation Networks*, June 2012. (Olivier Festor)
- Sivasothy Shanmugalingam, Ph.D. in Computer Science from Telecom et Management Sud Paris. Title: *Convergence of Web and Communication Services*, April 2012. (Olivier Festor)
- Sabina Akhtar, Ph.D. in Computer Science from Université de Lorraine. Title: *Verification of Distributed Algorithms using PlusCal-2*, May 2012. (Isabelle Chrisment)
- Tomas Navarrete Gutierrez, Ph.D in computer Science from Université de Lorraine. Title: *Une architecture de contrôle de systèmes complexes basée sur la simulation multi-agent*, October 2012. (Laurent Ciarletta)
- Fernand Lone Sang, Ph.D. in Computer Science from Université de Toulouse. Title: *Protection des systèmes informatiques contre les attaques par entrées-sorties*, November 2012. (Olivier Festor)
- Damien Roth, Ph.D. in Computer Science from Université de Strasbourg. Title: *Gestion de la mobilité dans les réseaux de capteurs sans fil*, Novembre 2012. (Isabelle Chrisment)
- Raphael Fournier-S'niehotta, Ph.D. in Computer Science from Université Pierre et Marie Curie - Sorbonne Universités. Title: *Détection et analyse d'une thématique rare dans de grands ensembles de requêtes : l'activité pédophile dans le P2P.*, December 2012. (Olivier Festor)
- Hai Anh Tran, Ph.D. in Computer Science from Université Paris Est. Title: *QoE-based Content Distribution Network Architecture*, December 2012. (Olivier Festor)
- Hien Thi Thu Truong, Ph.D. in Computer Science from Université de Lorraine. Title: *Un modèle de collaboration basée sur les contrats et la confiance*, December 2012. (Isabelle Chrisment)
- Aruna Jamdagni In, Ph.D. in Computer Science from University of Technology, Sydney Australia. Title: *Payload-based Anomaly Detection in HTTP Traffic.*, (Isabelle Chrisment)

Team members participated to the following Habilitation Degree defense committees :

- Pascal Anelli, Habilitation Degree in Computer Science from Université de la Réunion. Title: *Des aléas de la communication: de la transmission au transport*, April 2012. (Olivier Festor)
- Frédéric Weis, Habilitation Degree in Computer Science from Université de Rennes 1. Title: *Exploitation d'approches système dans les réseaux sans fil*, June 2012. (Olivier Festor)
- Ludovic Apvrille , Habilitation Degree in Computer Science from Université de Nice-Sophia Antipolis. Title: *Model-Based Design of Complex Embedded Systems*, December 2012. (Olivier Festor)
- Eric Totel, Habilitation Degree in Computer Science from Université de Rennes 1. Title: *Techniques de Détection d'Erreur Appliquées à la Détection d'Intrusion*, Novembre 2012. (Isabelle Chrisment)
- Laurent Toutain, Habilitation Degree in Computer Science from Université Européenne de Bretagne. Title: *Vers un Internet Polymorphe*, December 2012. (Olivier Festor)

MAESTRO Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Editorial activities

MAESTRO members are

Editor-in-Chief of

- *Performance Evaluation* (PEVA) (**P. Nain** since January 1st, 2008);

Associate Editors of (in alphabetical order)

- *Computer Communications* (COMCOM) (**E. Altman** since 2010);
- *Dynamic Games and Applications* (DGAA) (**E. Altman** since 2011);
- *Journal of Economic Dynamics and Control* (JEDC) (**E. Altman** since 2001);
- *Performance Evaluation* (PEVA) (**K. Avrachenkov** since 2008);

Guest editor of Special Issues of

- *IEEE Journal of Selected Areas in Communications* (JSAC) on “The economics of communication networks and systems” [77] (**E. Altman**).

8.1.2. Conferences, meetings and tutorial organization

MAESTRO members were

in the Steering Committee of

- 10th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2012, Paderborn, Germany) (**E. Altman** as chair);
- 6th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUE-TOOLS, Cargèse, France) (**E. Altman** as co-chair);
- 6th Intl. Conference on Network Games, Control and Optimization (NETGCOOP 2012, Avignon, France) (**E. Altman**);
- Workshop on Telecom Economics, Engineering and Policy (co-located with ITC 2012, Kraków, Poland) (**E. Altman**);

TPC co-chair of

- 6th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUE-TOOLS 2012, Cargèse, France) (**A. Jean-Marie**);
- Workshop “Networking games & resource allocation” (Petrozavodsk, Russia) (**E. Altman**).

8.1.3. Participation in technical program committees (TPC)

MAESTRO members were in the TPC of

1. ACM 3rd Intl. Workshop on Mobile Opportunistic Networks (MobiOpp 2012, Zurich, Switzerland) (**G. Neglia**);
2. ACM SIGMETRICS/Performance 2012 (London, UK) (**A. Jean-Marie**);
3. 8th Advanced International Conference on Telecommunications (AICT 2012, Stuttgart, Germany) (**K. Avrachenkov**);
4. IADIS Multi Conference on Computer Science and Information Systems (MCCSIS 2012, Lisbon, Portugal) (**M. Haddad**);
5. 32nd IEEE Intl. Conference on Computer Communications (IEEE INFOCOM 2013, Turin, Italy) (**G. Neglia**);
6. IEEE 77th Vehicular Technology Conference (VTC2013-Spring, Dresden, Germany) (**S. Alouf, D. Ciullo**);
7. 3rd Intl. Conference on Access Networks (ACCESS 2012, Venice, Italy) (**K. Avrachenkov**);
8. 19th Intl. Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA 2012, Grenoble, France) (**K. Avrachenkov**);
9. Intl. Conference on Computer Communication Networks (ICCCN 2012, Munich, Germany) Network Science and Social Networks Track (**G. Neglia**);
10. 6th Intl. Conference on Game Theory and Management (GTM 2012, St. Petersburg, Russia) (**E. Altman**);
11. 3rd Intl. Conference on Game Theory for Networks (Gamenets 2012, Vancouver, Canada) (**E. Altman**);
12. 6th Intl. Conference on Network Games, Control and Optimization (NETGCOOP 2012, Avignon, France) (**K. Avrachenkov**);
13. 11th Intl. Conference on Next Generation Wired/Wireless Networking (NEW2AN 2012, St. Petersburg, Russia) (**K. Avrachenkov**);
14. 6th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS 2012, Cargèse, France) (**S. Alouf, K. Avrachenkov, A. Jean-Marie, P. Nain, G. Neglia**);
15. 2nd Intl. Conference on Smart Grids and Green IT Systems (SMARTGREENS 2013, Aachen, Germany) (**D. Ciullo**);
16. 3rd Intl. Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (Energy 2013, Lisbon, Portugal) (**D. Ciullo**);
17. 27th Intl. Symposium on Computer and Information Sciences (ISCIS 2012, Paris, France) (**A. Jean-Marie**);
18. 14th Intl. Symposium on Dynamic Games and Applications (ISDGA 2012, Byšice, Czech Republic) (**E. Altman**);
19. 10th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2012, Paderborn, Germany) (**S. Alouf**);
20. 24th Intl. Teletraffic Conference (ITC 2012, Kraków, Poland) (**S. Alouf**);
21. 5th Intl. Workshop on Multiple Access Communications (MACOM 2012, Dublin, Ireland) (**K. Avrachenkov**);
22. Intl. Workshop “Networking Games and Management” (Petrozavodsk, Russia) (**K. Avrachenkov**);
23. 14èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (Algo-Tel 2012, La Grande Motte, France) (**A. Jean-Marie**);
24. 8th Spain, Italy and Netherlands Meeting on Game Theory (SING 8, Budapest, Hungary) (**E. Altman**);
25. 9th Workshop on Algorithms and Models for the Web Graph (WAW 2012, Halifax, Nova Scotia, Canada) (**K. Avrachenkov**);
26. 14th Workshop on Mathematical Performance Modeling and Analysis (MAMA 2011, London, UK) (**A. Jean-Marie, P. Nain**);
27. First Workshop on Pricing and Incentives in Networks (W-PIN 2012, London, UK) (**E. Altman**).

8.1.4. Leadership within the scientific community

- E. Altman was one of the two recipients of the France Telecom Prize delivered by the Académie des Sciences.
- E. Altman is a fellow member of IEEE (Class of 2010).
- E. Altman, A. Jean-Marie and P. Nain are (elected) members of IFIP WG7.3 on “Computer System Modeling”.
- P. Nain is the vice-Chair of the IFIP WG7.3 working group on “Computer System Modeling” (since June 30, 2007).

8.1.5. Research administration

E. Altman is co-responsible of one of the five themes of the SFR (Structure Fédérative de Recherche) AGORANTIC (in which INRIA is a founding member) entitled “Digital Culture and Virtual Societies.”

K. Avrachenkov (together with A. Legout and F. Gandon) is co-responsible of the multi-disciplinary research theme (Action Transversale) “Semantic and Complex Networks” at INRIA Sophia Antipolis - Méditerranée.

A. Jean-Marie

- is the scientific coordinator of INRIA activities in Montpellier (since 2008);
- is member of the managing sub-committee of the Project-Team Committee of the INRIA Sophia Antipolis - Méditerranée research center (since July 2010);
- is a member of the Steering Committee of the GDR RO, a national research initiative on Operations Research sponsored by the CNRS;
- was a member of the Recruiting Committee of INRIA engineers and technicians (IT) at Inria Sophia Antipolis - Méditerranée;
- was a member of the Selection Committee of the 2012 Robert Faure prize of the French Society for Operations Research and Decision Support (ROADEF).

P. Nain

- is Chairman of INRIA’s Evaluation Committee since September 1st, 2012 (<http://www.inria.fr/en/institute/organisation/committees/evaluation-committee>);
- is Head of project-team MAESTRO;
- is a member of the INRIA steering group (13 people including 6 researchers) in charge of producing of the INRIA 2013-2017 strategic plan;
- has represented INRIA/ at the Scientific Council of the Univ. of Nice-Sophia Antipolis from July 2011 to June 2012.

MAESTRO members are in the following committees of INRIA Sophia Antipolis - Méditerranée

- CC: General Information Commission (**N. Choungmo Fofack** as PhD Student Representative, since 2011);
- ComRes: Commission Restauration (**N. Choungmo Fofack** as PhD Student Representative, since 2011);
- CSD: Doctoral Committee (**S. Alouf**, since February 2006);
- MASTIC: a commission in charge of internal and regional scientific animation and popularization (**S. Alouf**, since November 2011);
- NICE: Invited Researchers Committee (**K. Avrachenkov**, since 2010);

and in charge of the following tasks

- Validation of Teams yearly activity reports (**K. Avrachenkov**, since 2010);
- Accounting for the monthly Project-Team Committee meetings (**S. Alouf**);
- Organizing MAESTRO internal meetings (**N. Choungmo Fofack**).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : S. Alouf, "Probability and Statistics", 36H ETD, 1st year Water Engineering degree (L3), Univ. of Nice Sophia Antipolis (UNS), France.

Licence : N. Choungmo Fofack, "Stochastic processes for Signal Processing", 64H ETD, 1st year Electronic Engineering degree (L3), Univ. of Nice Sophia Antipolis (UNS), France.

Licence : M. El Chamie, "Database", 20H ETD, Computer Science Program (L2), Univ. of Nice Sophia Antipolis (UNS), France.

Master : S. Alouf, "Performance Evaluation of Networks", 32.5H ETD, M2 IFI Ubinet, Univ. of Nice Sophia Antipolis (UNS), France.

Master : K. Avrachenkov, "Probability and Statistics", 27H ETD, M1 EuroAqua, Univ. of Nice Sophia Antipolis (UNS), France.

Master : A. Jean-Marie, "Metrology and Quality of Service for Networks", 18H ETD, M2, Univ. of Montpellier 2, France.

Master : G. Neglia, "Performance Evaluation of Networks", 22.5H ETD, M2 IFI Ubinet, Univ. of Nice Sophia Antipolis (UNS), France.

Doctorat : E. Altman, "Competition for popularity in social networks", 4H ETD, 2nd Intl. Summer School on Cognitive Wireless Communications (COST Action IC0902), France.

Doctorat : A. Jean-Marie, "Advanced Markov Modeling", 18H ETD, Univ. of Montpellier 2, France.

Doctorat : G. Neglia, "Complex Networks", 4.5H ETD, Univ. of Palermo, Italy.

Doctorat : G. Neglia, "Perron Frobenius Theory", 20H ETD, Univ. of Nice Sophia Antipolis (UNS), France.

8.2.2. Supervision

PhD: Lorenzo Maggi, "Markovian Competitive and Cooperative Games with applications to Communications," Univ. of Nice Sophia Antipolis, October 9 2012, advisors: Konstantin Avrachenkov and Laura Cottatellucci (INSTITUT EURECOM).

PhD in progress: Ilaria Brunetti, "Cooperative and competitive content dissemination in social networks," October 1 2012, advisor: Eitan Altman.

PhD in progress: Nicaise Choungmo Fofack, "Performance Evaluation of TTL-based resource networks," October 1 2010, advisors: Sara Alouf and Philippe Nain.

PhD in progress: Richard Combes, "Self-organizing functionalities in radio networks," October 1 2009, advisors: Eitan Altman and Zwi Altman (France Telecom) and Sylvain Sorin (Univ. Pierre and Marie Curie).

PhD in progress: Eugenio Della Vecchia, "Contribution to the solution of problems in stochastic control and games", October 1 2008, advisors: Silvia Di Marco (National Univ. of Rosario, Argentina) and Alain Jean-Marie.

PhD in progress: Mahmoud El Chamie, "Belief propagation in complex networks," October 1 2011, advisors: Konstantin Avrachenkov and Giovanni Neglia.

PhD in progress: Julien Gaillard, "Creation, simulation and multidiscipline evaluation of dynamic mobility models in complex systems," October 1 2011, advisors: Eitan Altman, Marc El-Bèze (Univ. of Avignon) and Emmanuel Ethis (Univ. of Avignon).

PhD in progress: Manjesh Kumar Hanawal, "Resource allocation and learning algorithms in small cells wireless networks," January 1 2010, advisors: Eitan Altman and Rachid El-Azouzi (Univ. of Avignon).

PhD in progress: Cengiz Hasan, “Optimization of resource allocation for small cells networks,” January 1 2010, advisors: Eitan Altman and Jean-Marie Gorce (INRIA project-team SWING).

PhD in progress: Alexandre Reiffers, “Modelling competition and cooperation in telecommunication networks,” October 15 2012, advisor: Eitan Altman.

PhD in progress: Marina Sokol, “Clustering and learning techniques for traffic/user classification,” October 1 2009, advisors: Paulo Gonçalves (INRIA project-team RESO) and Philippe Nain.

8.2.3. *Juries*

MAESTRO members participated in the Habilitation (HDR) thesis committees of (in alphabetical order):

- Olivier Brun: February 6, 2012, LAAS-CNRS (**K. Avrachenkov** as jury member);

and in the PhD thesis committees of (in alphabetical order):

- Ali Arshad: November 12, 2012, Telecom SudParis (**K. Avrachenkov** as reviewer, **E. Altman** as jury member);
- Olivier Fercoq: September 17, 2012, Ecole Polytechnique (**K. Avrachenkov** as reviewer);
- Oussama Habachi: September 28, 2012, Univ. of Avignon (UAPV) (**E. Altman** as jury member);
- Lorenzo Maggi: October 9, 2012, INSTITUT EURECOM (**K. Avrachenkov** as co-advisor);
- Marco Rosa: March 6, 2012, Univ. of Milano, Italy (**K. Avrachenkov** as reviewer);
- Cristiano Tapparello: March 14, 2012, Univ. of Padua, Italy (**G. Neglia** as reviewer);
- Cheng Wan: September 26, 2012, Univ. Pierre et Marie Curie (Paris 6) (**E. Altman** as reviewer).

8.3. Popularization

Activities are presented in chronological order:

- M. El Chamie presented the topic “Belief propagation and classification in complex networks” at the *Salon du Numérique*, Inria stand, held in parallel with the World Wide Web 2012 (www2012) conference, April 16–20, 2012, Lyon, France.
- A. Reiffers delivered a conference titled “Competition over popularity in social networks” organized by the association “Les petits débrouillards” in Carpentras on October 16, 2012.
- S. Alouf delivered two conferences titled “Comment marche le Web ?” at the Henri Matisse High School of Vence (December 6, 2012), and at the Aix-Valabre High School at Gardanne (December 13, 2012).
- An article portraying N. Choungmo Fofack has appeared in *LISA* (December 7, 2012), available here: <https://lisa.sophia.inria.fr/nicaise-choungmo-fofack-doctorant-dans-lequipe-maestro-797.html>.
- E. Altman made a presentation on “Des points de rencontre entre la technologie de l’information et les sciences humaines et sociales” in the *Café-in* series of popular content at the INRIA Sophia Antipolis - Méditerranée Center on December 17, 2012.
- An article titled “Internet” has appeared in *Savoirs Jeunes* (December 17, 2012) (interview of S. Alouf by E. Kuntzelmann, available here: <http://juniors.savoirs.essonne.fr/questions-a>).

8.4. Participation in scientific events

8.4.1. *Keynotes, tutorials and invited talks*

MAESTRO members gave the following keynote lectures (in alphabetical order):

- *The mathematics of file dissemination*, at the 6th Young European Queueing Theorist (YEQT-VI) workshop on “Analytic Methods in Queueing Systems”, November 1–3, 2012, Eindhoven, The Netherland (**P. Nain**);

the following tutorials (in alphabetical order):

- *Competition over popularity of content in social networks*, at the 6th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS), October 8, 2012, Cargèse, France (**E. Altman**);
- *Game theoretic modeling of competition over popularity in social networks*, at the 6th Intl. Conference on Network Games, Control and Optimization (NetGCoop), November 28, 2012, Avignon, France (**E. Altman**);
- *Socio-economic and legal Issues in the Internet: game theoretical models*, at the 6th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS), October 8, 2012, Cargèse, France (**E. Altman, M. K. Hanawal**);

and the following invited talks (in alphabetical order):

- *Analysis of power saving in cellular networks with continuous connectivity*, at the Basque Center for Applied Mathematics (BCAM), June 20, 2012, Bilbao, Spain (**S. Alouf**);
- *Competition over popularity in social networks*, at Imperial college, December 7, 2012, London, UK, and at the Institut Supérieur d'Informatique et des Techniques de Communication, December 15, 2012, Hammam Sousse, Tunisia, (**E. Altman**);
- *Distributed weight selection in consensus protocols by Schatten norm minimization*, at Fordham university, November 20, 2012, Rose Hill Campus Bronx, NY 10458 (**G. Neglia**);
- *Optimal control of carbon sequestration: the case of leaky reservoirs*, at the Univ. of Valladolid, Dept. Applied Maths, February 29, 2012, Valladolid, Spain (**A. Jean-Marie**);
- *Quick detection of large degree nodes in complex networks*, at the Univ. of Liverpool, May 17, 2012, Liverpool, UK (**K. Avrachenkov**).

8.4.2. Conferences and workshops

MAESTRO members gave presentations at the following scientific events (in alphabetical order):

- 31st IEEE Intl. Conference on Computer Communications (IEEE INFOCOM 2012), March 25–30, Orlando, Florida, USA (**J. Gaillard**);
- 6th Intl. Conference on Network Games, Control and Optimization (NetGCoop 2012), November 28–30, 2012, Avignon, France (**E. Altman, K. Avrachenkov**);
- 6th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS 2012), October 9–12, Cargèse, France (**E. Altman, N. Choungmo Fofack, M. Haddad**);
- 10th Intl. Symposium on Modeling and Optimization in Mobile, Ad hoc and Wireless Networks (WiOpt), May 14–18, Paderborn, Germany (**E. Altman**);
- 3rd Intl. Workshop on Traffic Analysis and Classification (TRAC 2012), August 27–31, Limassol, Cyprus (**K. Avrachenkov**);
- Optimization Days 2012, May 7–9, Montreal, Canada (**A. Jean-Marie**);
- 12th Viennese Workshop on Optimal Control, Dynamic Games and Nonlinear Dynamics, May 30 - June 2, Vienna, Austria (**A. Jean-Marie**);
- Workshop on Network Science in Electrical Engineering and Computer Science, January 09–13, 2012, Bangalore, India (**E. Altman**);
- BiCi Workshop: Sinergic Investigations in Network Science (SINS), October 14–19, 2012, Bertinoro, Italy (**K. Avrachenkov**).

8.4.3. Technical program committee meetings

MAESTRO members have participated in the following TPC meetings:

- 32nd IEEE Intl. Conference on Computer Communications (IEEE INFOCOM 2013), November 10, 2012, Phoenix, Arizona, USA (**G. Neglia**);
- 24th Intl. Teletraffic Conference (ITC 2012), May 11, 2012, Paris, France (**S. Alouf**).

8.4.4. Schools and students workshops

MAESTRO members have attended the following courses:

- Course in “Scaling methods for stochastic networks” (10H) at the Basque Center for Applied Mathematics (BCAM), January 16–20, 2012, Bilbao, Spain (**N. Choungmo Fofack**);
- Euro-NF PhD Course in “Information Centric Networking” (30H) at Athens Univ. of Economics and Business (AUEB), May 14–18, 2012, Athens, Greece (**N. Choungmo Fofack**);
- Tutorials on “Performance Evaluation Methodologies and Tools” (20H) at VALUETOOLS 2012 Conference, October 9–12, 2012, Cargèse, France (**I. Brunetti, M. El Chamie, J. Gaillard, O. Habachi, A. Reiffers**).

MAGIQUE-3D Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Conferences Organization

- In collaboration with the Institute of Numerical Mathematics and Mathematical Geophysics (Novosibirsk State University), Magique 3D organized the First Russian-French Conference on Mathematical Geophysics, Mathematical Modeling in Continuum Mechanics and Inverse Problems (June 18-22) in Biarritz. This conference was the kick-off meeting of the GEO3D project between the two teams. It focused on direct and inverse problems in mathematical geophysics, mathematical modeling in continuum mechanics, and wave propagation.

Gathering well recognized specialists with a large spectrum of domain of expertise (geophysical modeling, wave propagation, numerical analysis, large scale problems, inverse problems...), it aimed at creating synergy resulting in theoretical and technological advances in these domains. It initiated discussions and defined joint research projects between French and Russian researchers.

It gathered around forty participants.

<http://uppa-inria.univ-pau.fr/m3d/ConfFR/>

- Magique 3d coorganized with the BCAM the Aquitaine-Euskadi Workshop on Applied Mathematics (October 29-31) in Biarritz. It was the closing workshop of the AKELARRE project (Aquitaine-Euskadi fundings), it focused on wave problems which were the subject of the joint project and take place in different areas of applied mathematics (control, finite elements, asymptotic analysis, boundary conditions, high performing computing, ...). and it gathered around 30 participants.

<http://uppa-inria.univ-pau.fr/m3d/ConfInriaBcam/>

9.1.2. Administrative Activities

- H el ene Barucq is vice-chair of the Inria evaluation committee. From 2009 to 2012, she has been member of the panel of experts for the ANR programs "SIMI1 programmes blanc et jeunes chercheurs", <http://www.agence-nationale-recherche.fr/programmes-de-recherche/recherches-exploratoires-et-emergentes/>. She is the scientific leader of the strategic action Inria-TOTAL "DIP: Depth Imaging Partnership", <http://dip.inria.fr/>
- Julien Diaz is elected member of the Inria evaluation committee and member of the CDT (Commission de D veloppement Technologique of Inria Bordeaux Sud-Ouest.
- Victor Peron is member of the CJC (Commission Jeunes Chercheurs) of Inria Bordeaux Sud-Ouest
- S bastien Tordeux is elected member of the 26th section of the CNU.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : Julien Diaz et S bastien Tordeux, Introduction aux ph nom nes de propagation d'ondes, 55 Eq TD, M2,

Master : Victor Peron et S bastien Tordeux, Analyse num rique fondamentale, 110 Eq. TD, M1, UPPA, France,

Summer School : S bastien Tordeux, Introduction   l'analyse math matique de l' quation de Helmholtz, 12 Eq. TD, Ecole d' t  de Jaca 2012, Espagne

9.2.2. Supervision

HdR : Sébastien Tordeux, Modélisation asymptotique pour les problèmes de propagation d'ondes, Université de Pau et des Pays de l'Adour, January 2012.

PhD in progress : Julien Alvarez, *hp*-adaptive inversion of magnetotelluric measurements, October 2011, Hélène Barucq and David Pardo.

PhD in progress : Lionel Boillot, Propagateurs optimisés pour les ondes élastiques en milieux anisotropes, May 2011, Hélène Barucq and Julien Diaz.

PhD in progress : Marie Bonnasse-Gahot, Simulation de la propagation d'ondes élastiques et visco-élastiques en régime harmonique par des méthodes Galerkin discontinues d'ordre élevé en maillage non-structuré adaptées au calcul haute performance, October 2012, Julien Diaz and Stéphane Lantéri.

PhD in progress : Théophile Chaumont Frélet, , October 2012, Hélène Barucq and Christian Gout.

PhD in progress : Élodie Estecahandy, Sur la résolution de problèmes de diffraction inverses avec des angles d'ouverture réduits, October 2010, Hélène Barucq and Rabia Djellouli.

PhD in progress : Jérôme Luquel, RTM en milieu hétérogène par équations d'ondes élastiques, November 2011, Hélène Barucq and Julien Diaz.

PhD in progress : Vanessa Mattesi, détection des hétérogénéités en acoustique et élastodynamique, October 2011, Hélène Barucq and Sébastien Tordeux.

PhD in progress : Florent Ventimiglia, Schémas d'ordre élevé et pas de temps local pour les ondes élastiques en milieux hétérogènes, November 2010, Hélène Barucq and Julien Diaz.

9.2.3. Juries

- Hélène Barucq was jury member for the PhD defense of
 - Sébastien Impériale, Modélisation mathématique et numérique de capteurs piézoélectriques, January 2012 (Université de Paris Dauphine).
 - Sébastien Cambon, Méthodes d'éléments finis d'ordre élevé et d'équations intégrales pour la résolution de problèmes de furtivité radar d'objets à symétrie de révolution, July 2nd 2012 (Université de Toulouse).
 - Mohamed Hansbo, Sur le modèle de Kerr-Debye pour la propagation des ondes électromagnétiques, October 1st 2012 (Université de Bordeaux).
 - Dimitri Nicolas, Couplage de méthodes d'échantillonnage et de méthodes d'optimisation de formes pour des problèmes de diffraction inverses, November 28th 2012 (École polytechnique).
- Sébastien Tordeux was jury member for the PhD defense of
 - Pierre-Henri Cocquet, Étude mathématique et numérique homogénéisée de métamatériaux, December 7th 2012 (Université de Toulouse).

9.3. Popularization

- Hélène Barucq, Lycée Cassin à Bayonne, conférence pour des classes de seconde, première et terminale, sur l'application des mathématiques dans la vie courante, April 6th 2012;
- Hélène Barucq, Médiathèque de Cambo-les-Bains, Cycle Café des Sciences, "Les mathématiques, ça sert!!!", April 6th 2012.

MAGNOME Project-Team

9. Dissemination

9.1. Scientific Animation

Elisabeth Bon is :

member of the “Comité Technique d’Etablissement” (since 2008 until 2014)

member of the “Comité Hygiène et Sécurité, et Conditions de Travail” (since 2012) at the Univ. of Bordeaux Segalen.

Pascal Durrens is :

leader of the “Comparative Genomics” theme and member of the Scientific Council of the LaBRI UMR 5800/CNRS.

responsible for scientific diffusion for the Génolevures Consortium.

member of the editorial board of the journal ISRN Computational Biology, and was reviewer for the journal BMC Genomics

expert in Genomics for the Fonds de la Recherche Scientifique-FNRS (FRS-FNRS), Belgium

Tiphaine Martin is :

member of the Local Committee and member of Local Committee for Occupational Health and Safety of the Inria Bordeaux Sud-Ouest.

member of the GIS-IBiSA GRISBI-Bioinformatics Grid working group.

member of the Institut de Grilles, and active in the Biology/Health working group.

David Sherman is :

president of the Commission de Jeunes Chercheurs, Inria Bordeaux Sud-Ouest

member of the editorial board of the journal Computational and Mathematical Methods in Medicine

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Elisabeth Bon, ICTs-Information & Communication Technologies (basic and advanced sections) and the national “IT and Internet certificate (C2i®, level 1) for the STS- biology variant Licence programs at the Univ. Bordeaux Segalen, and for MISMI Licence program at the Univ. Bordeaux 1. 109h éq. ED.

Licence & Master : Elisabeth Bon, Computer sciences & Bioinformatics-Genomics, Computerised resources, data banks and Methods for the Biology & Healthcare STS (Sciences, Technologies & Sante) bachelor’s degrees, research oriented STS licence and master’s degrees . 102h éq. ED.

Licence : Elisabeth Bon is responsable for The bachelor’s degree “Information Technologies & Internet advanced course”, Life Sciences Department, University Bordeaux

Licence : Elisabeth Bon is responsable for The “IT and Internet certificate (C2i®), level 1” at Life Sciences Department, University Bordeaux Segalen

Licence : Elisabeth Bon is responsable for The presidency (2005-2007; since sept. 2011) of the “IT and Internet certificate (C2i, level 1) committee” in charge of the C2i evaluation and certification for students (n=2000), University Bordeaux Segalen

Licence : Laetitia Bourgeade, Informatics for MISMI Licence program, University Bordeaux 1, 43h éq. ED.

Master : Laetitia Bourgeade, Statistics for bioinformaticians, University Bordeaux 1, 16h éq. ED.

Master : Laetitia Bourgeade, Object-oriented Programming, 2ème année Ingénieur, EnseirbMatmeca (Institut Polytechnique de Bordeaux), Bordeaux, 34h éq. ED.

Master : Laetitia Bourgeade, Methods & Tools for Systems Biology, 2ème année Ingénieur, Enseirb-Matmeca (Institut Polytechnique de Bordeaux), Bordeaux, 22h éq. ED. Tiphaine Martin and Pascal Durrens have :

the supervision of 4 Bioinformatics MSc students from the University of Bordeaux: Master : Development of search tools on Génolevures databases, 6hETC, M1, University Bordeaux 1 and University Bordeaux Segalen, France

Master : Tiphaine Martin, Utilisation of EGEE GRID via virtual organisation GRISBI , 8h, niveau (M2), University Lyon, France

Master : Tiphaine Martin, Utilisation of EGEE GRID via virtual organisation GRISBI, 8h, niveau (M2), INRA Toulouse, France

Master : David Sherman, Web et Interfaces Homme-Machine, 50h, 2ème année Ingénieur, Enseirb-Matmeca (Institut Polytechnique de Bordeaux), Bordeaux

9.2.2. Supervision

PhD in progress : L. Bourgeade, Filtres sur les arborescences modélisant les ARN et plasticité génique, 2011–, E. Bon, P. Ferraro and J. Allali

PhD in progress : N. Golenetskaya, Big Data for comparative genomics, 2009–, D. Sherman

PhD in progress : R. Issa, Analyse symbolique de données génomiques, 2010–, D. Sherman

PhD in progress : A. Zhukova, Knowledge engineering for biological networks, 2011–, D. Sherman

9.2.3. Juries

David Sherman:

was external reviewer and member of the thesis defense jury for Anisah Ghoorah, Nancy.

was a member and president of the jury for the thesis defense of Jean-Paul Soularue, Bordeaux.

MAGRIT Project-Team

8. Dissemination

8.1. Scientific Animation

- The members of the team reviewed articles for IEEE Transactions On Robotics, IEEE Transactions on Visualization and Computer Graphics, Medical Image Analysis, International Journal of Computer Vision Signal, Image and Video Processing, Signal Processing Letters.
- M.O. Berger was a member of the program committee of the following conferences: IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2012), International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2012), the IEEE International Symposium on Biomedical Imaging (ISBI) 2012, International Congerence on pattern recognition (ICPR 2012).
- M.O Berger co-organized with Christian Daul (CRAN, Nancy) a one day workshop on medical imaging in Nancy. M.O Berger co-organized with Christian Linte the AE-CAI satellite MICCAI workshop (Augmented Environments and Computer-Assisted Interventions) in Nice.
- Gilles Simon was a member of the program committee of ISMAR 2012, Mobile HCI and Computer Graphics International 2012. He was an invited speaker at the "Journées Réalité Virtuelle et Augmentée", 19-24 February 2012, Ecole Militaire Polytechnique d'Alger.
- P.F. Villard was a member of the program committee of MICCAI 2012,CGVCVIP 2012 and ISBI 2012.
- E. Kerrien was a member of the program committee of MICCAI 2012.
- Members of the team are members of local management committees (Conseil de Laboratoire and Comité de Centre), and participate on a regular basis, to scientific awareness and mediation actions.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: Mathématiques (analyse complexe, distributions), 20 h, École des Mines de Nancy, France
 Licence: Graphic and haptic rendering (30h), IUT Saint-Dié des Vosges, France
 Licence: Image processing(30h), IUT Saint-Dié des Vosges, France
 Licence: 3D programming (30h), IUT Saint-Dié des Vosges, France
 Licence: Object oriented programming (110h),IUT Saint-Dié des Vosges, France
 Licence: Outils informatiques et internet, 20 h, L1, Université de Lorraine, France
 Licence: Programmation shell-script sous Linux, 30 h, L2, Université de Lorraine, France
 Licence: Conception et programmation langage objet, 60 h, L2, Université de Lorraine, France
 Licence: Introduction à la programmation objet; conception d'interfaces graphiques, 34 h, L2, Université de Lorraine, France
 Licence: Programmation avancée en langage impératif classique, 14 h, L3, Université de Lorraine, France
 Licence: Bases géométriques de l'imagerie, 25 h, L3, Université de Lorraine, France
 Licence: Programmation et bases de données, 35 h, L3, Université de Lorraine, France
 Licence: Modélisation 3D, 40 h, LP, Université de Lorraine, France
 Master: Perception et raisonnement, 50 h, M1, Université de Lorraine, France

Master: Réalité augmentée, 30 h, M2, Université de Lorraine, France
 Master: Réalité augmentée, 24 h, 2A, Télécom-Nancy, Université de Lorraine, France
 Master: Reconnaissance des formes statistiques, 15 h, M2, Université de Lorraine, France
 Master: Perception de la structure et du mouvement, 15 h, M2, Université de Lorraine, France
 Master: Outils pour le traitement et l'analyse d'images, 21 h, 2A, École des Mines de Nancy, France
 Master: Modélisation et prévision (régression linéaire, séries chronologiques), 48 h, École des Mines de Nancy, France
 Master: Recherche opérationnelle, 59 h, École des Mines de Nancy, France
 Master: Initiation au traitement du signal et applications, 21 h, Ecole des Mines de Nancy, France
 Master: Méthodes et outils pour la conception informatique, 34 h, 2A, Télécom-Nancy, Université de Lorraine, France
 SUPELEC: Réalité augmentée, 3 h, 3A, SUPELEC Metz, France
 DIU: Robotique chirurgicale, 1 h, CHU Nancy Univ. Hospital, France.

8.2.2. Supervision

PhD in progress: S. Bhat, Learning methods for pose computation, December 2008, Marie-Odile Berger, Frédéric Sur.

PhD in progress: Ahmed Yureidini, Modélisation implicite des vaisseaux sanguins pour la simulation interactive d'actes de radiologie interventionnelle, January 2010, Erwan Kerrien, Stéphane Cotin (Shacra, Lille).

PhD in progress: Nazim Haouchine, Modèles physiques pour la réalité augmentée des organes déformables, Janvier 2012, Marie-Odile Berger, Stéphane Cotin (Shacra, Lille).

8.2.3. Juries

- Marie-Odile Berger was reviewer of the PhD of A. Letouzey, Z. Droueche and of the HDR of E. Prados.
- Erwan Kerrien was examiner for the PhD defense of G. Pizaine.

8.3. Popularization

- Members of the team participate on a regular basis, to scientific awareness and mediation actions:
 - Several team members participated to the "Fête de la Science 2012"
 - Gilles Simon chaired a "Café Scientifique" in Nancy on the subject of augmented reality.
 - Erwan Kerrien was an associate researcher to a MATH.en.JEANS workshop, and is a member of the local Scientific Mediation Committee.
- A transdisciplinarity project has been initiated with the IUFM de Lorraine (teacher training institute), in order to assess the relevance of using augmented reality in learning astronomy at primary school. A tangible user interface has been built to allow investigation of astronomical phenomena such as the periodical renewal of the seasons, the phases of the moon, or the regular succession of day and night. The interface has been experienced in two classrooms of 20 and 19 8-year-old and 10-year-old children and compared with traditional physical and virtual models. The questions that were investigated were: is the interface approachable enough to be used by children? Does it facilitate comprehension and learning of the phenomena by direct experience? Does it facilitate children concentration? Preliminary results tend to prove that the AR model allows a better conceptualization and favors learning for younger children. This work will be continued and may lead to one or several academic papers in the education field.
- We have designed and developed a software whose aim is to support students with learning computer programming. This software, named artEoz, enables a pedagogical view of the computer memory, dynamically changing while the user program is running. Using a nice visualization helps to understand the behavior on an object oriented program. This software concerns beginners as well experimented students thanks to its facilities to draw complex data structures. This software is licensed by the APP (French agency for software protection).

MAIA Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Conference organization, Program committees, Editorial boards

- Amine Boumaza co-organized the 23rd JET (Journée Evolutionnaire Thématique) held at the University Pierre et Marie Curie in Paris on November 23rd.
- Christine Bourjot was a co-organizer of the ARCO 's (Association pour la Recherche Cognitive) Workshop "ROBOTS & CORPS, Immersion Ecologique & Cognition incarnée", October 2012.
- Christine Bourjot was a board member of AFIA (Association pour l'Intelligence Artificielle).
- Christine Bourjot was a co-organizer of the ARCO and AFIA 's Workshop SCIA 2012 Sciences Cognitives et Intelligence Artificielle, May 2012.
- Olivier Buffet was a member of:
 - the organizing committee of the "*Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes*" 2012 (**JFPDA'12**),
 - the organizing committee of the "*Conférence francophone sur l'apprentissage automatique*" 2012 (**CAp'12**),
 - the editorial board of the "*revue d'intelligence artificielle*" (RIA), and
 - the editorial board of the "Journal of Artificial Intelligence Research" (JAIR).
- Olivier Buffet was a reviewer for the journals: AMAI (Annals of Mathematics and Artificial Intelligence), JAIR (Journal of Artificial Intelligence Research), RIA (Revue d'Intelligence Artificielle); and for the conferences AAAI'12 (National Conference on Artificial Intelligence), ICRA'12 (International Conference on Robotics and Automation), JFPDA'12 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes).
- François Charpillet and Olivier Simonin co-organized the international Workshop PAL Personally Assisted Living at LORIA, November 2012. (**PAL workshop**)
- Vincent Chevrier was a member of the program committee of EUMAS 121 (European Workshop on Multi-Agent Systems) , IAT 11 (Intelligent Agent Technology), RFIA12 (Reconnaissance des Formes et Intelligence Artificielle), JFSMA12 (French conference on MAS).
- Vincent Chevrier was reviewer for RIA journal.
- Vincent Chevrier is the moderator of the mailing list of the French spoken community on multi-agent systems.
- Alain Dutech was a reviewer for JAIR (Journal of Artificial Intelligence Research), RIA (Revue d'Intelligence Artificielle), Journal of Adaptive Behavior; and for the conference JFPDA'12 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes).
- Nazim Fatès was a co-organiser of the ACA (Asynchronous cellular automata) workshop in ACRI 2012, a member of the steering committee of Automata 2012 (Annual workshop on cellular automata), member of the program committee of ACRI 2012, SCW'12 (Spatial computing workshop), ICAART'12, ICIST'12, CAAA'12. He was an ad hoc reviewer for the following journals : *Theoretical Computer Science, Entropy, Advances in Complex Systems*.
- Nazim Fatès was an invited speaker at COLMOT'12, a workshop on "Collective motion in biological systems: from data to models".

- Alexis Scheuer was a reviewer for the IEEE Transactions on Robotics and on Systems, Man, and Cybernetics, for the Elsevier Journals of Robotics and Autonomous Systems and of Artificial Intelligence, and for the International Journal of Advanced Robotic Systems, as well as for the International Conference on Robotics and Automation (ICRA'13) and for the International IFAC Symposium on Robot Control (SYROCO'12).
- Bruno Scherrer was a reviewer for JAIR (Journal Of Artificial Intelligence Research), TAC (Transactions on Automatic Control), ICML'2012 (International Conference on Machine Learning), NIPS'2012 (Neural Information Processing Systems), ECAI'2012 (European Conference on Artificial Intelligence) and JFPDA'2012 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes).
- Bruno Scherrer was an invited speaker at a workshop of the CEA-EDF-Inria Summer School on Stochastic Optimization at Cadarache (28 Jun.)
- Olivier Simonin co-organized the International IROS'2012 "Assistance and Service robotics in a human environment" held at Vilamoura, Portugal, October 12th. ([Web page](#))
- Olivier Simonin co-organized the 7th National CAR'2012 Conference (Control Architectures of Robots) at LORIA, May 10-11 2012. ([CAR'2012](#))
- Olivier Simonin was chair and co-organizer of the SASO'2012 Demo&Contest Track (IEEE International Conference on Self-Adaptive and Self-Organizing Systems), Lyon, 2012. [saso2012](#).
- Olivier Simonin was a reviewer for the journals: JAAMAS (Journal of Autonomous Agents and Multi-Agent System), Natural Computing (Springer), the IEEE Robotics and Automation Magazine, RIA (Revue d'Intelligence Artificielle). He also reviewed papers for ICRA'2012 (International Conference on Robotics and Automation).
- Olivier Simonin was a program committee member of SASO'2012 (6th IEEE International Conference on Self-Adaptive and Self-Organizing Systems), ICINCO'2013 (10th Int. Conf. on Informatics in Control, Automation and Robotics), ICAART'2013 (5th Int. Conf. on Agents and AI.) and JF-SMA'2012 (French conference on MAS).
- Vincent Thomas was a board member of ARCO (Association pour la Recherche Cognitive)
- Vincent Thomas was a reviewer of "*Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes*" 2012 (JFPDA'2012)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence ISC (Informatique et Sciences Cognitives) : Christine Bourjot, Intelligence Artificielle et Résolution de Problèmes, 25HETD, niveau L3, Université de Lorraine, France

Master M2 SCMN (Sciences Cognitives et Media Numériques) Master SCA: Christine Bourjot, Université de Lorraine.

Master MIAGE (Méthodes Informatiques Appliquées à la Gestion): Christine Bourjot, Extraction Intelligente de Données, 18HETD, niveau M1, Université de Lorraine, France

Master SCA (Sciences Cognitives et Applications): Christine Bourjot, Système Multi-Agent, 20HETD, niveau M2, Université de Lorraine, France

Master : Vincent Chevrier, Modèles et Systèmes Multi-agents, 15CM, M2R, Université de Lorraine, France.

Master SCA (Sciences Cognitives et Applications): Alain Dutech, Apprentissage Numérique, 20HETD, niveau M1, Université de Lorraine, France.

Master : Nazim Fatès, Systèmes communicants, partie automates cellulaires, 10CM, M2R, Université de Lorraine, France.

Master : Alexis Scheuer & Olivier Simonin, Introduction à la robotique mobile, 37,5 HETD, M1 Informatique, Université de Lorraine (UHP), France.

Master SCA (Sciences Cognitives et Applications): Vincent Thomas, Agent Intelligent, 20HETD, niveau M1, Université de Lorraine, France.

Master SCA (Sciences Cognitives et Applications): Vincent Thomas, Game Design et Serious Game, 20HETD, niveau M2, Université de Lorraine, France.

Master Informatique: Vincent Thomas, Optimisation et Systemes Dynamiques Stochastiques, 22HETD, niveau M2, Université de Lorraine, France.

Supelec Metz 5eme année : Olivier Simonin, 15CM “Vie Artificielle”.

9.2.2. Supervision

PhD : Tomas Navarrete, Une architecture de contrôle de systèmes complexes basée sur la simulation multi-agent, Université de Lorraine, 24 oct., Vincent Chevrier

PhD in progress : Mihai Andries, “Calcul spatialisé pour l’assistance à la personne: étude d’un réseau de dalles intelligentes”, Oct. 2012, F. Charpillet (advisor), O. Simonin.

PhD in progress : Mauricio Araya, “*Near-Optimal Algorithms for Sequential Information-Gathering Decision Problems*”, Sept. 2009, F. Charpillet (advisor), O. Buffet, V. Thomas.

PhD in progress : Antoine Bautin, “Stratégie d’exploration multi-robot fondée sur les champs de potentiels artificiels”, Oct. 2009, F. Charpillet (advisor), O. Simonin.

PhD in progress : Olivier Bouré, “Robustesse des systèmes multi-agents réactifs: vers une informatique bio-inspirée ?”, Nazim Fatès, Vincent Chevrier (advisor).

PhD in progress : Benjamin Camus, “Un laboratoire virtuel pour la multi-modélisation”, Christine Bourjot, Vincent Chevrier (advisor).

PhD in progress : Timothé Collet, “Apprentissage actif par renforcement pour la classification”, Nov. 2012, O. Pietquin (advisor), O. Buffet

PhD in progress : Mihai AndriesAmndine Dubois, “assistance à la personne en perte d’autonomie: étude de l’apport d’un réseau de Kinectsà la détection et la prévention des chutes”, Oct. 2011, F. Charpillet (advisor).

PhD in progress : Arsène Fansi Tchango, “Suivi multi-caméra en environnement partiellement observé”, Oct. 2011, A. Dutech (advisor), O. Buffet, V. Thomas.

PhD in progress : Nassim Kaldé, “Exploration et reconstruction d’un environnement inconnu par une flottille de robots”, Oct. 2012, F. Charpillet (advisor), O. Simonin.

PhD in progress : Manel Tagorti, “*Approximating the Value Function for Heuristic Search in Factored MDPs*”, Nov. 2011, J. Hoffmann (advisor), B. Scherrer, O. Buffet.

PhD in progress : Mohamed Tlig, “*Reactive coordination for traffic adaptation in large situated multi-agent systems*”, Dec. 2010, O. Simonin (advisor), O. Buffet.

PhD in progress : Jeannot Yazbeck, “*Secure and robust immaterial hanging for automated vehicles*”, Oct. 2010, F. Charpillet (advisor), A. Scheuer.

9.2.3. Juries

9.2.3.1. PhD and HDR committees

- Vincent Chevrier was a member of the PhD committee of Jonathan Demange, 20 Dec. UTBM, as a referee; and Shirley Hoet, 17 Dec, UPMC, as a committee member.
- Vincent Chevrier was a member in the HDR committee as a referee of Pascal Ballet, 6 April, Université de Bretagne Occidentale
- François Charpillet was a member (as a referee) of the PhD committee of :
 - Muhammad Ali, 11th July 2012, Laas, University of Toulouse

- Matthieu Warnier, 10th december 2012, Laas, University of Toulouse
- Senthilkumar Chandramohan, 25th september 2012, University of Avignon
- Guogang Wen, 26th october 2012, Lagis, University of Lille
- Mohamed Amine Hamila, 3rd April 2012, University of Valenciennes
- François Gaillard, 2d February 2012, LIFL, University of Lille
- François Charpillet was a member of the PhD committee of :
 - Wissam KHALIL, 2nd february 2012, Lagis, University of Lille
 - Sylvain Raybaud, 5th december 2012, Loria, University of Lorraine
 - Rui Loureiro, 6th december 2012, LAGis, University of Lille
- François Charpillet was a member of the HdR committee of :
 - Amir Hajjam El Hassani, 8 th december 2012, University of Besançon
- Alain Dutech was a member (as a referee) of the PhD committee of Shirley Hoet, 17 Dec, UPMC.
- Nazim Fatès was a member of the PhD committee of Julien Provillard, Université de Nice. The defence was held on the 6th of December in I3S laboratory, Nice.
- Bruno Scherrer was a member of the PhD committee of Jean-François Hren, Université Lille 1, 21 Jun.
- Olivier Simonin was a member of the PhD committee of M. Guezani, UTBM, 4 April.

9.2.3.2. Specialist Committees

- Vincent Thomas was a member of the "Specialist committee" in Université Nancy 2.

9.3. Popularization

- Christine Bourjot was co-organizer of the "Forum des Sciences Cognitives", Université de Lorraine, November 2012.
- In the scope of the 2012 celebrations for Alan Turing's hundredth birthday:
 - Nazim Fatès recorded a video on Turing's heritage with Inria's audiovisual service. This video can be accessed on <http://www.youtube.com/watch?v=6awK-FHBntc>.
 - Nazim Fatès was interviewed by the *Eureka* magazine [47] and he was a co-organiser of the three conferences on Turing that the Loria organised in September in Nancy for a large public (see <http://turing2012.loria.fr>).
 - Nazim Fatès participated in recording a program broadcasted in the "Hopital des enfants malades" in Brabois, where the main topic was Turing and Computer Science (see <http://www.loria.fr/news/informatique-aux-enfants-hospitalises-de-brabois>). A paper (with mistakes) appeared in *L'Est republicain* (November 17, 2012) to relate this event.
 - Nazim Fatès gave a talk entitled *Turing, l'intelligence des machines et le jeu* in Lycée Jacques Marquette (Pont-à-Mousson) for the annual meeting of the "Associations des anciens élèves et professeurs" (October 7, 2012).
 - Olivier Simonin was invited to the Journée "Robotique et Numérique" organized by the GDR Robotique for a talk entitled "Robotique bio-inspirée : vers une intelligence collective ?" (see <http://www.gdr-robotique.org/journee.php>).
- Vincent Thomas is preparing, in collaboration with the "Bibliothèque Universitaire du Campus Lettres", an exposition "jeux: les ateliers de la pensée" where the main objective is to promote Game as an interesting subject for academics. This exposition will include vulgarization seminars with specialists of several scientific fields (economy, psychology, computer science) and animations.
- Vincent Thomas is a participant of the Erasmus IP: "Learning Computer Programming in Virtual Environments" involving 8 foreign universities. Its objective is to promote teaching and learning of the fundamentals of computer programming through use of virtual and remote learning environments.

MANAO Team

7. Dissemination

7.1. Scientific Animation

7.1.1. Program committee

- **Conferences:** Web3D 2012, ACM SIGGRAPH Asia 2012 (posters)

7.1.2. Reviews

The members of *MANAO* have also participated to the reviewing process for conferences and journals:

- **Journals:** ACM Transaction on Graphics, Computer and Graphics, Computer Graphics Forum, The Visual Computer, Signal Image and Video Processing.
- **Conferences:** ACM Siggraph 2012, ACM Siggraph Asia 2012, Eurographics 2013, Eurographics Symposium on Rendering 2012, Graphics interface (GI) 2012, CGI 2012, Web3D 2012

7.1.3. Committees

In 2012, the members of *MANAO* have been involved in the following responsibilities:

- Inria - Evaluation committee member - Gaël Guennebaud.
- Inria Bordeaux - commission for technological development (CDT) - Gaël Guennebaud.
- AFIG - Best paper jury - Romain Pacanowski, Gaël Guennebaud.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

The members of our team are implied in teaching computer science at University Bordeaux 1 and 2, ENSEIRB Engineering School, and IOGS. General computer science is concerned, as well as the following graphics related topics:

Master : Xavier Granier, Algorithmic and Numerical Algorithmes, 30HETD, M1, IOGS, France

Master : Xavier Granier and Romain Pacanowski, Radiometry and Colorimetry, 15HETD, M1, IOGS, France

Master : Gaël Guennebaud and Simon Boyé, High-performance 3D Graphics, 60HETD, M1, Univ. Bx 1, France.

Master : Gaël Guennebaud and Simon Boyé, Physically based Image Synthesis, 60HETD, M2, Univ. Bx 1, France.

Master : Romain Pacanowski, Simon Boyé, Object-Orientated Programming, 60HETD, M1, IOGS, France

Some members are also in charge of some fields of study:

Master : Xavier Granier, Optics and Computer Science, M1/M2 , IOGS, France.

License : Patrick Reuter, Science and Modeling, L2, Univ. Bx 2, France.

7.2.2. Supervision

HdR : Ivo Ihrke, Computational Optical Measurement and Display: Case Studies in Plenoptic Imaging and Projection, Univ. Bordeaux 1, 7th of December, Xavier Granier

PhD : Simon Boyé, Représentation hybride pour la modélisation géométrique interactive, Univ. Bordeaux 1, 12th of December, Gaël Guennebaud and Christophe Schlick.

PhD : Jiazhou Chen, Image structures: From augmented reality to image stylization, Université Sciences et Technologies - Bordeaux I, 12th of July, Xavier Granier and Qunsheng Peng and Pascal Barla

PhD : Nicolas Mellado, Analyse des objets 3D a plusieurs échelles: application à l'assemblage de formes, Univ. Bordeaux 1, 6th of December, Patrick Reuter and Christophe Schlick.

7.2.3. Juries

PhD : Anthony Pajot, Toward robust and efficient physically-based rendering, Université de Toulouse, 26th of April, Examiner

PhD : Jonathan Claustres, Modèle particulaire 2D et 3D sur GPU pour plasma froid magnétisé : application à un filtre magnétique, Université de Toulouse, 17th of December, Examiner

7.3. Popularization

7.3.1. Exhibitions

Our results of the ANR SeARCH project (see Section 6.2.1) applied to the Alexandria lighthouse were one of the key event of the exhibition dedicated to lighthouses at the "musée de la marine" in Paris.

7.3.2. Interviews

Our work on 2D images deformations and vector graphics has lead to interviews published on 3DVF.com, the most important french online magazine on image synthesis and numeric content creation in general.

- <http://www.3dvf.com/dossier-874-1-interview-surface-flows-publication-presentee-lors-siggraph-2012.html>
- <http://www.3dvf.com/actualite-4893-recherche-free-form-vector-gradients.html>

Moreover, the french radio channel "France Inter" published an interview about the leader *MANAO* of the ANR SeARCH project.

7.3.3. Articles

The french daily newspaper "Le monde" and the french bi-mestrial science magazine "Science Magazine" have published rather long reports on the ANR SeARCH project where *MANAO* is the leader.

MARELLE Project-Team

7. Dissemination

7.1. Scientific Animation

- We organized the MAP spring school on the formalization of mathematics, March 12-16, 2012, at Inria Sophia Antipolis. This school had 65 attendants and 5 invited speakers: G. Gonthier (Microsoft Research, Prize the EADS foundation), T. Hales (University of Pittsburgh), J. Rubio (Universidad de la Rioja), B. Spitters (Radboud University), and V. Voevodsky (Institute for Advanced Study, Fields Medal). The local organization was supervised by Yves Bertot and included a strong investment by Nathalie Bellesso and Agnès Cortell, from Inria's service for scientific events. Yves Bertot, Laurence Rideau, and Laurent Théry also taught at this school.
- Yves Bertot participated as a lecturer in the asian-pacific summer school on formal methods, July 16-20, at East China Normal University in Shanghai. He gave 6 lectures and supervised laboratory sessions.
- Yves Bertot and Patrick Rambert released a multi-media course on the Coq system, consisting in more than 8 hours of recorded courses available at <http://fuschia.inrialpes.fr/cours/coq/>.
- members of the project participated in the program committees of PXTTP (Proof Exchange for Theorem Proving), PAAR (Practical Aspects of Automated Reasoning), ITP (Interactive Theorem Proving).

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence : Laurence Rideau, introduction to programming in CAML, Classe préparatoire MP* (L2 level), Lycée Masséna, Nice

Master : Benjamin Grégoire, "Verification and Security", 18 ETD, M2, University of Nice, France

Master : Yves Bertot, "Verification of proofs and programs", 27 ETD, University of Nice, France

Master : Laurent Théry, "Introduction to Coq", 3 ETD, Ecole des Mines, Sophia Antipolis, France

Master : Laurent Théry, "Formalization of floating point arithmetic", Ecole Normale Supérieure de Lyon, France

Doctorate : Yves Bertot, "Introduction to formalized mathematics", 30ETD, Inria Sophia Antipolis, France

Doctorate : Laurence Rideau, "Introduction to formalized mathematics", 30ETD, Inria Sophia Antipolis, France

Doctorate : Laurent Théry, "Introduction to formalized mathematics", 30ETD, Inria Sophia Antipolis, France

Doctorate : Yves Bertot, "Formal verification with Coq", 50 ETD, East China Normal University, Shanghai, China.

7.2.2. Supervision

PhD & HdR :

PhD : Sylvain Heraud, "Verification Semi-automatique de primitives cryptographiques", University of Nice Sophia Antipolis, March 12, 2012 (thesis started in October 2008), supervisor : Benjamin Grégoire.

PhD in progress : Michaël Armand, "Application de la certification de résultats à l'automatisation de preuves interactives", started in October 2009, supervisors: Laurent Théry and Benjamin Grégoire.

PhD in progress : Guillaume Cano, "Une formalisation adaptable de l'algèbre linéaire", started in October 2010, supervised by Yves Bertot.

PhD in progress : Maxime Dénès, "Description formelle d'algèbre linéaire pour l'algorithmique rapide", started in September 2010, supervised by Yves Bertot.

7.2.3. Juries

- + Yves Bertot was a reviewer for the PhD theses of Celia Picard (U. Toulouse) and Erik Martin-Dorel (ENS Lyon) and an examiner for the thesis of Francesco Bongiovanni (U. Nice).
- + Laurent Théry was an examiner for the thesis of Thomas Braibant (U. Grenoble) and for the Licenciate degree of Anders Mörtberg (U. Göteborg, Sweden).

7.3. Popularization

- Laurence Rideau took part in a presentation of research topics for students from “classes préparatoires” at Inria Sophia Antipolis Méditerranée.

MASAIE Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. International conferences

8.1.1.1. CIMPA School

A. Iggidr is one of the three scientific directors and organizers of a CIMPA-UNESCO-MESR-MICINN-MOROCCO research School, held in Casablanca, October 1-12 : EpiCasa12 – Introduction to epidemiology: mathematical and statistical models and methods.

G. Sallet was also one of the lecturers.

This research school aims at providing the basic notions in epidemiology and modelling to students, or researchers, in mathematics and statistics, so that they can apply their knowledge to solve practical problems, that is:

to understand scientific papers describing experiments or data acquisition in epidemiology, or dealing with mathematics applied to epidemiology;

to perform classical data analyses;

to model a simple epidemiological problem;

to participate in research projects in epidemiology together with biologists.

8.1.1.2. Conference Saint-Louis

MASAIE and University of Gaston Berger have organized a conference in honor of Gauthier Sallet in Saint-Louis (Senegal) from December 3 to 7, 2012 (http://www.ugb.sn/?option=com_content&view=article&id=217). This conference was preceded by a school (November 29-30).

The scientific committee was composed of Julien Arino, Pierre Auger, Jean-Michel Coron, Jean-Luc Gouze, Claude Lobry, Mary-Teuw Niane, Michel Langlais, Hamidou Touré. The conference was sponsored by Inria, IRD, UGB, MESR Senegal. More than 50 participants from control theory, population dynamics and epidemiology participated to these events. The journal "Mathematical Control and Related Fields (MCRF)" will offer a special issue in connection to the Conference in honor of G. Sallet.

8.1.2. Expertise, scientific animation

G. Sallet was expert to synthesize all the studies carried out in WorkPackage 3, "Modelling and Simulations", WP leader Dr. Yves Dumont (CIRAD – AMAP). 25th March until 5th April at the CRVOI, La Réunion Island

G. Sallet gives conferences in the network M3D (Mathématiques et Décision pour le Développement Durable) : Structuration dans les modèles épidémiologiques. May 7-10, 2012. Oleron (<http://reseau-m3d.fr/>)

G. Sallet was invited by UMMISCO IRD and GRIMCAPE (LIRIMA) as an expert to participate to "modélisation mathématique des maladies infectieuses en contexte forestier". September 25-29, 2012.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : G. Sallet, ODE and mathematical epidemiology, 30h, M2, Université Gaston Berger (Saint-Louis), Senegal.

8.2.2. Supervision

Phd Berge Tsanou (MASAIE),

Sandwich these (UPVM-université de Yaoundé I, Cameroun).

Etude de quelques modèles épidémiologiques de métapopulations : application au paludisme et à la tuberculose. Université de Lorraine, Metz, January, 13, 2012.

Phd : Josephine Wairimu Kagunda (MASAIE)

Sandwich these (UPVM-université Nairobi, Kenya).

Mathematical Analysis and Dynamical Systems Modeling of Highland Malaria in Western Kenya. Université de Lorraine, Metz, November, 23, 2012.

Phd : Leontine Nkague Nkamba (MASAIE)

Sandwich these (UPVM-université Gaston Berger Saint-Louis, Senegal).

Robustesse des Seuils en Épidémiologie et Stabilité Asymptotique d'un Modèle à Infectivité et Susceptibilité Différentielle. Université de Lorraine, Metz, November, 23, 2012.

Phd in progress : Derdei Bichara. Application de la théorie des observateurs à l'identification des paramètres de modèles épidémiologiques. Estimated date defence : February 2013

Phd in progress: Lena Tendeng. Modélisation de la bilharziose et validation de modèles. Estimated date defence : March 2013

MASCOTTE Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Participation in Committees

- J.-C. Bermond: Expert for DRTT, and various projects outside France (Canada, Italy,...); Member of the Ph.D. committee of the University of Marseille;
- D. Coudert: Member of the *comité du suivi doctoral* of Inria Sophia Antipolis (since January 2009); Member of *comité de sélection 27e section* of UJF, Grenoble, 2012; Member of the scientific board of the GIS ENSL-UNS (CNRS, ENSL, Inria, UNS) since 2011; Expert for the National Sciences and Engineering Research Council of Canada (NSERC), the Future and Emerging Technologies Open Scheme (FET-Open) European program, and the ANR;
- J. Moulierac: Member of the *comité de sélection 27e section* of University of Versailles St-Quentin; Member of the CDL (Commission for software development) at Inria Sophia Antipolis since 2009; Member of the *Conseil de Département* (Department Committee) of IUT Nice since 2007;
- M. Syska: Member of the commission ad-hoc ATER 27 UNS, IUT PAST 27 and ATER 11; Member of *Comité Permanent de Ressources Humaines (CPRH) UNS 27e*; Member of the *Conseil de Département* (Department Committee) of IUT Nice; Expert for DRTT PACA.

9.1.2. Editorial Boards

- J.-C. Bermond: Combinatorics Probability and Computing, Computer Science Reviews, Discrete Mathematics, Discrete Applied Mathematics, Journal of Graph Theory, Journal of Interconnection Networks (Advisory Board), Mathématiques et Sciences Humaines, Networks, Parallel Processing Letters, SIAM book series on Discrete Mathematics, Transactions on Network Optimization and Control, Discrete Mathematics, Algorithms and Applications;
- D. Coudert: Discrete Applied Mathematics (Elsevier); Networks (Wiley);
- F. Havet: Discrete Mathematics and Theoretical Computer Science.

9.1.3. Steering Committees

- D. Coudert: Pôle ResCom du GDR ASR du CNRS (since 2005); Rencontres francophones sur les aspects algorithmiques des télécommunications (AlgoTel);
- F. Havet: Journées Graphes et Algorithmes (JGA); Journées Combinatoires et Algorithmes du Littoral Méditerranéen (JCALM).

9.1.4. Conference Organization

- JCALM: 11èmes Journées Combinatoire et Algorithmes du Littoral Méditerranéen, Sophia Antipolis, France (February 16-17, 2012). Organizers: J. Araujo, F. Havet, A. Kodjo, A. Lancin, L. Sampaio;
- ResCom: 10th Journées du Pôle ResCom du GDR ASR, Paris, France (November 28-29, 2012). Organizer: C. Caillouet (co-chair).

9.1.5. Workshop Organization

- GOC 12: Workshop Franco-brésilien de Graphes et Optimisation Combinatoire, Redonda, Brasil, April 16-20, 2012. Organizers: F. Havet (co-chair), J. Araujo, A.-K. Maia, L. Sampaio and R. Soares.

9.1.6. Participation in Program Committees

- J.-C. Bermond: 6th International Conference on FUN with Algorithms, Venice, Italy (June 4-6, 2012);

- D. Coudert: 11th International Symposium on Experimental Algorithms (SEA'12), Bordeaux, France (June 7-9, 2012); IEEE GLOBECOM – Track on Green Communication Systems and Networks, Anaheim, CA, USA (December 3-7, 2012);
- F. Havet: 14emes Journées Graphes et Algorithmes (JGA 2012);
- J. Moulierac: 14e Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (Algotel'12), La Grande Motte, France, May 29- June 1st, 2012.

9.2. Participation in Conferences and Workshops

9.2.1. Invited Talks

- D. Coudert: Presentation on *Energy efficiency in backbone and backhaul networks* at Journées du pôle Systèmes de Communications Sécurisées, Sophia Antipolis, January 24, 2012;
- F. Giroire: Workshop Franco-brésilien de Graphes et Optimisation Combinatoire, Redonda, Brazil (April 16-20, 2012);
- F. Havet: Birmingham workshop on Probabilistic methods in Graph theory, Birmingham, U. K. (March 25-29, 2012); Workshop Franco-brésilien de Graphes et Optimisation Combinatoire, Redonda, Brazil (April 16-20); SIAM Discrete Mathematics Conference, Halifax, Canada (June 18-21, 2012); Bordeaux Graph Workshop, Bordeaux, France (November 21-24, 2012) (Plenary Speaker);
- N. Nisse: GRASTA'12, Banff, Canada (October 8-12, 2012); IMSA seminar, Univ. Adolfo Ibanez, Santiago, Chile (August 10th, 2012).

9.2.2. Participation in Scientific Meetings

- COA: first meeting of GT Complexité et Algorithmes, Paris (November 21-22, 2012). Attended by N. Nisse and S. Pérennes;
- EULER: First year review meeting, Bruxelles, Belgium (January 13, 2012). Attended by A. Lancin, D. Coudert; WP2 technical meeting, Bordeaux, France (March 8-9, 2012). Attended by A. Lancin, B. Li, N. Nisse; Plenary meeting and Technical Advisory Board meeting, Ghent, Belgium (June 5-8, 2012). Attended by D. Coudert, A. Lancin, and N. Nisse; 2nd year review meeting, Sophia Antipolis, France (October 19, 2012). Attended by D. Coudert, A. Lancin, and N. Nisse; Plenary meeting and Technical Advisory Board meeting, Louvain-la-Neuve, Belgium (December 10-12, 2012). Attended by A. Lancin and N. Nisse;
- Evaluation seminar: Evaluation of the Mascotte project-team at the evaluation seminar of the research theme Networks and Telecommunications of Inria, Paris, France (March 21-23, 2012). Attended by most of the MASCOTTE permanent members (speakers: D. Coudert, F. Havet, J. Moulierac, N. Nisse);
- FET: Meeting to prepare a FET2012 "Mobilizing the Cloud: Enabling Multi-User Mobile Outsourcing in the Cloud", Geneva, Switzerland (January 12-13, 2012). Attended by J.-C. Bermond and S. Pérennes;
- GRATEL: ANR Gratel meeting, Bordeaux, France (November 20, 2012). Attended by J. Araujo (speaker), A. K. Maia and F. Havet (speaker);
- Lip6: Networks Optimization Days, Paris, France (November 30, 2012). Attended by A. Kodjo;
- Mascotte Days: Mascotte project annual seminar, Lac de Sainte-Croix, France (May 10-11, 2012). Attended by most of the Mascotte members;
- ResCom: 10th Journées du Pôle ResCom du GDR ASR, Paris, France (November 28-29, 2012). Attended by D. Coudert, A. Kodjo, A. Lancin (speaker), F. Z. Moataz (speaker) and I. Tahiri (speaker);
- SPREAD: End of project assessment meeting, Paris, France (July 12, 2012). Attended by S. Pérennes;

TREND: TREND Network of Excellence meeting, Volos, Greece (October 1-5, 2012). Attended by L. Chiaraviglio and F. Giroire.

9.2.3. Participation in Conferences

Alan Turing's Heritage: Special event on How Turing's machine changed the world, Lyon, France, July 2-4, 2012. Attended by D. Coudert;

AlgoTel: 14th Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications, La grande Motte, France (May 29th - June 1st, 2012). Attended by C. Caillouet, D. Coudert, A. Lancin, N. Nisse (speaker);

BGW: Bordeaux Graph Workshop, Bordeaux, France (November 21-24, 2012). Attended by J. Araujo (speaker), F. Havet (invited speaker), A. K. Maia and R. P. Soares (speaker);

CoNEXT-SW: 8th ACM International Conference on emerging Networking Experiments and Technologies (ACM CoNEXT) Student Workshop, Nice, France (December 10-13, 2012). Attended by F. Z. Moataz (speaker) and T. K. Phan (speaker);

ECT: ECT Workshop spectral properties of complex networks, Trento, Italy (July 23-27, 2012). Attended by J. Galtier and M. Toko Worou (speaker);

EULER: Workshop at Fire, Aalborg, Denmark (May 9, 2012). Attended by A. Lancin;

FUN: 6th International Conference on FUN with Algorithms, Venice, Italy (June 4-6, 2012). Attended by J.-C. Bermond and F. Giroire (speaker);

GOC: Workshop Franco-brésilien de Graphes et Optimisation Combinatoire, Plage Redonda, Ceará, Brésil (April 16-20 2012). Attended by J. Araujo, F. Giroire (speaker), F. Havet (speaker), A.K. Maia, N. Nisse, R. Pardo Soares and L. Sampaio Rocha;

GRASTA: 5th Workshop on GRAPh Searching, Theory and Applications, Banff, Canada (October 8-12, 2012); Attended by N. Nisse (speaker) and R. Pardo Soares;

ICALP: 39th International Colloquium Automata, Languages and Programming, University of Warwick, UK (July 9-12, 2012). Attended by B. Li (speaker);

JDG: Journée Thématique "Dynamique des Graphes", Paris, France (July 10th, 2012). Attended by J. Araujo and M. Toko Worou;

JGA: 14èmes Journées des Graphes et Algorithmes, Clermont-Ferrand, France (November 14-16, 2012). Attended by J. Araujo (speaker), B. Li (speaker), A. K. Maia (speaker), F. Z. Moataz and R. P. Soares (speaker);

LIRMM en fête pour ses 20 ans: Scientific event for celebrating the 20 years of the LIRMM, Montpellier, France, July 12. Attended by D. Coudert;

Networking: IFIP TC6 Networking, Prague, Czech Republic (May 21-25, 2012). Attended by T. K. Phan (speaker);

PADS: 26th ACM/IEEE/SCS Workshop on Principles of Advanced and Distributed Simulation, Zhangji-ajie, China (July 15-19, 2012). Attended by A. Lancin (speaker).

9.2.4. Participation in Schools

11ème JCALM: 11èmes Journées Combinatoire et Algorithmes du Littoral Méditerranéen, Sophia Antipolis, France (February 16th - 17th, 2012). Attended by most of the Mascotte members (speakers: J. Araujo, F. Havet, A. Kodjo, A. Lancin, L. Sampaio);

12ème JCALM: 12èmes Journées Combinatoire et Algorithmes du Littoral Méditerranéen, Montpellier, France (October 11th - 12th, 2012). Attended by J. Araujo and A. K. Maia;

Ecole management Inria Paris, France (March 28-30 and June 13-14, 2012). Attended by D. Coudert;

EPIT: L'École de Printemps d'Informatique Théorique, Ile de Ré, France (Mars 26-30, 2012). Attended by A. Lancin, R. Modrzejewski, L. Sampaio and I. Tahiri;

NASSSO: Numerical Analysis Summer School 2012 Stochastic Optimization, Cadarache, France (June 25th- July 6th, 2012). Attended by B. Li.

SSMS: Summer School on Social Media Modeling and Search, Fira, Santorini, Greece (September 10-14, 2012). Attended by M. Toko Worou;

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Licence:

J. Araujo, Algorithmique et Programmation, 30h ETD, Cycle Initial Polytechnique 2, École Polytech'Nice, UNS;

C. Caillouet, Introduction to Operating Systems, 30h ETD, Level L1, IT Tools, 31h, Level L1, Database and advanced information system, 98h, Level L2, IUT Nice Côte d'Azur, UNS;

A. Kodjo, Algorithmique-Programmation Objet-Python, 40h ETD, Level L2, UNS;

J. Moulierac and A. Lancin, ASR5 - Networks, 130h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

N. Nisse, informatique, 60h ETD, 1re année classes préparatoires (L1), Lycée International de Valbonne;

M. Syska, Introduction to Operating Systems, 40h ETD, Level L1, Operating Systems : Advanced Programming, 63h ETD, Level L2, Bash Scripting, 15h ETD, Level L3, Introduction to Algorithms, 36h ETD, Level L3, Linux Systems Administration, 24h ETD, Level L3, IUT Nice Côte d'Azur, UNS.

Master:

D. Coudert, Algorithm for Telecom 2, 32h ETD, M2 Ubinet/PENSUNS, UNS;

F. Giroire and N. Nisse, Combinatoire des graphes, 31h ETD, master MDFI, Univ. d'Aix-Marseille, France;

F. Giroire, 16h ETD, Introduction to Probabilities and Statistics, International track of the Master 1 IFI, UNS;

F. Giroire and N. Nisse, Algorithms for Telecommunications, 31h ETD, parcours Ubinet master 2 IFI, UNS.

F. Giroire, F. Havet and N. Nisse, Programmation linéaire et combinatoire, school at ENS Lyon (January 23-27, 2012).

9.3.1.1. Administration

Collaboration Inria-Lycée International de Valbonne: N. Nisse is co-responsible of the Computer Science course of MPSI;

IUT Nice Côte d'Azur: M. Syska is responsible of the Computer Science Department of IUT since september 2011;

Ubinet, Master IFI: J.-C. Bermond is member of the scientific committee;

F. Giroire is responsible of the Internships within international stream Ubinet, Master IFI (<http://ubinet.unice.fr>), since October 2011;

International Master 1: J.-C. Bermond is member of the scientific committee of the international track of the M1 (<http://computerscience.unice.fr/master1>).

9.3.2. Supervision

PhD:

J. Araújo, *Coloration et convexité dans les graphes*, September 13, 2012, J.-C. Bermond, C. Linhares Sales and F. Giroire.

L. Sampaio, *Aspects algorithmiques d'heuristiques de coloration de graphes*, November 19, 2012, F. Havet.

M. Toko Worou, *Outils algorithmiques pour la détection des communautés dans les réseaux*, December 7, 2012, J.-C. Bermond and J. Galtier.

PhD in progress:

4th year:

I. Tahiri, *Optimisation dans les réseaux de collecte IP sans fils*, since November 2009, D. Coudert.

3rd year:

S. Félix, *Smart transports : optimisation du trafic dans les villes*, since January 2011, J.-C. Bermond and J. Galtier.

A. Lancin, *Study of network properties for efficient routing algorithms*, since January 2011, D. Coudert.

R. Modrzejewski, *Systèmes pair-à-pair de partage de données*, since November 2010, S. Pérennes and F. Giroire.

R. Pardo Soares, *Routing reconfiguration in WDM networks*, since November 2010, D. Coudert and N. Nisse.

2nd year:

T. Al Fares, *Trees in digraphs*, since September 2011, F. Havet and A. El Sahili (Lebanese University, Beyruth, Lebanon).

M. A. Bergach, *GPGPU Graphics Processing Units for signal processing*, since September 2011, M. Syska.

A. Kodjo, *Design and optimization of multi-operators wireless backhaul networks*, since October 2011, D. Coudert.

B. Li, *Study of Internet model and its properties for efficient routing algorithms*, since October 2011, D. Coudert and N. Nisse.

A. K. Maia, *Partitions of directed graphs*, since September 2011, F. Havet.

T. K. Phan, *Design and Management of networks with low-power Consumption*, since October 2011, D. Coudert and J. Moulhierac.

1st year:

F. Z. Moataz, *Conception et optimisation de réseaux robustes aux pannes et variations de capacités*, since October 2012, D. Coudert.

9.3.2.1. Internships

J. Araujo, J.-C. Bermond and N. Nisse: supervised the internship of Guillaïn Potron (ENS Paris) on sorting algorithms and hull number, June-July 2012 (2 months);

J.-C. Bermond and D. Coudert: supervised the internship of Fatima Zahra Moataz (M2 Ubinet, Sophia Antipolis) on the diverse routing problem with SRLGs, March-August 2012 (6 months);

D. Coudert and N. Nisse: supervised the internship of Thomas Bellitto (L3 ENS Cachan - antenne de Bretagne) on linear orderings and graphs decompositions, June-July 2012 (2 months);

F. Giroire: supervision of the TIPE of Simon Dorgueil Simon and Yves Barrault on the Analysis of P2P storage system;

N. Nisse: supervised the internship of Mélanie Ducoffe (Univ. Nice-Sophia ANTipolis) on cops and robber games in directed graphs, July-August 2012 (2 months).

9.3.3. Juries

J.-C. Bermond: member of the PhD jury of Julio Araújo (September 13, 2012) and Mikaila Toko Worou (December 7, 2012), University Nice-Sophia Antipolis;

- D. Coudert: member of the PhD jury of Ahmed Frikha, Université de Rennes (September 28, 2012); member of the PhD jury of Leonardo Sampaio Rocha, University of Nice Sophia Antipolis (November 19, 2012);
- F. Havet: external referee of the PhD of Petru Valicov, University of Bordeaux 1 (July 10, 2012); external referee of the PhD of Petr Skoda, Simon Fraser University, Burnaby, BC, Canada (September 13, 2012); external referee of the PhD of Lino Demasi, Simon Fraser University, Burnaby, BC, Canada (October 2, 2012);
- S. Perennes: Referee and member of the PhD jury of Patricia Maatouk-Kaiser, Supélec Université Libanaise (December 21, 2012).

9.4. Popularization

- Accueil d'une classe de MPSI: D. Coudert, F. Giroire and N. Nisse participated to the event at Inria (<http://www.inria.fr/centre/sophia/actualites/accueil-d-une-classe-de-mpsi-retour-en-images>);
- Attention grands travaux: Several members of Mascotte participated to the documentary "Attention grands travaux : Sophia Antipolis - L'utopie High Tech" for the Public-Sénat channel ([watch it online](#));
- Attractiveness: J.-C. Bermond is in charge of the attractiveness of the center Inria Sophia Antipolis Méditerranée. He organized Inria days with Athens (February 14-15, and May 21-22, 2012);
- Fête de la Science: F. Giroire presented the stand "Magie et jeux mathématiques" at Sophia Antipolis, France (October 10, 2012);
- Ils débarquent sur votre téléphone: D. Coudert and C. Castro co-signed an article entitled "[Ils débarquent sur votre téléphone : 4G, NFC et Li-Fi ?](#)" on Inriality. Originally prepared for the series « Le saviez-vous » posted on [Inria.fr](#) and twitter;
- Internet and Smartphones: J.-C. Bermond gave a talk at the evening "Internet et Smartphones" organized at Nice (CUM) on April 10 by SEE Cote d'Azur and la Mairie de Nice Organisation (February 14-15, 2012);
- Internet and Graph theory: J.-C. Bermond and J.Moulierac wrote an article on Internet and Graph theory for CDC (a journal destined to teachers and students in high schools) [79];
- Plaisirs des Sciences: F. Havet gave the conference "La hasard fait-il bien les choses ? : une gentille introduction au probabilités" at Rians, France (February 14, 2012);
- Scientific mediation: J.-C. Bermond supervised a brainstorming on scientific mediation with Inria staff members.

MATHRISK Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Collective responsibilities

- A. Alfonsi: Co-organizer of the working group seminar of MathRisk “Méthodes stochastiques et finance”.
- D. Lamberton:
 1. "Associate Editor" of *Mathematical Finance*, co-editor of *ESAIM P&S*.
 2. In charge of the master program “Mathématiques et Applications” (Universities of Marne-la-Vallée, Créteil and Evry, and Ecole Nationale des Ponts et Chaussées).
 3. Vice-président recherche, Université Paris-Est Marne-la-Vallée.
- A. Sulem:
 1. Associate editor of:
 - * *SIAM Journal on Financial Mathematics (SIFIN)* (since its creation in 2008)
 - * *International Journal of Stochastic Analysis (IJSA)* (since 2009)
 - * *Journal of Mathematical Analysis and Applications (JMAA)*(since 2011)
 2. Jury for assistant professor position in financial mathematics and numerical probability, Laboratoire de probabilités Université Paris VII, 2012.
- B. Jourdain and A. Sulem: Organisation of a school CEA EDF Inria "Systemic Risk and Quantitative Risk management", Octobre 15-17 2012, http://bit.ly/finance_inria

8.1.2. Invitations and participation in conferences

- A. Sulem
 - Plenary conferences
 - Main speaker, "Probability & Finance" Final Conference of the Research Project PRIN 2008 Pescara, Italy, September 2012 <http://www.dec.unich.it/convsem/2012-09-10/?home>
 - Cornell University, ORIE Colloquium, April 10 2012 <http://www.orie.cornell.edu/news/seminars/>
 - invited conferences
 - "PDE and Mathematical Finance V", Stockholm, June 10-14, 2013.
 - Symposium "Commodities, Energy Markets & Equilibrium" , 4th Conference of the Financial Mathematics and Engineering (FME) SIAG (SIAM Activity Group). Minneapolis, Minnesota, July 9-11, 2012. <http://www.siam.org/meetings/fm12/>
 - Université Evry seminar, Juin 2012
 - Semester program on Stochastic Analysis and Applications at the Centre Interfacultaire Bernoulli, Ecole Polytechnique Fédérale de Lausanne, January-June 2012.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- A. Alfonsi:

1. “Modéliser, Programmer et Simuler”, second year course at the Ecole des Ponts.
 2. “Calibration, Volatilité Locale et Stochastique”, third-year course at ENSTA (Master with Paris I).
 3. “Traitement des données de marché : aspects statistiques et calibration”, lecture for the Master at UPEMLV.
 4. “Mesures de risque”, Master course of UPEMLV and Paris VI.
- V. Bally:
 1. Master 2 of the University Marne la Vallée:
 - Malliavin Calculus and numerical applications in finance
 - Probabilistic methods for risk analysis.
 - Taux d’itérêt
 - B. Jourdain :
 1. Course "Probability theory and statistics", first year ENPC
 2. Course "Introduction to probability theory", 1st year, Ecole Polytechnique
 3. Course "Stochastic numerical methods", 3rd year, Ecole Polytechnique
 4. projects in finance and numerical methods, 3rd year, Ecole Polytechnique
 - B. Jourdain, B. Lapeyre: course "Monte-Carlo methods in finance", 3rd year ENPC and Master Recherche Mathématiques et Application, University of Marne-la-Vallée
 - J.-F. Delmas, B. Jourdain: course "Jump processes with applications to energy markets", 3rd year ENPC and Master Recherche Mathématiques et Application, university of Marne-la-Vallée
 - D. Lamberton:
 1. Second year of Licence de mathématiques (probability), Université Paris-Est Marne-la-Vallée.
 2. Master course “Calcul stochastique et applications en finance”, Université Paris-Est Marne-la-Vallée.
 - A. Sulem:
 1. Master course, Université Paris IX-Dauphine, Département MIDO (Mathématiques et Informatique de la Décision et des Organisations), Master MASEF, 21 h., *Méthodes numériques en Finance*
 2. Master of Mathematics, Université du Luxembourg, 15h, 2012. *Numerical Methods in Finance*.

8.2.2. Supervision

- HdR :

Aurélien Alfonsi, *Discrétisation de processus et modélisation en finance*, December 14 2012 , Ecole des Ponts Université Paris Est
- PhD :

Lokmane Abbas Turki. *Calcul parallèle pour les problèmes linéaires, non-linéaires et linéaires inverses en finance*. PhD thesis, Université Paris-Est, September 21, 2012, this thesis was funded by Credinext.
Advisers: D. Lamberton and B. Lapeyre,
Current Position: Postdoc, Humboldt University, Berlin
- PhD in progress
 - José Infante Acevedo: (from Oct. 2009). Half of this thesis is dedicated to *liquidity risk and limit order books modelling* . Adviser: A. Alfonsi.

- Pierre Blanc: *Modeling the price impact of limit and market orders*. Adviser: A. Alfonsi.
- Ayech Bouselmi: (3rd year, started in October 2009). Allocataire de recherche, Université Paris-Est. *Lévy processes and multi-dimensional models in finance*. Adviser: D. Lamberton.
- Roxana Dumitrescu: started October 2012, *Gestion de risques sous contraintes de portefeuille*. Fondation Sciences Mathématiques de Paris grant, Inria and Université Paris-Dauphine, Inria adviser: A. Sulem.
- Jing Chen: (Shandong University grant), Inria *Non Markovian Stochastic Control and Backward SDEs*, Adviser: A. Sulem .
- Maxence Jeunesse: (started in November 2009), *Study of some numerical methods in finance*. Adviser: B. Jourdain and J.-Ph. Chancelier, chair "Risques financiers" grant.
- Jyda Mint Moustapha: (started in november 2012), IFSTTAR, *Etude et caractérisation de pelotons de véhicules sur des routes à forte circulation*. Advisers: D. Daucher and B. Jourdain.
- Ernesto Palidda: ENPC and Crédit Lyonnais GRO. *Multi-dimensional stochastic volatility for Interest Rates*. Adviser: B. Lapeyre.
- Paola Pigato: (started November 2012). UPEMLV and University of Pisa, *Calcul de Malliavin*. Adviser: V. Bally.
- Clément Rey: ENPC and UPMLV. *Weak error analysis of discretization schemes for some financial processes*. Advisers: A. Alfonsi and V. Bally.
- Julien Reygner: (started in september 2011), IPEF, ENPC. *Convergence à l'équilibre de processus stochastiques*. Advisers: L. Zambotti and B. Jourdain.
- Victor Rabiet: (started 01/10/2009). ENS Cachan and UPEMLV : *Régularité du semi-groupe pour des équations stochastiques avec sauts*. Adviser: V. Bally.

8.2.3. Juries of PhD

- Agnes Sulem
 - Carmine De Franco, Laboratoire de Probabilités et Modeles Aléatoires (LPMA), Université Paris VII, 29 Juin 2012.
 - Lebovits Joachim, Ecole Centrale de Paris, 25 janvier 2012: Stochastic calculus with respect to multi-fractional Brownian motion and applications to finance
- Damien Lamberton
 - Carmine De Franco, Laboratoire de Probabilités et Modeles Aléatoires (LPMA), Université Paris VII, 29 Juin 2012.

MAVERICK Team

8. Dissemination

8.1. Scientific Animation

- Georges-Pierre Bonneau is member of the recruitment committee of associate professors at UJF.
- Georges-Pierre Bonneau is member of the IPCs of EUROVIS 2012.
- Joëlle Thollot is member of the IPCs of NPAR 2012.
- Joëlle Thollot is member of the IPCs of Computational Aesthetics 2012.
- Nicolas Holzschuch is program chair of the Eurographics Symposium on Rendering 2012,
- Nicolas Holzschuch is member of the "Commission d'évaluation" of Inria,
- Romain Vergne is member of the jury for the best paper at AFIG 2012.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Joëlle Thollot and Georges-Pierre Bonneau are both full Professor of Computer Science. Romain Vergne is an associate professor in Computer Science. They teach general computer science topics at basic and intermediate levels, and advanced courses in computer graphics and visualization at the master levels. Nicolas Holzschuch teaches computer graphics at intermediate and advanced levels. Fabrice Neyret taught a course called "Science and Society" to master and doctorate students at the university of Rennes.

Joëlle Thollot, 200 hours a year, professor, ENSIMAG/Grenoble INP.

Georges-Pierre Bonneau, 200 hours a year, professor, Polytech/Grenoble UJF.

Romain Vergne, 200 hours a year, associate professor, IM2AG/Grenoble UJF.

Nicolas Holzschuch, 53 hours a year, DR2 Inria.

Fabrice Neyret, 3 hours a year, DR2 CNRS.

8.2.2. Supervision

PhD : Nassim Jibai, Multi-scale Feature-Preserving Smoothing of Images and Volumes on GPU, Université de Grenoble, May 2012, Nicolas Holzschuch, Jean-Philippe Farrugia.

PhD : Laurent Belcour, A Frequency Analysis of Light Transport: from Theory to Implementation, Université de Grenoble, November 2012, Nicolas Holzschuch, Cyril Soler.

PhD : Mahdi Bagher, Material appearance: photorealistic representation and rendering, Université de Grenoble, November 2012, Cyril Soler, Nicolas Holzschuch.

PhD : Alexandre Coninx, Visualisation interactive de grands volumes de données incertaines : pour une approche perceptive, Université de Grenoble, May 2012, Georges-Pierre Bonneau, Jacques Droulez.

PhD in progress : Eric Heitz, Représentations alternatives pour le traitement haute qualité efficace des scènes complexes, October 2010, Fabrice Neyret.

PhD in progress : Manuel Vennier, Modèles pour l'animation et le rendu temps réel d'océans à des échelles multiples, December 2010, Fabrice Neyret, Joëlle Thollot.

PhD in progress : Léo Allemand-Giorgis, Visualisation de champs scalaires guidée par la topologie, October 2012, Georges-Pierre Bonneau, Stefanie Hahmann.

PhD in progress : Benoît Zupancic, acquisition of reflectance properties using compressive sensing, October 2012, Nicolas Holzschuch, Cyril Soler.

PhD in progress : Hugo Loi, Automatisation de la génération de textures vectorielles et application à la cartographie, October 2012, Joëlle Thollot, Thomas Hurtut.

PhD in progress : Alexandre Derouet-Jourdan, Courbes dynamiques : de la capture de formes géométriques à l'animation, September 2012, Florence Bertails-Descoubes, Joëlle Thollot.

8.2.3. *Juries*

- Georges-Pierre Bonneau was rapporteur at the PhD defense of Minh-Duc Huynh on July 2012, at the university of Pau.
- Joëlle Thollot was rapporteur at the PhD defense of Bert Buchholz on December 2012, at Paritech (Paris).
- Joëlle Thollot was rapporteur at the PhD defense of Jiazhou Chen on July 2012, at the university of Bordeaux 1.

8.3. Popularization

Fabrice Neyret made the following diffusions:

Articles about diffusion of critical thinking and scientific method (Observatoire Zététique, newsletter + website):

- "Analysis of a dr Labré's conference about 'alternative medicine': wrong obviousness and hidden contradictions."
- "Voices in my home ! Spirits or pareidolia ?"
- "Astrology lived from inside."

Actions for high-school students:

- MobiNet, free graphical programmable simulation software (<http://mobinet.imag.fr>)
- MobiNet class sessions: "maths & phys with meaning / how videogames and simulations are made ?". 8 high-school classes per year through INPG "engineering weeks" with regional funding.
- MobiNet class sessions: through MathC2+regional operation for high schools hosted by Inria.

Public debates and conferences:

- Jury + debate at Science-Po Grenoble about "virtuality and democracy"
- 3h in the Master transversal module about researcher responsibility (140 master & PhD students from all domains of Biology-Agronomy-Health at Rennes University)

Large public press and books:

- participation to the paper "History of Computer Graphics" in La Recherche
- "Sciences of 3D", book in preparation at Belin-PLS ed.

MAXPLUS Project-Team

9. Dissemination

9.1. Animation de la communauté scientifique/Scientific Animation

- M. Akian :
 - Membre élue du conseil du laboratoire du CMAP.
- S. Gaubert :
 - Vice-président du comité des projets du Centre de Recherche Inria de Saclay – Île-de-France depuis Janvier 2008, et membre nommé de la commission d'évaluation de l'Inria.
 - Membre du comité éditorial de la collection Mathématiques et Applications, SMAI et Springer.
 - Membre du comité éditorial du journal RAIRO Operations research.
 - Membre du conseil scientifique du CMAP.
 - Membre du CNU en 26ième section.
 - Membre du comité AERES ayant évalué le laboratoire M2N (Mathématiques, CNAM).
 - Coorganisateur de l'école d'été CEA-EDF-Inria d'Optimisation Stochastique, <http://www-hpc.cea.fr/SummerSchools2012-SO.htm>, 25 Juin - 6 Juillet, 2012, Cadarache.
 - Membre du comité de pilotage du PGMO (programme Gaspard Monge d'optimisation).

9.2. Enseignement - Encadrement - Jurys /Teaching - Supervision - Juries

9.2.1. Enseignement/Teaching

- M. Akian
 - Master: “ Contrôle de chaînes de Markov : programmation dynamique et applications”, 18h=27h ETD, M2 Modélisation et Méthodes Mathématiques en Économie et Finance (MMMEF) de Paris 1, 1er semestre.
- X. Allamigeon
 - Master: Petites classes et encadrement d'enseignements d'approfondissement de Recherche Opérationnelle en troisième année à l'École Polytechnique (majeure de Mathématiques Appliquées) (niveau M1).
- O. Fercoq
 - Petites classes du cours d'optimisation quadratique de 1ere année de l'ENSTA (14h).
- S. Gaubert
 - Cours “Systèmes à Événements Discrets”, option MAREVA, ENSMP.
 - Cours “Algèbre max-plus pour le contrôle optimal et les jeux” du Parcours Optimisation et Théorie des Jeux - Modélisation en Économie (OJME) du M2 Mathématiques et Applications de l'Université de Paris 6.
 - Cours magistral, petites classes et organisation des enseignements d'approfondissement de Recherche Opérationnelle en troisième année à l'École Polytechnique (majeure de Mathématiques Appliquées), avec polycopié [42].
- Z. Qu
 - Petites classes d'Automatique, ENSTA.

9.2.2. Encadrement/Supervision

- PhD: Sylvie Detournay, "Multigrid methods for zero-sum two player stochastic games", École Polytechnique, soutenue le 25 septembre 2012, directeur de thèse: M. Akian.
- PhD: Olivier Fercoq, "Optimisation de vecteurs propres de Perron et applications : du référencement de pages web à la chronothérapie." École Polytechnique, soutenue le 17 septembre 2012, directeur de thèse: S. Gaubert, coencadrement: M. Akian et M. Bouhtou (Orange Labs).
- PhD in progress : Zheng Qu, inscrite à l'École Polytechnique, depuis septembre 2010, directeur de thèse: S. Gaubert, coencadrement: S. Tang (Université Fudan, Shanghai, Chine).
- PhD in progress : Jean-Baptiste Dumont, inscrit à l'École Polytechnique depuis novembre 2010, directeur de thèse: S. Gaubert, coencadrement: M. Bouhtou (Orange Labs).
- PhD in progress : Pascal Benchimol, inscrit à l'École Polytechnique à partir de septembre 2011, directeur de thèse: S. Gaubert, coencadrement: X. Allamigeon, avec une participation à l'encadrement de M. Joswig (TU-Darmstadt) dans le cadre du programme bourse Monge (bourses données pour des doctorants avec un partenaire étranger).
- PhD in progress : Victor Magron, inscrit à l'École Polytechnique, depuis septembre 2010, directeur de thèse: Benjamin Werner (Inria et LIX), coencadrement: S. Gaubert et X. Allamigeon.
- PhD in progress : Andrea Marchesini, inscrit à l'École Polytechnique, depuis septembre 2012, directeur de thèse: Marianne Akian, codirection: S. Gaubert, avec une participation à l'encadrement de Françoise Tisseur (U. Manchester).

9.2.3. Jurys/Juries

- M. Akian
 - Jury de thèse de O. Fercoq (17 septembre 2012).
 - Jury de thèse de S. Detournay (25 septembre 2012).
- X. Allamigeon
 - Membre du jury du prix de thèse Gilles Kahn de la Société Informatique de France (septembre-décembre 2012).
- S. Gaubert
 - Membre de la commission de recrutement en informatique à l'École Polytechnique.
 - Membre du jury de concours Inria DR2.
 - Membre d'une commission de recrutement MdC à Paris 6 (Mathématiques / Optimisation).
 - Jury de thèse de O. Fercoq (École Polytechnique, 17 septembre 2012).
 - Jury de thèse de S. Detournay (École Polytechnique, 25 septembre 2012).
 - Jury de thèse de E Bukina (Nice - Sophia Antipolis, 19 juillet 2012, rapporteur);
 - Jury de thèse de H. Amini (École des Mines, 27 septembre 2012, rapporteur)
 - Jury d'HDR de L. Gramont (Université de Saint-Étienne, 9 mars 2012)

9.3. Popularization

- J.P. Quadrat :
 - Administre le site d'intérêt général <http://www.maxplus.org>, dédié à l'algèbre max-plus.
- X. Allamigeon
 - Exposé de vulgarisation dans le cadre des "Unithé ou Café" à Inria Saclay, mars 2012. Titre: "Pas d'erreurs fatales avec le tropical".

9.4. Participation à des colloques, séminaires/Conférences, Seminars

- M. Akian
 - Hilbert Geometries Workshop, CIRM, Luminy, 9 au 12 janvier 2012 (organisé par B. Lemmens et C. vernicos). Titre de l'exposé: "Fixed points and eigenvectors of convex monotone dynamical systems".
 - 2012 SIAM Conference on Applied Linear Algebra, June 18th-22nd, Valencia, Spain. "Minisymposium on max-algebra". Titre de l'exposé: "Tropical bounds for the eigenvalues of structured matrices".
 - MTNS 2012 (20th International Symposium on Mathematical Theory of Networks and Systems), University of Melbourne, 9-13 juillet 2012. Session invitée "Optimisation-based controller design". Titre de l'exposé: "Nonlinear spectral radii of order-preserving maps and infinite horizon zero-sum two-player stochastic games".
 - Workshop "Tropical and idempotent Mathematics", organisé par G. Litvinov, Moscou, 26-31 août 2012. Titre de l'exposé: "Fixed points of discrete convex monotone dynamical systems".
 - Séminaire du CMAP, 11 décembre 2012. Titre de l'exposé: "Aspects tropicaux du contrôle optimal ergodique".
- X. Allamigeon
 - Séminaire 68NQRT, IRISA/Inria Rennes, 16 février 2012. Titre de l'exposé: "Computing disjunctions using tropical polyhedra".
 - Séminaire du CMAP, 12 juin 2012. Titre de l'exposé: "Polyèdres tropicaux: théorie et applications".
 - 2012 SIAM Conference on Applied Linear Algebra, June 18th-22nd, Valencia, Spain. "Minisymposium on max-algebra". Titre de l'exposé: "Minimal representations of tropical polyhedra by half-spaces".
- P. Benchimol
 - Groupe de Travail des Thésards du Laboratoire Jacques-Louis Lions, Paris 6, 31 janvier 2012.
- O. Fercoq
 - Séminaire du "Research group on Large Graphs and Networks" à l'Université Catholique de Louvain, 10 février. Titre de l'exposé: "Convergence of Tomlin's HOTS algorithm and optimization of web ranking".
 - 2012 SIAM Conference on Applied Linear Algebra, June 18th-22nd, Valencia, Spain. Titre de l'exposé: "Optimization of the HOTS score of a website's pages".
 - 3rd International Conference on Engineering Optimization, July 1-5, Rio de Janeiro. Titre de l'exposé: "Synchronisation and control of proliferation in cycling cell population models with age structure".
 - 21st International Symposium on Mathematical Programming, August 19-24, Berlin. Titre de l'exposé: "Polyhedral and ergodic control approaches to PageRank optimization and spam detection".
 - 6th International conference on NETWORK Games, CONTROL and OPTimization (Netgcoop), November 28-30, Avignon. Titre de l'exposé: "PageRank optimization applied to spam detection".
- S. Gaubert
 - Hilbert Geometries Workshop, CIRM, Luminy, 9 au 12 janvier 2012 (organisé par B. Lemmens et C. vernicos). Titre de l'exposé: "Nonexpansive maps, zero-sum games and tropical convexity".

- Future Directions in Tropical Mathematics & its Applications, CICADA / LMS workshop, School of Mathematics, University of Manchester. Titre de l'exposé: Lectures on tropical convexity (3 hours). "Nonexpansive maps, zero-sum games and tropical convexity".
- Séminaire à l'Université de Saint-Étienne, 8 mars 2012. Titre de l'exposé: "Tropical eigenvalues"
- 21st International Symposium on Mathematical Programming, August 19-24, Berlin. Titre de l'exposé: "Policy iteration algorithm for zero-sum stochastic games with mean payoff".
- POSTA'12, Hamilton institute, Maynooth, Ireland, Sep. 3-4 2012, Titre de l'exposé: "The contraction rate in Thompson metric of order-preserving flows on a cone"
- Z. Qu
 - 9^eme journée Optimeo, 26 mars 2012, École Polytechnique. Titre de l'exposé: "Curse of dimensionality reduction in max-plus based approximation methods: theoretical estimates and improved pruning algorithms."
- C. Walsh
 - Hilbert Geometries Workshop, CIRM, Luminy, 9 au 12 janvier 2012 (organisé par B. Lemmens et C. Vernicos). Titre de l'exposé: "Horofunctions and isometries of Hilbert geometries".
 - Workshop "Tropical mathematics and its applications", University of Birmingham, 28 June 2012 (organisé par Peter Butkovic). Titre de l'exposé: "The horofunction boundary".
 - Workshop "Tropical and idempotent mathematics", organisé par G. Litvinov, Moscou, 26-31 août 2012. Titre de l'exposé: "Studying isometry groups using the horofunction boundary".
 - Workshop "Lipschitz metric on Teichmüller space", AIM, Palo Alto, California, 22 au 26 octobre 2012 (organisé par F. Kassel, A. Papadopoulos, K. Rafi, et J. Tao). Titre de l'exposé: "The horofunction boundary of Thurston's metric".

MC2 Project-Team

9. Dissemination

9.1. Scientific Animation

Thierry Colin is elected as a member of the national committee of the French Universities (CNU). It is a national structure that has in charge a peer review of the carriers of mathematicians in France.

Charles-Henri Bruneau is member of the executive board of the international conferences on CFD. Selection of the 270 abstracts received for the next conference in Hawaii July 2012.

Angelo Iollo is managing the national ANR research project Carpeinter.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

All Professors and Associate Professors teach 192 hours per year.

Licence : Modélisation et calcul scientifique, 32H, L2, Université Bordeaux 1, France (Michel Bergmann)

Licence : Initiation au langage de programmation Fortran 90, 28H, ENSEEIRB-MATMECA, France (Michel Bergmann)

Master : approximation des EDP 2, 28h, M1, Université Bordeaux 1, France (Michel Bergmann)

Master : electrical modelling of biological cells, 32H, M2, Université Bordeaux 1, France (Clair Poinard)

9.2.2. Supervision

PhD & HdR :

HdR: O. Saut, Contributions en optique non-linéaire et en modélisation de la croissance tumorale en vue des applications cliniques, Université Sciences et Technologies - Bordeaux I, September 2012

M. Cisternino, A parallel second order Cartesian method for elliptic interface problems and its application to tumor growth model, Université Sciences et Technologies - Bordeaux I and Politecnico di Torino, April 2012

PhD: Y. Gorsse, Méthode cartésienne pour les fluides compressibles et l'élasticité non-linéaire autour d'obstacles, November 2012

J. Hovnanian, Modélisation, Simulation et contrôle d'écoulement autour d'obstacle déformables, December 2012

PhD: V. Huber, Numerical modelling of complex bifluid flows, September 2012

J. Pinilla, , Modélisation et simulation à l'échelle du pore de la récupération assistée des hydrocarbures par injection de polymères, December 2012

PhD in progress : F. Cornelis is a medical doctor of the Institut Bergonié. He is a radiologist practicing CT-Scans, MRI but also local mini-invasive treatments (interventional radiology). He spends one day a week to prepare a PhD on the modelling aspects of his work. started 2010

PhD in progress : X. Jin, Etude et conception d'une éolienne, started 1st May 2011, supervisors : Angelo Iollo and Michel Bergmann

PhD in progress : M. Leguebe, Electroporation modelling at the cell scale, started 1st October 2011, supervisors : Thierry Colin and Clair Poinard

PhD in progress : M. Lattige, (co-director G. Gallice, CEA CESTA). Numerical modeling of ablation. started October 2010

PhD in progress, started October 2011: F. Bernard, V. Pianet

PhD in progress, started October 2012: A. De Bauer, J. Jouganous, G. Lefevre, H. Ung.

MCTAO Team

8. Dissemination

8.1. Scientific Animation

Bernard Bonnard and Ludovic Rifford belong to the editorial board of Journal of Dynamical and Control Systems.

All members of the team are active reviewers in journals of the field.

The team organized two one-day seminars:

- June 19 in Sophia ANTipolis, invited speakers: Richard Epenoy (CNES, Toulouse) and Vincent Andrieu (LAGEP, Lyon),
- September 24, in Dijon <http://nolot.perso.math.cnrs.fr/JourneesControleTransport.html>.

To be continued in march, 2013 in dijon and in may, 2013 in Nice.

8.2. Community service within Inria

J.-B. Pomet is the president of the “Commission de Suivi Doctoral”, and in charge of “formation par la recherche”. This includes organising local visits for students, organising PhD candidates selection, managing PhD students working at Inria Sophia (that are from two different “écoles doctorales” from Université de Nice, not counting these in Montpellier).

8.3. Teaching - Supervision - Juries

8.3.1. Teaching

Licence: L. Rifford, “Analyse I” and “Option Maths”, 60 hours (equiv TD), Univ. de Nice Sophia Antipolis

8.3.2. Supervision

PhD: Ahed Hindawi, *Transport Optimal en Théorie du Contrôle*, Université de Nice Sophia Antipolis, defended June 27, 2012, advisors: Ludovic Rifford and Jean-Baptiste Pomet, see [1].

PhD in progress: Alice Erlinger, subject: *Economics and Optimal Transport*, Université de Nice Sophia Antipolis, started october, 2012, advisor: Ludovic Rifford.

PhD in progress: Helen Heninger, subject: , Université de Nice Sophia Antipolis, started october, 2012, advisors: Bernard Bonnard and Jean-Baptiste Pomet.

PhD in progress: Ayadi Lazrag, subject: *Control methods in dynamical systems*, Université de Nice Sophia Antipolis, started october, 2011, advisor: Ludovic Rifford.

PhD in progress: Lionel Jassionnesse, subject: *Convexité du domaine d'injectivité tangent sur les surfaces et transport optimal*, Université de Bourgogne, started october, 2010, advisor: Bernard Bonnard.

PhD in progress: John Marriott, subject: *Optimal control and the contrast problem in RMN*, University of Hawaii, started october, 2010, advisors: Monique Chyba and Bernard Bonnard, provisional defense date: August 28, 2013.

MsC: Alice Erlinger, *Problèmes de régularité en théorie du Transport Optimal*, Université de Nice Sophia Antipolis, supervisor: Ludovic Rifford.

MsC: Hamza Agli, *Etude numérique du moyenné pour le transfert orbital plan*, ENSEEIHT, supervisors: Jean-Baptiste Pomet and Bernard Bonnard.

MsC, 1st year: Ciro Duran-Santilli, *Flatness in control systems*, Ecole Polytechnique, supervisor: Jean-Baptiste Pomet.

MsC, 1st year: Igor Pontes-Duff-Pereira, *Transfert optimal d'un Satellite - Moyennation pour le temps minimum*, Ecole Polytechnique, supervisors: Jean-Baptiste Pomet and Bernard Bonnard.

MESCAL Project-Team

9. Dissemination

9.1. Animation of the scientific community

- Brigitte Plateau is the president of Grenoble-INP.
- Yves Denneulin is the director of Grenoble-INP ENSIMAG.
- Corinne Touati is the Grenoble INP correspondent for international relations with Japan.
- Yves Denneulin and Jean-Marc Vincent are co-directors of the LICIA (Franco-Brazilian Laboratory).
- Bruno Gaujal has been a member of selection committees in Grenoble.

9.1.1. Invited Talks

- Bruno Gaujal gave an invited talk at *Piecewise Deterministic Markov Process Days*, Marne la Vallée, 2012. He was invited to give a series of lectures at the Workshop *Weak Kam Dynamics and mean field games and control*, Warwick Mathematics Dept., 2012. He was also invited to give a talk at the *Complex systems workshop*, Rescom, Paris, Nov. 2012.
- Bruno Gaujal and Corinne Touati are invited to give a one hour lecture each at the autumn school on *Analyse D'Algorithmes et Modèles Aléatoires (ADAMA)*, Monastir, October 2012 on game theory for networks.
- Panayotis Mertikopoulos was invited to give talks at ENSEA, Wireless Networks Seminar, March 2012, Ecole Polytechnique, Economic Theory Seminar, March 2012, Games and Strategy in Paris (International Conference for Sylvain Sorin's 60th birthday), June 2012, Paris Game Theory Seminar, May 2012, University of Athens, Wireless Systems Seminar, October 2012.
- Arnaud Legrand has given an invited talk at JLPC (Argonne), November 2012, at the workshop *New challenges in scheduling theory*, Frejus, Oct. 2012, and invited seminars at the PUC Rio and at UFRGDS, Brazil.

9.1.2. Journal, Conference and Workshop Organization

- Panayotis Mertikopoulos is the publications chair of Valuetools 2012 (the 6th International ICST Conference on Performance Evaluation Methodologies and Tools). He is also the co-organizer of the Paris Working Group on Evolutionary Games.
- Jean-Marc Vincent has been the general chair of the ASMTA conference, June 2012.
- Corinne Touati has been the general chair of ValueTools 2012, Cargese, Oct. 2012.
- Bruno Gaujal, Panayotis Mertikopoulos and Corinne Touati organized the Rescom summer school on Game Theory for networks, Vittel, June 2012.
- Panayotis Mertikopoulos was a publicity chair of the 11th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks.
- Arnaud Legrand has organized the *simgrid user days* in Lyon.

9.1.3. Program Committees

- Bruno Gaujal was the Technical Program Committee Chair of ValueTools 2012.
- Bruno Gaujal was program committee member of Wodes 2012.
- Panayotis Mertikopoulos was program committee member of ValueTools 2012.
- Arnaud Legrand was program committee member of IPDPS 2012.

9.1.4. Thesis Defense

- Marcio Bastos Castro, *Improving the Performance of Transactional Memory Applications on Multi-cores: A Machine Learning-based Approach*, Dec. 3, 2012.
- Kiril Geogiev, *Débogage des systèmes embarqués multiprocesseur basé sur la ré-exécution déterministe et partielle*, Dec. 4, 2012 [5].
- Slim Bouguerra, *Tolérance aux pannes dans des environnements de calcul parallèles et distribués: optimisation des stratégies de sauvegarde/reprise et ordonnancement*, Apr. 12, 2012 [4].

9.1.5. Thesis Committees

Members of the MESCAL project-team have served on the following PhD thesis committees

- Bruno Gaujal served on the thesis committees of Laurent Jouhet (president), Adrien Brandejsky (reviewer), Xavier Koegler (reviewer).

9.1.6. Popular Science

- MESCAL actively promotes science to young and non-scientific audience. This year, Corinne Touati participated to the "stage Maths C2+" and the bi-annual "semaine de l'ingénieur" to promote the use of mathematics to junior high and high school students in Rhône-Alpes.
- Jean-Marc Vincent contributed to the national initiative for introducing computer science to high school professors in mathematics.

9.2. Teaching

Several members of mescal are university professors and comply with their recurrent teaching duties. In addition, here are more details on new lectures that were initiated by MESCAL members in 2012.

- Performance evaluation. Two new lectures on system modeling and performance evaluation started in Ensimag in 2012 at M1 and M2 levels.
- Game Theory and Applications, 24 hours, M2R, ENS de Lyon, France.
- Stochastic System Optimisation, 36 hours, MPRI, Paris.
- "Research School" (open to M1, M2 and PhD students) on Game Theory for Networks, Rescom Summer School, Vittel, France.
- Olivier Richard was involved in the creation of a new "fab lab" in the University Joseph Fourier.
- Arnaud Legrand is responsible of the Parallel systems track at the MOSIG.

METISS Project-Team

9. Dissemination

9.1. Animation of the scientific community

Frédéric Bimbot is the Head of the "Digital Signals and Images, Robotics" in IRISA (UMR 6074).

Frédéric Bimbot was a member of the Comité National de la Recherche Scientifique (Section 07 and Inter-Disciplinary Commission 42)

Frédéric Bimbot is the General Chairman of the Interspeech 2013 Conference in Lyon (1200 participants expected).

Frédéric Bimbot is the Scientific Leader of the Audio Processing Technology Domain in the QUAERO Project.

Rémi Gribonval is in charge of the Action "Parcimonie" within the French GDR ISIS on Signal & Image Processing

Rémi Gribonval and Emmanuel Vincent were Guest Editors of the special issue on Latent Variable Analysis and Signal Separation of the journal *Signal Processing* published by Elsevier [46].

Rémi Gribonval and Emmanuel Vincent are members of the International Steering Committee for the LVA conference series.

Emmanuel Vincent is an Associate Editor for the *IEEE Transactions on Audio, Speech, and Language Processing* (2011–2014).

Emmanuel Vincent was a Guest Editor of the special issue on Speech Separation and Recognition in Multisource Environments of the journal *Computer Speech and Language* published by Elsevier [35].

Emmanuel Vincent was elected a member of the IEEE Technical Committee on Audio and Acoustic Signal Processing (2012–2014).

Emmanuel Vincent is the General Chair of the 2nd International Workshop on Machine Listening in Multi-source Environments (CHiME), to be held in Vancouver as a satellite even of ICASSP 2013 on June 1, 2013, and an organizer of the 2nd CHiME Speech Separation and Recognition Challenge.

Emmanuel Vincent is a titular member of the National Council of Universities (CNU section 61, 2012–2015).

Nancy Bertin was elected a member of the IEEE Technical Committee on Audio and Acoustic Signal Processing (2013–2015).

9.2. Teaching

Rémi Gribonval gave a series of tutorial lectures on sparse decompositions and compressed sensing at two-day workshop on "Sparse Representations and Machine Learning" (Rennes, October 2012).

Rémi Gribonval gave lectures about sparse representations for inverse problems in signal and image processing for a total of 10 hours as part of the SISEA Masters in Signal & Image Processing, University of Rennes I.

Rémi Gribonval was the coordinator of the ARD module of the Masters in Computer Science, Rennes I.

Rémi Gribonval gave lectures about signal and image representations, time-frequency and time-scale analysis, filtering and deconvolution for a total of 8 hours as part of the ARD module of the Masters in Computer Science, Rennes I.

Emmanuel Vincent gave a tutorial on "Uncertainty handling for environment-robust speech recognition" with Ramon F. Astudillo and Li Deng at InterSpeech 2012 (13th Annual Conference of the International Speech Communication Association), Portland, OR, September 9–13, 2012.

Nancy Bertin gave lectures about audio rendering, coding, indexing, classification, speech processing and source separation, for a total of 12 hours as part of the CTR and FAV modules of the Masters in Computer Science, Université Rennes I.

MEXICO Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. *Benedikt Bollig*

was the organizer and a PC member of the 4rd Young Researchers Workshop on Concurrency Theory (YR-CONCUR), which was co-located with CONCUR'12. He was a PC member of the International Workshop on Interactions, Games and Protocols (IWIGP'12). Moreover, he served as a reviewer for numerous international conferences and journals. He also was a member of the *commission scientifique* Inria Saclay.

8.1.2. *Thomas Chatain*

was a member of the program committee of ACSD'12 (*International Conference on Application of Concurrency to System Design*). He was a member of a selection committee at CNAM Paris in 2012, and participated in the organization and presentation of the one-day Petri net tutorial on unfoldings at the *international conference on the application and theory of Petri nets* in Hamburg, June 2012.

8.1.3. *Paul Gastin*

is co-head (with Madhavan Mukund) of the new International Associated Laboratory (LIA) INFORMEL (INdo-French FORMal Methods Lab). This LIA was created in January 2012 by an agreement between CNRS, ENS Cachan, University Bordeaux 1 on the french side and the Chennai Mathematical Institute, the Institute of Mathematical Sciences of Chennai, and the Indian Institute of Science of Bangalore on the Indian side.

He is the head of the computer science department of ENS Cachan.

Paul Gastin is an associate editor of the Journal of Automata, Languages and Combinatorics.

He is on the Advisory Board of the EATCS-Springer book series

- Monographs in Theoretical Computer Science,
- Texts in Theoretical Computer Science.

He was a member of the program committees of LATA 2012 (Language and Automata Theory and Applications) and CONCUR 2012 (International Conference on Concurrency Theory).

He was an invited speaker at the 17th International Conference on Implementation and Application of Automata (CIAA'12).

He was a member of 3 selection committees (Cachan, Nancy and Orléans).

8.1.4. *Stefan Haar*

is an associate editor for the journal *Discrete Event Dynamic Systems: Theory and Application*, and was on the program committees of *SAFEPROCESS 2012* and *PNSE 2012*. He participated in the organization and presentation of the one-day Petri net tutorial on unfoldings at the *international conference on the application and theory of Petri nets* in Hamburg, June 2012 Stefan is the correspondent for Inria's *DRI* (international relations service) for the Saclay center, and ipso facto member of the GTRI (working group on international relations) of Inria's COST.

8.1.5. Serge Haddad

has been a member of the steering committee of the *International Conference on Application and Theory of Petri Nets (ICATPN)* since 2001. He gave a tutorial on timed and stochastic Petri nets, and was co-president of the program committee of ICATPN 2012; he was also co-president for the tutorials at the 18th Int. Symp. on Formal Methods (FM) 2012, Paris, France, and member of the program committee of the Workshop on Research and Use of Multiformalism Modeling Methods of QEST, September 2012, London, UK. He is a founding member of the research group *MeFoSyLoMa* and co-chair of the software project *COSYVERIF*. He was one of the evaluators in the Evaluation AERES of the *Cedric* Laboratory, and is a member of the selection committees of the universities Paris VI and Nancy.

8.1.6. Stefan Schwoon

was a member of the program committee of GRAPHITE'12 (First Workshop on GRAPH Inspection and Traversal Engineering). and of the MOVEP 2012 winter school. He gave a tutorial on unfolding and partial-order techniques at CEA LIST in January.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Here we present the teaching activities of PhD students and *researchers*; note that in addition to the classes here, four team members (Th. Chatain, P. Gastin, S. Haddad and S. Schwoon) are full-time professors of ENS Cachan and fulfill their teaching obligations there.

Master : Sandie Balaguer, Programmation en C, 32, M1, U.F.R d'Informatique de Paris 7, France

Master : Benjamin Monmege, Probabilistic Aspects of Computer Science, 10h, M1, ENS de Cachan, France

Master : Benoît Barbot, Projet de programmation réseau, 30h, M1, ENS Cachan, France

Master : Benedikt Bollig, Modeling and verification of real-time distributed systems, 12, M2, MPRI, France

Ecole d'Ingénieur: Hernán Ponce de León, Algorithmique et Programmation, 32, 3e année (équivalent L3), Ecole Centrale Paris, France

Master : Stefan Haar, Verification (VSFR), 12, M2, UPMC, France

Master : Stefan Haar, Modelisation et optimisation (MOPS), 12, M2, Université d'Evry, France

Agrégation : Stefan Haar, Algorithmique , 42.5, Agrégation option informatique, ENS Cachan

Master : César Rodríguez, Projet de programmation réseau, 30h, M1, ENS Cachan, France

Agrégation : César Rodríguez, TP programmation, 24h, Préparation à l'agrégation, ENS Cachan, France

Licence : Aiswarya CYRIAC, Algorithmique avancée, 60, niveau L3, ENS de Cachan, France

Licence: Benoît Barbot , Mathématiques Discrètes, 22.5 , L3 , ENS Cachan, France

Licence : Benjamin Monmege, Machine learning, 60h, L3, ENS de Cachan, France

8.2.2. Supervision

PhD & HdR :

PhD: Sandie Balaguer, Concurrency in Real-Time Distributed Systems, ENS Cachan, December 13, 2012, supervised by Stefan Haar and Thomas Chatain.

PhD: Hilal Djafri, Numerical and Statistical Approaches for Model Checking of Stochastic Processes, ENS Cachan, June 19, 2012, supervised by Serge Haddad.

PhD in progress: Hernán Ponce de León, Testing of concurrent systems using event structures, ENS Cachan, supervised by Stefan Haar and Delphine Longuet (Paris XI)

PhD in progress: César Rodríguez, *Contextual Petri Nets and Applications*, begun in September 2010, supervised by Stefan Schwoon

PhD in progress: Aiswarya Cyriac, *Temporal logics for concurrent recursive programs*, begun in September 2010, supervised by Benedikt Bollig and Paul Gastin.

PhD in progress: Benjamin Monmege, *Specification and verification of qualitative properties and applications to queries for XML documents*, begun in September 2010, supervised by Benedikt Bollig and Paul Gastin.

PhD in progress: Benoît Barbot, *Rare event handling in statistical model checking*, begun in September 2011, Serge Haddad and Claudine Picaronny (ENS Cachan).

8.2.3. **Juries**

8.2.3.1. *Thomas Chatain*

participated, as examiner and co-supervisor, in the PhD committee of Sandie Balaguer ([43], December 13, 2012).

8.2.3.2. *Paul Gastin*

was president of the committee for the HDR of Daniele Varacca at *Université Paris Diderot*.

8.2.3.3. *Stefan Haar*

was president of the Ph D committees of Hilal Djafri [44] at ENS Cachan (June 19, 2012) and Hoang-Thach Nguyen at Paris VII (April 18, 2012), and member (as the thesis supervisor) of the PhD committee of Sandie Balaguer ([43], December 13, 2012). He will be a reviewer for the thesis of Elisabeta Mangioni at University of Milan-Bicocca in Italy.

8.2.3.4. *Serge Haddad*

was examiner and thesis supervisor in the Ph D committee of Hilal Djafri [44] at ENS Cachan (June 19, 2012). He also was a reviewer for the thesis of H. Schonenberg at Eindhoven University, mai 2012, and member of the PhD Committees of L. Jezequel (University of Rennes, november 2012, and M. Lauer at INP Toulouse, june 2012).

8.2.3.5. *Stefan Schwoon*

participated in the *jury de mi-parcours* of Ala Eddine Ben Salem, PhD student at LIP6.

MICMAC Project-Team

8. Dissemination

8.1. Animation of the scientific community

E. Cancès

- is a member of the editorial boards of *Mathematical Modelling and Numerical Analysis* (2006-), of *SIAM Journal of Scientific Computing* (2008-), and of *Communications in Mathematical Sciences* (2011-),
- is a member of the executive committee of the CEA-EDF-Inria schools in applied mathematics and computer science,
- is a member of the scientific committee of the GDR co-DFT.

E. Cancès has organized or co-organized

- a workshop on the mathematics and numerical analysis of electronic structure models, Beijing, China, June 2012,
- a workshop on quantum and atomistic modeling of materials defects, IPAM-UCLA, Los Angeles, USA, October 2012.

I. Dabo, V. Ehrlacher and G. Stoltz have co-organized a CFCAM meeting on numerical and mathematical problems for solar cell devices, in Paris, France, 5 september 2012.

C. Le Bris is co-Editor-in-chief (with A.T. Patera, MIT) (2005-) of *Mathematical Modeling and Numerical Analysis*. He is editor-in-chief of *Applied Mathematics Research Express* (2003-). He is a member of the editorial boards of *Archive for Rational Mechanics and Analysis* (2004-), *COCV (Control, Optimization and Calculus of Variations)* (2003-), *Mathematics in Action* (2008-), *Networks and Heterogeneous Media* (2005-), *Nonlinearity* (2005-), *Journal de Mathématiques Pures et Appliquées* (2009-). He is a member of the editorial board of the monograph series *Mathématiques & Applications, Series, Springer* (2008-), and *Modeling, Simulations and Applications, Series, Springer* (2009-).

C. Le Bris is a member of

- the scientific board of ENPC, 2008- (nominated as representative of the research scholars),
- the “Comité d’experts” for the “Fondation de Recherche pour l’Aéronautique et l’Espace”,
- the “Comité d’animation du domaine thématique Mathématiques appliquées, calcul et simulation” at Inria,
- the “International Scientific Advisory Committee” of the Centre de Recherche Mathématique, Université de Montréal,
- the “Advisory Board” of the DFG Cluster of Excellence Engineering of Advanced Materials, Erlangen,
- the “International Scientific Advisory Board” of the DFG research center Matheon, Berlin,
- Conseil de perfectionnement du Master de Mathématiques de l’Université Pierre et Marie Curie.

C. Le Bris has held a position of Visiting Professor at the University of Chicago, October-November 2012.

F. Legoll is a member of the editorial board of *SIAM MMS* (2012-) and of *ESAIM Proc* (2012-).

F. Legoll has co-organized with B. Kraczk, R. Jones and K. Mandadapu a mini-symposium on "Atomistic basis of thermal processes in driven systems" at the 22nd International Workshop on Computational Mechanics of Materials (IWCMM XXII), Baltimore, Sept. 24-26 2012.

T. Lelièvre is an Ordway visiting professor at the University of Minnesota for the academic year 2012-2013.

T. Lelièvre has co-organized a CECAM workshop "Free energy calculations: From theory to applications" at the Ecole des Ponts, June 4th-8th 2012.

F. Nier is a member of the scientific committee of

- the workshop "Mathematics for semiconductor heterostructure 2012" WIAS-Berlin, September 2012,
- the CNRS-GDR "Dynamique Quantique" led by S. de Bièvre.

G. Stoltz has co-organized the workshop "Nonequilibrium Statistical Mechanics: Mathematical Understanding and Numerical Simulation" held at BIRS, Banff, Canada, November 12-16, 2012.

I. Dabo, V. Ehrlacher and G. Stoltz have co-organized a CFCAM discussion day on "Numerical methods and mathematical approaches for solar devices" in Inria Paris, September 5th, 2012.

V. Ehrlacher and T. Lelièvre have co-organized a thematic minisymposium on greedy algorithms for high-dimensional problems at AIMS 2012, Orlando, USA, July 2012.

8.2. Teaching - Supervision

The members of the team have taught the following courses:

- Licence: Analyse, 27h, L1, Université de Cergy Pontoise, France (S. Lahbabi)
- Licence: Analyse, 36h, L3, Ecole des Ponts, France (E. Cancès, F. Legoll, G. Stoltz, M. Rousset)
- Licence: Calcul Scientifique, 30h, L3, Ecole des Ponts ParisTech, France (M. Dobson, S. Boyaval, G. Stoltz)
- Licence: Formation au logiciel scientifique SCILAB, 12h, L3, Ecole des Ponts ParisTech, France (D. Benoit),
- Licence: Tutorat de Maths, 9h, L3, Ecole des Ponts ParisTech, France (D. Benoit),
- Licence: Probability, 42h, L3, Ecole des Ponts, France (M. Rousset).
- Licence: Projets de physique, 20h, L3, Ecole des Ponts, France (I. Dabo, G. Stoltz)
- Licence: Formation aux logiciels scientifiques, 12h, L3, Ecole des Ponts, France (I. Dabo)
- Master: Introduction au calcul Scientifique, 12h, M1, Ecole des Mines ParisTech, France (D. Benoit, W. Minvielle, G. Stoltz)
- Master: Analyse Numérique et Optimisation, 56h, M1, Ecole Polytechnique, France (E. Cancès)
- Master: Méthodes variationnelles en mécanique quantique, 12h, M2, University Paris 6, France (E. Cancès)
- Master: Mathématiques des modèles multiéchelles, 39h, M1, Ecole des Ponts ParisTech, France (F. Legoll)
- Master: Problèmes multi-échelles, 24h, M2, Université Paris 6, France (F. Legoll)
- Master: Analyse spectrale, 39h, M1, Ecole des Ponts, France (G. Stoltz)
- Master: Spectral theory of Schrodinger operators, 30h, M2, Université de Marne-la-Vallée, France (G. Stoltz)
- Master: Méthodes déterministes en mathématiques financières, 42h, M2, Ecole des Ponts ParisTech (T. Lelièvre).
- Master: Modéliser Programmer Simuler, 28 h, M1, Cours Ecole des Ponts ParisTech (T. Lelièvre).
- Master: Méthodes numériques probabilistes, 36 h, M2 Mathématiques et Applications, Université Pierre et Marie Curie (T. Lelièvre).
- Master: Mathématiques appliquées, 18h, University Lille 1, France (M. Rousset).
- Master: Simulation numérique en science des matériaux, 18h, M1, Ecole des Ponts, France (I. Dabo, M. Vandamme)
- Doctorat: Introduction à l'informatique scientifique, 24h, Université Paris-Est, France (I. Dabo)

F. Legoll has supervised the internship of William Minvielle (Paris 6, Master 2) from March 1st to July 31st, 2012.

The following PhD & Habilitation were defended:

- PhD: V. Ehrlacher, Some mathematical and numerical problems in quantum mechanics and uncertainty quantification, Université Paris-Est, Ecole des Ponts ParisTech, supervised by E. Cancès and T. Lelièvre
- HdR: G. Stoltz, Molecular Simulation: Nonequilibrium and Dynamical Problem, Université Paris-Est, June 18th, 2012,
- PhD: F. Thomines, Méthodes mathématiques et techniques numériques de changement d'échelle : application aux matériaux aléatoires, Université Paris-Est, Ecole des Ponts ParisTech, 22 nov. 2012, supervised by C. Le Bris.

The following PhDs are in progress:

- PhD in progress: H. Alrachid, Méthodes numériques en simulation moléculaire, Université Paris-Est, Ecole des Ponts ParisTech, started october 1st, 2012, supervised by T. Lelièvre
- PhD in progress: D. Benoit, Méthodes numériques pour la simulation des fluides non-Newtoniens, Université Paris-Est, Ecole des Ponts ParisTech, started october 1st, 2010, supervised by C. Le Bris and T. Lelièvre
- PhD in progress: D. Gontier, started September 1st, 2012, supervised by E. Cancès
- PhD in progress: S. Lahbabi, Mathematical study of quantum crystals with random defects, University of Cergy-Pontoise, started september 1st 2010, supervised by E. Cancès and M. Lewin
- PhD in progress: W. Minvielle, Méthodes numériques pour les matériaux, Université Paris-Est, Ecole des Ponts ParisTech, started october 1st, 2012, supervised by C. Le Bris and F. Legoll
- PhD in progress: N. Mourad, A mathematical and numerical analysis of the pseudopotential method, Université Paris-Est, Ecole des Ponts ParisTech and Lebanese CNRS, started September 1st, 2011, supervised by E. Cancès, A. Kashmar and A. Mourad

8.3. Conference participation

Members of the project-team have delivered lectures in the following seminars, workshops and international conferences:

- D. Benoit, International Workshop on Numerical Methods for Non-Newtonian Flows, Blois (France), March 2012,
- D. Benoit, Congrès CANUM 2012, Superbesse (France), May 2012,
- D. Benoit, Multiscale Materials Modeling (MMM) conference 2012, Singapour (Singapour), October 2012
- D. Benoit, Colloque Modélisation numérique des mélanges grains-fluides, Montpellier (France), October 2012
- I. Dabo, Workshop on Corrective Approaches to DFT for Strongly-correlated Systems, CECAM, EPFL, Lausanne, June 2012
- I. Dabo, Young Engineers and Scientists Symposium, University of California, Berkeley, March 2012
- I. Dabo, CECAM Meeting on Electron Correlation, Ecole Polytechnique, Palaiseau, December 2012
- I. Dabo, Energy from the Sun: Computational Chemists and Physicists Take Up the Challenge, CECAM Conference, Cagliari, September 2012
- I. Dabo, PRACE F2F Workshop, CEA Saclay, June 2012

- I. Dabo, 2nd TYC Energy Materials Workshop, Thomas Young Centre, King's College, London, June 2012
- I. Dabo, American Physical Society Meeting, Boston, March 2012
- E. Cancès, Mathematics meets Chemistry workshop, Erlangen, Germany, March 2012,
- E. Cancès, AIMS 2012, Orlando, USA, July 2012,
- E. Cancès, ICMP 2012, Aalborg, Denmark, August 2012,
- E. Cancès, IPAM workshop, Los Angeles, USA, October 2012
- E. Cancès, weekly seminar of the mathematics department, Université d'Orsay, January 2012,
- E. Cancès, weekly seminar of the mathematics department, Berkeley University, USA, January 2012,
- E. Cancès, working group on numerical methods, Université Paris 6, January 2012,
- E. Cancès, weekly seminar of the mathematics department, ENSTA, March 2012,
- E. Cancès, K. Burke's group meeting, chemistry department, Irvine University, USA, October 2012,
- E. Cancès, NAS group meeting, physics department, Louvain-la-Neuve, Belgium, November 2012,
- V. Ehrlacher, SIAM Conference on Uncertainty Quantification, Raleigh, USA, April 2012.
- V. Ehrlacher, workshop on Mathematical and Numerical Analysis of Electronic Structure Models, Beijing, China, June 2012.
- V. Ehrlacher, 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, USA, July 2012.
- V. Ehrlacher, Séminaire d'Analyse numérique - Equations aux dérivées partielles du Laboratoire Paul Painlevé, Lille, France, Mars 2012.
- V. Ehrlacher, Groupe de travail EDP et analyse numérique LAMA-CERMICS, Marne-la-Vallée, France, May 2012.
- V. Ehrlacher, Séminaire des thésards du laboratoire AGM, Cergy, France, May 2012.
- V. Ehrlacher, IPAM MD2012 Seminar Series, Los Angeles, USA, September 2012.
- V. Ehrlacher, Applied Mathematics/PDE Seminars of University of California of Santa Barbara, Santa Barbara, USA, November 2012.
- V. Ehrlacher, IPAM Workshop IV: Computational Methods for Multiscale Modeling of Materials Defects, Los Angeles, USA, December 2012.
- S. Lahbabi, Weekly seminar of the mathematics department, University of Cergy Pontoise, November 2012,
- C. Le Bris, plenary lecture, 60-th annual SIAM meeting, July 2012, Minneapolis, USA.
- C. Le Bris, Workshop Inhomogeneous Random Systems IRS2012, Institut Henri Poincaré (Paris), January 2012.
- C. Le Bris, International conference on PDEs, Shanghai, June 2012
- C. Le Bris, ICMS workshop Edinburgh, June 2012.
- C. Le Bris, ACMAC workshop on Image and waves in complex media, June 2012, Heraklion, Crete.
- C. Le Bris, Journées MMCS, Université de Lyon, September 2012.
- C. Le Bris, keynote lecturer, 2012 Woudschoten Conference, October, 2012, Zeist, The Netherlands.
- C. Le Bris, IPAM program on " Materials Defects: Mathematics, Computation, and Engineering", December 2012.
- C. Le Bris, Mathematics Seminar, Freie Universität Berlin, May 2012.
- C. Le Bris, Scientific and statistical computing seminar University of Chicago, October 2012.

- F. Legoll, workshop on “Mathematical theory and computational methods for multiscale problems”, Singapore, January 2012,
- F. Legoll, American Physical Society meeting, Boston, February 2012,
- F. Legoll, Workshop “Mathematics meets Chemistry and Physics”, Erlangen, March 2012,
- F. Legoll, CECAM workshop on “Free energy calculations: From theory to applications”, Paris, June 2012,
- F. Legoll, AIMS conference, Orlando, July 2012,
- F. Legoll, WCCM conference, Sao Paulo, July 2012,
- F. Legoll, ECCOMAS conference, Wien, September 2012,
- F. Legoll, NumDiff 13 Conference, Halle, September 2012,
- F. Legoll, 22nd Int. Workshop on Computational Mechanics of Materials, Baltimore, September 2012,
- F. Legoll, Kickoff meeting of the “Laboratoire International Associé Nancy/UIUC”, Nancy, November 2012,
- F. Legoll, Workshop on “Nonequilibrium Statistical Mechanics”, Banff, November 2012,
- F. Legoll, séminaire du groupe de travail Homogénéisation et Echelles Multiples, Paris 6, November 2012,
- F. Legoll, Workshop on “Computational Methods for Multiscale Modeling of Materials Defects”, IPAM Los Angeles, December 2012,
- F. Legoll, Lake Arrowhead culminating workshop, IPAM Los Angeles, December 2012,
- T. Lelièvre, Workshop on Multiscale Modeling, Simulation, Analysis and Application, Singapore, January 2012.
- T. Lelièvre, Workshop on Interplay of Analysis and Probability in Physics, Oberwolfach, January 2012.
- T. Lelièvre, Séminaire de mathématiques, Université de Marne-la-Vallée, January 2012.
- T. Lelièvre, Séminaire du MAPMO, Orléans, February 2012.
- T. Lelièvre, Workshop BEMOD12 “Beyond Molecular Dynamics: Long Time Atomic-Scale Simulations”, MPIPKS, Dresden, March 2012.
- T. Lelièvre, Analysis seminar, MPI Leipzig, April 2012.
- T. Lelièvre, Arbeitsbereich Numerik Mathematisches Institut seminar, Uni Tuebingen, May 2012.
- T. Lelièvre, plenary speaker at the CANUM conference, Superbesse, May 2012.
- T. Lelièvre, Workshop “Computation of transition trajectories and rare events in non-equilibrium systems”, ENS Lyon, June 2012.
- T. Lelièvre, Journées ERGONUM “Analyse probabiliste des systèmes en temps long”, Inria Sophia-Antipolis, June 2012.
- T. Lelièvre, AIMS conference, Orlando, July 2012.
- T. Lelièvre, plenary speaker at the EVOLVE 2012 conference, Mexico, August 2012.
- T. Lelièvre, Workshop “Modelling the Dynamics of Complex Molecular Systems”, Lorentz Center, Leiden, August 2012.
- T. Lelièvre, Tutorial "Materials Defects", IPAM, Los Angeles, September 2012,
- T. Lelièvre, Workshop "Quantum and Atomistic Modeling of Materials Defects", IPAM, Los Angeles, October 2012,
- T. Lelièvre, Workshop “Nonequilibrium Statistical Mechanics: Mathematical Understanding and numerical Simulation” BIRS, Banff, Canada, November 2012.

- F. Nier: Séminaire Univ. Nantes, January 2012.
- F. Nier: Invitation for one week in TU-Universität Braunschweig (Germany) February 2012
- F. Nier: Séminaire Univ. Bordeaux, March 2012.
- F. Nier: Analytic torsion and its applications, Conference organized by J.M. Bismut and W. Müller, Univ. Paris 11, June 2012.
- F. Nier: Invitation for three weeks in WIAS-Berlin (Germany), September 2012
- F. Nier: Workshop "Mathematics for Semiconductor Heterostructures: Modeling, Analysis, and Numerics", WIAS-Berlin (Germany), organized by K. Gaertner, A. Glitzky, H.C. Kaiser, and F. Nier, September 2012.
- F. Nier: Lectures on Semi-classical analysis, organized by S. Fujie and T. Watanabe, Ritsumeikan University (Japan), October 2012.
- F. Nier: "Workshop on Spectral Analysis, Stability and Bifurcations in Modern Nonlinear Physical Systems", organized by O. Kirillov and Y. Fukumoto, BIRS Banff (Canada), November 2012.
- F. Nier: Séminaire de Probabilités, Univ. Rennes 1 (France), November 2012.
- F. Nier: Paris-London seminar, Inst. Henri Poincaré, Paris (FRANCE), December 2012
- M. Rousset, CECAM Workshop "Free energy calculations: From theory to applications", Marne-la-Vallée, June 2012,
- M. Rousset, Workshop "Mathematical and Numerical Analysis of Electronic Structure Models", Beijing, China, June 2012,
- M. Rousset, Evolve Conference, Mexico City, Mexico, August 2012.
- M. Rousset, BIRS Workshop "Nonequilibrium Statistical Mechanics: Mathematical Understanding and numerical Simulation", Banff, Canada, November 2012.
- G. Stoltz, Workshop "Quantum and Atomistic Modeling of Materials Defects", IPAM, Los Angeles, October 2012,
- G. Stoltz, Workshop "Mathematical and Numerical Analysis of Electronic Structure Models", Beijing, China, June 2012,
- G. Stoltz, CECAM workshop "Free energy calculations: From theory to applications", Marne-la-Vallée, June 2012,
- G. Stoltz, seminar at Collège de France, June 2012,
- G. Stoltz, seminar at University of Edinburgh, February 2012,

In addition to the above, some members of the team have been invited for stays in institutions abroad:

- E. Cancès, Chinese Academy of Sciences, Beijing, China, April 2012.
- E. Cancès, IPAM-UCLA, Los Angeles, USA, October 2012,
- F. Legoll, IPAM UCLA (program on "Materials Defects: Mathematics, Computation, and Engineering"), Los Angeles, USA, December, 2012.
- F. Nier: Invitation for one week in Tokyo University (Japan), November, 2012.

Members of the project-team have delivered the following series of lectures:

- E. Cancès, Lectures (6h) on spectral theory for electronic structure modeling, Chinese Academy of Sciences, Beijing, China, April 2012,
- E. Cancès, Lectures (2h) on numerical methods for Density Functional Theory, Ecole des Houches, June 2012,
- C. Le Bris, Lectures on Stochastic homogenization, Series of 90-minute lectures, Summer course on homogenization, Chicago, June 18-29, 2012.
- C. Le Bris, Graduate course, 'Mathematical introduction to complex fluids modeling', The University of Chicago, 24 hours, October-November 2012.
- F. Nier, Lectures for PhD students and researchers about "Semiclassical analysis and mean field dynamics", held in CERMICS-ENPC, 5x2 hours, April-May 2012.

Members of the project-team have presented posters in the following events:

- V. Ehlacher, IPAM Workshop I: Quantum and Atomistic Modeling of Materials Defects, Los Angeles, USA, October 2012.
- W. Minvielle, IPAM Workshop IV: Quantum and Atomistic Modeling of Materials Defects, Los Angeles, USA, December 2012.

Members of the project-team have participated (without giving talks nor presenting posters) in the following seminars, workshops and international conferences:

- V. Ehlacher, IPAM Materials Defects: Tutorials, Los Angeles, USA, September 2012.
- V. Ehlacher, IPAM Workshop II: Atomistic and Mesoscale Modeling of Materials Defects, Los Angeles, USA, September 2012.
- V. Ehlacher, IPAM Workshop III: Mesoscale and Continuum Scale Modeling of Materials Defects, Los Angeles, USA, September 2012.
- S. Lahbabi, 4th meeting of the GDR quantum dynamics, Toulouse, France, February 2012
- S. Lahbabi, Spectral days 212, Munich, Germany, April 2012
- S. Lahbabi, Summer school: Ab initio simulations in condensed matter, Les Houches, France, June 2012
- W. Minvielle, Summer school on "Recent advances in the Theory of Homogenization", Chicago, June 2012,

MIMETIC Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Scientific Community Animation

- F. Multon: **Leader** of the Mimetic research team
- F. Multon: **Member** of the European Society of Biomechanics, the ACM association, the IEEE association, the Computer Society association, the Eurographics association, the European Society of Biomechanics, the French "Societe de Biomecanique", the French "Association Française de Realite Virtuelle", **Reviewer** Journal of Biomechanics, IEEE Transaction of Affective Computing, CASA internation conference, Computer Methods in Biomedical Engineering journal, Computer & Graphics journal, Eurographics 2011, IEEE International Symposium on Robot and Human Interactive Communication conference, IEEE TVCG journal, **Program Committee member** of ACM SIGGRAPH Asia (Sketches and posters), Motion in Games Conference MIG2011, SKILLS conference, **Scientific expert** for "Pole Productique de Bretagne", and Auteo association, in ergonomics, **Guest editor** of Presence - Mit Press, VR & Sports special issue: Benoit Bideau, Richard Kulpa, Franck Multon, **Program chair** of Simulation of Sports Motion co-located with CASA2011, and of the 3rd sino-French Symposium in QingDao 2012, **Session chairman** of "Modélisation musculo-squelettique" in ACAPS'2011 conference and "Analyses Biomécanique de la performance motrice" in ACAPS'2011, **Conference Chair** of Motion in Games 2012, **Associate Editor** of the Presence journal MIT Press since 2012.
- M. Christie: **Member** of Eurographics, AFIG and AFRV, **Reviewer for** Eurographics 2012, Foundations of Digital Games 2012, IEEE Visualisation 2012, **Reviewer for journals** Computer Graphics Forum, Transactions on Visualisation and Computer Graphics, Transactions on Mutlimedia, Transactions on Graphics, **Scientific expert** for Candadian NSERC fundings, **Session chair** at MIG 2012.
- R. Kulpa: **Reviewer** for IEEE VR, Siggraph Asia, New Media & Society; **Leader** of a European Intensive Program called "Routine & Cutting-edge Technologies in Physical Activity: Implication for Health & Sport Performance" with the Queen's University of Belfast and the Universitat de Valencia.
- F. Lamarche: **Reviewer** for Computer Animation and Virtual Worlds. **PhD Committee** of Hakim Soussi.
- J. Pettré: **Member** of ACM and IEEE associations, **Reviewer for** Transactions on Graphics, Siggraph, Siggraph Asia, Eurographics, Pacific Graphics, Computer Animation and Social Agents, ACM/Eurographics Symposium on Computer Animation, IEEE Transactions on Visualization and Computer Graphics, Computer Animation and Virtual Worlds, ICRA, VR, Journal of Computational Science, Computer Graphics Forum, Autonomous Robots, Motion in Game Conference, **Program Committee member** of Pacific Graphics, Symposium on Computer Animation, International Conference on Computer Graphics Theory and Applications **Scientific expert** for ANR
- A. Crétual: **Reviewer** of Medical & Biological Engineering & Computing, Journal of Electromyography and Kinesiology, American Journal of Physical Medicine & Rehabilitation, Journal of Musculoskeletal & Neuronal Interactions, Prosthetics & Orthotics International, **Editorial Board** of Journal of Electromyography and Kinesiology, **PhD Committee** of Caroline Moreau, **Scientific expert** for ANR TecSan program, PCCA (Romanian equivalent of French ANR).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master:

- R. Kulpa: Biomechanics and scientific programming, University of Rennes 2, Computer Animation IUT Bordeaux 1.
- F. Lamarche: Computer Animation ESIR IN, AI for Video Games ESIR IN, Real Time Rendering and Computer Animation MASTER GL, IFSIC - MIT, ENS CACHAN/RENNES.
- F. Multon: Master of Computer Science Ifsic : Image and Motion; MASTER OF PHYSICAL EXERCISE University Rennes2
- A. Crétual: Master course on Sports or pathological Gesture analysis, Univ. Rennes 2
- M. Christie, Multimedia and Android, 48h, M2 GL/MITIC/MIAGE, University of Rennes 1

8.2.2. Supervision

HdR: Benoît Bideau, "Biomécanique du mouvement et interactions sportives", University of Rennes 2, Nov. 2012 [3].

PhD: Samuel Lemerrier, "Simulation du comportement de suivi dans une foule de piétons à travers l'expérience, l'analyse et la modélisation", Université de Rennes 1, Avril 2012, supervised by Stéphane Donikian and Julien Pettré [4].

PhD: Anthony Sorel, "Gestion de la variabilité morphologique pour la reconnaissance de gestes naturels à partir de données 3D", Université de Rennes 2, Dec. 2012, supervised by Franck Multon and Richard Kulpa [6].

PhD: Thomas Lopez, "Planification de chemin et adaptation de posture en environnements dynamiques.", INSA Rennes, March 2012, supervised by Stéphane Donikian and Fabrice Lamarche [5].

PhD: Kristell Bervet, "Kerpape-Rennes-EMG-based-Gait-Index: Définition d'un index de quantification de la marche pathologique par électromyographie", Université de Rennes 2, Sep. 2012, supervised by Armel Crétual [2].

PhD: Edouard Auvinet, "Analyse d'information tri-dimensionnelle issue de systèmes multi-caméras pour la détection de la chute et l'analyse de la marche", PhD STAPS (Sports Sciences) University Rennes2 and Biomedical Engineering Université de Montreal, June 14th 2012, Franck Multon and Jean Meunier (co-supervised PhD) [1].

MINT Project-Team

9. Dissemination

9.1. Scientific Animation

Invited talks:

- “From input devices to interaction techniques”: G. Casiez, University of Waterloo, Canada (June)
- “Les interfaces du passé ont encore de l’avenir”: N. Roussel, L3I, La Rochelle (July 5th)
- “Les interfaces du passé ont encore de l’avenir”: N. Roussel, SIGCHI Toulouse (June 18th)
- "Une démarche art-science" L. Grisoni, journée Contact innovation, Ministère de la recherche, Paris (january 17th)
- "gesture toolkit through artistic experiments": L. Grisoni, Workshop on movement qualities and physical models visualizations, IRCAM (Paris), (march 2nd).
- "Art and research, open source and open minds": L. Grisoni, main track/Open-Arts session, FoSSa 2012 conference, Lille (december 5th)
- inter-regional meeting organized by pole images of Liege, november 9th: L. Grisoni, 15 minutes talk on collaboration with V. Ciciliato (artistic installation tempo scaduto, Fresnoy)

Journal editorial board:

- **Journal d’Interaction Personne-Système** (JIPS): N. Roussel (co-editor in chief), G. Casiez

Journal reviewing:

- Interacting with Computers (Elsevier): N. Roussel
- Lavoisier, art-science: L. Grisoni

Conference organization:

- **FITG 2012**, the third *Forum on Tactile and Gestural Interaction*: N. Roussel, co-organizer
- **Ergo’IHM 2012**: N. Roussel, short papers chair
- **Ergo’IHM 2012**: T. Pietrzak, program committee
- ACM UIST 2012: G. Casiez, program committee
- ACM VRST 2012: G. Casiez, program committee
- VRIPHYS 2012 (workshop on Virtual Reality and Physical Simulation): L. Grisoni, program committee

Conference reviewing:

- ACM CHI 2012: N. Roussel, T. Pietrzak, L. Grisoni (3D workshop)
- ACM UIST 2012: N. Roussel, T. Pietrzak
- ACM Mobile HCI 2012: T. Pietrzak
- ACM NordiCHI 2012: T. Pietrzak
- WWW 2012: N. Roussel (poster track)
- VRST 2012: N. Roussel
- TEI 2012: G. Casiez
- Ergo’IHM 2012: N. Roussel, G. Casiez, T. Pietrzak, L. Grisoni

Scientific associations:

- **AFIHM**, the French speaking HCI association: N. Roussel and T. Pietrzak, members of the Executive Committee (vice-president and secretary since November 2011)
- RTP (pluridisciplinar thematic network) **Visual studies** (2010-2012): L. Grisoni, member of the RTP board
- SCV (Science et culture du visuel) **website**: L. Grisoni, scientific board, responsible of the art-science activity. This initiative covers the CNRS scientific project ICAVS, and the funded equipex project IrDIVE (2012-2020).
- SCV (Science et culture du visuel) **website**: S. Degrande, leader of Virtual Reality room design (funded by equipex IrDIVE).
- LIFL (University Lille 1 Computer science laboratory) conseil: L. Grisoni

Evaluation committees and invited expertise:

- **uTOP** (open university project) working groups: N. Roussel
- **UNIT** (engineering and technology digital university) scientific committee: N. Roussel
- Inria's *Science mediation* committee: N. Roussel
- Inria's admission jury for junior researcher positions: N. Roussel
- Université Lille 1, Computer Science hiring committees: L. Grisoni, G. Casiez, N. Roussel (PR 0498 & PR 1631)
- Université Paul Sabatier, Toulouse, Computer Science hiring committee: N. Roussel (MCF 0822)
- Université de Bretagne Orientale, Brest, Computer Science hiring committee: L. Grisoni (PR 0030)
- Université de Lille 3, Psychology hiring committee: L. Grisoni (PR 0457)
- ANR emergence axes 2 et 3: L. Grisoni (review)
- ANR INS ingénieur num et sécurité: L. Grisoni (review)
- ANR JCJC SIMI2 : L. Grisoni (review)
- ANRT CIFRE: L. Grisoni (review)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence

- Introduction to Programming, 48h, L1, University of Lille, France, F. Aubert
- Advanced Programming, 36h, L3, University of Lille, France, F. Aubert, G. Casiez
- Compilation, 36h, L3, University of Lille, France, T. Pietrzak
- Algorithms and data structures, 36h, L3, University of Lille, France, T. Pietrzak
- Algorithms and imperative programming, 40h, L2, University of Lille, France, T. Pietrzak

Master

- Introduction to Computer Graphics, 42h, M1, University of Lille, F. Aubert
- Human-Computer Interaction, 48h, M1, University of Lille, G. Casiez, L. Grisoni, P. Plénacoste, T. Pietrzak
- Multi-Touch Interaction, 24h, M1, University of Lille, G. Casiez, F. Aubert
- Advanced 3D modeling, 20h, M2, University of Lille, L. Grisoni, F. Aubert
- Virtual Reality, 36h, M2, University of Lille, G. Casiez, F. Giraud, F. Aubert, T. Pietrzak
- Artificial Vision, 12h, M2, University of Lille, G. Casiez, L. Grisoni
- Multitouch interaction, 7h, M2, Telecom Lille 1, G. Casiez
- Gesture recognition, 5h, M2, Telecom Lille 1, G. Casiez
- Introduction to virtual reality, 3h, M2, Telecom Lille 1, G. Casiez
- Human-Computer Interaction, 24h, M2, Polytech'Lille, G. Casiez, L. Grisoni
- Human-Computer Interaction, 6h, G2, Ecole Centrale de Lille: N. Roussel
- Introduction to Unity for Virtual Reality, 10h, M2, University of Lille: D. Marchal
- Game Development with Unity, 8h, Formation professionnelle, University of Lille: D. Marchal

9.2.2. Supervision

Completed Habilitation thesis

Géry Casiez, "Du mouvement à l'interaction et au geste : études, techniques, outils et périphériques", Lille 1 Univ., November 12th 2012, [11]

Frédéric Giraud, "Modélisation et commande des actionneurs piézoélectriques : des applications mécatroniques au domaine de la réalité virtuelle", Lille 1 Univ., March 19th 2012

Completed PhD thesis

T. Zheng, "Actionneurs piézo-électriques dans des interfaces homme-machine à retour d'effort", Lille 1 Univ., March 23rd 2012, co-advised by B. Lemaire-Semail and F. Giraud

J-P. Deblonde, "Exploitation de la dynamique du geste en IHM - Application aux fonctions de transfert pour le pointage et l'extraction d'événements discrets", Lille 1 Univ., September 28th 2012, co-advised by L. Grisoni and G. Casiez, [12]

Ongoing PhD thesis

N. Bremard, "interaction hybride via smartphone", Lille 1 Univ., started December 2012, advised by L. Grisoni

J. Aceituno, "Designing the ubiquitous desktop", Lille 1 Univ., started October 2011, advised by N. Roussel

J. Gilliot, "Indirect multi-touch interaction", Lille 1 Univ., started December 2010, co-advised by N. Roussel and G. Casiez

Y. Rekik, "Multi-finger gestural interaction", Lille 1 Univ., started September 2010, co-advised by L. Grisoni and N. Roussel

E-G. Craciun, "Nouvelles interfaces pour la simulation des opérations d'assemblage dans des environnements virtuels", Suceava Univ. (Romania), started October 2009, co-advised by L. Grisoni and S-G. Pentiu

C. Moerman, "Interactions multi-touch intuitive sur un contenu 3D, application à l'agencement virtuel d'habitation", Lille 1 Univ., started October 2009, co-advised by C. Chaillou and L. Grisoni

D. Selosse, "Annotation interactive de modèles 3D, application à la reconstruction", Lille 1 Univ., started October 2009, co-advised by L. Grisoni and J. Dequidt

9.2.3. Juries

Habilitation committees

- Géry Casiez (Lille 1 Univ., November 2012): N. Roussel, warrant and examiner

PhD committees

- Mathieu Nancel (Paris-Sud Univ., December 2012): G. Casiez, examiner
- Khaled Aslan Almoubayed (Nantes Univ., November 2012): N. Roussel, reviewer
- Christophe Bortolaso (Toulouse Univ., June 2012): N. Roussel, president

9.3. Popularization

- Presentation of recent HCI works to about twenty students from ENS Cachan visiting LIFL (December 14th): N. Roussel
- Animation of **FITG 2012**, the third Forum on tactile and gestural interaction, and its round table on the place of HCI in Inria's strategic plan for 2013-2017 (November 13-14): N. Roussel
- Ten minutes interview for Radio Campus on FITG 2012 and Human-Computer Interaction (October 31st): N. Roussel
- Presentation of recent HCI works to journalists visiting Inria's *Plateau* at EuraTechnologies (September 25th): N. Roussel
- Invited talk as part of the "*Pépites de la Métropole*" series organized by Lille Métropole (June 28th): N. Roussel
- Presentation of recent HCI works to ENSCI visitors on Inria's *Plateau* at EuraTechnologies (June 12th): N. Roussel
- Interview for a regional popular science magazine project (*NordEka !*, May 24th): N. Roussel
- Interview for La Recherche ("*Des tablettes tactiles à sensation*", dossiers n°49, April 18th): N. Roussel
- Invited talk for a round table on design, innovation and intellectual property organized by students from Lille 2 University's Master of Industrial Property (March 16th): N. Roussel
- Interviews for the third edition of the **Transdigital Cookbook** on science, technology, art and business (June 2012): L. Grisoni, N. Roussel
- Animation of a **half-day public conference** on the World Wide Web Consortium, new standards and the mobile web at EuraTechnologies (February 14th): N. Roussel
- Co-animation of the second edition of Inria's internal *Science mediation seminar* (January 23rd): N. Roussel
- Organization of a three-days visit of LIFL and Inria Lille for about 30 students from ENS Cachan Bretagne and Rennes University's Master of Computer Science & talk on Human-Computer Interaction (January 4-6): N. Roussel
- Interview on Radio campus, 25 january 2012, about equipex IrDIVE: L. Grisoni (30 minutes)
- Interview for Le Monde Science & techno, cahier n°21049, september 22th, article "Interagir à distance avec un écran": L. Grisoni
- Interview for L'Usine Nouvelle, article on technologies for gestural interaction, november 2012: L. Grisoni
- Invited talk for a round table on Innovation and digital contents, organized by town council of Lens urban area, november 30th (regional **innovation week**): L. Grisoni, representing Inria institute

MISTIS Project-Team

8. Dissemination

8.1. Scientific Animation

Since September 2009, F. Forbes is head of the committee in charge of examining post-doctoral candidates at Inria Grenoble Rhône-Alpes ("Comité des Emplois Scientifiques").

Since September 2009, F. Forbes is also a member of the Inria national committee, "Comité d'animation scientifique", in charge of analyzing and motivating innovative activities in Applied Mathematics.

Florence Forbes is a member of an INRA committee (CSS MBIA) in charge of evaluating INRA researchers once a year.

F. Forbes is part of an INRA (French National Institute for Agricultural Research) Network (MSTGA) on spatial statistics.

F. Forbes and S. Girard were elected as members of the bureau of the "Analyse d'images, quantification, et statistique" group in the Société Française de Statistique (SFdS).

S. Girard is associate editor of the international journal "Statistics and Computing".

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Stéphane Girard

Master : Statistique inférentielle avancée, 45h, M1, Ensimag (Grenoble INP), France.

Florence Forbes

Master : Mixture models and EM algorithm, 12h, M2, UFR IM2A, Université Grenoble I, France.

M.-J. Martinez is faculty members at Univ. Pierre Mendès France, Grenoble II.

J.-B. Durand is a faculty member at Ensimag, Grenoble INP.

F. Enikeeva is on a half-time ATER position at Ensimag, Grenoble INP.

C. Bakhous and J. El Methni are both moniteur at University Joseph Fourier.

PhD & HdR

PhD in progress : Jonathan El Methni, Modèles en statistique des valeurs extrêmes, since October, 2010, Stéphane Girard

PhD in progress : Christine Bakhous, Problèmes de sélection de modèles en IRM fonctionnelle, since November, 2010, Florence Forbes and Michel Dojat

PhD in progress : Gildas Mazo, Modèles spatiaux en statistique des valeurs extrêmes, since October, 2011, Florence Forbes and Stéphane Girard

PhD in progress : El Hadji Deme, Réduction du biais en statistique des valeurs extrêmes, since October, 2009, Stéphane Girard

PhD in progress : Seydou-Nourou Sylla, Modélisation statistique pour l'analyse de causes de décès décrites par autopsie verbale en milieu rural africain, since October, 2012, Stéphane Girard

8.2.2. Juries

Stéphane Girard was a member of the Strasbourg university committee in charge of examining applications for assistant professor in 2012.

Florence Forbes was also a member of an INRA committee in charge of examining applications for junior researcher positions in 2012 at dept MBIA of INRA.

F. Forbes was involved in the PhD committees of

- El Ghali Lazrak from Inria Nancy and INRA Aster Mirecourt, Université de Lorraine in October 2012 (reviewer).
- Alexandre Janon from Inria team MOISE and LJK Grenoble. November 2012 (Examineur).
- Mahdi Bagher from Inria team Maverick and LJK Grenoble. November 2012 (Examineur).

F. Forbes was also involved in the HDR committee of Michael Blum, CR CNRS at TimC in Grenoble. December 2012 (Examineur).

MNEMOSYNE Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Responsibilities

- F. Alexandre and T. Viéville are members (and moderators) of the scientific committee of NeuroComp, the initiative to gather the french community in Computational Neuroscience (annual conference and web site: <http://www.neurocomp.fr/>).

8.1.2. Review activities

- Reviewing for journals: Applied Intelligence, Cognitive Computation, J. Physiol. (F. Alexandre)
- Member of program committees of conferences: AMINA, CAP, CWPR, JCIB, SAB, TAIMA (F. Alexandre)
- Reviewing for the Fonds Recherche Quebec, the CNRS, the ANR and several french regional and territorial agencies (F. Alexandre)

8.1.3. Workshops, conferences and seminars

Organization of conferences and workshops:

- Robots & Corps, Conférence ARCO / IPAC, 18/10/2012 (N. Rougier)
- EuroScipy 2012, Brussels, Belgium (N. Rougier)
- Organization of the The NeuroComp/KEOps' 12 workshop, Beyond the retina: from computational models to outcomes in bioengineering. Focus on architecture and dynamics sustaining information flows in the visuomotor system. Bordeaux, October the 10th and 11th (F. Alexandre and T. Viéville). <http://www.neurocomp.fr/neurocomp-2012>
- Invited Talks given to the IPAC Seminar (Nancy), to the Annual Forum in Cognitive Science at University of Nancy, to the Seminar Bordeaux Neuroscience, to the second French-Chinese workshop on Network Dynamics and Synaptic Plasticity in the Central Nervous System (F. Alexandre).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Many courses are given in universities and schools of engineers at different levels (LMD) by most team members, in computer science, in applied mathematics, in neuroscience and in cognitive science.

F. Alexandre has given a lecture to the Master/Doctorate program in Neuroscience, University of Valparaiso.

N. Rougier has given this year a tutorial on scientific visualization at Euroscipy 2012, Brussels.

8.2.2. Juries

We also participate to many juries each year.

8.3. Popularization

We have a strong activity for popularization of science:

- The other half-time of Thierry Viéville's activity is dedicated to popularization of science (<http://science-info-lycee.fr>, <http://www.inria.fr/mecsci>, <http://interstices.info>) with about 10 conferences and 20 days of scientific animation [8], [7].
- "Les Robots, le futur... demain ?", Les cafés des sciences et techniques, Bibliothèque Intercommunale, Epinal, 22 novembre 2012 (N. Rougier)
- Meeting with the general public for the national scientific film festival, Nancy, 2012 (N. Rougier)
- Exchange with a scientific journalist (5 days in Nancy, 5 days in Paris), 2012 (N. Rougier)

MOAIS Project-Team

9. Dissemination

9.1. Scientific Animation

ISSAC 2012 : Treasurer and Local Arrangements committee (the conference held in Grenoble in July 2012)

CompPAS/Renpar 2013 : Chair of the Program Committee for the next edition of CompPAS/Renpar that will be held at Grenoble in January 2013.

CompPAS/Renpar 2013 : local organization of CompPAS/Renpar.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: V Danjean, T Gautier: course "Parallel Programming" (M2), Grenoble University,.

Master: J-L. Roch co-director (Grenoble-INP) with P Elbaz-Vincent (Université Joseph Fourier, Math. Dept) of the Master "SCCI Security, Cryptology and Coding of Information Systems" (M2) joined between UJF and INP Grenoble Universities. This Master, started in 2001, is taught in English from sept 2007 (international Master).

Master: C. Pernet and Denis Trystram are responsible of the first year (M1) of the international Master of Science in Informatics at Grenoble (MOSIG-M1).

Master: J-L. Roch, "Security models" 24h (M2), Grenoble University

Master: D. Trystram, P-F. Dutot, J.-L. Roch, "Complexity, approximation theory and randomization" master course (M2) at Grenoble University

Master: François Broquedis. 192 hours per year. 192 hours per year. Engineering school Grenoble-INP/Ensimag, 1st year/L3 and Master (M1/2nd year and M2/3rd year).

Master: Vincent Danjean. 242 hours per year. Licence (third year) and Master (first and second year) at Joseph Fourier University. First to third year of engineering school at Polytech' Grenoble.

Master: Pierre-François Dutot. 226 hours per year. Licence (first and second year) at IUT2/UPMF (Institut Universitaire Technologique de l'Université Pierre Mendès-France) and 9 hours Master M2R-ISC Informatique-Systèmes-Communication at Joseph Fourier University.

Master: Guillaume Huard. 242 hours per year. Licence (first and third year) and Master (first year) at Joseph Fourier University.

Master: Grégory Mounié. 242 hours per year. Master (first year) and Computer Science for Non Computer Scientist Post-Master at Engineering school ENSIMAG and Dept TELECOM, Grenoble-INP.

Master: Clement Pernet. 210 hours per year. University J. Fourier. Master (first year and second year) and Licence (3rd year).

Master: Bruno Raffin. 22 hours per year. Master at Université d'Orléans and Polytech'Grenoble.

Master: Jean-Louis Roch. 242 hours per year. Engineering school Grenoble-INP/Ensimag and Master (M1/2nd year and M2/3rd year)

Master: Denis Trystram. 200 hours per year in average, mainly at first level of Engineering School.

Master: Frédéric Wagner. 220 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year) (190h) ; Master DESS/M2-P SCCI Security (30h).

MODAL Project-Team

9. Dissemination

9.1. Scientific Animation

Since '12, C. Biernacki participates to the international group "IFCS Committee on Initiative to Stimulate Benchmarking in Classification Research". Since '12, C. Biernacki is the president of the data mining and learning group of the French statistical association (SFdS) <http://www.sfds.asso.fr/>. Since '11, he is leader of the team "Probability & Statistics" of the Laboratory of mathematics of U. Lille 1 <http://math.univ-lille1.fr/>.

Guillemette Marot organizes, in the context of the PPF bioinfo Lille 1, two scientific meetings:

- Phylogénie (35 people), Lille 1, june 2012, <http://www.lifl.fr/~touzet/PPF/phylogenie12.html>
- Analyse bioinformatique des données de métagénomique (80 people expected), Pasteur Lille, december 2012, <http://www.lifl.fr/~touzet/PPF/metagenomique12.html>

9.1.1. Editorial activities

C. Biernacki belongs to the program committee of "Extraction et gestion des connaissances" in 2012 and 2013 and to the program comity of "Journées Françaises de Statistique" in 2013. He organised a special session "clustering of mixed data" in the conference SFdS 2012 in Brussels. Since '10, he is an Associate Editor of the journal "Case Studies in Business, Industry and Government Statistics" (CSBIGS) <http://legacy.bentley.edu/csbig/>.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Cristian Preda, Probabilités, 36h, L3, École Polytechnique Universitaire de Lille, U. Lille 1, France.

Licence : Julien Jacques, Statistique Inférentielle, 50h, L3, École Polytechnique Universitaire de Lille, U. Lille 1, France

Licence : Guillemette Marot, Biostatistique, 18h, L1, U. Lille 2, France

Licence : Alain Célisce, Algèbre, 80h, L2, U. Lille 1, France

Licence : Alain Célisce, Mathématiques pour l'Informatique, 122h, L1, U. Lille 1, France

Licence : Serge Iovleff, Analysis, 24h, U. Lille 1, France.

Licence : Serge Iovleff, Probability and Statistics, 24h, U. Lille 1, France.

Licence : Serge Iovleff, Discrete mathematics and algebra, 72h, U. Lille 1, France

Licence : Serge Iovleff, Graphes and Languages, 80h, U. Lille 1, France

Licence : Serge Iovleff, Algebra, Geometry and Arithmetic, 32h, U. Lille 1, France

Licence : Serge Iovleff, Options of Mathematics, 48h, U. Lille 1, France

Licence : Vincent Vandewalle, Linear algebra, 91h, Simulation Techniques, 16h, Descriptive statistics, 62h, Probabilities, 44h, L1, U. Lille 2, France

Licence : Vincent Vandewalle, Analysis, 24h, Project management, 9h, L2, U. Lille 2, France

Licence : Vincent Vandewalle, Data analysis, 30h, L3, U. Lille 2, France

Licence : Matthieu Marbac-Lourdelle, Data analysis, 48h, Institut Supérieur d'Agriculture, U. catholique de Lille, France.

Master : Cristian Preda, Statistique Exploratoire, 40h, M1, École Polytechnique Universitaire de Lille, U. Lille 1, France.

Master : Cristian Preda, Functional Data Analysis, 18h, M2, U. Lille 1, France.

Master : Julien Jacques, Statistique Exploratoire, 40h, M1, École Polytechnique Universitaire de Lille, U. Lille 1, France.

Master : Julien Jacques, Modélisation Statistique, 30h, M1, École Polytechnique Universitaire de Lille, U. Lille 1, France

Master : Julien Jacques, Séries Temporelles, 25h, M2, École Polytechnique Universitaire de Lille, U. Lille 1, France

Master : Guillemette Marot, Biostatistique, 48h, M1, U. Lille 2, France

Master : Alain Céliste, Statistique Fondamentale, 45h, M2, U. Lille 1, France

Doctorat : Cristian Preda, Functional Data Analysis, 10h, M2, Department of Statistics, University of Granada, Spain.

Christophe Biernacki was in a one year delegation at Inria with no teaching. From '05, he is the head of the M2 Ingénierie Statistique et Numérique <http://mathematiques.univ-lille1.fr/Formation/>.

Vincent Vandewalle is head of the DUT Statistique et Informatique Décisionnelle, <http://iut.univ-lille2.fr/fr/le-departement-stid.html>

9.2.2. Supervision

HdR : Julien Jacques, Contribution to statistical learning of complex data using generative models, Université Lille 1, November 28, 2012.

PhD in progress : Alexandru Amarioarei, Statistics, Scan statistics and applications, started in 2010, Cristian Preda supervisor

PhD in progress : Michael Genin, Statistics, Scan statistics and epidemiology, started in 2010, Cristian Preda and Alain Duhamel (CEREM, U. Lille 2) supervisors

PhD in progress : Julie Hamon, Analysis of data from high throughput genotyping: cooperation between statistics and combinatorial optimization, started in 2010, Julien Jacques and Clarisse Dhaenens (DOLPHIN Inria Lille team-project) supervisor

PhD in progress : Loïc Yengo, Simultaneous Variables Clustering and Selection in Regression Models, started in 2010, Christophe Biernacki and Julien Jacques supervisors

PhD in progress : Clément Thery, Classification supervisée ou semi-supervisée des bases de grande dimension, avec variables qualitatives et quantitatives, started in 2011, Christophe Biernacki supervisor

PhD in progress : Matthieu Marbac-Lourdelle, Generatives models taking into account the correlation between variables, started in 2011, Christophe Biernacki and Vincent Vandewalle supervisors

MODEMIC Project-Team

9. Dissemination

9.1. Animation of the scientific community

- A. Rapaport is presently the head of the UMR INRA-SupAgro MISTEA (Mathematics, Informatics and Statistics for Environment and Agronomy) where the team is housed. A. Rapaport is: member of the piloting board of the “modelling” axis of the LabEx Numev (Digital and Hardware Solutions, Modelling for the Environment and Life Sciences) at Montpellier; member of the scientific board of the “Ecotechnologies” department of IRSTEA; member of the scientific board of the “BIOS” department of CIRAD. A. Rapaport has been the president of the AERES visiting committee of the Research team “MOTIVE” of IRSTEA.
- F. Campillo is member of the NICE (long term invited scientists selection); deputy elected member of the Inria Scientific Council; member of the internal communication working group of Inria Sophia Antipolis. F. Campillo was member of the INRA selection board for the selection of junior scientists (statistics and modelling).
- J. Harmand is the responsible for the treasure-2 network (a 3+3 Euromed project) that has been accepted for funding for the next 4 years); member of the scientific council of the Environment and agronomic INRA department; member of the advisory board of the INRA metaprogram MEM (Meta-omic and Microbial Ecosystems); member of the INRA evaluation commission STEA (“Sciences de la Terre, de l’eau et de l’atmosphère”). J. Harmand is member of the steering committee of the MEM INRA metaprogram. J. Harmand is member of the scientific committee of the INRA Environment and Agronomy department.
- J. Harmand and A. Rapaport are responsible of the INRA network MODYM (MODèles DYnamiques et Métabolites) sponsored by the Applied Mathematics and Informatics Departement (MIA) of INRA.
- B. Haegeman is Academic Editor for PLoS ONE.

9.2. Seminars and schools

The MODEMIC project-team animates several seminars:

- The MODEMIC seminar on mathematical modelling [<http://www-sop.inria.fr/modemic/seminaire/>].
- I3M and MODEMIC working group on stochastic models for ecology and biology [<http://www-sop.inria.fr/modemic/personnel/campillo/GT-modelisation.html>]; this working group is supported by the “laboratory of excellence” (LabEx) NUMEV (Digital and Hardware Solutions, Modelling for the Environment and Life Sciences).
- A new seminar SAMOCOD on Optimisation, Control and Dynamics bilocated at Montpellier and Avignon will be launched in January 2013 [<http://ens.math.univ-montp2.fr/SPIP/sem.php3?a=programme&sem=61>]. A. Rapaport is member of the organizing committee.

9.3. Teaching

- F. Campillo and M. Joannides have given a 20 hours lecture on “Stochastic modelling of ecosystems” at the Master 2 in Biostatistics in Université de Montpellier II.
- A. Rapaport has given a 25 hours lecture on differential equations with applications in the “Practical Mathematics” module for 1st year students in MSc in Mathematics at University Montpellier II.
- C. Casenave, F. Campillo, J. Harmand and A. Rapaport are in charge of two modules in the new MSc program “STIC - Environnement” at University Montpellier II:
 - Introduction to mathematical modelling, master I (50 hours)
 - Advanced mathematical modelling, master II (75 hours)
- C. Casenave, F. Campillo and A. Rapaport have delivered a 20 hours doctoral module at University Montpellier II, entitled “Modelling for biology and ecology – mathematical and computational methods”.
- A. Rapaport and T. Bayen have given six lectures on mathematical modelling for 1st year students of SupAgro Montpellier.
- A. Rapaport has given two lectures on Modelling and numerical simulations at the “EcoSystèmes” Master at University of Montpellier II.

9.4. PhD's

Defended thesis:

- Boumediène Benyahia, “Modélisation et contrôle de bioréacteurs à membrane”; grant: Coadvise and Treasure; thesis in co-supervision Montpellier-Tlemcen (Algeria); started in October 2008; advisors: J. Harmand and B. Cherki (Tlemcen, Algeria).

Theses in progress:

- Mamadou Lamine Diagne, “Modélisation mathématique du Typha”; grant: AUF; thesis in co-supervision Mulhouse-Saint Louis (Senegal); started in October 2009; advisors: T. Sari and M.T Niane (Saint Louis, Senegal).
- Radhouene Fekih-Salem, “La compétition et la coexistence dans le Chemostat”; grant: Averroes; thesis in co-supervision Montpellier-Tunis; started in October 2010; advisors: A. Rapaport, T. Sari and N. Gmati (Tunis).
- Walid Bouhafis, “Commande optimale des réacteurs séquentiels discontinus”; grant: Université Tunis Carthage; thesis in co-supervision Montpellier-Tunis; started in October 2010; advisors: J. Harmand, F. Jean (ENSTA-ParisTech, Paris) and Nahla Abdellatif (Tunis, Tunisia).
- Amel Ghouali, “control en tamps minimal des réacteurs de digestion anaérobie”; grant: Averroes; thesis in co-supervision Montpellier-Tlemcen (Algeria); started in October 2011; advisors: J. Harmand and A. Moussaoui (Tlemcen, Algeria).
- Sonia Hassam, “Réduction de modèles de la digestion anaérobie”; grant: Univ. Tlemcen; started in October 2010; advisors: J. Harmand and B. Cherki (Tlemcen, Algeria).
- Angelo Raherinirina, “Modélisation markovienne de dynamique d’usage des sols”; grant: AUF, SCAC Madagascar, LIRIMA; started March 1st 2009; advisors: F. Campillo and R. Rakotozafy (Univ. Fianarantsoa Madagascar).
- Coralie Fritsch, “Simulation et analyse de modèles individu-centrés d’écosystèmes bactériens pour des procédés biotechnologiques”, école doctorale I2S; grant: INRA Metaprogram MEM and Univ. Montpellier II; started October 1st 2011; advisors: F. Campillo, J. Harmand.
- Guilherme Pimentel, “Modelling and control of bioreactors with membrane”; grant: Univ. Mons (Belgium) and INRA; thesis in co-supervision Montpellier-Mons; started October 2011; advisors: A. Rapaport, J. Harmand and A. VandeWouwer (Univ. Mons).
- Amine Charfi, “Modélisation du colmatage dans les réacteurs à membranes” grant: Coadvise and University of Tunis; started October 2009; advisors: J. Harmand and Nihel Benamar.

9.5. Participation to thesis committees

- F. Campillo (referee): M. Jean-Louis Marchand, “Conditionnement de processus markoviens”, Univ. de Rennes 1.
- F. Campillo (referee): M. Quentin Molto, “Estimation de biomasse en forêt tropicale humide Propagation des incertitudes dans la modélisation de la distribution spatiale de la biomasse en Guyane française”, Univ. des Antilles et de la Guyane.
- J. Harmand (referee): M. Thomas Guélon, “Déterminer l’influence de la distribution spatiale des bactéries sur les propriétés microscopiques de biofilms bactériens par des techniques d’homogénéisation”, Univ. Blaise Pascal, Clermont II.
- J. Harmand, T. Sari, C. Lobry (president of the committee): M. Boumediene, “Modélisation et observation des bioprocédés à membranes : application à la digestion anaérobie”, Univ. Montpellier 2 and Univ. Tlemcen, Algérie.
- A. Rapaport (president of the committee): M. Sebbah, “Stabilité d’inégalités variationnelles et prox-régularité, équations de Kolmogorov périodiques contrôlées” , Univ. Montpellier II.
- A. Rapaport (referee and president of the committee): Léontine Nkague Nkamba, “Robustesse des seuils en épidémiologie et stabilité asymptotique d’un modèle à infectivité et susceptibilité différentielle”, Univ. Metz and Univ. St-Louis du Sénégal.
- C. Lobry (president of the committee): Jonathan Rault “Modélisation structurée en taille du zooplancton” UNSA.

MOISE Project-Team

9. Dissemination

9.1. Scientific Animation

- E. Blayo has organized, with M. Bocquet (EPI CLIME) and E. Cosme (LEGI, Grenoble), a 3-week international summer school on Advanced Data Assimilation for Geosciences. Les Houches, May 28 - June 15, 55 participants from more than 20 countries <http://houches2012.gforge.inria.fr>
- E. Blayo is one of the organizers of the 4th National Conference on Data Assimilation. Nice, December 17-19, 2012. http://sama.ipsl.jussieu.fr/Fr/events/workshops/2012_12_17_CNA2012.html
- L. Debreu and E. Blayo have organized, with the Inria Valorization service, a one-day In'Tech seminar "Atmosphere and meteorological forecast: new tools, new usages". <http://www.inria.fr/centre/grenoble/agenda/seminaire-in-tech-atmosphere-et-previsions-meteorologiques>
- Since 2010, Ch. Kazantsev is the Director of the IREM of Grenoble <http://www-irem.ujf-grenoble.fr/irem/accueil/>. The Institute is under rapid development now, joining about 25 teachers of secondary schools of the Grenoble region and 15 university professors. They work together 16 times a year on the development of the teaching strategy for the educational community. In addition to this, IREM is the editor of two journals: "Grand N" destined to primary schools teachers and "Petit x" – to the secondary schools.
- A. Rousseau is member of the editorial board of *Discrete and Continuous Dynamical Systems - Series S* (DCDS-S).
- N.Papadakis is a Co-Organisator of the "Journées Bordelaises d'Analyse Mathématique des Images". November, 12-14, 2012 <http://www.math.u-bordeaux1.fr/~jaujol/conf2012/JBAMI2012.html>,
- C. Prieur is in the scientific committee of the SAMO 2013 conference which will be held in Nice in July 2013, jointly with MASCOT NUM annual conference.
- C. Prieur was in the scientific committee of the Journées MAS 2013 (SMAI) which were held in Clermont-Ferrand in August 2012.
- C. Prieur and L. Viry are organizing jointly with H. Monod and R. Faivre (INRA) a school on sensitivity analysis for environmental models (les Houches, 7-12 April, 2013).
- C. Prieur is member of the board of the group mathematical statistics of the French society of statistics (SFdS).
- C. Prieur organized a session on sensitivity analysis in the Journées MAS (SMAI) 2013.
- C. Prieur organized a mini-symposium on sensitivity analysis for correlated inputs in the SIAM conference on uncertainty quantifications in Raileigh in April 2012.
- L. Debreu organized a one-day meeting on numerical kernels of ocean and atmospheric models, Paris, October 18, 2012.
- L. Debreu organized a three day tutorial on the use of realistic of ocean and atmospheric models at the 11th African conference on research in Computer Science and Applied Mathematics (CARI), Algiers, October 9-11, 2012.
- B.Lemieux gave a seminar at LSCE (Saclay) to present the DatIce tool http://www.lsce.ipsl.fr/Phocsea/Vie_des_labos/Seminaires/index.php?y=2012&id=206.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: M. Nodet: Statistiques, 80h, L2, Université de Grenoble, France

Master: M. Nodet: Inverse Methods, 28h, M2, Université de Grenoble, France
 Licence: E. Blayo: Mathematics for engineers, 72h, L1, university of Grenoble, France
 Master : E. Blayo: Finite element methods, 45h, M1, university of Grenoble, France
 Master : E. Blayo: Coupling methods for PDEs, 27h, M2, university of Grenoble, France
 Master: E. Blayo: Data assimilation in oceanography, 2h, M2, Ecole des ponts Paris Tech, France
 Master: A. Rousseau: Modèles mathématiques spatialisés pour les sciences de l'environnement, 12h, niveau M2, Université de Montpellier 2, France
 Master: L. Debreu: Numerical Modelling for coastal oceanography, 18H, M2, Brest University, France.
 Doctorat: E. Blayo: Introduction to data assimilation, 16h, university of Grenoble, France
 Doctorat: A. Vidard: "Data Assimilation, an introduction", 8h, Université de Grenoble

9.2.2. Internships

Alexis Jacq and Marie Leturcq did internships for their L3 and M1 degrees, they both worked with M. Nodet and B. Bonan about data assimilation for glaciology.

Sébastien Barbier, M2R Internship (6 months), Modélisation de stratégies de dépollution d'une ressource hydrique en milieu naturel advised by A. Rousseau.

Jean-Philippe Bernard, M2R Internship (6 months), Développement et implémentation de modèles couplant descriptions fluides et biologiques pour les écosystèmes côtiers advised by A. Rousseau.

Alexandre Hoffmann, L3 internship, he worked with V. Chabot, A. Vidard and M. Nodet about interpolation methods for image assimilation.

9.2.3. Supervision

HdR : Arthur Vidard, "Assimilation de données et méthodes adjointes pour la géophysique", Université de Grenoble, 13/12/2012

PhD : Jean-Yves Tissot, Sur la décomposition ANOVA et l'estimation des indices de Sobol'. Application à un modèle d'écosystème marin., UJF, 16 novembre 2012, Clémentine Prieur et Eric Blayo

PhD : David Chereil, Décomposition de domaine pour des systèmes issus des équations de Navier-Stokes, UJF, 12 décembre 2012, Eric Blayo et Antoine Rousseau

PhD : Alexandre Janon, Analyse de sensibilité et réduction de dimension. Application à l'océanographie, Université de Grenoble, 15 novembre 2012, C. Prieur and M. Nodet

PhD in progress : Manel Tayachi, Couplages de modèles hydrologiques et océanographiques, 01/05/2010, E. Blayo & A. Rousseau

PhD in progress : Bertrand Bonan, Assimilation de données pour des modèles de calotte polaire, Université de Grenoble, M. Nodet and C. Ritz

PhD in progress : Pierre-Antoine Bouttier, Variational data assimilation into highly nonlinear ocean models, October 2009, E. Blayo and J. Verron

PhD in progress : Manel Tayachi, Couplages de modèles hydrologiques et océanographiques, 01/05/2010, E. Blayo & A. Rousseau

PhD in progress : Laurent Violeau (EPI TOSCA), Stochastic Lagrangian Models and Applications to Downscaling in Fluid Dynamics, 01/10/2010, M. Bossy (EPI TOSCA, Inria Sophia) & A. Rousseau

PhD in progress : Vincent Chabot, "Assimilation de données pour l'estimation de structures 2D et 3D dans des séquences d'images", started the 23rd of October 2010, Maëlle Nodet and Arthur Vidard supervisors.

9.2.4. Juries

- E. Blayo was a referee of PhD thesis of Pierre Allain: Analyse et synthèse de mouvements de foules par contrôle optimal.. Université de Bretagne Sud, January 27, 2012
- E. Blayo was a member of the jury for the PhD defense of Dorothée Robert: Caractérisation et modélisation de la dynamique de l'évapotranspiration en Afrique soudanienne en zone de socle : interaction entre les aquifères et la végétation. Université de Grenoble, August 30, 2012.
- E. Blayo was a member of the jury for the HDR defense of Arthur Vidard: Assimilation de données et méthodes adjointes pour la géophysique. Université de Grenoble, December 13, 2012.
- A. Rousseau was a member of the Inria Board for Research Positions 2012 (6 juniors and 2 seniors researchers).
- A. Rousseau is a member of Inria Evaluation Committee
- A. Rousseau participated in a career fair at MIT with M. Thonnat (Deputy Scientific Director at Inria), A. Theis-Viémont and E. Chareyre (Human Resources at Inria). The European Career Fair is an annual recruiting event, organized by the MIT European Club, that connects employers from Europe with the most talented candidates that live in the US.
- M. Nodet is a member of the Jury Agregation Externe de Mathématiques
- C. Prieur was a referee of the PhD jury of Sylvain Girard, Mines Paris Tech December,17, 2012
- C. Prieur was the president of the PhD jury of Yann Caniou, Université de Clermont-Ferrand. November,29, 2012
- C. Prieur was a referee of the PhD jury of Catalina Ciric, Université Lyon 1. September, 6, 2012
- C. Prieur was the president of the HdR jury of S. Gadat, Université de Toulouse. November, 22, 2012
- C. Helbert was a referee of the PhD jury of Jean-Yves Tissot, Université de Grenoble. November, 16, 2012

9.3. Popularization

- In the context of the Mathc2+ program, E. Blayo has given a conference "Applied maths: mathematics for the society and its environment". Grenoble, June 19, 2012.
- In the context of the program "100 parrains-100 classes", Ch. Kazantsev gives a weekly lectures to pupils of one secondary school in Grenoble.
- Ch.Kazantsev has participated in the "Fête de sciences" presenting the activities of the IREM of Grenoble.
- A. Rousseau gave a lecture to the first National Conference of Mathematics Popularization in Orléans, <http://www.animath.fr/conf/conferences.php>.
- A. Rousseau is a member of the french executive board of "Mathématiques pour la planète Terre 2013", <http://www.mpt2013.fr>.
- A. Rousseau gave 5 short interviews on France Inter (national radio), <http://www.franceinter.fr/player/reecouter?play=475445>, <http://www.franceinter.fr/player/reecouter?play=477677>, <http://www.franceinter.fr/player/reecouter?play=478643>, <http://www.franceinter.fr/player/reecouter?play=479435>, <http://www.franceinter.fr/player/reecouter?play=480603>.
- M. Nodet and A. Rousseau (with S. Minjeaud, CNRS Nice) published a popularization paper on basic principles in oceanography : <http://interstices.info/circulation-oceanique>
- E. Kazantsev has given a conference "Geophysical Hydrodynamics for dummies and for all others" at the meeting of professors of secondary schools of the Grenoble region organized by IREM of Grenoble <http://www-irem.ujf-grenoble.fr/irem/accueil/>

MORPHEME Team

8. Dissemination

8.1. Scientific Animation

- Florence Besse was reviewer for UPMC, AFM, DFG (grant agencies).
- Laure Blanc-Féraud was reviewer for IEEE Trans on Signal processing, Inverse Problems, Signal Image and Video processing (Eurasip) and the conferences IEEE ISBI, IEEE ICIP, IEEE ICASSP. She is associate editor for "Revue Traitement du Signal". She was co-organisator of the workshop on New Computational Methods in Inverse Problems - NCMIP 2012 (**NCMIP**) and was associate editor for the conferences : RFIA 2012, Workshop MIA 2012, Workshop NCMIP 2012, International conference IEEE ISBI 2013. She is member of the IEEE BISP (Biomedical Imaging Signal Processing) Technical Committee, member of the evaluation committee of the ANR, program blanc SIMI3, member of the scientific council of Institute INS2I of CNRS, member of bureau du comité des projets Inria SAM and supplant member of CNECA (Comité National des Enseignants Chercheurs en Agriculture). She is director of GdR ISIS of CNRS
- Xavier Descombes was reviewer for the conference ISBI 2012 and the journals IEEE TMI, IEEE IP ... He associated editor of DSP (Digital Signal Processing), expert for the DRRT Provence Alpes Côte d'AZur and DRRT Paris Ile de France. He is member of the Scientific Committee of the competitiveness pole Optitech and associate member of IEEE BISP (Biomedical Imaging Signal Processing) Technical Committee.
- Saima Ben Hadj was reviewer for Signal Image and Video Processing.
- Eric Debreuve was member of the Program Committee of Advanced Concepts for Intelligent Vision Systems (ACIVS) 2012 and member of the Technical Program Committee of European Signal Processing Conference (EUSIPCO) 2012. He was reviewer for *IEEE* Transactions on Image Processing, *Springer* Machine Vision and Applications, *Springer* Multimedia Tools and Applications, *Lavoisier* Revue Traitement du Signal.
- Grégoire Malandain was a member of the Local Organizing Committee of the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'12) in Nice. He was also a member of the review committee of International Conference on Pattern Recognition (ICPR'12) and the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'12). He is member of the Scientific Committee of the MIA department of INRA.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

License : Alejandro Mottini, Informatique générale, 24 heures équivalent TD , niveau L1, UNS, France

License : Alejandro Mottini, Introduction au web, 16 heures équivalent TD , niveau L1, UNS, France

Master : Mikael Carlván, Traitement Numérique des Images, 10 heures équivalent TD , niveau M2, UNS, France

Master : Alejandro Mottini, Outils Mathématiques pour l'Image, 2 heures équivalent TD , niveau M2, UNS, France

Master : Xavier Descombes, Analyse d'image, 12 heures équivalent TD , niveau M2, UNS EPU, France

Master : Xavier Descombes, Traitement d'images, 6,25 heures équivalent TD , niveau M2, ISAE, France

Master : Xavier Descombes, Reconnaissance de formes et analyse de données, 6,25 heures équivalent TD , niveau M2, ISAE, France

Master : Xavier Descombes, Techniques avancées en signal et image, 5 heures équivalent TD , niveau M2, ISAE, France

Master : Xavier Descombes, Imagerie numérique, 16 heures équivalent TD , niveau M2, UNS, France

Master : Laure Blanc-Féraud, Deconvolution and denoising for confocal microscopy, 18heqTD, niveau M2, université de Nice Sophia Antipolis, France.

Master : Laure Blanc-Féraud, Traitement numérique des images, 12eqTD, niveau M2, université de Nice Sophia Antipolis, France.

Master : Laure Blanc-Féraud, Imagerie numérique, 12eqTD, niveau M2, université de Nice Sophia Antipolis, France.

Master : Eric Debreuve, Introduction to Inverse Problems in Image Processing, 28.5 Eq. TD, Niveau M2, Université de Nice-Sophia Antipolis, France.

Master: Eric Debreuve, Basics of Image Processing, 17.5 Eq. TD, Niveau M2, Université de Nice-Sophia Antipolis, France.

Master: Alexis Zubiolo, Digital Image Processing, 10h Eq. TD, Université de Nice-Sophia Antipolis, France.

Licence: Alexis Zubiolo, Computer Science, Introduction to Computer Science, 19h Eq. TD, Université de Nice-Sophia Antipolis, France.

8.2.2. Supervision

HdR : Florence Besse, Régulation des ARNms et Morphogenèse axonale chez la drosophile, soutenue le 19 octobre 2012.

PhD : Sylvain Prigent, Apport de l'imagerie multi et hyperspectrale pour l'évaluation de la pigmentation de la peau, UNS, soutenue le 11 novembre 2012, Xavier Descombes (advisor), Josiane Zeruria, Inria CRI-SAM (co-advisor)

PhD in progress : Alejandro Mottini, Métriques de graphes pour la caractérisation des axones, depuis octobre 2011, Xavier Descombes (advisor), Florence Besse (co-supervisor).

PhD in progress : Mikale Carlván, Optimization of the compression-restoration chain for satellite images, Laure Blanc-Féraud (advisor) M. Antonini, I3S (co-advisor).

PhD in progress, Saima Ben Hadj, Blind restoration of space variant 3D confocal microscopic images, Laure Blanc-Féraud (advisor).

PhD in progress, Roberto Cavicchioli, fast gradient method for hyperparameter estimation in wavelet regularization inverse problems in imaging, Laure Blanc-Féraud (co-advisor during 3 months).

PhD in progress, Alexis Zubiolo, Statistical Machine Learning for Automatic Cell Classification, Eric Debreuve (advisor).

8.2.3. Juries

HDR : Florence Besse, referee of a Habilitation committee at Univ. Paris 11

PhD : Florence Besse, referee of a PhD committee committee at UMPMC, Villefranche sur mer

PhD : Xavier Descombes, referee of the PhD thesis committee of Sylvain Prigent, UNS

PhD : Xavier Descombes, reviewer of the PhD thesis committee of Marcello Pereyra, ENSEEIHT

PhD : Xavier Descombes, reviewer of the PhD thesis committee of Pauline Julian, ENSEEIHT

PhD : Xavier Descombes, reviewer of the PhD thesis committee of Guillaume Zinck, Univ. Bordeaux 1

PhD : Laure Blanc-Féraud, referee of the PhD committee of Raphaël Soulard, XLIM.

HDR : Laure Blanc-Féraud, reviewer of the Habilitation of Thomas Rodet, University Paris Sud.

HDR : Laure Blanc-Féraud, reviewer of the Habilitation of Jérôme Gilles, ENS Cachan.

PhD : Grégoire Malandain, reviewer of the PhD thesis committee of V. Bismuth (Paris-Est University)

PhD : Grégoire Malandain, reviewer of the PhD thesis committee of P. Chassignet (École Polytechnique)

PhD : Grégoire Malandain, reviewer of the PhD thesis committee of C. Person (Lorraine University),

PhD : Grégoire Malandain, reviewer of the PhD thesis committee of G. Pizaine (Telecom Paris-Tech),

HDR : Grégoire Malandain, reviewer of the Habilitation committee of J. Debayle (Saint-Étienne University),

PhD : Grégoire Malandain, referee of the medicine thesis of M. Laffon (Nice University).

8.3. Popularization

Xavier Descombes has given a conference at lycée René Char (Avignon) within the program "Science au Lycée"

Xavier Descombes has given a seminar at "journée Traitement d'images" organized by Optitec at LSI Luminy (Marseille)

Xavier Descombes has given a seminar at "Matinale des Pôles" organized by the foundation of Sophia Antipolis

MORPHEO Team

9. Dissemination

9.1. Scientific Animation

- Edmond Boyer was area chair of BMVC 2012.
- Edmond Boyer was a member of the program committees of: CVPR 2012, ECCV 2012, 3DIMPVT 2012, ACCV 2012, CVMP 2012 and the CDC4CV ECCV 2012 workshop.
- Edmond Boyer has been reviewing for the journals: IEEE PAMI, springer IJCV and elsevier CVIU.
- Edmond Boyer was president of two PhD committees, reviewer of one PhD thesis and he was examiner of three PhD thesis.
- Edmond Boyer gave invited talks at Kyoto university, MPI Sarrebrucken, Hong Kong university and Marseille Luminy.
- Franck Hétroy has been reviewing for the journals: IEEE TVCG, Computer and Graphics, Computer-Aided Design, ReFIG, and for the conferences: Eurographics 2012.
- Jean-Sébastien Franco has reviewed for the following conferences: CVPR 2012, ECCV 2012, VR 2012, 3DIMPVT 2012, BMVC 2012.
- Jean-Sébastien Franco has reviewed for the following journals: CVIU
- Lionel Reveret was a committee member of EUROGRAPHICS 2012.
- Lionel Reveret has reviewed for the conferences: EUROGRAPHICS 2013, SIGGRAPH Asia 2012, Pacific Graphics'12, BMVC'12.
- Lionel Reveret has been reviewing for the journals: IEEE TVCG, Computer Graphics Forum.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- E. Boyer, Master: synthese d'images, 15h, M1 informatique, Université Joseph Fourier Grenoble.
- E. Boyer, Master: projet de programmation, 15h, M1 informatique - M1 MoSig, Université Joseph Fourier Grenoble.
- E. Boyer, Master: Introduction to Image Analysis, 15h, M1 MoSig, Université Joseph Fourier Grenoble.
- E. Boyer, Master: Computer Vision, 12h, M2R MoSig, Université Joseph Fourier Grenoble.
- F. Hétroy, Master: algorithmique et programmation orientee objets, 36h, Ensimag 2nd year, Grenoble INP.
- F. Hétroy, Master: modelisation et programmation C++, 27h, Ensimag 2nd year, Grenoble INP.
- F. Hétroy, Master: projets de specialite image, 28h, Ensimag 2nd year, Grenoble INP.
- F. Hétroy, Master: introduction a la recherche en laboratoire, 3h, Ensimag 2nd year, Grenoble INP.
- F. Hétroy, Master: geometrie algorithmique, 9h, Ensimag 3rd year, Grenoble INP.
- F. Hétroy, Licence: algorithmique et structures de donnees, 36h, Ensimag 1st year, Grenoble INP.
- F. Hétroy, supervision of ENSIMAG 2A.
- J.S. Franco, Licence: Algorithmics, 56h, Ensimag 1st year, Grenoble INP
- J.S. Franco, License: C Project, 50h, Ensimag 1st year, Grenoble INP
- J.S. Franco, Master: Research Initiation, 3h, Ensimag 2nd year, Grenoble INP

J.S. Franco, Master: End of study project (PFE) Project Tutoring, 6h, Ensimag 2nd year, Grenoble INP

J.S. Franco, Master: 3D Graphics, 40.5h, Ensimag 2nd year, Grenoble INP

J.S. Franco, Master: Modelisation et programmation C++, 9h, Ensimag 2nd year, Grenoble INP

J.S. Franco, Licence: Introduction to Computer Vision, 27h, Ensimag 1st year, Grenoble INP

L. Reveret, Master: projets image, 30h, Ensimag 2nd year, Grenoble INP

L. Reveret, Master: Multidimensionnal Statistical Analysis, TP, 18h, Ensimag 2nd year, Grenoble INP

L. Reveret, Master: 3D Animation and Maya development, 18h, Ensimag 3rd year, Grenoble INP

L. Reveret, Master: Computer Graphics - Animation, 12h, Ensimag 3rd year, Grenoble INP

9.2.2. Supervision

PhD: Cédric Cagniard, *Motion Capture of Deformable Surfaces in Multi-View Studios*, Université de Grenoble, supervised by Edmond Boyer and Slobodan Ilic, 16/07/12, [1].

PhD: Estelle Duveau, *Motion Measurement of Small Vertebrates*, Université de Grenoble, supervised by Lionel Reveret and Edmond Boyer, 03/12/12, non publically released, patent pending.

PhD: Antoine Letouzey, *Modélisation 4D à partir de plusieurs caméras*, Université de Grenoble, supervised by Edmond Boyer, 30/07/12, [2].

PhD in progress : Benjamin Allain, *Geometry and Appearance Analysis of Deformable 3D shapes*, Université de Grenoble, started 01/10/2012, supervised by J.-S. Franco and E. Boyer.

PhD in progress : Benjamin Aupetit, *Géométrie différentielle discrète et analyse spectrale de maillages spatio-temporels*, Université de Grenoble, started 01/10/2011, supervised by Edmond Boyer and Franck Hêtroy.

PhD in progress: Simon Courtemanche, *Caractérisation des Mouvements en Escalade Sportive par Mesure Video*, Université de Grenoble, started 01/10/2010, supervised by Lionel Reveret and Edmond Boyer.

PhD in progress : Abdelaziz Djelouah, *Gesture Interfaces*, Technicolor-Université de Grenoble, started 01/04/2011, supervised by J.-S. Franco, E. Boyer, F. Leclerc et P. Perez.

PhD in progress : Vagia Tsiminaki, *Appearance Modelling and Time Refinement in 3D Videos*, Université de Grenoble, started 01/10/2012, supervised by J.-S. Franco and E. Boyer.

MOSTRARE Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Invited Talks

Bonifati was invited to BDA 2012 (French Conference on databases) to give a tutorial on “Schema matching and mapping: from Usage to Evaluation”. Niehren was invited to the workshop “INQUEST:INnovative QUerying of STreams at Oxford”. The title of his presentation was “Querying XML Streams with Networks of Automata”. Tommasi was invited to give a tutorial on (probabilistic) grammatical inference in “Journées SDA2 Systèmes Dynamiques, Automates et Algorithmique du pôle Algorithmique et Combinatoire du GDR IM (Informatique Mathématique) du CNRS”, see <http://jmc2012.colloques.univ-rouen.fr/>. Tison gave a lecture on Tree Automata, Turing Machines and Term Rewriting at International School on Rewriting.

9.1.2. Program Committees

A. BONIFATI was member of the program committee of EDBT 2012, SIGMOD 2012, and VLDB 2012.

P. DENIS was member of the program committee of AAI 2012, ACL 2012, COLING 2012, EACL 2012, ATALA Workshop on Discourse and NLP 2012, TALN 2012, CSE 2012; he was external Member on CS Assistant Professorship search committee at University of Marseille and expert Member on Research Engineer search committee at CNRS.

A. FRENO was member of the program committee of ANNPR 2012.

G. GARRIGA continues to be member of the editorial board of Machine Learning Journal and of the Intelligent Data Analysis Journal. She was member of the program committees of ECML 2012 (area chair), CIKM 2012, ASONAM 2012, ECAI 2012, ICDM 2012 PhD Forum.

R. GILLERON was member of the program committee of ECML 2012.

J. NIEHREN is member of the steering committee of RTA (International Conference on Rewriting Techniques and Applications), of the editorial board of FUNDAMENTA INFORMATICA. He was in the program committees of CMSB 2012, RTA 2012, TTATT 2012, APWeb 2012, LATA 2012, NCMA 2012, ATANLP 2012.

S. TISON is member of the editorial board of RAIRO - ITA and of the steering committee of RTA and STACS. She was member of the program committee of TTATT 2012, PODS 2012, LATA2012, SOFSEM 2012

M. TOMMASI was member of the program committee of ATANLP 2012

9.1.3. French Scientific Responsibilities

A. BONIFATI was member of the selection committee in Lille for professor positions.

R. GILLERON was a member of the scientific committee of the Program Programme Blanc SIMI2, ANR. He was member of the national PES commission 27. He was member of the selection committees of assistant professors in Saint Etienne.

S. TISON is head of the computer science lab in Lille (LIFL). She was member of the scientific committee of the program Chaires Industrielles, ANR. She chairs the scientific council of "Pôle de Compétitivité Industries du Commerce". She was member of the national PES commission 27. She is elected member of the “Comité National de la Recherche Scientifique (CoNRS)” since 2012. She was in the AERES evaluation committee of LIAFA and PPS.

M. TOMMASI is leader of the LAMPADA project.

F. TORRE is member of the french national evaluation committee for computer science assistant professors (CNU 27).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master (Mocad): Information extraction, 18h, M2, Université Lille 1, France by J. NIEHREN
Master (Mocad): Information extraction, 18h, M2, Université Lille 1, France by P. DENIS
Master (Mocad): Information extraction, 18h, M2, Université Lille 1, France by A. BONIFATI
Master (Mocad): Information extraction, 18h, M2, Université Lille 1, France by A. FRENO
Master: Supervised classification, 45h, M1, Université Lille 1, France by R. GILLERON
Master: Unsupervised classification, 30h, M1, Université Lille 3, France by R. GILLERON
Master: Information retrieval, 30h, M1, Université Lille 3, France by R. GILLERON
Master: Semantic Web, 36h, M2, Université Lille 1, France by R. GILLERON
Master: Advanced Databases, 36h, M1, Université Lille 3, France by S. STAWORKO
Licence: Statistical Learning, 63h, L3, Université Lille 3, France by M. KELLER
Master: Modelization XML, 24h, M1, Université Lille 3, France by S. STAWORKO
Licence: Artificial Intelligence and Logic, 63h, L3, Université Lille 3, France by S. STAWORKO
Master: Introduction to XML, 40h, M1, Université Lille 3, France by S. STAWORKO
Master : Networks, 25h, M2, Université Lille 3, France by M. TOMMASI
Master : XML, 25h, M2, Université Lille 3, France by M. TOMMASI
Master : Databases, XML, 25h, M2, Université Lille 3, France by M. TOMMASI
Master : Document Management systems, 25h, M1, Université Lille 3, France by M. TOMMASI
Master : Introduction to algorithms, 25h, M1, Université Lille 3, France by M. TOMMASI
Licence : Databases, object oriented programming, 60h, L3, Université Lille 3, France by M. TOMMASI
Master : Advanced algorithms and complexity, M1, 57h, Université Lille 1, by S. TISON
Licence: Databases, 53h, L3, Université Lille 1, France, by A-C. CARON
Master: Advanced databases, 50h, M1, Université Lille 1, France, by A-C. CARON
Master: Semantic Web, 20h, M2, Université Lille 1, France, by A-C. CARON
Licence: XML Technologies, 50h, M1, Université Lille 1, France by Y. ROOS
Master: XML Modelization, 40h, M1, Université Lille 1, France by Y. ROOS
Master: XML Technologies, 16h, M2, Université Lille 3, France by A. LEMAY

9.2.2. Supervision

PhD June 2012: J.-B. FADDOUL, Machine learning and applications to social network analysis. Since Dec. 2008. Supervised by Gilleron and Chidlowskii from XEROX European Research Center (XRCE).

PhD September 2012: B. GROZ, XML database security and access control. Since Sept. 2008. Supervised by Tison and Staworko.

PhD in Progress: G. LAURENCE, Learning XML transformations for data exchange on the web. Since Sept. 2008. Supervised by Tommasi, Niehren, Staworko and Lemay.

PhD in Progress: J. DECOSTER, Statistical relational learning of XML transformations. Since Sept. 2009. Supervised by Tommasi and Torre.

PhD in Progress: A. M. NDIONE, Probabilistic algorithms for tree automata and transducers. Since Sept. 2010. Supervised by Niehren and Lemay.

PhD in Progress: T. SEBASTIAN, Streaming algorithms for XSLT. Since May 2011. Supervised by Niehren.

PhD in Progress: T. RICATTE, Graph Based Learning for Decisional Databases. May 2011. Supervised by Garriga and Gilleron.

PhD in Progress: A. BOIRET, Top-down tree transformations with look-ahead : foundations and learning. Since Sept. 2011. Supervised by Niehren and Lemay.

PhD in Progress: A. CHATEL, Guided Unsupervised Learning. Since Sept. 2012. Supervised by Denis and Tommasi.

PhD in Progress: R. CIUCANU, Towards learning cross-model database mappings. Since Sept. 2012. Supervised by Boneva, Bonifati and Staworko.

9.2.3. Committees

A. BONIFATI was member of the PhD committee of Asma Souihli, Telecom ParisTech (Paris, France) and Rashed Khalil Khalil Salem at Université Lumière Lyon II (Lyon, France); P. DENIS was member of the PhD jury of Emili Sapena at UPC Barcelona; R. GILLERON was member of the PhD jury of J.B. Faddoul (Lille), Y. Benabbas (Lille) and A. Bellet (Saint-Etienne); J. NIEHREN was a reviewer of the Habilitation committee of Pierre Senellart at Telecom Paris. S. STAWORKO was member of the PhD jury of B. Groz (Lille); M. TOMMASI was member of the PhD jury of M. Oita (Telecom Paris); F. TORRE was member of the PhD jury of J.B. Faddoul (Lille)

9.3. Popularization

QuiXProc A video (<http://videotheque.inria.fr/videotheque/doc/787>) was projected at WWW 2012 (at the booth of Inria); a demonstration “des flux financiers vers les flux XML” was done during the “Rencontres Inria - Industrie: Technologies du web et mobilité au service de l’innovation bancaire et de l’assurance”.

Artistic project Denis, Keller and Gilleron collaborate to the artistic project “This is Major Tom to Ground Control” by Véronique Béland (http://www.veroniquebeland.com/Veronique_Beland/This_is_Major_Tom_to_Ground_Control.html). They contribute to the definition of a probabilistic generator of texts.

MUTANT Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Community Initiatives

The **Brillouin Seminar** series on *Information Geometry* is coordinated by MUTANT in partnership with LIX and THALES. It gathers 80 international researchers on the topic from various disciplines. In 2012, we organized 6 talks. Videos are available on the seminar website.

Jean-Louis Giavitto is the management team of the **GDR GPL** (Génie de la programmation et du logiciel), responsible with Etienne Moreau of the “Languages and Vérification” pole of the GDR. He is also an expert for the ANR DEFI projects and a reviewer for FET projects for the UC.

8.1.2. Editorial Boards

Jean-Louis Giavitto is the redactor-in-chief of **TSI** (Technique et Science Informatique), a french scientific journal published by Lavoisier and Hermes Science.

8.1.3. Participation in Program Committees of Conferences

Florent Jacquemard has been member of the program committees of the **6th International Joint Conference on Automated Reasoning** (IJCAR 2012), June 26th to July 1st, 2012, Manchester, UK, and of the **International Workshop on Trends in Tree Automata and Tree Transducers** (TTATT 2012), a satellite workshop of the **23rd International Conference on Rewriting Techniques and Applications** (RTA 2012), June 2, 2012, Nagoya, Japan.

Jean-Louis Giavitto was co-chair of the **Spatial Computing Workshop (SCW2012)** a satellite workshop of AAMAS, 5 June 2012, Valencia, Spain. He was also member of the Program Committees of: **AFADL 2012** (Approches Formelles dans l'Assistance au Développement de Logiciels, 11-13 January 2012, Grenoble), **IPCAT 2012** 9th International Conference on Information Processing in Cells and Tissues 31st March – 2nd April 2012, Trinity College, Cambridge, **GDS track at GECCO 2012**, the Generative and Developmental track at the Genetic and Evolutionary Computation Conference, 7–11 July 2012, Philadelphia, **FHIES 2012** Foundations of Health Information Engineering and Systems, an international symposium co-located with FM 2012, August 27-28, Paris, **MeCBIC 2012**, 6th Workshop on Membrane Computing and Biologically Inspired Process Calculi 8th September 2012, Newcastle.

8.1.4. Participation in Conferences

- José Echeveste, Jean-Louis Giavitto and Florent Jacquemard attended the **2012 International Computer Music Conference** (Ljubljana, Slovenia, 9-14 September) and gave a talk on fault tolerance and language extensions of *Antescofo* [15].
- Jean-Louis Giavitto attended the:
 - Journées du GDR GPL (comité de direction)
 - SCW 2012, Valencia Spain, 5 June 2012 (chair)
 - UCNC 2012, Orleans and gave a tutorial on MGS

8.1.5. Invited Talks

Arshia Cont gave an invited talk at the **Computer-Human Interactive Performance Symposium** in University City London (UCL) in June 2012.

Arshia Cont and Jean-Louis Giavitto gave an invited talk in the **Produce Time Symposium** in June 2012 at IRCAM.

Jean-Louis Giavitto:

- [tutorial on MGS](#) at the 11th International Conference Unconventional Computation and Natural Computation [UCNC 2012](#), 37 September, Orléans.
- *Non-Standard Multiset*, for the mini symposium [Let's Imagine the Futur](#) for the retirement of Jean-Pierre Banâtre, 7–8 Novembre, Rennes.
- *Programmation spatiale : application à l'analyse des contes de fées et à l'analyse musicale*, [IPAC seminar](#), 8th March, Nancy.
- *Le projet AutoChem*, presentation closing the ANR Blanc project, at the NAR Symposium, January 2012.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence :

- Arshia Cont, Audio Technology Review, 2h/week, 3rd year Bachelors, Conservatoire Nationale Supérieure de la Musique et de la Danse de Paris (CNSMDP), Métier du Son, Paris, France.

Master :

- Arshia Cont, Machine Learning for Music, 18h, Master ATIAM, Université Pierre et Marie Curie (UPMC), Paris, France.

8.2.2. Supervision

PhD : Arnaud Dessenin, *Computational methods of information geometry with real-time applications in audio signal processing*, Université Pierre et Marie Curie (UPMC), December 2012, Arshia Cont (co-directed with Gérard Assayag, IRCAM).

PhD in progress :

- José Echeveste, Synchronous Languages for Computer Music Composition and Performance, Started September 2011, co-directed by Jean-Louis Giavitto and Arshia Cont.

8.2.3. Juries

- Arshia Cont participated in the defense committee for Augustin Lefèvre, “Dictionary learning methods for single-channel audio source separation”, ENS Cachan, September 2012.
- Arshia Cont participated in the defense committee for Mauricio Toro, “Structured Interactive Scores”, University of Bordeaux 1 (LaBRI), September 2012.
- Florent Jacquemard was a examiner for the PhD of Hédi Benzina, “Enforcing Virtualized Systems Security”, ENS Cachan (LSV), December 2012.
- Jean-Louis Giavitto was a reviewer for the thesis of:
 - Héctor Fernández, “Flexible Coordination through the Chemical Metaphor for Service Infrastructures”, University of Rennes 1 (IRISA), June 2012.
 - Jose David Fernández Rodríguez, “The Evolution of Diversity in the Structure and Function of Artificial Organisms”, Universidad de Maálaga, Spain, January 2012.

8.3. Popularization

8.3.1. Cultural Events, Highlights

The [Antescofo](#) software developed and maintained by the team, has been featured in various prestigious international events with the following highlights:

- 13 World-premiers for live electronics and instruments by international composers such as Kaija Saariaho, Philippe Manoury, Steve Coleman and Marco Stroppa including one opera. See [complete list](#).
- More than 30 world-class public performances around the world including: Antescofo premier with *New York Philharmonics* (June 2012), Lucerne Festivale (August 2012), Salle Pleyel (September 2012), Warsaw Autumn Festival (September 2012), Royal Albert Hall in London (August 2012), Vienna Festwochen (June 2012), Opéra Comique de Paris (June 2012), and more.

See [partial list](#).

- Two [Giga-Hertz Prizes](#) for two pieces strongly featuring *Antescofo* (life-time award for Emmanuel Nunes' *Einspielung*, young category for Lara Morciano).
- A documentary movie on Antescofo produced by Inria. ([watch](#))

8.3.2. International Public Press

BBC Radio program featuring *Antescofo* on the occasion of a live performance in Royal Albert Hall.

8.3.3. National Public Press

Major public press mentions for *Antescofo* in 2012:

- *Antescofo: Au plus près de la partition*, Science et Avenir, July 2012.
- *L'ordinateur qui joue comme un musicien*, La recherche, June 2012.
- [Quand l'informatique maîtrise le temps de l'interprétation musicale](#), France Culture Online, July 2012.
- [Antescofo à l'avant-garde de l'informatique musicale](#), InterStices, November 2012.
- [Sous le signe du calcul](#) (with F. Reichenmann) in [DocSciences](#), special issue on "Alan Turing : la pensée informatique" (DocSciences is a journal for college students published by the Rectorat de Versailles), June 2012. Published also on the [InterStices](#) web site, September 2012.
- [À propos des nouveaux langages de programmation](#), audio podcast, InterStices, July 2012.

8.3.4. Exhibitions

- The *MuTant* team's *Antescofo* software was the demo feature for Inria's stand at the 13th exhibition for Mathematical Cultures and Games (Salon cultures et jeux mathématiques) in June 2012.
- *MuTant* members hold a stand during the "Fêtes de la science" on *Antescofo* at Inria Rocquencourt in October 2012.
- Jean-Louis Giavitto has participated to a public debate of the [Bar des Sciences](#) with G. Longo and G. Dowek on "Turing aurait 100 ans – De Turing au Qbit", 7th November.
- Jean-Louis Giavitto has participated to a public debate following the projection of [Codebreaker: Alan Turing](#) with C. Villani, B. Chazelle and J. Lassègue at the movie theater Grand Action, 17th December.

MYRIADS Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Leadership, Steering Committees and community service

- C. Morin is general co-chair for IEEE ISPA 2013, co-chair of track 4 on Storage, Big Data, and Cloud Computing of IEEE GreenCom 2013, tutorial chair for IEEE Cluster 2014 and the organizer of a BOF session on interoperability in cloud federations for scientific applications at SC'12 (November 2012).
- A.-C. Orgerie is publication co-chair for ICPP 2013, demonstration chair for EE-LSDS 2013 (<http://www.irit.fr/~Georges.Da-Costa/ee-lsds2013/>) and general co-chair for ExtremeGreen 2013 (workshop in conjunction with CCGrid 2013 <http://www.ens-lyon.fr/LIP/RESO/extremegreen/>).
- T. Priol is a member of the Editorial Board of the *International Journal of Intelligent Engineering Informatics* and of the *International Journal of Web Services Research*. He chaired the organization committee the *Let's imagine the Future* seminar organized for Jean-Pierre Banâtre's retirement celebration, November 8-9, Rennes, France.
- J.-L. Pazat is the chairman of the Steering Committee of RenPar (<http://www.renpar.org/>).
- C. Tedeschi is a member of the steering committee of the CompPAS (RenPar/SympA/CFSE) joint conference series.

9.1.2. Program Committees

- R. Cascella is a program committee member of Q2SWinet 2012 (8th ACM International Symposium on QoS and Security for Wireless and Mobile Networks), IEEE VTC 2013 spring track "Wireless Networks, Access Control, and Resource Management", IEEE VTC 2013 fall track "Wireless Networks and Security".
- Y. Jégou is a program committee member of IEEE TrustCom 2013 conference, and ORMaCloud workshop co-located with ACM HPDC 2013.
- C. Morin is a program committee member of IEEE CC-GRID 2012, EuroPar 2012, IEEE CloudCom 2012, the International Symposium on Parallel and Distributed Computing (ISPDC) 2012 and 2013, the 4th workshop on scientific computing (ScienceCloud) and of the 4th workshop on Virtualization Technologies in Distributed Computing (VTDC) co-located with ACM HPDC in 2013, CFSE 2013, CLOSER 2013, and IEEE CC-GRID 2013.
- A.-C. Orgerie is a program committee member of E2HPC2 2013, HSNCE 2013 and EE-LSDS 2013.
- J.-L. Pazat is a program committee member of RenPar'21, GPC2012, CPC2012.
- G. Pierre is a program committee member of CCGrid 2013, CFSE 2013, IC2E 2013, SAC 2013, DAIS 2013, CSCS19, CloudDP 2013 and ISPDC 2013.
- T. Priol is a program committee member of CCGRID12, CLOUD12, CloudCom12, HPCS12, ICPP12, SC12 and VECPAR12. He will act as one of the co-chairs of the "Grids and Clouds" track of SC13.
- C. Tedeschi is a program committee member of ICCS 2013, CloSer 2013 and RenPar'21

9.1.3. Evaluation committees, consulting

- J.-P. Banâtre was the INRIA representative in the Conrail General Assembly until September 2012. Since October 2012, he has been a member of the Conrail Scientific Advisory Board.
- Y. Jégou is a member of the Grid 5000 executive committee;
- Y. Jégou is a member of the *Comité de Sélection et de Validation (CSV)* of the *Images & Réseaux* cluster

- C. Morin acted as an expert to review proposals for the French Research Agency (ANR). She is a member of the cloud computing expert group in the Software & Service Architectures and Infrastructures unit of the European Commission. She was a member of the committee for the Inria Boost Your Code competition. She is a member of the ModaCloud European project Advisory Board.
- J.-L. Pazat is the coordinator for the evaluation of submissions to international bilateral programs in the Information technology domain at Ministry of Higher Education and Research (MESR).
- T. Priol has been the INRIA representative in the Contrail General Assembly since October 2012. He was a member of the Contrail Scientific Advisory Board until September 2012.

9.1.4. Conferences, seminars, invitations

- Roberto Cascella gave presentation *Leveraging Contrail to support reliable IoT based applications* at the 4th EU-Japan Symposium on the "New Generation Network" and the "Future Internet", January 19, 2012, Tokyo Japan;
- Roberto Cascella gave talk *Contrail: A reliable and trustworthy cloud platform* at the 1st European Workshop on Dependable Cloud Computing, EWDC'2012, May 8 2012, Sibiu, Romania;
- Roberto Cascella gave talk *The future of the Cloud* at the Contrail Summerschool, July 23, 2012, Almere, The Netherlands;
- Roberto Cascella was invited to give talk *The Cloud and the Contrail project: open computing infrastructures for elastic services* at Politecnico di Bari, September 5, 2012, Bari, Italy;
- Roberto Cascella and Yvon Jégou presented the Contrail project on the Contrail booth during the *Journée professionnelle Cloud Computing - MEITO*, INRIA-Rennes, december 11;
- Roberto Cascella was invited to give talk *Contrail: A trustworthy cloud platform providing interoperability* at Seconda Università di Napoli, December 19, 2012, Aversa, Italy;
- Eugen Feller presented a demonstration entitled *Snooze : un système auto-organisant pour la gestion de l'énergie dans les clouds* at the *Sciences Numériques et efficacité énergétique* Inria industry meeting, Grenoble, France, March 2012.
- Eugen Feller gave a talk entitled *Scalable, Autonomic, and Energy-Aware Management of Large-Scale Cloud Infrastructures*, at COST IC0804 Energy and QoS-aware Workload Management in Clouds focus group meeting, Rennes, France, March 2012.
- Eugen Feller gave a talk entitled *Energy Management in IaaS Clouds: A Holistic Approach* at EDF R&D (SINETICS department), Paris, France, April 2012.
- Eugen Feller gave a talk entitled *Autonomic and Energy-Efficient Management of Large-Scale Virtualized Infrastructures* in the Lawrence Berkeley National Laboratory CS seminar, Berkeley California, USA, August 2012.
- Piyush Harsh and Yvon Jégou presented the Contrail VEP on the INRIA booth during the "Solutions Linux" event in Paris, June 19-21, 2012;
- Ancuta Iordache presented a talk entitle *Elastic MapReduce on multiple clouds* at the EIT ICT Labs RMAC kick-off meeting in Delft, February 20, 2012;
- Ancuta Iordache gave a talk entitled *Elastic MapReduce on Cloud Federations* at the EIT Cloud workshop in Paris, November 29, 2012;
- Yvon Jégou gave a talk *The benefits of mixing grid and cloud workloads for genomics* at the "Workshop on Science Applications and Infrastructure in Clouds and Grids" held in conjunction with OGF 34, March 15-16, 2012, Oxford, UK;
- Yvon Jégou gave a talk about Contrail Virtual Execution Platform at the "EIT ICT Labs - Contrail workshop", March 19, Paris;
- Yvon Jégou gave a talk on *Interoperability in Cloud Federations* and participated to the panel discussion during the "Future Internet Assembly" meeting, May 10-11 2012, Aalborg, Denmark;

- Yvon Jégou gave a talk entitled *The Need of Interoperability between Clouds* during the "2nd FIA roadmapping workshop", June 26, 2012, Bruxelles;
- Yvon Jégou gave talk *Contrail: Open Computing Infrastructures for Elastic Services* during the "IoS Collaboration Days", October 16-18, 2012, Bruxelles;
- Yvon Jégou gave a talk *Interoperability support in cloud federations: Contrail approach based on Virtual Execution Platforms* at the "Interoperability in Scientific Cloud Federations" Birds-of-a-Feather Sessions, SC'12, Salt Lake City, November 13, 2012;
- Yvon Jégou, Piyush Harsh and Christine Morin presented Contrail software stack on Contrail European project booth at SC'12, Salt Lake City, November 12-15, 2012.
- Christine Morin gave a talk *Contrail: Elastic PaaS Services over Federated IaaS Clouds* by visio-conference for participants in the ATLAS experiment at CERN, February 2, 2012.
- Christine Morin gave a talk by visio-conference on Cloud Computing research activities in Rennes at the EIT ICT Labs meeting organized for W. Jonker's visit in Rennes, February 28, 2013.
- Christine Morin was invited to give a seminar entitled *Elastic Services on top of Cloud Federations: Contrail Approach* at ORNL and at the Tennessee Technical University in March 2012.
- Christine Morin gave a talk entitled *Elastic Services on top of Cloud Federations: Contrail Approach* at Google, Mountain View, April 23, 2012.
- Christine Morin presented Myriads project-team research activities at the Inria evaluation seminar for the "Distributed Systems and Services" theme, October 9, 2012.
- Christine Morin gave a talk entitled *Cloud in San Francisco Bay Area* at the CLASS conference, Bled, Slovenia, October 24, 2012.
- Christine Morin gave a talk entitled *Work in Progress on Cloud Computing in Myriads Team and Contrail European Project* at the the eighth workshop of the Joint Laboratory for Petascale Computing, Argonne National Laboratory, November 20, 2012.
- Christine Morin gave a talk entitled *Destination Inria for researchers!* at the Destination Europe conference, San Francisco, December 7, 2013.
- Anne-Cécile Orgerie gave a talk *Energy-efficiency in Cloud infrastructures in Myriads team* at the COST IC0804-IC0805 joint meeting in Cork, Ireland, October 18, 2012;
- Anne-Cécile Orgerie gave a talk *ECOFEN: an End-to-end energy Cost model and simulator For Evaluating power consumption in large-scale Networks* at the COST IC0804 meeting in Istanbul, Turkey, November 6;

9.1.5. Administrative Responsibilities

- Christine Morin is a member of the Project-Team Committee of INRIA RENNES – BRETAGNE ATLANTIQUE (Comité des projets), *Référent Chercheur* for INRIA RENNES – BRETAGNE ATLANTIQUE, Coordinator of the Inria@Silicon Valley program (in collaboration with Inria DRI), member of the scientific council of ENS Cachan. She is the coordinator of Contrail European project.
- Nikos Parlavantzas is the local coordinator for the international exchange of students at the computer science department of Insa.
- Jean-Louis Pazat is the leader of the "Large Scale Systems" department of IRISA. He is member of the Steering committee (conseil d'administration) of Insa Rennes. He is a member of the Computer Science Department committee and member of the IRISA-INSA Lab committee. He is the local coordinator for the international exchange of students at the computer science department of Insa.
- Thierry Priol is the director of the Inria European Partnership department.
- Cédric Tedeschi is a member of the administration council of the EECS department of the University of Rennes 1.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Christine Morin is responsible for a graduate teaching Module *Internet of Services: Programming Models & Infrastructures* of the Master Program in Computer Science (research), UNIVERSITY RENNES 1.

Christine Morin:

Master : Internet of Services: Programming Models & Infrastructures, 12 hours ETD, M2RI, University of Rennes 1, France

Master : Cluster single system image operating systems, 4.5 hours ETD, M2, Institut Telcecom Sud Paris, France

Master : Energy management in computing infrastructures (as part of the Eco-STIC module), 4.5 hours ETD, M1, Supelec, France

Nikos Parlavantzas (at INSA Rennes):

- 4th year: Operating Systems (40 hours ETD)
- 4th year: Networking and SOA (12 hours ETD)
- 4th year: Advanced Operating Systems (12 hours ETD)
- 4th year: Parallel programming (12 hours ETD)
- 4th year: Software Development Project (30 hours ETD)
- 5th year: Component-based Software Engineering (16 hours ETD)

Jean-Louis Pizat is responsible for the following graduate teaching Modules: Advanced operating Systems, Parallel Computing, Networking and SOA.

Jean-Louis Pizat (at INSA Rennes):

- 4th year: Advanced Operating Systems (31 hours ETD)
- 4th year: Parallel Programming (39 hours ETD)
- 4th year: Networking and SOA (39 hours ETD)
- 4th year: Software development project (60 hours ETD)

Guillaume Pierre (at the University of Rennes 1):

- License 3: Systèmes (25 hours ETD)
- License 3: Organisation et utilisation des systèmes d'exploitation 2 (67 hours ETC)
- Master 2: Techniques de développement logiciel dans le Cloud (39 ETD)
- Master 2: Approche algorithmique des applications et systèmes répartis (32 ETD)

Cédric Tedeschi (at the University of Rennes 1):

- Licence 3: Organization of Operating System (38 hours ETD)
- Licence 3: Algorithmic methods (22 hours ETD)
- Master 1: Multitask Operating Systems (65 hours ETD)
- Master 1: Concurrency in Systems and Networks (56 hours ETD)
- Master 2: Muli-users systems (50 hours ETD)
- Master 2 (research): Internet of Services (6 hours ETD)

9.2.2. Supervision

PhD : André Lage, Dynamic Adaptation of Services on Distributed Infrastructures, March 29, 2012, Nikos Parlavantzas, Jean-Louis Pizat

PhD : Héctor Fernández, Flexible Coordination Through the Chemical Programming Model for Service Infrastructures, Université de Rennes 1, June, 20 2012, Thierry Priol, Cédric Tedeschi

PhD : Eugen Feller, Energy aware resource management in IaaS clouds, Université de Rennes 1, December 17, 2012, Christine Morin

PhD in progress : Erwan Daubert, Environmental adaptation of services in large scale distributed architectures, October 2009, Françoise André, Jean-Louis Pizat, Olivier Barais (Triskell)

PhD discontinued : Guillaume Gauvrit, Distributed Dynamic Adaptation of SBAs, October 2008, Françoise André, Jean-Louis Pazat

PhD in progress : Chen Wang, Using Chemical Metaphor to Express Workflow and Service Orchestration October 2009, Jean-Louis Pazat

PhD in progress : Marko Obrovac, Large Scale Runtime of the Chemical Programming Model for Service Orchestration, January 2010, Thierry Priol, Cédric Tedeschi

PhD in progress : Stefania Costache, An economical approach for resource management in private clouds, May 2010, Christine Morin, Nikos Parlavantzas

PhD in progress : Djawida Dib, Dynamic adaptation in distributed systems, October 2010, Christine Morin, Nikos Parlavantzas

9.2.3. Juries

- Christine Morin is a reviewer for the PhD thesis of Marco Meoni, EPFL (January 8, 2013)
- Christine Morin is a member of the PhD defense committee of Flavien Quesnel, Ecole des Mines de Nantes (defense planned in February, 2013)
- Christine Morin is a reviewer for the PhD thesis of Damien Borghetto, Université de Toulouse 1 (defense planned in Spring 2013)

9.3. Popularization

Contrail summer school (Almere, the Netherlands, July 2012):

- Piyush Harsh gave a talk about the Contrail Virtual Execution Platform and organized a hand-on session on VEP;
- Roberto Cascella gave a presentation entitled *The Future of the Cloud* during the summer school.

Grid'5000 winter school (Nantes, France, December 2012):

- David Margery gave a talk about Grid'5000 and a tutorial about accessing Grid'5000
- Alexandra Carpen-Amarie gave a tutorial on deploying IaaS stacks on Grid'5000, as well as a challenge entry to demonstrate the deployment of CloudStack.
- Marko Obrovac took part in the challenge to demonstrate his experimental approach for his work on chemical computing entitled *Large-scale chemical computing on Grid'5000*

NACHOS Project-Team

9. Dissemination

9.1. Teaching - Supervision - Juries

9.1.1. Teaching

Victorita Dolean, *Scilab*, MAM3, 24 h, Polytech Nice.

Victorita Dolean, *Partial differential equations*, MAM4, 66 h, Polytech Nice.

Victorita Dolean, *Computational electromagnetics*, MAM5, 40 h, Polytech Nice.

Victorita Dolean, *Numerical analysis*, L2, 30 h, University of Nice-Sophia Antipolis.

Victorita Dolean, *Mathematics and statistics*, M1 Erasmus Mundus EuroAqua, 34 h, University of Nice-Sophia Antipolis.

Claire Scheid and Stéphane Lanteri, *Introduction to scientific computing*, M2 Erasmus Mundus MathMods, 30 h, University of Nice-Sophia Antipolis.

Claire Scheid, *Practical works on differential calculus*, 26 h, L2, University of Nice-Sophia Antipolis.

Claire Scheid, *Practical works on differential equations*, 36 h, L3, University of Nice-Sophia Antipolis.

Stéphane Descombes, *Analyse numérique et applications en finances*, M2, 30 h, University of Nice-Sophia Antipolis.

9.1.2. Supervision

PhD in progress : Mohamed El Bouajaji, *Optimized Schwarz algorithms for the time harmonic Maxwell equations discretized by discontinuous Galerkin methods*, University of Nice-Sophia Antipolis, January 2012, Victorita Dolean and Stéphane Lanteri.

PhD Joseph Charles, *Arbitrarily high-order discontinuous Galerkin methods on simplicial meshes for time domain electromagnetics*, University of Nice-Sophia Antipolis, April 2012, Stéphane Lanteri.

PhD in progress : Clément Durochat, *Discontinuous Galerkin methods on hybrid meshes for time domain electromagnetics*, University of Nice-Sophia Antipolis, October 2009, Stéphane Lanteri.

PhD in progress : Caroline Girard, *Numerical modeling of the electromagnetic susceptibility of innovative planar circuits*, October 2011, Stéphane Lanteri, Ronan Perrussel and Nathalie Raveu (Laplace Laboratory, INP/ENSEEIH/UPS, Toulouse).

PhD in progress : Ludovic Moya, *Numerical modeling of electromagnetic wave propagation in biological tissues*, University of Nice-Sophia Antipolis, October 2010, Stéphane Descombes and Stéphane Lanteri.

PhD in progress : Fabien Peyrusse, *Numerical simulation of strong earthquakes by a discontinuous Galerkin method*, University of Nice-Sophia Antipolis, October 2010, Nathalie Glinsky and Stéphane Lanteri.

PhD in progress : Marie Bonnasse, *Numerical simulation of frequency domain elastic and viscoelastic wave propagation using discontinuous Galerkin methods*, University of Nice-Sophia Antipolis, October 2012, Julien Diaz (MAGIQUE3D project-team, Inria Bordeaux - Sud-Ouest) and Stéphane Lanteri.

PhD in progress : Jonathan Viquerat, *Discontinuous Galerkin time domain methods for nanophotonics*, October 2012, Stéphane Lanteri and Claire Scheid.

NANO-D Team

8. Dissemination

8.1. Teaching - Supervision

8.1.1. Teaching

Licence : Stephane Redon, "Introduction to computer science", INF311 and INF321, 80h, Ecole Polytechnique, Paris, France

8.1.2. Supervision

PhD : Svetlana Artemova, Adaptive Algorithms for molecular simulation, Grenoble University, May 30, 2012, Stephane Redon

PhD : Mael Bosson, Adaptive algorithms for computational chemistry and interactive modeling, Grenoble University, October 19, 2012, Brigitte Bidegaray and Stephane Redon

PhD in progress : Petr Popov, Computational methods for protein structure prediction, November 2011, Sergei Grudinin

8.2. Participation to conferences, seminars

- S. Grudinin and P. Popov attended "Journées du GdR BiMGdR Bim", Paris (January 20 2012).
- S. Grudinin and P. Popov participated in a workshop "Exploring Protein Interactions through Theory and Experiments", Lausanne (September 24-26 2012).
- S. Grudinin gave a talk titled "Fast Fitting of Atomic Structures into Cryo-EM Density Maps Using Hermite Orthogonal Functions" in a workshop "Computational Challenges in Structural Biology", Strasbourg (November 14-15 2012).
- P. Popov participated in a workshop "Computational Challenges in Structural Biology", Strasbourg (November 14-15 2012).

NECS Project-Team

9. Dissemination

9.1. Scientific Animation

- Carlos Canudas de Wit has been an European project evaluator (STREPs and IPs) on the following programs: Cognitive systems and Robotics (FP7-ICT 2002) and Chat (<http://www.ict-chat.eu/>). He was elected as member of the Board of Governors of the IEEE Control System Society. He is vice-president of the European Control Association (EUCA) and member of the steering committee in charge of redefying the new EUCA constitution. Since 2010, He is Editor of the Asian Journal of Control.
- H. Fourati has been a peer-reviewer for international journals (IEEE Sensors Journal, IEEE/ASME Transactions on Mechatronics).
- D. Simon was member of the ETFA'12 (IEEE Int. Conference on Emerging Technologies and Factory Automation), CIFA'12 (Conference Internationale Francophone d'Automatique) and CAR'12 (Control Architecture of Robots) program committees, and of the IFAC Joint Conference (Grenoble, february 2013) organization committee. Involvement within the API (Automatique Pour l'Informatique) PEPS headed by E. Rutten (SARDES). Peer reviewer for the ICSCS'12, MED'12 and ECC'13 international conferences. Scientific direction of the farewell robotics seminar given in honour of Bernard Espiau.
- F. Garin has been a peer-reviewer for international journals (IEEE Trans. Automatic Control, IEEE Trans. Inform. Theory, Automatica) and conferences (CDC 2012, NecSys2012, ECC 2013) and for a chapter in a book in Springer LNCS.
- A. Kibangou has been a peer-reviewer for international journals (Automatica, IEEE Trans. on Control Systems and Technology, Elsevier Signal Processing, IEEE Trans. on Signal Processing, Electronics Letters, Int. J. of Adaptive control and Signal Processing, and System control letters) and conferences (CDC 2012, CIFA 2012, ACC 2013, ECC 2013). Locally, he is the organizer of seminars for the Control Department of GIPSA-LAB.
- A. Ben Khaled gave a talk at the "Logiciels de Modélisation et de Calcul Scientifique" day (LMCS 2012) organized at Paris la Défense by EDF, IFPEN, Acssysteme and Esilv in December.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: H. Fourati, Informatique Industrielle, 100h, L1, IUT 1 (GEII2), University Joseph Fourier, France;

Licence: H. Fourati, Automatique, 24h, L2, IUT 1 (GEII2), University Joseph Fourier, France;

Licence: H. Fourati, Automatismes industriels et réseaux, 90h, L1 et L2 et 2, IUT 1 (GEII2), University Joseph Fourier, France.

Doctorat, Master: H. Fourati, Network Theory, 20h, Kazakhstan National Technical University (KazNTU), Kazakhstan.

Licence: A. Kibangou, Automatique, 62h, L2, IUT1 (GEII1), University Joseph Fourier, France.

Licence: A. Kibangou, Mathématiques, 14h, L2, IUT1 (GEII1), University Joseph Fourier, France.

Licence: F. Garin, Automatique, 32h, L2, IUT1 (GEII1), University Joseph Fourier, France.

Doctorat, Master: C. Canudas de Wit, Advanced control for transportation and vehicular systems, University of Sevilla, Spain.

Doctorat, Master: C. Canudas de Wit, Vehicular transportation, 20h, University of Valencia, Spain.
 Doctorat, Master: C. Canudas de Wit, Modeling and forecasting of Traffic Systems : HYCON2 case study, 6h, University of Madrid, Spain.

9.2.2. Supervision

PhD: Patrick Jocelyn Andrianiaina, Robust control under weekend realtime constraints, Grenoble University, October 26 2012, co-advised by D. Simon and A. Seuret.

PhD: Nicolas Cardoso De Castro, Energy-aware control and communication co-design in wireless Networked Control Systems, Grenoble University, October 4th 2012, co-advised by C. Canudas de Wit and F. Garin.

PhD: Gabriel Rodrigues de Campos, Agreement strategies for multi-robot systems, Grenoble University, November 23th 2012, co-advised by A. Seuret and C. Canudas de Wit.

PhD in progress : Valentina Ciarla, Commande d'un système de puissance électrique pour personne âgée et/ou handicapée, Grenoble University, Sept 2010-Sept 2013, co-advised by C. Canudas de Wit, F. Quaine, and V. Cahouet.

PhD in progress : Abir Ben Khaled, Distributed real time simulation of numerical models: application to powertrain, Grenoble INP, Jan. 2011 - Dec. 2013, co-advised by D. Simon and M. Ben Gaid (Institut Français de Pétrole Energies Nouvelles).

PhD in progress : Luis Leon Ojeda, Modélisation macroscopique, estimation de la demande et prédiction du flux pour les systèmes de transport intelligents, Grenoble University, April 2011-March 2014, Co-advised by C. Canudas de Wit and A. Kibangou.

PhD in progress : Dominik Pisarski, Contrôle d'accès collaboratif : application à la Rocade Sud de Grenoble, Grenoble University, June 2011-May 2014, Advised by C. Canudas de Wit.

PhD in progress: Ruggero Fabbiano, Distributed source seeking control, Grenoble University, Dec. 2011 - Nov. 2014, by C. Canudas de Wit and F. Garin.

PhD in progress : Thi-Minh Dung Tran, Consensus en temps fini et ses applications en estimation distribuée pour les systèmes de transport intelligents, Grenoble University, co-advised by A. Kibangou and C. Canudas de Wit, Jan. 2012-Jan. 2015.

PhD in progress : Giovanni de Nunzio, Control of communicating vehicles in urban environment, Grenoble University, co-advised by C. Canudas de Wit and P. Moulin (IFPEN), Sep. 2012-Aug. 2015

PhD in progress : Aida Makni, Estimation multi-capteurs et commande temps-réel tolérante aux fautes d'un drone aérien, Grenoble INP, Oct. 2012 - Sep. 2015, co-advised by H. Fourati, A. Kibangou and C. Canudas de Wit.

9.2.3. Juries

- D. Simon (reviewer and member) : J.-B. Chaudron, Jan. 25 2012, Onera and ISAE, Toulouse University;
- D. Simon (member) : Ch. Fiter, Sep. 25 2012, Lagis, Lille University ;
- D. Simon and A. Seuret (members) : P.J. Andrianiaina, Oct. 26 2012, Grenoble University;
- A. Seuret (member) : G. Rodrigues de Campos, Nov. 2012, Grenoble University.
- C. Canudas de Wit (member): S. Martin, Nov. 2012, Grenoble University.
- C. Canudas de Wit (member and reviewer): D. Efimov, HDR, Nov. 2012.

9.3. Popularization

- D. Simon has been involved in the ISN programme for the training of highschool teachers in Computer Science.
- C. Canudas de Wit animated the In'Tech seminar (Grenoble, Nov. 2012).
- C. Canudas de Wit animated seminars in CPS London Oct 2012 (http://controls.ame.nd.edu/mediawiki/index.php/London_CPS_Workshop#Participants) and Lund workshop (<http://www.lccc.lth.se/index.php?page=workshop1210program>).

NEUROMATHCOMP Project-Team

7. Dissemination

7.1. Scientific Animation

Bruno Cessac was a member of the program committee of the conference Neurocomp-KEOPS 2012. He is a reviewer for the CONYCIT (Chile) and COFECUB (Brasil) program and for the journals *Physica D*, *Nonlinearity*, *Chaos*, *Journal of Statistical Physics*, *IEEE Transaction in Neural Networks*, *Journal of Mathematical Biology*, *Journal of Computational Neuroscience*. He is in charge of internships organisation in the Master of Computational Biology, Nice.

Pascal Chossat is deputy scientific director of INSMI, the newly created mathematics institute of CNRS, in charge of the international relations of CNRS in this field. He is the coordinator of a geographic EraNet (EC program) named New Indigo for the development of scientific networks between European member states and India.

Olivier Faugeras is a member of the French Academy of Sciences and the French Academy of Technology. He is on the Editorial board of the *International Journal of Computer Vision (IJCV)*. He is the co-editor in chief of the *Journal of Mathematical neuroscience*, Springer: Website: <http://www.mathematical-neuroscience.com/> He is a member of the Institut Thématique Multi-organismes Neurosciences, Sciences cognitives, Neurologie, Psychiatrie. He is a member of the ERC PE1 panel. He co-organized a thematic semester at CIRM, Luminy, France, October-December 2011, on “Theoretical, Mathematical and Computational Neuroscience” which featured four one-week workshops and six one-week courses. For more information see Website: <http://www-sop.inria.fr/manifestations/SemesterCirm/>.

Pierre Kornprobst was a member of the program committee of the conference ICPR 2012. He co-organised with Olivier Faugeras the Workshop on Biological and Computer Vision Interface which was selected as a satellite event of ECCV 2012 (Website: <http://www-sop.inria.fr/manifestations/wbcvi2012>). He co-edited with Frédéric Cazals the book entitled “*Modeling in Computational Biology and Medicine: A Multidisciplinary Endeavor*” [56], which illustrates the program taught in the Master of Science in Computational Biology (Website: <http://cbb.unice.fr>) that they launched in 2009.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence 1 : Grégory Faye, *Mathematics for Biology*, 50h, L1, Université Nice Sophia Antipolis, France.

Licence 1 : Massimiliano Muratori, TP de physique, 45 h, L1, Ecole d’ingénieurs Polytech.

Licence 2 : Rodrigo Cofre, Traitement du signal, 50h, L2, Université Nice Sophia Antipolis, France.

Licence 2, Massimiliano Muratori, TD d’électromagnétisme , 18h, L2, Ecole d’ingénieurs Polytech.

Licence 3 : Hassan Nasser, Electronique numérique, 36h, L3, Université Nice Sophia Antipolis, France

License 3 : Hassan Nasser, Microprocesseurs, 28h, L3, Université Nice Sophia Antipolis, France

Master 2: Bruno Cessac, *Neuronal dynamics*, 36 hours, Master of Computational Biology and Biomedicine, Université Nice Sophia Antipolis, France.

Master 2: Olivier Faugeras, *Mathematical Methods for Neuroscience*, 27h, M2, ENS Paris, France.

7.2.2. Supervision

PhD & HdR

PhD : Grégory Faye, “Symmetry breaking and pattern formation in neural field equations”, 2012, supervised by Pascal Chossat and Olivier Faugeras.

PhD in progress: Diego Fasoli, “Mean-field theory of realistic spiking neurons”, Université Nice Sophia Antipolis, defence planned in 2013, supervised by Olivier Faugeras.

PhD: Geoffroy Hermann, “Some mean field equations in neuroscience”, 2012, supervised by Olivier Faugeras and Jonathan Touboul.

PhD : Khaled Masmoudi, Retina-inspired image coding schemes, Université Nice Sophia Antipolis, October 15, 2012, supervised by Marc Antonini (I3S, CNRS) and Pierre Kornprobst.

Phd in progress: Javier Baladron, “Parallel implementations of mean field and neural field equations”, Université Nice Sophia Antipolis, defence planned in 2013, supervised by Olivier Faugeras.

PhD in progress: Hassan Nasser, « Reproducing and anticipating retinal responses », defence planned in 2013, supervised by Bruno Cessac .

PhD in progress: Rodrigo Cofre-Torres, « Statistics of spike trains and neuronal structures », defense planned in 2014, supervised by Bruno Cessac.

PhD in progress: Massimiliano Muratori, « Mean field equations for neural networks and synaptic correlations », defence planned in 2015, supervised by Bruno Cessac .

7.2.3. Juries

Bruno Cessac. Reviewer of Damien Landon’s Thesis, “Perturbation et excitabilité dans des modèles de propagation de l’influx nerveux”, Orléans, 28-06-12.

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NON-A Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Editorial boards

- Jean-Pierre Richard is currently Associate Editor of *Int. J. of Systems Science*.
- Mamadou Mboup is currently Editor-In-Chief (from December 2012) *African Diaspora Journal of Mathematics* and Associate Editor of *EURASIP Journal on Advances in Signal Processing*.
- Thierry Floquet is currently Associate Editor of *Nonlinear Analysis : Hybrid Systems* and *e-sta*.

8.1.2. Program Committees

- IFAC Technical Committees: The members of Non-A are participating to several technical committees of the IFAC (International Federation of Automatic Control, see the TC list on <http://www.ifac-control.org/areas>): TC 1.2 - Adaptive and Learning Systems, TC 1.3 - Discrete Event and Hybrid Systems, TC 1.5 Networked Systems, TC 2.2 Linear Control Systems, TC 2.3 Nonlinear Control Systems, TC 2.5 Robust Control, TC 9.2 Control for Society.
- Jean-Pierre Richard was the president of the International Program Committee of the 1st Int. Conf. on Systems & Computer Science, 2012, Lille.
- Mamadou Mboup was in the International Program committee of 22nd IEEE Workshop on Machine Learning for Signal Processing 2012 and 1st International Conference Systems and Computer Science 2012;
- Jean-Pierre Barbot was in the organizing committee of the MECATRONICS congress (France-Japan and Europe-Asia) and REM workshop November 21 – 23, 2012 – Supméca, Paris (France);
- Wilfrid Perruquetti and Lotfi Belkoura were in International Program committee of 7eme Conférence Internationale Francophone d'Automatique, Grenoble, France, 2012;
- Lotfi Belkoura was the NOC Chair and organizer of 1st Int. Conf. on Systems & Computer Science, 2012, Lille (IEEE Technical co-sponsorship);
- Wilfrid Perruquetti was in the International Program committee of 12th International IEEE Workshop on Variable Structure Systems (VSS), 2012, Bombay, India;
- Wilfrid Perruquetti was in the International Program committee of 1st Int. Conf. on Systems & Computer Science, 2012, Lille;
- Jean-Pierre Richard was in the International Program committee of 20th IEEE Mediterranean Conference on Control and Automation, 2012, Barcelone; 10th Workshop on Time Delay Systems, 2012, Boston; 2nd Int. Conf. on Communications, Computing and Control Applications, 2012, Marseilles; 3rd IEEE International Workshop on SmArT COmmunications in NEtwork Technologies, 2012, Canada.

8.1.3. Scientific and administrative responsibilities

- Jean-Pierre Richard is president of the GRAISyHM, federation from the French government. He is an expert for the evaluation of projects submitted to ANR, CNRS, DGRI and AERES. He is a member of the Scientific Committee of the GdR MACS, CNRS.
- Wilfrid Perruquetti is the scientific head of ANR program Blanc SIMI3, and is heading the 3rd year professional training "ISD: Information System and Decision" of the École Centrale de Lille; He is an expert for ANR, AERES and ARC (Australian Research Council);

- Mamadou Mboup is heading the group SYSCOM - CReSTIC, University of Reims Champagne-Ardenne;
- Lotfi Belkoura is heading the Master "AG2i: Automatique, Génie Informatique et Image", University of Lille 1 and École Centrale de Lille. This Master, after a national evaluation (A), is presently "SMaRT: Systèmes, Machines autonomes et Réseaux de Terrain";
- Thierry Floquet is an expert for the evaluation of projects submitted to ANR and Israel Science Foundation, and a member of Conseil National des Universités, 61ème Section. He is as well the head of the groupe SyNeR of LAGIS laboratory;
- Lotfi Belkoura is an expert of "National Council for Research and Development" (Roumanie) www.ue1Cscdi-direct.ro
- Gang Zheng is a member of Conseil National des Universités, 61ème Section.
- Cédric Join is heading the AII-ASRI, IUT Nancy-Brabois.
- Jean-Pierre Barbot is the heading of the ECS-Lab EA 3649.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

The members of the team teach at different level in universities and engineering schools and, in particular, at Master Thesis level:

Licence : Samer Riachy; Systèmes linéaires (36h), Asservissements (48h), Introduction à la thermodynamique (32h), Echantillonnage et systèmes discrets (36h), Conversion d'énergie (48h); L3; Ecole Nationale Supérieure de l'Electronique et de ses Applications; France

Licence : Jean-Pierre Richard; Automatique et Intelligence ambiante (12h); L2; EC-Lille; France

Licence : Jean-Pierre Richard; Systèmes dynamiques (30h), Métiers de la recherche (4h), Modélisation des systèmes complexes(12h), Commande et observation (12h), Séminaire episteme (24h); L3; EC-Lille; France

Licence : Lotfi Belkoura; Initiation à l'Automatique (20h), Régulation Industrielle (60h); L3; Lille 1; France

Master : Jean-Pierre Richard; Systèmes dynamiques non linéaires et à retards (30h); M2; Lille 1 – EC-Lille, France

Master : Lotfi Belkoura; Systèmes automatisés (60h); M1; Lille 1; France

Master : Lotfi Belkoura; Distributions (8h); M2; Lille 1; France

General responsibility:

- Jean-Pierre Richard is in charge of the professional training "Research" of Ecole Centrale de Lille since 2003 (training for last-year students of EC Lille who are preparing a research career). (http://www.ec-lille.fr/85787934/0/fiche___pagelibre/).
- Wilfrid Perruquetti is in charge of the professional training "ISD: Information System and Decision" of Ecole Centrale de Lille since 2010 (http://www.ec-lille.fr/syst_auto/0/fiche___formation/).
- Lotfi Belkoura is in charge of the SMART Master Thesis training in control of University of Lille 1 and Ecole Centrale de Lille.

8.2.2. Supervision

PhD & HdR :

HdR : Join C., "Une approche algébrique pour la pratique de l'estimation, du diagnostic, de la commande et de la finance", Université de Lorraine, June 2012

HdR : Efimov D., "Analysis, control and estimation of nonlinear oscillations", Inria, November 2012

PhD : Delpoux R., "Fast identification and estimation of nonlinear systems via algebraic techniques", École Centrale de Lille, November 2012, Supervisor: T. Floquet

PhD : Fiter C., "Contribution to the control of systems with time-varying and state-dependent sampling", École Centrale de Lille, September 2012, Supervisors: J.P. Richard, W. Perruquetti, L. Hetel

PhD : Zhang B., "New control schemes for bilateral teleoperation under asymmetric communication channels: Stabilization and performance under variable time delays", École Centrale de Lille, July 2012, Supervisors: J.P. Richard, A. Kruszewski

PhD in progress : EL Afou Y., "Control strategies for greenhouse climate parameters", Université des Sciences et Technologies de Lille, started 2009, Supervisors: L. Belkoura, C. Join, A. Lachhab, B. Bouchikhi

PhD in progress : Guerra M., "Supervisory control of collective motion of mobile robots", started 2012, Supervisors: W. Perruquetti, D. Efimov, G. Zheng

PhD in progress : Maalej S., "Algebraic estimation for robust control", started 2011, Supervisors: A. Kruszewski and L. Belkoura

PhD in progress : Oueslati M., "Improving the accuracy of a 6-axis industrial robot for machining", started 2009, Supervisor: O. Gibaru

PhD in progress : Sert H., "Intelligent module decision for autonomous indoor navigation of wheelchair robot", started 2012, Supervisors: W. Perruquetti and A. M. Kökösy

PhD in progress : Mincarelli D., "Algebraic approach for observation of switched systems", started 2010, Supervisors: T. Floquet and L. Belkoura

8.2.3. Juries

The team members are also involved in numerous examination committees of Theses and Habilitations, in France and abroad.

8.3. Popularization

8.3.1. Participation to conferences

- European Signal Processing Conference, Bucharest, Romania, August 2012 (Mamadou Mboup);
- 22nd IEEE Workshop on Machine Learning for Signal Processing, Santander, Spain, September 2012 (Mamadou Mboup);
- 1st International Conference Systems and Computer Science, Lille, France, August 2012 (Lotfi Belkoura, Jean-Pierre Richard, Wilfrid Perruquetti, Mamadou Mboup, Gang Zheng, Denis Efimov, Andrey Polyakov, Diego Mincarelli);
- 16th IFAC Symposium on System Identification, Brussels, July 2012 (Wilfrid Perruquetti, Mamadou Mboup, Rosane Ushirobira);
- IEEE Conference on Decision and Control, 2012, USA (Jean-Pierre Richard, Wilfrid Perruquetti, Jean-Pierre Barbot, Denis Efimov, Diego Mincarelli);
- IEEE Chinese Conference on Control and Decision, 2012, China (Gang Zheng);

- ASME 11th Biennial Conference on engineering systems design and analysis, 2012, France (Samer Riachy);
- IFAC Conference on Time-delay systems (TDS), June 2012, USA (Jean-Pierre Richard, Thierry Floquet);
- IFAC Robust Control symposium (ROCOND), 2012, Denmark (Jean-Pierre Richard);
- IFAC ADHS, 2012, Netherlands (Jean-Pierre Richard, Denis Efimov, Diego Mincarelli)
- IEEE 20th Mediterranean Conference on Control and Automation, 2012, Barcelona (Jean-Pierre Richard);
- IEEE CIFA, 2012, France (Jean-Pierre Richard, Jean-Pierre Barbot, Wilfrid Perruquetti, Gang Zheng);
- IFAC Conference on analysis and control of chaotic systems (CHAOS), 2012, Mexico (Jean-Pierre Barbot).

8.3.2. Reviews

The members of Non-A are reviewers for most of the journal of the control and signal communities: IEEE Transactions on Automatic Control, IEEE Transactions on Systems and Control Technologies, IEEE Transactions on Industrial Electronics, IEEE Transactions on Signal Processing, Automatica, SIAM Journal on Control and Optimization, Journal of Computation and Applied Mathematics, Systems & Control Letters, International Journal of Control, International Journal of Robust and Nonlinear Control, International Journal of Systems Science, Journal Européen des Systèmes Automatisés, IET Control Theory & Applications, Fuzzy Sets and Systems, Mathematics and Computers in Simulation, International Journal of Modeling and Simulation, Journal of the Franklin Institute, ...

NUMED Project-Team

9. Dissemination

9.1. Scientific Animation

Vincent Calvez organizes mathematical researches visit and talks to high schools students.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Enseignant, titre du cours, nombre d'heures en équivalent TD, niveau (L1, L2, L3), université, pays

Master : Enseignant, titre du cours, nombre d'heures en équivalent TD, niveau (M1, M2), université, pays

Doctorat : Enseignant, titre du cours, nombre d'heures en équivalent TD, université, pays

9.2.2. Supervision

PhD & HdR :

PhD : Floriane Lignet, Etude de modèles mathématiques de l'angiogenèse, Université de Lyon, novembre 2012, E. Grenier and B. Ribba.

PhD in progress : Pauline Mazzocco, Modèles mathématiques de survie, 2012, B. Ribba

9.2.3. Juries

E. Grenier has taken part to different PhD juries.

9.3. Popularization

Paul Vigneaux is in the editorial board of the vulgarization website "Image des Maths".

OAK Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Participation in Editorial Boards

M. Herschel is the guest editor of the special issue on Data Integration of the journal *it-Information Technology*, Volume 54, Issue 3, 2012.

I. Manolescu is the editor in chief of the *ACM SIGMOD Record*, an associate editor of the *ACM Transactions on Internet Technologies*, and a member of the “Experiments and Analysis” track of *PVLDB*.

9.1.2. Participation in Conference Organization

Members of the project have been chairs of scientific events:

Ioana Manolescu

- Bases de Données Avancées (BDA) 2012
- IEEE International Conference on Data Engineering (ICDE) 2012, “Semistructured Data, XML and RDF” track
- Extending Database Technologies (EDBT) 2012 conference, Tutorial track
- Co-chair of the VLDB 2012 PhD workshop

Members of the project have participated in program committees:

Nicole Bidoit

- Bases de données Avancées (BDA) 2012

Dario Colazzo

- IEEE International Conference on Data Engineering (ICDE) 2012

François Goasdoué

- Bases de Données Avancées (BDA) 2012
- IEEE International Conference on Tools with Artificial Intelligence (ICTAI) 2012

Melanie Herschel

- IEEE International Conference on Data Engineering (ICDE) 2012
- Conference on Very Large Databases (VLDB) 2012
- VLDB PhD Workshop 2012
- Bases de Données Avancées (BDA) 2012

Ioana Manolescu

- ACM SIGMOD Conference 2012
- IEEE International Conference on Data Engineering (ICDE), “Cloud, Data Warehousing, and Large Data” track
- Data Analytics in the Cloud Workshop, in collaboration with EDBT/ICDT 2012
- Non-conventional Data Access Workshop, in collaboration with the ER conference 2012
- Cloud Intelligence Workshop, in collaboration with VLDB 2012

Members of the project participate in steering committees:

Nicole Bidoit

- Ecole thématique Masse de données Distribuées, Aussois, 27 mai - 1er juin 2012

Ioana Manolescu

- Workshop on Open Data (WOD) 2012

9.1.3. Invited Presentations

Ioana Manolescu gave a keynote presentation titled “Triples with a purpose” at the Semantic Search Workshop (SSW) next to the VLDB Conference 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence, Nicole Bidoit, Bases de données, 25.5h éq. TD, L3, Université Paris-Sud, France
- Master, Nicole Bidoit, SGBD relationnels: implémentation, 18 éq. TD, M2, Université Paris-Sud, France
- Master, Nicole Bidoit, Bases de données et Systèmes d’Information, 27 éq. TD, M2, Université Paris-Sud, France
- Master, Nicole Bidoit, Mise à Niveau en Informatique - Bases de Données, 40 éq. TD, M1, Université Paris-Sud, France
- Master, Nicole Bidoit, Base de données Avancées, 30 éq. TD, M1, Université Paris-Sud, France
- Master, Nicole Bidoit, Données et connaissances pour le WEB, 32 éq. TD, M2, Université Paris-Sud, France
- Master : Dario Colazzo, SGBD relationnels: tuning d’applications , 21h éq. TD, M2, Université Paris-Sud, France
- Master : Dario Colazzo, Bases de données , 21h éq. TD, M2, Université Paris-Sud, France
- Master : Dario Colazzo, Systèmes de Gestion de Bases de Données, 54h éq. TD, Polytech, Université Paris-Sud, France
- Master : Dario Colazzo, Base de Données, 21h éq. TD, Polytech, Université Paris-Sud, France
- Master : Dario Colazzo, Base de Données Avancées, 31h éq. TD, Polytech, Université Paris-Sud, France
- Master : Dario Colazzo, Mise à niveau bases de données, 17h éq. TD, M1, Université Paris-Sud, France
- Master : Dario Colazzo, Gestion des données sur Internet, 18h éq. TD, M1, Université Paris-Sud, France
- Master : Dario Colazzo, Base de Données , 20h éq. TD, Polytech, Université Paris-Sud, France
- Master : Dario Colazzo, Tutorat d’apprentis, 20h eq. TD, Polytech, Université Paris-Sud, France
- Licence : François Goasdoué, Bases de données, 62,5h éq. TD, L3, Université Paris-Sud, France
- Master : François Goasdoué, Web Sémantique, 74h éq. TD, M2, Université Paris-Sud, France
- Master : François Goasdoué, Données et connaissances pour le Web, 7,5h éq. TD, M2, Université Paris-Sud, France
- Master : François Goasdoué, Modèles de raisonnement distribué, 4,5h éq. TD, M2, Université Paris-Sud, France
- Master : François Goasdoué, Décision et raisonnement, 9h éq. TD, M2, Université Paris-Dauphine, France
- Master : François Goasdoué, Ontologies et Web Sémantique, 13,5h éq. TD, M2, Université Paris-Dauphine, France
- Master: Melanie Herschel, Entrepôts de données et requêtes OLAP, 99.5h éq. TD, M2, Université Paris-Sud, France

Master: Melanie Herschel, Intégration de données et Web sémantique, 4,5h éq. TD, M2, Université Paris-Sud, France

Master : Ioana Manolescu, Données Sémi-Structurées et XML, 18h éq. TD M2, Université Paris-Sud, France

Master : Ioana Manolescu, Services Web, 27 éq. TD, M2, Université Paris-Dauphine, France

9.2.2. Supervision

PhD & HdR :

HdR : François Goasdoué, Knowledge Representation meets DataBases for the sake of ontology-based data management [1], Univ. Paris-Sud, 11/07/2012

PhD : Mohamed-Amine Baazizi, Satic Analysis for the Optimization of Temporal XML document Updates, Univ. Paris-Sud, 07/09/2012, Nicole Bidoit et Dario Colazzo

PhD : Noor Malla, Partitioning XML data, towards distributed and parallel management, Univ. Paris-sud, 21/09/2012, Nicole Bidoit et Dario Colazzo

PhD : Federico Ulliana, Types for Detecting XML Query-Update Independence, Univ. Paris-Sud, 12/12/2012, Nicole Bidoit et Dario Colazzo

PhD : Konstantinos Karanasos, View-Based Techniques for the Efficient Management of Web Data [2], Univ. Paris-Sud, 29/06/2012, François Goasdoué and Ioana Manolescu

PhD in progress : Asterios Katsifodimos, Efficient Distributed Views for XML Data Management, Univ. Paris-Sud, 29/06/2012, Ioana Manolescu

PhD in progress : Julien Leblay, Efficient management of annotated documents, 01/10/2010, François Goasdoué and Ioana Manolescu

PhD in progress : Alexandra Roatis, Traitement efficace de requêtes SPARQL avec extensions OLAP pour entrepôts RDF, 01/09/2011, Dario Colazzo, François Goasdoué and Ioana Manolescu

PhD in progress: Aikaterini Tzompanaki, Foundations and Algorithms to Compute the Provenance of Missing Data, 1/11/2012, Melanie Herschel and Nicole Bidoit

PhD in progress : Stamatis Zampetakis, Scalable algorithms for cloud-based semantic web data management, 15/10/2012, François Goasdoué and Ioana Manolescu

9.2.3. Juries

- Nicole Bidoit, PhD defense committee of François Hantry, “Problèmes basés sur les Causes dans le cadre de la Logique Temporelle Linéaire : Théorie et Applications”, Univ. Lyon 1, 17/09/2012.
- Dario Colazzo, PhD defense committee of Bogdan Butnaru, “Optimizations of XQuery in peer-to-peer distributed XML databases”, Univ. Versaille, 12/04/2012.
- François Goasdoué, PhD defense committee of Jitao Yang, “Un modèle de données pour bibliothèques numériques”, Univ. Paris-Sud, 30/05/2012.
- Ioana Manolescu, PhD defense committee of Silviu Maniu, “Data Management in Social Networks”, Telecom ParisTech, 28/09/2012.
- Ioana Manolescu, PhD defense committee of Jordi Creus, “ROSES : Un moteur de requêtes continues pour l’agrégation de flux RSS à large échelle”, UPMC - Sorbonne Universités, 7/12/2012.
- Ioana Manolescu, HDR defense committee of Cédric du Mouza, “Indexing Very Large Datasets”, Université Paris-Dauphine, 30/11/2012.

9.3. Popularization

Ioana Manolescu presented the issues involved in cloud-based management of Web data, to a panel on the technology aspects of Big Data, at the “Big Data” industrial conference at Paris on March 20, 2012.

OASIS Project-Team

8. Dissemination

8.1. Scientific Animation

- Eric Madelaine is member of the steering committees of the FACS and FMCO symposia, and has acted as a program committee of FACS'12, FMCO'12, and of the Science of Computer Programming (SCP) journal.
- Françoise Baude is member of the editorial board of the Techniques et Sciences Informatique French journal from Feb. 2011, was program committee member of ISPA 2012, of RenPar'21 to be held in January 2013. She is University of Nice official representative within the KIC EIT ICT Labs, including the Master school, from 2012.
- Ludovic Henrio: program committee member of FESCA'12, FOCLASA'12, FESCA'13 and reviewer for the journal SCP (Science of Computer Programming) and MSCS.
- Fabien Hermenier: program committee member of VTDC 2012 and PDP 2012 (energy efficiency track) and reviewer for IEEE Transactions on Network and Service Management and the Journal of System Architecture. He also presented btrPlace during the OW2Con, the OW2 Annual Conference.
- Fabrice Huet : program committee member of HPDC 2012, AP2PS 2012, reviewer for Transactions on Services Computing, Concurrency and Computation: Practice and Experience.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Olivier Dalle, Introduction à la Programmation Objet, 15 H eqTD, niveau L1, Département Informatique, UNS, France

Licence : Olivier Dalle, Introduction à la Programmation Objet, 15 H eqTD, niveau L1, Département Informatique, UNS, France

Licence : Fabrice Huet, Informatique Générale, 48 H eqTD, niveau L1, Département Informatique, UNS, France

Licence : Françoise Baude, Algorithmique et Programmation en Java, 70 H eqTD, niveau L2, Polytech'Nice Sophia, UNS, France

Licence : Fabien Hermenier, Introduction à Internet, 103 H eqTD, niveau L2, Polytech'Nice Sophia, UNS, France

Licence : Olivier Dalle, Algorithmes et Structures de Données, 36 H eqTD, niveau L3, Département Informatique, UNS, France

Licence : Olivier Dalle, Harmonisation Informatique, 36 H eqTD, niveau L3, IUP Miage, UNS, France

Licence : Fabien Hermenier, Outils pour le Génie Logiciel, 26 H eqTD, niveau L3, Polytech'Nice Sophia, UNS, France

Licence : Fabrice Huet, Outils de Génie Logiciel, 24 H eqTD, niveau L3, IUT, UNS, France

Licence : Fabrice Huet, Programmation de Jeux Réseau, 18 H eqTD, niveau L3, IUT, UNS, France

Master : Françoise Baude, Applications Réparties, 45 H eqTD, niveau M1, Polytech'Nice Sophia, UNS, France

Master : Olivier Dalle, Ingénierie des Protocoles, 21 H eqTD, niveau M1, Département Informatique, UNS, France

Master : Fabrice Huet, Distribution et parallélisme, 49H eqTD, niveau M1, Département Informatique, UNS, France

Master : Fabrice Huet, Syst èmes Distribués, 42H eqTD, niveau M1, IUP Miage, UNS, France

Master : Françoise Baude et Ludovic Henrio, Distributed systems: an Algorithmic approach, 17 H + 17 h eqTD, niveau M2, Polytech'Nice Sophia/UFR Sciences, UNS, France

Master: Ludovic Henrio, Sémantique des Systèmes Distribués et Embarqués, 11 H eqTD, niveau M1, Département Informatique, UNS, France

8.2.2. Supervision

PhD in progress : Laurent Pellegrino “Pushing dynamic and ubiquitous event-based interaction in the Internet of services: a middleware for event clouds”, since Sept 2010, advisor Françoise Baude.

PhD in progress : Nuno Gaspar “Integrated, Autonomic, and Reliable Deployment and Management for SaaS composite applications”, since Nov 2011, advisor: Eric Madeleine

PhD in progress : Michaël Benguigui, “Modèles de programmation pour l’analyse de données sur machines multi-cœurs, grilles et clouds”, since Dec 2011, advisor Françoise Baude.

PhD in progress : Yanwen Chen, “Formal model and Scheduling for cyberphysical systems”, since Dec 2011, advisors Eric Madelaine and Yixiang Chen (ECNU Shanghai)

PhD in progress : Alexandra Savu, “Design, specification, and verification of parameterized topologies of distributed components”, since Oct. 2012, advisor Eric Madelaine

PhD in progress : Maeva Antoine, “Plateforme élastique pour le stockage et la notification d’Evènements”, since Oct. 2012, advisors Eric Madelaine, Fabrice Huet

8.2.3. Juries

Françoise Baude participated in PhD evaluations as

- jury supervisor for the PhD of Marcela Rivera held on December 15th 2011, UNS; PhD of Imen Ben Lhamar, on November 15th 2012, at Telecom Sud-Paris / Univ. Evry Val d’Essone
- PhD reviewer and jury member for the PhD of Gabriel Hermosilio on 5th June 2012, University of Lille (ADAM EPI); PhD of Xavier Etchevers on December 12th 2012, at LIG / FranceTelecom R&D (SARDES EPI)

She participated in the recruitment committees for

- Maître assistant position at Ecole des Mines Albi-Carnaux, in January 2012
- Professor at Univ. of Henri Poincaré, Ecole Supérieure d’Informatique et Applications de Lorraine, in May 2012

Fabrice Huet participated to the mid-term evaluation jury of Giuseppe Reina (April 2012) and Mario Pastorelli (October 2012), Eurecom PhD students.

8.3. Popularization

Françoise Baude is in charge since September 2011 of the set up and animation of an educational program *Cordées de la Réussite*. She leads as Polytech'Nice Sophia member, and in connection with MASTIC activities at Sophia-Antipolis, two *Cordées pour la Science à Sophia* groups (one with Lycée Vinci Antibes, the other with Lycée Tocqueville Grasse).

Fabrice Huet gave a seminar to high school students about the inner working of computers. He also leads the ISN *Informatiques et Sciences du Numérique* courses for the academia of Nice. These courses were given to high school teachers who volunteered to offer a Computer Science option to their students.

OPALE Project-Team

9. Dissemination

9.1. Scientific Animation

- P. Goatin is member of the Organizing Committee of the 14th International Conference on Hyperbolic Problems: Theory, Numerics and Applications (HYP2012). Padova (IT). June 2012. <http://www.hyp2012.eu/>
- T. Nguyen is member of the PRACE expert pool since November 2012 (Partnership for Advanced Computing in Europe)
- T. Nguyen is member of the Program Committee for the 9th Intl. Conf. in Cooperative Design, Visualization and Engineering (CDVE2012). Osaka (JP). September 2012.
- T. Nguyen is member of the Program Committee for the 8th Intl. Conf. on Networking, Grids and Virtualization (CLOUD COMPUTING2012). Nice (FR). July 2012. <http://www.iaaria.org/conferences2012/CLOUDCOMPUTING12.html>
- T. Nguyen is Advisory Chair and member of the Program Committee for the 8th Intl. Conf. on Cloud Computing and Services (ICNS2012). Saint-Maarten (NL). March 2012. <http://www.iaaria.org/conferences2012/ICNS12.html>
- T. Nguyen is member of the Program Committee for the 1st Intl. Conf. on Smart Grids and Green IT Systems (SMARTGREENS2012). Porto (PT). April 2012. <http://www.smartgreens.org/CallForPapers.aspx>
- T. Nguyen is member of the Program Committee for the 2nd International Conference on Cloud and Green Computing (CGC2012), Xiangtan (China), November 2012. <http://kpnm.hnust.cn/confs/cgc2012>
- T. Nguyen is member of the Program Committee of the 3rd Intl. Conf. on Parallel, Distributed, Grid and Cloud Computing for Engineering. Pécs, Hungary, March 2013. <http://www.civil-comp.com/conf/pareng2013.htm>
- T. Nguyen is member of the Editorial Board of the Intl. Journal on Advances in Intelligent Systems (IARIA Eds.)
- T. Nguyen is member of the Editorial Board of the Intl. Journal on Advances in Software (IARIA Eds.)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Introduction to Numerical Analysis, 71,5 hrs, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (J.-A. Désidéri, A. Zerbinati).

Licence: Numerical Methods I, 19.5 hrs, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (J.-A. Désidéri).

Licence: Solid Mechanics (statics, kinematics, dynamics, energetics), 45.5 hrs, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (F. Z. Oujebbour).

Licence: Linear Systems, 39 hrs, L3, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (R. Duvigneau).

Licence: Partial Differential Equations, 36 hrs, L3, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (R. Duvigneau).

Master: Advanced Optimization, 40.5 hrs, M2, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (J.-A. Désidéri, R. Duvigneau).

Master: Multidisciplinary Optimization, 22.5 hrs, joint ISAE ("Complex Systems") and M2 (Mathematics), Toulouse (J.-A. Désidéri, R. Duvigneau).

Master: Conservation laws and traffic flow models, 32 hrs, M2, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (P. Goatin).

9.2.2. Supervision

PhD & HdR :

PhD : Imane Ghazlane, *Optimisation aérodynamique et structurale de la voilure d'un avion de transport avec la méthode adjointe*, University of Nice Sophia Antipolis, December 2012, supervisors: J. A. Desideri and Gérald Carrier (ONERA/DAAP).

PhD : Samira El Moumen, *Portfolio Management in Finance*, Ecole Mohammadia d'Ingénieurs (EMI), Rabat, September 2012, supervisors: R. Aboulaich, R. Ellaia (Rabat) and A. Habbal.

PhD in progress : Sébastien Bourasseau, *Méthodes de raffinement de maillages non structurés basées sur le vecteur adjoint pour le calcul de coefficients aérodynamiques*, October 2011, Supervisors: Jean-Antoine Désidéri and Jacques Peter (ONERA/DSNA).

PhD in progress : Aalae Benki, *Optimisation concurrente de forme de coque mince en régimes élastoplastique et de crash*, October 2010, supervisor: A. Habbal.

PhD in progress : Maria Laura Delle Monache, *Traffic flow modeling by conservation laws*, October 2011, supervisor: P. Goatin

PhD in progress : Mohamed Kaicer, *Group lending : analysis of asymmetric information using game theory. Analysis design and implementation of a simulator adapted to microfinance market*, October 2009, Supervisors: R. Aboulaich (Rabat) and A. Habbal.

PhD in progress : Jérémie Labroquère, *Optimization of Flow Control Devices*, October 2010, Supervisors: Jean-Antoine Désidéri and Régis Duvigneau.

PhD in progress : Matthias Mimault, *Crowd motion modeling by conservation laws*, October 2012, supervisor: P. Goatin

PhD in progress : Andrea Minelli, *Optimisation simultanée des performances aérodynamiques et du bang sonique d'un aéronef supersonique*, October 2010, Supervisors: Jean-Antoine Désidéri and Itham El Salah Dinh (ONERA/DAAP).

PhD in progress : Maxime Nguyen Dinh, *Qualification des simulations numériques par adaptation anisotropique de maillages*, October 2011, Supervisors: Jean-Antoine Désidéri and Jacques Peter (ONERA/DSNA).

PhD in progress : Fatima Zahra Oujebbour, *Modèles de jeux en optimisation de forme en emboutissage*, October 2010, Supervisors: A. Habbal.

PhD in progress : Enric Roca Leon, *Simulation aéromécanique pour l'optimisation de rotor d'hélicoptère en vol d'avancement*, October 2011, Supervisors: Jean-Antoine Désidéri and Arnaud Le Pape (ONERA/DAAP).

PhD in progress : Laurentiu Trifan, *Plateforme collaborative pour l'optimisation multidisciplinaire*, December 2009, Supervisors: Jean-Antoine Désidéri and Toan Nguyen.

PhD in progress : Adrien Zerbinati, *Optimisation multidisciplinaire robuste pour application à l'automobile*, January 2010, Supervisors: Jean-Antoine Désidéri and Régis Duvigneau.

9.2.3. *Juries*

- T. Nguyen was member of the PhD Defense Jury of Mr. Balaji Raghavan, Université de Technologie de Compiègne, December 2012.
- P. Goatin was referee and member of the PhD Defense Jury of Aude Hofleitner, Université Paris-Est, December 2012.

9.3. Popularization

J.-A. Désidéri has delivered the conference “*Modélisation et simulation : lorsque l’ingénierie devient numérique*” (“Modelling and simulation : when engineering becomes numerics”) to engineering students in Avignon (May 2012).

P. Goatin has delivered the conference “Comment les mathématiques contribuent-elles à la gestion du trafic routier?” to the Université d’été de mathématique “Modèles mathématiques et réalité” organised by the Creteil Academy in Sourdun (August 2012).

ORPAILLEUR Project-Team

9. Dissemination

9.1. Scientific Animation

- The scientific animation in the Orpailleur team is based on two seminars, the Team Seminar and the BINGO seminar. The Team Seminar is held at least twice a month and is used either for general presentations of people in the team or for inviting external researchers for general interest. The BINGO seminar is held also at least twice a month and is used for more specific presentations focusing on biological, chemical, and medical topics. Actually, both seminars are active and are useful instruments for researchers in the team.
- Members of the Orpailleur team are all involved, as members or as head persons, in various national research groups (mainly GDR CNRS I3 and BIM).
- The members of the Orpailleur team are involved in the organization of conferences, as members of conference program committees (ECAI, IJCAI, PKDD, ICFA ...), as members of editorial boards, and finally in the organization of journal special issues.
- This year, Dave Ritchie co-organized a workshop on Computational Challenges in Structural Biology (CCSB-2012; <http://ccsb2012.loria.fr>).
- Emmanuel Nauer co-organized a new workshop, called "Cooking with Computers" at ECAI 2012 (Montpellier). This workshop aims at bringing together researchers from every possible fields of artificial intelligence applying their research on food and cooking. The next workshop will take place in 2013 at the ICJAI Conference (August 2013, Beijing, China).
- Amedeo Napoli was one of the co-organizers of the ECAI workshop FCA4AI (What Artificial Intelligence can do for FCA), together with Sergei O. Kuznetsov and Sebastian Rudolph (see the website of the workshop <http://www.fca4ai.hse.ru> and the CEUR proceedings <http://ceur-ws.org/Vol-939/>). Based on the large success of this first workshop, a new edition will take place at the ICJAI Conference in August 2013, Beijing, China.
- Chedy Raïssi was a co-organizer of the "PinSoDa" workshop, joint with the 11th IEEE International Conference on Data Mining (ICDM 2012), Brussels, Belgium. The purpose of this workshop was to encourage principled research that will lead to the advancement of the science of privacy and data protection on social data.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- The members of the Orpailleur team are involved in teaching at all levels of teaching in University of Lorraine (in Nancy for most of them). Actually, most of the members of the Orpailleur team are employed on university positions.
- The members of the Orpailleur team are also involved in student supervision, at all university levels, from under-graduate until post-graduate students.
- Finally, the members of the Orpailleur team are involved in HDR and thesis defenses, being thesis referees or thesis committee members.

PAREO Project-Team

8. Dissemination

8.1. Scientific Animation

- Jean-Christophe Bach:
 - Reviewer for SLE 2012 (5th International Conference on Software Language Engineering)
- Horatiu Cirstea:
 - PC member of RuleML 2012 (International RuleML Symposium on Rule Interchange and Applications).
 - Steering committee of RULE.
 - Responsible for the Master speciality “Logiciels: Théorie, méthodes et ingénierie”.
- Claude Kirchner:
 - Keynote speaker of RTA 2012 (23rd International Conference on Rewriting Techniques and Applications): “Rho-Calculi for Computation and Logic”.
- Sergueï Lenglet:
 - Presentation at “Journées communes LTP - LAC - LaMHA”
- Pierre-Etienne Moreau:
 - Member of the board of the Doctoral School in Computer Science and Mathematics.
 - Member of the GDR–GPL (CNRS Research Group on Software Engineering) board.
 - Head of the local committee for Inria “détachements” and “délégations”.
 - Head of the Computer Science department at Ecole des Mines de Nancy.
 - PC member of RTA 2012 (23rd International Conference on Rewriting Techniques and Applications), SLE 2012 (5th International Conference on Software Language Engineering), and WRLA 2012 (9th International Workshop on Rewriting Logic and its Applications)
- Sorin Stratulat:
 - PC Member of SYNASC’12 (14th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing), IAS’12 (8th International Conference on Information Assurance and Security), and CISIS’12 (5th International Conference on Computational Intelligence in Security for Information Systems).
 - Invited Speaker at PAS’12 (International Seminar on Program Verification, Automated Debugging and Symbolic Computation).
 - Member of the LITA Laboratory Council.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Horatiu Cirstea, Structures de données, 20h, L3, Université de Lorraine, Nancy

Licence : Sergueï Lenglet, Algorithmique et structures de données, 110h, L1, L2, IUT Charlemagne, Nancy

Licence : Sergueï Lenglet, Bases de données, 60h, L1, IUT Charlemagne, Nancy

Licence : Sergueï Lenglet, Analyse et conception de systèmes d’information, 20h, L2, IUT Charlemagne, Nancy

Licence : Pierre-Etienne Moreau, Tronc Commun d'Informatique, 35h, L3, École des Mines de Nancy

Licence : Christophe Calvès, Certificat Informatique et Internet, 40h, L1, Université de Lorraine, Nancy

Master : Horatiu Cirstea, Analyse et conception de logiciels, 100h, M1, Université de Lorraine, Nancy

Master : Horatiu Cirstea, Génie logiciel avancé, 30h, M2, Université de Lorraine, Nancy

Master : Pierre-Etienne Moreau, Software Engineering, 15h, M1, École des Mines de Nancy

Master : Pierre-Etienne Moreau, Bootcamp OO Programming, 45, M1, École des Mines de Nancy

Master : Pierre-Etienne Moreau, Research project, 30h, M2, École des Mines de Nancy

8.2.2. Supervision

PhD : Cláudia TAVARES, "Un système de types pour la programmation par réécriture embarquée", Université de Lorraine, March 2nd 2012, Claude Kirchner et Pierre-Etienne Moreau

PhD : Vincent DEMANGE, "Vers un calcul des constructions pédagogiques", Université de Lorraine, December 7th 2012, Sorin Stratulat et Loïc Colson

PhD in progress : Jean-Christophe BACH, "Transformation de modèles et certification", November 1st 2010, Pierre-Etienne Moreau

8.2.3. Juries

Pierre-Etienne Moreau:

PhD committee of Aurélien Monot, "Vérification de contraintes temporelles de bout-en-bout dans le contexte AutoSar", Nancy 2012

PhD committee of Luc Engelen, "From Napkin Sketches to Reliable Software", Eindhoven 2012

PhD reviewer of Pengfei Liu, "Intégration de politiques de sécurité dans des systèmes ubiquitaires", Bordeaux 2013

PhD committee of Laurent Wouters, "Multi-Domain Expert-User Modeling Infrastructure", Paris 2013

8.3. Popularization

Jean-Christophe Bach participated to scientific mediation by proposing several activities to demonstrate the *algorithmic thinking* at the core of the Computer Science without requiring any computer or even electric devices. These activities are the first part of the CSIRL (Computer Science In Real Life) project which aims to popularize computer science and to initiate children, school students and non-scientists into this domain. These activities were presented during the high school students welcome at LORIA and Inria - Nancy Grand Est, and also during APMEP¹ days.

Jean-Christophe Bach was also involved in popularization activities with Interstices² by writing short debunking articles ("Idées reçues") for non computer scientists about Church's thesis and Turing's work.

¹<http://www.apmep.asso.fr/>

²<http://interstices.info>

PARIETAL Project-Team

8. Dissemination

8.1. Scientific Animation

- B. Thirion acts as reviewers for Medical Image Analysis, IEEE Transactions on Medical Imaging, NeuroImage, ISBI, IPMI, as associate editor for Frontiers in Neuroscience Methods, as program committee for the MICCAI 2012 conference and as expert for ANR, NWO.
- B.Thirion set up the following workshop at the OHBM 2012 conference: *Why believe in Multivariate Pattern Analysis ? The skeptical Neuroimager's view*. G. Varoquaux was part of it. B.Thirion organized a session entitled *Comprendre le cerveau par le signal et l'image* at the Digiteo forum.
- B. Thirion gave an invited presentation at the ISBI 2012, CompImage 2012, the FENS 2012 workshop on brain activity decoding, MICCAI 2012 workshop on functional connectivity and at the MLINI 2012 workshop, at the *Institut de biologie du Collège de France*, Paris and at the *Institute of Psychiatry*, London.
- G. Varoquaux gave a tutorial on the use of Python in Machine learning at the PRNI 2012 conference.
- G. Varoquaux was program committee of Euroscopy 2012, PyHPC 2012 and ESCO 2012.
- G. Varoquaux acts as reviewer for NeuroImage, HBM, MedIA, TMI, Frontiers in NeuroInformatics et Frontiers in Brain Imaging methods, Review editor for Frontiers in NeuroInformatics and Frontiers in Brain Imaging methods and as expert for ANR and Agoranov.
- Alexandre Gramfort is Program committee PRNI, Associate editor IEEE EMBC conference and Associate editor Frontiers in brain imaging methods.
- Alexandre Gramfort acts as reviewer for Neuroimage, IEEE TMI, brain topography, HBM journal, PLOS ONE, brain connectivity, journal of clinical neurophysiology, MICCAI, physics in medicine and biology
- Alexandre Gramfort took part to the *Inria-Clinatéc* days at Grenoble.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: MVA, Bertrand Thirion + Alexandre Gramfort, Imagerie fonctionnelle cérébrale et interface cerveau machine, 12h + 3h, M2, ENS Cachan, France.

Master biostatistiques: Bertrand Thirion, cours de biostatistique computationnelle, 6h, M2, Paris XI, France.

PhD: Gaël Varoquaux taught Python (8h at Inria Saclay, 8h at Inria Grenoble, 4h at Espresso summer school).

Master: master Telecom ParisTech UE ACIMED, Alexandre Gramfort taught MEG + fMRI 4h30, M2, Telecom ParisTech, Paris, France

8.2.2. Juries

Bertrand Thirion was part of the PhD committee of

- Peter Rasmussen, DTU, Denmark on April 11th. The PhD thesis was entitled *Mathematical modeling and visualization of functional neuroimages*.
- Archana Venkataraman, MIOT/CSAIL, USA on June 26th. The PhD thesis was entitled *Generative Models of Brain Connectivity for Population Studies*.
- Mikael Naveau, Cyceron, Caen, France on November 5th. The PhD thesis was entitled *Connectivité fonctionnelle cérébrale pendant l'état de repos: modélisation multi-échelle*.

8.3. Popularization

Alexandre Gramfort was shot in the *E=M6* TV program, in which Marc lesguy took part to the so-called word decoding experiment.

Parietal animated the Inria stand at Fête de la science days, Moulon Saclay, during 3 days (October 12-14), where we presented a nice game designed by Virgile Fritsch to illustrate our research activities.

PARKAS Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Event organization

- J. Vuillemin is member of the International Scientific Advisory Board of the National ICT Australia.
- J. Vuillemin chairs the Scientific Advisory Board of the national Institute for InfoCom Research I2R in Singapore.
- F. Zappa Nardelli is member of the “comité executif” of the CEA-EDF-Inria summer schools.
- F. Zappa Nardelli served in the POPL 2012 ERC.
- F. Zappa Nardelli is member of the "comité de suivi doctoral" de l’Inria Saclay.
- A. Cohen is the General Chair of the 7th HiPEAC conference, January 2012. Louis Mandel is member of the local arrangements committee. The conference pioneered a new “journal first” publication model, and has been completely reorganized into a large networking event with 27 parallel events, an industry exhibit with 50 companies booths and posters, and a European project exhibit with 46 projects from the computing systems, embedded systems strategic objectives of the FP7 and from the FET programme. 516 registered participants, 34 ACM TACO journal papers presented (the record number for previous HiPEAC conferences was 210 participants).
- M. Pouzet is in charge, with Catherine Dubois (IIE CNAM, Evry) of the national research group LTP (Language, Types, Proofs) of the French GDR GLP (“Génie de la Programmation et du Logiciel”). Two meetings a year with three invited speakers.
- M. Pouzet organised 18th edition of SYNCHRON (<http://synchron2011.di.ens.fr>), the workshop on Synchronous Programming and Applications, in Dec. 2011 in Damaris-les-lys. We got the record track of 80 participants and a special half-day devoted to synchronous programming for music applications with colleagues from IRCAM.

9.1.2. Editorial boards

- Jean Vuillemin is on the board of 5 international journals.
- Marc Pouzet is associate editor of the EURASIP Journal on Embedded systems (<http://jes.urasipjournals.com>).
- Marc Pouzet is “directeur de collection” for Hermes publisher.
- Albert Cohen is on the editorial board of the International Journal on Parallel Programming (IJPP, <http://www.springer.com/computer/theoretical+computer+science/journal/10766>).
- Albert Cohen is on the distinguished reviewer board of the ACM Transactions on Architecture and Code Optimization (TACO).

9.1.3. Program committees

- M. Pouzet is a member of the program committee of the following conferences: Design, Automation & Test in Europe (DATE 2012); Embedded Software (EMSOFT 2012); Complex Systems Design & Management (CSD&M) 2012; Approches Formelles dans l’Assistance au Développement de Logiciels (AFADL 2012); ACM Conf. on the Principles and Applications of Declarative Programming (PADL 2012), located with POPL;
- M. Pouzet is an expert reviewer for the Design Automation Conference (DAC) in 2012 and 2013.
- A. Cohen is the chair of the DAC 2013 ESS1 TPC subcommittee, and was the co-chair of the DAC 2012 ESS1&2 TPC subcommittee.

- A. Cohen is the program chair of ETAPS CC 2014.
- A. Cohen is a member of the program committee of the following conferences: ICS 2012, ETAPS CC 2013, PPOPP 2013 external review committee.
- A. Cohen is the co-general chair of the ICPP-EMS 2013 workshop (with ICPP).
- A. Cohen is a member of the program committee of the following workshops: IMPACT 2012 and 2013 (with HiPEAC), HiRES 2013 (with HiPEAC), GPGPU 2012 and 2013 (with ASPLOS), COSMIC 2013 (with CGO), PLC 2012 and 2013 (with IPDPS), ICPP-EMS 2012 (with ICPP).
- L. Mandel, member of the program committee of the Journées Francophones des Langages Appliqués (JFLA 2012).

9.1.4. Invited Presentations

- A. Cohen was a keynote speaker at the IMPACT 2013 workshop (with HiPEAC) “Adopt a Polyhedral Compiler!”, July 2011.
- A. Cohen gave an invited presentation at AMD Bangalore titled “Languages and Compilers for Productivity and Efficiency”, June 2012.
- A. Cohen gave a Priti Shankar seminar at the Indian Institute of Science, CSA department, titled “Polyhedral Compilation Off the Beaten Path”, June 2012.
- M. Pouzet gave an invited presentation at the Int. Conference on Complex Systems, Design & Management (CSDM), Dec. 2011.
- M. Pouzet gave an invited presentation at the “Séminaire MaMux”, IRCAM, Paris. Feb. 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: “Systèmes” (L3), L. Mandel (42h), Université Paris-Sud 11, France

Licence: “Systèmes et réseaux” (L3), M. Pouzet (24h), L. Mandel (24h), École Normale Supérieure, France

Licence: “Langages de programmation et compilation” (L3), L. Mandel (24h), École Normale Supérieure, France

Master Parisien de Recherche en Informatique (MPRI): “Synchronous systems” (M2), M. Pouzet (12h), J. Vuillemin (6h), L. Mandel (6h), École Normale Supérieure and Université Paris Diderot, France

Licence: “From Algorithm to Circuit” (L3), J. Vuillemin (64h), École Normale Supérieure, France

Master Parisien de Recherche en Informatique (MPRI): “Semantics and tools for multicore programming” (M2), A. Cohen (9h), F. Zappa Nardelli (13.5h), École Normale Supérieure and Université Paris Diderot, France

Marc Pouzet is “responsable du concours d’entrée à l’ENS”, for the Computer Science department (since Sept. 2010).

Marc Pouzet is director of studies (directeur des études) of the Computer Science department (since Sept. 2012).

9.2.2. Supervision

M2: R. Morisset (ENS), Correctness of optimisations in the C11/C++11 memory model, september 2012;

M2: P. Pawan (IIT Kanpur, India), Hunting concurrency compiler bugs, september 2012;

M2: F. Gindraud (ENS Lyon), definition, code generation, and formal verification of a software controlled cache coherence protocol;

M2: B. Arnoux (École Polytechnique, Telecom ParisTech), globally adressable memory model for data-flow execution.

M1: C. Lecourt (École Polytechnique), numerical receipts and examples for Zélus.

M2: G. Baudart (École normale supérieure, Cachan), A synchronous semantics and implementation for Antescofo.

9.2.3. Juries

- A. Cohen was a reviewer of the following PhD theses: Nicolas Benoit (January 2012, Université de Versailles St-Quentin), Artur Pietrek (October 2012, Université Joseph Fourier), Mehdu Amini (November 2012, MINES ParisTech), Selma Saidi (November 2012, Université Joseph Fourier), Dmitry Nadezhkin (December 2012, Leiden University, The Netherlands).
- A. Cohen was a committee member of the following PhD theses: Delphine Demange (October 2012, École Normale Supérieure de Cachan – Université Européenne de Bretagne), Quentin Colombet (December 2012, École Normale Supérieure de Lyon).
- A. Cohen was a committee member of the following Habilitation theses: Gaël Thomas (December 2012, Université Pierre et Marie Curie), Cédric Bastoul (December 2012, Université Paris Sud).
- M. Pouzet was the President of the following PhD. thesis: Peter Schrammel (October 2012, Université de Grenoble).

9.3. Popularization

- L. Mandel and M. Pouzet, were invited to give a lecture at IRCAM in the Master of “Acoustique, Traitement du signal, Informatique, Appliqués à la Musique”. Nov. 2010, Nov. 2011, and Nov. 2012.

PAROLE Project-Team

9. Dissemination

9.1. Scientific Animation

- The members of the team frequently review articles and papers for Journal of Phonetics, JASA, Acta Acoustica, Computer Speech and Language, Speech communication, TAL, IEEE Journal of Selected Topics in Signal Processing, IEEE Transaction of Information Theory, IEEE Signal Processing Letters, Signal Processing, Multimedia Tools, Pattern Recognition Letters, ICASSP, INTERSPEECH, EURASIP, JEP.
- Member of editorial boards :
 - Speech Communication (J.P. Haton, D. Jouvet)
 - Computer Speech and Language (J.P. Haton)
 - EURASIP Journal on audio, Speech, and Music Processing (Y. Laprie)
- Member of scientific committee of conference :
 - TAIMA, SIIE (K. Smaïli, J.P. Haton)
 - JEP, (I. Illina)
- Member of organisational conference committees :
 - AVSP 2013, (S. Ouni)
- Coordinator of French part of ERASMUS Intensif Programme : Learning Computer Programming in Virtual Environment (I. Illina)
- Reviewer of projects in the European FET (Future and Emerging Technologies) (Y. Laprie).
- Member of “Conseil scientifique IRCOM Consortium corpus oraux et multimodaux” (D. Fohr)
- Member of “Association Française pour la Communication Parlée” (French Association for Oral Communication) board (D. Langlois)
- Member of the lorraine network on specific language and learning disabilities and in charge of the speech and language therapy expertise in the Meurthe-et-Moselle House of Handicap (MDPH) (A. Kipffer-Piquard)
- Member of the Scientific Committee of Télécom- Bretagne, Brest (Jean-Paul Haton)
- The members of the team have been invited as lecturer:
 - Agnès Piquard-Kipffer, Finnish Center of Excellence in Learning and Motivation - (Finlande, Jyväskylä).
 - Agnès Piquard-Kipffer, EHESP, Ecole des Hautes Etudes de Santé Publique - Rennes, Sorbonne Paris Cité Université.
 - David Langlois has presented the Machine Translation domain to students in University of Tunis, in 2012 november.
 - Anne Bonneau has presented “speech sounds” at the 5e congrès jeunes chercheurs "Chamboule tes sens" Nancy, March 2012.
 - Jean-Paul Haton : “Introduction à l’intelligence artificielle”, Ecole Doctorale SIMEM, Caen, 24/04/2012
 - Jean-Paul Haton : “Intelligence artificielle et langue : état des lieux”, Journée “IA et TALN” AFIA-ATALA, Paris, 12/03/2012
 - Jean-Paul Haton : “Automatic Speech Recognition ; past, present and future”, Invited Keynote Speech, EUSIPCO, Bucharest, 28/08/2012

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

The professors and associate professors of the team are teaching at Lorraine University.

Teaching activities in relation with the team research domains:

- Analyse, Traitement et reconnaissance de la parole, 30HETD, M1, Université de Lorraine (V. Colotte and D. Langlois),
- Natural Langue Processing (in English), 24HETD,
- M2 Erasmus Mundus, université de Lorraine (K. Smaï),
- école d'orthophonie, faculté de médecine, Université de Lorraine (Agnes Piquard-Kipffer and Anne Bonneau),
- école d'audioprothèse, faculté de pharmacie, Université de Lorraine (Anne Bonneau),

In addition to courses, we highlight the following activities:

- A strong involvement of the team members in education and administration (Lorraine University): Master of Computer Science, IUT, MIAGE, Speech and Language Therapy School of Nancy;
- Coordinator of C2i (Certificat Informatique et Internet) at Lorraine University (V. Colotte).
- Head of MIAGE Maroc (students of Lorraine University but having their courses in Morocco)(K. Smaïli),
- Head of UFR Math-Info at Lorraine University (K. Smaïli),
- Head of Networking Speciality of Lorraine University Master of Computer Science until 1st September (O. Mella).
- co-Director of DU, « Troubles du Langage et des Apprentissages », Lorraine University, Faculté de Médecine (Agnès Piquard-Kipffer)

9.2.2. Supervision

Phd : Sylvain Raybaud, "De l'utilisation de mesures de confiance en traduction automatique : évaluation, post-édition et application à la traduction de la parole", Lorraine University, Dec 2012, David Langlois and Kamel Smaïli

Phd : Christian Gillot, "Modèles de langue exploitant la similarité structurelle entre séquences pour la reconnaissance de la parole", Lorraine University, Dec 2012, Christophe Cerisara and Jean-Paul Haton

PhD in progress : Utpala Musti, Acoustic-Visual Synthesis using bimodal selection, September 2009, S. Ouni and V. Colotte

PhD in progress : Julie Busset, Inversion acoustique articulatoire à partir de coefficients cepstraux, to be defended in February 2013

PhD in progress : Motaz Saad, "Etude de comparabilité de corpus multilingues et analyse émotionnelle de leurs contenus", Kamel Smaïli and David Langlois

PhD in progress : Fadoua Bahja, Détection du Fondamental de la Parole : Application à la Voix Pathologique, from Mai 2009, Joseph Di Martino and Elhassane Ibn Elhaj.

PhD in progress : Othman Lachhab, Reconnaissance de la Parole Continue : Application au Rehaussement de la Voix Pathologique, from November 2010, Joseph Di Martino and Elhassane Ibn Elhaj.

PhD in progress : Cyrine Nasri, "Une alternative à l'alignement standard des séquences de traduction", Kamel Smaïli

PhD in progress : Arseniy Gorin, Handling trajectories and speaker consistency in automatic speech recognition, October 2011, D. Jouvét.

PhD in progress : Alex Mesnil, "Modélisation bayésienne hiérarchique et parcimonieuse pour le langage naturel", Emmanuel Vincent and Kamel Smaïli

PhD in progress : Dung Tran, Uncertainty handling for noise-robust automatic speech recognition, December 2012, E. Vincent and D. Jouvét.

PhD in progress : Luiza Orosanu, Speech recognition for communication help for deaf or hard of hearing people, December 2012, D. Jovet.

9.2.3. Juries

Participation in PhD thesis Jury for Fethi Bougares (Maine University, November 2012), D. Jovet, reviewer.

Participation in PhD thesis Jury for Camille Fauth (Strasbourg University, December 2012), Y. Laprie, reviewer.

Participation in Selection committee at ENSSAT Rennes University, may 2012 (V. Colotte, O. Mella, Y. Laprie).

9.3. Popularization

the movie “Je peux voir les mots que tu dis” has been selected for the “13ème Festival du Film de Chercheur”

Participation in TV broadcast news (FR3) about voice forensic examinations (Y. Laprie).

PARSIFAL Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Organization

Dale Miller served as Program Committee Chair for the following three meetings: CPP 2012: Second International Conference on Certified Programs and Proofs, 13-15 December, Kyoto, Japan; IJCAR 2012: International Joint Conference on Automated Reasoning, Manchester, UK, June; FICS 2012: Fixed Points in Computer Science (a satellite workshop of ETAPS 2012), Tallinn, Estonia, 24 March.

Dale Miller served on the Program Committees of the following three meetings: LFMTTP'12: Workshop on Logical Frameworks and Meta-Languages: Theory and Practice, 9 September, Copenhagen, Denmark; LAM 2012: Fifth International Workshop on Logics, Agents, and Mobility, June, Hamburg, Germany; LPAR-18: The 18th International Conference on Logic for Programming, Artificial Intelligence and Reasoning, Merida, Venezuela, 11-15 March.

Dale Miller organized the Special Session on Structural Proof Theory and Computing at the 2012 Annual Meeting of the Association of Symbolic Logic (ASL), Madison, Wisconsin, 31 March - 3 April.

Kaustuv Chaudhuri and Stefan Hetzl organized the [Collegium Logicum 2012 workshop](#) at Inria Saclay during 15–16 November

Kaustuv Chaudhuri and Brigitte Pientka organized the [RAPT/PROMIS workshop](#) in Montreal, Canada, during 14–18 October

8.1.2. Invited Talks

Dale Miller gave an invited talk at the Journées nationales du GDR-IM, 25-26 January 2012, University of Paris 7.

Dale Miller gave an invited talk at the ANR-DFG Hypothese Workshop titled Different Aspects of Proof Theory, ENS Paris, 3 May 2012.

Dale Miller gave research talks at the following venues: Summer Workshop on Proof Theory, Pisa, Italy, 12-15 June; CHocCoLa seminar, ENS Lyon, 15 March; Workshop on Certificates and Computation, ITU Copenhagen, 12 March; Department of Mathematics, Carnegie Mellon University, 5 April.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Stéphane Graham-Lengrand teaches 50 hours (eq. TD) in L3 at Ecole Polytechnique in the course “INF431: Algorithmique et programmation”.

Master : Dale Miller taught 12 hours at MPRI (Master Parisien de Recherche en Informatique) in the Course 2-1: Logique linéaire et paradigmes logiques du calcul.

Master : Stéphane Graham-Lengrand teaches 36 hours (eq. TD) in M1 at Ecole Polytechnique in the course “INF551: Computer-aided reasoning”, and 15 hours (eq. TD) in M2 at Master Parisien de Recherche en Informatique (MPRI) on “Curry-howard correspondence for classical logic”.

8.2.2. Supervision

PhD in progress :

1. Zakaria Chihani, since October 2012, supervisor: Dale Miller
2. Mahfuza Farooque, since October 2010, co-supervisor: Stéphane Graham-Lengrand
3. Ivan Gazeau, since October 2009, co-supervisor: Dale Miller
4. Nicolas Guenot, since October 2008, supervisor: Lutz Straßburger
5. Hernán-Pablo Vanzetto, since October 2010, co-supervisor: Kaustuv Chaudhuri

8.2.3. *Juries*

Dale Miller served as a reporter for the habilitation of Stefan Hetzl (Fall 2012) and was the president of the jury for the habilitation of Frédéric Blanqui, 13 July 2012.

Dale Miller served as a member of the PhD jury for Robert Simmons, Carnegie Mellon University, 22 October 2012. He was also “rapporteur” for the PhD of Nicolas Pouillard, University of Paris 7, 13 January 2012.

PERCEPTION Team

9. Dissemination

9.1. Scientific Animation

- Radu Horaud is a member of the following editorial boards:
 - advisory board member of the *International Journal of Robotics Research*,
 - associate editor of the *International Journal of Computer Vision*, and
 - area editor of *Computer Vision and Image Understanding*.
- Radu Horaud was a PC member of the IEEE International Conference on Humanoid Robotics (HUMANOIDS 2012), Osaka, Japan.
- Georgios Evangelidis was a PC member of the ACCV'12 Workshop on Color Depth Fusion for Computer Vision, Dajeon, Korea.
- Xavier Alameda-Pineda organized the D-META challenge in conjunction with the 2012 ACM/IEEE International Conference on Multimodal Interaction, Santa Monica, CA, USA.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Doctorat : Radu Horaud, Data Analysis and Manifold Learning, 30 hours, Université de Grenoble, France

9.2.2. Supervision

PhD: Avinash Sharma, Représentation, Segmentation et Appariement de Formes Visuelles 3D Utilisant le Laplacien et le Noyau de la Chaleur, Grenoble INP, 29 October 2012, Radu Horaud

PhD in progress: Kaustubh Kulkarni, Continuous Action Recognition, November 2009, Radu Horaud

PhD in progress: Jordi Sanchez-Rieira, 3D Human-Robot Interaction with NAO, November 2009, Radu Horaud

PhD in progress: Antoine Deleforge, Sound-Source Separation and Localization, October 2010, Radu Horaud

PhD in progress: Xavi Alameda-Pineda, Audio-Visual Fusion for HRI, October 2010, Radu Horaud

PhD in progress: Maxime Janvier, Sound Recognition for Humanoids, November 2012, Radu Horaud

PHOENIX Project-Team

9. Dissemination

9.1. Scientific Animation

Charles Consel has been involved in the following events as

- Program Committee member of
 - NIER track of ICSE 2012 (co-chair): New Ideas and Emerging Results track of the 34th International Conference on Software Engineering.
 - IEEE ICWS 2012: the 19th International Conference on Web Services
 - WEH 2012: ICSE International Workshop on Exception Handling
- Invited speaker at
 - Programming Language Mentoring Workshop, POPL 2012
 - Colloquium series of the department of computer science of Halmstad University, Sweden, June 2012.
 - Colloquium series of the department of Computer Science, University of Montreal, Canada, October 2012.
 - Colloquium series of the department of Computer Science, Mc Gill University, Canada, December 2012.
 - Colloquium series of the department of Computer Science, University of Sherbrooke, Canada, December 2012.

Charles Consel has participated in the following thesis defense committees:

- Julien Bruneau, May 16, University of Bordeaux, France
- Hongyu Guan, June 1, University of Bordeaux, France

Emilie Balland has been involved in the following events as

- Program Committee member of
 - SLE 2012: 5th International Conference on Software Language Engineering
 - WRLA 2012: 9th International Workshop on Rewriting Logic and its Applications (Co-located with ETAPS 2012)
 - PEPM 2012: ACM SIGPLAN 2012 Workshop on Partial Evaluation and Program Manipulation (Co-located with POPL 2012)
 - LDTA 2012 (local chair): 12th Workshop on Language Descriptions, Tools and Applications (Co-located with ETAPS 2012)
- Member of the thesis defense committee of Julien Bruneau, May 16, University of Bordeaux

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master level courses:

Master : Charles Consel, Domain-Specific Languages, 13 hours (M2 level), ENSEIRB engineering school, France.

Master : Charles Consel, Telephony over IP, 10 hours (M2 level), ENSEIRB engineering school, France.

Master : Charles Consel, Domain-Specific Languages for Telephony Services, 15 hours (M2 level), ENSEIRB engineering school, France.

Master : Charles Consel, Architecture Description Languages, 12 hours (M2 level), ENSEIRB engineering school, France.

Master : Emilie Balland, Software Development guided by modeling and verification, 20 hours (M2 level), ENSEIRB engineering school, France.

Master : Emilie Balland, Software Development Methodologies, 40 hours (M2 level), Ho Chi Minh University, Vietnam.

9.2.2. Supervision

PhD : Julien Bruneau, "Plateforme d'exécution paramétrable de systèmes communicants", University of Bordeaux, May 16, 2012, supervised by Charles Consel

PhD : Hongyu Guan, "Gestion de l'hétérogénéité des environnements ubiquitaires et de la consommation d'énergie des environnements mobiles", University of Bordeaux, June 1, 2012, supervised by Charles Consel

PhD in progress : Pengfei Liu, "Politiques de sécurité pour les environnements ubiquitaires", started in October 2009, supervised by Charles Consel

PhD in progress : Stéphanie Gatti, "Architecture en composants et qualification incrémentale", started in February 2010, supervised by Charles Consel and Emilie Balland

PhD in progress : Quentin Enard, "Intégration de concepts de sûreté de fonctionnement dans un langage de description d'architecture et son support d'exécution", started in February 2010, supervised by Charles Consel

9.2.3. Juries

Charles Consel was a member of the selection committee for a professor position at Rennes University (section 27).

9.3. Popularization

- Demonstration of DiaSuiteBox during Rencontre Inria Industries "Sciences Numériques et Efficacité Énergétique" (digital technologies for efficient energy use), March 2012
- General audience article in the Sud-Ouest newspaper, 15/03/12

PI.R2 Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. *Collective responsibilities*

Hugo Herbelin coordinated the ADT Coq and the development of Coq.

8.1.2. *Editorial activities*

Pierre-Louis Curien is co-editor in chief of Mathematical Structures in Computer Science, and is an editor of Higher-Order and Symbolic Computation.

8.1.3. *Program committees and organising committees*

Pierre-Louis Curien was member of the PC for ICALP 2012.

Pierre-Louis Curien, Yves Guiraud, Philippe Malbos and Alexis Saurin have been members of the organising and scientific committee of the Logic and Interactions weeks held in the CIRM, Marseille, in the first trimester of 2012.

Yann Régis-Gianas served on the PC for the conference “Journées Francophones des Langages Applicatifs” (2013).

Hugo Herbelin was in the PC of the conference ITP 2012 and MFCS 2012. He was in the PC of the TYPES 2011 conference post-proceedings.

Hugo Herbelin organised the “Automation in Proof Assistant” satellite workshop of ETAPS 2012 which was shared with the organisation of the first COST 0901 meeting of year 2012.

Matthieu Sozeau was in the PC of the MSFP’12 (colocated with ETAPS’12) and LFMTP’12 (colocated with ICFP’12) workshops. He was in the PC of the PLPV’12 workshop, colocated with POPL’12, for which he was an external reviewer as well. Matthieu Sozeau is in the PC of JFLA’13.

8.1.4. *Jury participation*

In June and July 2012, Alexis Saurin has been member of the Jury for entrance exams at ENS Paris and examined the candidates for the three ENS for the “Informatique Fondamentale” Oral exam.

In September 2012, Alexis Saurin has been member of the Jury for LMFI Master.

8.1.5. *Invited talks*

Matthieu Sozeau gave an invited lecture on type classes at JFLA’12 in Carnac (January 2012) and at U. Penn, in October 2012.

Pierre-Louis Curien was invited speaker at the annual meeting of the GDR Topologie et Applications, Lille (“Interprétation catégorique de la théorie des types : questions de cohérence”), in October 2012.

Pierre Letouzey gave an invited talk in the ML workshop in Copenhagen in September 2012, about the interactions between Coq and OCaml.

Alexis Saurin gave an invited talk at the ASL annual meeting held in Madison, Wisconsin, in April 2012 (special session on Structural Proof Theory and Computing).

8.1.6. *Presentation of papers*

Matthias Puech has presented his paper [25] at the TLDI 2012 workshop.

Yann Régis-Gianas has presented the paper [21] at the MIPS 2012 workshop (best paper award).

Pierre Boutillier has presented his paper at JFLA 2012.

Hugo Herbelin and Matthieu Sozeau have presented their papers at LICS 2012 in Dubrovnik, Croatia.

Hugo Herbelin has presented his joint paper with Zena Ariola, Paul Downen, Keiko Nakata and Alexis Saurin at FLOPS 2012 in Kobe, Japan.

8.1.7. Other presentations

Pierre Boutillier gave a talk at Logic and Interaction weeks in February.

Pierre Boutillier gave a talk about compiling Agda style dependent pattern-matching in CIC during AIPA workshop in Tallinn.

Jaime Gaspar gave talks at Colloquium Logicum 2012, Paderborn, in September, and Collegium Logicum 2012: Structural Proof Theory, at École Polytechnique, in November.

Tim Griffin gave the following presentations: “Mathematics of Inter-domain routing”, at Internet Engineering Task Force (IETF), Paris, March; “Routing in Equilibrium” for the “Paris Networking Group” (http://www.paris-networking.org/display_event.php?dispID=2221), Paris, and at Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (ALGOTEL) (<http://algotel2012.ens-lyon.fr>), Montpellier.

Hugo Herbelin gave a talk on his proof-as-program interpretation of dependent choice in classical logic to the Réalisabilité à Chambéry #5 workshop in June.

Hugo Herbelin gave a talk on his proof with side-effects of Gödel’s completeness theorem to the Workshop on Formal and Automated Theorem Proving and Applications (FATPA’12) held at the university of Belgrade.

Pierre-Marie Pédrot gave a presentation at the Logic and Interactions weeks in February, entitled “Double-glueing and orthogonality: refining models of linear logic through realizability”.

8.1.8. Talks in seminars

Nicolas Ayache gave a talk about the achievements of the CerCo project at the seminar of the ENSTA, at the seminar of the EPITA and at the “GT programmation”.

Pierre-Louis Curien gave a talk “De la logique classique (polarisée) à la logique linéaire (tensorielle)” at the Groupe de Travail Sémantique des calculs classiques, PPS, Paris 7, in November.

Pierre-Louis Curien gave talks on “System L syntax for sequent calculi” at the University of Bath, in February, at the École Polytechnique, in May, and at the Institute of Cybernetics, Tallinn, in December.

Jaime Gaspar gave talks at the Seminar of the Deducteam team, and at the Mathematical Logic Seminar, Lisbon.

Tim Griffin gave the following talks: “Routing in Equilibrium”, University of Rome-3, April; “Routing in Equilibrium with help from ssreflect”, Marelle team at École Polytechnique, May; “Mathematics of Routing”, DIMACS working group on Abstractions for Network Services, Rutgers University, New Jersey, in May; “Mathematics of Routing”, Université d’Évry, in June.

Yves Guiraud gave two talks on “Théorie de Squier et résolutions polygraphiques” at the Groupe de Travail Catégories supérieures, polygraphes et homotopie, PPS, Paris 7, in June.

Hugo Herbelin gave a talk on the formalisation of semi-simplicial sets in type theory at the Univalent Foundations seminar of the Institute for Advanced Study, Princeton, NJ, in December.

Guillaume Munch-Maccagnoni gave a talk about “Runnable monads in models of the λ calculus” at the ANR Logoi meeting in Luminy, in June.

Guillaume Munch-Maccagnoni gave a talk “On the computational contents of an involutive negation” at the Groupe de Travail Sémantique des calculs classiques, PPS, Paris 7, in November.

Pierre-Marie Pédrot gave a talk on a “Dependent delimited control monad” at the working group of the “Logique de la Programmation” team, from Institut Mathématique de Luminy, in December.

Matthieu Sozeau gave a talk in Tallinn about “Equations: A Dependent Pattern-Matching Suite” in June 2012.

Matthieu Sozeau gave a talk and a tutorial on “Coq with Classes” at the Institute for Advanced Study, Princeton, NJ in October and December 2012.

Matthieu Sozeau gave a talk about “Universe Polymorphism and Inference in Coq” at the Institute for Advanced Study, Princeton, NJ in December 2012.

8.1.9. Attendance to conferences, workshops, schools,...

Pierre Boutillier attended the Journées Francophones des Langages Applicatifs, Carnac, in February.

Tim Griffin attended the *ssreflect*/Inria MAP Spring School, Sophia Antipolis, in March.

Hugo Herbelin attended the FATPA workshop at the University of Belgrade in January.

Hugo Herbelin attended the ETAPS 2012 conference and the AIPA workshop in Tallinn in March-April.

Hugo Herbelin attended the FLOPS 2012 conference in Kobe in May.

Hugo Herbelin attended the ITP 2012 conference at Princeton University in August.

Hugo Herbelin attended the Coq workshop 2012 at Princeton University in August.

Guillaume Munch-Maccagnoni attended APLAS, Kyoto, in December.

Matthias Puech attended POPL 2012 in January.

Yann Régis-Gianas attended FMICS 2012, Paris, in August.

Matthieu Sozeau attended the POPL 2012 conference in January.

Matthieu Sozeau attended the JFLA 2012 conference in February.

8.1.10. Groupe de travail *Théorie des types et réalisabilité*

This is one of the working groups of PPS, jointly organised by Hugo Herbelin and Paul-André Mellès, since September 2009. It is held weekly. Yves Guiraud took over from Hugo Herbelin for the organisation of the seminar while Hugo was at IAS (October-December).

The web site is <http://www.pps.univ-paris-diderot.fr/gdt-types-realibilite>. The programme in 2012 included talks by Pierre-Louis Curien, Arnaud Spiwack, Hugo Herbelin, Matthias Puech, Pierre Boutillier (twice), Federico Aschieri, Jaime Gaspar, Pierre-Marie Pédrot, François Bobot.

8.2. Teaching - Supervision - Jury participation

8.2.1. Teaching

(We do not include here the standard teaching duties of Pierre Letouzey and Yann Régis-Gianas as “Maîtres de conférences”.)

Licence: Pierre Boutillier is teaching assistant at University Paris 7. He taught this year Unix-system (beginner), algorithms and databases (beginner in the bioinformatics master).

Licence: Matthias Puech has a temporary research and teaching position (A.T.E.R) at University Paris 7 for the academic year 2012–2013. He teaches this year logic (L2) and functional programming (L3) and abstract machines (L3).

Master: Yann Régis-Gianas took part in the MPRI course entitled “Type systems”: he gave a 12 hours course about generalised algebraic data types, higher-order Hoare logic and dependently typed programming.

Master: Alexis Saurin taught the LMFI course entitled “Lambda-calcul et preuves” together with Thomas Ehrhard (January-May). Each of them taught half of this 48H master course.

Master: Pierre-Louis Curien gave a 10 hours course at the Department of Computer Science of the University of Oregon on proof theory (May).

Doctorat: Pierre-Louis Curien gave lectures at the 11th Oregon Summer School on Programming Languages (July).

Training: Pierre Letouzey participated to a training program for high-school teachers, introducing them to computer science. These teachers are meant to participate later to the new “Spécialité” ISN (Informatique et Sciences du Numérique) in “Terminale” grade.

8.2.2. Supervision

Internship: Yann Régis-Gianas supervised the internship of François Ripault.

Internship: Yann Régis-Gianas supervised the internship of Arthur Guillon.

PhD: Matthias Puech, Certificates for incremental type checking, Università di Bologna et Université Paris 7, December 2012, Hugo Herbelin, Andrea Asperti, and Yann-Régis Gianas.

PhD in progress: Pierre Boutillier, Représentation des effets et inférence de type dans le cadre du développement d’un langage de programmation à types riches, September 2010, Hugo Herbelin.

PhD in progress: Lourdes del Carmen Gonzalez Huesca, Un langage de tactiques typées pour Coq, December 2011, Hugo Herbelin and Yann-Régis Gianas.

PhD in progress: Guillaume Munch-Maccagnoni, Polarités, réalisabilité classique, contrôle délimité, September 2009, Pierre-Louis Curien and Thomas Ehrhard.

PhD in progress: Pierre-Marie Pédrot, Types dépendants et linéarité, October 2012, Hugo Herbelin and Alexis Saurin.

PhD in progress: Guillaume Claret, October 2012, Yann Régis Gianas.

8.2.3. PhD or habilitation jury participation

Pierre-Louis Curien was a referee for the PhD theses of Martin Churchill (“Imperative programs as proofs via game semantics”, Univ. of Bath), Benedikt Ahrens (“Initiality for typed syntax and semantics”, Université Nice Sophia Antipolis), Silvia Vecchiato (“Semantics of CBN dual proofs into control categories”, Università di Siena), and Thomas Seiller (“Logique dans le facteur hyperfini: Géométrie de l’interaction et complexité”, Université Aix-Marseille). He was member of the habilitation jury of Micaela Mayero (“Problèmes critiques et preuves formelles”, Université Paris 13).

8.3. Popularisation

Yann Régis-Gianas organised the “Fête de la Science” event for the computer science department of the University Paris 7. François Bobot, Guillaume Claret, Lourdes Gonzalez-Huesca and Pierre-Marie Pédrot also took part in the animation.

Yann Régis-Gianas co-organised the “Journée Francilienne de Programmation”, a programming contest between undergraduate students of three universities of Paris (UPD, UPMC, UPS).

Yann Régis-Gianas co-organised the “Robocup”, a robotic and programming contest between undergraduate students of three universities of Paris (UPD, UP13, UP5).

Pierre Letouzey and Pierre Boutillier took part in the animation of the “Fête de la science” event at Inria Rocquencourt.

Yann Régis-Gianas gave one of the lectures to high-school teachers of the Académie de Paris in the context of the new curriculum “Informatique et Science du Numérique” (ISN).

PLANETE Project-Team

9. Dissemination

9.1. Scientific Animation

Walid Dabbous served in the programme committees of NOMEN'2012, ICC'12 NGN and NoF'12. He is co-editor or a special issue of the PPNA journal on Experimental Evaluation of Peer-to-Peer Applications ([30]). He is member of the scientific council of the Inria Bell-Labs laboratory on Self Organizing Networks.

Claude Castelluccia served in the program committees of the following international conferences: ACM CCS 2012, ACM Wisec2012 and SESOC2012. He is the co-founder of the ACM WiSec (Wireless Security) conference.

Thierry Turetli Senior ACM and IEEE member, served in 2012 in the program committees of the following international conferences: 19th International Packet Video Workshop and 5th ACM Workshop on mobile Video Delivery (Movid). He is member of the Editorial Boards of the Journal of Mobile Communication, Computation and Information (WINET) published by Springer Science and of the Advances in Multimedia Journal published by Hindawi Publishing Corporation.

Chadi Barakat was the General Co-Chair of the ACM CoNEXT 2012 conference on emerging Networking EXperiments and Technologies that was held in Nice on Dec 10-13, 2012. In 2012, he served on the Technical Program Committee for the TMA 2013 workshop (Turin), the PAM 2013 conference (Hong-Kong), and the CNSM 2012 conference (Las Vegas). He is on the editorial board of the Elsevier Computer Networks journal. He is currently the scientific referee for international affairs at Inria Sophia Antipolis, and member of the Conseil d'Orientation Scientifique et Technologique (COST) at Inria within the working group of international affairs (COST-GTRI).

Vincent Roca is strongly involved at IETF and served as co-chair of the MSEC (Multicast Security) working group in 2010-2011. He is also member of the SecDir group (security directory) of the IETF. He was also member of the program committees of CFIP'09, SPACOMM'09, SPACOMM'10, the Cyber and Physical Security and Privacy symposium at IEEE SmartGridComm'11, CFIP'11, SPACOMM'11, SPACOMM'12.

Arnaud Legout was PC co-chair of the ICCCN 2009 conference track on P2P networking. He was also reviewer of journals (IEEE/ACM Transactions on Networking, IEEE/ACM Transactions on Computers, IEEE Network, Computer Communications, ACM SIGCOMM CCR), and conferences (IEEE Infocom, ACM Sigmetrics). He also served as an expert to the European Commission to evaluate EC funded projects.

Mohamed Ali Kaafar In 2012, he has been the program committee chair of ACM SIGMETRICS PADE workshop, and served in the program committees of the following international conferences: Internet Science 2013, Internet, ACM Sigcomm HotPlanet 2013, Interdisciplinarity & Innovation (In3 2013), Eurosys MPM 2013, IWAP2PT-2013, Colloque Jacques Cartier : Security, Inforensics and Cyber Criminality 2013, Eurosys MPM 2012, Sigmetrics PADE 2012, GridCom-2012, ICCSEA 2012, International Workshop on Trust and Privacy in Cyberspace (CyberTrust'12), IWTMP2PS 2012. He is also member of the Editorial Board of the International Journal of peer-to-peer networks (IJP2P) and IEEE Transactions on Parallel and Distributed Systems TPDS and reviewer in SIGCOMM CCR, Computer Communications, IEEE letters of communications, Computer Networks. He was a panelist in IEEE CCW 2012 and an invited speaker in University of Concordia, UNSW and Polytechnic University of New York seminars.

Daniel Le Le Métayer served in the program committees of CPDP 2012, APF12, RISE12, FLACOS 2012 and APVP 2012. He organized a panel on privacy for location based services at CPDP 2012 and gave invited talks at the university of Chalmers, at the BDA Summer School, at IRILL (Paris), at CRIDS (Namur), at the ANR Privacy by Design Conference and at the conference organized by CNIL on “Privacy and Data Protection 2020”.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Undergraduate course at IUT-2' (UPMF University), on network Communications, by Vincent Roca (24h).

Undergraduate course on Networking, by Walid Dabbous (36h), Ecole Polytechnique, Palaiseau, France.

Undergraduate course on Networks and Telecommunications, by Mohamed Ali Kaafar (40h), Ensimag Engineering school, France.

Undergraduate course at Polytech' Grenoble, on Wireless Communications, by Vincent Roca (12h).

Undergraduate course at IUT, Nice-Sophia Antipolis University, Local Aarea Networks by Chadi Barakat (28h), France.

Undergraduate course at IUP GMI Avignon on Peer-to-peer networks, by Arnaud Legout (38h), France.

Master Crypto and Security: course on Wireless Security by Claude Castelluccia (20h), Ensimag/University of Grenoble, France.

Master MOSIG: course on Wireless Security by Claude Castelluccia (15h), Ensimag/INPG, France.

Master FST : course on P2P networks: performance and security challenges by Mohamed Ali Kaafar (21h), Tunisia.

Master Phelma: course on Computer Networks by Mohamed Ali Kaafar (12h), INPG , France.

Master Ubinet: course on Evolving Internet - architectural challenges by Walid Dabbous and Chadi Barakat 42 hours, University of Nice-Sophia Antipolis, France.

Master CAR: course on Internet monitoring by Chadi Barakat, 3h, Telecom Paris Tech, France.

Master TSM: course on Voice over IP by Chadi Barakat, (7h),University of Nice-Sophia Antipolis, France.

Master Ubinet: course on Peer-to-peer networks, by Arnaud Legout (21), University of Nice-Sophia Antipolis.

Master SAFE: organization of a Teaching Unit on legal issues of security and privacy (30h) Daniel Le Le Métayer, University of Grenoble, France.

9.2.2. Supervision

PhD : Eduardo Mazza defended his PhD titled “A formal framework for specifying and analyzing liabilities using log as digital evidence” on June 30th, at Grenoble University. His thesis was co-supervised by Daniel Le Le Métayer.

PhD : Amir Krifa defended his PhD titled “Towards better content dissemination applications for Disruption Tolerant Networks” on April 23rd 2012. His thesis was supervised by Chadi Barakat.

PhD: Shafqat Ur-Rehman defended his PhD titled “Benchmarking in Wireless Networks” on January 30th, 2012. His thesis was co-supervised by Thierry Turletti and Walid Dabbous.

PhD: Sana Ben Hamida defended her PhD on “Embedded System Security” on February 27th 2012. Her thesis was supervised by Claude Castelluccia.

PhD in progress : Lukasz Olejnik works on “Internet Tracking and Profiling” since 2011. His thesis is supervised by Claude Castelluccia.

PhD in progress : Min-Dung Tran works on “Privacy-Preserving Ad systems” since 2011. His thesis is co-supervised by Claude Castelluccia and Mohamed Ali Kaafar.

PhD in progress : Abdelberri Chaabane works on “Online Privacy in heterogeneous networks” since September 2010. His thesis is supervised by Mohamed Ali Kaafar.

PhD in progress : Thibaud Antignac works on “A formal framework for privacy by design” since September 2011. His thesis is supervised by Daniel Le Le Métayer.

PhD in progress: Riccardo Ravaioli works on “Active and Passive Inference of Network Neutrality” since October 2012. His thesis is co-supervised by Chadi Barakat.

PhD in progress : Dong Wang works on “Modeling social media and its impact on new digital economy” since September 2011. His thesis is supervised by Mohamed Ali Kaafar.

PhD in progress: Xuan Nam Nguyen works on "Software Defined Networking in challenged environments", since October 2012. His thesis is co-supervised by Thierry Turletti and Walid Dabbous.

PhD in progress: Alina Quereilhac works on "Unified Evaluation environment of Networking Protocols for Simulators and Testbeds", since 2011. Her thesis is co-supervised by Walid Dabbous and Thierry Turletti.

PhD in progress: Ashwin Rao works on “Performance evaluation of communication networks”. His thesis is co-supervised by Arnaud Legout and Walid Dabbous.

PhD in progress: Ludovic Jacquin works on “High Bandwidth Secure Communications” since October 2009. His thesis is co-supervised by Vincent Roca and Jean-Louis Roch.

PhD in progress: Ferdaouss Mattoussi works on “Self-configuration and optimization of FEC over wireless protocol layers” since February 2010. Her work is co-supervised by Vincent Roca and Bessem Sayadi.

PhD in progress: Maksym Gabielkov works on “Propagation of data in social networks” since 2012. His work is supervised by Arnaud Legout.

PhD in progress: Wunan Gong works on “Security in content centric networks” since 2012. His work is supervised by Arnaud Legout.

PhD stopped: Anshuman Kalla stopped his PhD “Efficient transmission mechanisms for Information Centric Network Architectures” in June 2012 for personal reasons. His thesis was co-supervised by Thierry Turletti and Walid Dabbous.

POEMS Project-Team

9. Dissemination

9.1. Scientific Animation

- A. S. Bonnet-Ben Dhia is the Head of the Electromagnetism Group at CERFACS (Toulouse)
- A. S. Bonnet-Ben Dhia is in charge of the relations between l'ENSTA and the Master "Dynamique des Structures et des Systèmes Couplés (Responsable : Etienne Balmes)".
- A. S. Bonnet-Ben Dhia is presidente of the "Conseil scientifique de l'Institut des sciences de l'ingénierie et des systèmes (INSIS-CNRS)".
- M. Bonnet is associate editor of European Journal of Mechanics A/Solids (since Jan. 2008).
- M. Bonnet is associate editor of Engineering Analyses with Boundary Elements (since July 2011).
- M. Bonnet is on the editorial board of *Inverse Problems*.
- M. Bonnet is on the editorial board of *Computational Mechanics*.
- P. Ciarlet is an editor of DEA (Differential Equations and Applications) since July 2008
- P. Ciarlet is an editor of CAMWA (Computers & Mathematics with Applications), since January 2012
- G. Cohen is a scientific expert of ONERA.
- P. Joly is a member of the scientific committee of CEA-DAM.
- P. Joly is a member of the Scientific Committee of the Seminar in Applied Mathematics of College de France (P. L. Lions).
- P. Joly is an editor of the journal Mathematical Modeling and Numerical Analysis.
- P. Joly is a member of the Book Series Scientific Computing of Springer Verlag.
- M. Lenoir is a member of the Commission de Spécialistes of CNAM.
- M. Lenoir is in charge of Master of Modelling and Simulation at INSTN.
- E. Lunéville is the Head of UMA (Unité de Mathématiques Appliquées) at ENSTA.
- The Project organizes the monthly Seminar Poems (Coordinators: A. Burel, N. Chaulet, S. Chaillat, S. Marmorat)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Eliane Bécache
 - *Compléments sur la méthode des éléments finis*, ENSTA (2nd year).
 - *Cours sur les PML*, Collège Polytechnique, Paris.
- Anne-Sophie Bonnet-Ben Dhia
 - *Outils élémentaires d'analyse pour les EDP*, ENSTA (1st year).
 - *Propagation dans les guides d'ondes*, ENSTA (3rd year).
 - *Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques*, ENSTA (2nd year).
 - *Propagation des ondes*, Ecole Centrale de Paris (M2).
- Marc Bonnet
 - *Outils élémentaires d'analyse pour les EDP*, ENSTA (1st year).

- *Problèmes inverses*, Master TACS (ENS Cachan) et DSMSC (Centrale Paris).
- *Méthodes intégrales*, Master TACS (ENS Cachan).
- *Equations intégrales et multipôles rapides*, Ecole doctorale MODES (Univ. Paris Est, Marne la Vallée).
- Laurent Bourgeois
 - *Outils élémentaires pour l'analyse des EDP*, ENSTA (1st year).
 - *Fonctions de la variable complexe*, ENSTA (2nd year)
- Aliénor Burel
 - *Probabilités*, IUT d'informatique, Université Paris-Sud XI, Orsay (2nd year).
 - *Analyse*, IUT d'informatique, Université Paris-Sud XI, Orsay (1st year).
- Maxence Cassier
 - *Système dynamique: Stabilité et Commande*, ENSTA (1st year).
 - *Introduction à MATLAB*, ENSTA (1st year).
 - *Fonction de variable complexe*, ENSTA (2nd year)
 - *Tutorat pour élèves en difficulté en mathématiques appliquées*, ENSTA (1st year).
- Stéphanie Chaillat
 - *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA (1st year).
 - *Fonctions de variable complexe*, ENSTA (2nd year)
- Mathieu Chamaillard
 - *Introduction aux équations aux dérivées partielles hyperboliques et à leur discrétisation*, ENSTA (1st year)
 - *Introduction au Calcul Scientifique*, ENSTA (2nd year)
 - *Tutorat pour élèves en difficulté en mathématiques appliquées*, ENSTA (1st year).
- Nicolas Chaulet
 - *Equations différentielles et introduction à l'automatique*, ENSTA (1st year)
 - *Méthode des éléments finis*, ENSTA (2nd year)
- Patrick Ciarlet
 - *Méthode des éléments finis*, ENSTA, Paris (2nd year)
 - *Compléments sur la méthode des éléments finis*, ENSTA, Paris (2nd year)
 - *Parallélisme et calcul réparti*, ENSTA (3rd year), and Master "Modeling and Simulation" (M2)
 - *Les équations de Maxwell et leur discrétisation*, ENSTA, Paris (3rd year), and Master "Modeling and Simulation" (M2)
- Sonia Fliss
 - *Méthode des éléments finis*, ENSTA, Paris (2nd year)
 - *Programmation scientifique et simulation numérique*, ENSTA, Paris (2nd year)
 - *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA, Paris (1st year).
- Christophe Hazard
 - *Outils élémentaires d'analyse pour les EDP*, ENSTA, Paris (1st year)
 - *Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques*, ENSTA, Paris (2nd year).
- Patrick Joly

- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA, Paris (1st year).
- *Outils élémentaires d'analyse pour les EDP*, ENSTA, Paris (1st year).
- Marc Lenoir
 - *Fonctions de variable complexe*, ENSTA, Paris (2nd year).
 - *Equations intégrales*, ENSTA, Paris (3rd year).
- Eric Lunéville
 - *Introduction au calcul scientifique*, ENSTA, Paris (2nd year)
 - *Programmation scientifique et simulation numérique*, ENSTA, Paris (2nd year)
 - *Propagation dans les guides d'ondes*, ENSTA, Paris (2nd year)
- Simon Marmorat
 - *Introduction aux équations aux dérivées partielles hyperboliques et à leur discrétisation*, ENSTA, Paris (1st year)
 - *La méthode des éléments finis*, ENSTA, Paris (2nd year)
- Jean-François Mercier
 - *Outils élémentaires d'analyse pour les EDP*, ENSTA, Paris (1st year).
 - *Fonctions de variable complexe*, ENSTA, Paris (2nd year).
 - *Théorie spectrale des opérateurs autoadjoints et application aux guides optiques*, ENSTA, Paris (2nd year).
- Nicolas Salles
 - *Analyse et séries de Fourier*, Université Paris XI Orsay (L2)
 - *Systèmes Linéaires (Matlab)*, Université Paris XI Orsay (L3)
 - *Calcul scientifique*, Université Paris XI Orsay (L3)

9.2.2. Supervision

HdR : Laurent Bourgeois, "Sur quelques problèmes inverses gouvernés par des équations aux dérivées partielles elliptiques", Université Pierre et Marie Curie, Paris 6, 3 Février 2012

PhD : Juliette Chabassier, "Modeling and numerical simulation of a grand piano", Ecole Polytechnique, 12 Mars 2012, Patrick Joly

PhD : , Nicolas Chaulet, "Modèles d'impédance généralisée en diffraction inverse", Ecole Polytechnique, 27 Novembre 2012, Laurent Bourgeois

PhD : , Lucas Chesnel, "Étude de quelques problèmes de transmission avec changement de signe. Application aux métamatériaux", Ecole Polytechnique, 12 Octobre 2012, Anne-Sophie Bonnet-Ben Dhia, et Patrick Ciarlet

PhD : Sébastien Imperiale, "Modélisation mathématique et numérique de capteurs piézoélectriques", Université Paris IX, 19 Janvier 2012, Gary Cohen et Patrick Joly

PhD in progress : Alienor Burel, "Methodes numériques pour les ondes élastiques en présence d'interfaces minces et de milieux mous", Octobre 2010, Patrick Joly

PhD in progress : Maxence Cassier, "Methodes de retournemet temporel en régime transitoire", Octobre 2010, Christophe Hazard et Patrick Joly

PhD in progress : Matthieu Chamaillard, "Conditions aux limites effectives pour des revêtements minces périodiques", Octobre 2011, Patrick Joly

PhD in progress : Simon Marmorat, "Etude d'un modèle asymptotique et de son couplage avec une approche par éléments finis pour simuler la propagation d'ondes ultrasonores dans un milieu complexe perturbé par de petites inclusions", Mars 2012, Patrick Joly

PhD in progress : Nicolas Salles, "Stabilisation du calcul des singularités dans les méthodes d'équations intégrales variationnelles", Octobre 2009, Marc Lenoir

PhD in progress : Antoine Tonnoir, "Simulation numérique de la diffraction d'ondes ultrasonores par un défaut localisé dans une plaque élastique anisotrope", Octobre 2011, Anne-Sophie Bonnet-Ben Dhia et Sonia Fliss

PhD in progress : Audrey Vigneron, "Formulations intégrales pour la simulation du contrôle non destructif par courants de Foucault", Novembre 2011, Marc Bonnet

PhD in progress : Rémi Cornaggia, "Asymptotique petit-défaut de fonctions-coût et son application en identification: justifications théorique et expérimentale, extensions", Octobre 2012, Marc Bonnet

PhD in progress : Geoffrey Beck, "Modélisation de la propagation d'ondes électromagnétiques dans des câbles co-axiaux", Octobre 2012, Patrick Joly

PhD in progress : Elizaveta Vasilevskaia, "Modes localisés dans les guides d'onde quantiques", Novembre 2012, Patrick Joly

PhD in progress : Camille Carvalho, "Guides d'onde plasmonique", Octobre 2012, Anne-Sophie Bonnet-Ben Dhia, et Patrick Ciarlet

PhD in progress : Valentin Vinales, "Etude de quelques problèmes mathématiques de la théorie des métamatériaux", Octobre 2012, Sonia Fliss et Patrick Joly

PhD in progress : Mathieu Lecouvez, "Méthodes de décomposition de domaine optimisées pour la propagation d'ondes en régime harmonique", Mars 2012, Patrick Joly

9.3. Popularization

- Marc Bonnet
 - *Topological derivative of energy cost functionals - application to flaw identification*, ECCOMAS Conference, Vienne, Austria, September.
 - *An error in constitutive equation approach for transient inverse elastodynamics (with W. Aquino)*, 8th European Solid Mechanics Conference, Graz, Austria, July.
 - *Flaw identification using elastodynamic data and small-defect asymptotics of cost functionals*, 1st Russian-French conference on mathematical geophysics, mathematical modeling in continuum mechanics and inverse problems, Biarritz, June.
- Laurent Bourgeois
 - *Sur une "approche extérieure" pour résoudre le problème inverse de l'obstacle*, Journée "Problèmes inverses", CNAM, June 21th.
 - *An "exterior approach" to solve the inverse obstacle problem for the Stokes system*, Control of Fluid-Structure Systems and Inverse problems, Toulouse, July 25-28th
- Aliénor Burel
 - *Using potentials in elastodynamics : a challenge for FEM*, First Franch-Russian Workshop Conference on Mathematical Geophysics, Continuous Mechanical Modelisation and Inverse Problems, Biarritz, June 18-22th.
 - *Elastic Wave Propagation in Soft Elastic Materials With Thin Layers*, Inria Junior Seminar, Rocquencourt, June 26th.
- Maxence Cassier
 - *Recent Advances in Modeling, Analysis and Simulation of Wave Propagation* Metz March 29 - March 31st.
 - *Wave propagation in complex media and applications*, Heraklion, Crete, May 7-11th.
- Stéphanie Chaillat

- *A New Fast Multipole Method for 3D Elastodynamics based using the Half-Space Fundamental Solutions*. EUROMECH Colloquium 540: Advanced Modelling of Wave Propagation in Solids, Prague, Czech Republic, October 2012.
- *Fast multipole accelerated boundary integral equation method for 3-D elastodynamic problems in a half-space*, Séminaire du LaMSID, EDF R&D Clamart, France, September 2012.
- *A New Fast Multipole Method for Elasticity based on the Half-Space Fundamental Solutions*, ECCOMAS 2012, Vienna, Austria, September 2012.
- *Formulation and Fast Evaluation of the Multipole Expansions of the Elastic Half-Space Fundamental Solutions*, ESMC 2012, Graz, Austria, July 2012.
- *A new fast multipole formulation for the elastodynamic half-space fundamental solutions*, 4th Workshop BEM on the Saar, Saarbrücken, Germany, May 2012.
- Nicolas Chaulet
 - *Reconstruction of a perfectly conducting obstacle coated with a thin dielectric layer*, PICO² 12, Palaiseau (France), June 4-6th.
 - *A factorization method for support characterization of an obstacle with a generalized impedance boundary condition*, IPMS conference, Antalya (Turkey), May 21-26th.
- Lucas Chesnel
 - *Transmission eigenvalue problems with sign-changing coefficients*, Picof conference, Palaiseau, April.
 - *Time harmonic Maxwell equations with sign changing coefficients*, Around scattering by obstacles and billiards, Aveiro, Portugal, March.
- Sonia Fliss
 - *Wave propagation in locally perturbed periodic infinite media*, Forschungseminar "Amthematische Modelle der Photonik", Berlin, January.
 - *Dirichlet-to-Neumann operators in periodic waveguide : application to the application of trapped modes*. Days on diffraction 2012, May.
 - *A DtN approach for the exact computation of guided modes in a photonic crystal waveguides*, Seminar of CERMICS, Marne La Vallée, June.
 - *On the relevance of effective models of metamaterials near the boundary*, GDR Ultrasons, Paris, December.
- Patrick Joly
 - *Mathematical modelling of non homogeneous coaxial cables for time domain simulation*, Journées Guides d'Ondes, Marseille, 27-28 January 2012
 - *Mathematical modelling of non homogeneous coaxial cables for time domain simulation*, Workshop MOPNET (EPSRC Matrix and Operator Pencil Network), Bath University, England, April 2012
 - *Numerical simulation of a grand piano*, Wave propagation in complex media and applications, Archimedes Center for Modeling, Analysis and Computation (ACMAC), University of Crete, Heraklion, Mai 2012
 - *Asymptotic modelling of electromagnetic wave propagation in co-axial cables*, Workshop on Numerical Solution of Evolution Problems, Heraklion, Crete, Septembre 2012
 - *Mathematical modeling of non-homogeneous lossy co-axial cables for time domain simulation*, Inria Bcam workshop, Biarritz October 2012
- Jean-François Mercier
 - *Time-harmonic acoustic scattering in a complex flow*, Anne-Sophie Bonnet-BenDhia, Jean-François Mercier, Florence Millot, Sébastien Pernet et E. Peynaud, Acoustics 2012, Nantes, avril 2012
 - *Propagation of guided waves through weak penetrable scatterers*, A. Maurel et J.-F. Mercier, Seventh Meeting of the GDR "Wave Propagation in complex media for quantitative and non destructive evaluation", Oléron, May 2012

POLSYS Project-Team

9. Dissemination

9.1. Scientific Animation

Elias Tsigaridas visited the Computer Science Department of Aarhus University, Denmark (28 May - 3 June) and gave a talk on random polynomials. He participated in ISSAC 2012 (July 22-25, 2012) in Grenoble, France and gave a talk on real solving polynomials with coefficients in multiple extension fields. He visited (23 Oct – 4 Noe) the Chinese Academy of Sciences, Beijing, China, as an invited speaker for the workshop Computational Geometry of the Asian Symposium on Computer Mathematics (ASCM), where he gave a talk on “Univariate Real Root Isolation in Extension Field and Applications to Topology of Curves”. During his stay in China, he was also invited to give a talk at Institute of Software of the State Key Lab of Computer Science, about random polynomials. He was invited at the Department of Applied Mathematics, Univ. of Crete, Greece (15 Jun – 2 Jul) and gave a talk at the department’s seminar about random polynomials. He participated and gave a talk in 7th Athens Colloquium on Algorithms and Complexity (ACAC) in Athens, Greece (27–28 July) on solving polynomials with coefficients on an extension field. He participated in the conference Computer Algebra in Scientific Computing (CASC) that was held in September 3 - 6, at Maribor, Slovenia. He visited in the North Carolina State University, USA (15 – 20 Oct) where he gave a talk at the Department’s Symbolic Computation seminar with title “Real algebraic geometry and stochastic games”. He participated in the Mathematics, Algorithms and Proofs 2012 (MAP) workshop of the GEOLMI ANR project (Univ. Konstanz, Germany, September 17 - September 21, 2012). Finally, he was invited to give a talk in the X-mas seminar of the ERGA lab of the Dept. of Informatics, Univ. of Athes, Greece (27 December 2012) on real solving polynomials in the presence of logarithms.

J.C. Faugère was invited to give an invited talk in the international workshop on efficient linear algebra for Gröbner basis computation in Kaiserslautern. J.C. Faugère visited the Mathematics Department of the North Carolina State University and give a talk at the Computer Science Department of Duke University (USA). J.-C. Faugère, is member of the MEGA Advisory Board.

D. Wang is member of the editorial board of:

- Editor-in-Chief and Managing Editor for the journal “Mathematics in Computer Science” (published by Birkhäuser/Springer, Basel).
- Executive Associate Editor-in-Chief for the journal “SCIENCE CHINA Information Sciences” (published by Science China Press, Beijing and Springer, Berlin).
- Member of the Editorial Boards for the
 - Journal of Symbolic Computation (published by Academic Press/Elsevier, London),
 - Frontiers of Computer Science in China (published by Higher Education Press, Beijing and Springer, Berlin),
 - Texts and Monographs in Symbolic Computation (published by Springer, Wien New York),
 - Book Series on Mathematics Mechanization (published by Science Press, Beijing),
 - Book Series on Fundamentals of Information Science and Technology (published by Science Press, Beijing).
- Editor for the Book Series in Computational Science (published by Tsinghua University Press, Beijing).

L. Perret co-organized with C. Cid the Ecrypt II Summer School on Tools (Mykonos, Greece, 28 May - 1 June 2012 <https://www.cosic.esat.kuleuven.be/ecrypt/courses/mykonos12/>).

J.-C Faugère, and G. Renault delivered an invited talk at the Ecrypt II Summer School on Tools (Mykonos, Greece, 28 May - 1 June 2012 <https://www.cosic.esat.kuleuven.be/ecrypt/courses/mykonos12/>).

J.-C Faugère was the programm chair of third international conference on Symbolic Computation and Cryptography (SCC 2012) (International Centre for Mathematical meetings (CIEM), Castro Urdiales, 11-13 July 2012, <http://scc2012.unican.es/>).

L. Perret was in the programm comittee of SCC'12.

J.-C Faugère and L. Perret were in P.C. of the YACC'12 conference (September 24 – September 28, 2012, Porquerolles Island, France, <http://yacc.univ-tln.fr/category/yacc-2012/>).

L. Perret was in the programm comittee of International Conference on Practice and Theory in Public-Key Cryptography (PKC'2013) (Nara, Japan, February 26 - March 1, 2013, <http://ohta-lab.jp/pkc2013/>

J.-C Faugère and L. Perret are in the programm comittee of Symbolic Computations and Post-Quantum Cryptography Online Seminar organised by the Stevens Institute (USA, <http://www.stevens.edu/algebraic/SCPQ/>)

J.-C Faugère and L. Perret are guest editors of a Special issue of Journal of Symbolic Computation on "Mathematical and Computer Algebra Techniques in Cryptology" (in progress)

M. Safey El Din is member of the editorial board of Journal of Symbolic Computation. He was member of the Programm committee of CASC 2012. He visited the department of Computer Science at the Univ. of Western Ontario in February 2012 and Sept. 2012. With J.-C. Faugère, L. Perret and E. Tsigaridas, he visited the Symbolic Computation Group at North Carolina State University in October 2012. He was member of the National Council of Universities until Sept. 2012. Since Nov. 2012, he is the head of the Scientific Computing Department of LIP6. He has been nominated at the Institut Universitaire de France.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : Ludovic Perret, Introduction à la Sécurité, 140 heures équivalent TD, niveau M1, Univ. Pierre-et-Marie-Curie, France

Master : J. Berthomieu, Modeling and numerical and symbolical resolutions of problems via MAPLE and MATLAB systems, 14 heures équivalent TD, niveau M1, Univ. Pierre-et-Marie-Curie, France

Master : J. Berthomieu, Linear Algebra and Applications, 35 heures équivalent TD, niveau M1, Univ. Pierre-et-Marie-Curie, France

Master : Guénaël Renault, Algèbre Linéaire et Applications, 35 heures équivalent TD, niveau M1, Univ. Pierre-et-Marie-Curie, France

Master : Guénaël Renault, Cryptologie Appliquée, 70 heures équivalent TD, niveau M2, Univ. Pierre-et-Marie-Curie, France

Master : Guénaël Renault, co-head of the speciality on "Sécurité, Fiabilité et Performance Numérique" in the Computer Science Master Program, niveaux M1-M2, Univ. Pierre-et-Marie-Curie, France

Master : M. Safey El Din, Modeling and numerical and symbolical resolutions of problems via MAPLE and MATLAB systems, 21 heures équivalent TD, niveau M1, Univ. Pierre-et-Marie-Curie, France

Master : M. Safey El Din, Polynomial Systems, Computer Algebra and Applications, 17 heures équivalent TD, niveau M2, Master Parisien de Recherche en Informatique, France

9.2.2. Supervision

PhD : Christopher Goyet, Cryptanalyse algébrique par canaux auxiliaires, Univ. Pierre-et-Marie-Curie, 7 novembre 2012, J.-C. Faugère, G. Renault

PhD : Pierre-Jean Spaenlehauer, Résolution de systèmes multi-homogènes et déterminantiels: algorithmes, complexités et applications, Univ. Pierre-et-Marie-Curie, 9 octobre 2012, J.-C. Faugère, M. Safey El Din

PhD in progress : Jules Svartz, Solving polynomial systems with symmetries, inscription octobre 2011, J.-C. Faugère

PhD in progress : Louise Huot, Étude des systèmes polynomiaux en cryptologie sur les courbes, Univ. Pierre-et-Marie-Curie, inscription octobre 2010, J.-C. Faugère, G. Renault

PhD in progress : Rina Zeitoun, Cryptologie sur cartes a puces et methodes algebriques, Univ. Pierre-et-Marie-Curie, inscription mars 2012, J.-C. Faugère, G. Renault

PhD in progress : Frederic Urvoy de Portzamparc, Cryptanalyse algébrique et étude de la sécurisation contre les attaques physiques des primitives fondées sur la théorie des codes, inscription février 2012, J.-C. Faugère, L. Perret

PhD in progress : Simone Naldi, Algorithmes de la géométrie algébrique réelle pour la théorie du contrôle, Univ. Paul Sabatier (Toulouse), inscription octobre 2012, D. Henrion, M. Safey El Din

9.2.3. Juries

J.-C. Faugère was member of 4 committees: 3 Prof. (UPMC, Montpellier, Rouen) and 1 MdC (UPMC).

9.3. Popularization

J.-C. Faugère gives a talk at Dassault Systèmes on applications of Gröbner Bases to industrial problems.

POMDAPI Project-Team

6. Dissemination

6.1. Scientific Animation

- C. Japhet was in the local organization committee for the 21st International Conference on Domain Decomposition Methods, Rennes, 25-29 June 2012.
- C. Japhet and M. Kern have organized a minisymposia on Domain decomposition for porous media flow and transport at the 21st International Conference on Domain Decomposition Methods, Rennes, 25-29 June 2012.
- C. Japhet and Y. Maday (UPMC-Paris 6) have organized a minisymposia on Domain decomposition with mortars at the 21st International Conference on Domain Decomposition Methods, Rennes, 25-29 June 2012.
- M. Kern is Deputy Director of **Maison de la Simulation**, a joint project between CEA, CNRA, Inria, University Paris Sud and University of Versailles, focused on applications of high end computing.
- M. Kern is Program Director of the SIAM Activity Group on Geosciences, and is co-chair (with M. Putti, University of Padova) of the SIAM Conference on Mathematical and Computational Issues in the Geosciences (to be held June 17-20, 2013 in Padova, Italy).
- M. Kern was part of the program committee for the 21st International Conference on Domain Decomposition Methods, Rennes, 25-29 June 2012.
- J. E. Roberts is a member of the External Advisory Board for **CFSES** (Center for Frontiers of Subsurface Energy Security).
- J. E. Roberts organized (with Z. Mghazli and H. Ben Ameer) the mini symposium “Problems in porous media: modeling and solving techniques” at the SM2A conference, 10-13 September 2012, Marrakech, Morocco.
- J. E. Roberts is a member of the selection committee for recruiting professors in the department of maths of the university of Bergen, and a member of the national Norwegian committee for the promotion of professors.
- J. E. Roberts was a member of the Scientific Committee and the Prize Committee for the Interpore 2012 conference, May 14-16, West Lafayette, Indiana. USA. For this conference she also organized the 3 session mini-symposium “Numerical modeling for flow in fractured and other heterogeneous porous media”.
- J. E. Roberts was a member of the Nominating Committee for Officers of the SIAM Activity Group Geosciences.

6.2. Teaching - Supervision - Juries

6.2.1. Teaching

- Licence : I. Ben Gharbia, *Analyse numérique et calcul scientifique*, 78 h, L2, Université Paris–Dauphine, France.
- Licence : I. Ben Gharbia, *Mathématiques 5*, 54 h, L3, Université Panthéon–Assas, France.
- Licence : I. Ben Gharbia, *Mathématiques 1*, 18 h, L1, Université Panthéon–Assas, France.
- Licence : I. Ben Gharbia, *Statistiques 1*, 18 h, L1, Université Panthéon–Assas, France.
- Licence : F. Clément, *Calcul différentiel*, 17 h, L3, Mines ParisTech, France.

Master: J. Ch. Gilbert, *Optimisation différentiable – Théorie et algorithmes*, 42 h, M1, ENSTA ParisTech, France.

Master: M. Kern, *Éléments finis*, 30 h, M1, Mines ParisTech, France.

Master: M. Kern, *Problèmes inverses*, 26 h, M1, Mines ParisTech, France.

Master: J. Jaffré et J. E. Roberts, *Volumes finis et éléments finis mixtes*, 20 h, M2, École Nationale d'Ingénieurs de Tunis (ENIT), Tunisia.

Master: J. E. Roberts, *Approximation methods*, 20 h, M1, École Supérieure d'Ingénieurs Léonard de Vinci, France.

6.2.2. Supervision

PhD: Ibtihel Ben Gharbia, *Résolution de Problèmes de Complémentarité – Application à un Écoulement Diphasique Dans un Milieu Poreux*, Université Paris-Dauphine, 5th of December 2012, supervision J. Ch. Gilbert and J. Jaffré.

PhD : Nancy Chalhoub, *Estimations a posteriori pour l'équation de convection–diffusion–réaction instationnaire et applications aux volumes finis*, Université Paris-Est, 17 décembre 2012, Alexandre Ern (Université Paris-Est), Toni Sayah (Université Saint Joseph, Liban), Martin Vohralík.

PhD: Alice Chiche, *Théorie et Algorithmes Pour la Résolution de Problèmes d'Optimisation de Grande Taille – Application à la Gestion de Production d'Électricité*, Université Pierre et Marie Curie, 28th of June 2012, supervision J. Ch. GILBERT.

PhD in progress: Soleiman Yousef, *Estimations d'erreur a posteriori et adaptativité pour le problème de Stefan*, septembre 2009, Vivette Girault (Université Pierre et Marie Curie), Martin Vohralík.

PhD in progress: Carole Henry, *Adaptation de maillage et contrôle d'erreur a posteriori pour récupération d'huile assistée*, septembre 2009, Vivette Girault (Université Pierre et Marie Curie), Martin Vohralík.

PhD in progress: Paul-Marie Berthe, *Méthode de décomposition de domaines espace-temps pour la mécanique des fluides*, septembre 2009, Pascal Omnes (CEA, Université Paris 13), Caroline Japhet.

PhD in progress: Hoang PHUONG THI THAO, *Space Time Domain Decomposition Methods for Transport in Porous Media*, University Pierre et Marie Curie, October 2010, supervision: Jean E. Roberts, Caroline Japhet, Michel Kern.

PhD in progress: Mohamed Hedi Riahi, *Identification de paramètres hydrogéologiques dans un milieu poreux*, Ecole Nationale d'Ingénieurs de Tunis and University Pierre et Marie Curie, October 2011, supervision: Jérôme Jaffré and Hend Ben Ameer.

PhD in progress: Fatma Cheikh, *Identification de failles dans un milieu poreux par une méthode d'indicateurs*, Ecole Nationale d'Ingénieurs de Tunis and University Pierre et Marie Curie, October 2011, supervision: Jean E. Roberts and Hend Ben Ameer.

PhD in progress: Elyes Ahmed, *Méthodes numériques pour la simulation d'écoulements diphasiques dans un milieu poreux fracturé*, Ecole Nationale d'Ingénieurs de Tunis, October 2011, supervision: Jean E. Roberts and Amel Ben Abda.

6.2.3. Juries

- Martin Vohralík a été rapporteur de la thèse de Florent Pled (*Vers une stratégie robuste et efficace pour le contrôle des calculs par éléments finis en ingénierie mécanique*, ENS Cachan, directeur de thèse Pierre Ladevèze), soutenue le 13 décembre 2012.
- Jérôme Jaffré a été rapporteur de la thèse de Merline Flore Djouwe Meffeja (*Simulation et modélisation de milieux granulaires confinés*, université de Rennes I, directeurs de thèse Patrick Richard et Edouart Canot), soutenue le 20 janvier 2012.
- Jérôme Jaffré a été aussi rapporteur de la thèse de Alessio Fumagalli (*Numerical Modelling of Flows in Fractured Porous Media by the XFEM Method*, Politecnico di Milano, directeur de thèse Luca Fromaggia), soutenue le 8 mai 2012.

- Jean E. Roberts a été rapporteur de la thèse de Xavier Tunc (Université de Provence, Marseille, directeur de thèse Thierry Gallouet), soutenue le 15 février 2012.

6.3. Popularization

- Creation of articles on Wikipedia.fr [19].
- Seminar on “Mathématiques pour modéliser les eaux souterraines” at “Faites de la Science” (M. Kern).
- Two seminars at the German-French worksop, October 18-19, Fellbach, Germany: J. Jaffré, “Mathematics for computing on a computer: The computer does not calculate exactly”, J. E. Roberts, “Mathematics and simulation of subsurface flow”.

POP ART Project-Team

9. Dissemination

9.1. Scientific Animation

- Pascal Fradet served in the program committee of JFLA 2013 (vingt quatrièmes Journées Francophones des Langages Applicatifs).
- Gregor Goessler served in the program committees of the international conference DATE 2013.
- Bertrand Jeannot was Program Chair of the TAPAS workshop (Tools for Automatic Program Analysis) affiliated to SAS (Static Analysis Symposium), that was held in Deauville in September 2012.
- Alain Girault served in the program committees of the international conferences DAC 2012, MEMOCODE 2012, LCTES 2012, and APSIPA ASC 2012,

9.2. Teaching - Supervision - Juries

9.2.1. Supervision

PhD in progress: Vagelis Bebelis, “Advanced dataflow programming for embedded systems”, Grenoble University, since 12/2011, co-advised by Pascal Fradet and Alain Girault.

PhD in progress: Dmitry Burlyaev, “Specification and synthesis of fault-tolerant circuits”, Grenoble University, since 12/2011, co-advised by Pascal Fradet and Alain Girault.

PhD in progress: Gideon Smeding, Grenoble University, “Distribution of synchronous programs with respect to real-time constraints”, co-advised by Gregor Goessler and Joseph Sifakis since 12/2009.

PhD : Peter Schrammel, “Logico-numerical verification methods for discrete and hybrid systems”, Grenoble University, defended on 18/10/2012, co-advised by Alain Girault and Bertrand Jeannot

9.2.2. Juries

- Bertrand Jeannot was examiner for the PhD of Romain Testylier (University of Grenoble).
- Alain Girault was referee for the PhD thesis of Aurélien Monot (University of Lorraine), president of the PhD jury of Slim Bouguerra (University of Grenoble), and president of the PhD jury of Christophe Junke (University of Orsay).

POPIX Exploratory Action

9. Dissemination

9.1. Scientific Animation

Editorial Activity.

Marc Lavielle reviewed articles for the journals *Computational Statistics and Data analysis*, *Biometrics*, *Statistics in Medicine*, *Journal of Pharmacokinetics and Pharmacodynamics*.

Kevin Bleakley reviewed articles for the journals *Human Genetics* and *Analytica Chimica Acta*.

Maud Delattre reviewed articles for the journal *Journal of Statistical Computation and Simulation*.

Conference Participation.

Marc Lavielle presented his work in the following conferences and workshops:

- CLAPEM, Viña del Mar, Chile, March 2012.
- Analysis of longitudinal data in oncology, Grenoble, June 2012.
- Population Approach Group in Europe, Venice, Italy, June 2012.
- Word Conference on Pharmacometrics, Seoul, Korea, September 2012.
- Analyse de données longitudinales de Cancer, Toulouse, October 2012.

Kevin Bleakley presented his work at:

- Spring Research Conference, Cambridge, USA, June 2012.

Maud Delattre presented her work at:

- GDR Stat et Santé, Rennes, September 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Masters: Marie-Anne Poursat, Coordinator of the Mathematical Engineering course, Paris-Sud University

Masters: Marc Lavielle, Computational Biostatistiques, 12 hours, Paris-Sud University

PhD/Postdoc: Marc Lavielle, Population approach and Mixed effects models, 12 hours, University at Buffalo, USA

Miscellaneous: Marc Lavielle, Population approach and Mixed effects models, 12 hours, PAGE meeting 2012, Italy

Miscellaneous: Marc Lavielle, Population approach and Mixed effects models, 12 hours, WCOP meeting 2012, Korea

9.2.2. Supervision

- PhD: Maud Delattre, *Inférence statistique dans les modèles mixtes à dynamique Markovienne*, 4 July 2012 at Paris-Sud University, Marc Lavielle.
- PhD: Cyprien Mbogning, *Inference dans les modèles conjoints et de melange non-linéaires à effets mixtes*, 17 December 2012 at Paris-Sud University, Marc Lavielle.
- PhD in progress: Célia Barthelemy, *Modèles à effets mixtes pour l'assimilation de données en oncologie*, debut: October 2012, Marc Lavielle.
- Other: Kevin Bleakley supervised two student projects in statistical learning in the *Marketing et gestion de la relation client* year 3 class at ENSAI, Rennes.

9.3. Popularization

Marc Lavielle gave a tutorial called *Santé: quelles méthodes d'analyse des risques?* for the *Association des journalistes Scientifiques de la Presse d'Information* (AJSPI) on November 27, 2012, Paris: <http://www.ajspi.com/activites/invitations/sante-quelles-methodes-danalyse-des-risques>

Kevin Bleakley gave a talk entitled *United Stats of Obama* at Inria Saclay, describing the use of statistical and machine learning methods in the 2012 USA presidential campaign.

POTIOC Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Reviewing

Potioc team members have been involved in the review of numerous submissions in conferences and journals. They include:

- **Conferences:** Sound and Music Computing Conference 2012 (F. Berthaut), CHI 2013 (J. Laviolle, F. Lotte, J. Jankowski, A. Cohé), 3DUI 2013 (J. Laviolle, F. Lotte, J. Jankowski), JVRC 2012 (A. Cohé), VRST 2012 (F. Larrue), BBCI workshop 2012 (F. Lotte), ECAI 2012 (F. Lotte), ICMI 2012 (F. Lotte), ICMI Grand Challenge on BCI 2012 (F. Lotte), PRNI 2012 (F. Lotte), NordiCHI 2012 (F. Lotte)
- **Journals:** Computer and graphics (M. Hachet), AJSE (M. Hachet), Biomedical Engineering Online (F. Lotte), Eurasip Journal on Advances in Signal Processing (F. Lotte), Frontiers in Neuroprosthetics (F. Lotte), IEEE Transactions on Biomedical Engineering (F. Lotte), IEEE Transactions on Computational Intelligence and Artificial Intelligence in Games (F. Lotte), IEEE Transactions on Neural Systems and Rehabilitation Engineering (F. Lotte), IEEE Transactions on Systems, Man and Cybernetics, Part A (F. Lotte), International Journal of Neural Systems (F. Lotte), Journal of Neural Engineering (F. Lotte), Journal of Neurosciences Methods (F. Lotte)

8.1.2. Program Committees Members

- IEEE VR 2013 (M. Hachet)
- European Conference on Artificial Intelligence 2012 (ECAI 2012) (F. Lotte)
- International Conference on Multimodal Interaction 2012 (ICMI 2012 – Area Chair) (F. Lotte)
- Grand challenge on BCI at ICMI 2012 (F. Lotte)
- International Workshop on Pattern Recognition in NeuroImaging 2012 (PRNI 2012) (F. lotte)

8.1.3. Other

- Guest Editor for IEEE Transactions on Computational Intelligence and Artificial Intelligence in Games, together with D. Coyle, J. Principe and A. Nijholt, for the special issue “Brain/Neuronal-Computer Games Interfaces and Interaction”, 2012 (F. Lotte)
- Organiser of a workshop on NeuroDesign with Architect Pierre Cutellic at the Advance in Architectural Geometry (AAG 2012) international conference (F. Lotte)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Teaching at ENSEIRB engineering school:

Master: Martin Hachet, Virtual Reality, 15h, 3rd Year, ENSEIRB, France

Master: Florent Berthaut, Virtual Reality, 9h eqTD, M2, ENSEIRB, France

Master: Florent Berthaut, Music Interaction, 8h eqTD, M2, ENSEIRB, France

Master: Florent Berthaut, Human Computer Interaction, 8h eqTD, M1, ENSEIRB, France

Master: Florent Berthaut, Jérémy Laviolle, 3D Music Instrument Project, 20h eqTD, M2, ENSEIRB, France

Teaching at University of Bordeaux 1:

Licence: Jérémy Laviolle, Introduction to Computer Science, 25h Course + 17.3h practical work. L1, University of Bordeaux 1, France

Licence: Florent Berthaut, Initiation to Computer Science, 30h eqTD, L1, University of Bordeaux 1, France

Licence: Florent Berthaut, UNIX, 16h eqTD, L3, University of Bordeaux 1, France

Licence: Jérémy Frey, Réseau et projet de programmation 2, 30h eqTD, L3, University of Bordeaux 1, France

Licence: Jérémy Frey, C2i - certificat informatique et internet, 14h eqTD, L1, University of Bordeaux 1, France

Master: Jérémy Laviolle, Research Project, 10h. M2, University of Bordeaux 1, France

Master: Florent Berthaut Jérémy Laviolle, Virtual Reality, 24h eqTD, M2, University of Bordeaux 1, France

Master: Florent Berthaut, Object Oriented Programming, 30h eqTD, M1, University of Bordeaux 1, France

Master: Florent Berthaut, C++, 16h eqTD, M2, University of Bordeaux 1, France

Master: Florent Berthaut, Project Management, 30h eqTD, M1, University of Bordeaux 1, France

Teaching at University of Bordeaux 2:

Master: Martin Hachet, Fabien Lotte, Virtual Reality and 3D Interaction, 8h each, Master 2 Cognitive Sciences, University of Bordeaux 2, France

Master: Florian Larrue, Réalité Virtuelle, Interfaces et Navigation, 5h, Master Recherche Sciences Cognitives, University of Bordeaux 2, France

Various other teaching activities:

Ecole de Podologie: Florian Larrue, Introduction à la sécurité et à l'Informatique, 18h, Ecole de Podologie Bordeaux, France.

Ecole de Podologie: Florian Larrue, Formation Word, Excel, Powerpoint, 30h, Ecole de Podologie Bordeaux, France

Master: Fabien Lotte, Virtual Reality and Brain-Computer Interfaces, 6h eqTD, 2nd and 3rd year, ENSSAT Lannion, France

Architecture School (all years): Fabien Lotte, Brain-Computer Interfaces and Neurodesign, 16h, ENSAPM Paris, France

Master/Doctorat: Fabien Lotte, Spatial filtering techniques for practical Brain-Computer Interfaces, 2h, Berlin BCI neurotechnology summer school, Berlin, Germany

8.2.2. Supervision

PhD: Aurélie Cohé, "Manipulating 3D content on Touch Screens", Université de Bordeaux, defended December 13th 2012, supervised by Martin Hachet and Pascal Guitton

PhD in progress: Jérémy Frey, "Using Passive Brain-Computer Interfaces to assess and design 3D User Interfaces", Université de Bordeaux, started October 1st 2012, supervised by Fabien Lotte and Martin Hachet

PhD in progress: Jérémy Laviolle, "Projection Mapping for Physical Drawing", Université de Bordeaux, started October 1st 2010, supervised by Martin Hachet

PhD in progress: Renaud Gervais, "Desktop-based stereoscopy", Inria - Université de Bordeaux, started October 1st 2012, supervised by Martin Hachet

8.2.3. Juries**PhD juries:**

- Laurent George, Insa de Rennes, December 8, 2012 (M. Hachet - examinateur)
- Francisco Javier Velasco Alvarez, Malaga University, Spain, November 23, 2012 (F. Lotte)

8.3. Popularization

- Creatives Tuesday, Bordeaux, 27th November, "New 3D User Interfaces for the city" (M. Hachet)
- Les signaux du numériques, Talence, 5th March, Demo PapARt (M. Hachet, P. Davignon)
- Participation to the exhibition "Lascaux" in Cap Sciences (PapARt, Toucheo), (M. Hachet, J. Laviolle)
- Participation to the Aquitec student job fair, doing demonstrations and talking about jobs in computer science research (P. Davignon, J. Laviolle)
- Interview for the journal "Sciences et Vie Junior", about Brain-Computer Interfaces (F. Lotte)
- Talk given at the science festival in Goteborg, Sweden, entitled "Playing with the brain: Using 'Brain-Computer Interface' to control video games with mental activity" (F. Lotte)
- Interview for a TPE for high schools student about "Touch-based interactive technologies" (J. Frey)
- Care of an high school student (classe de sconde) visiting the Potioc group for a week
- Care of a junior high school student (classe de troisième) visiting the Potioc group for a week

PRIMA Project-Team

9. Dissemination

9.1. Scientific Animation

James Crowley has served as co-organiser for the Dagstuhl seminar on Human Activity Recognition in Smart Environments, Dagstuhl Castle, Wadern Germany, 3-7 Dec 2012

James Crowley has served as co-organiser for the Symposium Performance Evaluation for Tracking and Surveillance, PETS 2013, IEEE Winter Meeting, Clearwater Florida, January 2013.

James Crowley has served as a member of the program committee for the following conferences:

ICRA 2012, IEEE International Conference on Robotics and Automation, Saint Paul, Minn, 14-18 May 2012.

ICPR 2012, 21st International Conference on Pattern Recognition, Tsukuba Science City, JAPAN, November 11-15, 2012

CVPR 2012, IEEE Conference on Computer Vision and Pattern Recognition, Providence Rhode-Island, 16-21 June 2012.

Sabine Coquillart has served as a member of the program committee for the following conferences:

GRAPP'2012 - International Conference on Computer Graphics Theory and Applications - Rome Italy, Feb. 2012.

VisGra 2012 - International Workshop on Computer Vision and Computer Graphics - Reunion Island, Feb. - March 2012.

IEEE 3DUI 2012 - IEEE 3D User Interfaces - OrangeCounty, USA, March 2012.

WSCG 2012 - International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision - Prague, Czech Republic, 2012.

SVR 2012 - Symposium on Virtual and Augmented Reality - Brazil , May 2012.

CASA 2012 - International Conference on Computer Animation and Social Agents, Singapore, May 2012.

CGI 2012 - Computer Graphics International, June 2012.

ISVC 2012 - International Symposium on Visual Computing - Rethymnon, Crete, Greece, July 2012.

CGVCVIP 2012 - IADIS Computer Graphics, Visualization, Computer Vision and Image Processing, Lisbon, Portugal, July 2012.

VSMM 2012 - 18th International Conference on Virtual Systems and Multimedia, Milan Italy, Sept. 2012.

ICVRV 2012 - International Conference on Virtual Reality and Visualization 2012, Ginhuangdao, China, September 2012.

JVRC 2012 - Joint Virtual Reality Conference on Virtual Reality of EGVE - ICAT - EuroVR, Madrid, Spain, October 2012.

GRAPHICON'2012 - International Conference on Computer Graphics and Vision - Moscow, Russia, October 2012.

EUROMED 2012 - International Conference on Cultural Heritage, Lemesos, Cyprus, Oct. Nov. 2012.

ISMAR 2012 - IEEE International Symposium on Mixed and Augmented Reality - Atlanta, Georgia, USA, Nov. 2012 (reviewer). CGAG 2012 - Computer Graphics, Animation and Game, Kangwondo, Korea, December 2012

Sabine Coquillart has served as a member of the Conference Committee and International Program Committee co-chair of IEEE VR 2012 - IEEE Virtual Reality, Orange County, CA, USA, March 2012. She has served as co-chair for the 2012 Joint Virtual Conference of EGVE - ICAT - EuroVR, Madrid, Spain, October 2012.

Sabine Coquillart is:

Elected member of the EUROGRAPHICS Executive Committee.

Member of the EUROGRAPHICS Working Group and Workshop board.

Member of the 2012 Joint Virtual Reality Conference of EGVE -ICAT- EuroVR Best Papers Award Committee.

Member of the steering committee for the ICAT conference - International Conference on Artificial Reality and Telexistence.

Chairing the steering committee for the EGVE Working Group - EUROGRAPHICS Working group on Virtual Environments.

Member of the FET pool of experts for European Commission funding under the framework of FET Open.

Sabine Coquillart did evaluation for the Eurographics PhD Awards Committee, 2012. She participated to the following Journal Editorial Boards:

IEEE Transactions on Visualization and Computer Graphics: co-guest editor with S. Feiner and K. Kiyokawa of a special issue (vol. 18 n. 4, 2012).

Journal of Virtual Reality and Broadcasting.

Presence: Teleoperators & Virtual Environments Journal: co-Guest Editor for some papers of a special issue.

Scientific World Journal.

Thierry Fraichard has served as an Associate Editor ¹ for three international conferences:

IEEE Int. Conf. on Robotics and Automation (ICRA), St Paul (US), May 2012.

IEEE-RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Vilamoura (PT), Oct. 2012.

IFAC Symp. on Robot Control (SYROCO), Dubrovnik (HR), Sep. 2012.

He has reviewed an article for the Autonomous Robots journal and has served as an expert evaluator for the French Research Agency and the European Commission (FP7 framework). Along with James Kuffner from CMU, he has edited a special issue on guaranteed motion safety for the Autonomous Robots journal.

Patrick Reignier has served as a Program Committee member for the following conferences:

Reconnaissance des Formes et Intelligence Artificielle (RFIA 2012), Lyon, France.

6th International Conference on Ubiquitous Computing and Ambient Intelligence (UCAmI 2012), Vitoria-Gasteiz, Spain.

First Workshop on the Rights and Duties of Autonomous Agents (RDA2).

Workshop Affect, Compagnon Artificiel, Interaction (WACAI 2012) Grenoble, France.

He has reviewed articles for:

ACM Transactions on Interactive Intelligent Systems.

Assistance and Service Robotics in a Human Environment workshop of IROS 2012.

He has been elected at the board of the Association Française pour l'Intelligence Artificielle (AFIA). He was a member of the selection committee for a Professor Position at the Joseph Fourier University and a member of the selection committee for a Professor Position at the Pierre et Marie Curie University.

¹An Associate Editor has to handle the review process of a set of papers, i.e. assign reviewers, assess each paper and write the review reports.

Dominique Vaufreydaz has served as a Program Committee member for the following conferences:

UBICOMM 2012, The Sixth International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies, Barcelona, Spain, September 2012.

MTEL2012 at ISM2012, The Seventh IEEE International Workshop on Multimedia Technologies for E-Learning in conjunction with the IEEE International Symposium on Multimedia 2012, Irvine (CA), USA, December 2012.

He has reviewed articles for:

International Journal On Advances in Internet Technology, November 2012.

IEEE International Conference on Robotics and Automation, Karlsruhe, Germany, May 2013.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Sabine Coquillart, Virtual Reality and 3D User Interfaces, M2 MOSIG, Univ. of Grenoble, France.

Master: Sabine Coquillart, 3D User Interfaces and Augmented Reality, one day, M2 Numerical Modeling and Virtual Reality, Univ. of Laval, France.

Master: James Crowley is co-responsible for the Master of Science in Informatics at Grenoble (MoSIG).

Master: James Crowley teaches the MoSIG M1 Cours - Intelligent Systems.

Master: James Crowley teaches the MoSIG M2 Cours - Computer Vision.

Master: Alexandre Demeure, Introduction à l'IHM, 45h eqTD, M1 MIAGE, UJF, France.

Master: Alexandre Demeure, IHM avancées, 26h eqTD, M2 MIAGE, UJF, France.

Master: Alexandre Demeure, Introduction à l'IHM, 36h eqTD, M1 RICM4, Polytech, France.

Master: Alexandre Demeure, Architecture pour l'IHM, 26h eqTD, M2 RICM5, Polytech, France.

Master: Alexandre Demeure, IHM avancées, 15h eqTD, M2 RICM5, UJF, France.

Licence: Thierry Fraichard, Introduction à la robotique, 19h eqTD, L3 INFO, Univ. of Grenoble, France.

Licence: Thierry Fraichard, Projet Java, 20h eqTD, L3 MIAGE, Univ. of Grenoble, France.

Master: Thierry Fraichard, Introduction to Perception and Robotics, 23h eqTD, M1 MOSIG, Univ. of Grenoble, France.

Master: Thierry Fraichard, Projet Génie Logiciel, 36h eqTD, M1, ENSIMAG/Grenoble INP, France.

Master: Patrick Reignier, Projet Génie Logiciel, 55h eqTD, M1, ENSIMAG/Grenoble INP, France.

Licence: Patrick Reignier, Projet C, 20h eqTD, L3, ENSIMAG/Grenoble INP, France.

Master: Patrick Reignier, Programmation Internet, 18h eqTD, M1, ENSIMAG/Grenoble INP, France.

Master: Patrick Reignier, Programmation C, 65h eqTD, M2, Université Joseph Fourier, France.

Master: Patrick Reignier, Produits Structuré (informatique pour la finance), 24h eqTD, M2, ENSIMAG/Grenoble INP, France.

Licence: Dominique Vaufreydaz, Traitement de texte et tableur pour l'économie, 48h eqTD ,L1, Grenoble II, France.

Licence: Dominique Vaufreydaz, Informatique appliquée à l'économie et à la gestion, enseignement à distance, Licence, Grenoble II, France.

Licence: Dominique Vaufreydaz, Pratique avancée du Tableur, 72 h eqTD, L3, Grenoble II, France.

Licence Professionnelle: Dominique Vaufreydaz, Enquêtes et traitement d'enquêtes avec le logiciel Sphinx, 11h eqTD, Licence pro Métiers de l'Emploi et de la Formation, 11h eqTD, Grenoble II, France.

Licence Professionnelle: Dominique Vaufreydaz, Administration Windows, 39.5h eqTD, Licence pro Métiers de l'Emploi et de la Formation, Grenoble II, France.

Master: Dominique Vaufreydaz, Enquêtes et traitement d'enquêtes avec le logiciel Sphinx, 11h eqTD, M2 Strategies économiques du sport et du tourisme, Grenoble II, France.

Master: Dominique Vaufreydaz, Pratique avancée du Tableur, 22 h eqTD, M1 Économie internationale et stratégies d'acteurs, Grenoble II, France.

Master: Dominique Vaufreydaz, Mise à niveau Informatique pour l'économie, 22h eqTD, M2 Diagnostic économique d'entreprise, Grenoble II, France.

9.2.2. Supervision

PhD : Mathieu Guillame-Bert, Learning Temporal Association Rules on Symbolic Time Sequences, Thesis defended December 2012, Thesis Director James Crowley

PhD : Antoine Meler, BetaSAC et OABSAC, Deux Nouveaux Echantillonnages Conditionnels pour RANSAC, Thesis defended January 2013, Thesis Director James Crowley

PhD in progress : Marion Decrouez, Modelisation et Localisation Visuelle dans les Environnement Dynamiques, Thesis Directed by Frédéric Devernay and James Crowley, Soutenance PrŽvu mars 2013,

PhD in progress : Evanthia Mavridou, Visual Invariants for Detection and Recognition, Thesis Director James Crowley

PhD in progress : Varun Jain, Perception of Human Emotions. Thesis Director James Crowley

PhD in progress : Julian Quiroga, Visual Perception of Gestures, Thesis Directed by Frédéric Devernay and James Crowley

PhD : Emeric Fontaine, Programmation d'espace intelligent par l'utilisateur final, UJF, July 2012, Joelle Coutaz et Alexandre Demeure.

PhD in progress : Dimitri Masson, Modèles et outils pour favoriser la créativité dans les premières phases de conception d'IHM, Gaelle Calvary et Alexandre Demeure

PhD: Alessandro Renzaglia, Distributed Control for Autonomous Helicopters, Univ. of Grenoble, France, April 2012, Thierry Fraichard and Agostino Martinelli.

PhD: Marco Polo Cruz Ramos, Design of Interaction Systems for Mobile Robots Collaboration; a Marsupial Robot Team for Search and Rescue Operations Case Study, Tecnológico de Monterrey, Mexico, December 2012, Jose-Luis Gordillo and Thierry Fraichard.

PhD: Rémi Barraquand, Designing Sociable Technologies, February 2nd 2012, Univ. of Grenoble, James Crowley and Patrick Reignier.

9.2.3. Juries

Thierry Fraichard (reviewer), PhD, Jim Mainprice, Univ. of Toulouse (FR), December 2012.

Patrick Reignier (examiner), PhD, Charbel El Kaed, Univ. of Grenoble, January 13th. 2012

Patrick Reignier (reviewer), HDR, Cédric Buche, National Engineering School of Brest, France, February 10th 2012.

Patrick Reignier (examiner), PhD, Michelle Leonhardt Camargo, Universidade Federal do Rio Grande do Sul, Brasil, March 13th 2012.

Patrick Reignier (examiner), PhD, Issac Noé Garcia Garza, Grenoble University, June 18th 2012.

Patrick Reignier (examiner), PhD, Cyrille Martin, Univ. of Grenoble, October 4th 2012.

Patrick Reignier (examiner), PhD, Shirley Hoet, Pierre and Marie Curie University, Paris, France, December 17th 2012.

9.3. Invited Presentations

Sabine Coquillart: First-person Visuo-haptic Environment - From Research to Applications, VISI-GRAPP%2012, Rome, Italy, February 2012.

Sabine Coquillart: Multimodal Virtual Environment: from Research to Applications, ISVC%2012, Rethymnon, Crete, Greece, July 2012.

Sabine Coquillart: Augmented Reality: State of the Art and Perspectives, Sharesight, Paris, December 2012.

Thierry Fraichard, Will the driver seat ever be empty?, LAAS Lab., Toulouse (FR), Dec. 2012.

Thierry Fraichard, The Difficulty of Safely Navigating Dynamic Environments, Ben Gurion Univ., Be'er Sheva (IL), Dec. 2012.

James Crowley, Perception for Social Interaction, Seminar de SFR Pole Cognition, Grenoble, 31 May 2012

James Crowley, A Cognitive Architecture for Situation Awareness, German-French Workshop on Perspectives on Cognitive Interaction and Technology, Beilefeld, Germany 4 - 6 June 2012

James Crowley, Intelligence Ambiante et l'Innovation Factory d'AmiQual4Home, Lundis de l'Innovation, SFR InnoVacs, 5 Nov 2012.

James Crowley, Intelligence Ambiante : Invasion Pprogressive de l'Informatique, InnoFond Seminar, Paris 29 November 2012.

James Crowley, Visual Recognition of Human Activity, in Dagstuhl seminar on Human Activity Recognition in Smart Environments, 3-7 Dec 2012

PROSECCO Project-Team

9. Dissemination

9.1. Editorial Boards

- *International Journal of Applied Cryptography (IJACT)* – Inderscience Publishers, Associate Editor: Bruno Blanchet

9.2. Organizers

- Dagstuhl Analysis of Security APIs, November: Graham Steel
- ASA-6, Satellite of CSF, June: Graham Steel

9.3. Program Committees

- FCC – June 2012, Cambridge, MA, USA: Bruno Blanchet
- FM – August 2012, Paris, France: Bruno Blanchet
- CCS – October 2012, Ralleigh, NC, USA: Bruno Blanchet
- POST – March 2013, Rome, Italy: Bruno Blanchet
- PROOFS workshop - September 2012, September 2012: Graham Steel
- ACM SAC - Security Track 2012: Graham Steel

9.4. Vulnerability Reports

- R. Bardou and G. Steel (and their co-authors) found a series of vulnerabilities in cryptographic devices, resulting in a research paper and significant press coverage.
- K. Bhargavan and C. Bansal reported single sign-on vulnerabilities in Facebook, Yahoo, Helios and ConfiChair. These vulnerabilities were fixed on their recommendations, and the Prosecco team name was given credit on their websites.
- K. Bhargavan and A. Delignat-Lavaud reported encryption-related vulnerabilities in several commercial software packages, including 1Password, Roboform, LastPass, SpiderOak, and Wuala. These vulnerabilities were fixed on their recommendations and the Prosecco team was given credit on their websites.
- K. Bhargavan reported a CSP-related security vulnerability in Firefox, resulting in a security update.
- A. Delignat Lavaud reported a iframes-related security vulnerability in Firefox, resulting in a security update.

9.5. Teaching

- Karthikeyan Bhargavan taught TDs in computer science at Ecole Polytechnique, France
- Graham Steel taught invited Master's lectures at University of Venice, Italy
- Bruno Blanchet taught Master's lectures at the MPRI, France

9.6. Ph.D in progress

- David Cadé
Computationally Proved Implementations of Security Protocols, since September 2009, supervised by Bruno Blanchet

- Miriam Paiola
Automatic Verification of Group Protocols, since November 2010, supervised by Bruno Blanchet
- Robert Künnemann, *Secure APIs and Simulation-Based Security*, Started Oct. 2010, supervised by Steve Kremer (CASSIS) and Graham Steel
- Gavin Keighren, *A Type System for Security APIs*, since 2007 (to submit March 2013), advisors Graham Steel and David Aspinall (University of Edinburgh). Graham is now at EPI Prosecco.

9.7. Ph.D/Habilitation Committees

- Vincent Cheval – Ph.D. – 3 Dec. 2012 – ENS Cachan
Automatic verification of cryptographic protocols: privacy-type properties
Bruno Blanchet

9.8. Invited Talks

- Workshop on Computed-Aided Security, Grenoble, France, January: Bruno Blanchet
- ETAPS unifying invited speaker, Tallinn, Estonia March: Bruno Blanchet
- Workshop on Formal and Computational Cryptographic Proofs, Cambridge, UK (April): Bruno Blanchet
- Alan Turing Year workshop: Is Cryptographic Theory Practically Relevant?, Cambridge, 31 January - 2 February: Graham Steel
- PROOFS workshop, satellite of CHES, September: Graham Steel
- DIGITEO Forum, Ecole polytechnique November: Graham Steel
- Ruhr University Bochum Seminar, June: Graham Steel

9.9. Participation to Workshops and Conferences

- Workshop on Computed-Aided Security – January 2012, Grenoble, France: Bruno Blanchet, David Cadé, Miriam Paiola
- CryptoForma – March 2012, UK: Alfredo Pironti
- ETAPS – March 2012, Tallinn, Estonia]: Bruno Blanchet, David Cadé, Miriam Paiola
- Workshop on Formal and Computational Cryptographic Proofs – April 2012, Cambridge, UK: Bruno Blanchet
- IEEE S&P – May 2012, San Francisco, USA: Graham Steel
- CSF, FCC, ASA – June 2012, Cambridge MA, USA: Bruno Blanchet, David Cadé, Miriam Paiola, Graham Steel, Robert Künnemann, Karthikeyan Bhargavan, Romain Bardou
- Usenix Security – August 2012, Bellevue WA, USA: Karthikeyan Bhargavan, Antoine Delignat-Lavaud
- ARES – August 2012, Prague, Czech Republic: David Cadé
- CRYPTO – August 2012, Santa Barbara, USA: Graham Steel, Romain Bardou
- PROOFS – September 2012, Leuven Belgium: Graham Steel, Evmorfia-Iro Bartzia, Miriam Paiola
- MSR-Inria Workshop – November 2012, Cambridge UK: Karthikeyan Bhargavan, Alfredo Pironti

RAP Project-Team

7. Dissemination

7.1. Leadership within scientific community

Nicolas Broutin organized a workshop on Models of Sparse Random Graphs and Network Algorithms that was held at the Banff International Research Station, Canada, in February. He organized a session on "probability and statistics on graphs" at the XII Latin American Congress on Probability and Mathematical Statistics (CLAPEM), Vina del Mar, Chile. He has been co-organizer and co-chair of the program committee for the international meeting on Analysis of Algorithms that took place at the CRM in Montreal in June 2012.

Christine Fricker is member of the jury of agrégation.

Philippe Robert is Associate Editor of the Book Series "Mathématiques et Applications" edited by Springer Verlag and Associate Editor of the journal "Queueing Systems, Theory and Applications". He is member of the scientific council of EURANDOM. He is also associate Professor at the École Polytechnique in the department of applied mathematics where he is in charge of lectures on mathematical modeling of networks. He has been a member of the technical programme committee of the conference ICCCN (2012).

James Roberts is a Fellow (membre émérite) of the SEE. In 2012, he has been a member of the technical programme committee of the following conferences: NOMEN, CoNext, ITC.

7.2. Teaching

Nicolas Broutin has taught at the Master Parisien de Recherche en Informatique (MPRI), in the course 2.15 on Analysis of Algorithms. He also gave a series of tutorials on the continuum random tree at the Adama summer school in Mahdia, Tunisia.

Mathieu Feuillet is teaching assistant for the course "Traffic, Queueing and Networks" given by Thomas Bonald at Telecom ParisTech. He defended his PhD thesis intitled *Bandwidth allocation in large stochastic networks*. He received the Gilles Kahn Award for his thesis.

Emanuele Leoncini is teaching assistant at the University Pierre et Marie Curie.

Philippe Robert gives Master2 lectures in the laboratory of the Probability of the University of Paris VI. He is also giving lectures in the "Programme d'approfondissement de Mathématiques Appliquées et d'Informatique" on Networks and Algorithms at the École Polytechnique. He was a reviewer of the PhD document of S. Malik (UPMC) and P. Keller (Universität Potsdam).

James Roberts was reviewer for the thesis defense of Massimo Gallo (EDITE), Addisu Tadesse Eshete (NTNU, Norway), Pedro Aranda (U. Paderborn, Germany); he was committee member for the HDR of Mai Trang Nguyen (EDITE). He was member of the appointment committee at KTH (Sweden) for the promotion to Assistant Professor of G. Dan.

7.3. Conference and workshop committees, invited conferences

Nicolas Broutin has given lectures at the annual meeting of ANR Boole, the A3 congress at the CIRM, and the invited session on "spatial stochastic models" at the World Congress in Probability and Statistics. He has presented his results at the Probability seminar at McGill, the Séminaire Combinatoire Philippe Flajolet at IHP, and the Algo lunch at UL in Brussels. He has been invited talk at the Oberwolfach Meeting on "scaling limits for models of statistical physics". *Nicolas Broutin* has participated to workshops on "probabilistic combinatorics" at McGill Bellair's intitute, and on "interaction stochastic/computational geometry" organized in Cluny by the ANR Presage. He has visited the computer science department of UL in Brussels. *Nicolas Broutin* has submitted his HDR, the defense will take place in January 2013.

Mathieu Feuillet gave a talk at the conference ALEA 2012 in Marseille (March 2012).

Christine Fricker gave a talk at the conference AofA in Montreal (June 18 2012).

Emanuele Leoncini gave a talk in the RAP team seminar at Inria Rocquencourt (November 2012), an invited talk at the CMAP at Ecole Polytechnique (November 2012). *Mathieu Feuillet* and *Emanuele Leoncini* are in the organizing committee of the “Junior Seminar” at Inria Rocquencourt. *Emanuele Leoncini* participated to the “Journées ALÉA 2012” (March 2012) at CIRM in Marseilles.

James Roberts gave invited talks at Technicolor (April), BCAM Bilbao (June), ATT Labs (Sept), Bell Labs Murray Hill (Sept), KTH Stockholm (Oct), NTNU (Nov). He presented papers at NOMEN 2012 (March) and ITC (Sept).

Philippe Robert gave a set of 5 lectures at BCAM (Bilbao) on fluid limits (January 2012) and a talk at the ICERM, Brown University, Providence (October 2012).

Nada Sbihi presented a paper at Infocom (March).

REALOPT Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Organization of workshops

- Arnaud Pêcher was in the organizing committee of the Bordeaux Graph Workshop 2012.
- Pierre Pesneau is member of the organizing committee of the working group "Polyhedra and Combinatorial Optimization" affiliated to the French operations research society (ROADEF) and the operations research group of CNRS. The purpose of this working group is to promote the field of polyhedra in the research domain of combinatorial optimization. To this aim, the group organizes every even years a biennial international symposium on combinatorial optimization (ISCO 2010 in Tunisia, ISCO 2012 in Greece, ISCO 2014 will be held in Portugal) and every odd years the national Polyhedra and Combinatorial Optimization Days. Both of them are preceded by a doctoral spring school.

9.1.2. Invitations to conferences

- Arnaud Pêcher, *How unique is Lovász's theta function?*, 2012 International Conference on Graph Theory, Combinatorics and Applications, Jinhua, Chine, 2012
- Francois Vanderbeck had an "invited talk" at the *International Workshop on Column Generation*, Montréal 2012. He was also an *Invited speaker* at the *Workshop on Integer Programming*, Valparaiso, Chile, March 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master "Ingénierie Mathématique, Statistiques, et Economique": "Optimisation dans les graphes", University of Bordeaux, France.

"Modèles de Flot et Combinatoire", 45 hetd, M1 (Gautier Stauffer)

"Optimisation dans les graphes", 15h, M1, (Arnaud Pêcher)

"Optimisation combinatoire", 30 hetd, M1, (Andrew Miller, Francois Vanderbeck)

"Outils et logiciels d'optimisation", 14 hetd, M1, (Andrew Miller)

"Programmation linéaire", 60 hetd, M1, (Andrew Miller, Pierre Pesneau)

"Programmation linéaire", 30 hetd, M1 (Pierre Pesneau)

"Introduction à la Programmation en Nombres Entiers", 15 hetd, M1 (Pierre Pesneau)

"Programmation Orienté Objet", 15 hetd, M1 (Pierre Pesneau)

"Introduction à la Programmation par Contraintes", 30 hetd, M2, (Ruslan Sadykov).

"Gestion des opérations et Planification de la Production", 30 hetd, M2, (Ruslan Sadykov).

Other Masters:

Enseirb, Computer Sciences: "Recherche Opérationnelle", 37 hetd, 2nd year, Institut Polytechnique de Bordeaux, France (Pierre Pesneau, Francois Vanderbeck)

9.2.2. Supervision

PhD: Petru Valicov, “Algorithmes de graphes pour les problèmes d’ordonnancement”, Juillet 2012, A. Pêcher, M. Montassier, E. Sopena

PhD in progress: Sagnik Sen, “Graphes et télécommunications”, January 2011, E. Sopena, A. Pêcher, A. Raspaud.

PhD in progress: Nastaran Rahmani, “Planning and Routing via decomposition approaches”, April 2011, R. Sadykov, F. Vanderbeck

PhD in progress: Nicolas Dupin, “Scheduling Maintenance of Nuclear Plants in Power Production Planning”, Mai 2011, A. Miller, R. Sadykov, E. Talbi, F. Vanderbeck.

9.2.3. Juries

- Francois Vanderbeck was a member of the PhD jury of Sergey Kovalev, at Ecole des mines de St Etienne.

9.2.4. Administrative Responsibilities

Each member of the team is quite involved in teaching in the thematic specialties of the project, including in the research track of the Masters in applied mathematics or computer science and an Operations Research Track in the computer science department of the Engineering school ENSEIRB-MATMECA. Moreover, we are largely implied in the organization of the curriculum:

- Arnaud Pêcher was the head of IUT Computer Science’s special year, since 2010.
- Francois Vanderbeck has succeeded to Andrew Miller as the head of the Master Speciality in Operations Research. He is also a member of the council of the laboratory of mathematics of Bordeaux (IMB) and its scientific committee.
- Pierre Pesneau is elected (since March 2011) to the council of the laboratory of mathematics of Bordeaux (IMB) and (since March 2012) to the council of the department of Mathematics and Computer Science of the University of Bordeaux.
- Ruslan Sadykov is elected (since September 2012) to the research council of the laboratory of mathematics of Bordeaux (IMB).

REGAL Project-Team

8. Dissemination

8.1. Scientific Animation

Luciana Arantes is:

- co-chair of P2PDep: 1st Workshop on dependability on P2P systems in conjunction with EDCC 2012.
- PC member of ICPADS 2012, LADC 2013, P2P-DEP 2012, GPC 2013.
- Reviewer for Journal of Parallel and Distributed Computing (JPDC) and Future Generation Computer System

Bertil Folliot is:

- Member of the "Executive Committee" of GdR ASR (Hardware, System and Network), CNRS.
- Elected member of the IFIP WG10.3 working group (International Federation for Information Processing - Concurrent systems).
- Member of the "Advisory Board" of EuroPar (International European Conference on Parallel and Distributed Computing), IFIP/ACM.
- Member of the "Steering Committee" of the International Symposium on Parallel and Distributed Computing" (ISPDC).
- PC member of ISPDC 2011, ISPDC 2012, ISPDC 2013.

Maria Potop-Butucaru is:

- Member of PC of ICDCS 2012 (IEEE 32nd International Conference on Distributed Computing Systems)
- Member of PC of SSS 2012(13th International Symposium on Stabilization, Safety, and Security of Distributed Systems), co-chair track Self-Stabilization

Olivier Marin is:

- Reviewer for Distributed Computing, and Techniques et Sciences Informatiques.
- Member of the scientific committee of LIP6.

Sébastien Monnet is:

- Elected member of the administrative committee of LIP6.
- Member of the program committee of the 1st IEEE International Conference on Cloud Networking, CloudNet, Paris, November 2012.

Gilles Muller is:

- Distributed OS and Middleware track co-chair of ICDCS 2012
- Poster chair of DSN 2012
- PC member of SYSTOR 2012
- PC member of ICDCN 2013
- PC member of EuroSys 2013
- Member of "Comité de selection" of INSA de Lyon (Professeur) and University of Rennes (Professeur)
- Management Committee Substitute Member for the COST action "Transactional Memories: Foundations, Algorithms, Tools, and Applications (Euro-TM)" and leader of the working group on "Hardware's and Operating System's Supports"
- Reviewer for the Flanders Research Foundation
- Reviewer for the Swiss National Science Foundation
- Member of IFIP WG 10.4 (Dependability)

Julia Lawall is:

- Chair of the steering committee of Generative Programming and Component Engineering (2011, 2012)
- Secretary of IFIP TC2 (since 2011)
- Member-at-large of the SIGPLAN Executive Committee
- Member of the editorial board of Science of Computer Programming
- Associate editor of Higher Order and Symbolic Computation
- PC member of 21st International Conference on Compiler Construction (CC 2012)
- PC member of Modularity: AOSD 2012
- PC member of OOPSLA 2012
- PC member of OBT: Underrepresented Problems for PL Researchers, with POPL 2012
- PC member of PPDP 2012
- Invited reviewer for PLDI 2012
- Member of IFIP WG 2.11 (Program Generation)

Franck Petit is:

- Vice Chair for the Special Journal Issue (TCS) of Track “Distributed Computing” of ICDCN 2013, IEEE 33rd International Conference on Distributed Computing and Networking, Mumbai, India, janvier 2013.
- PC Member of Renpar’21, 21st Rencontres francophones du Parallélisme, Grenoble, France, janvier 2013.
- PC Member of SSS 2012, 14th International Symposium on Stabilization, Safety, and Security of Distributed Systems, ed. LNCS, Toronto.
- PC Member of ICDCN 2012, 32nd International Conference on Distributed Computing and Networking, Hong Kong, China.
- Invited Editor for TCS, Theoretical Computer Science Special Issue on Stabilization, Safety, and Security of Distributed Systems 2011.
- Invited Editor for TCS, Theoretical Computer Science Special Issue on Stabilization, Safety, and Security of Distributed Systems 2011.
- Co-chair of Department “Networks and Distributed Systems” of LIP6 Laboratory.
- Member of “Vivier d’experts” and member of “Comité de selection” of UPMC Paris 6.

Pierre Sens is:

- co-Chair of P2P-Dep 2012 (1st Workshop on P2P and Dependability in conjunction with EDCC 2012)
- Member of PC of ICDCS 2012 (IEEE 32nd International Conference on Distributed Computing Systems)
- Member of PC of EDCC’2012 (9th European Dependable Computing Conference)
- Member of PC of IPDPS’2013 (IEEE International Parallel & Distributed Processing Symposium)
- Member of "Directoire de la recherche" of University Pierre et Marie Curie.
- vice-chair of LIP6 Laboratory.
- Member of the scientific council of AFNIC.
- Member of the scientific committee of LIP6.
- Member of the evaluation committee of the Digiteo DIM LSC program.
- Member of "Comité de selection" of Universities of Grenoble and Paris XI.

Marc Shapiro is:

- Member of Advisory Board for CITI, the Research Center for Informatics and Information Technologies of UNL, the New University of Lisbon (Portugal).
- Member of the steering committee for the LADIS workshop (Large-Scale Distributed Systems and Middleware).
- Promotion reviewer for various European universities (names confidential).
- Reviewer for European Research Council.
- Reviewer for ANR (Agence Nationale de la Recherche), France.
- Reviewer for National Science Foundation, Switzerland.
- Reviewer for USA-Israel Binational Science Foundation.
- Reviewer for Swedish Research Council .
- Reviewer for Springer Distributed Computing.
- Reviewer for IEEE Transactions on Parallel and Distributed Systems (TPDS).
- Member, ACM Distinguished Service Award Committee 2010.
- Member, ACM Europe Council. Co-chair, ACM Europe Council subcommittee on Members and Awards.

Gaël Thomas is :

- DAIS 2012: IFIP 12th conference on Distributed Applications and Interoperable Systems, Stockholm, Sweden.
- Elected member of the administrative committee of LIP6.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Gaël Thomas, Introduction to the C programming language, L1, Université Paris 6

Licence : Gaël Thomas, Introduction to computer architecture, L2, Université Paris 6

Licence : Luciana Arantes, Bertil Folliot, Maria Potop-Butucaru, Julien Sopena, Franck Petit, Principles of operating systems, L3, Université Paris 6

Licence : Mesaac Makpangou, Client/server architecture, L3 professionnelle, Université Paris 6

Licence : Sébastien Monnet, System and Internet programmation, L2, Université Paris 6

Licence : Sébastien Monnet, Computer science initiation, L1, Université Paris 6

Master : Luciana Arantes, Sébastien Monnet, Pierre Sens, Julien Sopena, Gaël Thomas, Operating systems kernel, M1, Université Paris 6

Master : Luciana Arantes, O. Marin, Maria Potop-Butucaru, Distributed algorithms, M1, Université Paris 6

Master : Luciana Arantes, Oliver Marin, Pierre Sens, Advanced distributed algorithms, M2, Université Paris 6

Licence : Luciana Arantes, Bertil Folliot, Olivier Marin, POSIX Advanced C system programming, M1 d'Informatique, Université Paris 6

Master : Bertil Folliot, Julien Sopena, Distributed systems and client/serveur, M1 , Université Paris 6

Licence : Bertil Folliot, C programming & systems, L2, Université Paris 6

Licence : Bertil Folliot, Directed projects, L2, Université Paris 6

Licence : Bertil Folliot, Head of the Computer Courses "Applications of Computer Technology and Communication", L2, Université Paris 6

Master : Franck Petit, Maria Potop-Butucaru, Resistance of Distributed Attacks, M2, Université Paris 6,

Master : Luciana Arantes, Sébastien Monnet, Julien Sopena, Gaël Thomas, Middleware for advanced computing systems, M2, Université Paris 6”

Master : Marc Shapiro, Julien Sopena, Gaël Thomas, multicore kernels and virtualisation, M2, Université Paris 6

8.2.2. Supervision

HdR : Gaël Thomas, Amélioration du design et des performances des machines virtuelles langage, UPMC, 09/29/2012

PhD : S. Legtchenko, Exploiting player behavior in distributed architectures for online games, UPMC, 10/25/2012, Sébastien Monnet, Pierre Sens

8.2.3. Juries

Gilles Muller was the reviewer of:

- Maxime Lastera. PhD. INSA Toulouse, (Advisor : J. Arlat)
- Nicolas Berthier. PhD. University of Grenoble, (Advisor : F. Maraninchi)

Pierre Sens was the reviewer of:

- Kiril Georgiev. PhD. LIG, (Advisor : J-F Méhaut)
- Heverson Borba Ribeiro. PhD. IRISA, (Advisor : E. Ancaume)
- Khanh-Toan Tran. PhD. Evry, (Advisor: N. Agoulmine)

Franck Petit was the reviewer of:

- Thomas Morsellino, PhD LaBRI, Bordeaux (Advisor: Y. Métivier)
- Damien Imbs, PhD IRISA, Rennes (Advisor: M. Raynal)

Gaë Thomas was the reviewer of:

- Geoffroy Cogniaux, PhD LIFL, Lilles (Advisor: G. Grimaud)

Julia Lawall was member of the jury of:

- Veronica Uquillas Gomez. PhD. VUB-Univ. Lille, (Advisors : Theo D’Hondt, Stephane Ducasse)

REGULARITY Project-Team

9. Dissemination

9.1. Scientific Animation

Jacques Lévy Véhel is associate editor of the journal *Fractals*.

Jacques Lévy Véhel was invited for two weeks at the program *Stochastic Analysis* organized by the Bernoulli Center, Lausanne.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Erick Herbin is head of the Mathematics Department at Ecole Centrale Paris since 2011.
- Erick Herbin is in charge of the “Mathematical Modeling and Numerical Simulation” Program in the Applied Mathematics option of Ecole Centrale Paris.
- Erick Herbin is in charge of the Probability course at Ecole Centrale Paris (20h).
- Erick Herbin is in charge of the Advanced Probability course at Ecole Centrale Paris (30h).
- Erick Herbin and Jacques Lévy Véhel are in charge of the Brownian Motion and Stochastic Calculus course at Ecole Centrale Paris (30h).
- Erick Herbin gives tutorials on Real Analysis and Integration at Ecole Centrale Paris (10h).
- Jacques Lévy Véhel teaches a course on Wavelets and Fractals at Ecole Centrale Nantes (8h).
- Paul Balança and Alexandre Richard are teaching assistants since October 2010 at Ecole Centrale Paris:
 - Paul Balança gives tutorials on Probability, Real Analysis and Integration at Ecole Centrale Paris (20h).
 - Alexandre Richard gives tutorials on Probability and Statistics at Ecole Centrale Paris (20h).
 - Paul Balança and Alexandre Richard give tutorials on Advanced Probability at Ecole Centrale Paris (17h).
- Paul Balança, Erick Herbin and Alexandre Richard supervise several student’s research projects in the field of Mathematics at Ecole Centrale Paris.

9.2.2. Supervision

PhD : Joachim Lebovits, Stochastic Calculus With Respect to Multifractional Brownian Motion and Applications to Finance, Université de Paris 6, defended on January 25, 2012, supervised by J. Lévy Véhel and M. Yor.

PhD in progress : Benjamin Arras, Self-similar processes in higher order chaoses, started in September 2011, supervised by J. Lévy Véhel.

PhD in progress : Paul Balança, Stochastic 2-microlocal analysis of SDEs, started in October 2010, supervised by Erick Herbin.

PhD in progress : Alexandre Richard, Regularity of set-indexed processes and construction of a set-indexed process with varying local regularity , started in October 2010, supervised by Erick Herbin and E. Merzbach.

9.3. Popularization

J. Lévy Véhel has written articles for Interstices and the "le saviez-vous" page of Inria web site.

REO Project-Team

8. Dissemination

8.1. Scientific Animation

- Laurent Boudin
 - Member of the Board of Mathematics Licence (*EFU de Licence de mathématiques*), UPMC.
 - Co-organizer of the monthly workgroup “Humaniste” focusing on mathematics applied to humanities, alternatively taking place at UPMC, UP7D and Orléans and jointly handled by LJLL, MAPMO and CAMS.
- Miguel Ángel Fernández Varela
 - Member of the Postdocs Selection Committee, Inria Paris-Rocquencourt, 2012
- Jean-Frédéric Gerbeau
 - Member of the editorial boards of Mathematical Modelling and Numerical Analysis (M2AN), International Journal for Numerical Methods in Biomedical Engineering (IJN-MBE), Communications in Applied and Industrial Mathematics.
 - Service activity at Inria: Délégué Scientifique / Chairman of the project-teams’ committee of Inria Paris-Rocquencourt research center; Member of the evaluation committee of Inria
 - Service activity in Universities: Member of the Mathematics Faculty Council of University P. & M. Curie Paris 6 (conseil de l’UFR 929); member of the scientific committee of the Faculty of Science, University Versailles Saint-Quentin; member of the Reference Committee of the PhD program Mathematical Models and Methods in Engineering (Politecnico di Milano, Italy);
- Céline Grandmont
 - Member of the CNU 26 (2011–2015)
- Elisa Schenone
 - Co-organizer of the monthly Junior Seminar of Inria Paris-Rocquencourt
- Marc Thiriet
 - President of thematic committee CT3 (Biomedical Simulation and Applications to Health) of GENCI (Grand Equipement National de Calcul Intensif – National Large Equipment for Intensive Computation)
 - PRACE peer review staff member (Panel 4 [Biochemistry, Bioinformatics and Life Sciences])
 - Member of the Mechanical Engineering Evaluation Group of the Canadian Granting Agency NSERC
 - Member of the Scientific Committee of the PME DiscInNet
- Marina Vidrascu
 - Member of the Postdocs Selection Committee, Inria Paris-Rocquencourt, 2011
- Irène Vignon-Clementel
 - Organizing the monthly seminar at Inria Paris-Rocquencourt on “modeling and scientific computing”

- Inria: member of the “Conseil d’orientation scientifique et technologique” (scientific and technologic orientation council) of l’Inria, in the subgroup “GT Actions Incitatives” (incentive action working group), PhD grant committee
- Mediator between PhD students and their supervisors for Inria Paris-Rocquencourt
- Coordinator of the associated team CARDIO between REO and Prof. Taylor’s lab at Stanford University, USA and colleagues both at Inria and in the USA (2008-present)

Conferences

- Grégory Arbia
 - Poster, 3rd annual conference on engineering frontiers in pediatric and congenital heart disease, Stanford University, May 2012.
 - Seminar, Laboratoire de Mathématiques appliquées, Univ. Paris 5, June 2012.
- Cristóbal Bertoglio Beltran
 - Contributed talk at 10th International Symposium Computer Methods in Biomechanics and Biomedical Engineering, April 11- 14th, 2012, Berlin, Germany
- Laurent Boudin
 - Seminar, Mapmo, Univ. Orléans, France, February 2012.
 - Seminar, ACSIOM, Univ. Montpellier-II, France, March 2012.
 - Seminar, LAGA, Univ. Paris-Nord, France, March 2012.
 - Colloquium, MAP5, Univ. Paris-Descartes, France, June 2012.
 - Contributed talk, HYP’2012, Padova, Italy, June 2012.
- Muriel Boulakia
 - Seminar, Univ. Metz, march 2012
 - Seminar, Univ. Paris-sud, may 2012
 - Invited speaker, Workshop Control of fluid-structure systems, Toulouse, june 2012
 - Invited speaker, Congrès Random Models in Neurosciences, Paris, july 2012
 - Evaluation talk, AERES evaluation, november 2012
- Paul Cazeaux
 - Seminar, REO team, Inria Paris-Rocquencourt, April 2012
 - Poster, CANUM 2012, Superbesse, Mai 2012
 - Contributed talk, ECCOMAS conference, Vienna, Austria, September 2012
 - Seminar, Homogenization and multiple scales, UPMC Paris 6, November 2012
 - PhD students Seminar, LJLL, UPMC Paris 6, November 2012
- Cesare Corrado
 - Contributed talk at Bioengineering 2012, Oxford, 6-7 September 2012 (with J-F. Gerbeau, P. Moireau),
- Anne-Claire Egloff
 - PASI-CIPPDE 2012, Inverse problems and PDE control. Santiago, Chili, January 2012.
 - Seminar, University of Besançon, May, 2012.
 - Seminar, Institut Elie Cartan, Nancy, May, 2012.
- Miguel Ángel Fernández Varela
 - Seminar, Basque Country University, March 12, Bilbao, Spain
 - Seminar, Weierstrass Institute, April 19, Berlin, Germany
 - Invited talk at minisymposium, CANUM 2012, May 21-25, Superbesse, France

- Keynote speaker at minisymposium, ECCOMAS 2012, September 10-14, 2012, Vienna, Austria
- Seminar, University of Besançon, September, 2012, France
- Seminar, University of Granada, October 16, 2012, Spain
- Seminar, University of Sevilla, October 17, 2012, Spain
- Seminar, University of Zaragoza, October 18, 2012, Spain
- Seminar, Polytechnic University of Madrid, October 19, 2012, Spain
- Justine Fouchet-Incaux
 - Contributed talk Rencontres doctorales de l’IMREDD, Institut Méditerranéen du Risque, de l’Environnement et du Développement Durable, Nice, oct. 2012
 - PhD students seminar, Orsay, nov. 2012
 - CEMRACS’12, Marseille, juil. 2012
- Jean-Frédéric Gerbeau
 - Invited conference, Rencontre iDySCo (Institut Dynamique des Systèmes Complexes), Villard de Lans, January 9-10, 2012
 - Invited conference, Printemps de la cardiologie, Bordeaux, April 12-13, 2012
 - Invited conference, 1st Usergroup Workshop of the Notocord company, Paris, June 7-8, 2012
 - Invited conference, CECAM Workshop: Reduced Order Methods for modeling and computational reduction, Switzerland, May 14-16, 2012
 - Invited minisymposium talk, UK Bioengineering conference, Oxford, September 24-25, 2012
 - Seminar, Journée Calcul Scientifique et Modélisation Mathématique d’Amiens, 2012
 - Seminar, Groupe Medisys, Philips, Jan 3, 2012
- Céline Grandmont
 - Invited speaker, Journées MIREs EDP, October 2012
 - Plenary conference, XIème colloque franco-roumain de mathématiques appliquées, August 2012
 - Invited speaker, Workshop Control of fluid-structure systems and inverse problems, June 2012
 - Plenary conference, CANUM 2012, Super Besse, May 2012
 - Seminar, Lyon, January 2012
- Bérenice Grec
 - Seminar, Applied Mathematics, Univ. Blaise Pascal, March 15, 2012, Clermont-Ferrand, France
 - Journée Mathématiques et Biologie du PRES Sorbonne Paris Cité, April 5, 2012, Paris, France
 - Seminar, PDEs, Univ. Strasbourg, June 19, 2012, Strasbourg, France
- Sébastien Martin
 - Poster, Congrès National de Physiologie Pharmacologie et Thérapeutique, Dijon 2012
 - Seminar, DAMTP: Applied and Computational Analysis, University of Cambridge, UK, 2012
 - Contributed talk, CANUM 2012, Superbesse, France.
 - Contributed talk, Softflow 2012: Biological complex fluids, Cargèse, 2012.

- Invited talk, Workshop on Complexity in Fluid Mechanics, Vienna, Austria 2012.
- Ayman Moussa
 - Contributed talk at the Spring School on Kinetic Theory and Fluid Mechanics, March 26-30th 2012 Université Claude Bernard, Lyon.
 - Workshop on Kinetic Equations, 21th June 2012, ENS Cachan
- Elisa Schenone
 - Poster, CANUM 2012, Superbesse, May 2012
 - CEMRACS 2012, Cirm-Marseille, 16/07-24/08, 2012
- Saverio Smaildone
 - Contributed talk 10th World Congress on Computational Mechanics (WCCM 2012) 8 -13 July 2012, São Paulo, Brazil
 - Contributed talk 6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012) 10-14 September 2012, University of Vienna, Austria.
 - Seminar, Inria-Rocquencourt, November 20th, Le Chesnay, France
- Marc Thiriet
 - Plenary Conference, CMMBE 2012, 10th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering, 11–14 april 2012, Berlin, Germany
 - Contributed talk International Union of Theoretical and Applied Mechanics (IUTAM) Symposium on Particle Methods in Fluid Mechanics, October 15–17, 2012 Lyngby, Denmark (with Chatelin R, Poncet P, Didier A, Murriss-Espin M, Anne-Archard D)
 - Contributed talk 12TH International Symposium on Therapeutic Ultrasound, , 10–13 June, 2012, Heidelberg, Germany, (with Maxim A. Solovchuk, Tony W. H. Sheu)
- Marina Vidrascu
 - Contributed talk 10th World Congress on Computational Mechanics (WCCM 2012) 8 -13 July 2012, São Paulo, Brazil
 - Invited conference, XIème colloque franco-roumain de mathématiques appliquées, August 2012
 - Contributed talk 21st International Conference on Domain Decomposition Methods, 25-29 June, Inria Rennes-Bretagne
 - Seminar, Univ Caen (France)
- Irène Vignon-Clementel
 - Seminar, Mathematical modeling in Medicine workshop, Laboratoire de Mathématique, March 12th 2012, U. Versailles Saint Quentin, France
 - Invited lecture at the Spring school 2012 on systems biology, March 30th 2012, HelmholtzZentrum München, Germany
 - Contributed talk, 10th International Symposium on Biomechanics and Biomedical Engineering, April 11th-14th, Berlin, Germany
 - Invited poster, 3rd International Conference on Engineering Frontiers in Pediatric and Congenital Heart Disease, May 1st-2nd 2012, Stanford University, USA
 - Invited talk, BIS'2012 workshop, May 22nd, Paris, France
 - Contributed talk co-authored N. Jagiella and D. Drasdo, SBMC conference, July 9th-11th, Leipzig, Germany
 - Invited keynote at a minisymposium, ECCOMAS, 10th-14th September, Vienna, Austria [cancelled due to personal reasons]
 - Invited talk, Cancersys kickoff meeting, PI presentation of Lungsys consortium, October 8th-9th 2012, Heidelberg, Germany
 - Seminar, Laboratoire Jacques Louis Lions, Paris 6 UPMC, November 19th, 2012, France

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

DUT :

- Justine Fouchet-Incaux Algorithmiques et langages, 36h, IUT d'Orsay, département informatique, Université Paris-Sud
- Justine Fouchet-Incaux Mathématiques S2, 25,5h, IUT d'Orsay, département Mesures-Physiques, Université Paris-Sud
- Justine Fouchet-Incaux Mathématiques S1, 24h, IUT d'Orsay, département Chimie, Université Paris-Sud

Licence :

- Grégory Arbia Algèbre 1: calcul vectoriel, 36h, L1, UPMC.
- Grégory Arbia Calcul matriciel numérique, 24h, L3, UPMC.
- Laurent Boudin: Series and integrals (15h), L2, UPMC.
- Laurent Boudin: Multivariable calculus and multiple integrals (72h), L2, UPMC.
- Laurent Boudin: Hilbert analysis (16h), L3, Polytech'Paris.
- Paul Cazeaux Algebra 1, vectorial calculus, 72h, L1, UPMC Paris 6
- Paul Cazeaux Analysis 1, Functions, 36h, L1, UPMC Paris 6
- Anne-Claire Egloff: Fonctions de plusieurs variables et intégrales multiples, L2, (36 h), UPMC
- Anne-Claire Egloff: Khôlles Séries et intégrales, L2 (20 h), UPMC
- Ayman Moussa, Numerical Methods for differential equations (36h), L3, UPMC.
- Ayman Moussa, Introduction to Numerical Analysis oral exams, (15h), L3, UPMC.
- Miguel A. Fernández Scientific computing, 30h, level L3, École des Ponts ParisTech, France.
- Muriel Boulakia Vector calculus (24h), L1, UPMC, France
- Muriel Boulakia Linear optimization and convexity (36h), L3, UPMC, France.
- Muriel Boulakia Hilbertian analysis (30h), L3, Polytech'Paris, France
- Irène Vignon-Clementel Mathematics for biology, 64h ETD, L1 - undergraduate, Univ. de Versailles Saint Quentin

Master :

- Laurent Boudin: Numerical analysis (8h), M1, Polytech'Paris.
- Laurent Boudin: Basics for numerical methods (32h), M1, UPMC.
- Ayman Moussa, Real Analysis (72h), M1, UPMC.
- Ayman Moussa, Numerical analysis (38h), M1, Polytech'Paris.
- Ayman Moussa, Revision lecture on analysis and linear algebra (50h), M1, AIMS-Sénégal.
- Marc Thiriet Biofluid flows, 12 h. M2, UPMC
- Miguel A. Fernández Numerical methods in bio-fluids, 6h, level M2, University of Vigo, Spain.
- Miguel A. Fernández Inverse problems, 44h, level M1, Ecole Supérieure d'Ingénieurs Léonard de Vinci
- Muriel Boulakia Approximation methods for partial differential equations (72h, taught in english), M1, UPMC, France

- Muriel Boulakia Preparatory course for teaching admission examination Agrégation (15h), M2, UPMC, France
- Irène Vignon-Clementel Modeling Techniques, 24h ETD, M1, Univ de Versailles Saint Quentin.
- Irène Vignon-Clementel Different types of model for blood flow simulations, within the course Mathematics modeling for biology, 5h ETD, M1, Ecole Centrale Paris
- Apport des mathématiques appliquées (30min) "Diplôme universitaire de Médecine" on percutaneous valvular replacement, May 25th, Paris, France.

Others

- Ecole de printemps - Marrakech (LAMAI, FST) : Marc Thiriet Mathématiques & Interactions (6h)
- Ecole d'été - Roscoff (ICS, UPMC) : Marc Thiriet Biomathematics & Bioinformatics (12h)
- Biomathematical and Biomechanical Modeling and Simulation, Marc Thiriet (L3) Dpts of Mathematics, Computer Sciences, Physics, and Biology, 20h, Tbilisi State University (TSU)
- Laurent Boudin Supervisor (for mathematics) of the bidisciplinary computer science / applied mathematics licence program and of the joint program UPMC-Brown on computer science / applied mathematics at the licence level (18h).
- Irène Vignon-Clementel Numerical simulations of blood flow, 1h30, as part of the undergraduate continuum mechanics class at AgroParisTech, France

8.2.2. Supervision

PhD : Cristóbal Bertoglio Beltran, *Forwar and Inverse problems in fluid-structure interaction. Application in hemodynamics*, 23 November 2012. Supervisors: J-F. Gerbeau & M.A. Fernández Varela.

PhD : Paul Cazeaux, *Homogenization and lungs modelling*, 12 December 2012 Supervisors: C. Grandmont & Y. Maday

PhD : Anne-Claire Egloffé, *Inverse problems in lungs modelling*, 19 October 2012. Supervisors: C. Grandmont & M. Boulakia.

PhD : Sofiene Hendili, *Structures élastiques comportant une fine couche d'hétérogénéités : étude asymptotique et numérique*, 4 July 2012. Supervisors: F. Krasucki & M. Vidrascu.

PhD in progress : Grégory Arbia, *Multi-scale Modeling of Single Ventricle Hearts for Clinical Decision Support*, since October 2010. Supervisors: J-F. Gerbeau & I. Vignon-Clementel.

PhD in progress : Justine Fouchet-Incaux, *Mathematical and numerical modeling of the human breathing*, since October 2011. Supervisors: C. Grandmont & B. Maury.

PhD in progress : Stéphane Liwarek, *Air flow in the nasal cavity*, since October 2010. Supervisors: M.A. Fernández & J-F. Gerbeau

PhD in progress : Jimmy Mullaert, *Fluid-structure interaction*, since September 2009. Supervisors: M.A. Fernández & Y. Maday

PhD in progress : Elisa Schenone, *Inverse problems in electrocardiology*, since October 2011. Supervisors: J-F. Gerbeau & M. Boulakia.

PhD in progress : Saverio Smaldone, *Numerical methods for cardiac hemodynamics*, since October 2010, Supervisors: J-F. Gerbeau & M.A. Fernández.

8.2.3. Juries

- Laurent Boudin

- Member of the PhD committees of Phung Thanh-Tam (University Orléans, July 2012).
- Muriel Boulakia
 - Hiring committees: Univ. Caen, Univ. Versailles, Univ. P. & M. Curie (MCF positions)
- Miguel Ángel Fernández Varela
 - Member of the PhD committees of M. Pozzoli ((referee), Politecnico di Milano, Italy); A. Fumagalli (Politecnico di Milano, Italy), M. Pischutta (Politecnico di Milano, Italy), V. Vitelli (Politecnico di Milano, Italy) and C. Bertoglio (University Paris VI) and B. Fabrèges (University Orsay Paris-Sud)
- Jean-Frédéric Gerbeau
 - Member of the PhD committees of Alistair Brown (Sheffield university (referee)) , Cristóbal Bertoglio (University Paris VI)
 - Hiring committees: Univ Montpellier (Professor position), Inria (DR2).
- Céline Grandmont
 - Member of the PhD committees of S. Court ((president of the jury) University Toulouse); A.-C. Egloff (University Paris VI) and P. Cazeaux (University Paris VI)
 - Member of the HDR committees: of O. Saut ((referee) University Bordeaux Univ.); S. Martin (University Orsay Paris-Sud)
 - Hiring committees: Bordeaux Univ. (President of the hiring committee for an Assistant Professor position in Scientific computing), Bordeaux Univ. (Professor position), Dauphine (Assistant Professor position).
- Bérenice Grec
 - Hiring committee: Univ. Orléans (MCF position)
- Sébastien Martin
 - Hiring committee: École Nationale Supérieure des Arts et Métiers (mechanics).
- Marc Thiriet
 - Member of the selection committee of HPC projects in the framework of HPC-Europa2 – Pan-European Research Infrastructure for High Performance Computing supported by the European Commission Capacities Area - Research Infrastructures Initiative
 - Member of the PhD committees of Referee of Bruno Tayllamin ((referee) University Montpellier 2); Edmund G. Lobb, (Aeronautics Dpt., Imperial College of London)
- Marina Vidrascu
 - Member of the PhD committees of Sofiene Hendili (University Montpellier)
 - Hiring committee: Univ Grenoble (MCF position)
- Irène Vignon-Clementel
 - Member of the PhD committees of: Yiyi Wei (University Lille); Nick Jagiella (University Paris 6 UPMC)
 - Hiring committee for assistant professor positions at Grenoble University

8.3. Popularization

- Jean-Frédéric Gerbeau
 - Mediation and popularization of sciences: talk for "Fête de la science" Inria Paris-Rocquencourt
- Irène Vignon-Clementel
 - Journée "Filles et Mathématiques", High-school students, February 2nd & December 12th, 2012, Paris, France

REVES Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Program Committees

G. Drettakis served on the ACM SIGGRAPH program committee. G. Drettakis and A. Bousseau served on the Eurographics Symposium on Rendering program committee. A. Bousseau served on the NPAR program committee.

8.1.2. Community service

G. Drettakis chairs the Eurographics (EG) Awards Committee and the EG Working group on Rendering and is part of the EG conference steering committee and the Advisory Board for Eurographics 2013. He is an associate editor-in-chief for IEEE Transactions on Computer Graphics and Visualization. G. Drettakis heads the steering committee of the Gouraud-Phong Immersive Space at Sophia-Antipolis.

8.1.3. Conference Presentations and Attendance

At SIGGRAPH 2012 in Los Angeles, G. Drettakis presented the paper [15] together with Bruno Galerne, A. Bousseau presented the paper [20] (August), and P-Y. Laffont presented a poster and a short talk on his work [22]. G. Chaurasia also attended the SIGGRAPH conference.

P-Y. Laffont presented his paper [19] at SIGGRAPH Asia 2012 in Singapore (December).

G. Drettakis attended EUROGRAPHICS 2012.

C. Verron presented the paper [23] at the AES Convention in San Francisco.

J. Lopez-Moreno, A. Bousseau and S. Duchêne attended the Eurographics Symposium on Rendering in Paris.

G. Chaurasia attended the *Human Activity and Vision Summer School* organized by Inria Sophia Antipolis from Oct 1-5, 2012.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: E. Chapoulie teaches in the L1 module on Analogical electronics (32h), at University Nice Sophia Antipolis EPU. P-Y. Laffont taught "Introduction to Object-Oriented Programming" (64h, L3), in the Computer Science and MUNDUS departments at Polytech'Nice.

Masters: G. Drettakis organizes and teaches Computer Graphics at the ECP (Paris) (9h), A. Bousseau teaches 3h at the same course. G. Drettakis teaches 6h in the MAPI M1 Module (Jeux Video), A. Bousseau teaches 3h in this program. A. Bousseau organizes and teaches the Computer Graphics module in the Master 1 International in Computer Science of University Nice Sophia Antipolis (10h), G. Drettakis teaches 8h in this program.

8.2.2. Supervision

PhD : Pierre-Yves Laffont, Intrinsic Image Decomposition from Multiple Photographs [11], Université Nice Sophia Antipolis, defended in October 12th 2012, Advisor: George Drettakis, Co-advisor: Adrien Bousseau

PhD in progress : Emmanuelle Chapoulie, titre (provisoire) du mémoire, since October 2010, Advisor: George Drettakis

PhD in progress : Gaurav Chaurasia, titre (provisoire) du mémoire, since October 2010, Advisor: George Drettakis

PhD in progress : Sylvain Duchêne, titre (provisoire) du mémoire, since October 2011, Advisor: George Drettakis

PhD in progress : Emmanuel Iarussi, Computer-Assisted Drawing, since October 2012, Advisor: George Drettakis, Co-advisor: Adrien Bousseau

Internship : Laurent Lefebvre (EPITECH), Interactive Global Illumination, June-August 2012, Advisor: George Drettakis

Internship : Loic Sevecque (UNSA, MAPI), Modeling and Animation, June-August 2012, Advisor: George Drettakis

8.2.2.1. Thesis Committees

A. Bousseau was an examinateur for the PhD committee of Jiazhou Chen (MANAO project team, Inria Bordeaux - Sud Ouest). G. Drettakis was rapporteur for the HDR committee of I. Ihrke (MANAO project team, Inria Bordeaux - Sud Ouest), and on the PhD committee of Anthony Pajot (IRIT-CNRS/Université Paul Sabatier Toulouse).

8.3. Popularization

8.3.1. Invited Talks

A. Bousseau gave an invited talk at Adobe and at the “Cafés de l’Innovation du Centre d’Accueil d’Entreprises Innovantes (CAEI)” in Nice. He also gave a talk at the InSitu project team, Inria Saclay - Ile de France.

Pierre-Yves Laffont was invited to present his PhD work at University of Washington (USA), Paris ACM Siggraph (France) and KAIST (South Korea).

8.3.2. Demonstrations

Participants: Emmanuelle Chapoulie, Rachid Guerchouche, George Drettakis, Adrien Bousseau.

We performed many demonstrations this year, mostly in the Immersive Space but also of our various research results. Specifically, we performed demos to the companies Toyota, Novartis, to representatives of the Pole de Competitive Pegase, Chambre de Commerce et d’Industrie Nice Cote D’Azur, ERCIM and NII Tokyo. We also presented internal demonstrations to C. Kirchner and A. Petit of the Inria national management.

RMOD Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Examination Committees

Stéphane Ducasse was in the examination committee of the following PhD theses:

- *Supporting Integration Activities in Object-Oriented Applications*, Veronica Uquillas-Gomez, Vrije Universiteit Brussel, Belgium. 04/10/12 (advisor)
- *Application-Level Virtual Memory for Object-Oriented Systems*, Mariano Martinez-Peck. Ecole des Mines de Douai. October 29th (advisor).
- *Analyse statique et dynamique de code et visualisation des logiciels via la métaphore de la ville*, Pierre Caserta, Université de Nancy, France. 7/12/12.
- *Efficient Object Versioning for Object-Oriented Languages from Model to Language Integration*, Frédéric Pluquet, Université Libre de Bruxelles, Belgium France. 3/07/12. (referee)

Stéphane Ducasse was in the examination committee of the following HDR:

- *Faciliter la vérification et la validation des méta-modèles : une approche agile, outillée et orientée données*, Dr. Alain Plantec, Université de Bretagne Occidentale, Brest, 28/11/12.
- *MDE 2.0: Pragmatic formal model verification and other challenges*, Jordi Cabot, Université de Rennes, France. 12/10/12.

Nicolas Anquetil was in the examination committee of the following PhD theses:

- *Supporting Integration Activities in Object-Oriented Applications*, Veronica Uquillas-Gomez, Vrije Universiteit Brussel, Belgium. 04/10/12 (advisor)
- *Analyse et conception d'un modèle de qualité logiciel*, Karine Mordal, Université Vincennes – Saint-Denis – Paris 8, France. 03/12/2012 (reviewer)

Marcus Denker was in the examination committee of the following PhD theses:

- *Bridging the Gap between Machine and Language using First-Class Building Blocks*, Toon Verwaest. University of Bern, Switzerland. 12/03/2012 (reviewer).
- *Application-Level Virtual Memory for Object-Oriented Systems*, Mariano Martinez-Peck. Ecole des Mines de Douai. October 29th (reviewer).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Simon Allier, Programmation d'interface graphique, 46 hours, L2, Université Lille 1 (IUT-A), France

Licence : Nicolas Anquetil, Programmation d'interface graphique, 64 hours, L2, Université Lille 1 (IUT-A), France

Licence : Nicolas Anquetil, Projet final, 16 hours, L2, Université Lille 1 (IUT-A), France

Licence : Damien Cassou, conception orientée objet, 42 hours, L3 Miage, Université Lille 1, France

Master : Damien Cassou, conception objet avancée, 42 hours, M1, Université Lille 1, France

Master : Damien Cassou, maintenance de grands logiciels, 8 hours, M2, Université Lille 1, France

Master : Damien Cassou, Metaprogramming and Reflection in Common Lisp, 2 hours, M2, University of Potsdam, Germany

Master : Christophe Demarey, Architectures Logicielles, 30 hours, GIS4, Polytech'Lille, France

Master : Marcus Denker, Reflection and Context, 1.5 hours, M2, Universite catholique de Louvain, Belgique

Master : Stéphane Ducasse, MetaModeling, 16 hours, M2, Ecole des Mines de Douai, France

Licence : Stéphane Ducasse, MetaModeling, 6 hours, L3, Université de Lille, France

Employed Engineers : Stéphane Ducasse, Advanced Object-Oriented Design, 9 hours, engineers, Inria engineer formation, France

Master : Stéphane Ducasse, Advanced Object-Oriented Design, 21 hours, M1, Université de Savoie, France

Licence : Stéphane Ducasse, Object-Oriented Design, 4.5 hours, L2, Université de Lille (IUT-A), France

Licence : Anne Etien, Bases de données et Analyse Informatique, 60 hours, L3, Polytech Lille, France

Licence : Anne Etien, Structures de données, 14 hours, L3, Polytech Lille, France

Master : Anne Etien, Programmation par objets, 35 hours, M1, Polytech Lille, France

Master : Anne Etien, Systèmes d'information objets, 10 hours, M1, Polytech Lille, France

Master : Anne Etien, Bases de données, 30 hours, M1, Polytech Lille, France

Master : Anne Etien, Ingénierie Logicielle, 20 hours, M2, Polytech Lille, France

Licence : Damien Pollet, Challenge création entreprise, 8 hours, M1, Telecom Lille 1, France

Licence : Damien Pollet, Technologies des systèmes d'information ouverts, 27 hours, L3, Telecom Lille 1, France

Licence : Damien Pollet, Introduction à l'algorithmique, 9 hours, L1, Telecom Lille 1, France

Licence : Damien Pollet, Conception et programmation orientée objet, 166 hours, L3, Telecom Lille 1, France

Licence : Damien Pollet, Architecture des ordinateurs, 4.5 hours, L3, Telecom Lille 1, France

Master : Damien Pollet, Ingénierie logicielle, 2 hours, M1, Telecom Lille 1, France

Licence : Igor Stasenko, Vector graphics, 1 hour, L3, Argentina

8.2.2. Supervision

PhD & HdR

PhD : Mariano Martinez-Peck, Application-Level Virtual Memory for Object-Oriented Systems, Ecole des Mines de Douai, October 29th 2012, Stéphane Ducasse, Marcus Denker

PhD : Veronica Uquillas-Gomez, Supporting Integration Activities in Object-Oriented Applications, Vrije Universiteit Brussel, October 4th 2012, Stéphane Ducasse, Nicolas Anquetil

PhD in progress : Camillo Bruni, no title yet, 2011-03-01, Stéphane Ducasse, Marcus Denker

PhD in progress : Andre Hora, Improving Static Analysis with Domain-Specific Rules, 01/12/2011, Nicolas Anquetil, Stéphane Ducasse

PhD in progress : Camille Teruel, Security for dynamic languages, 01/12/2012, Stéphane Ducasse, Damien Cassou

PhD in progress : Nick Papoylias, Languages and Development Environments for Mobile Autonomous Robots, October 1st 2010, Marcus Denker, Stéphane Ducasse

PhD in progress : Jean Baptiste Arnaud, Towards First Class References as a Security Infrastructure in Dynamic Languages, September 1st 2009, Marcus Denker, Stéphane Ducasse

PhD in progress : Martin Dias, Supporting Merging, December 3rd 2012, Damien Cassou, Stéphane Ducasse

PhD in progress : Guillermo Polito, Isolation and Reflection in Dynamic Object Oriented Languages, 01-04-2012, Noury Bouraqadi, Luc Fabrese, Marcus Denker, Stéphane Ducasse

8.3. Popularization

- Nicolas Anquetil presented SourceCity (an integrated environment for software analysis, in which software systems are visualized as interactive, navigable 3D cities) at several occasions.
- Nicolas Anquetil presented Moose during the RIC days, which introduce research to master students.
- Muhammad Bhatti discussed about how to create a startup company during the RIC days.
- Muhammad Bhatti presented to PhD students how to promote research results.
- Damien Cassou received a student from *Collège (3ème)* to present research activities and software development.
- Marcus Denker, Esteban Lorenzano and Stéphane Ducasse will present at fOSSa 2012 in December.
- Marcus Denker and Stéphane Ducasse gave presentations about Pharo at the open source conference FOSDEM 2012.

ROMA Team

7. Dissemination

7.1. Scientific Animation

Anne Benoit is an associate editor of the *Journal of Parallel and Distributed Computing (JPDC)*. She was program vice co-chair of IEEE Cluster 2012; program vice-chair of IEEE AINA 2012; member of the organizing committee of SIAM PP 2012, and organizer of a mini-symposium in SIAM PP12. She is workshops co-chair of ICPP 2013. She is or was a member of the program committees of the following conferences and workshops: CCGrid 2012, HPDC 2012, IPDPS 2012, IPCE 2013, CCGrid 2013, IPDPS 2013, CLOSER 2013, HCW 2013, IGCC 2013.

Jean-Yves L'Excellent was a member of the program committees of Vecpar'12, Renpar'13.

Loris Marchal was a member of the program committees of IPDPS'2012, ICPP 2012 and IPDPS'2013.

Yves Robert is an associate editor of *IJHPCA*, *IJGUC* and *JOCS*. He is Program Chair of ICPP 2013 (Int. Conference on Parallel Processing) and of HiPC 2013 (Int. Conference on High Performance Computing). He was Program vice-chair of HiPC 2012. He is a Steering committee member of IPDPS and HCW. He is or was a member of the program committees of the following conferences and workshops: EduPar 2012, FTXS 2012, ISC 2012, ISCIS 2012, EduPar 2013, FTXS 2013, ICCS 2013, IGCC 2013, ISC 2013 and SC 2013.

Bora Uçar was a member of the program committee for six conferences/workshops in 2012 (HiPC12, IEEE Cluster 12, EuroPart 2012, PCO'12, PMAA2012, TCPP PhD Forum). He was an organizer of a mini-symposium in SIAM PP12. He is in the program committee of IPDPS 2013.

Frédéric Vivien is an associate editor of *Parallel Computing*. Frédéric Vivien is program vice-chair, for the algorithms track, of IPDPS 2013. He is or was a member of the program committee of the following conferences and workshops: EuroPDP 2013, RenPar 2013, ROADEF 2013, SC 13, CCGrid 2012, Cluster 2012, ROADEF 2012, AHPAA 2012.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Loris Marchal, Ordonnancement, 36h, M2, École normale supérieure de Lyon, France.

Bora Uçar has given a mini course in Parallel Computing Group at the University of Murcia, 28 and 29 November 2011.

Frédéric Vivien, Algorithmique et Programmation Parallèles, 36 h, M1, École normale supérieure de Lyon, France.

Frédéric Vivien, Ordonnancement, 3 h, M2, École normale supérieure de Lyon, France.

7.2.2. Supervision

PhD: Paul Renaud-Goud, Energy-aware scheduling: complexity and algorithms, École Normale Supérieure de Lyon, July 5, 2012, Anne Benoit and Yves Robert.

PhD in progress: Guillaume Aupy, Multi-criteria scheduling on volatile platforms, September 1, 2011, Anne Benoit and Yves Robert.

PhD in progress: Dounia Zaidouni, Performance and execution models for exascale applications in failure-prone environments, October 1, 2011, Frédéric Vivien and Yves Robert.

PhD in progress: Mohamed Sid-Lakhdar, Exploitation of multicore architectures in the resolution of sparse linear systems by multifrontal methods, October 1, 2011, Jean-Yves L'Excellent et Frédéric Vivien.

PhD in progress: Julien Herrmann, Numerical algorithms for large-scale platforms, September 1, 2012, Loris Marchal and Yves Robert.

RUNTIME Project-Team

9. Dissemination

9.1. Scientific Animation

Raymond NAMYST is vice-chair of the Research and Training Department in Mathematics and Computer Science (UFR Math-Info) of the University of Bordeaux 1. He is also a member of the Scientific Committee of the University of Bordeaux 1

Raymond NAMYST is the head of the LaBRI-CNRS “SATANAS” (*Runtime systems and algorithms for high performance numerical applications*) research team (about. 50 people) that includes the BACCHUS, HIEPACS, PHOENIX and RUNTIME Inria groups.

Raymond NAMYST chairs the scientific committee of the ANR “Numerical Models” program for the 2011-2013 period.

Raymond NAMYST was the coordinator of the chapter about runtime systems within the “Software Eco-System” Workgroup of EESI (*European Exascale Software Initiative*).

Raymond NAMYST serves as an expert for the following initiatives/institutions:

- EESI (*European Exascale Software Initiative*, since 2010) ;
- CEA/DAM (as a “scientific expert” for the 2008-2012 period) ;
- CEA-EDF-Inria School technical committee (since 2009) ;
- GENCI (<http://www.genci.fr/?lang=en>, since 2009) ;

Raymond NAMYST was a program committee member of the following international conferences: SC’12, MSEPT 2012, ROSS 2012, ISPA 2012, CASS 2012.

Raymond NAMYST gave invited talks at the following international workshops: CCDSC’12 (Dareizé), COMPEEF’12 (Grenoble), Torrents’12 (Toulouse), FGPS’175 (Mons).

Samuel THIBAUT was a program committee member of the following conferences: IPDPS 2013, Renpar 2013

Brice GOGLIN was a program committee member of SC’12 technical program and posters, Hot Interconnect 2012 and EuroMPI 2012. He was also a member of the SC’12 ACM Student Research Competition jury.

Guillaume MERCIER was program committee member of EuroMPI 2012, ICPADS 2012 and CCGrid 2012. He was also a reviewer for the IEEE TPDS and FGCS journals.

Olivier AUMAGE was reviewer for the IEEE TPDS journal and for the SC12, IPDPS 2012, ROSS, DATE 2013 and RenPar/Compas conference and workshops. He is part of the Inria Bordeaux – Sud-Ouest committee for scientific event fundings.

Emmanuel JEANNOT was program committee member for: ISPA 2012, HPDC 2012, PDGC 2012, HiPC 2012, Heteropar 2012, renpar 21, Realis-01, CCGrid2013 and IPDPS 2013.

Emmanuel JEANNOT is member of the steering committee of Euro-Par and Cluster.

Emmanuel JEANNOT is associate editor of the International Journal of Parallel and Emergent Distributed Systems.

Emmanuel JEANNOT was reviewer for the following journals: JPDC, IEEE TPDS, CEJCS.

Emmanuel JEANNOT has given an invited talk and CCDSC 2012 (Darize, France), the 7th scheduling workshop (Pittsburgh USA), CCMSE 2012 (La Manga, Spain), and the Inria-Joint-Lab meeting at Argonne National Lab.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Members of Runtime project gave thousands of hours of teaching at University of Bordeaux and ENSEIRB-MATMECA engineering schools, covering a wide range of topics from basic use of computers and C programming to advance topics such as operating systems, parallel programming and high-performance runtime systems.

9.2.2. Supervision

PhD & HdR :

PhD: Jérôme CLET-ORTEGA, Exploitation efficace des architectures parallèles de type grappes de NUMA à l'aide de modèles hybrides de programmation, 2012/04, Raymond NAMYST and Guillaume MERCIER

PhD: Andres CHARIF-RUBIAL, On code performance analysis and optimization for multicore architectures, 2012/02, Denis BARTHOU and William JALBY (Université de Versailles Saint Quentin en Yvelines)

PhD in progress : Julien JAEGER, Source-to-source transformations for irregular and multithreaded code optimization, 2012/02, Denis BARTHOU

PhD in progress : Bertrand PUTIGNY, Modèles de performance pour l'ordonnancement sur architectures multicœurs hétérogènes, 2010/11, Brice GOGLIN and Denis BARTHOU

PhD in progress : François TESSIER, Placement d'applications hybrides sur machine non-uniformes multicœurs, 2011/10 Emmanuel JEANNOT and Guillaume MERCIER

PhD in progress : Paul-Antoine ARRAS, Development of a Flexible Heterogeneous System-On-Chip Platform using a mix of programmable Processing Elements and hardware accelerators. 2011/10, Emmanuel JEANNOT and Samuel THIBAUT

PhD in progress : Sylvain HENRY, Modèles de programmation et systèmes d'exécution pour architectures hétérogènes, 2009/10, Denis BARTHOU and Alexandre DENIS

PhD in progress: Andra HUGO, Composability of parallel codes over heterogeneous platforms, 2013/10, Abdou GUERMOUCHE and Pierre-André WACRENIER and Raymond NAMYST

PhD in progress: Cyril BORDAGE, Parallélisation de la méthode multipôle sur architecture hybride, 2012/10, Raymond NAMYST and David GOUDIN (CEA CESTA)

PhD in progress: Corentin ROSSIGNON, Design of an object-oriented runtime system for oil reserve simulations on heterogeneous architectures, 2012/04, Olivier AUMAGE and Pascal HÉNON (TOTAL) and Raymond NAMYST and Samuel THIBAUT

9.2.3. Juries

Raymond NAMYST was member of the PhD defense jury for the following candidates:

- Marcio CASTRO (University of Grenoble, reviewer)
- Vincent PICHON (University of Lyon, reviewer)
- Marc PALYART (CEA-CESTA, Bordeaux, reviewer)
- Andres CHARIF RUBIAL (University of Versailles, president)

Samuel THIBAUT was member of the PhD defense jury for the following candidates:

- Vincent BOULOS (University of Grenoble, examiner)

Emmanuel JEANNOT was member of the PhD defense jury for the following candidates:

- Mohamed Slim BOUGUERRA (University of Grenoble, reviewer)
- Cristian KLEIN (ENS Lyon, reviewer)
- Jan-Christian MEYER (NTNU, Trondheim, Norway, opponent)

9.3. Popularization

Brice GOGLIN is in charge of the diffusion of the scientific culture for the Inria Research Center of Bordeaux. He is also a member of the national Inria committee on Scientific Mediation. He gave numerous talks about high performance computing and research careers to general public audience and school student, as well as several radio and paper interviews about Inria's activities.

Brice GOGLIN, François TESSIER and Bertrand PUTIGNY presented the team's research work to one hundred high-school students at the "Fête de la Science".

Brice GOGLIN and Bertrand PUTIGNY presented research careers at the Aquitec student exhibition.

Samuel THIBAULT was an invited speaker for a public round table about Author rights and HADOPI.

S4 Project-Team

8. Dissemination

8.1. Scientific Animation

Eric Badouel is the secretary of the steering committee of CARI, the African Conference on Research on Computer Science and Applied Mathematics. He took part in the programme committee and in the organizing committee of CARI 2012. He is a member of the editorial board of the ARIMA Journal.

Albert Benveniste is associated editor at large (AEAL) for the journal *IEEE Trans. on Automatic Control*. He is member of the Strategic Advisory Council of the Institute for Systems Research, Univ. of Maryland, College Park, USA. He belongs to the Scientific Advisory Board of INRIA, where he is in charge of the area of Embedded Systems.¹

Benoît Caillaud has served in the steering and program committees of the International Conference on Application of Concurrency to System Design (ACSD 2012). He is serving on the Evaluation Committee of INRIA.

Philippe Darondeau has served on the program committees of the 23rd International Conference on Concurrency Theory (CONCUR 2012) and 11th International Workshop on Discrete Event Systems (WODES 2012). He is a member of the IFIP Working Group WG2.2 and has served as secretary of this working group until September 2012.

Sophie Pinchinat is serving in the editorial board of the Journal on Discrete Event Dynamic Systems, Theory and Applications. She has served on the program committee of the 10th Conference on Logic and the Foundations of Game and Decision Theory (LOFT 2012).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Benoit Caillaud has contributed to the training programme for the computer-science option of the *agregation* in mathematics, at ENS Cachan-Ker Lann.
- Sophie Pinchinat has contributed to three courses on verification and game theory in the computer science master degree of the University of Rennes 1 and at Supelec. She has taught algorithmics at undergraduate level at the university of Rennes 1. She has taught embedded systems design in the engineering degree of the university of Rennes 1.

8.2.2. Supervision

Several PhDs are in progress:

- Lamine Diouf, *Artefact opacity in workflow systems*, started in 2010, supervised by Eric Badouel.
- Bastien Maubert, *Logical Foundations of Imperfect Information Games*, started September 2010, co-supervised by Sophie Pinchinat and Guillaume Aucher.
- Stéphanie Georges, *Formal approaches to physical security analysis: Attack tree synthesis*, started December 2011, co-supervised by Sophie Pinchinat and Achour Mostefaoui.

8.2.3. Juries

Sophie Pinchinat has served on the PhD thesis jury of Loïc Jézeéquel (project-team DISTRIBCOM).

¹Only facts related to the activities of Team S4 are mentioned. Other roles or duties concern the DistribCom team, to which A. Benveniste also belongs.

SAGE Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Conferences and networks

- the team Sage organized, with the LMNO, the international conference on Domain Decomposition methods DD21 (Rennes, France, June 2012). Chair J. Erhel (with T. Sassi, University of Caen); members of the organizing committee É. Canot and G. Pichot; webmaster N. Soualem and A. Le Gentil; local coordination E. Blin and F. Cuyollaa.
- G. Pichot is a member of the organizing committee of the SMAI 2013 conference (Seignosse, France, May 2013).
- J. Erhel is a member of the scientific committee of the SMAI 2013 conference (Seignosse, France, May 2013).
- J. Erhel is a member of the scientific committee of the MAMERN'13 conference (Granada, Spain, April 2013).
- J. Erhel is a member of the international advisory committee of the parallel CFD conferences (Atlanta, USA, May 2012 and Changsha, Hunan, China, May 2013).
- J. Erhel is a member of the steering committee of the Réseau National des Systèmes Complexes.

9.1.2. Editorial Boards

- B. Philippe is one of the four chief-editors of the electronic journal ARIMA (revue Africaine de la Recherche en Informatique et Mathématiques Appliquées).
- B. Philippe is managing editor of the electronic journal ETNA (Electronic Transactions on Numerical Analysis).
- J. Erhel is member of the editorial board of ETNA.
- J. Erhel is member of the editorial board of ESAIM:Proceedings.
- J. Erhel is member of the editorial board of Interstices.
- J. Erhel is member of the editorial board of Mathematics of Planet Earth 2013, un jour-une brève.

9.1.3. Inria committees

- É. Canot is member of the CUMI (Commission des Utilisateurs de Moyens Informatiques), of Inria-Rennes, from September 2007.
- É. Canot is member of the CHS (Commission Hygiène et Sécurité), of Inria-Rennes, from September 2010.
- J. Erhel is member of the Comité Technique d'Etablissement Public of Inria.
- J. Erhel is member of Conseil d'Administration of Inria.
- J. Erhel participates in the working group of Inria Rennes on project management (first meeting, December 2012).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

A. Abdelmoula is teaching assistant (permanent position) in computer science at the University of Tunis, Tunisia.

S. Khalfallah is teaching assistant (permanent position since September 2012) in mathematics at the University of Kairouan, Tunisia.

M. Oumouni: TP in mathematics at the University of Kenitra, Morocco.

L. Lenôtre is teaching assistant (contrat doctoral avec mission d'enseignement) in mathematics at the University of Rennes 1.

A. Le Gentil: Master M1; title: TP d'analyse, conception et programmation orientée objets; 26 hours; INSA, Rennes, France.

J. Erhel: Master M2; title: Cours de modélisation et calcul scientifique; 12 hours; INSA, Rennes, France.

É. Canot: Master M2; title: TP de modélisation et calcul scientifique; 12 hours; INSA, Rennes, France.

9.2.2. PhD supervision

PhD: M. Djouwe Tankeo, University of Rennes 1, 20 January 2012, advisors P. Richard with É. Canot.

PhD in progress: S. Sabit, University of Rennes 1, October 2010, advisors J. Erhel with É. Canot.

PhD in progress: S. Khalfallah, University of Rennes 1 and University of Tunis, October 2009, co-advisors J. Erhel and A. ben Abda.

PhD in progress: M. Oumouni, University of Rennes 1 and University of Kenitra, October 2009, co-advisors J. Erhel and Z. Mghazli.

PhD in progress: A. Abdelmoula, University of Rennes 1 and University of Tunis, October 2005, co-advisors B. Philippe and M. Moakher.

PhD in progress: L.-B. Nguenang, University of Yaounde 1, October 2011, advisors E. Kamgnia with B. Philippe.

PhD in progress: L. Lenôtre, University of Rennes 1, October 2012, co-advisors A. Lejay (Inria Nancy) and J. Erhel, with G. Pichot.

9.2.3. Boards of examiners

- HdR: J.-Y. L'Excellent, ENS Lyon, Computer Science, September 2012. Reviewer J. Erhel.
- PhD: S. Duminil, Université du Littoral Côte d'Opale in Calais, Mathematics, July 2012. Reviewer J. Erhel.
- PhD: H. Alcin, University of Nice, Mathematics, December 2012. Chair J. Erhel.
- PhD: M. Rousseau, ENPC in Paris, Mathematics, December 2012. Chair J. Erhel.

9.3. Popularization

- J. Erhel is the scientific coordinator of the website Interstices (since June 2012). See <http://www.interstices.info>.
- J. Erhel gave a talk about numerical models for hydrogeology at lycée Descartes, Rennes, in March 2012 [47]. Video recording at <http://videos.rennes.inria.fr/#descartes>.
- J. Erhel is member of the editorial board of Mathematics of Planet Earth 2013, un jour-une brève. See <http://mpt2013.fr/>.

SARDES Project-Team

8. Dissemination

8.1. Scientific Animation

- S. Bouchenak : Co-General Chair of the CFSE/Renpar/SympA conferences in 2013.
- F. Boyer : Member of the Programme Committee of ICAS 2012.
- N. De Palma : Chair of the GCM (Green and Cloud Management) 2012 workshop.
- Vivien Quema : Organizer of the Winter School on Hot Topics in Distributed Systems (each year since 2008).
- E. Rutten : Member of the Programme Committee of APRES (Adaptive and Reconfigurable Embedded Systems workshop) 2012. Member of the IFAC Technical Committee 1.3 on Discrete Event and Hybrid Systems.
- J.B. Stefani : Chairman of IFIP WG6.1 on Architectures and Protocols for Distributed Systems. Chairman of the Steering Committee of the FMOODS/FORTE conference series. Member of the Programme Committee of ACM SAC 2012. Member of the editorial board of the journal Annals of Telecommunications. Member of the Technology Council of the company STMicroelectronics.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- V. Quéma is a full-time professor at Grenoble INP.
- Noël de Palma is a full-time professor at Grenoble University.
- Olivier Gruber is a full-time professor at Grenoble University.
- Olivier Gruber is the head of the Parallel, Distributed, and Embedded Systems track in the international Master of Science in Informatics at Grenoble (MOSIG).
- Renaud Lachaize is a full-time assistant-professor at Grenoble University.
- Sara Bouchenak is a full-time assistant-professor at Grenoble University.
- Fabienne Boyer is a full-time assistant-professor at Grenoble University.
- Fabienne Boyer is the head of the M2PGI (Master Professionnel Génie Informatique) Alternance at Grenoble.

SCIPORT Team

8. Dissemination

8.1. Scientific Animation

- Laurent Hascoët was on the program committee of the AD2012 conference, Fort Collins, Colorado, july 2012.
- Laurent Hascoët is on the organizing committee of the EuroAD Workshops on Automatic Differentiation. No workshop was organized this year to avoid conflict with the AD2012 conference.
- Laurent Hascoët is a member of the internal “CDT” committee at Inria Sophia-Antipolis (“Comité Développement Technologique”).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Hubert Alcin, monitorat Analyse Numerique, 30 h, niveau L3, Université de Nice, France

Master : Laurent Hascoët, Optimisation avancée, 15 h, niveau M2, Université de Nice, France

8.2.2. Supervision

PhD : Hubert Alcin, “Résolution d’écoulements instationnaires et adjoints”, Université de Nice, defended december 5th, 2012, advisors A. Dervieux and L. Hascoët

PhD in progress : Alexandre Carabias, “Adaptation de maillage pour calculs d’écoulements à l’ordre 3”, started october 2011, advisor A. Dervieux

PhD in progress : Gauthier Brethes, “Multigrilles anisotropes adaptatives”, started october 2012, advisor A. Dervieux

8.2.3. Juries

- Alain Dervieux was jury for the thesis of Olivier Rouch, Montréal, and of Hubert Alcin, Nice.

8.3. Conferences and workshops

- Laurent Hascoët was invited to present Automatic Differentiation at NATIXIS, Paris, april 2012.
- Alexandre Carabias presented a seminar “Controle de la dispersion et de la dissipation pour un schema a reconstruction quadratique”, during an ECINADS meeting, Inria Sophia Antipolis, april 2012.
- Alain Dervieux was invited to present “Goal-oriented anisotropic mesh adaptation based on a priori estimates” (F. Alauzet, A. Belme, A. Loseille, D. Guégan, A. Dervieux), at the Workshop on Adaptive Methods with Applications in Fluid Dynamics (ADAP-CFD12) (WIAS), Berlin, april 2012.
- Laurent Hascoët was invited to present advances in Automatic Differentiation at CERFACS, Toulouse, may 2012.
- Hubert Alcin presented “On 2-level Schwarz algorithms for LES compressible flows” (H. Alcin, O. Allain, B. Koobus and A. Dervieux), at ParCFD2012, Atlanta, may 2012.
- Alexandre Carabias presented a seminar “Schema QV6 et adaptation”, with team Gamma3, Inria Rocquencourt, may 2012.

- Alexandre Carabias presented a seminar “Controle de la dispersion et de la dissipation pour un schema a reconstruction quadratique” at “Colloque des doctorants de 2eme année”, Université de Nice, may 2012.
- Alain Dervieux gave a short course “Sensitivity analysis by adjoint Automatic Differentiation and Application” (A. Belme, M. Martinelli, L. Hascoët, V. Pascual, A. Dervieux), at the ERCOFTAC Course on Uncertainty Management and Quantification in Industrial Analysis and Design, EDF , PARIS, may 2012.
- Laurent Hascoët gave an introductory course on Automatic Differentiation [17] during the “Advanced data assimilation for geosciences” course (org. E. Blayo, M. Bocquet, and E. Cosme), Les Houches school of physics, june 2012.
- Laurent Hascoët presented at the two meetings of the JLPC Inria-Illinois joint laboratory: “Toward Adjoinable MPI”, Rennes, june 2012, and “The Data-Dependence graph of Adjoint Codes”, Argonne Nat. Lab., november 2012.
- Laurent Hascoët presented [18] “Using Automatic Differentiation to study the sensitivity of a crop model” at AD2012 conference, Fort Collins, Colorado, july 2012.
- Valérie Pascual presented [16] “Native handling of Message-Passing communication in Data-Flow analysis” at AD2012 conference, Fort Collins, Colorado, july 2012.
- Laurent Hascoët presented an overview of Automatic Differentiation at “Ecole d’été UFA” (org. A. Desideri), Sophia-Antipolis, september 2012.
- Alain Dervieux presented “Goal-Oriented mesh adaptation for vortex shedding flows” (H. Alcin, A. Belme, A. Loseille, F. Alauzet, S. Wornom , A. Dervieux), at ECCOMAS, Vienna, Austria, september 2012.
- Carine Moussaed presented “A Dynamic VMS-LES model and its Hybrid extension for bluff body flows” (C. Moussaed, S. Wornom, B. Koobus, M.-V. Salvetti, A. Dervieux), at ECCOMAS, Vienna, Austria, september 2012.
- Alexandre Carabias presented “Anisotropic Goal-oriented estimate for a third-order accurate Euler model” (A. Carabias, A. Belme, F. Alauzet, A. Dervieux, A. Loseille), at ECCOMAS, Vienna, Austria, september 2012.
- Hubert Alcin has presented “Goal-Oriented mesh adaptation and 2-level Schwarz Algorithms”, at CERFACS seminar, Toulouse, october 2012.
- Laurent Hascoët, together with Andreas Griewank, served as evaluator for B. Pearlmutter team in NUI Maynooth, Ireland, november 2012.
- Laurent Hascoët spent two weeks at Argonne Nat. Lab. to work on an adjoinable MPI library with Jean Utke, november 2012.
- Alain Dervieux gave a short course “Indicateurs de raffinement et adaptation de maillage en simulation numérique pour la Mécanique des Fluides” (A. Dervieux, F. Alauzet), during the “Cours sur la Vérification des simulations numériques en Mécanique des Milieux Continus”, Collège X, Paris, november 2012.

SCORE Team

8. Dissemination

8.1. Scientific Animation

- Khalid Benali has been PC member of french conferences (INFORSID'2012 (Montpellier, France)), international conferences (I-ESA'12 (Valencia, Spain), COLLA 2012 (Venice, Italy), SAINT 2012 (Izmir, Turkey), IWEI 2012 (Harbin, China), SYSCO 2012 (Sousse, Tunisie)), and workshops (MEDES 2012 (Addis Ababa, Ethiopia)).
- Nacer Boudjlida is a member of the *prime board* of the program committee of I-ESA'2010 and I-ESA'2012 (International Conference on Interoperability of Enterprise Systems and Applications). He regularly acts for several years as a PC member for many international conferences and workshops (CAiSE, COOP'IS, EMMSAD, SIIE, INFORSID, WWS, etc.).
- Nacer Boudjlida addressed a keynote at the 2011 Join-Med Workshop, Rabat, Morocco.
- Nacer Boudjlida performed an invited tutorial at the second IEEE Intern'l Workshop on Advanced Information Systems for Entreprises, IWAISE'2012, Contantantine, Algeria.
- G r me Canals is the co-chair of the "Mobilit  et Ubiquit " french national working group (GDR I3).
- Fran ois Charoy has been PC member of ICEBE (International Conference on Business Engineering) 2012, CTS 2012 (International Symposium on Collaborative Technologies and Systems), DG.O (International Conference on Digital Government Research) 2012, CEC 2012 (IEEE Conference on Commerce and Electronic Computing), ACIS (Australasian Conference in Information Systems) 2012 and of several workshops. He is member of the editorial board of the Service Oriented Computing and Applications Journal (Springer). He was co-chair of the Second Collaborative Technology for Coordinating Crisis Management Track at WETICE 2012
- Claude Godart is member of the editorial board of "Advance in enterprise systems" and "International Journal of E-adoption" journals, and member of the review board of the International Journal of Next Generation Computing. He has been or is program committee member of BPM (Business Process Management) 2012, BPMDS (Business Process Modelling, Development and Support) 2012, IEEE EDOC (The enterprise computing conference) 2012, CEC (IEEE Conference on Commerce and Enterprise Computing) 2012, IEEE CLOUD Computing 2012, IEEE ICWS (International Conference on Web Services) 2012, IEEE SCC (IEEE International Conference on Services Computing) 2012.
- Claudia-Lavinia Ignat is member of the editorial board of Journal of CSCW (Computer Supported Cooperative Work). She was part of the Reviewing Committee of the CTS 2011 (International Symposium on Collaborative Technologies and Systems) special issue of FGCS (Future Generation Computer Systems) journal. She has been or is PC member of GROUP (International Conference on Supporting Group Work) 2012, CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2012 and 2013, ICEBE (International Conference on Business Engineering) 2012, AINA (International Conference on Advanced Information Networking and Applications) 2012 and the workshop IWCES (International Workshop on Collaborative Editing Systems) in 2012 and 2013.
- G rald Oster was a PC member of CoopIS 2012 (International Conference on Cooperative Information Systems) and MSOP2P 2013 (7th International Workshop on Modeling, Simulation, and Optimization of Peer-to-peer Environments).

- Olivier Perrin has been Co-Chair of the ICSOC PhD symposium, and Program Committee member of ICSOC 2012, WCE (Workshop on Capability based Engineering) workshop at WISE 2012, GRCIS workshop 2012. He was reviewer for BPM 2012. He reviewed in 2012 papers for IEEE Transactions on Services Computing, IEEE Transactions on Software Engineering, IEEE Transactions on the Web, Web Services Handbook, Journal of Intelligent Information Systems, and Software and Systems Modelling journals.
- François Charoy was member of the Administration Council of University de Lorraine until August 2012.
- Claudia-Lavinia Ignat is member of the Inria Nancy-Grand Est COMIPERS researchers committee. She is member of the Inria Nancy - Grand Est center committee. She is in charge of European affairs for Inria Nancy Grand-Est.
- Gérard Oster is member of the Administration Council of TELECOM Nancy.
- Gérôme Canals is invited to the Administration Council of Lorraine University Institute of Technology (IUT Nancy Charlemagne) as head of department.
- Boudjlida Nacer is a member of the Council (“Conseil”) of the Scientific and Technology Faculty (FST) of the University of Lorraine, a member of the directorial board of council of the scientific sector MIAE (Mathematics, Informatics, Automatic, Electronic), as he is a member of the council of the Science and Technology collegium of that FST.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Permanent members of the Score team are leading teachers in their respective institutions. They are responsible of lecture in disciplines like software engineering, database systems, object oriented programming and design, distributed systems, service computing and even more advanced topics at all levels and in all kind of departments in the University. Most of the PhD Students have also teaching duties in the same institutions. As a whole, the Score team accounts for more than 2500 hours of teaching.

- Nacer Boudjlida was the head until June 2012 of the Computer Science department of the Faculty of Sciences and Technologies, University of Lorraine.
- Gérôme Canals is the head of the Computer science department of the Nancy University Institute of Technology (IUT Nancy Charlemagne), and is responsible for the professional licence degree "Web application programming" since sept. 2011.
- Jacques Lonchamp is responsible for the professional licence degree "Free and Open Source Software".
- Claude Godart is head of the Computer Science department of the engineering school ESSTIN of the *Ecoles d'ingénieurs et Cycles préparatoire* at University of Lorraine. He is study director of the master degree *Distributed Services, Security and Networks* of the *Sciences and Technologies Collegium* at University of Lorraine.
- Khalid Benali is responsible for the professional Master degree speciality "Distributed Information Systems" of MIAGE and of its international branch in Morocco.
- Olivier Perrin is responsible of the Certificat Informatique et Internet (C2I) course for DEG collegium of University of Lorraine.
- François Charoy is responsible of the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- Gérard Oster is responsible of the 3rd year internship program at the TELECOM Nancy Engineering School of University of Lorraine.

We detail next the teaching activities for our permanent researchers in the tema:

Master: Claudia-Lavinia Ignat, Data replication and consistency maintenance, 15h lectures, M2, University of Lorraine

Master: Claudia-Lavinia Ignat, Java and distributed systems, 12h lectures and 24h exercise classes (Travaux dirigés), M1, ESSTIN, University of Lorraine

8.2.2. Supervision

PhD : Karim Dahman, Gouvernance et étude de l'impact du changement des processus métiers sur les architectures orientées services : une approche dirigée par les modèles, Université de Lorraine, 10/2012, François Charoy et Claude Godart

PhD : Hien Thi Thu Truong, Contract-based and Trust-aware Collaboration Model , Université de Lorraine, 12/2012, Pascal Molli et Claudia-Lavinia Ignat

PhD in progress : Luc André, Réplication et Maintien de la Cohérence en Temps Réel dans les Réseaux Pair-à-pair, started in 9/2011, François Charoy et Gérald Oster

PhD in progress : Mehdi Ahmed Nacer, complex CRDT for optimistic replication, started in 9/2011, François Charoy et Pascal Urso

PhD in progress : Elio Goettelman, Exécution en confiance de processus dans le cloud, started in 9/2011, Claude Godart

PhD in progress : Aymen Baouab, Gouvernance et supervision décentralisée des chorégraphies inter-organisationnelles, started in 9/2009, Claude Godart, Olivier Perrin

PhD in progress : Ahmed Bouchami , Sécurité des données collaboratives d'une plateforme PaaS, started in 11/2012, Olivier Perrin

PhD in progress : Adrien Devresse , Study of effective sharing and analysis of very large metadata repositories: application to the High Energy Physics computing community, started on 11/2011, Olivier Perrin

PhD in progress : Yongxin Liao, Title: Semantic annotations for systems interoperability in a PLM environment, University of Lorraine, started in November 2010, Advisors: Nacer Boudjlida (LORIA) and Hervé Panetto (CRAN).

PhD in progress : Badrina Gasmi, Title: Distributed Competence Management, Béjaïa University, Algeria, started in January 2011, Advisors: Nacer Boudjlida and Hassina Talantikite (U. of Béjaïa).

PhD in progress : Faïza Bouchaib, Title: Toward a Generic Model for Competence Management, Béjaïa University, Algeria, started in January 2011, Advisors: Nacer Boudjlida and Hassina Talantikite.

8.2.3. Juries

SCORE members were member of the following PhD defense committees:

- Hien Thi Thu Truong, PhD, Université de Lorraine, December 2012 (Claudia-Lavinia Ignat)
- Karim Benouaret, PhD, Université Claude Bernard Lyon 1, October 2012 (Claude Godart)
- Karim Dahman, PhD, Université de Lorraine, October 2012 (François Charoy and Claude Godart)
- Ahmed Gater, PhD, Université de Versailles St Quentin, June 2012 (Claude Godart)
- François Hantry, PhD, Université Claude Bernard Lyon 1, September 2012 (Claude Godart)
- Nguyen Ngoc Chan, PhD, Telecom Sud Paris, December 2012 (François Charoy)
- Issac Garcia Garza, PhD, Université de Grenoble, June 2012 (Olivier Perrin)
- Samir Sebahi, PhD, Université Claude Bernard Lyon 1, March 2012 (Olivier Perrin)
- Nicolas Boissel, PhD, Université de Toulouse, November 2012 (Olivier Perrin)
- M Mohamed Amine CHAABANE, PhD, Université de toulouse, september 2012 (Khalid Benali)

- M. Omar SAKA, PhD, Institut National des Sciences Appliquées de Lyon (INSA-Lyon), March 2012 (Khalid Benali)
- M. PENG Yong, PhD, Institut National des Sciences Appliquées de Lyon (INSA-Lyon), March 2012 (Khalid Benali)
- M. SU Ziyi, PhD, Institut National des Sciences Appliquées de Lyon (INSA-Lyon), March 2012 (Khalid Benali)
- Mr Brahim BATOUCHE, University of Le Havre (F) and Henri Tudor Public Research Center (CRPHT, Luxembourg) (Nacer Boudjlida)
- Khaled Aslan Almoubayed, University of Nantes, November 2012 (Gérald Oster)

SCORE members were members of the following Habilitation defense committee:

- Mme Selmin NURCAN, HDR, Université Paris 1 Panthéon Sorbonne, december 2012 (Khalid Benali)
- Mme Frédérick BENABEN, HDR, Institut National Polytechnique de Toulouse, October 2012 (Khalid Benali)
- HU (Habilitation Universitaire, equivalent to the French HDR) of Salah Baïna, December 2012, EN-SIAS, University Mohammed V- Souissi, Rabat, Morocco (Nacer Boudjlida, reviewer and member of the defense committee)

SECRET Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Editorial activities.

- *IEEE Transactions on Information Theory*, associate editor: J.-P. Tillich for *Coding Theory*.
- *Designs, Codes and Cryptography*, associate editor: P. Charpin, since 2003.
- *RAIRO - Theoretical Informatics and Applications*, associate editor: N. Sendrier.
- Special issue in Coding and Cryptography, *Designs, Codes and Cryptography*, 2012, co-editor: A. Canteaut.
- *FSE 2012 (Fast Software Encryption)*: March, 19-21, 2012, Washington DC, USA, Program chair and editor of the proceedings: A. Canteaut
- *Finite Fields and Their Applications. Character Sums and Polynomials*, Radon Series on Computational and Applied Mathematics, Degruyter, In Press. Editeurs: P. Charpin, A. Pott (U. Magdeburg) et A. Winterhof (Austrian Acad. of Sc.)
- A. Canteaut is a member of the steering committee of *Fast Software Encryption (FSE)*;
- N. Sendrier is a member of the steering committee of *Post-quantum cryptography (PQCrypto)*.

8.1.2. Program committees

- FSE 2012: March 19-21, 2012, Washington DC, USA (A. Canteaut, program chair);
- PKC 2012: May 21-23, 2012, Darmstadt, Germany (N. Sendrier);
- SETA 2012, June 4-8, 2012, Waterloo, Canada (P. Charpin);
- SAC 2012: August 16-17, 2012, Windsor, Ontario, Canada (A. Canteaut);
- *RICAM-Workshop on Finite Fields and Their Applications: Character Sums and Polynomials*, September 2-7, 2012, St. Wolfgang Federal Institute, Austria (P. Charpin);
- YACC 2012, September 24-28, 2012, Porquerolles, France (A. Canteaut);
- Journées Codage et Cryptographie du GDR-IM, October 7-12, 2012, Dinard, France (A. Canteaut);
- Indocrypt 2012: December 9-12, 2012, Calcutta, India (N. Sendrier);
- FSE 2013: March 11-13, 2013, Singapore, Singapore (A. Canteaut, M. Naya-Plasencia);
- WCC 2013: April 15-19, 2013, Bergen, Norway (A. Canteaut, N. Sendrier);
- PQCrypto 2013: June 4-7, Limoges, France (N. Sendrier, JP Tillich);
- Asiacrypt 2013: December 1-5, Bengaluru, India (A. Canteaut, N. Sendrier);

8.1.3. Invited talks

- N. Sendrier. *Code-based Cryptography: Theory and Practice*. ARES, MoCrySEn 2012, Prague, Czech Republic, September 2012.
- N. Sendrier. *Code-based Cryptography*. Post-Quantum Cryptography and Quantum Algorithms, Lorentz Center, Leiden, The Netherlands, November 2012.
- D.E. Simos. *Families of Block Ciphers from Combinatorial Designs*. In *Cryptography and its Applications in the Armed Forces (CAIAF2012)*, Hellenic Military Academy "Evelpidon", Vari, Greece, April 2012.

8.1.4. Other responsibilities in the national community.

- N. Sendrier is a vice-chair of the “Commission d’Evaluation” at Inria;
- A. Canteaut is a member of the “Comité de pilotage” of the Fondation Sciences Mathématiques de Paris;
- JP Tillich is in charge of “Formation par la recherche” for the Paris-Rocquencourt center.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- A. Canteaut, *Stream ciphers*, 6 hours, M2, Telecom ParisTech, France;
- A. Canteaut, *Mathematical aspects of symmetric cryptography*, 3 hours, M2 (corps de Mines), Telecom ParisTech, France;
- A. Canteaut, *Advanced topics in symmetric cryptology*, 9 hours, M2, DTU, Denmark;
- J.-P. Tillich, *Algorithms and Programming*, 36 hours, M1, Ecole Polytechnique, France;
- J.-P. Tillich, *Introduction to Information Theory*, 32 hours, M2, Ecole Polytechnique, France.

8.2.2. Supervision

PhD: Christina Boura, *Sécurité et cryptanalyse des fonctions de hachage*, Université Pierre-et-Marie Curie, December 2012, supervisor: A. Canteaut

PhD: Stéphane Jacob, *Protection cryptographique des bases de données : conception et cryptanalyse*, Université Pierre-et-Marie Curie, March 2012, supervisor: A. Canteaut

PhD in progress: Mamdouh Abbara, *Quantum turbo-codes*, August 2009, supervisor: JP. Tillich.

PhD in progress: Marion Bellard, *Influence du mapping pour la reconnaissance d’un système de communication*, January 2011, supervisors: N. Sendrier and J.-P. Tillich

PhD in progress: Grégory Landais, *Mise en oeuvre des cryptosystèmes basés sur les codes correcteurs d’erreurs et de leurs cryptanalyse*, October 2010, supervisors: M. Finiasz and N. Sendrier

PhD in progress: Denise Maurice, *Quantum LDPC codes*, September 2010, supervisor : JP. Tillich.

PhD in progress: Rafael Misoczki, *Aspects of code-based cryptography*, November 2010, supervisor: N. Sendrier

PhD in progress: Jean-Christophe Sibel, *Decoding LDPC codes with many short cycles*, October 2009, supervisor : D. Declercq.

PhD in progress: Valentin Suder, *Les Permutations en Cryptographie Symétrique*, October 2011, supervisor: P. Charpin.

PhD in progress: Audrey Tixier, *Reconstruction of LDPC codes*, October 2012, supervisor: JP. Tillich

8.2.3. Juries

- Jean-Claude Carlach, *Contribution à la construction et au décodage à décision douce des codes correcteurs d’erreurs auto-duaux extrémaux*, Institut National des Sciences Appliquées de Rennes, February 2, 2012, committee: JP. Tillich.
- Stéphane Jacob, *Protection cryptographique des bases de données : conception et cryptanalyse*, Université Pierre-et-Marie Curie, March 8, 2012, committee: A. Canteaut (supervisor).
- Marine Minier, *Quelques résultats en cryptographie symétrique, pour les modèles de confiance dans les réseaux ambiants et la sécurité dans les réseaux de capteurs sans fil*, HDR, Université Lyon 1, May 31, 2012, committee: A. Canteaut.
- Pouyan Sepehrdad, *Statistical and Algebraic Cryptanalysis of Lightweight and Ultra-Lightweight Symmetric Primitives*, Ecole Polytechnique Fédérale de Lausanne, Suisse, June 11, 2012, committee: A. Canteaut (reviewer).

- Matteo Gorgoglione, *Analyse et construction de codes LDPC non-binaires pour des canaux à évanouissement*, Université de Cergy-Pontoise, October 25, 2012, committee: JP. Tillich (reviewer).
- Anja Becker, *The representation technique – Applications to hard problems in cryptography*, UVSQ, Octobre 26, 2012, committee: N. Sendrier (reviewer).
- Matthieu Legeay, *Utilisation du groupe de permutations d'un code correcteur pour améliorer l'efficacité du décodage*, Université de Rennes 1, November 20, 2012, committee: N. Sendrier (reviewer).
- Christina Boura, *Sécurité et cryptanalyse des fonctions de hachage*, Université Pierre-et-Marie Curie, December 7, 2012, committee: A. Canteaut (supervisor).
- Sihem Mesnager, *Contributions aux fonctions booléennes pour la cryptographie symétrique et aux codes correcteurs d'erreurs*, HDR, Université Paris 8, December 10, 2012, committee: P. Charpin (reviewer), A. Canteaut.
- N. Delfosse, *Constructions et performances de codes LDPC quantiques*, Université Bordeaux I, December 12, 2012, committee: JP. Tillich (reviewer).

8.3. Popularization

- Anne Canteaut is a co-author of a paper on the state-of-the-art on the AES standard in the large-audience journal *MISC* [17].
- Lecture on cryptography at the *Journées Filles et Maths*, organized by Animath and Femmes et Sciences, for students in “Première” and “Terminale”, IHP, Paris, December 21, 2012, A. Canteaut.
- Lectures (6h in total) to an audience of professors in “classes préparatoires” on quantum algorithms, Luminy, May 9, 2012, J.P. Tillich.

SECSI Project-Team

8. Dissemination

8.1. Scientific Animation

Administrative charges:

- Hubert Comon-Lundh is director of the Parisian Master of Research in Computer Science (MPRI).
- Hubert Comon-Lundh is member of the “comité de pilotage”, labex Digicosme.
- Hubert Comon-Lundh is member of the “commission formation”, labex Digicosme.
- Hubert Comon-Lundh is member of the “Jury prix de these Gilles Kahn/SIF”.
- Stéphanie Delaune is a member of the scientific committee of Inria Saclay since February 2012.
- Stéphanie Delaune is “Déléguée aux thèses” at the École Doctorale Sciences Pratiques at ENS Cachan since September 2012.
- Jean Goubault-Larrecq, in charge of computer science questions, common Ecole Polytechnique-ENS Paris, Lyon, Cachan-ESPCI entrance competitive exam, starting September 2012.

Editorial boards:

- Hubert Comon-Lundh is associate editor of the ACM Transactions on Computational Logic.
- Hubert Comon-Lundh is guest editor of the Journal of Automated Reasoning (special issue, security and rewriting, Feb 2012).

Participation to program committees of conferences:

- 16th International Conference on Foundations of Software Science and Computation Structures FoSSaCS'13, Rome, Italy, March 2013 (Jean Goubault-Larrecq).
- 27th Annual ACM/IEEE Symposium Logic in Computer Science, Dubrovnik, Croatia, 2012 (Hubert Comon-Lundh)
- 8th International Conference on Information Security Practice and Experience ISPEC'12, Hangzhou, China (Stéphanie Delaune).
- 24th *Journées Francophones des Langages Applicatifs* JFLA'13, Aussois, France, February 2013 (David Baelde).

Selection committees:

- Hubert Comon-Lundh was president of selection committee, MCF, ENS Cachan 2012.
- Hubert Comon-Lundh was president of the selection committee for the mixed chair CNRS-Aix Marseille University, 2012.

Evaluation committees:

- Hubert Comon-Lundh, member of the jury of “Prime d’Excellence Scientifique” (National committee, professors and maîtres de conférences), 2012.
- Jean Goubault-Larrecq, AERES evaluation, LIAFA, Université Paris Diderot, December 27-28, 2012
- Jean Goubault-Larrecq, CNRS PEPS program evaluation committee, March 22, 2012

Scientific boards:

- Hubert Comon-Lundh, CNRS INSII, Oct. 2010-Oct 2014
- Jean Goubault-Larrecq, external member of the selection committee of the Formal Methods and Security Inria-DGA seminar, Rennes

Invited talks:

- Hubert Comon-Lundh *Towards unconditional soundness*. Grenoble, Jan 13, 2012, Workshop on Computer-Aided Security.
- Jean Goubault-Larrecq, *Probability and Nondeterminism in Domain Theory, Part II*, Logic and Interactions, week 4: Quantitative approaches, Marseilles, France, February 20-24.

Invitation to seminars:

- Stéphanie Delaune, Dagstuhl seminar on Analysis of security APIs, Wadern, Germany, November 25-28.
- Stéphanie Delaune, *Analysing privacy-type properties using formal methods*, CAPPRIS meeting, Paris, March 14
- Jean Goubault-Larrecq, *An Isomorphism between Powercone and Prevision Models*, McGill seminar, Bellairs Institute, Holetown, Barbados, April 01-06.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence :

- Rémy Chrétien, *Initiation à l'informatique* (TP), 39h., L1, Université Paris 7, Paris, France
- Hubert Comon-Lundh *Logic and Computability*, 42h., L3, ENS Cachan, France
- Jean Goubault-Larrecq, *Programming*, 42h., L3, ENS Cachan, France
- Jean Goubault-Larrecq, *Logic and Computer Science* (a.k.a., the lambda-calculus), 36h., L3, ENS Cachan and ENS Paris, France
- Jean Goubault-Larrecq, Internship reviews, 4h., L3, ENS Cachan, France
- David Baelde, *Logic and Computability*, 45h., L3, ENS Cachan, France
- David Baelde, Internship reviews, 3h., L3, ENS Cachan, France

Master :

- Jean Goubault-Larrecq, *Cryptography, Cryptographic Protocols and Quantum Cryptography*, Part 1/3, 4h., M1, Séminaire Regards Croisés Mathématiques-Physique, ENS Cachan, France
- Stéphanie Delaune, *Cryptography, Cryptographic Protocols and Quantum Cryptography*, Part 2/3, 4h., M1, Séminaire Regards Croisés Mathématiques-Physique, ENS Cachan, France
- Jean Goubault-Larrecq, *Advanced Complexity*, 42h., M1, MPRI course 1-17, France
- Jean Goubault-Larrecq, Internship reviews, 4h., M1, ENS Cachan, France
- Hubert Comon-Lundh, Internship reviews, 32h, M2 MPRI
- Jean Goubault-Larrecq, Internship reviews, 16h., M2, MPRI, France
- Hubert Comon-Lundh *Computational Soundness*, 12h., M2, MPRI course 2-30, France, Jan-Feb 2012
- Hubert Comon-Lundh *Formal proofs of security*, 24h, M2, MPRI course 2-30, France Oct-Dec 2012 (48h)
- Hubert Comon-Lundh *Préparation option info agreg: logique*, 24h, préparation à l'agrégation de Mathématiques, Jan-May 2012, ENS Cachan, France
- Hubert Comon-Lundh, rehearsal of Computer Science Lessons, préparation à l'agrégation de Mathématiques, 18h., ENS Cachan, France

- Jean Goubault-Larrecq, rehearsal of Computer Science Lessons, préparation à l'agrégation de Mathématiques, 18h., ENS Cachan, France

8.2.2. Supervision

PhD :

- Vincent Cheval, *Automatic verification of cryptographic protocols: privacy-type properties*, ENS Cachan, Dec. 03, 2012 [12], supervised by Stéphanie Delaune and Hubert Comon-Lundh
- Hedi Benzina, *Enforcing virtualized systems security*, ENS Cachan, Dec. 17, 2012 [11], supervised by Jean Goubault-Larrecq

PhD in progress :

- Rémy Chrétien, *Trace equivalence for an unbounded number of sessions*, Started Oct. 2012, supervised by Stéphanie Delaune
- Robert Künnemann, *Secure APIs and Simulation-Based Security*, Started Oct. 2010, supervised by Steve Kremer and Graham Steel; Graham and Robert are now at EPI Prosecco
- Gavin Keighren, *A Type System for Security APIs*, since 2007 (to submit March 2013), advisors Graham Steel and David Aspinall (University of Edinburgh). Graham is now at EPI Prosecco.
- Guillaume Scerri, *Preuves abstraites de protocoles cryptographiques concrets*, Started Oct. 2011, supervised by Hubert Comon-Lundh

Masters:

- Rémy Chrétien, *Trace equivalence of protocols for an unbounded number of sessions*, 2012, advisors Stéphanie Delaune and Véronique Cortier
- Apoorva Deshpande, *Automated verification of equivalence properties modulo AC*, 2012, advisors Stéphanie Delaune and Steve Kremer

8.2.3. Juries

- PhD:
 - Hubert Comon-Lundh, president of the jury: Jeremy Planul, *Typage, compilation, et cryptographie pour la programmation répartie sécurisée*, Ecole Polytechnique, Feb 08, 2012.
 - Hubert Comon-Lundh, member of the jury: Vincent Cheval, *Preuves automatiques d'indistinguabilité*, ENS Cachan, Dec 03, 2012.
 - Jean Goubault-Larrecq, member of the jury: Gabriel Kerneis, *Continuation-Passing C: Program Transformations for Compiling Concurrency in an Imperative Language*, Université Paris Diderot, November 09, 2012.
 - Jean Goubault-Larrecq, member of the jury: Hedi Benzina, *Enforcing virtualized systems security*, ENS Cachan, December 17, 2012
- HdR:
 - Hubert Comon-Lundh, reviewer of the habilitation and member of the jury: Karthikeyan Bhargavan, *Towards the Automated Verification of Cryptographic Protocol Implementations*, Ecole Normale Supérieure, May 04, 2012.
 - Hubert Comon-Lundh, reviewer of the habilitation and member of the jury: Pascal Lafourcade *Cryptographic Primitives, Voting protocols, and Wireless Sensor Networks*, Université Joseph Fourier, Grenoble, Nov. 06, 2012.
 - Hubert Comon-Lundh, president of the jury: Jérôme Leroux, *Machines à compteur et arithmétique de Presburger*, Université Bordeaux I, Bordeaux, Dec 06, 2012.

- Jean Goubault-Larrecq, member of the jury: Laurent Doyen, *Games and Automata: From Boolean to Quantitative Verification*, ENS Cachan, March 13, 2012

8.3. Popularization

- Hubert Comon-Lundh, *Le vote électronique*, Institut des Hautes études en Sciences et Technologies (IHEST), Jan 20, 2012
- Stéphanie Delaune, member of the scientific mediation committee at Inria Saclay. (“Mediation” is the new name for popularization.)
- Jean Goubault-Larrecq, *Sécurité informatique*, talk and discussion with the public at the “débat citoyen” organized by Inria, Alan Turing building, Inria Saclay, November 19, 2012
- Jean Goubault-Larrecq, breakfast with the press, organized by CNRS, on computer security, November 29, 2012
- Stéphanie Delaune gave two popularization talks, *Ces protocoles qui nous protègent*, at *Journée Régionale de l’APMEP - Haute-Normandie*, Rouen, April 18, and at *Journée de rentrée de l’ENS Cachan*, Cachan, September 7.
- Stéphanie Delaune was interviewed by a journalist in charge of a special issue on cryptography for the magazine “Cahiers Sciences et Vie”.
- Rémy Chrétien, *Le vote électronique*, article for the ANAJ-IHEDN Cybersecurity newsletter, to be published.

SELECT Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorial responsibilities

Participants: Gilles Celeux, Pascal Massart, Jean-Michel Poggi.

- Gilles Celeux is Editor-in-Chief of *Statistics and Computing* and of *Journal de la SFdS*. He is Associate Editor of *CSBIGS* and *La Revue Modulad*.
- Pascal Massart is Associated Editor of *Annals of Statistics*, *Confluentes Mathematici*, and *Foundations and Trends in Machine Learning*.
- Jean-Michel Poggi is Associated Editor of *Journal of Statistical Software*, *Journal de la SFdS* and *CSBIGS*.

9.1.2. Invited conferences

Participants: Gilles Celeux, Pascal Massart, Jean-Michel Poggi.

- Gilles Celeux was invited speaker to the Method and Research meetings at UNIL (Lausanne) and to the Summer Model-Based Clustering working group in Guelp.
- Pascal Massart has given the "Le Cam lecture" at the last worldwide IMS-Bernoulli meeting in Istanbul.
- Jean-Michel Poggi was invited speaker at SIS 2012, and at 5th International Conference of the ERCIM Working Group on Computing and Statistics, Oviedo, Spain.

9.1.3. Scientific animation

Participants: Gilles Celeux, Erwan Le Pennec, Pascal Massart, Jean-Michel Poggi.

- Gilles Celeux is member of the CSS of INRA.
- Gilles Celeux was a member of the scientific committee of SMPGD (Statistical Methods for Post Genomics Data).
- Erwan Le Pennec is a member of the Board of the MAS group of the SMAI (french SIAM).
- Erwan Le Pennec is a member of the Labex AMIES (Agence pour les Mathématiques en Interaction avec les Entreprises et la Société).
- Erwan Le Pennec and Pascal Massart are members of the C.N.U. (section 26).
- Pascal Massart is a senior member of the I.U.F.
- Pascal Massart is a member of the scientific council of the French Mathematical Society.
- Pascal Massart is a member of the scientific council of the Mathematical Department of the Ecole Normale Supérieure de Paris.
- Pascal Massart was a member of the scientific committee of the European Meeting of Statisticians in Piraeus.
- Jean-Michel Poggi is President of the French statistical society (SFdS).
- Jean-Michel Poggi is Vice-President of FENStatS «Federation of European National Statistical Societies»
- Jean-Michel Poggi is Member of the Program Committee of WIPFOR "Workshop on Industry & Practices for Forecasting", June 5-7, 2013, Paris

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Gilles Celeux, modèles à structure cachée ISUP 3ème année (Université Paris 6) 20 heures

Master: Gilles Celeux, modèles pour la classification M2 probabilités et statistique, Université Paris Sud, 24 heures

Master: Erwan Le Pennec, Méthode Parcimonieuse en Statistique, 30h, Université Paris Sud, France

Master: Erwan Le Pennec, Méthodes d'ondelettes, 20h, M2, Université Paris Diderot, France

Master: Erwan Le Pennec, Analyse Spectrale, 18h, M1, Ponts Paristech, France

Master: Jean-Michel Poggi, Ondelettes et applications (Master 2 Ingénierie Mathématique, Université Paris Sud) 30 heures

Master: All the other SELECT members are teaching in various courses of different universities and in particular in the M2 "Modélisation stochastique et statistique" of University Paris-Sud.

9.2.2. Supervision

PhD : Jairo Cugliari Duhalde, Prédiction d'un processus à valeurs fonctionnelles. Application à la consommation d'électricité, 22/11/2011 at Paris XI Orsay, J.-M. Poggi and Anestis Antoniadis (Univ. Joseph Fourier, Grenoble)

PhD: Caroline Meynet, 2009, Pascal Massart

PhD in progress: Vincent Brault, 2011, Gille Celeux and Christine Keribin

PhD in progress: Claire Caillerie, 2008, Pascal Massart and Frédéric Chazal

PhD in progress: Rémi Fouchereau, 2011, Gille Celeux

PhD in progress: Shuai Fu, 2010, Gille Celeux

PhD in progress: Émilie Devivjer, 2012, Pascal Massart and Jean-Michel Poggi

PhD in progress: Clément Levrard, 2009, Pascal Massart and Gérard Biau (UPMC)

PhD in progress: Farouk Mhamdi, 2012, Jean-Michel Poggi and Meriem Jaïdane (ENIT Tunisie)

PhD in progress: Lucie Montuelle, Sélection de modèles et mélange de gaussiennes en imagerie hyperspectrale, 2011, Erwan Le Pennec

PhD in progress: Nelo Molter Magalães, 2011, Pascal Massart

PhD in progress: Solenne Thivin, 2012, Erwan Le Pennec

PhD in progress: Vincent Thouvenot, 2012, Jean-Michel Poggi and Anestis Antoniadis (Univ. Joseph Fourier, Grenoble)

9.3. Popularization

Erwan Le Pennec takes care of a Math en Jeans group at lycée Joliot Curie from Nanterre.

Vincent Brault takes care of a Math en Jeans group at lycée Blaise Pascal from Orsay and is part of the organizing committee of the Orsay conference for April 2013

SEMAGRAMME Team

8. Dissemination

8.1. Scientific Animation

- Maxime Amblard:
 - Head of the preoperative project SLAM: Schizophrenia and Language: Analyze and Modeling—MSH–Lorraine.
 - Vice-treasurer of the Association pour le Traitement Automatique des Langues (ATALA)
 - Head of the master Sciences Cognitives et Applications of University de Lorraine (until July 2012). He was responsible for the application to degree habilitation of the new version of the master mention Science Cognitive et ApplicationA, Université de Lorraine.
 - Member Opération Poste team ⁵ (until June 2012).
 - Member of the comité de sélection McF 4058 at LIPN – Université Paris 13
- Philippe de Groote:
 - Member of the editorial board of the journal *Higher-Order and Symbolic Computation*.
 - Area editor of the *FoLLI Publications on Logic, Language and Information* (LNCS subline).
 - Member of the ESSLLI standing committee.
 - Member of the scientific committee of the international conference on Logical Aspects of Computational Linguistics (LACL) 2012 and of the international conference on Traitement Automatique de Langues Naturelles (TALN) 2012.
- Bruno Guillaume:
 - Member (elected) of the “Pôle scientifique” IAEM of Université de Lorraine
 - Member of the COMPIERS Inria Nancy Grand-Est
- Guy Perrier:
 - Member of the editorial board of the journal *Traitement Automatique des Langues*.
 - Member of the scientific committee of the international conference on on Traitement Automatique de Langues Naturelles (TALN) 2012.
- Sylvain Pogodalla:
 - Member of the editorial board of the journal *Traitement Automatique des Langues*.
 - Head of the Commission des Développements Technologiques (CDT) of the Nancy Inria Research Center.
 - Coordinator of the POLYMNIE ANR Project.
 - Local coordinator of the Erasmus Mundus Master program Language and Communication Technologies for the Université de Lorraine.
 - Member of the scientific committee of the International Conference on Logical Aspects of Computational Linguistics (LACL) 2012.
 - Member of the jury of the ATALA Dissertation prize (dissertation prize of the French Association pour le Traitement Automatique des Langues).

⁵<http://postes.smai.emath.fr/>

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Licence: Maxime Amblard, *Penser les algorithmes*, 25h, L1, Université de Lorraine, France
- Licence: Maxime Amblard, *Introduction au Traitement Automatique des Langues*, 25h, L2, Université de Lorraine, France
- Licence: Maxime Amblard, *Algorithmique avancée*, 62.5h, L2, Université de Lorraine, France
- Licence: Maxime Amblard, *Formalismes de représentation et raisonnement*, 25h, L3, Université de Lorraine, France
- Licence: Guy Perrier, *Outils conceptuels*, 37.5h, L3, Université de Lorraine, France
- Master: Maxime Amblard, *Algorithmique pour l'Intelligence Artificielle*, 45h, M1, Université de Lorraine, France
- Master: Maxime Amblard, *Discourse and Dialogue*, 25h, M2, Université de Lorraine, France
- Master: Philippe de Groote (with Benoît Crabbé), *Structures informatiques et logiques pour la modélisation linguistique*, 18h, M2, Parisian Master of Research in Computer Science, France
- Master: Philippe de Groote (with Kamel Smaïli), *Logique et statistiques pour la modélisation des langues*, 50h, M2, Université de Lorraine, France
- Master: Bruno Guillaume, *Grammatical Formalisms*, 25h, M2, Université de Lorraine, France
- Master: Guy Perrier, *Initiation au TAL*, 37.5h, M1, Université de Lorraine, France
- Master: Guy Perrier, *Programmation pour le TAL*, 37.5h, M1, Université de Lorraine, France
- Master: Guy Perrier, *Tools and algorithms for NLP*, 44h, M2, Université de Lorraine, France
- Master: Sylvain Pogodalla, *Computational Semantics*, 25h, M2, Université de Lorraine, France
- Master: Sai Qian, *Applications of Natural Language Processing*, 37.5h, M2, Université de Lorraine, France
- Master: Sai Qian, *Algorithmique pour l'Intelligence Artificielle*, 22h, M1, Université de Lorraine, France

8.2.2. Supervision

- Ekaterina Lebedeva, *Expression de la dynamique du discours à l'aide de continuations*, Université de Lorraine, defended on April 6 2012, Philippe de Groote [9]
- Aleksandre Maskharashvili, *Generation and Discourse with Abstract Categorical Grammars*, since November 2012, Philippe de Groote and Sylvain Pogodalla
- Florent Pompigne, *Modélisation logique de la langue et Grammaires Catégorielles Abstraites*, since September 2008, Philippe de Groote and Sylvain Pogodalla
- Sai Qian, *Investigation of variable accessibility in natural language semantic modelization*, since September 2009, Maxime Amblard and Philippe de Groote

8.2.3. Juries

- Guy Perrier was member of the PhD committee of François-Régis Chaumartin, Université Paris Diderot, September 25 2012
- Guy Perrier was member of the PhD committee of Christian Gillot, Université de Lorraine, December 12 2012
- Philippe de Groote was member of the PhD committee of Pierre Bourreau, University of Bordeaux 1, June 29 2012

8.3. Popularization

- Maxime Amblard is member of the editorial board of *Interstices*.
- Maxime Amblard supervised a group of Phd students for vulgarization of science with drama, Journée internationales Hubert Curien, Nancy, 3-4-5 September 2012.
- Guy Perrier and Bruno Guillaume are interviewed in the scientific TV program "C à Savoir" on France 3 Lorraine channel. The program is available at <http://tinyurl.com/semagramme-france3>.

SEQUEL Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Awards

Shih-Chieh Huang, supervised by Rémi Coulom received the Taiwan Computer Game Association PhD Thesis Award during the 2012 Taiwan Computer Game Workshop on June 30, 2012.

9.1.2. Tutorials

- *A. Lazaric* and *M. Ghavamzadeh* co-chaired a tutorial on *Statistical Learning Theory in Reinforcement Learning and Approximate Dynamic Programming* at the Twenty-Ninth International Conference on Machine Learning (ICML), 2012, which was held in Edinburgh, Scotland in June. Here is the webpage of the tutorial
<http://chercheurs.lille.inria.fr/~ghavamza/ICML2012-Tutorial.html>

9.1.3. Workshops and Schools

- *J. Mary* co-organized the “New Challenges for Exploration and Exploitation” workshop and competition together with *A. Garivier*, *L. Li*, *R. Munos*, *O. Nicol*, *R. Ortner*, and *Ph. Preux*.
- *H. Kadri* was the main organizer of the ICML workshop on “Object, functional and structured data: towards next generation kernel-based methods” along with *Fl. d’Alché-Buc*, *M. Pontil*, and *A. Rakotomamonjy*.
- *E. Duflos* co-organized the *one-day workshop on Non Parametric Bayesian for Signal and Image Processing* () in Paris (in the frame of the GDR ISIS), with *François Caron*. The guest speaker was *Mickael Jordan* from the University of Berkeley.

9.1.4. Invited Talks

- *P. Chainais*, Journées Bordelaises d’Analyse Mathématique des Images, Bordeaux, Host: Prof. J.F. Aujol & C. Dossal (November 2012).
- *P. Chainais*, Nat’Images, Nice, Host: G. Peyré (July 2012).
- *M. Ghavamzadeh*, University of Waterloo, Canada - AI Seminar, Host: Prof. Pascal Poupart (2012).
- *M. Ghavamzadeh*, McGill University, Canada - School of Computer Science, Host: Prof. Joelle Pineau (2012).
- *M. Ghavamzadeh*, University of Alberta, Canada - AI Seminar, Host: Prof. Csaba Szepesvári (2012).
- *M. Ghavamzadeh*, Workshop on “Large-Scale Online Learning and Decision-Making”, London (2012).
- *D. Ryabko*, The Fifth Workshop on Information Theoretic Methods in Science and Engineering (WITMSE 2012), Amsterdam, The Netherlands, Aug. 2012s.
- *Ph. Preux*, Université de Clermont-Ferrand, June 2012.
- *M. Valko*, University of Oxford, UK, Host: David Silver (April 2012).
- *M. Valko*, Large-scale Online Learning and Decision Making, UK, Host: Prof. Marc Tommasi (April 2012).
- *M. Valko*, LAMPADA workshop, France, Host: Jakub Zavodny (July 2012).
- *A. Lazaric*, Politecnico di Milano, Italy - AI Seminar, Host: Prof. Nicola Gatti (April 2012).

9.1.5. Review Activities

- **Participation to the program committees of international conferences**
 - International Conference on Pattern Recognition Applications and Methods (ICPRAM 2012)
 - Algorithmic Learning Theory (ALT 2012)
 - AAAI Conference on Artificial Intelligence (AAAI 2012)
 - European Workshop on Reinforcement Learning (EWRL 2012)
 - Annual Conference on Neural Information Processing Systems (NIPS 2012)
 - International Conference on Artificial Intelligence and Statistics (AISTATS 2012)
 - European Conference on Machine Learning (ECML 2012)
 - International Conference on Machine Learning (ICML 2012 and 2013)
 - International Conference on Uncertainty in Artificial Intelligence (UAI 2012)
 - French Conference on Planning, Decision-making, and Learning in Control Systems (JFPDA 2012)
 - FUSION 2012
- **International journal and conference reviewing activities** (in addition to the conferences in which we belong to the PC)
 - IEEE Transactions on Image Processing
 - Journal of Statistical Physics
 - Digital Signal Processing
 - IEEE Statistical Signal Processing SSP'2012
 - European Signal Processing Conference EUSIPCO 2012
 - IEEE Transactions on Information Theory
 - Annual Conference on Neural Information Processing Systems (NIPS 2012)
 - International Conference on Machine Learning (ICML 2012)
 - European Conference on Machine Learning (ECML 2012)
 - Uncertainty in Artificial Intelligence (UAI 2012)
 - Machine Learning Journal (MLJ)
 - Journal of Machine Learning Research (JMLR)
 - Journal of Artificial Intelligence Research (JAIR)
 - IEEE Transactions on Automatic Control (TAC)
 - IEEE Transactions of Signal Processing
 - Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS)

9.1.6. Evaluation activities, expertise

- *P. Chainais* is a grant proposal reviewer for the ANR SIMI2.
- *Ph. Preux* is expert for the AERES, ANR, ANRT, and CNRS.
- *M. Ghavamzadeh* is in the Editorial Board Member of Machine Learning Journal (MLJ, 2011-present).
- *M. Ghavamzadeh* is in the Steering Committee Member of the European Workshop on Reinforcement Learning (EWRL, 2011-present).
- *P. Preux*, *R. Gaudel* and *J. Mary* are experts for *Crédit Impôt Recherche* (CIR).
- *E. Duflos* is a project proposal reviewer for ANR.

9.1.7. Other Scientific Activities

- *R. Munos* is Vice Président du Comité des Projets at Inria Lille-Nord Europe since September 2011.
- *D. Ryabko* is a member of COST-GTRI committee at Inria.
- *D. Ryabko* is a general advisor at Inria Lille.
- *R. Gaudel* manages the proml diffusion list.
- *E. Duflos* is Director of Research of Ecole Centrale de Lille since September 2011.
- *E. Duflos* is the Head of the Signal and Image Team of LAGIS (UMR CNRS 8219) since January 2012.
- *R. Gaudel* is board member of LIFL.

9.2. Teaching

- *A. Lazaric*, PhD, “Advanced topics in Machine Learning”, 24 hours, Department of Electronics and Informatics, Politecnico di Milano (Italy).
- *P. Chainais*, Ecole Centrale de Lille, “Machine Learning”, 36 hours, 3rd year.
- *P. Chainais*, Ecole Centrale de Lille, “Wavelets and Applications”, 24 hours, 2nd year.
- *P. Chainais*, Ecole Centrale de Lille, “Introduction to Matlab”, 16 hours, 3rd year.
- *P. Chainais*, Ecole Centrale de Lille, “Signal processing”, 22 hours, 1st year.
- *P. Chainais*, Ecole Centrale de Lille, “Data Compression”, 16 hours, 2nd year.
- *P. Chainais* is Responsible for a new 3rd year program called Decision making & Data analysis.
- *Ph. Preux*, “Decision under uncertainty”, 46 hours, M2, Master in Computer Science, Université de Lille 1.
- *R. Munos*, Master: “Introduction to Reinforcement Learning”, 30 hours, M2, Master “Mathématiques, Vision, Apprentissage”, ENS Cachan.
- *R. Gaudel*, Master: “Data Mining”, 24 hours, M2, Master “Mathématiques et Informatique Appliqués aux Sciences Humaines et Sociales”, Université Lille 3.
- *R. Gaudel*, Master: “Web Mining”, 24 hours, M2, Master “Mathématiques et Informatique Appliqués aux Sciences Humaines et Sociales”, Université Lille 3.
- *R. Gaudel*, Licence: “Programmation”, 2×16 hours, L1, Licence “Mathématiques et Informatique Appliqués aux Sciences Humaines et Sociales”, Université Lille 3.
- *R. Gaudel*, Licence: “Information and Communication Technologies”, 2×12 hours, L1, Licence “Sociologie, Histoire, Développement Social”, Université Lille 3.
- *R. Gaudel*, Licence: “Artificial Intelligence”, 27 hours, L2, Licence “Mathématiques et Informatique Appliqués aux Sciences Humaines et Sociales”, Université Lille 3.
- *R. Gaudel*, Licence: “C2i”, 25 hours, L1-3, any Licence, Université Lille 3.
- *J. Mary*, Master : “Programmation et analyse de donnée en R”, 48h eq TD, M1, Université de Lille 3, France.
- *J. Mary*, Master : “Graphes et Réseaux”, 32h eq TD,L1, Université de Lille 3, France.
- *J. Mary*, Master : “Système”, 12h eq TD,L1, Université de Lille 3, France.
- *E. Duflos*, Master (3rd year of Engineer School): “Advanced Estimation” , 20 hours, M2, Option "Data Analysis and Decision", Ecole Centrale de Lille.
- *E. Duflos*, Master (3rd year of Engineer School): “Multi-Objects Filreting” , 16 hours, M2, Option "Data Analysis and Decision", Ecole Centrale de Lille.

9.3. Supervision

- PhD : *Jean Francois Hren*, Planification optimiste pour systèmes déterministes, Université de Lille 1, June 2012.
- PhD : *Alexandra Carpentier*, Toward optimal sampling in low and high dimension, Université de Lille 1, Octobre 2012.
- PhD: *Christophe Salperwyck*, *Apprentissage incrémental en ligne sur flux de données*, Université de Lille 3, November 30, 2012, Philippe Preux, [4].
- PhD : *Emmanuel Delande*, “Multi-sensor PHD filtering with application to sensor management”, Jan. 2012, encadrement : E. Duflos and P. Vanheegehe.
- PhD in progress : *Boris Baldassari*, *Apprentissage automatique et développement logiciel*, Sep. 2011, encadrement: Philippe Preux.
- PhD in progress : *Victor Gabillon*, “Active Learning in Classification-based Policy Iteration”, Sep. 2009, encadrement: M. Ghavamzadeh, Ph. Preux.
- PhD in progress : *Azadeh Khaleghi*, “Unsupervised Learning of Sequential Data”, Sep. 2010, encadrement: D. Ryabko, Ph. Preux.
- PhD in progress : *Sami Naamane*, “Filtrage collaboratif adverse et dynamique”, Nov. 2011, encadrement: J. Mary, Ph. Preux.
- PhD in progress : *Olivier Nicol*, “Apprentissage par renforcement sous contrainte de ressources finies, dans un environnement non stationnaire, face à des flux de données massifs”, Nov. 2010, encadrement: J. Mary, Ph. Preux.
- PhD in progress : *Amir Sani*, “Learning under uncertainty”, Oct. 2011, encadrement: R. Munos, A. Lazaric.
- PhD in progress : *Emilie Kaufmann*, “Bayesian Bandits”, Oct. 2011, encadrement: R. Munos, O. Cappé, A. Garivier.
- PhD in progress : *Marta Soare*, “Pure Exploration in Multi-arm Bandit”, Oct. 2012, encadrement: R. Munos, A. Lazaric.
- PhD in progress : *Adrien Hoarau*, “Multi-arm Bandit Theory”, Oct. 2012, encadrement: R. Munos.

9.4. Juries

- Ph. Preux is an examiner of the H.D.R. of Ludovic Denoyer, Paris 6.
- *E. Duflos* is an examiner of the Ph.D. of GU Wei (IRCICA).

9.5. Popularization

- *J. Mary* received a bachelor student for one week to present some research oriented activities in informatics.
- *J. Mary* was involved in different PICOM meeting with private companies to present research on sequential data analysis.

SERPICO Team

9. Dissemination

9.1. Scientific Animation

- *Technical program committees of conferences*
 - Charles Kervrann: PC member for ISBI'2012, ISBI'2013, reviewer for ICASSP'2012, ICASSP'2013, ICIP'2012, ICIP'2013, EMMCPRV'2013.
 - Patrick Bouthemy: PC member for ICPRAM'2013, MLDM'2013, TAIMA'2013, reviewer for ISBI'2012, ISBI'2013, ICRA'2013, ICPR'2012, EUSIPCO'2012, ACIVS'2012.
- *Journal reviewing*
 - Charles Kervrann: reviewer in 2012 for Image and Vision Computing, IEEE Transactions on Image Processing.
 - Patrick Bouthemy: reviewer in 2012 for International Journal of Computer Vision, IEEE Transactions on Circuits and Systems for Video Technology, IEEE Computer Graphics and Applications, IEEE Signal Processing Letters, Signal Image and Video Processing, Results in Physics.
- *Participations in seminars, invitations, awards*
 - Charles Kervrann was invited to give a talk entitled “Patch-based Image Denoising in Light and Electron Microscopy” at the “BioImage Informatics” conference (Max Planck Institute, Dresden, Germany, November 2012) and at the “Statistics and Images” workshop (University of Strasbourg, November 2012); he was invited to give a talk entitled “Aggregation Methods for Optical Flow Computation” at the “SIAM Imaging Science” conference (Philadelphia, PA, May 2012) and at the “Mathematics and Image Processing” conference (University of Orleans, June 2012).
 - P. Bouthemy was invited to give a talk entitled “Estimation et interprétation du mouvement dans des séquences d'images”, Interdisciplinary Mifobio School <http://www.mifobio.fr/>, plenary session (Seignosse, September 2012).
- *Responsibilities*

Charles Kervrann:

Member of the IEEE BISP “Biomedical Image and Signal Processing” committee,

Member of executive board of the GdR 2588 (“Microscopie Fonctionnelle du Vivant”) CNRS, member of the scientific committee of the Interdisciplinary MiFoBio School CNRS (<http://www.mifobio.fr/>),

Member of the executive board of the project committee of the Inria Rennes - Bretagne Atlantique centre,

Member of the 2012 CORDIS post-doctoral fellowships committee (Inria Rennes - Bretagne Atlantique centre),

Member of the Scientific Council of the INRA Rennes Research Centre,

Deputy-head of the GIS Europaia (<http://gis-europia.univ-rennes1.fr/>) (Rennes imagery platform).

Patrick Bouthemy

Deputy member of the board of directors and member of the Selection and Validation Committee of the Images & Réseaux competitiveness cluster,

Deputy member of the board of directors of IRT (Technological Research Institute) B-com,

President of AFRIF (Association Francaise pour la Reconnaissance et l'Interprétation des Formes) and member of the board of the GRETSI (Groupement de Recherche en Traitement du Signal et des Images).

- *Other activities*
 - SERPICO is involved in the French network GdR 2588 “Microscopie Fonctionnelle du Vivant” CNRS,
 - SERPICO is member of the regional BioGenOuest GIS.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Charles Kervrann, Geometric Modeling for Shapes and Images, 7.5 hours, M2 SISEA, University of Rennes 1,

Engineer Degree: Charles Kervrann, Statistical Models and Image Analysis, 30 hours + 15 hours (TP, Denis Fortun), 3rd year, Ecole Nationale de la Statistique et de l'Analyse de l'Information ENSAI, Bruz,

Master: Patrick Bouthemey, Analysis of Image Sequences, 18 hours, M2 SISEA, ISTIC & University of Rennes 1,

Master: Patrick Bouthemey, Video Indexing, 9 hours, M2 Computer Science, ISTIC & University of Rennes 1,

Master & Engineer Degree: Patrick Bouthemey, Motion Analysis, 16.5 hours, M2 IRIV & 3rd year, ENSPS & University of Strasbourg.

9.2.2. Supervision

PhD in progress: Philippe Roudot, Lifetime estimation of moving vesicles in FLIM microscopy, started in October 2010, supervised by Charles Kervrann and Francois Waharte (UMR 144 CNRS PICT Institut Curie),

PhD in progress: Denis Fortun, Optical flow computing, aggregation methods and statistical methods: application to time-lapse fluorescence microscopy, started in October 2010, supervised by Charles Kervrann and Patrick Bouthemey,

PhD in progress: Antoine Basset, Event detection and recognition in video-microscopy and applications in cell biology, started in October 2012, supervised by Patrick Bouthemey and Charles Kervrann in collaboration with Jérôme Boulanger (UMR 144 CNRS Institut Curie),

PhD in progress: Alice Bergonzoni, Methods and algorithms for tissue microarrays image analysis, started in January 2013, supervised by Charles Kervrann and Vincent Paveau (Innopsys).

9.2.3. Juries

Referee of Habilitation thesis: A. Manzanera (ENSTA ParisTech) [Patrick Bouthemey], C. Wolf (INSA Lyon) [Patrick Bouthemey]

Referee of PhD thesis: A.S. Coquel (INSA Lyon) supervised by H. Berry and A. Lindner [Charles Kervrann],

Chair of PhD thesis juries: S. Postec (University of Bretagne-Sud) supervised by J. Froment [Charles Kervrann], P. Dérian (University of Rennes 1) supervised by E. Mémin [Patrick Bouthemey], L. Coutard (University of Rennes 1) supervised by F. Chaumette [Patrick Bouthemey], M. Ullah (University of Rennes 1) supervised by I. Laptev and P. Pérez [Patrick Bouthemey].

SHACRA Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Journals, Conferences, Workshop

- **Jérémie Dequidt** has been reviewer for the following conference and journal:
 - Medical Image Computing and Computer Assisted Intervention (MICCAI)
 - Transaction on Medical Imaging (TMI)
 - Computer Methods and Programs in Biomedicine (CMPB)
 - **Christian Duriez** has been reviewer for the following conference and journals:
 - Computer Methods in Applied Mechanics and Engineering (CMAME),
 - Computer Methods and Programs in Biomedicine (CMPB),
 - IEEE Transaction on Medical Imaging (TMI),
 - IEEE Transactions on Biomedical Engineering (TBME-EMBS)
 - IEEE Transaction on Haptics (ToH),
 - Proceedings of IEEE,
 - Computer and Graphics,
 - Eurographics 2012,
 - Eurohaptics 2012,
 - International Conference on Control, Automation, Robotic and Vision (ICARCV 2012),
 - IEEE Virtual Reality Conference (VR 2012),
 - Medical Image Computing and Computer Assisted Intervention (MICCAI 2012)
- member of the following committees:
- Associate Editor of WorldHaptic Conference 2013
- **Jérémie Allard** has been member of the following committees:
 - Workshop on Virtual Reality Interaction and Physical Simulation (VRIPHYS)
- and reviewer for the following conference and journal:
- SIGGRAPH
 - Computers & Graphics

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Jeremie Dequidt, Programming, 48h, L3, Polytech'Lille, France

Licence: Jeremie Dequidt, Database, 12h, L3, Polytech'Lille, France

Licence: Jeremie Dequidt, Advanced Programming, 6h, L3, Polytech'Lille, France

Licence: Jeremie Dequidt, Hardware, 31h, L3, Polytech'Lille, France

Licence: Jeremie Dequidt, Unix Systems, 24h, L3, Polytech'Lille, France

Licence: Jeremie Dequidt, Numerical Analysis, 30h, L3, Polytech'Lille, France

Master: Jeremie Dequidt, 3D Modeling, 5h, M2, Polytech'Lille, France

Licence: Alexandre Bilger, Programming, 48h, L1, Université Lille 1, France
 Master: Alexandre Bilger, Programming, 14h, L1, Polytech'Lille, France
 Licence: Alexandre Bilger, Data Encoding, 32h, L1, Université Lille 1, France
 Licence: Nazim Haouchine, Programming, 22h, L3, Polytech'Lille, France
 Licence: Nazim Haouchine, Database, 36h, L3, Polytech'Lille, France
 Licence: Ahmed Yureidini, Database, 32h, L1, Université de Lorraine, France
 Licence: Ahmed Yureidini, Programming, 36h, L1, Université de Lorraine, France
 Licence: Ahmed Yureidini, Hardware Architecture, 36h, L1, Université de Lorraine, France

9.2.2. Supervision

PhD & HdR :

PhD: **Yiyi Wei**, Discrete Exterior Calculus Approach for Aneurysm Related Simulation, USTL, 23/03/2012, **Stéphane Cotin and Songde Ma**

PhD in progress : **Ahmed Yureidini**, Modélisation d'organes par fonctions implicites, 2009, **Stéphane Cotin and Erwan Kerrien**

PhD in progress : **Hugo Talbot**, Real-time simulation of cardiac ablation in the framework of arrhythmia, 2010, **Stéphane Cotin and Hervé Delingette**

PhD in progress : **Vincent Majorczyk**, Simulation de Fluide GPU, 2010, **Stéphane Cotin and Jérémie Allard**

PhD in progress : **Guillaume Kazmitcheff**, Modélisation et simulation d'interventions chirurgicales sur l'oreille moyenne, 2011, **Stéphane Cotin and Christian Duriez**

PhD in progress : **Alexandre Bilger**, Biomechanical simulation for Deep Brain Stimulation, 2011, **Stéphane Cotin and Christian Duriez**

PhD in progress : **Zhifan Jiang**, Recalage d'images déformables pour la biomécanique, 2011, **Stéphane Cotin, Jérémie Dequidt, Mathias Brieu**

PhD in progress : **Tomas Golembiowski**, Modèles déformables adaptatifs pour la simulation de structures creuses, 2011, **Stéphane Cotin, Ludek Matyska, Christian Duriez**

PhD in progress : **Julien Bosman**, Simulations à base de particules et interactions multi-physiques en temps-réel, 2011, **Stéphane Cotin and Christian Duriez**

PhD in progress : **Mouhamadou Diallo**, Modélisation biomécanique du prolapsus génital, 2011, **Mathias Brieu, Pauline Lecomte, Christian Duriez**

PhD in progress : **Nazim Haouchine**, Augmented Reality Tools for Minimally Invasive Hepatic Surgery, 2012, **Stéphane Cotin, Marie-Odile Berger, Jérémie Dequidt**

PhD in progress : **Francois Dervaux**, Image driven simulation for interventional radiology procedures, 2012, **Stéphane Cotin, Jérémie Dequidt, Erwan Kerrien**

9.2.3. Juries

- **Jérémie Allard** was in the examination committee of :
 - Guillaume Bousquet, October 2012, University of Grenoble

9.3. Popularization

During this year, team researchers and students animated several scientific events. The different scientific animations are listed below:

- MICCAI 2012: some of the team students helped for the organization of the MICCAI conference that occurred in October in Nice,

- Futur en Seine: a scientific exhibition took place in Paris (in the 104 building) the 16th and 17th June 2012 and was a public event. Researchers and students presented demonstration videos done using SOFA during the whole week-end.
- Recontre Inria-Industrie: this was a public event taking place in Strasbourg the 21st of November 2012. Researchers and students presented demonstration videos done using SOFA during the whole week-end.
- Hugo Talbot did a visit in the "Humanoids and Intelligence Systems" laboratory at the Karlsruhe Institute for Technology and presented his Ph.D. work at this occasion.
- Unithe ou Cafe: this is a vulgarization event at Inria presenting the research work done by Inria teams and is dedicated to all employees. Hugo Talbot presented his Ph.D. work during a session called "La cardiologie au coeur du numerique".
- Sofa Training Days Grenoble 2012: this is a 5 days-learning session held in october, with more than 20 attendees (researchers, ingeneers...). Various topics were presented by several members of the team.
- Some high school students have spent a week in the team and have been interested on topics related to Medical Simulation and in a large view to scientific researches.

SIERRA Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorial boards

- F. Bach: Journal of Machine Learning Research, Action Editor.
- F. Bach: IEEE Transactions on Pattern Analysis and Machine Intelligence, Associate Editor.
- F. Bach: Information and Inference, Associate Editor.
- F. Bach: SIAM Journal on Imaging Sciences, Associate Editor.
- G. Obozinski: Journal of Machine Learning Research, Member of the Editorial Board.

9.1.2. Area chairs

- G. Obozinski: International conference on Artificial Intelligence and Statistics (AISTATS) 2012.
- F. Bach: International Conference on Machine Learning, 2012.
- S. Lacoste-Julien, F. Bach: Conference on Uncertainty in Artificial Intelligence, 2012.

9.1.3. Reviewing

- Journals: Annals of Statistics, Machine Learning, Journal of Machine Learning Research (JMLR), IEEE Transaction on Information Theory, Transaction in Pattern Recognition and Machine Intelligence (TPAMI), Information and Inference (IMAI), Scandinavian Journal of Statistics (SJS), Statistics and Computing (STO), Annales de l'IHP, Annals of Statistics
- Conferences: UAI, ECML, NIPS, CVPR, ICML, COLT, AISTATS.

9.1.4. Other

- S. Arlot is member of the board for the entrance exam in Ecole Normale Supérieure (mathematics, voie B/L).

9.1.5. Workshop and conference organization

- M. Schmidt, Session Organizer at International Conference on Continuous Optimization (July 27 - August 1, 2013).
- G. Obozinski, Co-organiser of the workshop "Sparsity, Dictionaries and Projections in Machine Learning and Signal Processing" at ICML 2012, Edinburgh, Scotland. <http://www.di.ens.fr/~obozinski/ICML2012workshop/>.
- F. Bach: International Conference on Machine Learning, 2012, Workshop co-chair.
- F. Bach: Co-organizer of the NIPS workshop on "Analysis Operator Learning vs. Dictionary Learning: Fraternal Twins in Sparse Modeling", <https://sites.google.com/site/dlaoplnips2012/>.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence : S. Arlot, F. Bach, G. Obozinski, "Apprentissage statistique", 35h, Ecole Normale Supérieure, Filière "Math-Info", première année.
- Licence: G. Obozinski, Introduction aux modèles graphiques (4h) in Enseignement spécialisé "Apprentissage artificiel" for second year students at Ecole des Mines.

Mastère: S. Arlot and F. Bach, "Statistical learning", 24h, Mastère M2, Université Paris-Sud, France.

Mastère: G. Obozinski, N. Le Roux, Introduction à l'apprentissage machine appliqué aux neurosciences et à la cognition Co-teaching (6h) in the course of the Master Recherche en Sciences Cognitives co-habilitated by EHESS, ENS and Université Paris Descartes.

Mastère: F. Bach, G. Obozinski, Introduction aux modèles graphiques (30h), Master MVA (Ecole Normale Supérieure de Cachan).

Doctorat: S. Arlot, "Model selection via penalization, resampling and cross-validation, with application to change-point detection", 6h, Université de Cergy.

Doctorat: G. Obozinski, Probabilistic graphical models for Information Retrieval, in the Russian Summer School in Information Retrieval (RuSSIR 2012), Yaroslavl, Russia.

Doctorat: F. Bach, International Computer Vision Summer School 2012, 3h, Sicily.

Doctorat: F. Bach, Summer school on Visual Recognition and Machine Learning, 3h, Grenoble.

Doctorat: F. Bach: Machine learning summer school (MLSS), 3h, Kyoto, Japan.

9.2.2. Supervision

PhD : Toby Hocking, "Learning algorithms and statistical software, with applications to bioinformatics", ENS Cachan, November 20, 2012, Advisors: F. Bach, J.-P. Vert (Ecole des Mines de Paris - Institut Curie).

PhD: Augustin Lefèvre, "Dictionary learning methods for single-channel audio source separation", ENS Cachan, October 3, 2012, Advisors: F. Bach and C. Févotte (Telecom Paristech).

PhD: Armand Joulin, "Convex optimization for co-segmentation", ENS Cachan, December 17, 2012, Advisors: F. Bach and J. Ponce (Willow project-team).

9.3. Invited presentations

S. Arlot, "Optimal model selection with V-fold cross-validation: how should V be chosen?", World Congress in Probability and Statistics 2012, Istanbul.

S. Arlot, "Resampling-based estimation of the accuracy of satellite ephemerides", Inaugural Conference of the Laboratory Fibonacci, Scuola Normale Superiore di Pisa, 2012.

S. Arlot, "Choix de V pour la sélection de modèles par validation croisée V-fold en estimation de densité", Séminaire parisien de statistique, IHP, Paris, 2012.

S. Arlot, "Calibration automatique d'estimateurs linéaires à l'aide de pénalités minimales, application à la régression multi-tâches.", Séminaire de Statistique de l'IMT, Toulouse, 2012.

F. Bach, International Conference on Pattern Recognition Applications and Methods, Faro, Portugal, 2012 (keynote speaker).

F. Bach, Rank Prize Symposium (invited talk), Lake District, England, 2012.

F. Bach, University of Cambridge (two seminars), 2012.

F. Bach, Schlumberger workshop on Mathematical Models of Sound Analysis, IHES (invited talk), 2012.

F. Bach, Joint Pattern Recognition Symposium of the German Association for Pattern Recognition (DAGM) (invited talk), Graz, Austria, 2012.

F. Bach, International Workshop on Machine Learning for Signal Processing (plenary lecture), Santander, Spain, 2012.

F. Bach, Seminar Max-Planck Institute, Tübingen, October 2012.

E. Grave, Laboratoire d'Informatique de Paris 6, Université Pierre et Marie Curie (Seminar), 2012.

S. Lacoste-Julien, "Harnessing the structure of data for discriminative machine learning", Colloque du Département d'Informatique et de Recherche Opérationnelle, Université de Montréal, Montréal, Canada, February 2012

S. Lacoste-Julien, "Structured Alignment Methods in Machine Learning", SMT seminar at the LIMSI, Orsay, France, July 2012

S. Lacoste-Julien, "Frank-Wolfe optimization insights in machine learning", machine learning seminar, University of Toronto, Toronto, Canada, August 2012.

S. Lacoste-Julien, "Frank-Wolfe optimization insights in machine learning", Machine Learning Group seminar, University of Cambridge, Cambridge, UK, August 2012.

S. Lacoste-Julien, "Harnessing the structure of data in machine learning", invited talk, Department of Engineering Science, University of Oxford, Oxford, UK, September 2012.

S. Lacoste-Julien, "Frank-Wolfe optimization insights in machine learning", invited talk, Stanford AI Lab, Stanford University, Stanford, USA, December 2012.

G. Obozinski, Swiss Statistical Seminar, Bern, Switzerland, April 2012.

G. Obozinski, Séminaire de Statistiques, Université de Pennsylvanie, Philadelphia, PA, USA, May 2012.

G. Obozinski, Séminaire de Statistiques, Université Paris 11, May 2012.

G. Obozinski, Journées de Statistiques (Conférence annuelle de la Société Française de Statistiques), Université Libre de Bruxelles, Belgium, May 2012.

G. Obozinski, Congrès mondial de Probabilités et Statistiques, Istanbul, Turkey, July 2012.

G. Obozinski, séminaire du CEREMADE, Université Paris-Dauphine, December 2012.

M. Schmidt, NAIS Workshop on Advances in Large-Scale Optimization, Edinburgh, May 24-25, 2012.

M. Schmidt, International Symposium on Mathematical Programming, Berlin, August 19-24, 2012.

M. Schmidt, University of British Columbia, "Linearly-Convergent Stochastic-Gradient Methods", Seminar, December 10, 2012.

M. Schmidt, - Simon Fraser University, "Opening up the black box: Faster methods for non-smooth and big-data optimization", Seminar, December 11, 2012.

9.4. Prizes and awards

M. Schmidt, NSERC Postdoctoral Fellowship (January 2012 - December 2013).

S. Lacoste-Julien, Research in Paris fellowship 2011-2012.

F. Bach: Inria young researcher prize, 2012.

R. Jenatton: Thesis prize from Fondation Hadamard, 2012.

R. Jenatton: Thesis prize from AFIA, accessit, 2012.

9.5. Popularization

Participation to Inria-Rocquencourt "Fête de la Science", 2012.

SIMPAF Project-Team

9. Dissemination

9.1. Scientific Animation

- A. Gloria is in charge with D. Bonheure of the "PDE and analysis" seminar at ULB since September 2012.
- M. Rousset was in charge of the PDE and numerical analysis seminar of the mathematics department Paul Painlevé until September 2012.
- S. de Bièvre was part of the organizing committee of the "CEMPI Inaugural Conference" in September 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

S. De Bièvre is in charge of the Doctoral formation in Applied Mathematics at the University of Lille.

E. Creusé is in charge of the first year of the master program "Ingénierie Mathématique" of the Lille 1 University.

C. Besse is in charge of the international Master degree at the University of Lille 1 devoted to Scientific Computing.

Members of the team are involved in MSc degrees at USTL (C. Calgaro, S. De Bièvre, G. Dujardin, M. Rousset).

P. Lafitte is involved in a MSc in Ile de France (M2S) and is in charge of the PDE teaching in first year at École Centrale Paris.

I. Lacroix-Violet teaches numerical analysis in L3 at Polytech Lille (98h).

A. Gloria teaches at ULB (licence 2, master 2, 120h).

9.2.2. Supervision

HdR : A. Gloria, "Qualitative and quantitative results in stochastic homogenization", Lille 1, February 24th 2012

PhD in progress : É. Soret, since September 2011, "Stochastic acceleration and equilibration, Supervision by S. De Bièvre and T. Simon (Painlevé)

PhD in progress : P.-L. Colin, "Étude théorique et numérique de modèles mathématiques de corrosion", 09/01/2012, C. Chainais-Hillairet et I. Lacroix-Violet

9.2.3. Juries

C. Chainais, G. Dujardin and P. Lafitte are members of the jury of the national hiring committee of the "Agrégation de mathématiques".

9.3. Popularization

C. Calgaro is in charge of the communication of "Laboratoire Paul Painlevé" and she is in charge of the relation between the University of Lille and high schools. Accordingly, she organizes various events like "Les Mathématiques itinérantes" and "Stage de seconde à contenu scientifique". With the help of the Communication Department of Inria, C. Calgaro, E. Creusé and T. Goudon produced a documentary fiction (in French) for a general audience on how research in applied mathematics is being done. The title is "Avis de recherche" (see <http://www.inria.fr/avisderecherche>).

On Wednesday, 19th of September 2012, C. Calgaro and C. Besse organized with the mathematics department P. Painlevé laboratory, the Société Mathématique de France, Inria, CNRS and Lille 1 University the conference "Un texte, un mathématicien" in Lille. The invited speaker was C. Villani, the 2010 Fields medalist. This conference had a great success with over 1200 participants.

SIROCCO Project-Team

9. Dissemination

9.1. Scientific Animation

- C. Guillemot is associate editor of the Eurasip International Journal on Image Communication.
- C. Guillemot is member of the award committee of the Eurasip Image communication journal.
- C. Guillemot is member of the Selection and Evaluation Committee of the “Pôle de Compétitivité” Images and Networks of the Region of Ouest of France.
- C. Guillemot has been “Technical co-chair” of the Packet Video International Conference, Munich, May 2012.
- C. Guillemot is member as scientific expert of the CCRRDT (Regional Committee of Research and Technological Development) of the Brittany region.
- C. Guillemot is member of the committee in charge of the IEEE Brillouin-Glavieux award.
- C. Guillemot has been a member of the technical program committees of the international conferences EUSIPCO 2012, PV-2012 and PCS-212.
- C. Guillemot is member of the “bureau du Comité des Projets” as well as of the “commission personnels” in charge of the postdoc and delegation recruitments.
- C. Guillemot was a member of the selection committee for recruiting a Professor at Univ. Paris-Sud 11, section 63 (2012).
- C. Guillemot gave a keynote talk on data dimensionality reduction methods and application to different image processing problems at the International Symposium on Image, Video and Communications (ISIVC), Valenciennes, July 2012.
- C. Labit is the Scientific Board chairman of Rennes 1 University (since June 1st, 2008).
- C. Labit is president of the Rennes-Atalante Science Park and of the start-up incubator Emergys (since April, 2007).
- C. Labit is member of the GRETSI association board.
- C. Labit is member of the coordination group of the Allistene alliance devoted to ICT.
- O. Le Meur co-organized a special session about visual attention at the conference SPIE Photonics Europe 2012 (presentations are available on <http://www.irisa.fr/temics/staff/lemeur/visualAttention/specialsessions/>).
- A. Roumy is a member of the GRETSI association board.
- A. Roumy has been a member of the technical program committee of the international conference EUSIPCO 2012.
- A. Roumy was nominated a titular member of the National Council of Universities (CNU section 61, 2012-2015).
- A. Roumy is a local liaison officer for Eurasip.
- A. Roumy co-organized a two-day workshop on Sparse Models and Machine Learning in Rennes (15-16 Oct. 2012) (sponsored by the Signal, Image & Robotics Department of IRISA. In partnership with EURASIP, Inria & ORANGE LABS).

9.2. Patents and Standardization

The team contributes to the HEVC and 3DV standardization initiatives of the ITU/MPEG joint collaborative team on video coding (JCT-VC) [32], [34], [33], [36], [35].

Four patents have been filed jointly by Technicolor and Inria in the area of 2D video coding. Two more patents have been filed by Inria on motion and disparity prediction tools for 3D video coding.

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Master: C. Guillemot, Image and video compression, 12 hours, M2 computer science, Univ. of Rennes 1, France.

Master: C. Guillemot, Image and video compression, 12 hours, M2 SISEA, Univ. of Rennes 1, France.

Master: L. Guillo, Multimedia Communication, 15 hours, M2 Network Engineering, Univ. of Rennes 1, France.

Master: O. Le Meur, Selective visual attention, 13 hours, M2, Univ. of Paris 8, France.

Master: O. Le Meur, Acquisition/Image Processing/Compression, 22 hours, M2 MITIC, Univ. of Rennes 1, France.

Master; A. Roumy, Acquisition/Image processing/Compression, 16 hours, M2 MITIC, Univ. of Rennes 1, France.

Master: A. Roumy, Magistère program, Information Theory, Computer science and telecommunications, 18 hours, Ecole Normale Supérieure de Cachan, Ker Lann campus, France.

Engineering degree: C. Guillemot, Video communication, 16 hours, Télécom Lille 1, Villeneuve-d'Ascq, France.

Engineering degree: L. Guillo, Video streaming, 3 hours, ESIR, University Rennes 1, France.

Engineering degree: C. Labit, Entrepreneurship and innovation, 3 hours, ESIR, Rennes, France.

Engineer degree: O. Le Meur, Image Processing, video analysis and compression, 54 hours, ESIR2, Univ. of Rennes 1, France.

Engineer degree: O. Le Meur, Visual communication, 65 hours, ESIR3, Univ. of Rennes 1, France.

Engineering degree: A. Roumy, Image processing and numerical analysis, 51 hours, ECAM Rennes, France.

9.3.2. Supervision

PhD & HdR

PhD : V. Jantet, Layered depth images for multi-view video coding, Univ. Rennes 1, 23rd Nov. 2012, C. Guillemot and L. Morin (INSA)

PhD : J. Gautier, A Dynamic Visual Attention Model for 2D and 3D conditions; Depth Coding and Inpainting-based Synthesis for Multiview Videos, Univ. Rennes 1, 5th Dec. 2012, O. Le Meur and C. Guillemot

PhD in progress : J. Aghaei Mazaheri, Sparse representations and dictionary learning for satellite image compression, Oct. 2011, C. Guillemot and C. Labit (contract with Astrium)

PhD in progress : M. Bevilacqua, Image and video super-resolution using neighbor embedding algorithms, Feb. 2011, A. Roumy and C. Guillemot (Contract with Alcatel/Lucent)

PhD in progress : S. Cherigui, Spatio-temporal scene modeling for video compression, Nov. 2009, C. Guillemot (Cifre contract with Technicolor)

PhD in progress : B. Huang, Video compression with generalized lifting, Apr. 2012, C. Guillemot (Cifre contract with Orange)

PhD in progress : D. Khaustova, Objective evaluation of 3D video quality, Dec. 2011, O. Le Meur (Cifre contract with Orange)

PhD in progress : M. Ebdelli, Video inpainting for editing and loss concealment, Dec. 2010, C. Guillemot and O. Le Meur

PhD in progress : M. Alain, Spatio-temporal linear embedding for epitome-based video compression, Oct. 2012, C. Guillemot (Cifre contract with Technicolor)

9.3.3. Juries

- C. Guillemot has been member (president) of the jury of the HDR committee of:
 - G. Coatrieux, Telecom Bretagne, 9/07/2012
 - E. Vincent, Univ. Rennes 1, 23/11/2012
- C. Guillemot has been member (president) of the jury of the PhD committee of:
 - C. Greco, Telecom ParisTech, 6/07/2012
- C. Labit has been member (president) of the jury of the HDR committee of:
 - Marie Babel, INSA Rennes, 29/06/2012
- C. Labit has been examiner and member of the jury of the PhD committee of:
 - Lu Zhang-Ge, Univ d'Angers, 28/11/2012

9.4. Popularization

- L. Guillo is advisor of secondary school pupils following the course "Informatique et Science du Numérique (ISN)" of the Lycée Jean Macé in Rennes, France.
- A. Roumy led a reading group on machine learning that was held weekly in the academic year 2011/12.
- Aline Roumy gave a lecture on video compression at the lycée Chateaubriand for highschool students (Terminale and classes préparatoires).
- Participation of Sirocco team members to the Rennes Science Festival (cultural dissemination of sciences).

SISYPHE Project-Team

8. Dissemination

8.1. Scientific Animation

P.A. Bliman:

- Scientist in charge of latin America at Department of International Affairs, Inria.
- Associate Editor of Systems & Control Letters.
- Chargé de mission in the Ministry of research.

F. Clément:

- Scientific head of the Large Scale Initiative Action **REGATE** (REGulation of the GonAdoTropE axis).
- Appointed member of the scientific board of the BCDE (Cell Biology, Development and Evolution) ITMO (Multi OrganizationThematic Institute) of the French National Alliance for Life and Health Sciences <http://www.aviesan.fr/en>.

Participations in examination boards:

- INRA Experienced Research Scientist open competitions for non-assigned positions (admissibility phase).
- INRA Research Director open competitions (admissibility and admission phases).
- Inria Research Director open competitions (admission).

M. Desroches:

- Section Chief Editor of the Media Gallery of the dynamical systems website <http://www.dynamicalsystems.org> (hosted by the Society for Applied and Industrial Mathematics (SIAM)).
- Co-organizer, together with Martin Krupa and Alexandre Vidal, of a special session titled “Multiple Time Scale Dynamics With a View Towards Biological Applications” at the 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, 1-5 July 2012, Orlando, USA.

M. Mirrahimi:

- Associate Editor of Systems & Control Letters.
- Member of IFAC Technical Committee on Distributed Parameter Systems.
- Co-organizer together with Matt R. James, Australian National University, of two invited sessions on Quantum Control at the 48th IEEE Conference on Decision and Control.

M. Sorine:

- Member of IFAC Technical Committee on the Biological and Medical Systems (IFAC TC 8.2).
- Member of the Program Committee of FHIES 2012, the “Second International Symposium on Foundations of Health Information Engineering and Systems”.
- Member of the Program Committee of the 8th IFAC Symposium on Biological and Medical Systems, Budapest, Hungary / 29–31 August, 2012.
- Member of the scientific board of the **ITMO Circulation, Metabolism and Nutrition** (Multi Organization Thematic Institute of the French National Alliance for Life and Health Sciences).
- Member of the steering committee of the clinical study CGAO-REA.

Q. Zhang:

- Member of IFAC Technical Committee on Fault Detection, Supervision and Safety of Technical Processes.
- Member of IFAC Technical Committee on Modelling, Identification and Signal Processing.
- Member of the International Program Committee of the 16th IFAC Symposium on System Identification.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: F. Clément, “Modelling and control of biological systems” course, 2,5 ECTS, part of the "Master's Degree in BioInformatics and BioStatistics" (Paris-Sud 11 University, in collaboration with Béatrice Laroche) <http://www.bibs.u-psud.fr/>

Master : M. Desroches, “Introduction to ODEs and PDEs, 20 heures, M1, University of Bristol, UK.

Master: M. Desroches, mini-course on “Numerical simulation of ODEs and numerical bifurcations analysis”, 6 hours, Université Pierre et Marie Curie, Station Biologique de Roscoff, July 2012.

Master: M. Sorine, “The cardiovascular system and its short-term control - Modelling and signal analysis”, 3 ECTS. BioMedical Engineering - Master's Degree Program, Paris-Descartes University and the Paris Institute of Technology (ParisTech) <http://www.bme-paris.com/en/article/46>.

8.2.2. Supervision

PhD : Najmeddine Attia, “Comportement asymptotique de marches aléatoires de branchement dans \mathbb{R}^d et dimension de Hausdorff”, Paris 13 University, December, 20. Advisor: J. Barral.

PhD: Hadis Amini, “Stabilisation des systèmes quantiques à temps discrets et stabilité des filtres quantiques à temps continus”, Ecole Nationale Supérieure Des Mines de Paris, September, 27. Advisors: M. Mirrahimi, P. Rouchon.

PhD: Zaki Leghtas, “Préparation et stabilisation de systèmes quantiques”, Ecole Nationale Supérieure Des Mines de Paris, September, 27. Advisors: M. Mirrahimi, P. Rouchon.

PhD : Mohamad Safa, “Modélisation réduite de la pile à combustible en vue de la surveillance et du diagnostic par spectroscopie d'impédance”, Paris-Sud 11 University, October 24. Advisors: P.-A. Bliman, M. Sorine.

PhD : Peipei Shang, “Analyse mathématique et contrôle optimal de lois de conservation multi-échelles: application à des populations cellulaires structurées”, UPMC (Université Pierre et Marie Curie), July, 5. Advisors: F. Clément, J.-M. Coron.

8.2.3. Juries

P.-A. Bliman: member of the PhD committee of Samuel Martin, Grenoble University, Novembre 28.

M. Desroches: member of a PhD committee at the University of Sevilla (Spain) on the 19 December 2012.

M. Sorine: member of the following committees:

- PhD committee of Delphine Bresch-Pietri, Ecole Nationale Supérieure des Mines de Paris, December 17.
- HdR committee of Denis Efimov, Lille 1 University, November 28.
- PhD committee of Mohamad Safa, Paris-Sud 11 University, October 24.

SMIS Project-Team

9. Dissemination

9.1. Scientific Animation

- Philippe Pucheral
 - Area Editor of the Information Systems international journal (2007-now).
 - PC member of MOBIWIS' 12, CODAPSY' 12, EDBT' 12 (demo).
 - Member of the recruiting committees of UVSQ and Paris VI.
 - Co-founder of the bi-annual French Summer School “Masses de Données Distribuées” and co-organiser of this school in 2010 and 2012.
- Luc Bouganim
 - President of the BDA Board, the steering committee of the national French conference on Databases.
 - PC member of MOBIWIS' 12, BDA' 12.
 - Member of the recruiting committees of INSA Lyon.
 - Reviewer for the Information Systems international journal and ACM TKDE journal.
 - President of the Inria Post-Doc and Delegation Commission.
 - Member of the Inria “Bureau du Comité des Projets” (BCP).
 - Member of the Inria “Cordi-S (Inria PhD grant)” commission.
 - Member of the Commission PES (Prime d'Excellence Scientifique) for computer science at UVSQ (since 2010).
- Nicolas Anciaux
 - Demonstration chair at BDA 2012.
 - Co-organizer of the 4th edition of Atelier Protection de la Vie Privée (APVP 2013)
 - Member of Commission de Développement Technologique (CDT) at Inria Rocquencourt
 - Member of the Editorial Board of TSI Journal (Technique et Science Informatiques) (2007 – until 2012).
- Benjamin Nguyen
 - Member of the Advisory Committee of the W3C for the UVSQ, of the W3C XQuery Working Group (Test Suite Editor) and of the W3C Social Web Interest Group.
 - PC member of VLDB 2012, VLDB 2012 PhD Workshop, ICCSAMA 2013, BDA 2012.
 - Member of the editorial committee of TSI (Techniques et Sciences Informatiques), Eds. Lavoisier.
 - Organizer of Atelier Protection de la Vie Privée (APVP) 2013.
 - Member of the Selection Committee of Paris-VI and INSA Lyon.
 - Elected member of the PRiSM Laboratory Council.
 - Elected member of the UVSQ Science faculty Scientific Committee.
 - In charge of the UVSQ Computer Science Masters diploma. In charge of the 2014/2015 proposal.
 - Responsible for the UVSQ continuous training of High School teachers in computer science.

- Iulian Sandu Popa
 - Tutorial chair of MOBILWARE 2012 (5th International Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications).
 - Reviewer for the Earth Science Informatics Journal and the Information Systems Journal.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

SMIS is a joint project-team with University of Versailles St-Quentin (UVSQ) and CNRS. Hence SMIS members are naturally deeply involved in teaching.

- P. Pucheral: (130h/y)
 - Full professor at UVSQ.
 - Director of the research Master COSY (UVSQ).
 - Member of the HDR committee of the STV doctoral school.
 - Courses on databases, DBMS architecture and security in Master1, Master2 and engineer school ISTY.
- B. Nguyen: (107h/y)
 - Associate professor at UVSQ.
 - Courses on object programming, databases, XML in undergraduate and Master2.
 - Courses on Teaching CS courses for High School teachers.
- I. Sandu Popa: (192h/y)
 - Associate professor at UVSQ.
 - Courses on C programming and databases in undergraduate and Master2.
- L. Bouganim: (90h/y)
 - Courses on DBMS architecture, data security, database technology in Master1 and Master2 (AFTI, Orsay) and in engineering school (ENST Paris).
- N. Anciaux: (90h/y)
 - Courses on DBMS internal mechanisms, database technology in Master1 and Master2 (UVSQ), and in engineering school (ENSTA Paris).
- L. Le Folgoc: (64h/y)
 - Courses on Relational Database Concepts and SQL, system programming in Masters 1 (UVSQ).

9.2.2. Supervision

Lionel Le Folgoc. Serveurs personnels de données : réflexions sur leur conception et leurs performances. PhD Thesis University of Versailles Saint-Quentin-en-Yvelines (UVSQ), December 2012, co-supervised by Luc Bouganim and Nicolas Anciaux.

Bogdan Butnaru, Optimizations of XQuery in peer-to-peer distributed XML databases. PhD Thesis University of Versailles Saint-Quentin-en-Yvelines (UVSQ), April 2012, co-supervised by Benjamin Nguyen and Georges Gardarin.

PhD in progress : Quoc-Cuong To, starting in November 2012, Co-supervised by Philippe Pucheral and Benjamin Nguyen.

PhD in progress : Saliha Lallali, starting in November 2012, Co-supervised by Philippe Pucheral, Nicolas Anciaux and Iulian Sandu Popa.

PhD in progress : Matias Bjørling, starting in December 2011, co-supervised by Philippe Bonnet and Luc Bouganim.

PhD in progress : Niv Dayan, starting in December 2011, co-supervised by Philippe Bonnet and Luc Bouganim.

9.2.3. Juries

- L. Bouganim
 - Referee for the PhD thesis of Toufik Sarni: Vers une Mémoire Transactionnelle Temps Réel, University of Nantes, October 2012.
 - Referee for the PhD thesis of Stéphane Jacob: Protection Cryptographique des Bases de Données : Conception et Cryptanalyse, University of Paris 6, March 2012.
 - Jury member of the PhD defense of Lionel Le Folgoc: Personal Data Server Engine: Design and Performance Considerations, University of Versailles, December 2012.
 - Jury member of the PhD defense of Hien Thi Thu Truong: A Contract-based and Trust-aware Collaboration Model, University of Lorraine, December 2012.
- N. Anciaux
 - Jury member of the PhD defense of Lionel Le Folgoc: Personal Data Server Engine: Design and Performance Considerations, University of Versailles, December 2012.
- B. Nguyen
 - Jury member of the PhD defense of Bogdan Butnaru : Optimizations of XQuery in peer-to-peer distributed XML databases, University of Versailles, April 2012
 - Jury member of the PhD defense of Noor Malla : Partitioning XML data, towards distributed and parallel management, University of Paris-XI, September 2012.

9.3. Popularization

SMIS members have an important dissemination activity, motivated both by the popularity of the addressed research domain (security/privacy) and of the targeted applications (e.g., personal medical folder), leading to interactions with different institutions (e.g., the French Deputy Chamber, the Parliamentary Office for Evaluation of Scientific and Technological Options (OPECST), the French Network and Information Security Agency), interviews resulting in articles in large audience magazine (e.g., “La Recherche”, the CNRS Journal or BBC news) and talks and demonstrations targeting industrials in wide audience conferences (e.g., JavaOne, e-Smart, “Les rendez-vous Carnot”)

- Organization of the French Summer School “Masses de Données Distribuées”, Philippe Pucheral, June 2012
- Presentation at the “1/2 heure de science”, Database cryptography, Luc Bouganim, March 2012, <http://www.inria.fr/centre/paris-rocquencourt/recherche/la-demi-heure-de-science/2012/database-cryptography>.
- Presentation at the “Colloque du labex DIGICOSME”, Orsay, Architectures pour des grandes bases de données sécurisées, Luc Bouganim, September 2012.
- Participation to the realization of a pedagogic video on Security and Safety, Luc Bouganim, October 2012.
- Participation to the Round Table at the 5th Open World Forum (OWF), Paris, Logiciels libres, culture et enseignement de l’informatique, Benjamin Nguyen, 2012.
- Invited talk at the “Les mardis du CRIDS”, Le projet CAPPRIS, Benjamin Nguyen, July 2012.

SOCRATE Team (section vide)

STARS Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Conference Organization

- In the framework of VANAHEIM project, Stars has organized a summer school which was held at Inria in October 2012, entitled “Human Activity and Vision Summer School”⁴. This summer school addressed the human activity or behaviour recognition, focusing dominantly on the video and audio modalities. In this context, the topics addressed ranged from low-level feature extraction (background subtraction, space-time interest points, tracklets) to active learning, as well as object detection (human, body), tracking (multi-object, multi-camera, audio-visual), behaviour cue extraction (body or head pose), crowd monitoring and supervised behaviour recognition (statistical and symbolic approaches). The summer school counted 26 outside participants, 19 Inria participants and 21 invited speakers. Most of the participants were PhD students, but master students and postdoctoral researchers were also registered.

8.1.2. Journals

- G. Charpiat reviewed for the journals TIP (Transactions on Image Processing), SIIMS (SIAM Journal on Imaging Sciences), RIA (Revue d’Intelligence Artificielle)
- Jean-Paul Rigault reviewed for the SoSym (Software and System Modeling) journal (Springer)
- M. Thonnat reviewed for Image and Vision Computing Journal
- F. Bremond was reviewer for the International Journal of Neural Systems and for the IEEE Pervasive Computing

8.1.3. Conferences

- G. Charpiat reviewed for the conferences CVPR (Computer Vision and Pattern Recognition) and SIGPRO (Signal Processing).
- Jean-Paul Rigault is a member of AITO (Association Internationale pour les Technologies Objets), the steering committee of several international conferences including ECOOP.
- M. Thonnat reviewed for ICPR Conference
- The conference paper entitled “Alzheimer’s patient activity assessment using different sensors” by C. Crispim et al has received the Best Paper Award in ISG*ISARC 2012 conference in Eindhoven, Netherlands in June 2012.
- F. Bremond was Session chair and chairman of discussion panels at AVSS’12 conference
- F. Bremond was reviewer for the conferences CVPR’12-13, ICPR’12, ECCV’12, AVSS’12, PETS’12-13, Visage’12, IROS’12 Workshop, ICRA’13
- F. Bremond was program committee member of the CVPR 3rd Intl. Workshop on Socially Intelligent Surveillance and Monitoring (SISM 2012)
- F. Bremond was program committee member of the 2 ECCV 2012 workshops, International Workshop on Re-Identification (Re-Id 2012) and ARTEMIS 2012
- F. Bremond was program committee member of the IEEE Workshop on Applications of Computer Vision (WACV 2013)
- F. Bremond was program committee member of the Workshop Interdisciplinaire sur la Sécurité Globale (WISG 2013)

⁴<http://www.multitel.be/events/human-activity-and-vision-summer-school/home.php>

8.1.4. Invited Talk

- F. Bremond was invited at the Gerontological Workshop organized by Universitas Tarumanagara in Jakarta on the 28-29 September 2012.
- F. Bremond was invited at the French American Biotech Symposium FABS 2012, invited by EUROBIOMED and French Embassy in US, Nice on the 25-26 October 2012,
- F. Bremond was invited at the IA (Innovation Alzheimer) Workshop 2012: Intersection between ICT & Health – defining guidelines on October 30th in Monaco, France.
- F. Bremond was invited at the International Workshop on Human Behavior Understanding (HBU'2012) held in conjunction with IROS'2012 in Algarve, Portugal, October 2012.

8.1.5. Advisory Board

- M. Thonnat is Scientific Advisory Board member 2010 -2013 European project Fish4Knowledge. on Intelligent Information Management Challenge 4: Digital Libraries and Content (<http://www.fish4knowledge.eu>).
- M. Thonnat is Scientific Board member of the National Reference Center “Santé”, Dependence et Autonomie since 2010.
- M. Thonnat is Scientific Board member of Ecole Nationale des Ponts since 2008
- F. Bremond is Scientific Board member of Fondation Médéric Alzheimer: European Dementia Biomedical Outlook, April and October 2012.
- F. Bremond is Scientific Board member of Workshop Interdisciplinaire sur la Sécurité Globale (WISG)
- F. Bremond is Member of the advisory Boards of the “Éthique, technologie et maladie d’Alzheimer ou apparentée” EREMA

8.1.6. Expertise

- M. Thonnat participated to the evaluation of ANR Tecsan proposals, award committee member for the best scientific project at Ecole Polytechnique Paris

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : François Brémond, Video Understanding Techniques at the Human Activity and Vision Summer school, Sophia-Antipolis, 3h., Oct 2012, FR;

Master : Annie Ressouche, Critical Systems and Vérification. Application to WComp Platform, 10h, M2, Polytechnic School of Nice Sophia Antipolis University, FR;

Jean-Paul Rigault is Full Professor of Computer Science at Polytech’Nice (University of Nice): courses on C++ (beginners and advanced), C, System Programming, Software Modeling.

8.2.2. Supervision

PhD & HdR

PhD : Slawomir Bak, People Detection in Temporal Video Sequences by Defining a Generic Visual Signature of Individuals, Nice Sophia Antipolis University, 5th July 2012, François Brémond [28]

PhD : Duc Phu Chau, Object Tracking for Activity Recognition, Nice Sophia Antipolis University, 30th March 2012 , François Brémond and Monique Thonnat [29];

PhD : Guido-Tomas Pusiol, Learning Techniques for Video Understanding, Nice Sophia Antipolis University, 31st May 2012, François Brémond [30];

PhD in progress: Julien Badie, People tracking and video understanding, October 2011, François Brémond;

PhD in progress : Piotr Bilinski, Gesture Recognition in Videos, March 2010, François Brémond;
 PhD in progress : Carolina Garate, Video Understanding for Group Behaviour Analysis, August 2011, François Brémond;
 PhD in progress : Ratnesh Kumar, Fiber-based segmentation of videos for activity recognition, January 2011, Guillaume Charpiat and Monique Thonnat;
 PhD in progress : Rim Romdhame, Event Recognition in Video Scenes with Uncertain Knowledge, March 2009, François Brémond and Monique Thonnat;
 PhD in progress : Malik Souded : Suivi d'Individu à travers un Réseau de Caméras Vidéo, February 2010, François Brémond ;

8.2.3. *Juries*

- G. Charpiat reviewed applications to a Cordi S PhD grant as well as a proposal to the project call Digiteo.
- M.Thonnat was jury member for the PhD defence of Edouard Auvinet, Montreal University, the 14th June 2012.
- A. Ressouche was jury member for the PhD defence of Salma Zouaoui-Elloumi, Mines Paris Tech, in July 2012.
- F. Bremond was jury member for the PhD defence of Cyrille Migniot, GIPSA Lab, Univ. P. Mendes-France, Grenoble, 17 January 2012.
- F. Bremond was jury member for the PhD defence of Carmelo Velardo, EURECOM, 23rd April 2012.
- F. Bremond was jury member for the Mid-term PhD defence of Usman Farrokh Niaz, EURECOM, 2nd May 2012.
- F. Bremond was jury member for the Mid-term PhD defence of Claudiu Tanase, Mid-term defense, EURECOM, 2nd May 2012.
- F. Bremond was jury member for the Mid-term PhD defence of Alban Meffre, Mid-term defense, Télécom Physique Strasbourg (ex ENSPS) - LSIIT CNRS, June 5 2012.
- F. Bremond was jury member for the Mid-term PhD defence of Hajer Fradi, Mid-term defense, EURECOM, 29th October 2012.
- F. Bremond was jury member for the PhD defence of Sun Lin, Université Pierre & Marie Curie (UPMC) - TELECOM SudParis, 12th Dec 2012.
- F. Bremond was jury member for the HDR defence of Christian Wolf, Université de Lyon, INSA-Lyon, LIRIS CNRS, Team Imagine and M2Disco, 10th December 2012.

8.3. Popularization

- G. Charpiat takes part in Mastic, a local scientific animation committee (Médiation et Animation Scientifique dans les MATHématiques et dans les Sciences et Techniques Informatiques et des Communications) and attended a media training.

8.3.1. *Press Release*

- F. Bremond has a Press interview on Assisted Living in February 2012 with Le Monde, Le Figaro, Les Echos, Notre Temps, Le Quotidien du Médecin, RFI, France Culture, La Croix, France Inter.
- Stars article in Le Monde on the 10th of March on "Vidéosurveillance : Trop de caméras pas assez d'yeux ?",
- F. Bremond has an Interview on Assisted Living on the 21st of March 2012 with France Inter,
- F. Bremond has an Interview on CobTek for the ITV Inria Web Site (by TEchnoscope company) in April 2012.
- Dem@Care has been mentioned in the EU eHealth Newsletters, firstly in March 2012 to announce the launch of the project, secondly in August 2012 to announce the IA (Innovation Alzheimer) Workshop 2012.

STEEP Exploratory Action

9. Dissemination

9.1. Scientific Animation

- E. Prados is member of the scientific and technical Committee of the GIS (Groupement d'intérêt scientifique) Modélisation urbaine since January 2012.
- E. Prados has been member of the steering committee of the FRB (Fondation pour la Recherche sur la Biodiversité) program modelling and scenarios for the biodiversity from June 2010 to June 2012.
- P.-Y. Longaretti manages the informal SOCLE³ group. This group brings together researchers from various fields of expertise in exact, environmental and social sciences, with the objective to coordinate their respective research programs on the question of sustainability transition at local scales.
- P. Sturm has been Program Chair of RFIA 2012 – Congrès de Reconnaissance des Formes et Intelligence Artificielle, Lyon, France
- P. Sturm has been Area Chair of ECCV 2012 – European Conference on Computer Vision, Florence, Italy
- P. Sturm has been Area Chair of ICPR 2012 – International Conference on Pattern Recognition, Tsukuba, Japan
- P. Sturm is Associate Editor of IEEE Transactions on Pattern Analysis and Machine Intelligence, Journal of Mathematical Imaging and Vision, and Image and Vision Computing Journal.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- E. Arnaud, Introduction to applied math, 16,5h, L1, Université de Grenoble, France
- E. Arnaud, Statistics, 18h, L1, Université de Grenoble, France
- E. Arnaud, Image project, 22h, M1, Université de Grenoble, France
- E. Arnaud, Introduction to image analysis, 10h, M1, Université de Grenoble, France
- E. Arnaud, Computer vision, 39h, M2, Université de Grenoble, France
- E. Arnaud, Multimedia indexing, 24h, M2, Université de Grenoble, France
- E. Arnaud, Supervising of apprentices, 15h, Université de Grenoble, France
- P. Sturm, Informatique visuelle, 37.5h, M2, Université de Grenoble, France
- P. Sturm, Computer vision, 13.5h, M2, Université de Grenoble, France

9.2.2. Supervision

HdR: Emmanuel Prados, Recherches en reconstruction 3D photométrique [2], Université Joseph-Fourier – Grenoble 1, 04/04/2012

PhD: Vishes Chari, Shape Estimation for Specular Surfaces [1], Université de Grenoble, 20/11/2012

PhD in progress:

- Anthony Tschirhard, Calibration and sensitivity analysis of a micro-simulation LUTI model, Oct 2012, E. Prados, E. Arnaud, P. Sturm
- Julien Alapetite, part-time PhD student who carries out part of his work in STEEP, graduation expected in 2013, advisor Denis Dupré (CERAG).

9.2.3. Juries

- E. Arnaud has been member of one recruitment committee of a assistant professorships (Grenoble).
- P. Sturm has been reviewer of six and examiner of two PhD theses outside Grenoble.
- P. Sturm has been member of two professorship recruitment committees (Clermont-Ferrand and Evry).

9.3. Popularization

- P.-Y. Longaretti has given four conferences on Environmental Impact and Human Development for a general audience in the last two years.
- P.-Y. Longaretti has coordinated the translation team of the latest book of the American agro-economist Lester Brown, “World on the Edge” (French title: Basculement).

TAO Project-Team

9. Dissemination

9.1. Scientific Animation

- Jamal Atif
 - Co-organiser of RTE workshop, a one-day RFIA associated workshop on Reasoning on Space and Time (<http://www.lri.fr/~atif/RTE2012/>).
 - Reviewer for Information Sciences, Fuzzy Sets and Systems, and many conferences in computer vision
- Anne Auger
 - Member of the ACM-SIGEVO Executive (Special Interest Group on Evolutionary Computation (was the International Society on Genetic and Evolutionary Algorithms before 2006);
 - THRASH, *Theory of Randomized Search Heuristics workshop*, member of Steering Committee;
 - Editorial Board of *Evolutionary Computation*, MIT Press; Guest editor of *Algorithmica* special issue and *ECJ* special issue
 - Proceedings chair of the GECCO 2012 conference
 - Reviewer for *IEEE Trans on Evolutionary Computation*, *ECJ*, *Journal of Global Optimization*, *JMLR*, *JOTA*, *MEME*, PC member of *PPSN*, *GECCO*, *EuroGP*, *FOGA*
 - Co-organizer of *GECCO 2012 Black-Box-Optimization-Benchmarking workshop*.
- Nicolas Bredeche
 - Track chair ALIFE at *GECCO 2012*
 - PC member: *Evostar 2012*, *EvoRobot 2012*, *CEC 2012*, *SAB 2012*
- Philippe Caillou
 - PC member at *ECAI 2012*
 - Coordinator of the *SimTools Network (RNSC Network)*
 - Reviewer for *Simulation*, *Studia Informatica Universalis*
- Cyril Furtlehner
 - Co-organiser of a one-day interdisciplinary workshop <https://who.rocq.inria.fr/Jean-Marc.Lasgouttes/workshop/> on Information processing in complex systems with applications to traffic forecasting at Inria place d'Italie in Paris.
- Cécile Germain
 - PC member for: *IEEE/ACM Cluster, Cloud and Grid Computing (CCGRID)* since 2009; *Utility Cloud Computing (UCC)* since 2011; *IFIP International Conference on Network and Parallel Computing* since 2005; *SP Cloud workshop*; *EGEE/EGI user forum* since 2008.
 - Member (elected) of the University scientific council and board (*Conseil Scientifique de l'Université et bureau*).
- Nikolaus Hansen
 - Editorial Board member of *Evolutionary Computation*, MIT Press;
 - Co-organizer of the *Dagstuhl Seminar 13271 Theory of Evolutionary Algorithms*

- Tutorials at the LION and ACM-GECCO conferences
- Co-organizer of the ACM-GECCO 2012 Black-Box-Optimization-Benchmarking workshop
- PC member of most of the important conferences in the area of Evolutionary Computation
- Yann Ollivier
 - Frequent refereeing for many of the main mathematical journals.
- Marc Schoenauer
 - Elected member of ACM-SIGEVO Executive since 2003 (Special Interest Group on Evolutionary Computation (was the International Society on Genetic and Evolutionary Algorithms before 2006); member of ACM-GECCO Business Committee (2012-2013).
 - Parallel Problem Solving from Nature, Member of Steering Committee (since 1998);
 - Co-chair with Youssef Hamadi (MSR Cambridge) of the LION'6 conference (Learning and Intelligent OptimizatiON) in Paris, January 2012.
 - Editorial Board of *Evolutionary Computation*, MIT Press (Editor in Chief, 2002-2009); *Genetic Programming and Evolvable Machines*, Springer Verlag; *Applied Soft Computing*, Elsevier; *Natural Computing Series*, Springer Verlag.
 - PC member of all important conferences in the area of Evolutionary Computation (ACM-GECCO, PPSN, EvoStar, IEEE-CEC, SEAL, SAC, ...).
 - Honorary Adjunct Professor, School of Computer Science, University of Adelaide, Australia (renewed until end 2015).
- Michèle Sebag
 - Member of the CoNRS; Senior Advisory Board CHIST-ERA; member of the CSFRS (Conseil Supérieur de la Formation et Recherche Stratégique);
 - Pattern Analysis, Statistical Learning and Computational Modelling NoE, Member of Steering Committee (PASCAL 2004-2008; PASCAL2, 2008-);
 - Editorial Board of *Machine Learning Journal*, Springer Verlag; *Genetic Programming and Evolvable Machines*, Springer Verlag.
 - Member of the European Machine Learning and Knowledge Discovery from Databases Steering Committee since 2010;
 - ECCAI Fellow since 2011;
 - Workshop Chair of ECAI 2012 (Montpellier, August 2012);
 - PC member of the major conferences in ML and EC worldwide;
 - reviewer for ERC applications; FNRS (Belgium), NSWO (Netherlands).
 - member of CCSU: LRI, Paris-Sud; LPMA, Paris-Diderot.
- Olivier Teytaud
 - Reviewer for various conferences and journals in optimization and machine learning.
 - Organizer a forum in Taiwan (<http://top.twman.org/2012frtw>) for developing collaborations between European and Taiwanese experts of energy management.
 - Organizer of an international meeting in France (combining academics and companies) as detailed in Section 8.5.1 .

9.2. Invited talks

- Anne Auger: GECCO 2012 Tutorial, LION 2012 Tutorial, CMAP Seminar
- Cyril Furtlehner: 4th YSM-SPIP workshop in Sendai

- Yann Ollivier: Oxford (probability and statistics seminar), Orsay (probability and statistics seminar), IRCAM (information geometry seminar).
- Marc Schoenauer:
 - 18th CREST Open Workshop, *Managing and Optimising Multiplicity Computing*, UCL, Londond, UK, 22-23 March 2012;
 - Complex Adaptive Systems Laboratory seminar, University College Dublin, Ireland, 25 May 2012;
 - ECODAM, Doctoral Summer School on Evolutionary Computation and Data Mining, Faculty of Informatics, Iasi University, Romania, 18023 June 2012;
 - Séminaire du département de génie de la production automatisée, Ecole Supérieure de Technologie, Montreal, Canada, 7 Dec. 2012.
- Michéle Sebag:
 - Invited talk at the Spring Workshop on Mining and Learning, Bad Neuenahr, Germany, Apr. 18-20, 2012.
 - Keynote speaker at the 36th Annual Conference of the German Classification Society, Hildesheim, August 1-3, 2012.
 - Invited talk at the Turing's heritage session at ECAI 2012, August 27-31, 2012.
 - Invited talk, Sixth "Starting Artificial Intelligence Research" Symposium, August 27, 2012.
 - Invited tutorial, International Summer School on Resource-aware Machine Learning, Dortmund, Germany, Sept. 4-7, 2012.
 - Invited tutorial, Constraint Programming 2012, Québec, Canada, Oct. 8-12, 2012.
- Olivier Teytaud:
 - has been invited in several universities in Taiwan during his one-year stay in 2011-2012: Kaohsiung NUK; Hsinchu NDHU; Hsinchu NCTU; Hualien NDHU; Tainan NUTN.
 - was invited at the Bielefeld "search methodologies" seminar 2012 ([booklet](#)).
 - invited speaker at the "Unexpected Results" workshop at ECML-PKDD, Sept. 2012.

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Jamal Atif

Licence (ou équivalent) : approx. 192h (Computer science), L1, IUT Orsay, Univ. Paris-Sud, France.

Master (ou équivalent) : approx. 18h (Robotics and Autonomous agents), M2R, Univ. Paris-Sud, France.

“Directeur d’études” at Computer science department of IUT d’Orsay, Univ. Paris-Sud, France

Anne Auger

Master : 12h (Optimization) M2R, Univ. Paris-Sud, France, 20 h (Stochastic Optimization) Ecole Centrale Paris

Doctorat : 4h (Stochastic numerical optimization by Evolution Strategies) Evolution Artificielle Summer School, 2h (Covariance Matrix Adaptation Evolution Strategy - together with N. Hansen) ACM-GECCO Tutorial, 2h (CMA-ES tutorial) LION Conference invited tutorial

Nicolas Bredèche

Licence (ou équivalent) : approx. 80h (Artificial Life), L2, Univ. Paris-Sud, France.

Master (ou équivalent) : approx. 120h (Evolutionary Computation, Artificial Intelligence), L2, Univ. Paris-Sud, France. Including 15h Evolutionary Robotics, M2R.

Philippe Caillou

Licence (ou équivalent) : approx. 192h (Computer science for managers), L1, IUT Sceaux, Univ. Paris-Sud, France.

Master (ou équivalent) : approx. 27h (Multi-Agents Systems), M2R, Univ. Paris-Sud, France.

Master (ou équivalent) : 3h (Multi-Agent Based Simulation), M2R, Univ. Paris-Dauphine, France.

Michèle Sebag

Licence (ou équivalent) : approx. 24h (Introduction to Machine Learning), L3 ENS-Cachan, France.

Master (ou équivalent) : approx. 12h (Apprentissage Statistique et Optimisation, TC2), M2R, Univ. Paris-Sud, France.

Master (ou équivalent) : approx. 12h (Apprentissage Statistique, Optimisation et Applications), M2R, Univ. Paris-Sud, France.

9.3.2. Supervision

PhD & HdR :

Rémi Bardenet, *Méthodes d'échantillonnage pour l'Inférence et l'Optimisation en Physique des Particules*, Université Paris-Sud, Dec. 2012, B. Kegl [1].

Zyed Bouzarkouna, *Optimisation de Puits Non Conventionnels : Type, Position et Trajectoire*, Université Paris-Sud, April 2012, A. Auger and M. Schoenauer [2]

Mouadh Yagoubi, *Multi-objective parallel evolutionary algorithms : Application on Diesel Combustion*, Université Paris-Sud, July 2012, M. Schoenauer and Ludovic Thobois (ex-PSA) [3].

L. Veysseire, *Courbure de Ricci grossière de processus markoviens*, Ecole normale supérieure de Lyon, Juillet 2012, Y. Ollivier.

PhDs in progress

Riad Akrou, *Autonomous Robotics based on Information Theory*, Université Paris-Sud, Nov. 02., 2010, M. Sebag

Ouassim Ait Elhara, *Stochastic Large Scale Optimization*, Université Paris-Sud, October 2012, A. Auger and N. Hansen

Ludovic Arnold, *Architectures Profondes pour la Vision Computationnelle*, Université Paris-Sud, Jan. 01., 2010, H. Paugam-Moisy and Ph. Tarroux (LIMSI) (defence in April 2013).

Alexandre Chotard, *Enhancement and Analysis of Evolution Strategies*, Université Paris-Sud, Oct. 01., 2011, A. Auger and N. Hansen

Adrien Couëtoux *Monte-Carlo Tree Search and other Reinforcement Learning methods for Energy Management Applications*, Université Paris-Sud, Sept. 01., 2010, O. Teytaud

Dawei Feng *Détection et diagnostic d'anomalies dans les systèmes globalisés à grande échelle*, Université Paris-Sud, Oct. 01., 2010, C. Germain

Jérémie Decock *Comparison and Combination of Control and Reinforcement Learning methods for Energy Management Applications*, Université Paris-Sud, Oct. 03., 2011, O. Teytaud

Nicolas Galichet *Integrity Preserving Policy Learning*, Université Paris-Sud, Oct. 01., 2011, M. Sebag

Moez Hammami, *Traitement de Données Financières Haute Fréquence: Exploration de Méthodes de Construction Inductive à Grandes Echelle*, Université Paris Diderot, May 01., 2011, M. Sebag

Jean-Baptiste Hoock, *Goal Planning with Massive Sets of Heuristics*, Université Paris-Sud, Nov. 01., 2009, O. Teytaud

Yoann Isaac, *Apprentissage Génératif pour les Interfaces Cerveau-Machine*, Université Paris-Sud, Oct. 03., 2011, C. Gouy-Pallier (CEA) and M. Sebag

Ilya Loshchilov, *Rank-based Meta-models for Costly Optimization*, Université Paris-Sud, Oct. 01., 2009, M. Schoenauer and M. Sebag (defence in January 2013).

Gaétan Marceau-Caron, *Optimisation Globale du Trafic Aérien*, Université Paris-Sud, May 11., 2011, A. Hadjaz (Thalés Air Systems), P. Savéant (Thalés R&D) and M. Schoenauer

Victorin Martin, *Modélisation Probabiliste et Inférence par Propagation de Croyances : Application au Trafic Routier*, Université Paris-Sud, Dec. 01., 2009, A. de la Fortelle and J.-M. Lasgouttes (Inria Rocquencourt)

Jean-Marc Montanier, *Robotique Evolutionnaire pour l'Adaptation en Ligne d'un Essaim de Robot*, Université Paris-Sud, Oct. 01., 2009, N. Bredeche (defence in March 2013).

Weijia Wang, *Théorie de l'Information pour l'Apprentissage statistique en Robotique Embarquée*, Université Paris-Sud, Oct.01., 2010, M. Sebag

9.3.3. Juries

- Jamal Atif was a referee of the mid-term PhD committee of Yuan Yang (Telecom-ParisTech, April 2012)
- Philippe Caillou was in the PhD committee of An Vo Duc (LIP6 Paris, November 2012).
- Yann Ollivier was an external referee for the Habilitation of Benoît Kloeckner (Grenoble, December 2012).
- Marc Schoenauer was external reviewer for Eduardo Vellasques' PhD (Ecole de Technologie Supérieure, Université du Québec, Canada, Informatique), PhD committee member for Vincent Baudouin (Université de Toulouse, Mathématiques Appliquées), Gabriel Synaev (Université de Grenoble, Informatique), Marco Montemuro (Université Pierre et Marie Curie, Mécanique), Giovanni Granato (Ecole Polytechnique, Mathématiques Appliquées), and HdR committee member for Daniel Delahaye (Université de Toulouse, Mathématiques Appliquées) and Frédéric Lardeux (Université d'Angers, Informatique). He was also external reviewer within the Tenure Committee for Prof. Dirk Arnold, Dalhousie University, Canada.
- Michèle Sebag was external reviewer for Michael Aupetit (HdR), Hai Le Son (PhD)
- Olivier Teytaud was in the PhD committee for Benoit Gandar (Clermont-Ferrand, November 2012).

9.4. Popularization

- Olivier Teytaud has written a popularization paper on [Chess algorithms](#) in Interstices.
- We made two demonstrations, in Taiwan, of parallel automatic player evaluation; the events were advertised in general audience newspapers ([MoGo web page](#)). Our Taiwanese partner has a motivation around PISA (international student assessment) and eTeaching.
- We also made in Brisbane a general audience demonstration of games against humans, with 7 wins out of 12 against professional players in fair games in 7x7 ([MoGo web page](#)).
- Yann Ollivier organizes a bi-monthly math seminar for undergrad students on Saturdays at Institut Henri Poincaré (together with X. Caruso, I. Kortchemski, R. Mansuy and A. Taveneaux), with 100+ participants at each session.
- Yann Ollivier takes part in the organization of the European Union Contest for Young Scientists (science fair for high school students from 30+ countries organized by the European Commission).
- Yann Ollivier belongs to the scientific steering committee for the elaboration of a brochure *L'explosion des mathématiques* presenting a wide range of applications of mathematics, edited by the SMF and SMAI.
- Philippe Caillou was a teacher at the GAMA Winter School in Can Tho (Vietnam) in November 2012. The winter school objective was the diffusion of multi-agent based simulation methodology with the GAMA Platform to non-computer scientist in Can Tho Biology and Environment University.

TASC Project-Team

9. Dissemination

9.1. Scientific Animation

- **Nicolas Beldiceanu:**
 - Head of the Inria **TASC** team and **LINATASC** team.
 - Program co-chair of **CPAIOR 2012**.
 - Member of the program committee of **ROADEF 2012**.
 - Member of the program committee of **CP 2012**.
 - Co-chair of **BPPC 2012**.
 - Member of the program committee of **ECAI 2012**.
 - Member of the program committee of **CPAIOR 2013**.
 - Member of the program committee of **CP 2013**.
 - Reviewer for **IJCAI 2013**.
 - Reviewer in 2012 for the **Constraints Journal**.
 - Invited talk in August 2012 on the topic of *a model seeker* by the **Department of Information Technology, Uppsala University**, Sweden.
- **Frédéric Benhamou:**
 - **Vice-President for Research of Nantes University**, France.
- **Gilles Chabert:**
 - Reviewer for **CPAIOR 2012**.
 - Reviewer for **ACM-SAC 2012**.
 - Reviewer in 2012 for the **Constraints Journal**.
 - Reviewer in 2012 for the **RAIRO Journal**.
 - Invited by the **department of mathematics of Uppsala University**, Sweden in the context of the **international workshop on interval analysis and set-membership methods**.
- **Sophie Demassey:**
 - Member of the program committee of **CPAIOR 2012**.
- **Jean-Guillaume Fages:**
 - Reviewer in 2012 for the **Constraints Journal**.
 - Invited an Inria Rocquencourt by the **constraint team** for a seminar on *Using Graph Variables in Constraints Programming*.
- **Narendra Jussien:**
 - Head of the computer science department at **EMN**.
 - Conference and program co-chair of **CPAIOR 2012**.
 - Member of the program committee of **CP 2012**.
 - Member of the program committee of **LION 7**.
 - Member of the program committee of **RIVF 2012**.
 - Member of the program committee of **ROADEF 2012**.
 - Member of the program committee of **ACM-SAC 2012**.
 - Reviewer in 2012 for the **AI Journal**.

- Reviewer in 2012 for the **TPLP**.
- Reviewer in 2012 for the **Constraints Journal**.
- Director of the series *Operations Research and Constraint Programming* from **ISTE/Wiley**.
- **Xavier Lorca**:
 - Member of the program committee of **JFPC 2012**.
 - Member of the program committee of **JFPC 2013**.
 - Member of the program committee of **IJCAI2013**.
 - Reviewer for **CPAIOR 2012**.
 - Reviewer in 2012 for the **Constraints Journal**.
 - Reviewer in 2012 for the **RAIRO Journal**.
- **Florian Richoux**:
 - Organizer and member of the program committee of the session *Large Scale Parallelism* of **LION 7**.
- **Thierry Petit**:
 - Co head of the LINA TASC team.
 - Conference co-chair of **CPAIOR 2012**.
 - Member of the program committee of **CPAIOR 2012**.
 - Member of the program committee of **Cocomile 2012**.
 - Reviewer in 2012 for **CP 2012**.
 - Reviewer in 2012 for the **Constraints Journal**.
 - Reviewer in 2012 for **EJOR**.
 - Reviewer in 2012 for **CPL**.
 - Member of the program committee of **CP 2013**.
 - Invited talk on the topic of *constraints on sequences of variables, balancing and focus constraints* at the 8èmes Journées Francophones de Programmation par Contraintes (**JFPC 2012**), Toulouse, France.
- **Charlotte Truchet**:
 - Program Chair of **JFPC 2013**.
 - Member of the program committee of **ECAI 2012**.
 - Invited at the **NII (National Institute for Informatics)** and **JFLI (Japanese-French Laboratory for Informatics)** in Tokyo: work on *parallel constraint solving* with **H. Hosobe** at NII and with **P. Codognet** at JFLI.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: **N. Beldiceanu**, Constraint (**Master ORO**), 26h, M2, Nantes University, France.

Master: **N. Beldiceanu**, Logic Programming, 32h, M2, Mines de Nantes, France.

Master: **N. Beldiceanu**, Gipad end project, 8h, M2, Mines de Nantes, France.

Licence: **N. Beldiceanu**, Imperative Programming, 12h, L3, Mines de Nantes, France.

Licence: **G. Chabert**, Variational calculus, 12h, L3, Mines de Nantes, France.

Licence: **G. Chabert**, Numerical methods, 21h, L3, Mines de Nantes, France.

Licence: **G. Chabert**, Simulation and parameter estimation, 18h, L3, Mines de Nantes, France.

- Licence: **G. Chabert**, Numerical integration, 15h, L3, Mines de Nantes, France.
- Master: **G. Chabert**, Non-linear programming, 20h, M2, Mines de Nantes, France.
- Licence: J.-G. Fages, Graphs and Algorithms, 28h, L2, Mines de Nantes, France.
- Master: J.-G. Fages, Constraints Programming, 12h, M2, Mines de Nantes, France.
- Master: J.-G. Fages, Project, 20h, M2, Mines de Nantes, France.
- Licence: J.-G. Fages, Imperative Programming, 4h, L1, Mines de Nantes, France.
- Master: **N. Jussien**, Constraint, 12h, M2, Mines de Nantes, France.
- Master: **N. Jussien**, Constraint, 3h, M1, Mines de Nantes, France.
- Licence: **N. Jussien**, Discrete mathematics, 12h, L3, Mines de Nantes, France.
- Licence: A. Letort, Project, 15h, L1, Mines de Nantes, France.
- Licence: A. Letort, Operation Research, 15h, L3, Mines de Nantes, France.
- Master: **X. Lorca**, Head of the major of the Master in Engineering, Computer Science for Decision Support, M2, 30h, Mines de Nantes, France.
- Master: **X. Lorca**, Algorithms and Complexity, 20h, M1, Mines de Nantes, France.
- Master: **X. Lorca**, Data Warehouse and Data Analysis, 20h, M1, Mines de Nantes, France.
- Master: **X. Lorca**, Graph Theory, Algorithms, 20h, M1, Mines de Nantes, France.
- Master: **X. Lorca**, Business Intelligence, 20h, M2, Mines de Nantes, France.
- Master: **X. Lorca**, IT System and Software Development, 20h, M2, Mines de Nantes, France.
- Master: **X. Lorca**, Implementation Project, 20h, M2, Mines de Nantes, France.
- Master: **T. Petit**, Combinatorial Optimization GIPAD, 17.5h, M2, Mines de Nantes, France.
- Master: **T. Petit**, GIPAD project, 25h, M2, Mines de Nantes, France.
- Master: **T. Petit**, Internship of Mohamed Kebe, 25h, M2, University of Clermont, France.
- Licence: **T. Petit**, Imperative Programming, 22.5h, L2, Mines de Nantes, France.
- Licence: **T. Petit**, Object Programming, 9h, L2, Mines de Nantes, France.
- Licence: **T. Petit**, Synthesis, 5h, L2, Mines de Nantes, France.
- Licence: **T. Petit**, Programming project, 8h, L2, Mines de Nantes, France.
- Licence: **T. Petit**, Data structures, 27.5h, L2, Mines de Nantes, France.
- Licence: **F. Richoux**, Design Patterns in Object-Oriented Programming, 96h, L3, University of Nantes, France.
- Licence: **F. Richoux**, Introduction to Computer Science, 36h, L1, University of Nantes, France.
- Licence: **C. Truchet**, C2i, 64h, L1, University of Nantes, France.
- Licence: **C. Truchet**, Algorithms and Programming, 140h, L1, University of Nantes, France.
- Licence: **C. Truchet**, Web, 36h, L1, University of Nantes, France.
- Master: **C. Truchet**, Computer sound design, 24h, M2, University of Nantes, France.

9.2.2. Supervision

- PhD: Marie Pelleau, Abstract domains in constraint programming, Nantes University, November 29 2012, **Charlotte Truchet**, **Frédéric Benhamou**, **Pascal van Hentenryck**.
- PhD: Alexis De Clerq, Cumulative scheduling with overloads: global constraints and decompositions, Nantes University, October 29 2012, **Thierry Petit**, **Narendra Jussien**, **Nicolas Beldiceanu**.
- PhD: Aurélien Merel, Biobjective railway infrastructure capacity assessment by hybrid column generation, Nantes University, October 31 2012, **Sophie Demasse**, **Xavier Gandibleux**.
- PhD in progress: Arnaud Letort, Scalable scheduling constraints, October 2010, **Nicolas Beldiceanu**.

PhD in progress: Bruno Belin, Interactive conception of sustainable urban environments with constraints, September 2011, [Charlotte Truchet](#), Marc Christie, [Frédéric Benhamou](#).

PhD in progress: Jean Guillaume Fages, Graph Theory in Constraint Programming, Theory and application to several graph covering problems, October 2011, [Xavier Lorca](#), [Nicolas Beldiceanu](#).

PhD in progress: [Charles Prud'Homme](#), Constraint Propagation and search strategies Management in Modern Constraint Solvers, October 2011, [Xavier Lorca](#), [Narendra Jussien](#), [Rémi Douence](#).

PhD in progress: Alban Derrien, Constraint propagation with limited time complexity, October 2012, [Thierry Petit](#), [Nicolas Beldiceanu](#).

9.2.3. Juries

- [N. Beldiceanu](#), Member of the PhD committee of the thesis of Alexis De Clerq (Univ. Nantes, October 29, 2012).
- [F. Benhamou](#), Member of the PhD committee of the thesis of Marie Pelleau (Univ. Nantes, November 29, 2012).
- [Narendra Jussien](#), Member of the PhD committee of the thesis of Alexis De Clerq (Univ. Nantes, October 29, 2012).
- [Narendra Jussien](#), Reviewer of the PhD thesis of Caroline Maillet (Univ. Toulouse, April 25, 2012).
- [T. Petit](#), Member of the PhD committee of the thesis of Alexis De Clerq (Univ. Nantes, October 29, 2012).
- [Charlotte Truchet](#), Member of the PhD committee of the thesis of Marie Pelleau (Univ. Nantes, November 29, 2012).

9.3. Popularization

- Within the context of the [global constraint catalog](#), some effort was done to provide more explanations for the core global constraints, namely:
 - provide for all core global constraints some small examples where one can see, also graphically, all solutions.
 - provide a set of 30 exercises with their detailed solution for half of the core constraints (*alldifferent*, *cycle*, *cumulative*, *element*, *nvalue*).
- Within the context of the new release of the library [IBEX](#) a [course](#) was given by [G. Chabert](#) mid december to about 22 participants in [ENSTA Bretagne](#).

TEXMEX Project-Team

9. Dissemination

9.1. Scientific Animation

- Laurent Amsaleg
 - was a program committee member of CBMI 2012;
 - was a program committee member of ICMR 2012;
 - was a program committee member of MMM 2012;
 - was a program committee member of BDA 2012;
 - was a program committee member of ICME 2012;
 - was a program committee member of MMM 2013;
 - was a member of the “commission de spécialistes, ISTIC, University Rennes 1”;
 - was a reviewer for Advances in Multimedia Journal.
- Vincent Claveau
 - was a program committee member of the Hybrid methods in NLP Workshop, collocated with EACL2012, Avignon, France;
 - was a program committee member of TALN’12 (18^e conférence nationale Traitement automatique des langues naturelles), Grenoble, France;
 - was a program committee member of IEEE/WIC/ACM Web Intelligence (WI-IAT) conference, Macau, China;
 - was a program committee member of Conférence en Recherche d’Information et Applications, CORIA 2012, Bordeaux, France;
 - is a member of the editorial board of the journal TAL, Traitement Automatique des Langues;
 - was a reviewing committee member for the journal BioInformatics;
 - is a board member of Association pour le Recherche d’Information et Application (ARIA) and was implied in the organization of the CORIA 2012 conference and the EARIA 2012 summer school
 - was a selection committee member in Univ. Paris 11 and Univ. Paris 13.
- Teddy Furon
 - was an associate editor of Elsevier Digital Signal Processing, 2012;
 - was an associate editor of IEEE Trans. on Information Forensics and Security, 2012;
 - was a member of the technical committee of IEEE Information Forensics and Security sub-society, 2012.
 - was a program committee member of Information Hiding 2012, Berkeley, CA, USA;
 - was a program committee member of CMS 2012, Canterbury, UK;
 - was a program committee member of IEEE WIFS 2012, Tenerife, Spain;
- Guillaume Gravier
 - was a program committee member of the Journées d’étude sur la Parole, 2012;
 - was a technical program committee member of Workshop on Content-based Multimedia Indexing, 2012;

- was a technical program committee member of IEEE Intl. Conf. on Multimedia and Exhibition, 2012;
 - was a program committee member of the ECCV Workshop on Information Fusion in Computer Vision for Concept Recognition, 2012;
 - founded in 2012 the Special Interest Group of the Intl. Speech Communication Association, Speech and Language in Multimedia (SLIM), which he is leading;
 - is vice-president of the Association Francophone de la Communication Parlée, the French-speaking Speech Communication Association, also a regional group of the Intl. Speech Communication Association;
 - was a program committee member of the ACM Multimedia 2012 Workshop on Multimedia Analysis For Ecological Data;
 - was a technical program committee member of the ACM Workshop on Audio and Multimedia Methods for Large-Scale Video Analysis, 2012;
 - was a program committee member of the 2012 5th International Congress on Image and Signal Processing;
 - was appointed as an expert for the ANR CONTINT program;
 - is a member of the Interspeech 2013 Steering Committee, in charge of the conference program coordination;
 - was the scientific leader of the national evaluation initiative ETAPE;
 - was a member of the organizing committee of the MediaEval 2012 evaluation benchmark;
 - has served as a reviewer for several major journals in the speech and multimedia domains.
- Patrick Gros
 - was a program committee member of the Fourth International Conference on Creative Content Technologies, Content 2012, Nice, France;
 - was a program committee member of Conférence en Recherche d'Information et Applications, CORIA 2012, Bordeaux, France;
 - was a Technical Program Committee member of the 20th European Signal Processing Conference Eusipso 2012, Bucharest, Romania;
 - was a program committee member of the 18th Conférence en Reconnaissance des Formes et Intelligence Artificielle, RFIA 2012, Lyon, France;
 - was appointed as scientific officer of the Inria research center of Rennes – Bretagne Atlantique;
 - was member of the scientific board of Université européenne de Bretagne;
 - was member of the Evaluation Board of Inria.
 - Hervé Jégou
 - has co-organized a tutorial on Large-Scale Visual Recognition at CVPR'2012;
 - was a program committee member and keynote speaker at the Workshop on Web-scale Vision and Social Media, in conjunction with ECCV'2012;
 - was area chair for the BMVC'2012 conference;
 - was a program committee member of CVPR'2012;
 - was a program committee member of ECCV'2012;
 - was a program committee member of CBMI'2012;
 - was a program committee member of MMM'2012;
 - was a program committee member of RFIA'2012;

- was appointed as an expert for the ANR CONTINT'2012 project call and for the ANRT in 2012;
- was a member of the selection committee for associate professors at ENSEA.
- Ewa Kijak
 - is head of the Image engineering track of ESIR (Ecole Supérieure d'Ingénieur de Rennes, associated with University of Rennes 1).
- François Poulet
 - co-organized and edited, together with B. Le Grand, the proceedings of the 10th Workshop Visualisation et Extraction de Connaissances co-located with Extraction et Gestion de Connaissances, (EGC'12), Bordeaux, France, Jan. 2012.
 - was a program committee member of KDIR'12, International Conference on Knowledge Discovery and Information Retrieval, Barcelona, Spain, Oct. 2012;
 - was a program committee member of KICSS'12, International Conference on Knowledge Information and Creativity Support Systems, Melbourne, Australia, Nov. 2012;
 - was a program committee member of VINCI'12, Visual INformation Communications International, Hangzhou, China, Sept. 2012;
 - was a program committee member of AusDM'12, Australasian Data Mining Conference, Sydney, Australia, Dec. 2012;
 - was a program committee member of EGC'12, Extraction et Gestion de Connaissances, Bordeaux, France, Jan. 2012;
 - was a reviewer of ISCAS 2013, IEEE International Symposium on Circuits and Systems, Beijing, China, May 2013;
 - was a reviewer of DAMI, Journal on Data Mining and Knowledge Discovery, Springer;
 - was a reviewer of Advances in Knowledge Discovery and Management, Springer;
 - was co-organizer of the 10th workshop Visualisation et Extraction de Connaissances, (AVEC-EGC'12), Bordeaux, France, January 2012.
- Christian Raymond
 - is a member of the editorial board of the e-journal "Discours";
 - was a reviewing committee member of Interspeech (13th Annual Conference of the International Speech Communication Association);
 - was a reviewing committee member of ICMLA (The tenth International Conference on Machine Learning and Applications).
- Pascale Sébillot
 - was a member of the program committee of LREC 2012 (8th international conference on Language Resources and Evaluation);
 - was a member of the program committee of TALN 2012 (19e conférence francophone Traitement automatique des langues naturelles);
 - is an editorial committee member of the Journal TAL (Traitement automatique des langues; since July 2009);
 - was a member of the reading committee of several issues of the Journal TAL (Traitement automatique des langues) in 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Doctorate: H. Jégou, Tutorial at CVPR'12, 3h, Providence, USA

- Doctorate: H. Jégou, Tutorial at BMVC'12, 2h, Surrey, UK
- Doctorate: H. Jégou, Lecture at SSMS'12 summer school, 2h, Santorini, Greece
- Master: L. Amsaleg, High dimensional Indexing, 14h, M2R, University of Rennes 1
- Master: L. Amsaleg, Database Tuning, 8h, ENSAI
- Master: G. Gravier, Data analysis and stochastic modeling, 27h, M2, University of Rennes 1
- Master: V. Claveau, Multimedia Indexing, 12h, M2, ISTIC, University of Rennes 1, Rennes
- Master: V. Claveau, Indexing and multimedia databases, 15h, M2, ENSSAT
- Master: V. Claveau, Natural Language Processing, 36h, M2, Univ. Rennes 1
- Master: V. Claveau, Data-Based Knowledge Acquisition 2: Symbolic Methods, 27 hours, M1, INSA de Rennes
- Master: V. Claveau, Symbolic and sequential data, 10h, M2R, University of Rennes 1
- Master: P. Gros, Mathematics workshop, 8h, ISTIC, University of Rennes 1
- Master: E. Kijak, Image analysis and classification, 30h, M1, ESIR
- Master: E. Kijak, Image processing, 64h, M1, ESIR
- Master: E. Kijak, Supervised learning, 16h, M2R, University Rennes 1
- Master: E. Kijak, Computer Vision, 15h, M2, ESIR
- Master: E. Kijak, Indexing and multimedia databases, 15h, M2, ENSSAT
- Master: E. Kijak, Digital Documents Indexing and Retrieval, 26h, M2, University Rennes 1
- Master, François Poulet is in charge of the Master in computer science (2nd year), MITIC, Computer Science Methods and Information and Communication Technologies, ISTIC, University of Rennes 1
- Master: F. Poulet, Managing Large Collections of Digital Data, 10h, M2R, ISTIC, University of Rennes 1
- Master: F. Poulet, Introduction to Data Mining, 15h, M2P, ISTIC, University of Rennes 1
- Master: F. Poulet, Mining Symbolic Data, 25h, M2P, ISTIC, University of Rennes 1
- Master: F. Poulet, Applications and Problem Solving, 10h, M2P, ISTIC, University of Rennes 1
- Master: F. Poulet, Learning Methods for Multimedia Data, 26h, M2P, ISTIC, University of Rennes 1
- Master: P. Sébillot, Advanced Databases and Modern Information Systems, 70 hours, M2, INSA de Rennes,
- Master: P. Sébillot, Data-Based Knowledge Acquisition 2: Symbolic Methods, 18 hours, M1, INSA de Rennes
- Licence: G. Gravier, Databases, 9h, L3, Université de Rennes 1
- Licence: G. Gravier, Databases, 27h, L2, INSA de Rennes
- Licence: G. Gravier, Programming in C, 8h, L3, INSA de Rennes,
- Licence: H. Jégou, Databases, 40h, L2, INSA de Rennes

9.2.2. Supervision

- PhD : Juan David Cruz-Gomez, Socio-semantic Networks Algorithm for a point of View Based Visualization of On-line Communities. December 10th 2012, Cécile Bothorel (Télécom Bretagne), François Poulet.
- PhD: Thanh-Toan Do, Security Analysis of Copy Image Detection systems based on SIFT Descriptors, University Rennes 1, September 27th 2012, Laurent Amsaleg, Ewa Kijak, Teddy Furon.

- PhD : Ali Reza Ebadat, Toward robust information extraction models for multimedia documents, INSA de Rennes, October 17th 2012, Vincent Claveau and Pascale Sébillot
- PhD in progress: Petra Bosilj, Video description and retrieval, Started October 2012, Ewa Kijak and Sebastien Lefèvre (in collaboration with IRISA SEASIDE team)
- PhD in progress: Mohammed-Haykel Boukadida, Automatic video summarization based on constraint programming, January 2012, Patrick Gros, Sid-Ahmed Berrani (Orange Labs, Rennes)
- PhD in progress : Thanh Nghi Doan, Image Classification, Started November 2010, François Poulet
- PhD in progress: Khaoula Elagouni, Automatic image and video indexing using automatic recognition of embedded texts and natural language processing, October 10, 2009, Pascale Sébillot, Christophe Garcia (LIRIS, Lyon) and Franck Mamalet (Orange Labs, Rennes)
- PhD in progress: Julien Fayolle, Information retrieval in TV streams, Started October 2009, Fabienne Moreau, Christian Raymond, Guillaume Gravier, Patrick Gros.
- PhD in progress: Gylfi Gudmundsson, Towards parallel and distributed CBIR systems, started April 2010, Laurent Amsaleg
- PhD in progress: Mihir Jain, Video description and retrieval, started February 2011, Hervé Jégou, Patrick Gros and Patrick Bouthemy
- PhD in progress: Ludivine Kuznik, Structuring and navigating documentary archives, started April 2011, Guillaume Gravier and Pascale Sébillot, in collaboration with Institut National de l'Audiovisuel (Jean Carrière)
- PhD in progress: Abir Ncibi, Structure learning of TV streams, started October 2011, Vincent Claveau, Guillaume Gravier, Patrick Gros, Emmanuelle Martienne
- PhD in progress: Cédric Penet, Multimodal content based analysis for video on demand, started September 2010, Guillaume Gravier and Patrick Gros, in collaboration with Technicolor
- PhD in progress: Bingqing Qu, Structure discovery of TV programs from an homogeneous collection, started October 2012, Guillaume Gravier in collaboration with Institut National de l'Audiovisuel
- PhD in progress: Anca Roxana Simon, Hierarchical semantic structuring of video collections, started October 2012, Guillaume Gravier and Pascale Sébillot
- PhD in progress: Stefan Ziegler, Landmark driven speech recognition, started September 2010, Guillaume Gravier

9.2.3. *Juries*

- Patrick Gros, HDR, Benoît Huet (université de Nice-Sophia Antipolis)
- Guillaume Gravier, PhD, Mickaël Rouvier (LIA);
- Guillaume Gravier, PhD, Pierre Gotab (LIA);
- Guillaume Gravier, PhD, Sylvain Raybaud (LORIA);
- Guillaume Gravier, PhD, Christian Gillot (LORIA);
- Hervé Jégou, PhD, Safadi Bahjat (LIG);
- Ewa Kijak, PhD, Muneeb Ullah (Inria);
- Pascale Sébillot, HDR, Ludovic Tanguy (Toulouse university);
- Pascale Sébillot, PhD, Clémentine Adam (Toulouse university);
- Pascale Sébillot, PhD, Gert-Jan Poulisse (Katholieke Universiteit (KU) Leuven, Belgium) ;

9.3. Invited talks and lectures

- Vincent Claveau: Invited speaker at the ASAP off-site seminar, Quiberon, France, May 2012
- Vincent Claveau: Invited speaker at the Cordial seminar, December 2012

- Hervé Jégou: Keynote speaker at the ECCV workshop on web scale vision and social media, Firenze, Italy, October 2012
- Hervé Jégou: Lecturer at the CVPR conference "Large scale object recognition" tutorial (selected), Providence, USA, June 2012
- Hervé Jégou: Invited lecturer at Summer School on Social Media Modeling and Search (SSMS' 12), Thira, Greece, September 2012
- Hervé Jégou: Invited tutorial at the BMVC conference, Surrey, UK, September 2012
- Hervé Jégou: Invited talk at Oxford University, Visual Geometry Group, UK, September 2012
- Hervé Jégou: Invited talk at the National Institute of Technology (NII), Tokyo, Japan, April 2012
- Hervé Jégou: Invited talk at Technicolor Palo Alto, California, USA, August 2012
- Hervé Jégou: Invited talk at the ETIS laboratory/ENSEA, Cergy-Pontoise, France, December 2012

9.4. Popularization

- Sébastien Campion and Teddy Furon: Participation to *Fête de la Science*, October 12-13, 2012;
- The image search technique based on Pqcodes [83] was popularized in the journal *Futura Sciences*;
- The Texmix demonstration was presented at Futur en Seine.

TOCCATA Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Event organization

- C. Paulin organizer of the first DigiCosme Colloquium (<http://labex-digicosme.fr/Colloque2012>), Sept. 12-13, École Polytechnique, France.
- C. Paulin organizer of the 4th Conference on Interactive Theorem Proving (<http://itp2013.inria.fr/>) that will happen in July 2013.
- C. Marché organizer of the first DigiCosme Spring School (<http://labex-digicosme.fr/Spring+School+2013>) whose theme is *Program Analysis and Verification* and will happen in April 2013.

9.1.2. Editorial boards

- S. Boldo is member of the editorial committee of the popular science web site *interstices*, <http://interstices.info/>.
- J.-C. Filliâtre is member of the editorial board of the *Journal of Functional Programming*.
- C. Paulin is member of the editorial board of the *Journal of Formalized Reasoning*.

9.1.3. Learned societies

- J.-C. Filliâtre is a member of IFIP Working Group 1.9/2.15 (Verified Software)

9.1.4. Program committees

- C. Marché, *Tool Chair* of the program committee of the 19th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2013, Rome, Italy, <http://www.etaps.org/2013/tacas13>), part of the ETAPS joint Conference. The tool chair is responsible for the evaluation and selection of tool papers and tool demonstrations, following precise guidelines given in the call for papers. This initiative of TACAS aims at making the selection of such submissions more accurate (<http://www.etaps.org/2013/tacas13/tacas13-tool-papers-menu>).
- S. Conchon, member of the program committee of the 10th International SMT workshop 2012, Manchester, UK.
- C. Paulin, member of the program committee of the third and fourth conferences on Interactive Theorem Proving (ITP 2012 & 2013 <http://itp2013.inria.fr/>).
- É. Contejean is a member of the program committees of the 23rd International Conference on “Rewriting Techniques and Applications” (RTA 2012 <http://rta2012.trs.cm.is.nagoya-u.ac.jp/>) and of the 24th International “Conference on Automated Deduction” (CADE-24 <http://www.cade-24.info/>).
- J.-C. Filliâtre is a member of the program committees of the second conference on Interactive Theorem Proving (ITP 2011), the workshop “Analyze to Compile, Compile to Analyze” (ACCA 2011), the conference Verified Software: Theories, Tools and Experiments (VSTTE 2012), the conference NASA Formal Methods (NFM 2012), and the 10th Asian Symposium on Programming Languages and Systems (APLAS 2012).

9.1.5. Invited Presentations

- S. Boldo, “Preuve de programmes d’analyse numérique”, seminar of the AriC team, Lyon, January 5th.

- C. Lelay, “Improving Real Analysis in Coq: a User-Friendly Approach to Integrals and Derivatives”, Coqapprox seminar (for the Tamadi ANR), Lyon, July 11th.
- C. Lelay, “Improving Real Analysis in Coq: a User-Friendly Approach to Integrals and Derivatives”, LAC/LaMHA/LTP Days, Orléans, October 25th.
- G. Melquiond, “Wave Equation Numerical Resolution: a Comprehensive Mechanized Proof of a C Program”, CaCoS Workshop, Grenoble, July 26th.
- J.-C. Filliâtre, “Combining Interactive and Automated Theorem Proving in Why3”, Automation in Proof Assistants 2012, Tallinn, Estonia, April 2012.
- J.-C. Filliâtre, “Combining Interactive and Automated Theorem Proving using Why3 (invited tutorial)”, Second International Workshop on Intermediate Verification Languages (BOOGIE 2012), Berkeley, California, USA, July 2012.

9.2. Interaction with the scientific community

9.2.1. Collective responsibilities within Inria

- S. Boldo, elected member of the Inria Evaluation Committee. She was in the committee in charge of selecting the Inria permanent researchers (CR2 and CR1).
- S. Boldo was in the committee in charge of selecting an Inria support staff (TR, *technicien de recherche*) for the Saclay finance and accounting service (SAF).
- S. Boldo, member of the CLHS, *comité local hygiène et sécurité* and member of the CLFP, *comité local de formation permanente*.
- S. Boldo, member of the committee for the monitoring of PhD students (*commission de suivi des doctorants*).
- S. Boldo, scientific head for Saclay for the MECSI group for networking about computer science popularization inside Inria.
- S. Boldo, member of the popularization committee, *comité de médiation scientifique*, of Inria.
- C. Paulin was a member of the “Commission Scientifique” (in charge of selecting PhD students, post-doc, invited researchers funded by Inria Saclay - Île-de-France) until Aug.

9.2.2. Collective responsibilities outside Inria

- A. Charguéraud is vice-president of “France-IOI”, the organization in charge of the selection and the training of the French team to the International Olympiads in Informatics.
- É. Contejean and C. Marché, nominated members of the “*conseil du laboratoire*” of LRI since April 2010.
- É. Contejean, elected member of the “*Section 6 du Comité National de la Recherche Scientifique*” since September 2012.
- S. Conchon, elected member of the “*Conseil scientifique de l’Université Paris-Sud*” since June 2012.
- C. Lelay, elected member of the “*conseil du laboratoire*” of LRI since November 2011.
- C. Lelay, elected representative of the students at the Doctoral School in Computer Science at University Paris-Sud since November 2011.
- C. Marché (since April 2007) and C. Paulin (since Sep. 2010), members of the program committee of Digiteo Labs, the world-class research park in Île-de-France region dedicated to information and communication science and technology, <http://www.digiteo.fr/>.
- C. Marché and S. Boldo, members of the “*jury de l’agrégation externe de mathématiques*” as experts in computer science, since 2012.

- G. Melquiond and C. Paulin, members of the “*commission consultative de spécialistes de l’université*”, Section 27, University Paris-Sud since April 2010.
- G. Melquiond, elected officer of the IEEE-1788 standardization committee on interval arithmetic since 2008.
- G. Melquiond is an examiner for the computer science entrance exam to École Normale Supérieure since 2010.
- C. Paulin, head of the new *Digicosme* laboratory of excellence (<http://labex-digicosme.fr/>)
- C. Paulin, director of the Doctoral school in Computer Science at University Paris-Sud <http://edips.lri.fr/>, until August 2012. Now in charge of the assembly of directors of graduate schools at the Université Paris-Sud.
- C. Paulin, member of the board of the “Commission Académique Consultative” of the Initiative d’Excellence Paris-Saclay.
- C. Paulin, president of the Computer Science Department of the University Paris-Sud <https://www.dep-informatique.u-psud.fr/>, since February 2012.
- C. Paulin participated to the hiring committee for a senior lecturer position at in Logic of Programs at University of Göteborg in Sweden.
- C. Paulin participated to two hiring committees in France (professor positions at Paris-Sud University and CNAM)
- J.-C. Filliâtre is *correcteur au concours d’entrée à l’École Polytechnique* (computer science examiner for the entrance exam at École Polytechnique) since 2008.
- A. Paskevich is in charge (together with C. Bastoul) of Licence professionnelle PER (L3) at IUT d’Orsay, Paris-Sud University since September 2012.

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Master Parisien de Recherche en Informatique (MPRI) <http://mpri.master.univ-paris7.fr/>: “Proofs of Programs” <http://www.lri.fr/~marche/MPRI-2-36-1/> (M2), C. Marché (12h), G. Melquiond (12h), Université Paris 7, France

Master Parisien de Recherche en Informatique (MPRI) <http://mpri.master.univ-paris7.fr/>: “Automated Deduction” <https://wikimpri.dptinfo.ens-cachan.fr/doku.php?id=cours:c-2-5> (M2), S. Conchon (9h), É. Contejean (10h30), Université Paris 7, France

GDR Informatique-Mathématique school for young researchers: “Arithmétique des ordinateurs et preuves formelles” [35], S. Boldo (2h), G. Melquiond (2h).

C. Paulin lecture notes on “Introduction to the *Coq* proof-assistant for practical software verification” at the LASER 2011 Summer School on Software Engineering have been published [37].

École Jeunes Chercheurs en Programmation (EJCP 2012): J.-C. Filliâtre, “Vérification Déductive de Programmes avec Why3” (4h) [36].

Licence (DUT): “Mathématiques” (L1), “Algo Langages” (L1), C. Lelay (64h, “moniteur” position), Université Paris-Sud (IUT d’Orsay)

Licence (L2): “Mathématiques pour l’Informatique”, C. Paulin (40h), D. Cousineau (20h), Université Paris-Sud

Licence (L3): “Eléments de logique pour l’informatique”, C. Paulin (50h), Université Paris-Sud, France

Licence (L3): “Programmation fonctionnelle”, S. Conchon (25h), A. Tafat (50h), M. Iguernelala (50h), Université Paris-Sud, France

Licence (L3): “Projet de programmation”, S. Conchon (25h), Université Paris-Sud, France

Master (M1): “Projet de compilation” A. Tafat (33h), M. Iguernelala (33h), Université Paris-Sud, France

Master (M1): “Introduction à la compilation”, S. Conchon (50h), Université Paris-Sud, France

Licence: “Langages de programmation et compilation” (L3), J.-C. Filliâtre (36h), École Normale Supérieure, France

Licence (DUT): “Systèmes d’exploitation” (L1 and L2), “Réseaux” (L2), A. Paskevich (140h), Université Paris-Sud (IUT d’Orsay), France

Licence professionnelle: “Programmation concurrente” (L3), A. Paskevich (36h), Université Paris-Sud (IUT d’Orsay), France

Licence: “INF421” (L3) et “INF431” (L3), J.-C. Filliâtre (70h), École Polytechnique, France

Master (M1): “Compilation”, C. Dross, Université Paris-Sud (PolyTech)

9.3.2. Supervision of internships

J.-C. Filliâtre supervised the L3 internship of Rémy El Sibaïe on “Une bibliothèque OCaml pour la combinatoire” (May–June 2012) [85].

J.-C. Filliâtre supervised the M1 internship of Levs Gondelmans on “A Simple Induction Tactic for the Why3 Platform” (April–August 2012).

C. Paulin supervised the M2 internship of Nicolas Lupinski on “formalisation and proofs of program transformations for automated parallelisation”.

9.3.3. Supervision of Theses

PhD: T. Nguyen, Taking architecture and compiler into account in formal proofs of numerical programs [12], Université Paris-Sud, June 2012, S. Boldo, C. Marché

PhD in progress: M. Iguernelala, Forward and Backward Strategies in SMT solvers, since September 2009, S. Conchon, É. Contejean

PhD in progress: A. Tafat, Modular Verification of Pointer Programs, since September 2009, C. Marché

PhD in progress: P. Herms, Certification of a Tool Chain for Verification of C programs, since October 2009, C. Marché, B. Monate (CEA List). Defence scheduled on January 14th, 2013.

PhD in progress: C. Dross, Theories and Techniques for Automated Proof of programs, since January 2011, C. Marché, A. Paskevich, and industrial supervisors Y. Moy and J. Kanig from AdaCore company.

PhD in progress: A. Mebsout, SMT-based Model-Checking, since September 2011, F. Zaidi, S. Conchon

PhD in progress: C. Lelay, Real numbers for the Coq proof assistant, since October 2011, S. Boldo, G. Melquiond.

PhD in progress: S. Dumbrava, Towards data certification, since October 2012, V. Benzaken, É. Contejean

9.3.4. Juries

- S. Boldo: PhD committee of Érik Martin-Dorel “Contributions to the Formal Verification of Arithmetic Algorithms” (ENS de Lyon, LIP laboratory, September 26th, 2012)
- C. Marché: reviewer, PhD committee of Morayo Adedjouma “Requirements Engineering Process according to Automotive Standards in a Model-Driven Framework” (University Paris-Sud, LISE laboratory of CEA-List, July 12th, 2012)
- C. Marché: president of the PhD committee of Florian Noyrit “Conception Dirigée par les modèles à l’aide de langages de modélisation hétérogènes : application aux profil UML” (University Paris-Sud, LISE laboratory of CEA-List, October 25th, 2012)

- C. Marché: president of the PhD committee of Takoua Ben Rhouma Aouina “Composition des modèles de lignes de produits logiciels” (University Paris-Sud, LISE laboratory of CEA-List, November 29th, 2012)
- C. Marché: president of the PhD committee of Abderrahmane Feliachi “Semantics Based Testing for Circus” (University Paris-Sud, LRI laboratory, December 12th, 2012)
- C. Marché: reviewer, Habilitation committee of Sylvie Putot “Static Analysis of Numerical Programs and Systems” (University Paris-Sud, MeASI laboratory of CEA-List and École Polytechnique, December 13th, 2012)
- C. Paulin: reviewer, PhD committee of Thomas Braibant, “Algèbres de Kleene, Automates, Circuits, Preuve formelle, Réécriture” (Université de Grenoble, Inria Rhone-Alpes, February 17th, 2012)
- C. Paulin: reviewer, PhD committee of Sylvain Héraud, “Vérification Semi-automatique de primitives cryptographiques” (Université de Nice Sophia-Antipolis, Inria Sophia Antipolis, March 12th, 2012)
- C. Paulin: president of the PhD committee of Stéphane Glondu “Vers une certification de l’extraction de Coq”, (Université Paris Diderot, Laboratory PPS, June 1st, 2012)
- C. Paulin: reviewer, Habilitation committee of David Pichardie “Toward a Verified Software Toolchain for Java” (Université de Rennes, IRISA, November 19, 2012)
- C. Paulin: president of the PhD committee of Marc Lasson “Réalabilité et Paramétrie dans les systèmes de type purs” (Université de Lyon, LIP Laboratory, November 20, 2012)
- J.-C. Filliâtre: reviewer, PhD committee of Barbara Vieira, “Formal Verification of Cryptographic Software Implementations” (Universidade do Minho, Braga, Portugal, June 25, 2012).
- J.-C. Filliâtre: Habilitation committee of Etienne Lozes, “Separation Logic: Expressiveness and Copyless Message-Passing” (ENS Cachan, July 3, 2012).
- J.-C. Filliâtre: reviewer, PhD committee of Cyril Cohen, “Formalized algebraic numbers: construction and first order theory” (École Polytechnique, November 20, 2012).
- J.-C. Filliâtre: reviewer, Habilitation committee of Frédéric Gava “BSP, bon à toutes les sauces” (Université Paris-est, December 10, 2012).

9.4. Industrial Dissemination

- J.-C. Filliâtre and C. Marché started in 2011 a collaboration with D. Mentré at Mitsubishi Electric R&D Centre Europe (Rennes), about the use of the *Why3* environment and its back-end provers as an alternative to the built-in prover of Atelier B. This collaboration led first to a publication [29] and then became part of the new ANR project BWare.
- Alt-Ergo is now used in the Spark Pro toolset, developed by Altran-Praxis, for the engineering of high-assurance software. Alt-Ergo can be used by customers as an alternate prover for automatically proving verification conditions. Its usage is described in the new edition of the Spark book (<http://www.altranpraxis.com/book/>, Chapter “Advanced proof tools”)
- In the context of the Hi-Lite project, the Adacore company (Paris) implements a new tool GnatProve which aims at formal verification of Ada programs. They translate annotated Ada code into the *Why3* intermediate language and then use the *Why3* system to generate proof obligations and discharge them with Alt-Ergo, or other available back-end provers. GnatProve is a prototype that aims at becoming the successor of Spark (<http://www.open-do.org/2012/11/30/future-version-of-spark-will-be-based-on-ada-2012/>).
- S. Conchon, A. Mebsout and F. Zaidi (ForTesSe team, LRI) continued their collaboration with S. Krstic and A. Goel (Intel Strategic Cad Labs in Hillsboro, OR, USA) that aims in the development of the SMT-based model checker Cubicle (<http://cubicle.lri.fr>).

9.5. Popularization

- Since April 2008, S. Boldo is member of the editorial committee of the popular science web site <http://interstices.info/>.
- S. Boldo, scientific head for Saclay for the MECSI group for networking about computer science popularization inside Inria.
- S. Boldo, member of the popularization committee, *comité de médiation scientifique*, of Inria.
- S. Boldo visited two classes for the beginning of the computer science teaching in 2nde: lycée Jean Jaurès at Chatenay-Malabry and Jacques Monod at Clamart in January 2012.
- S. Boldo is responsible for a *mission doctorale* for popularization. She is in charge of Li Gong of the LIMSI laboratory.
- S. Boldo, head for the *Fête de la science* for the LRI laboratory in 2012. The laboratory welcomed both industrials, pupils and general public: 6 different stands, 6 classes, a total of more than 250 visiting persons.
- S. Boldo and A. Charguéraud belong to the organization committee of the *Castor informatique* <http://castor-informatique.fr/>, an international competition to present computer science to pupils (from *6ème* to *terminale*). More than 91,000 teenagers played on the 40 proposed exercises in November 2012.
- C. Lelay and A. Tafat are involved in the *Fête de la science* 2012.

TOSCA Project-Team

9. Dissemination

9.1. Scientific Animation

- M. Bossy is a member of the Scientific Committee of the *École Doctorale “Sciences Fondamentales et Appliquées”* of the Université de Nice – Sophia Antipolis.
- M. Bossy is a member of the *Collectif Andromède* of the PACA Region council.
- M. Bossy is an elected member of the Inria Evaluation Board, a member of the NICE Committee of Inria Sophia Antipolis –Méditerranée.
- M. Deaconu is a member of the *COST-GTAI (Groupe de Travail Actions Incitatives)* of Inria, of *Comité des Projets* and *Bureau du Comité des Projets* at Inria Nancy, Grand-Est.
- M. Deaconu is a member of the *Conseil de Laboratoire* at Elie Cartan Institute in Nancy.
- M. Deaconu organized the session *Probabilités Numériques* in the *11th Colloque Franco-Roumain de Mathématiques Appliquées* held in Bucharest in August.
- A. Lejay is member of an editorial board of the collection *Séminaire de Probabilités*.
- A. Lejay is member of the scientific committee of the *Journées de Probabilités*.
- A. Lejay is general Secretary of Société des Mathématiques Appliquées et Industrielles (SMAI).
- A. Lejay is elected member of the Commission du Personnel of the Institut Élie Cartan.
- A. Lejay is member of the COMIPERS at Inria Nancy Grand-Est.
- D. Talay served as the Scientific Deputy of Inria Sophia Antipolis — Méditerranée.
- D. Talay, jointly with F. Delarue (Université de Nice Sophia Antipolis) and G. Pagès (Paris 6 University), organized the workshop ERGONUM in Sophia Antipolis in June.
- D. Talay served as an Associate Editor of: *Stochastic Processes and their Applications*, *ESAIM Probability and Statistics*, *Stochastics and Dynamics*, *SIAM Journal on Numerical Analysis*, *SIAM Journal in Financial Mathematics*, *Journal of Scientific Computing*, *Monte Carlo Methods and Applications*, *Oxford IMA Journal of Numerical Analysis*, *Communications in Applied Mathematics and Computational Science*, *Éditions de l'École Polytechnique*. He also served as the Co-editor in chief of *MathematicS in Action*.
- D. Talay is serving as a member of the Advisory Board of the Centro de Mathematica da Universidade do Porto (Portugal).
- D. Talay participated to a junior position recruitment committee at Paris 6 University.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : M. Bossy, *Continuous Probabilistic Models with Applications in Finance*, 45h, M2 IMAFA (*Informatique et Mathématiques Appliquées à la Finance et à l'Assurance*), Ecole Polytechnique Universitaire, Univ. Nice – Sophia Antipolis, France.

Master : M. Bossy, *Risk management on energetic financial markets*, 13.5h, Master *Ingénierie et Gestion de l'Energie*, Ecole des Mines de Paris at Sophia-Antipolis, France.

Master : M. Bossy *Particle Methods*, 18 h, Master 2 *Probabilité et Applications* at Université Paris 6, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 13.5h, M1, Ecole des Mines de Nancy, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 22.5h, M2, Ecole des Mines de Nancy, France.

Licence: P. Charton *Evaluation des méthodes d'analyse appliquées aux sciences de la vie et de la santé*, 27h, L1, Univ. de Lorraine, France.

Licence: P. Charton *Outils théoriques : probabilités statistiques*, 37h, L3, Univ. de lorraine, France.

Master: M. Deaconu, *Stochastic modeling*, 30h, M2, Université de Lorraine, France.

Master: M. Deaconu, *Simulation of random variables*, 9h, M1, Ecole des Mines de Nancy, France.

Master : A. Lejay, *Probabilistic Numerical methods for Mathematical Finance*, 28.5h, M2, Université de Lorraine (Metz), France.

Master : A. Lejay, *Numerical methods*, 22.5h, M2, Université de Lorraine (Nancy), France.

Master: D. Talay, *Stochastic Flows*, 12h, M2 *Probabilités et Applications* and M2 *Probabilités et Finance* at Université Paris 6, France.

Master: E. Tanré, *Advanced numerics for Computational Finance*, 30 h, M2, UNSA (Mathmodes Erasmus Mundus), France.

Master: E. Tanré, *Numerical Probability in Finance*, 12 h, M2, Ecole PolytechNice (IMAFa), France.

Master: E. Tanré, *Numerical Methods in Finance*, two sessions with 18 h, M2, ULB (University Certificates in Financial and Insurance Risk Modelling And Quantitative Methods in Finance), Belgium.

Licence : D. Villemonais, *Probabilités*, 21h, L3, École des Mines de Nancy, France.

Master: L. Violeau, *Continuous Probabilistic Models with Applications in Finance* (exercice classes), 20h, M2 IMAFA (*Informatique et Mathématiques Appliquées à la Finance et à l'Assurance*), Ecole Polytechnique Universitaire, Univ. Nice, France.

Licence: L. Violeau, *Probability and Statistics* (exercice classes), 20h, L3, Ecole Polytechnique Universitaire, Univ. Nice, France.

9.2.2. Supervision

- PhD in progress: Paul Charton, *Hedging strategies for wind energy prices*, September 2010, M. Deaconu and A. Lejay.
- PhD in progress: Julien Claisse, *Stochastic control of population dynamics*, September 2010, N. Champagnat, D. Talay.
- PhD in progress: Dalia Ibrahim, *Mathematical modelling for technical analysis techniques*, November 2009, D. Talay and E. Tanré.
- PhD in progress : Lionel Lenôtre, *Monte Carlo methods for discontinuous media*, Université Rennes 1, started in October 2012, Jocelyne Erhel (IRISA), Antoine Lejay and Géraldine Pichot (IRISA).
- PhD in progress : Geoffrey Nichil, *Provisionnement en assurance non-vie et optimisation du calcul du SCR*, 2011, S. Herrmann and P. Vallois.
- PhD in progress: Sebastian Niklitschek-Soto, *Discretized stochastic differential equations related to one-dimensional partial differential equations of parabolic type involving a discontinuous drift coefficient*, September 2010, D. Talay.
- PhD in progress: Nicolas Perrin, *Stochastic methods in molecular dynamics*, October 2009, M. Bossy, N. Champagnat, D. Talay.
- PhD in progress: Laurent Violeau, *Stochastic Lagrangian Models and Applications to Downscaling in Fluid Dynamics*, October 2010, M. Bossy and A. Rousseau.

9.2.3. Juries

- M. Bossy reported on the Ph.D. thesis of Lokman Abbas-Turki, Université Paris-Est.

- A. Lejay was an expert for the thesis of N. Marie (Université Paul Sabatier, Toulouse, France).
- D. Talay reported on the Habilitation à Diriger les Recherches of M. Benalaya (Université Paris 13), and on the Ph.D. thesis of N. Millot (Ecole Centrale) and N. Belaribi (University Paris 13). He also chaired the Committee for the Habilitation à Diriger les Recherches of A. Gloria (Université de Lille).

9.3. Popularization

- A. Lejay is a member of the organizing committee of the *Forum des lauréats des prix en informatique et mathématiques appliquées* (Inria & SMAI) held in Paris in December 2012.

9.4. Participation to congresses, conferences, invitations...

- M. Bossy gave invited talks at the *IMA Workshop Mathematics of the New Financial Systems University of Minnesota* in May and at the *Journées MAIRCI, Bull Grenoble* in September.
- M. Bossy gave talks at the *workshop MathAmSud* at Santiago, Chile in January and at the *Conference in Energy Finance at WPI* at Vienna, Austria in September.
- N. Champagnat gave a 4h lecture on *Modèles stochastiques individu-centrés en dynamique adaptative et étude du branchement évolutif* at the Summer School *Modélisation en dynamique des populations et Évolution: Probabilités et EDP* in September at La Londe les Maures.
- N. Champagnat gave talks at the MBI Workshop on *Evolution and Spread of Disease* in Columbus, Ohio, USA in March, at the Conference on *Probability, Population Genetics and Evolution* at the CIRM in Marseille in June, at the *6th European Congress of Mathematics (6ECM)* in Krakow in July and at the *XIème Colloque Franco-Roumain de Mathématiques Appliquées (CFR2012)* in Bucarest in August.
- N. Champagnat gave seminar talks at the SMILE Seminar on *Stochastic Models for the Inference of Life Evolution* at Collège de France, Paris, in March, at the *Rencontres de la Chaire MMB (Modélisation Mathématique et Biodiversité)* at Ecole Polytechnique, Palaiseau in June, at the workshop *Modèles stochastiques pour l'écologie et la biologie* of the Labex Numev in Montpellier in October, and at the *Séminaire de Probabilités de l'Institut de Mathématiques de Toulouse* in Toulouse in November.
- M. Deaconu gave invited talks at the *Workshop, Sequential Monte Carlo Methods and Efficient Simulation in Finance* at the Ecole Polytechnique in Paris in October, at the *Workshop, Perspective asupra cecetarii matematice in societatea bazata pe cunoastere*, organisé dans le cadre de la Conférence *Diaspora in Cercetarea Stiintifica si Invatamantul Superior in Romania*, in October, at the *Ecole Polytechnique Fédérale de Lausanne (EPFL)* in Lausanne in July.
- M. Deaconu gave a seminar talk at the *Séminaire de Probabilités et Statistiques de l'Institut de Mathématiques de Bourgogne*, in January.
- D. Ibrahim gave a talk at the *Chair of Quantitative Finance seminar* of Centrale Paris, in April.
- J. Inglis participated in the international colloquium *Random Models in Neuroscience* at the Université Pierre et Marie Curie (Paris) in July.
- A. Lejay gave a talk at the conference *Recent Developments in Stochastic Analysis* at Lausanne (Switzerland) in February and at the workshop *Rough Paths and PDEs* at Oberwolfach (Germany) in August.
- A. Lejay gave seminar talks at the probability seminars of Université du Maine (Le Mans), Université de Bourgogne, Université de Grenoble and Université de Rennes.
- D. Talay gave talks at the *workshop MathAmSud* at Santiago, Chile in January and at the XV Ecole Franco-Espagnole Jacques-Louis Lions at Malaga in September. He also gave several seminars at Ecole Polytechnique and a seminar at Columbia University in October.

- D. Talay gave a plenary conference at ICNAAM 2012 in Greece in September.
- D. Talay gave mini-courses at the Séminaire Bachelier (Institut H. Poincaré, Paris) in January and February, and at ICERM (Brown University) in October.
- E. Tanré gave one talk at the *MathAmSud Workshop* in Santiago, Chile in January and two talks at the *CLAPEM (Latin American Congress of Probability and Mathematical Statistics)* in March at Vina del Mar, Chile.
- E. Tanré gave an invited talk at the International Colloquium *Random Models in Neuroscience* at the Université Pierre et Marie Curie (Paris) in July.
- E. Tanré gave a seminar talk at the *Probability Seminar* of Univ. of Bourgogne (Dijon).
- D. Villemonais gave a 6h lecture on *Distributions quasi-stationnaires* at the *Université de Marseille* in June 2012.
- D. Villemonais gave talk at the *Inhomogeneous random systems* annual workshop at the Institut Henri Poincaré in Paris in January 2012.
- L. Violeau gave a talk at the *XIème Colloque Franco-Roumain de Mathématiques Appliquées (CFR2012)* in Bucarest in August.

TREC Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. TREC's seminar

The following scientists gave talks on Trec's seminar in 2012 (see <http://www.di.ens.fr/~trec/seminar.html> for details)

- **Emilie Coupechoux** (TREC/Lip6), PhD thesis defense /Dec 10, 2012/ Talking on: "Analyse de grands graphes aléatoires";
- **Mir Omid Haji Mirsadeghi** (TREC), PhD thesis defense /Jul 11, 2012/ Talking on: "Routage sur les graphes géométriques aléatoires";
- **Frederic Morlot** (TREC), PhD thesis defense /Jul 2, 2012/ Talking on: "Processus spatio-temporels en géométrie stochastique et application à la modélisation des réseaux de télécommunication";
- **Mathieu Feuillet** /Jun 7, 2012/ Talking on: "Scaling Analysis of a Transient Stochastic Network";
- **D. J. Daley** (The University of Melbourne) /May 24, 2012/ Talking on: "Dimension Walks and Schoenberg Spectral Measures for Isotropic Random Fields";
- **Florian Simatos** (Eindhoven University of Technology) /May 16, 2012/ Talking on: "Scaling limits of regenerative processes via the convergence of their excursions: some applications to queueing theory";
- **Chandramani Singh** (TREC) /Apr 18, 2012/ Talking on: "Optimal Message Forwarding in Delay Tolerant Networks with Multiple Destinations";
- **Holger-Paul Keeler** (Inria TREC) /Apr 5, 2012/ Talking on: "A Greedy Routing Model";
- **Alain Jean-Marie** (Inria MAESTRO) /Apr 3, 2012/ Talking on: "Variations on the Data Placement problem";
- **Hermann Thorisson** (University of Iceland) /Mar 16, 2012/ Talking on: "Unbiased shifts of Brownian motion";
- **Lenka Zdeborova** (Institut de Physique Theorique, CEA) /Mar 8, 2012/ Talking on: "Statistical-physics-based reconstruction in compressed sensing";
- **Gideon Weiss** (Haifa University) /Mar 1, 2012/ Talking on: "Skill based service systems";
- **Francis Comets** (Université Paris Diderot) /Feb 23, 2012/ Talking on: "Transmission d'information sous contraintes du capital d'émission";
- **Guenter Last** (Karlsruhe Institute of Technology) /Feb 21, 2012/ Talking on: "Fock space representation and variational analysis of Poisson functionals";
- **Sergei Zuyev** (Chalmers University of Technology) /Feb 21, 2012/ Talking on: "undefined";
- **Harpreet S. Dhillon** (UT Austin) /Feb 15, 2012/ Talking on: "Analysis of K-tier Heterogeneous Cellular Networks";
- **Bernadette Charron-Bost** (LIX) /Feb 2, 2012/ Talking on: "On the Transience of Linear Max-Plus Dynamical Systems";
- **Christian Hirsch** (University of Ulm, Germany) /Jan 23, 2012/ Talking on: "Connectivity and first-passage percolation of random geometric graphs related to minimal spanning forests";

9.1.2. Reading groups

- The reading group on Random Graphs was animated by A. Bouillard and A. Giovanidis; see <http://www.di.ens.fr/~bouillard/GdL/index.html>
- The reading group on Graphs, Algorithms and Probability is animated by Marc Lelarge; see <http://www.di.ens.fr/~lelarge/GdT-GAP.html>

9.2. Teaching – Supervision – Juries

9.2.1. Teaching

ENS Paris

- Undergraduate course (master level, DIENS) by M. Lelarge and M. Leconte, on Information Theory and Coding (24h + 24h of exercise session).
- Course on Communication Networks (master level, DIENS) by F. Baccelli, A. Bouillard and A. Bušić (24h + 24h of exercise sessions).
- Course on Network Modeling (master level, MPRI) by F. Baccelli and A. Bouillard (24h)
- Undergraduate course (master level, DIENS) by A. Bouillard and P. Brémaud, on Random Structures and Algorithms (35h + 28h of exercise session).
- Undergraduate exercise session (master level, DIENS) by A. Bouillard on formal languages, computability and complexity (12h).

ENS Cachan - Antenne de Bretagne

- Preparation to the oral exams of the agregation of mathematics (computer science option) by A. Bouillard (11h).

UPMC, Paris 6

- Graduate Course on point processes, stochastic geometry and random graphs (program "Master de Sciences et Technologies"), B. Błaszczyszyn and L. Massoulié (45h).
- Undergraduate course on conception of algorithms and applications (Licence Informatique, 3rd year), A. Bušić (24h)

Université de Versailles Saint-Quentin-en-Yvelines

- Graduate course on simulation (M2 COSY), A. Bušić (6h).

Université Paris Ouest Nanterre La Défense

- Network half of an undergraduate course (L3 Licence MIAGE) by M. Leconte on Systems and Networks (18h)

9.2.2. Supervision

- PhD: **Emilie Coupechoux**, "Analysis of large random graphs", started in September 2009, defended on December 10, 2012, adviser M. Lelarge, F. Baccelli; see [5].
- PhD: **Mir Omid Haji Mirsadeghi**, "Routing on Point Processes", started in 2009, defended on July 11, 2012, adviser F. Baccelli; see [6].
- PhD: **Frédéric Morlot**, "Mobility Models for Communication Networks", started in 2008, defended on July 2, 2012; adviser F. Baccelli; see [7].
- PhD in progress: **Tien Viet Nguyen**, "Random Packing Models", started in 2009, adviser F. Baccelli.
- PhD in progress: **Mathieu Leconte**, "Propagation d'information et recommandations dans les réseaux sociaux", started in January 2011, adviser M. Lelarge, F. Baccelli;
- PhD in progress: **Aurore Junier**, "Tuning parameters in routing protocols" started in September 2010, advisers A. Bouillard and C. Jard;

- PhD in progress: **Kumar Gaurav**, “Convex comparison of network architectures” started in October 2011, adviser B. Błaszczyszyn;
- PhD in progress: **Miodrag Jovanović**, “Evaluation and optimization of the quality perceived by mobile users for new services in cellular networks” started in January 2012, adviser B. Błaszczyszyn;
- PostDoc’s: Anastasios Giovanidis, Holger Paul Keeler, Chandramani Singh.

9.2.3. Juries

François Baccelli *PhD defence* of **Eduardo Ferraz** (Telecom ParisTech, February 2012).

Bartłomiej Błaszczyszyn *PhD defence* of **Kehao Wang** (Paris Sud, June 2012, reviewer), **Arash Behboodi** (Supélec, June 2012), **Thanh Tung Vu** (Telecom ParisTech, September 2012), **Salman Malik** (Inria/UPMC, November 2012), *associate-professor hiring-committee* at Département Informatique, Faculté des Sciences et Technologies, Université de Lorraine (Section 27, Poste 27 PR 072, May 2012).

Anne Bouillard *PhD defence* of **Laurent Jouhet** (ENS Lyon, november, 7th), *admission jury* at the ENS Cachan entrance exam.

9.3. Invitations and Participation in Conferences

François Baccelli

- Keynotes:
 - * Lecture at "Semaine des mathématiques dans l'académie Nancy-Metz, Institut Elie Cartan de Nancy" March 2012 <http://www.ac-nancy-metz.fr/semaine-des-mathematiques-du-12-au-18-mars-2012-31219.kjsp?RH=WWW>
 - * Lecture on stochastic geometry for the inauguration of the Simons Math+X Chair <https://simonsfoundation.org/funding/funding-opportunities/mathematics-physical-sciences/mathx/mathx-encouraging-interactions-2011-chair-recipients/>
 - * Keynote Lecture at Stochmod'12, Paris, June 2012, on stochastic geometry <http://www.lgi.ecp.fr/StochMod2012/pmwiki.php/Main/HomePage>
 - * Lecture at Collège de France, Paris, Dec. 2012, on the mathematics of peer-to-peer networks <http://www.college-de-france.fr/site/en-bernard-chazelle/seminar-2012-12-20-15h00.htm>
- Presentations in the following conferences or seminars:
 - * Stochastic Networks, MIT, June-2012, <http://stoch-nets-2012.lids.mit.edu/>
 - * Séminaire Inria at Silicon Valley, Paris, May 2012, <https://project.inria.fr/inria-siliconvalley/>
 - * GdR Isis Day, Telecom ParisTech, April 2012 <http://gdr-isis.fr/index.php?page=reunion&idreunion=163>.
 - * Workshop "Information Theory for Cooperative Networks", Institut Henri Poincaré, March 2012.
 - * GdR Géométrie Stochastique Conference, Rouen, March 2012, http://gdr-geostoch.math.cnrs.fr/workshop_Rouen/index.html
 - * IIT Madras, India, January 2012.
 - * IIS Bangalore, India, January 2012 http://math.iisc.ernet.in/pastevents-conf/invited_speakers.htm.

Bartłomiej Błaszczyszyn

- Keynotes:
 - * SpaSWiN 2012, Paderborn Germany, May 2012; <http://www.spaswin.org/>

- Presentations in the following conferences or seminars:
 - * GdR Géométrie Stochastique Conference, Rouen, March 2012; http://gdr-geostoch.math.cnrs.fr/workshop_Rouen/index.html
 - * WiOpt, Paderborn Germany, May 2012; http://wi-opt.cs.upb.de/WiOpt_2012/Home.html
 - * TREC inria@siliconvalley Seminar “Random Spatial Models in Communication Science” Inria, Paris, June 2012

Anne Bouillard

- Presentations in the following conferences or seminars:
 - * Valuetools 2012 (invited paper) + regular paper, Cargèse, October, 2012

Ana Bušić

- Presentations in the following conferences or seminars:
 - * Seminar at Algorithms and Theory group, Google, NY,
 - * C3 Guest Lecture Series, Electrical and Computer Engineering department, University of Florida http://ccc.centers.ufl.edu/?q=Ana_Busic,
 - * IEEE Conference on Decision and Control, Maui, USA <http://control.disp.uniroma2.it/cdc2012/>,
- Technical Program Committee member of Sigmetrics 2012. <http://www.sigmetrics.org/sigmetrics2012>

Emilie Coupechoux

- Presentations in the following conferences or seminars:
 - * Séminaire RAP, Rocquencourt (France), January 2012, <https://team.inria.fr/rap/seminars/>
 - * Journées Aléa, Marseille (France), March 2012, <http://lipn.univ-paris13.fr/alea2012/index.html>
 - * Séminaire LIP6, Paris (France), April 2012, <http://www.complexnetworks.fr/events/>
 - * Journées Rescom, Paris (France), November 2012, <http://rescom.inrialpes.fr/?p=410>
 - * Colloque ‘Réseaux d’interactions Plantes-Pollinisateurs’, Lille (France), December 2012, <http://math.univ-lille1.fr/~tran/journeesplantespollinisateursreseaux.html>

Anastasios Giovanidis

- Presentations in the following conferences or seminars:
 - * IEEE Wireless Communications and Networking Conference (WCNC), Paris-France, April, 2012, <http://www.ieee-wcnc.org/2012/>
 - * 16th International ITG Workshop on Smart Antennas (WSA), Dresden-Germany, March, 2012, <http://wsa2012.com/>
 - * 21st International Symposium on Mathematical Programming (ISMP), Berlin-Germany, August, 2012, <http://ismp2012.mathopt.org/>

Mathieu Leconte

- Presentations in the following conferences or seminars:
 - * workshop Bridging statistical physics and optimization, inference and learning, École de Physique des Houches, February-12, <http://www.espci.fr/usr/fk/LESHOUCHES/home.htm>

- * workshop Journées ALÉA, CIRM at Marseille-Luminy, March-12, <http://lipn.univ-paris13.fr/alea2012/>
- * conference Sigmetrics, Imperial College London, June-12, <http://www.sigmetrics.org/sigmetrics2012/>

Marc Lelarge

- Keynotes:
 - * conference SIGMETRICS, London, UK <http://www.sigmetrics.org/sigmetrics2012/program.php>
- Presentations in the following conferences or seminars:
 - * Network Science in Electrical Engineering and Computer Science, Indian Institute of Science, Bangalore. <http://www.icts.res.in/program/details/283/>
 - * conference SODA, Kyoto, Japan <http://www.siam.org/meetings/da12/>
 - * Stochastic Analysis Seminar, Oxford, UK <http://www.oxford-man.ox.ac.uk/events/past/seminar/all>
 - * Models of sparse graphs and network algorithms, Banff, Canada <http://www.birs.ca/events/2012/5-day-workshops/12w5004>
 - * conference IEEE INFOCOM, Orlando, USA <http://www.ieee-infocom.org/2012/>
 - * NIPS 2012 Workshop: Algorithmic and Statistical Approaches for Large Social Networks, Lake Tahoe, USA <http://www.datalab.uci.edu/nips-workshop-2012/>

Frédéric Morlot

- * Presentations in the following conferences or seminars:
 - + SpaSWiN, Paderborn Germany, May 2012; <http://www.spaswin.org>

TRIO Project-Team

9. Dissemination

9.1. Scientific Animation

- Liliana Cucu is the Delegate of International Relations for the Inria Nancy-Grand Est center.
- Olivier Zendra is an elected member of the Research Center Committee of Inria Nancy Grand Est.
- Nicolas Navet chairs with Thomas Nolte (MRTC Mälardalen) of the Sub-Committee on Real-Time Fault Tolerant Systems of the IEEE Industrial Electronic Society (IES) - Technical Committee on Factory Automation (TCFA).
- Nicolas Navet is member of the Editorial Board of the Journal of Embedded Computing (IOS Press).
- Liliana Cucu is an elected member of Inria Evaluation Commission (CE).
- Olivier Zendra is head of the Documentation Committee of Inria Nancy Grand Est, member of the Health, Safety and Work Environment of Inria and of Inria Nancy Grand Est - LORIA Committees, member of the Permanent Education Committee of Inria Nancy Grand Est - LORIA, member of the new Sustainable Development Local and National Committees, member of the Inria Nancy Grand Est - LORIA Committee for the selection of hardware configurations.
- Olivier Zendra is CIR expert for the Ministry of Research for the scientific evaluation of research in companies.
- Liliana Cucu and Nicoals Navet are ANRT expert for evaluating CIFRE applications.
- Olivier Zendra is founder and steering committee member of the IC00OLPS (International Workshop on Implementation, Compilation, Optimization of Object-Oriented Languages, Programs and Systems) workshop.
- Liliana Cucu and Nicolas Navet were general chairs of the 20th International Conference on Real-Time and Network Systems (RTNS 2012).
- Liliana Cucu was co-chair of RTSOPS and WIP session of WFCS 2012.
- Liliana Cucu was program committee member of ECRTS, ETFA, SIES, ACM RACS.
- Nicolas Navet was program committee member of ACM RACS'2012, IEEE RSP'2012, Track on Industrial Communication Systems and Real-Time and (Networked) Embedded Systems at IEEE ETFA 2012, IEEE ICSS-2012, IEEE SIES'2012, IEEE WFCS'2012, WoNeCa-2012.
- Nicolas Navet was co-animator of the High Performance Embedded Systems (HPES) cluster of GDR CNRS ASR, and co-animator of Actriss group (real-time services and infrastructure) of HPES cluster.
- Olivier Zendra was co-chair of IC00OLPS 2012, June 11th, Beijing, CN.
- Olivier Zendra was program committee member for CIEL 2012, DASIP 2012, IC00OLPS 2012, RESoLVE 2012.
- The permanent members of TRIO team are reviewers for numerous international Conferences and Workshops and, in particular for the following journals: IEEE Transactions on Industrial Informatics, Real-Time Systems, IEEE Computer Communications, Journal of Discrete Event Systems, Journal of Systems Architecture, Journal of Embedded Computing, Journal of Scheduling, Theoretical Computer Science, ACM Surveys, ACM Transactions on Embedded Computing Systems, Information Processing Letters.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Olivier Zendra, langages à objets / Java, 53h, niveau (L2), University of Lorraine, France

Master : Liliana Cucu, Multiprocessor real-time systems, 30h, niveau (M1), University of Lorraine, France

Master : Nicolas Navet, Real-time critical systems, 30h, niveau (M1), University of Lorraine, France

9.2.2. Supervision

PhD & HdR :

PhD : Aurélien Monot, Vérification des contraintes temporelles de bout-en-bout dans le contexte AutoSar, University of Lorraine, November 29th, Françoise Simonot, Nicolas Navet and Bernard Bavoux

PhD : Pierre Caserta, Analyse statique et dynamique de code et visualisation des logiciels via la métaphore de la ville: contribution à l'aide à la compréhension des programmes, December 7th, Jean-Pierre Thomesse and Olivier Zendra

PhD in progress: Dorin Maxim, Probabilistic real-time systems, October 1st 2010, Liliana Cucu and Françoise Simonot-Lion

9.2.3. Juries

- Liliana Cucu was member of the PhD thesis jury of Mikel Cordovilla, defended in April 2012 at ONERA, Toulouse.
- Olivier Zendra was member of the PhD thesis jury of Olivier Sallenave, defended in November 2012 at LIRMM / Université de Montpellier

TRISKELL Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Journals

9.1.1.1. Jean-Marc Jézéquel

is an Associate Editor of the following journals:

- IEEE Computer
- Journal on Software and System Modeling: SoSyM
- Journal of Systems and Software: JSS
- Journal of Object Technology: JOT

9.1.1.2. Benoit Baudry

is an Associate Editor of the following journal:

- Journal on Software and System Modeling: SoSyM

9.1.2. Conferences

9.1.2.1. Benoit Baudry

has been a member of the program committee of the following conferences:

- MODELS 2012 The 15th International Conference on Model Driven Engineering Languages and Systems Innsbruck, Austria, October 2012
- IEEE ICST'12 The 5th International Conference on Software Testing Verification and Validation, Montreal, Canada, April 2012
- GECCO'12, The International Conference on Genetic and Evolutionary Computation Conference, Philadelphia, USA? July 2012
- GPCE'12, The International Conference on Generative Programming and Components Engineering
- NIER'12, The New Ideas and Emerging Results track at ICSE'12, Zurich, Switzerland, May 2011.
- AST workshop on Automated Software Testing, at ICSE'11, Honolulu, USA, May 2011
- Mutation'12 workshop at ICST'12, Montreal, Canada, April 2012

9.1.2.2. Jean-Marc Jézéquel

has been a member of the program board of the following conferences:

- MODELS 2012 The 15th International Conference on Model Driven Engineering Languages and Systems Innsbruck, Austria, October 2012

9.1.2.3. Jean-Marc Jézéquel

has been a member of the program committee of the following conferences:

- Models@run.time 7th International Workshop on Models at Run-Time, associated to MODELS 2012, Innsbruck, Austria, October 2012

9.1.2.4. *Benoit Combemale*

has been a member of the program committee of the following conferences:

- APSEC'12, The 19th Asia-Pacific Software Engineering Conference, Hong Kong, 2012.
- SEFM'12, The 9th International Conference on Software Engineering and Formal Methods, 2012.
- AMT workshop on Analysis of Model Transformations (AMT), at MODELS'12, Innsbruck, Austria, 2012.
- ICMT'12, The 5th International Conference on Model Transformation, 2012.
- ECMFA'12, The 8th European Conference on Modelling Foundations and Applications, Lyngby, Denmark, July 2012.
- PMDE workshop at ECMFA'12, Lyngby, Denmark, July 2012.
- CSP track at WETICE'12, Toulouse, France, 2012.

9.1.2.5. *Olivier Barais*

has been a member of the program committee of the following conferences:

- CIEL'12, The 1st french Conference on Software Engineering, Rennes, 2012.
- SEAA'12, The 38th Euromicro Conference on Software Engineering and Advanced Applications, 2012.
- VARYCOMP'12, The 3rd International Workshop on Variability & Composition @Modularity·AOSD.
- SAC'12 The 27th Symposium On Applied Computing, Trento, Italy, 2012.

9.1.2.6. *Noël Plouzeau*

has been a member of the program committee of the following conferences:

- CBSE 2012, Component Based Software Engineering, Bertinoro, Italy, June 2012,.

9.1.3. *Workshops, Tutorials and Keynotes*

9.1.3.1. *Jean-Marc Jézéquel*

has co-organized VARY'12 (Variability for You) a workshop of MODELS 2012, Innsbruck, Austria, October 2012.

9.1.3.2. *Mathieu Acher*

gave a tutorial "Next-Generation Model-based Variability Management: Languages and Tools" at MODELS 2012 (15th International Conference on Model Driven Engineering Languages and Systems Innsbruck).

9.2. Miscellaneous

9.2.1. *Benoit Baudry*

is on the steering committee of the IEEE International Conference on Software Testing Verification and Validation.

He is program committee chair for ICST'13.

9.2.2. *Jean-Marc Jézéquel*

is on the steering committee of the IEEE/ACM Conference on Aspect Oriented Software Development

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

The Triskell team bears the bulk of the teaching on Software Engineering at the University of Rennes 1 and at INSA Rennes, at the levels M1 (Project Management, Object-Oriented Analysis and Design with UML, Design Patterns, Component Architectures and Frameworks, Validation & Verification, Human-Computer Interaction) and M2 (Model driven Engineering, Aspect-Oriented Software Development, Software Product Lines, Component Based Software Development, Validation & Verification *etc.*).

Each of Jean-Marc Jézéquel, Noël Plouzeau, Olivier Barais, Benoit Combemale, Johann Bourcier, Arnaud Blouin and Mathieu Acher teaches about 200h in these domains, with Benoit Baudry teaching about 50h, for a grand total of about 1400 hours, including several courses at ENSTB, Supelec and ENSAI Rennes.

Olivier Barais is the overall responsible for the Master2 Pro in Computer Science at the University of Rennes.

Benoit Combemale was co-chair of the 8th Educators' Symposium at MODELS 2012.

The Triskell team also receives several Master and summer trainees every year.

9.3.2. Supervision

PhD : Juan Cadavid, *Analyse formelle pour l'assistance à la méta-modélisation*, thèse 12 décembre 2012, J.-M. Jézéquel and B. Baudry

PhD in progress : Erwan Bousse, *Intégration et combinaison des techniques de V&V dans un contexte d'ingénierie système*, thèse, 2012-2015, B. Baudry and B. Combemale

PhD in progress : Suresh Pillay, *Variability Management in Modeling Languages*, thèse, 2011-2014, B. Baudry and B. Combemale

PhD in progress : Julien Richard-Foy, *A DSL factory for modular Web oriented architecture*, thèse CIFRE avec Zenexity, 2011-2014, J.-M. Jézéquel and O. Barais

PhD in progress : Olivier-Nathanael Ben David, *Secure Service Architectures and Design*, thèse 2010-2013, J.-M. Jézéquel and B. Baudry

PhD in progress : Clément Guy, *Generic Definition of Domain Specific Analysis using MDE*, thèse 2010-2013, J.-M. Jézéquel and B. Combemale

PhD in progress : Tam Le Nhan, *Model-Driven Software Engineering for Cloud Computing*, thèse 2010-2013, J.-M. Jézéquel and G. Sunye

PhD in progress : Emmanuelle Rouillé, *Processus Logiciels dirigés par les intentions*, thèse CIFRE avec SodiFrance, 2010-2013, J.-M. Jézéquel, B. Combemale and O. Barais

PhD in progress : Nicolas Sannier, *IDM pour l'ingénierie des exigences*, thèse CIFRE avec EDF 2010-2013, B. Baudry

PhD in progress : Stephen Creff, *Hierarchical Product Lines*, thèse 2009-2012, J.-M. Jézéquel and J. Champeau

PhD in progress : Francois Fouquet, *Contracts for Enterprise Service Bus*, thèse 2009-2012, J.-M. Jézéquel and N. Plouzeau

PhD in progress : Paul Istoan, *SOA Product Lines*, thèse en co-tutelle avec l'université du Luxembourg, 2009-2012, J.-M. Jézéquel and N. Guelfi

PhD in progress : Viet-Hoa Nguyen, *Model Driven Design Methodology for Trusted Real-Time Components*, thèse 2009-2012, J.-M. Jézéquel and N. Plouzeau

PhD in progress : Valéria Lelli, *On Testing Interactive Systems*, thèse 2012-2015, B. Baudry and A. Blouin

PhD in progress : Antonio Mattos Junior, *On Validating Models at Runtime adaptation*, thèse 2012-2014, N. Plouzeau and O. Barais

9.3.3. Juries

9.3.3.1. Benoit Baudry

was in the examination committee of the following PhD thesis:

- Ahmed Turki, Mars 2012, Université d'Orléans (Referee)
- María Francisca Rosique Contereras, June 2012, Universidad Politécnica de Cartagena (Referee)
- Rajwinder Kaur Panesar-Walawege, August 2012, University of Oslo (Referee)
- Amine Raji, March 2012, ENSTA-Bretagne (Referee)
- Florian Noyrit, October 2012, Université de Paris XI (Referee)
- Marie Pelleau, November 2012, Université de Nantes (Referee)
- Marc Palyart, December 2012, Université de Toulouse (Member)
- Thang Pham, December 2012, Telecom Bretagne (Member)

9.3.3.2. Jean-Marc Jézéquel

was in the examination committee of the following HDR and PhD thesis:

- Cédric Fleury, June 2012, Université Rennes 1 (President)
- Eduardo Mazza, June 2012, University of Grenoble (Referee)
- Marcos Aurelio Almeida da Silva, June 2012, University of Paris 6 (Referee)
- Ajay Kattapur, November 2012, Université Rennes 1 (President)
- Thierry Duval (HDR), November 2012, Université Rennes 1 (President)
- Bertrand Couasnon (HDR), December 2012, Université Rennes 1 (President)

9.3.3.3. Olivier Barais

was in the examination committee of the Ali Hassan PhD (Member).

TYPICAL Project-Team

8. Dissemination

8.1. Teaching - Supervision - Juries

8.1.1. Teaching

Benjamin Werner is president of the Computer Science Department of Ecole Polytechnique and, as such main responsible for CS teaching in this university.

Licence : Benjamin Werner, Ecole Polytechnique, *Algorithmique et Programmation*, lectures, 45 hours *équivalents TDs*.

Master : Benjamin Werner, MPRI (M2), Fondements des Systèmes de Preuves, Ecole Polytechnique et U. Paris 7, 50 heures *équivalents TDs*.

Master : Assia Mahboubi and Bruno Barras, MPRI (M2), Preuves en Coq, Ecole Polytechnique et U. Paris 7, 50 heures *équivalents TDs*.

Licence : Victor Magron and Chantal Keller, Ecole Polytechnique, *Algorithmique et Programmation*, TDs, 48 hours *équivalents TDs*.

Master : Chantal Keller, PA Informatique de l'Ecole Polytechnique, Raisonnement mathématique assisté par ordinateur, TDs, 20 hours *équivalents TDs*.

8.1.2. Supervision

PhD & HdR :

PhD : Cyril Cohen, Formalized algebraic numbers: construction and first-order theory, Ecole Polytechnique, november 20th, Assia Mahboubi and Benjamin Werner.

PhD in progress :Chantal Keller, A Matter of Trust New Reflexive Decision Procedures in Coq Using External Tools, since sept. 2009, Benjamin Werner

PhD in progress :Victor Magron, Certifiable automatic proofs of real inequalities, since sept. 2009, Benjamin Werner and Stéphane Gaubert.

PhD in progress: Alexis Bernadet, since 2010. Supervised by Stéphane Lengrand and Benjamin Werner.

URBANET Team

9. Dissemination

9.1. Scientific Animation

- Marco Fiore organized and co-chaired the First Workshop on Urban Networking (UrbaNe'12), held jointly with the international conference ACM CoNEXT 2012.
- Marco Fiore was co-chair of the "Wireless Networks, Access Control and Resource Management" track at the international conference IEEE VTC'13 Spring.
- Marco Fiore was the keynote speaker at the IEEE WoWMoM VTP workshop in June 2012.
- Marco Fiore is/was TPC member for a number of international conferences, including IEEE SECON 2013, IEEE/IFIP WONS 2012/2013, IEEE WoWMoM 2012/2013, IEEE ICCCN 2012.
- Hervé Rivano is a member of the Section 07 of the CoNRS (scientific committee of CNRS, section ICT).
- Hervé Rivano is a member of the scientific committee of the Rescom pole.
- Hervé Rivano is a member of the CITI laboratory council.
- Razvan Stanica was session chair for the "Energy in Ad Hoc and Sensor Networks" session at the international conference IFIP Wireless Days 2012.
- Fabrice Valois is elected in the CITI laboratory council.
- Fabrice Valois was TPC member for a number of international conferences, including IEEE ICC, IEEE GlobeCom, IEEE WiMob, IEEE PIMRC, IEEE AINA, IEEE WPMC, SensorCom, iCost, IWCMC, GIIS.
- Fabrice Valois is in charge of the foreign affairs of the CITI laboratory.
- Fabrice Valois is correspondent member for the Labex IMU.
- Marco Fiore and Hervé Rivano are members of the Labex IMU.
- Khaled Boussetta was co-chair of the Technology track at the international conference GIIS 2012.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence :

- Marco Fiore, Introduction to Computer Networking, 30h, L3, INSA Lyon, France
- Razvan Stanica, TC Informatics Passport, 30h, L3, INSA Lyon, France
- Fabrice Valois, IP Networks, 50h, L3, INSA Lyon, France

Master :

- Marco Fiore, Performance evaluation of telecom networks, 80h, M1, INSA Lyon, France
- Marco Fiore, Advanced wireless networking, 20h, M1, INSA Lyon, France
- Marco Fiore, Services and protocols for wide-area networks, 90h, M1, INSA Lyon, France
- Marco Fiore, Future networking, 8h, M2, University of Lyon, France
- Fabrice Valois, Cellular networks, 50h, M1, INSA Lyon, France
- Fabrice Valois, Wireless sensor networks, 10h, M2, University of Lyon, France

Fabrice Valois is responsible of the networking teaching team in the Telecommunications department at INSA Lyon, coordinating all the courses linked to networking issues.

Since 2006, Fabrice Valois is the head of an international teaching program focused on Internet of Things, established between INSA Lyon and Shanghai Jiao Tong University.

Fabrice Valois and Marco Fiore are elected members of the Telecommunications Department Council at INSA Lyon.

Marco Fiore is the responsible for all Master theses defended in the Telecommunications Department at INSA Lyon, coordinating the related administrative activities.

9.2.2. Supervision

PhD :

- Ibrahim Amadou *Protocoles de routage sans connaissance de voisinage pour réseaux radio multi-saut*, INSA Lyon, 09/2012, Advisor: Fabrice Valois
- Bilel Romdhani *Exploitation de l'hétérogénéité des réseaux de capteurs et d'actionneurs dans la conception des protocoles d'auto-organisation et de routage*, INSA Lyon, 07/2012, Advisor: Fabrice Valois

PhD in progress :

- Jin Cui *Aggregation: From data dynamics to network dynamics*, since 11/2012. Advisor: Fabrice Valois.
- Ochirkhand Erdene-Ochir *Resilient networking security for WSN*, since 10/2009. Advisors: Marine Minier and Fabrice Valois
- Guillaume Gaillard *Multi-topology routing in IP-based wireless sensor networks with SLA support*, since 12/2012. Advisor: Fabrice Valois.
- Rodrigue D. Komguem *Autonomous WSN architectures for road traffic applications*, since 11/2012. Advisors: Fabrice Valois and Maurice Tchente (Univ. Yaoundé, Cameroun)
- Quentin Lampin *QoS constraints and time constraints in WSN*, since 10/2009. Advisors: Isabelle Augé-Blum and Fabrice Valois.
- Trista Lin *Urban mobility measurement and citizen-oriented services cartography*, since 10/2012. Advisors: Frédéric Le Mouel, Hervé Rivano and Fabrice Valois.
- Alexandre Mouradian *Real-time communication protocols for WSNs*, since 10/2010. Advisors: Isabelle Augé-Blum and Fabrice Valois.
- Diala Naboulsi *Human mobility - an urban networking perspective*, since 10/2012, Advisors: Marco Fiore, Hervé Rivano and Fabrice Valois.
- Anis Ouni *Study and optimization of capacity and energy consumption trade-off in wireless mesh networks*, since 10/2009. Advisors: Hervé Rivano and Fabrice Valois.
- Sandesh Uppoor *Understanding and exploiting mobility in wireless networks*, since 10/2010, Advisors: Marco Fiore and Fabrice Valois.

9.2.3. Juries

- Fabrice Valois was external reviewer of the following HDR defense:
 - N. Malouch, *Studying and Improving Various Control Mechanisms in Today's and Future Networks*, LIP6, Université de Paris VI, 2012
- Fabrice Valois was external reviewer of the following Ph.D. defenses:
 - B. Pavkovic, *Going towards the future Internet of Things through a cross-layer optimization of the standard protocol suite*, LIG, Université de Grenoble, 2012
 - S. Bellahsene, *Prédiction de la mobilité pour la gestion des handovers dans les réseaux IP : modèles et algorithmes*, PRISM, Université de Versailles, 2012
 - G. Corbellini, *Adaptive Medium Access Control for Heterogeneous Wireless Sensor Networks*, LIG, Université Joseph Fourier, 2012

- I. Salhi, *Un codage réseau contraint pour les réseaux de capteurs sans fil*, Institut Gaspard Monge, Université de Paris-Est, 2012
- Y. Mezali, *Algorithme de géolocalisation intérieure par différenciation de signaux WIFI*, Hipercom, Université Paris VI, 2012
- Fabrice Valois was external examiner of the following Ph.D. defense:
 - M. Iturralde, *Performance des réseaux LTE*, IRIT, Université de Toulouse, 2012
- Fabrice Valois was member of a CoS 27MCF for a position of MCF at University of Avignon.
- Fabrice Valois was president of a CoS 27MCF for a position of MCF at INSA Lyon.
- Marco Fiore was member of a CoS 27MCF for a position of MCF at INSA Lyon.

9.2.4. Internships

Florin Avram (L3)

Subject: Networking analysis of metropolitan-scale vehicular mobility
 Institution: University of Oradea (Romania)
 Advisor: Marco Fiore
 Duration: 4 months

Calin Rares Lucaciu (L3)

Subject: Networking analysis of metropolitan-scale vehicular mobility
 Institution: University of Oradea (Romania)
 Advisor: Marco Fiore
 Duration: 4 months

Piotr Mach (L3)

Subject: Vehicular Connectivity Graphs in Urban Environments
 Institution: Warsaw University of Technology (Poland)
 Advisor: Marco Fiore
 Duration: 4 months

Carl Nolan (L3)

Subject: Vehicular Connectivity Graphs in Urban Environments
 Institution: Dublin City University (Ireland)
 Advisor: Marco Fiore
 Duration: 4 months

Egert-Priit Arus (L3)

Subject: Integrating Electric Vehicles with Smart Grids
 Institution: Tallin University of Technology (Estonia)
 Advisor: Razvan Stanica
 Duration: 4 months

Keijiro Nakagawa (L3)

Subject: Multi-commodity flow in delay tolerant networks
 Institution: Tokyo University (Japan)
 Advisor: Hervé Rivano
 Duration: 4 months

Yesser Bouguerra (M2)

Subject: Data aggregation in multi-hop wireless networks

Institution: INSA Lyon (France)

Advisor: Fabrice Valois

Duration: 6 months

Nicolas Gaspard (M2)

Subject: Multi-service routing in urban wireless sensor networks

Institution: INSA Lyon (France)

Advisor: Fabrice Valois

Duration: 6 months

Mickael Lam (L3)

Subject: Large scale vehicular networks

Institution: INSA Lyon (France)

Advisor: Marco Fiore

Duration: 4 months

Trista Lin (M2)

Subject: Optimization of MAC layer protocols for urban wireless sensor networks

Institution: INSA Lyon (France)

Advisor: Fabrice Valois and Hervé Rivano

Duration: 6 months

Iulia Tunaru (M2)

Subject: Applying sensor networks energy efficiency solutions to mesh networks

Institution: INSA Lyon (France)

Advisor: Fabrice Valois and Hervé Rivano

Duration: 6 months

Diala Naboulsi (M2)

Subject: Large scale vehicular networks

Institution: INSA Lyon (France)

Advisor: Marco Fiore

Duration: 6 months

9.3. Popularization

- Fabrice Valois gave a seminar on the Internet of Things entitled *Etat de l'art sur les réseaux de capteurs*, organized by the ASPROM Association in Paris in October 2012.

VEGAS Project-Team

7. Dissemination

7.1. Scientific Animation

Program and Paper Committee:

- Sylvain Lazard: Program committee of the ACM Symposium on Computational Geometry 2012 (SoCG'12) and of the European Workshop on Computational Geometry (EuroCG'12).
- Sylvain Petitjean: Program committee of the IEEE International Conference on Computer Vision and Pattern Recognition (CVPR'12).

Editorial responsibilities:

- Xavier Goaoc: Editor of the *Journal of Computational Geometry*.
- Sylvain Petitjean: Editor of *Graphical Models* (Elsevier).

Workshop organizations:

- Sylvain Lazard co-organized with S. Whitesides (Victoria University) the 11th Inria - McGill - Victoria Workshop on Computational Geometry ² (Bellairs Research Institute of McGill University) in Feb. (1 week workshop on invitation).
- Xavier Goaoc was co-organiser of the *Journées de Géométrie Algorithmique 2012* (<http://jga2012.fr>). This event gathered the french community of computational geometry (50-60 participants) for one week.
- Xavier Goaoc was co-organiser of *Algorithms & Permutations 2012* (<http://igm.univ-mlv.fr/AlgoB/algoperm2012/>). This event gathered ~ 70 participants from theoretical computer science for two days.
- Xavier Goaoc organized a *workshop on interactions between stochastic and computational geometries* (<http://webloria.loria.fr/~goaoc/ANR-Presage/meetings.html>) where 21 participants, on invitation, worked for a week on research problems at the interface between stochastic and computational geometries.

Other responsibilities:

- Sylvain Lazard: Head of the Inria Nancy-Grand Est *PhD and Post-doc hiring committee* (since 2009). Member of the *Bureau du Département Informatique de Formation Doctorale* of the *École Doctorale IAE+M* (since 2009). Member of the hiring committee for St Dié assistant professor position. Chargé de formation par la recherche for Inria Nancy-Grand Est.
- Laurent Dupont: *Responsible* of admissions of IUT Charlemagne, University Nancy 2 (September 2011- September 2012). *Member* of Commission Pédagogique Nationale Infocom/SRC (since 2011). *Member* of Commission Information Scientifique (Inria/Loria).
- Xavier Goaoc: Chair of the Inria *COST-GTRI committee* (since 2011).
- Guillaume Moroz: Member of the organizing committee of the *Olympiades académiques de mathématiques*. *Vice delegate* of the *Commission des Utilisateurs des Moyens Informatiques pour la Recherche*. Invited to give a course at Young researcher School EJCIM 2012 and doctoral school of science and technology of Versailles.
- Sylvain Petitjean: Until August: *Scientific delegate* of Inria Nancy Grand-Est and chairman of its *Project committee* (since 2009). Member of the *Executive committee* of Inria Nancy Grand-Est, member of its *Commission des développements technologiques*. Member of Inria's *Evaluation committee*. Since September: Acting director of the Inria Nancy Grand-Est. Member of Inria's *Executive committee*.
- Marc Pouget: Member of the CGAL Editorial Board (since 2008).

²[Workshop on Computational Geometry](#)

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Master: Marc Pouget and Xavier Goaoc, *Introduction à la géométrie algorithmique*, 10.5 HETD, M1, École Nationale Supérieure de Géologie, France

Master: Xavier Goaoc, *Recherche opérationnelle*, 25 HETD, M1, École des Mines de Nancy.

Master: Xavier Goaoc, *Pépites en géométrie algorithmique*, 4.5 HETD, M1, École des Mines de Nancy.

Licence: Laurent Dupont, *Systèmes de Gestion de Bases de Données Avancé*, 40h, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Concepts et Outils Internet*, 40h, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Programmation Objet et Évènementielle*, 40h, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Rich Internet Applications*, 40h, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont and Yacine Bouzidi, *Programmation de Sites Web Dynamiques*, 68h, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont and Yacine Bouzidi, *Algorithmique*, 76h, Université de Lorraine (IUT Charlemagne).

Licence: Sylvain Lazard, *Algorithms and Complexity*, 25h, L3, Université de Lorraine.

7.2.2. Supervision

PhD in progress : Yacine Bouzidi, *Résolution de systèmes algébriques bivariés et topologie de courbes planes*, started in October 2010, Sylvain Lazard et Marc Pouget

PhD in progress : Fabien Mathieu, *Simulation numériques 3D pour le prototypage rapide par Stratoconception*, thèse CIFRE with CIRTES, started in February 2012 and stopped in September 2012 for administrative reasons, Sylvain Lazard.

7.2.3. Juries

- Xavier Goaoc was on the reading and defense committees of the thesis of Daniela Maftuleac, Aix-Marseille Univ, Juin 2012.

VERIDIS Project-Team

9. Dissemination

9.1. Scientific Animation

- Pascal Fontaine co-chaired the program committee of PAAR 2012 and SMT 2012. He served on the program committee of PxTP 2012. He has been ex-officio member of the SMT Steering Committee starting September 2011 until August 2012, and he is now an elected member for two years starting September 2012.
- Dominique Méry is
 - a member of the IFIP Working Group 1.3 on *Foundations of System Specification*,
 - head of the Doctoral School IAEM Lorraine for the University of Lorraine,
 - head of the Formal Methods department of the LORIA laboratory,
 - an expert for the French Ministry of Education (DS9),
 - an expert for the French Agence Nationale de la Recherche (ANR) and AERES.
 - the director of international affairs at ESIAL Nancy, and
 - the president of the APCB association.
 - He served on the program committees of DS-Event-B, FHIES, FM (co-chair), ICECCS, ICFEM, iFM, MEDI, and TASE.
- The academic duties of Stephan Merz include:
 - member of the IFIP Working Group 2.2 on *Formal Description of Programming Concepts*,
 - nominated member of the Section 7 of the Comité National de la Recherche Scientifique (until the summer of 2012),
 - Inria representative in the Scientific Directorate of the International Computer Science Meeting Center in Dagstuhl,
 - delegate for the organization of conferences at Inria Nancy Grand-Est,
 - co-head of the PhD committee for computer science in Lorraine (since December 2012),
 - program committees of ICFEM, iFM, SAC, SBMF, and SEFM conferences, AVoCS (co-chair), ATX, and TLA (co-chair) workshops, steering committee of AVoCS,
 - co-organizer of the VTSA summer school between Nancy, Saarbrücken, Luxembourg, and Liège,
 - expert for the French Agence Nationale de la Recherche (ANR), AERES, German DFG, European ERC, and Canadian NSERC.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

The university employees of VeriDis have significant teaching obligations. We indicate the graduate courses they have been teaching this year, as well as significant pedagogical responsibilities.

- Dominique Méry gave courses in the Master program in Nancy on: formal system engineering, modeling and verification of systems, theoretical computer science, development of software systems, distributed algorithms.
- Stephan Merz taught a course on algorithmic verification in the Master program in Nancy (30 hours) and a course on modal logic in the undergraduate curriculum on cognitive and computer science (30 hours).

9.2.2. Supervision

PhD: Sabina Akhtar, Verification of Distributed Algorithms using PlusCal-2, Université de Lorraine, May 2012, supervised by Stephan Merz;

PhD in progress: Manamiary Andriamiarina, Refinement Techniques for Distributed Algorithms, since 10/2010, supervised by Dominique Méry;

PhD in progress: Henri Debrat, Formal Verification of Fault-Tolerant Distributed Algorithms, since 10/2009, supervised by Bernadette Charron-Bost and Stephan Merz;

PhD in progress: Tianxiang Lu, Verification of the Pastry Routing Protocol, since 05/2009, supervised by Stephan Merz and Christoph Weidenbach;

PhD in progress: Hernán Vanzetto, SMT Techniques for TLA⁺ Proof Obligations, since 10/2010, supervised by Kaustuv Chaudhuri and Stephan Merz.

9.2.3. Juries

Dominique Méry wrote reports on the following PhD theses.

- Anton Tarasyuk: *Formal Development and Quantitative Verification of Dependable Systems*, University of Turku;
- Jean-Charles Chaudemar: *Etude des architectures de sécurité de systèmes autonomes – Formalisation et évaluation en Event B*, Université de Toulouse;
- Damien Imbs: *Calculabilité et conditions de progression des objets partagés en présence de défaillances*, Université de Rennes;
- Vincent Filou: *Une étude formelle de la théorie des calculs locaux à l'aide de l'assistant de preuve Coq*, Université de Bordeaux.

Stephan Merz wrote reports on the following PhD and habilitation theses:

- Francesco Bongiovanni: *Design, Formalization and implementation of overlay networks; application to RDF data storage*, Université de Nice-Sophia Antipolis;
- Abderrahmane Feliachi: *Semantics Based Testing for Circus*, Université Paris-Sud;
- Sylvain Conchon: *SMT Techniques and their Applications*, Université Paris-Sud.

VERTECS Project-Team

8. Dissemination

8.1. Scientific Animation

Nathalie Bertrand was PC member of QAPL'12, QEST'12, Infinity'12 and SYNT'12. She is since september 2012 a Steering Committee member of QEST. She was invited to give a talk at the research seminar of the Quantitative Logics and Automata (QuantLA) Doctoral School in Dresden, in December 2012. She is also a member of the panel for the **Gilles Kahn prize** awarded each year to an excellent PhD thesis in computer science.

Thierry Jérón is Vice President of the Project Committee of Inria Rennes - Bretagne Atlantique. He is member of the IFIP Working Group 10.2 on Embedded Systems. He is a member of the Steering Committee of the School MOVEP (held in Marseille in December 2012), and PC member of ICFEM 2012, ICST 2012, ICTSS 2012, RV 2013, TAP 2012 and 2013. He gave a lecture at the Summer School TAROT 2012. He co-organizes the Dagstuhl Seminar 13021 on "Symbolic Methods in Testing" in January 2013.

Hervé Marchand is Associate Editor of the IEEE Transactions on Automatic Control since 2009 and member of the IFAC Technical Committees (TC 1.3 on Discrete Event and Hybrid Systems) since 2005. He is member of the steering committee of MSR (Modélisation de systèmes réactifs). He was PC member of WODES'12, ICINCO'12. He is organizer of MSR 2013 in Rennes.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Nathalie Bertrand

Master : Techniques de vérification avancées, 10h, niveau M2, ISTIC, Université de Rennes 1.

Agrégation : Langages formels, 16h, niveau M2, ENS-Cachan-Antenne de Bretagne.

Sébastien Chédor

Licence : Programmation Java, 20h, niveau L2, ISTIC, Université de Rennes 1.

APF, 20h, niveau L1, ISTIC, Université de Rennes 1.

Initiation LaTeX, 6h, niveau L3, ENS-Cachan-Antenne de Bretagne.

Programmation, 20h, niveau L3, ENS-Cachan-Antenne de Bretagne.

Paulin Fournier

Licence : Scheme (TP), 20h, niveau L1, INSA-Rennes.

Christophe Morvan

Licence : Object Oriented programming with Java, 120h, niveau L2, Université de Marne-la-Vallée.

Systèmes d'exploitation (Cours), 36h, niveau L3, Université de Marne-la-Vallée.

Compilation (Cours-TD), 60h, niveau L3, Université de Marne-la-Vallée.

Amélie Stainer

Licence : Base de données (Cours-TD-TP), 28h, niveau L2, INSA-Rennes.

Agrégation : Modélisation (Cours), 11h, niveau M2, ENS-Cachan-Antenne de Bretagne.

Oraux blancs, 12h, niveau M2, ENS-Cachan-Antenne de Bretagne.

Préparation de leçons d'informatique, 10h, niveau M2, ENS-Cachan-Antenne de Bretagne.

8.2.2. Supervision

PhD in progress: **Sébastien Chédor**, Verification and test of systems modeled by regular graphs, started in September 2009, supervised by Christophe Morvan and Thierry Jéron.

PhD in progress: **Paulin Fournier**, Parameterized Verification of probabilistic systems, started in September 2012, supervised by Nathalie Bertrand and Thierry Jéron.

PhD in progress: **Srinivas Pinisetty**, Runtime validation of critical control-command systems, started in December 2011, supervised by Hervé Marchand and Thierry Jéron.

PhD in progress: **Amélie Stainer**, Quantitative verification of timed automata, started in October 2010, supervised by Nathalie Bertrand and Thierry Jéron.

8.2.3. Juries

Nathalie Bertrand was a member of the PhD defense jury of Youssouf Oualhadj (LaBRI, Bordeaux) in december 2012.

8.3. Popularization

Christophe Morvan has been involved in the organization of a public talk on Turing (celebrating the centenary of his birth) by Jean Lassègue. See the [webpage](#).

VIRTUAL PLANTS Project-Team

7. Dissemination

7.1. Scientific Animation

- Christophe Godin has rendered the following services in 2012:
 - he is a member of the College de Direction of UMR AGAP
 - he is a member of the management board of IBC (Institut de Biologie Computationnelle de Montpellier)
 - he is a member of the scientific committee of the Environnement-Agromomy department at INRA
 - he is a member of the editorial board of the journal *Frontiers in Plant Sciences*
 - he is the scientific coordinator of action d'envergure Morphogenetics
 - he is the scientific coordinator of axis 4 on imaging and modeling (together with Patrick Lemaire)
 - he was a member of the expert committee for the selection of an assistant professor at Labri, University of Bordeaux.
 - he was a member of a Jury for the habilitation of high-school teachers in computer science (Jan 2012) in the context of the introduction of computer science as a new discipline at high school.
 - he participated to a commission of experts that wrote a report on the organization of research on complex systems for the University of Montpellier 2.
 - he participated to the PhD committee of Jonathan Legrand.
 - he is co-chair of the 7th international conference on functional-structural models of plants (FSPM 2013) that will be held in Finland in June 2013.
 - he gave 6 invited talks (4 abroad)
 - he was referee for papers submitted at journals: *Development*, *Journal of mathematical biology*, *Journal of theoretical biology* and at conferences: SIGGRAPH, SIGGRAPH Asia, Eurographics.
- Yann Guédon has rendered the following services in 2012:
 - he is a member of the editorial board of *Annals of Botany* and a member of the ERCIM working group "Computing & Statistics".
 - he was a member of a jury for recruiting research engineers at INRA.
 - he was a referee for papers submitted to *Forest Ecology and Management* and *Journal of Statistical Planning and Inference*.
- Frédéric Boudon was referee for papers submitted to SIGGRAPH, SIGGRAPH Asia, *IEEE Transaction On Visualisation and Computer Graphics* and *Computers and Electronics in Agriculture*.
- Etienne Farcot served as a referee for papers submitted to *Physica D*, *Chaos*, *Plant Physiology*, *Mathematical Modeling of Natural Phenomena*, *Nonlinear Analysis Series B: Real World Applications*, *Journal of Mathematical Biology*, *PLoS One*.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Master Biostatistics. Jointly with Montpellier 1, Montpellier 2 Universities and Agro-Montpellier. Yann Guédon teaches the stochastic modeling course (<http://www.agro-montpellier.fr/um2/um1/masterbiostatistique>). This involves 21h of M2 classes.

Christophe Godin was responsible for a class of Master 2 on 'Plant modeling' with participation of Yann Guédon, Christophe Pradal, Frédéric Boudon and Christian Fournier in Montpellier SupAgro (M2 - 25h).

Christophe Godin gave a class of Master 2 on 'Tree comparison algorithm' in the Master of Bioinformatique (M2 - 4h).

Christophe Godin gave a class of Master 2 on 'Plant Modeling' in the module plant and animal Morphogenesis of the Master in biology at ENS-Paris (M2 - 4h).

Etienne Farcot, Christophe Godin and Yann Guédon participated to the module iPlant in the Master of bioinformatic and biomathematics (University Cheikh Anta Diop, Dakar, Sénégal) (M2 - 12h).

Yann Guédon gave a 8h lecture about plant architecture analysis at the state University of Londrina (Parana, Brazil)

Christophe Pradal and Christian Fournier taught the Master class "Impact de l'architecture sur la propagation des maladies foliaires" in the module 'Démarches de modélisation' in Montpellier SupAgro (15h).

Master Computer Science. University Montpellier 2.

Frederic Boudon, Christophe Godin and Christophe Fiorio from LIRMM teach a course of 30h on plant modeling and computational geometry.

Christophe Godin and Frédéric Boudon gave a 2 days training session on L-Py and plant modeling for a group of students in Ecole Préparatoire aux Erandes Ecoles.

7.2.2. Supervision

PhD : Preuksakarn Chakkrit, Reconstructing Plant Architecture from 3D Laser Scanner Data, Université de Montpellier 2, 19 december 2012, F. Boudon and C. Godin.

PhD in progress : Anaëlle Dambreville, "*Determinants and modeling of mango phenology: interactions between structural and temporal components in a branching structure and temperature effect*", Montpellier 2 University, F. Normand, P.E. Lauri, Y. Guedon.

PhD in progress : Jonathan Legrand, "*Hormon signaling and control of morphogenesis during flower development*", ENS Lyon, P. Das, Y. Guedon.

PhD in progress : Pierre Fernique, "*Hidden transition models for the phenotyping of plant architecture in relation to environmental and genetic factors*", Montpellier 2 University. Y. Guédon, J.-B. Durand.

PhD in progress : Jean Peyhardi, "*Markov and semi-Markov switching generalized linear mixed models applied to the analysis of plant architecture in relation to environmental and genetic factors*", Montpellier 2 University. C. Trottier, Y. Guédon.

PhD in progress : Maryline Lièvre, "*Analysis and multiscale modeling of foliar growth in Arabidopsis thaliana in response to environmental stresses. Implication of the floral transition in the foliar expansion*", Montpellier 2 University, C. Granier, Y. Guédon.

PhD in progress : Mathilde Balduzzi, "*Geometric modeling of plant canopy from 3D scanner images: Combined use of 3D information and reflected intensity for meshing*", Montpellier 2 University, C. Godin, F. Tardieu.

PhD in progress : Léo Guignard, "*Segmentation, visualization and mechanical modeling of embryonic development in the ascidian*", Montpellier 2 University, C. Godin, P. Lemaire.

PhD in progress : Guillaume Garin, "*Développement d'un cadre générique de modélisation du couple plante – agent pathogène dans OpenAlea et d'une méthodologie de transfert vers un Outil d'Aide à la Décision*", Montpellier 2 University, B. Andrieu, C. Pradal, C. Fournier.

PhD in progress : Jean-Philippe Bernard, "*Adaptive mechanical model of early flower development based on 4D imaging*", Montpellier 2 University, C. Godin, B. Gilles.

7.2.3. Juries

Christophe Godin participated as a referee of the theses of Romain Barillot and Wojtek Palubicki and participated to the defenses of these theses. Christophe Godin and Frédéric Boudon, co-supervising Chakkrit Preuksakarn thesis, were also part of the jury of his defense.

7.3. Popularization

Christophe Godin gave 2 conferences for high-school pupils respectively on plants and fractals and on meristem modeling in the context of MathC2+ and fête de la science (6h).

VISAGES Project-Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Editorial board of journals

- C. Barillot is Associate Editor of IEEE Transactions on Medical Imaging (IEEE-TMI).
- C. Barillot is Associate Editor of Medical Image Analysis (MedIA).
- C. Barillot is Associate Editor of ISRN Signal Processing.
- C. Barillot is Associate Editor of Current Medical Imaging Reviews.
- C. Barillot serves in the peer review committee of the Journal of Computer Assisted Tomography.
- C. Barillot serves in the peer review committee of Neuroimage.

9.1.2. Workshop/Symposium Organization

- S. Prima was co-chairman of the MICCAI workshop on Mesh Processing in Medical Image Analysis (MeshMed 2012), Nice, France, Oct. 1, 2012 (<http://www2.imm.dtu.dk/projects/MeshMed>).

9.1.3. Peer Reviews of journals

- IEEE TIP (SP, CB), IEEE TBE (SP), IEEE TITB (SP), Medical Image Analysis (CB, SP), NeuroImage (CB, IC), Computer Methods and Programs in Biomedicine (CB), Phys. Med. Biol. (CB), Comp. in Biol & Med. (CB), J. of Neuroscience Methods (CB), Image and Vision Computing (CB), JMIV (CB), Machine Vision and Applications (SP), Pattern recognition letters (SP), American Journal of Physical Anthropology (SP), Journal of Anatomy (SP)

9.1.4. Technical Program Committees (TPC) of conferences

- C. Barillot was area chair of Miccai 2012, SPIE 2012, TPC member of MICCAI workshops DCICTIA 2012, ICSS 2012, MBIA 2012, and MCV 2012, TPC member of IEEE CBMS 2012, ICPR 2012, ESMRMb 2012, SFRMBM 2012 ECR/imaGine 2011
- S. Prima was TPC member of MICCAI'2012, IEEE ISBI'2012, IEEE ICPR'2012, MeshMed'2012.
- I. Corouge was TPC member of the MICCAI 2012 Workshop on Novel Biomarkers for Alzheimer's Disease and Related Disorders.
- P. Maurel was TPC member of MICCAI'2012, IEEE ISBI'2012, MICCAI 2012 Workshop on Novel Biomarkers for Alzheimer's Disease and Related Disorders.
- O. Commowick was TPC member of MICCAI'2012, IEEE ISBI'2012, MICCAI 2012 Workshop on Novel Biomarkers for Alzheimer's Disease and Related Disorders.

9.1.5. Scientific societies

- C. Barillot is member of the Board of Directors of IPMI (Information Processing in Medical Imaging)
- C. Barillot is member of IEEE EMBS
- C. Barillot is senior member of IEEE
- C. Barillot, O. Commowick, P Maurel and S. Prima are members of the MICCAI society

9.2. Teaching

Teaching on 3D Medical Imaging (visualization, segmentation, fusion, management, normalization) and Image Guided Surgery in the following tracks:

- Master 2 SIBM, University of Angers-Brest-Rennes : 26h (C. Barillot, O. Commowick, S. Prima, I. Corouge, E. Bannier, JY Gauvrit)
- C. Barillot is responsible for one semester.
- J-Y. Gauvrit is the coordinator for the Master.
- Sylvain Prima gave two 3-hour lectures as an invited speaker at the SERA summer school (June 5-8, Tampere, Finland, <http://www.cs.tut.fi/sera2012>)
- Elise Bannier gave 4-day lecture in fMRI and E-Prime to Emmanuelle Le Bars, MR Physicist from the University Hospital of Montpellier (February 2012, Rennes, France). This training was funded by Siemens.
- Ecole Supérieure d'Ingénieur de Rennes (ESIR) : 60h in Medical Imaging (P. Maurel) and 60h in general Image Processing (P. Maurel)

9.3. Participation to seminars, scientific evaluations, awards

- C. Barillot served as expert for the APHP-DHU program 2012
- C. Barillot served as expert for the PHRC national program 2012
- C. Barillot is elected-member of the Scientific Board of CNRS-INS2I
- C. Barillot is permanent member of the Administrative Council of the pôle de compétitivité "Images & Réseaux"
- Sylvain Prima served as expert for The Netherlands Organisation for Scientific Research (NWO)
- Sylvain Prima is a member of the CUMIR committee (Commission des Utilisateurs des Moyens Informatiques pour la Recherche) and of the working group "voyages".

9.4. Dissemination toward non specialists

- Sylvain Prima gave a 1-hour lecture on "computer-assisted paleoanthropology" on June 26 at the "Conf'Lunch" monthly seminar organised at Inria.
- Christian Barillot participate to a 1-hour debate on "L'exploration médicale du cerveau : hommage au Voyage fantastique d'Isaac Asimov" during the "UTOPIALES" festival at Palais des Congres, Nantes, Nov. 2012. (<http://www.utopiales.org/christian-barillot>)
- In collaboration with Biogenouest, Neurinfo organized a user meeting in December 2012. This meeting attended by scientists, students, MRI operators, physicians, ..., gave us the opportunity to present an overview of the Neurinfo activities to our user community. Four users presented the research project they have been conducting at Neurinfo.
- In conjunction with INSERM and ARSEP we organized a Lab visits to the MS population community to disseminate our current work in imaging in Multiple Sclerosis (16th November 2012).

VR4I Team

8. Dissemination

8.1. Scientific Community Animation

- B. Arnaldi: **Vice-Director** of IRISA (UMR 6074), **Vice-President** of Scientific Committee of INSA, **Member** of the Selection Committee (CSV) of the Competitiveness Cluster "Media and Networks" (<http://www.images-et-reseaux.com/>) since 2005, **Member** of the Management Committee of "Métivier action of Rennes 1 University Foundation", **Vice-President** of AFRV, **Responsible** of the organization of scientific presentation during the annual days of the association AFRV, **Chair** of the white ANR SIMI2 committee.
- G. Dumont: **Head** of Mechatronics department at École Normale Supérieure de Cachan, **Head** of Media and Interaction department of IRISA (UMR 6074), **Leader** of WP9 of VISIONAIR european project [2011-2014], member of its Directory Board and member of its scientific committee, **Member** of the Selection Committee (CSV) of the Competitiveness Cluster "Media and Networks" (<http://www.images-et-reseaux.com/>), **Member** of Executive Board of international Journal IJIDeM. **Reviewer** for ASME-ISFA2012, ASME-DETC2012, Haptic Symposium 2012, **Member** of the AFRV, **Reviewer** for three PhD Defense (two in Politecnico di Milano, one in École Centrale de Nantes).
- T. Duval: **Member** of AFRV, ACM and Eurographics, **Reviewer** for JVRC 2012, CGI 2012, ICPR 2012, VRST 2012, GRAPP 2013, IEEE VR 2013, 3DUI 2013, **Member** of the International Program Committee of JVRC 2012, GRAPP 2013, 3DUI 2013, **Treasurer** of Web3D 2012, **Program Chair** of a Symposium of the VRIC 2013 conference about immersive collaboration in VR.
- V. Gouranton: **member** of AFRV, co-leader of ANR CORVETTE and FUI SIFORAS.
- A. Lécuyer: **Associate editor** of ACM Transactions on Applied Perception, **Associate editor** of International Journal on Human-Computer Studies, **Secretary** of the French Association for Virtual Reality, **Member of Selection Committee of ANR CONTINT Call for Project**, **Organizer of Panel** at IEEE Virtual Reality 2012 "Brain-Computer Interfaces and Virtual Reality: Present, Past and Future Interactions" (Panelists: A. Nijholt, R. Scherer, M. Gonzalez, C. Berka), **Program Co-Chair** of IEEE Symposium on 3D User Interfaces 2012, **Program Committee member** of international conferences in 2012 : IEEE VR, IEEE 3DUI, EUROGRAPHICS, EUROHAPTICS, ACM SIGGRAPH ASIA, JVRC, **Reviewer** of journals in 2012 : IJHCS, ACM TAP **Reviewer of conferences** in 2012 : ACM VRST, ACM UIST, **PhD Jury member** in 2012 : J. Fruitet, R. Grandchamp, S. Rousseau.
- M. Marchal: **Reviewer** of international journals in 2012: IEEE TVCG, IEEE TOH **Reviewer** of international conferences in 2012: MICCAI, IEEE EMBS, IEEE Virtual Reality, IEEE 3DUI, ACM VRST, ACM UIST, GRAPP, ACM ICMI, ICCAV, **Reviewer** for ANR, IHU Strasbourg, **Member** of AFRV and AFIG, **Program Committee member** of international conferences: IEEE 3DUI 2013, GRAPP 2013.

8.2. Teaching

- Bruno Arnaldi
 - Master MR2I Computer sciences : Virtual and Augmented Reality (VAR) (with E. Marchand), level M2), Rennes 1 University and INSA of Rennes, France
 - Master MR2I Computer sciences : Responsible for the Track Images and Interactions, level M2), Rennes 1 University and INSA of Rennes, France
- Georges Dumont

First year of mechatronics : Design project, 24h, École Normale Supérieure de Cachan, France

Master2, mechatronics : Mechanical simulation in Virtual reality, 36h, level M2, Rennes 1 University and École Normale Supérieure de Cachan, France

Master2, formation des enseignants du supérieur : Mechanics of deformable systems, 40h, level M2, école Normale Supérieure de Cachan, France

Master2, formation des enseignants du supérieur : oral preparation to agregation competitive exam, 20h, level M2, école Normale Supérieure de Cachan, France

Master2, formation des enseignants du supérieur : Vibrations in Mechanics, 10h, level M2, école Normale Supérieure de Cachan, France

Master2, formation des enseignants du supérieur : Multibody Dynamics, 9h, level M2, école Normale Supérieure de Cachan, France

Master2, formation des enseignants du supérieur : Finite Element method, 12h, level M2, école Normale Supérieure de Cachan, France

Master2 mechatronics : Responsible of the second year of the master, Rennes 1 University and école Normale Supérieure de Cachan, France

- Thierry Duval

Master : Human-Computer Interaction and Design of Interactive Applications, 32h, M2 (GL, Mitic, Miage), University of Rennes 1, France

Master : Collaborative Virtual Environments, 32h, M2 (GL, Mitic), University of Rennes 1, France

Master : Introduction to Computer Graphics, 20h, M1, University of Rennes 1, France

Master : Introduction to 2D and 3D Human-Computer Interaction, 48h, M1, University of Rennes 1, France

- Ronan Gagne

Master : Virtual Reality presentation, 12h, M1, INSA of Rennes, FR.

Master : Projects on Virtual Reality, 20h, M1, INSA of Rennes, FR.

Master : Projects on Virtual Reality, 16h, M2, INSA of Rennes, FR.

- Valérie Gouranton

Licence : Introduction to Virtual Reality, 13h, L2, INSA of Rennes, FR and responsible of this lecture.

Licence : Project on Virtual Reality, 16h, L3, INSA of Rennes, FR and responsible of this lecture.

Master : Virtual Reality, 8h, M2, INSA of Rennes, FR.

Master : Projects on Virtual Reality, 20h, M1, INSA of Rennes, FR.

Master **co-responsible** of M2 Computer Science of RENNES 1 University, INSA Rennes, ENS CACHAN Antenne Bretagne, Supelec, UBO, ENIB, ENSTA Bretagne, Télécom Bretagne, UBS.

- Anatole Lécuyer

Master IVI : Haptic Interaction, 7 hours, M2, ENSAM, France

MAster SIBM : Brain-Computer Interfaces and Haptic Interfaces, 3 hours, M2, University of Rennes 1, France

- Maud Marchal

Licence : Programming Language C, 30h, L3, INSA Rennes, France;

Master : Algorithms and complexity, 30h, M1, INSA Rennes, France; Object-Oriented Modeling and Programming, 43h, M1, INSA Rennes, France; Software Quality, 30h, M2, INSA Rennes, France; Modeling and Engineering in Biology and Health Applications, 48h, M2, INSA Rennes, France; Medical Simulation, 3h, M2, Master SIBM University of Rennes 1, France;

- Quentin Avril
 - Licence : Sensibilisation Réalité Virtuelle, 20h eq. TD, L1, INSA de Rennes, France
 - Master : Images Numériques, 28h eq. TD, M1, Université de Rennes1, France
 - Master : Modélisation, Animation et Rendu 3D, 11h eq. TD, M2, Université de Rennes1, France
- Charles Pontonnier
 - Master : Conception de systèmes mécatroniques, 20h, M1 Mécatronique, Antenne de Bretagne de l'ENS Cachan, France
 - Master : Mécanique des milieux continus, 24h, M2 Formation à l'Enseignement Supérieur, Antenne de Bretagne de l'ENS Cachan, France
 - Master : Résistance des matériaux, 24h, M2 Formation à l'Enseignement Supérieur, Antenne de Bretagne de l'ENS Cachan, France
 - Master : Travaux pratiques d'automatique, 24h, M2 Formation à l'Enseignement Supérieur, Antenne de Bretagne de l'ENS Cachan, France
 - Master : Travaux pratiques d'analyse de systèmes mécaniques, 15h, M2 Formation à l'Enseignement Supérieur, Antenne de Bretagne de l'ENS Cachan, France

8.3. PhD

HDR : Thierry Duval, Models for design, implementation and deployment of 3D Collaborative Virtual Environments, defense date 2012/11/28.

PhD : Cédric Fleury, Outils pour l'exploration collaborative d'environnements virtuels 3D, INSA Rennes, defense 2012/06/15, advised by Bruno Arnaldi, co-advised by Thierry Duval and Valérie Gouranton [2].

PhD : Rozenn Bouville Berthelot, Interopérabilité des environnements virtuels 3D : modèle de réconciliation des contenus et des composants logiciels , start date 2009/11/01, advised by Bruno Arnaldi, co-advised by Thierry Duval and Jérôme Royan, defense date 2012/12/20.

PhD in progress : Thi Thuong Huyen Nguyen, Proposition de nouvelles techniques d'interaction 3D et de navigation 3D préservant l'immersion de l'utilisateur et facilitant la collaboration entre utilisateurs distants, start date 2011/10/01, advised by Thierry Duval.

PhD in progress : Jérôme Ardouin, See and Interact at 360 degree, start date 2011/01/14, advised by Anatole Lécuyer.

PhD in progress : Fabien Danieau, Haptic interaction for multimedia, start date 2011/01/03, advised by Anatole Lécuyer.

PhD in progress: Laurent George, The use of Brain computer interface for implicit human-computer interaction with Virtual Environments, start date 2009/11/01, advised by Anatole Lécuyer.

PhD : Loeiz Glondu, Modélisation et simulation physique d'outils d'exploration pour des interactions en environnement virtuel, start date 2009/10/01, advised by Georges Dumont, co-advised by Maud Marchal, defense date 2012/11/06 [3].

PhD in progress : Andrés Saraos Luna, Travail d'équipe entre individus réels ou virtuels pour réaliser un travail collaboratif adaptatif dans un environnement virtuel possiblement physicalisé, start date 2010/10/01, advised by Bruno Arnaldi, co-advised by Valérie Gouranton.

PhD in progress : Anthony Talvas, Two-handed haptic perception and interaction with virtual worlds, start date 2011/10/01, advised by Anatole Lécuyer, co-advised by Maud Marchal.

PhD : Léo Terziman, Realistic walking navigation in virtual environments for training, start date 2009/10/01, advised by Anatole Lécuyer and Bruno Arnaldi. [4]

WAM Project-Team

8. Dissemination

8.1. Scientific Animation

Cécile Roisin is a member of the steering committee of the [ACM Symposium on Document Engineering](#).

N. Layaïda is a member of Inria Grenoble-Rhône-Alpes Committee for Employment of Scientists: Inria hiring of Post-docs, Delegates and Secondments.

N. Layaïda, is program committee member of the 2nd International Conference on Model & Data Engineering (MEDI'2012). 3-5 October 2012. Poitiers, Futuroscope - France.

P. Genevès and N. Layaïda are program committee members of ACM Symposium on Document Engineering. 4-7 September 2012. Telecom ParisTech. Paris.

P. Genevès is a permanent member of Inria Grenoble-Rhône-Alpes Committee for Technological Development: Inria hiring of Research Engineers.

In 2012, P. Genevès has been a referee for the following international journals: ACM Transactions on Database Systems, Data & Knowledge Engineering, and Theoretical Computer Science.

In 2012, C. Roisin has been a referee for the following international conferences: ACM Multimedia 2012, ACM Document Engineering, and WWW2012 Demo Track.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: Computer Networks, 190h/year, L2, University of Grenoble – C. Roisin

Licence: Logic, 45h/year, L3, University of Grenoble – N. Gesbert

Licence: C Programming project, 12h/year, L3, University of Grenoble – N. Gesbert

Master: Logic, 22h30/year, M1, University of Grenoble – N. Gesbert

Master: Web development, 22h30/year, M1, University of Grenoble – N. Gesbert

Master: Software analysis, conception and validation, 45h/year, M1, University of Grenoble – N. Gesbert

Master: Foundations for XML: logics and automata, 18h/year, M2 (Mosig), University of Grenoble – P. Genevès

Master: SIGAL Multimedia systems and web languages, 9h/year, M2 (Mosig), University of Grenoble – N. Layaïda

8.2.2. Supervision

PhD: M. Chekol, Static analysis of semantic web queries, Université de Grenoble, 19 December 2012, N. Layaïda and J. Euzenat

PhD in progress: N. Guido, Satisfiability for Expressive μ -calculi, since October 2012, C. Roisin and P. Genevès

PhD in progress: M. Junedi, Query-Update Independence Analysis under Constraints, since October 2012, C. Roisin and N. Layaïda

8.2.3. Juries

PhD: B. Baccot, 23 November 2012, University of Toulouse (C. Roisin as reviewer).

PhD: T.N. Luong, 12 December 2012, University of Pau (C. Roisin as reviewer).

8.3. Popularization

J. Lemordant and N. Layaïda have contributed to **Inriality** by a short video entitled Voyager dans le temps. Paris. November 2012.

J. Lemordant, N. Layaïda and V. Quint have contributed to the Forum 4i (Innovation, Industrie, Investissement, International), Grenoble, 2012. We showcased indoor navigation with IXE.

J. Lemordant has participated in several events to popularize recent results in the areas of pedestrian navigation and mixed reality, namely the 6th European eAccessibility Forum and the State Of The Map 2012 conference.

WILLOW Project-Team

9. Dissemination

9.1. Scientific Animation

- + Conference and workshop organization
 - K. Alahari, Co-organizer of the Workshop on Higher-Order Models and Global Constraints in Computer Vision in Computer Vision at ECCV 2012. <https://sites.google.com/a/ttic.edu/eccv-2012-workshop-hipot/>
 - I. Laptev, J. Sivic, Co-organizers of the First International Workshop on Action recognition and Pose Estimation in Still Images at ECCV 2012. <http://vision.stanford.edu/apsi2012>
 - A. Zisserman, Co-organizer of the PASCAL Visual Object Classes Challenge 2012 (VOC2012). <http://pascallin.ecs.soton.ac.uk/challenges/VOC/voc2012/>
 - A. Zisserman, Co-organizer of the PASCAL VOC 2012 workshop at ECCV 2012. <http://pascallin.ecs.soton.ac.uk/challenges/VOC/voc2012/workshop/index.html>
- + Editorial Boards
 - International Journal of Computer Vision (I. Laptev, J. Ponce, J. Sivic and A. Zisserman).
 - Image and Vision Computing Journal (I. Laptev).
 - Foundations and Trends in Computer Graphics and Vision (J. Ponce, A. Zisserman).
 - IEEE Transactions on Pattern Analysis and Machine Intelligence (K. Alahari, co-guest editor of a special issue).
- + Area Chairs
 - European Conference on Computer Vision (ECCV), 2012 (I. Laptev, J. Ponce, J. Sivic, A. Zisserman).
 - IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2013 (I. Laptev, J. Ponce, J. Sivic).
 - IEEE International Conference on Computer Vision (ICCV), 2013 (J. Sivic)
- + Program Committees
 - IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2012 (M. Cho, I. Laptev, J. Sivic, A. Zisserman).
 - IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2013 (K. Alahari, M. Cho, V. Delaitre, O. Duchenne, A. Joulin, V. Kantorov).
 - European Conference on Computer Vision (ECCV), 2012 (K. Alahari, M. Cho, V. Delaitre, O. Duchenne, A. Joulin).
 - Asian Conference on Computer Vision (ACCV), 2012 (K. Alahari).
 - Indian Conference on Computer Vision and Pattern Recognition (ICVGIP), 2012 (K. Alahari).
 - IEEE International Conference on Robotics and Automation (ICRA), 2012 (J. Sivic)
 - International Conference on Neural Information Processing Systems (NIPS), 2012 (K. Alahari, A. Joulin, I. Laptev, J. Sivic).
 - IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2012 (J. Sivic).
 - ACM International Conference on Computer Graphics and Interactive Techniques (SIGGRAPH), 2012 (J. Sivic).
 - ACM International Conference on Multimedia Retrieval (ICMR), 2012 (J. Sivic)
 - International Conference on Artificial Intelligence and Statistics (AISTATS), 2012, 2013 (A. Joulin).
 - International Conference on Machine Learning (ICML), 2013 (A. Joulin).
 - A. Zisserman, reviewer for ERC grant applications.

- + Prizes and distinctions:
 - Sr. Member, Institut Universitaire de France (J. Ponce).
 - Inria Prime d'excellence scientifique (I. Laptev, J. Sivic).
 - ENS Prime d'excellence scientifique (J. Ponce).
- + Other:
 - PostDoc selection committee, Inria Paris, 2012 (I. Laptev)
 - Commission de Développement Technologique, Inria Paris, 2012 (J. Sivic)
 - Director, ENS Department of Computer Science (J. Ponce)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : J. Ponce, "Introduction to computer vision", L3, Ecole normale supérieure, 36h.

Licence : M. Pocchiola and J. Ponce, "Geometric bases of computer science", L3, Ecole normale supérieure, 36h.

Master : I. Laptev, J. Ponce and J. Sivic (together with C. Schmid, Inria Grenoble), "Object recognition and computer vision", M2, Ecole normale supérieure, and MVA, Ecole normale supérieure de Cachan, 36h.

Doctorat : I. Laptev, J. Ponce, J. Sivic and A. Zisserman were speakers at the Inria Visual Recognition and Machine Learning Summer School <http://www.di.ens.fr/willow/events/cvml2012/>, Grenoble, 15h.

Doctorat : I. Laptev, speaker at the AERFAI Summer School on pattern recognition in multimodal human interaction, Vigo, Spain, 4h.

Doctorat : I. Laptev, speaker at the Human Activity and Vision Summer School, Inria Sophia-Antipolis, France, 2h.

9.2.2. Supervision

PhD : Oliver Whyte, "Removing Camera Shake Blur and Unwanted Occluders from Photographs" [5], École normale supérieure de Cachan, defended on March 15, 2012, J. Ponce, J. Sivic and A. Zisserman.

PhD : Y-Lan Boureau, "Learning Hierarchical Feature Extractors For Image Recognition" [1], New York University, September 2012, J. Ponce.

PhD : Muhammad Muneeb Ullah, "Supervised Statistical Representations for Human Action Recognition in Video" [4], Université de Rennes 1, defended on October 23, 2012, I. Laptev and P. Pérez.

PhD : Olivier Duchenne, "Non-rigid alignment methods for object recognition" [2], École normale supérieure, defended on November 29, 2012, J. Ponce.

PhD : Armand Joulin, "Convex optimization for cosegmentation" [3], École normale supérieure, defended on December 17, 2012, F. Bach and J. Ponce.

PhD in progress : Louise Benoît, started in 2009, J.Ponce.

PhD in progress : Piotr Bojanowski, "Learning to annotate dynamic video scenes", started in 2012, I. Laptev, J. Ponce, C. Schmid and J. Sivic.

PhD in progress : Florent Couzinié-Devy, started in 2009, J.Ponce.

PhD in progress : Vincent Delaitre, "Modeling and recognition of human-object interactions", started in 2010, I. Laptev and J. Sivic.

PhD in progress : Warith Harchaoui, "Modeling and alignment of human actions in video", started in 2011, I. Laptev, J. Ponce and J. Sivic.

PhD in progress : Vadim Kantorov, “Large-scale video mining and recognition”, started in 2012, I. Laptev.

PhD in progress : Guillaume Seguin, “Human action recognition using depth cues”, started in 2010, J. Sivic and I. Laptev.

PhD in progress : Marc Sturzel, started in 2008, J. Ponce, A. Zisserman.

9.2.3. *Juries*

- + PhD thesis committee:
 - Roland Angst, ETH Zurich, 2012 (J. Ponce).
 - Adrien Gaidon, Inria Rhone-Alpes, 2012 (I. Laptev).
 - Pyry Matikainen, CMU, 2012 (I. Laptev).
 - Olivier Duchenne, ENS Ulm, 2012 (J. Ponce).
 - Armand Joulin, ENS Ulm, 2012 (J. Ponce).
 - Gaurav Sharma, University of Caen, 2012 (J. Ponce).
 - Oliver Whyte, ENS Cachan, 2012 (J. Ponce, J. Sivic, A. Zisserman).
 - Muhammad Muneeb Ullah, ENS Cachan, 2012 (I. Laptev).
- + HDR thesis committee:
 - Florent Perronnin, Université Joseph Fourier. (J. Ponce).
- + Other:
 - "Jury prix Gilles Kahn" for best French PhD in computer science in November 2012 (J. Ponce).

9.3. Inria Visual Recognition and Machine Learning Summer School 2012

<http://www.di.ens.fr/willow/events/cvml2012>

I. Laptev and J. Sivic (together with C. Schmid, Inria Grenoble) co-organized a one week summer school on Visual Recognition and Machine Learning. The summer school, hosted by Inria Grenoble, attracted 181 participants from 34 countries (22% France / 48% Europe / 30% other countries (including Australia, Brazil, Canada, China, India, Iran, Israel, Japan, Malaysia, Mexico, Saudi Arabia, Singapore, South Korea, Turkey and USA)), and included Master students, PhD students as well as Post-docs and industrial participants. The summer school provided an overview of the state of the art in visual recognition and machine learning. Lectures were given by 14 speakers (6 USA, 1 UK, 1 Austria, 6 Inria / ENS), which included top international experts in the area of visual recognition (D. Forsyth, UIUC, USA; M. Hebert and A. Efros, CMU, USA; D. Ramanan, UC Irvine, USA, A. Torralba and A. Oliva, MIT, USA; A. Zisserman, Oxford, UK / WILLOW). Lectures were complemented by practical sessions to provide participants with hands-on experience with the discussed material. In addition, a poster session was organized for participants to present their current research.

The Fourth summer school in this series is currently in preparation for 2013 to be hosted by ENS Ulm and organized jointly by ENS and Inria Paris.

9.4. Invited presentations

- K. Alahari, Oxford Univ., Oxford, UK, Host: A. Zisserman, Sept. 2012.
- I. Laptev, 3rd AFCV Int. Workshop on Recent Trends in Computer Vision, Osaka, Japan, Jan. 2012.
- I. Laptev, 10th Workshop on Content Based Multimedia Indexing, Annecy, France, June 2012.
- I. Laptev, Oxford Univ., Oxford, UK, Host: A. Zisserman, Sept. 2012.
- I. Laptev, First Croatian Workshop on Computer Vision, Zagreb, Croatia, Sept. 2012.
- I. Laptev, 3rd IST Austria Symposium on Computer Vision and Machine Learning, Vienna, Austria, Oct. 2012.
- I. Laptev, Carnegie Mellon University, USA, Host: A. Efros, November 2012.
- J. Ponce, 2nd ACCV Workshop on e-Heritage, Daejeon, South Korea, Nov. 2012.
- J. Ponce, ETRI, Daejeon, South Korea, Nov. 2012.
- J. Ponce, "Let's imagine the future", Inria Rennes, France, Nov. 2012.
- J. Sivic, Google, USA, Hosts: H. Adam and H. Neven, August 2012
- J. Sivic, UC Berkeley, USA, Host: J. Malik, August 2012
- J. Sivic, Simon Fraser University, Canada, Host: G. Mori, August 2012
- J. Sivic, GdR ISIS workshop, Telecom ParisTech, Host: F. Lafarge, October 2012
- J. Sivic, First Int. Workshop on Visual Analysis and Geo-Localization of Large-Scale Imagery, ECCV 2012, October 2012.
- J. Sivic, Int. Workshop on Search Computing, Brussels, Host: A. Joly, September 2012.
- J. Sivic, Carnegie Mellon University, USA, Host: A. Efros, December 2012.

9.5. Popularization

- The work "What Makes Paris Look like Paris" on the automatic mining of visual architectural elements (Doersch *et al.* SIGGRAPH [6]) has received broad press coverage including magazines [The Wall Street Journal](#) and [NewScientist](#).
- The Pompeii project was featured in the special issue of "Cahiers Science & Vie", on "the lost worlds" ("les mondes perdus"), N°130, June 2012.

WIMMICS Team

9. Dissemination

9.1. Scientific Animation

Zeina Azmeh

Reviewer for the 9th international conference on Concept Lattices and their Applications (CLA 2012), and Program Committee member of the 3rd international conference on Cloud Computing and Services Science (CLOSER 2013).

Michel Buffa Program Committee member of WWW Demo track, WWW Workshop on Semantic Web Collaborative Spaces (SWCS).

Elena Cabrio

Program Committee member of the *1st Joint Conference on Lexical and Computational Semantics (*SEM 2012)*, and of *Semantic Relations-II. Enhancing Resources and Applications workshop*, at LREC 2012 (Language Resources and Evaluation Conference). Moreover, she was part of the Evaluation Committee assigning the Best PhD Dissertation Award of ATALA 2012 (French computational linguistics member association).

Olivier Corby

Program committee member of EKAW, IC, CNRIA, IIS, CWC ECAI Workshop, IJMSO, More-BI, SOS DLWD, WWW demo track.

With Catherine Faron-Zucker and Johan Montagnat (I3S, Modalis), organization of a three days workshop for the CrEDIBLE Mastodons CNRS Research Program (15 to 17 october)²⁶.

He is member of W3C SPARQL 1.1 WG.

Catherine Faron-Zucker

Reviewer, Program Committee member of:

IJHCS, KEOD, AKDM, Special Track on Peer Reviewing (PR) of the Int. Conf. on Knowledge Generation, Communication and Management (KGCM), KSE, IC, EGC Maghreb, JEESI, CNRIA.

Reviewer for ANR, Crédit Impôt Recherche DRRT Ile-de-France, "Bonus Qualité Recherche" (BQR) for scientific council of university Paris 13.

Fabien Gandon

Reviewer:

Journals: Advances in Knowledge Discovery and Management, Semantic Web Journal special issue on Linked Datasets Descriptions.

Conferences: AINA, EGC, ESWC, FutureTech, Hypertext, IC, ISWC, RFIA, SAC, SemWeb.Pro, TOTh, WebS, WebScience, WI.

He was general co-chair of WWW at Lyon.

Workshops:

AImWD, LDOW, MARAMI, MSM, SocialComNet, SOS, SPIM, SSNAD, SWCS.

Alain Giboin

Member of the program committee of COOP, DeViNT, IC, I-SEMANTICS.

²⁶https://credible.i3s.unice.fr/doku.php?id=atelier_15-17_octobre

Reviewer for the International Journal of Human-Machine Studies.

Reviewer for the ANR CONTINT program.

Member of the the steering committee of the COOP conference series (International Conferences on the Design of Cooperative Systems).

Co-organizer – with Pascal Salembier (Université de Technologie de Troyes, France), Carla Simone (Università Milano Bicocca, Italy), and Cyril Bossard (UFR STAPS de Brest, France) – of the Workshop *Do We Really Need to Share to Cooperate?*, in conjunction with COOP'2012, The 10th International Conference on the Design of Cooperative Systems, Marseille, France, May 29th.

Nhan Le Thanh

Program committee member of the 2nd International Conference on Model & Data Engineering (MEDI2012) and the 4th International Conference on Knowledge and Systems Engineering (KSE 2012).

Isabelle Mirbel

Member of the editorial board of the journal *Ingénierie des Systèmes d'Information* (Hermès).

Co editor of a special issue of the *International Journal of Information System Modeling and Design* (IGI Global) Volume 4, 2012.

PC member 24th International Conference on Advanced Information Systems Engineering (CAISE 2012).

PC member for the workshop *Ontologies et Jeux de Données pour évaluer le web sémantique (OJD)* in conjunction with 23^{èmes} journées francophones d'ingénierie des connaissances.

Reviewer for the *Requirements Engineering Journal* (Springer).

Reviewer for ODBase 2012.

PC member Doctoral Consortium of INFORSID 2012.

Co-chair of the doctoral consortium of *24th International Conference on Advanced Information Systems Engineering*.

Andrea Tettamanzi

Program co-chair of the “EvoFin” track of the EvoApplications 2013 conference and as the chair of Evo-Transfer, a technology-transfer event, now in its 2nd edition, in the framework of Evo* 2013. Referee for the Information Sciences journal, the Computational Intelligence journal, and the Journal of Data Semantics. Program committee member of the IAT 2012 and PPSN 2012 conferences.

Serena Villata

Co-organizer and co-chair of the first workshop on "Artificial intelligence meets the Web of Data (AImWD)" which was co-located with the European Conference on Artificial Intelligence (ECAI-2012).

Program committee member of international journals, conferences and workshops in computer science. In particular, among others: Journal of Logic and Computation, Synthese, Journal of Approximate Reasoning, AAMAS-2012, AImWD-2012.

She is part of the W3C Working Group on the Linked Data Platform which has the aim to develop the specifications for HTTP interaction with Linked Data.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Semantic Web: 36h. L2, IUT Nice UNS, France.

Participants: Olivier Corby, Catherine Faron-Zucker.

Semantic Web: 45h. Master 2, IFI KIS PolyTech Nice, UNS, France.

Participants: Olivier Corby, Catherine Faron-Zucker, Fabien Gandon.

Knowledge Engineering: 20h. Master 2, IFI KIS PolyTech Nice, UNS, France.

Participants: Catherine Faron-Zucker, Fabien Gandon, Andrea Tettamanzi.

Semantic Web: 2h. Ecole Centrale Paris.

Participant: Fabien Gandon.

Semantic Web: 3h. ENS Cachan.

Participant: Fabien Gandon.

Semantic Web: 3h. Miage UNS

Participant: Fabien Gandon.

Semantic Web: 8h. URFIST Rennes.

Participant: Fabien Gandon.

Human-Computer-Interaction (HCI) Design and Evaluation: 35h. Master 2, PolyTech Nice, UNS.

Participant: Alain Giboin

Post WIMP interaction paradigms and interface evolution: 4h. Master 2 Polytech UNS.

Participant: Alain Giboin.

Task and Activity Analysis for HCI design and evaluation: 6h, Master 2 *Sociology and Ergonomics of Digital Technologies*, UNS

Participant: Alain Giboin

Place of Ergonomics in Agile Projects: 2h. Licence Pro IDSE, IUT, UNS.

Participant: Alain Giboin.

Web Services: 36h. MASTER MIAGE 2, UNS.

Participant: Serena Villata

Web Services: 42h. MASTER MIAGE 2, UNS.

Participant: Zeina Azmeh.

Object Oriented Design: UML & OCL: 36h. L3 MIAGE, UNS.

Participant: Maxime Lefrançois.

Object Oriented Programming: Java: 18h. L3 MIAGE, UNS.

Participant: Maxime Lefrançois.

Enterprise Components Architecture: Java EE 6, EJB 3.1, JSF 2.0: 13h. M2 MIAGE UNS

Participant: Maxime Lefrançois.

XML Technologies: 36h. Master 1 MIAGE, UNS.

Participant: Elena Cabrio.

Web Programing: 30h. DUT Info S1 et S2 at IUT, UNS.

Participant: Nhan Le Thanh.

Design tools and Programming with relational DBMS: 105h. DUT S3 Info at IUT, UNS.

Participant: Nhan Le Thanh.

Theoretical basis of Computation: 45h. DUT S4 Info at IUT, UNS.

Participant: Nhan Le Thanh.

Logical Data Models and languages: 24h. Licence Pro Info LP3 at UNS.

Participant: Nhan Le Thanh.

Design and Development of DBMS services: 24h. Licence Pro Info LP3 at UNS.

Participant: Nhan Le Thanh.

Architecture of Software Engineering: 12h. Licence Pro Info LP3 at UNS.

Participant: Nhan Le Thanh.

Introduction to the Web: 37h. Licence 1, UFR Sciences UNS.

Participant: Andrea Tettamanzi.

Algorithmics, Object Oriented Programming, Python: 50h. Licence 2, UFR Sciences UNS.
Participant: Andrea Tettamanzi.

Distributed Systems: 18h. Master MIAGE 1, UFR Sciences UNS.
Participant: Andrea Tettamanzi.

Web 2.0, Web Services, HTML5: 40h. Master 2 UNS.
Participant: Michel Buffa.

Distributed Web Development: 40h. Master 2 UNS.
Participant: Michel Buffa.

Web Technologies: 40h. Master 1 UNS.
Participant: Michel Buffa.

Java Certification: 25h. Master 2 UNS.
Participant: Michel Buffa.

Plasticity of User Interfaces, HTML5: 8h. Master 2 Polytech UNS.
Participant: Michel Buffa.

New Interaction Means, HTML5: 8h. Master 2 Polytech UNS.
Participant: Michel Buffa.

Linux shell: 66h. IUT UNS.
Participant: Franck Berthelon.

Linux: 24h. IUT UNS.
Participant: Khalil Bouzidi.

DBMS and J2EE: 22h. IUT UNS.
Participant: Khalil Bouzidi.

Langages for documents : XML, XSD et XSL: 32H. Master 2 UNS.
Participant: Catherine Faron-Zucker.

Network Programming: 12h. Master 1 UNS.
Participant: Catherine Faron-Zucker.

Object Oriented Programming and Algorithmics: 130h. Licence 3 UNS.
Participant: Catherine Faron-Zucker.

Statistical Data Analysis: 39h. Licence 3 UNS.
Participant: Catherine Faron-Zucker.

HTML5 : W3C Online Course, delivers a W3C certification.
Participant: Michel Buffa.

HTML5 : Tutorial at WWW Conference, April 2012, Lyon, France.
Participant: Michel Buffa.

Argumentation for Agent Societies: Summer School at EASSS 2012.
Participant: Serena Villata.

9.2.2. Supervision

PhD:

Adrien Basse, *Extracting Graph Patterns to Characterize RDF Data Sources*, University Gaston Berger, Saint-Louis, Sénégal, december 10th, Fabien Gandon;

PhD in progress :

Pavel Arapov, *Semantic Application Wiki*, UNS, Michel Buffa, Nhan Le Thanh ;

Franck Berthelon, *Emotional State Detection from Electroencephalogram Data for "Serious Games"*, UNS, Peter Sander ;

Khalil Bouzidi, *Semantic Web Approach to Support the Creation of Technical Regulatory Documents in Building Industry*, UNS, CSTB, Nhan Le Thanh, Catherine Faron-Zucker, Bruno Fies.

Luca Costabello, *Mobile Access to the Web of Data* Inria, UNS, Fabien Gandon, Ivan Herman;

Papa Fary Diallo, *Co-Construction of Community Ontologies and Corpus in a Limited Technological Environment*. Inria, UGB, Isabelle Mirbel, Olivier Corby, Moussa Lo;

Corentin Follenfant, *Usage semantics of analytics and Business Intelligence tools*, UNS, SAP, Fabien Gandon, Olivier Corby, David Trastour;

Rakebul Hasan, *Explanations for Social Semantic Web*, UNS, Fabien Gandon;

Maxime Lefrançois, *Collaborative multilingual management of interlingual knowledge bases*, Inria, UNS, Fabien Gandon, Christian Boitet;

Nicolas Marie, *Pervasive sociality through social objects*, Alcatel Lucent Bell Labs, Fabien Gandon, Myriam Ribière;

Oumy Seye, *Rules for the Web of Data*, University Gaston Berger, Saint-Louis, Sénégal, Olivier Corby, Catherine Faron-Zucker, Moussa Lo;

Imen Tayari, *Representation, Annotation and Detection of Emotions in Multimodal Signals*, Sfax, UNS, Nhan Le Thanh and Chokri Ben Amar;

Nguyen Thi Hoa Hue, *Semantic Mappings with a Dataflow-based scientific workflow : an approach to develop dataflow applications using knowledge-based systems*, Vietnam, Nhan Le Thanh;

9.2.3. Juries

Fabien Gandon was jury member of

HdR:

Talel Abdesslem, *Complex data management: spatio-temporal data, XML and the Web*, Télécom ParisTech, January 4th, (Reviewer).

PhD Thesis:

Antoine Seilles, *Structuration de débats en ligne à l'aide d'Annotations socio-sémantiques. Vers une analyse de réseaux sociaux centrés sur l'interaction*, January 25th, LIRMM, (Reviewer).

Benoit Mathern, *Découverte interactive de connaissances à partir de traces d'activité : Synthèse d'automates pour l'analyse et la modélisation de l'activité de conduite automobile*, March 12th, LIRIS, (Reviewer).

David Rouquet, *Multilinguisation d'ontologies dans le cadre de la recherche d'information translingue dans des collections d'images accompagnées de textes spontanés*, IMAG, April 6th, (Examiner).

Damien Leprovost, *Découverte et analyse des communautés implicites par une approche sémantique en ligne : l'outil WebTribe*, LE2I Université de Bourgogne, November 30th, (Examiner).

Milan Stankovic, *Web Social Sémantique: Applications dans l'innovation sur le Web*, December 7th, university Paris-Sorbonne (Reviewer).

Alice Hermann, *Création et mise à jour guidée d'objets dans une base de connaissances*, December 17th, IRISA INSA Rennes, (Examiner).

9.2.4. Invited Talks

Michel Buffa:

HTML5 for audio applications, invited talk for the "Le Web des fonctions" conference, organized by the "Centre de Création Musicale" GRAME, Lyon, France, June 27th.

Social Network Analysis and Semantic Web, invited talk at the Summer School about "Knowledge Dynamics, Industry Evolution, Economic Development", organized by GREDEG (UNS and CNRS), July 9-13th, Nice.

Elena Cabrio & Serena Villata

Natural Language Arguments: A Combined Approach, invited talk at the 12th International Workshop On Computational Models of Natural Argument (CMNA 12), co-located with ECAI 2012, Montpellier, France, August.

Natural Language Arguments: Results and Challenges, invited talk at University of Liverpool - Department of Computer Science, December 12th,

Olivier Corby:

Invited Speaker at RISE Workshop (Recherche d'Information Sémantique) held at EGC, Bordeaux, January 31st: *Un peu de (Web) sémantique pour la recherche d'information*.

Invited Speaker at Xerox Research Center, Grenoble, May 29th: *Corese Semantic Web Factory*.

Fabien Gandon:

Conference SIIE ²⁷, *Semantic and Social IntraWeb for Corporate Intelligence and Watch*. February 18th.

Séminaire D'Alembert ²⁸, *Web sémantique et social : nouvelles pratiques de recherche et circulation des savoirs sur le Web 3.0*, March 14th.

SophiaConf ²⁹, *DataLift: Un catalyseur pour le Web de données*, July 4th.

Ercim ABCDE, *Wimmics research presentation*, October 25th.

Journées de la Recherche IGN, *Web sémantique et Web social: deux étapes vers les données liées d'un Web ubiquitaire*, March 9th.

IST Seminar ³⁰, *L'avenir du Web au prisme de la ressource*, September 30th-October 5th.

Alain Giboin:

The culture of sharing in social medias (networks): How do computer scientists and usage analysts reconcile their views to design user-adapted social medias? - Interdisciplinary seminar *Culture, numérique & culture numérique*, CERI, Avignon, April 5.

This seminar included another invited talk - *Le numérique et l'humain* - given by Claude Kirchner, Délégué général à la recherche et au transfert pour l'innovation (Inria).

9.3. Popularization

Fabien Gandon

ENS Lyon Visit, Wimmics researchs presentation, November 8th.

Inria Industrie Finance meeting ³¹, April 3rd.

Scientific mediation séminaire (SMS), January 23rd.

Textes et documents pour la classe (TDC 1042 "Internet"), *Web : tout est lié*.

Lycée Audiberti, Antibes, *Les quatre aveugles et l'éléphant Web*, May 10th.

Aniversary SAER, *Les labyrinthes du Web*, June 12th.

Michel Buffa & Maxime Lefrançois

Participation to *Fête de la science*, October 10th-14th.

²⁷<http://siie2012.loria.fr>

²⁸<http://www.centre-dalembert.u-psud.fr/#S4>

²⁹<http://www.sophiaconf.fr>

³⁰<http://www.inria.fr/ist2012>

³¹<http://www.inria.fr/centre/saclay/innovation/rrii-finance/programme>

ZENITH Project-Team

9. Dissemination

9.1. Scientific Animation

Participation in the editorial board of scientific journals:

- VLDB Journal: P. Valduriez.
- Proceedings of the VLDB Endowment (PVLDB): E. Pacitti.
- Distributed and Parallel Databases, Kluwer Academic Publishers: P. Valduriez.
- Internet and Databases: Web Information Systems, Kluwer Academic Publishers: P. Valduriez.
- Journal of Information and Data Management, Brazilian Computer Society Special Interest Group on Databases: P. Valduriez.
- Book series “Data Centric Systems and Applications” (Springer-Verlag): P. Valduriez.
- Ingénierie des Systèmes d’Information, Hermès : P. Valduriez.

Participation in conference program committees :

- Int. Conf. on VLDB 2012: E. Pacitti
- Int. Conf. on Extending DataBase Technologies (EDBT): Z. Bellahsene, E. Pacitti, 2012, 2013
- Int. Conf. on Information and Knowledge Management (CIKM) 2012: E. Pacitti
- IEEE Int. Conf. on Data Engineering (ICDE) 2012: Z. Bellahsene
- Int. Conf. on Middleware 2012: E. Pacitti
- Journées Bases de Données Avancées (BDA), 2012: R. Akbarinia, Z. Bellahsene
- Int. Workshop on Open Data, 2012: P. Valduriez
- ACM Int. Conf. on Multimedia Retrieval 2012: Alexis Joly
- CLEF-labs 2012, 2013: Alexis Joly
- Int. Conf. on Multimedia Modeling 2013: Alexis Joly
- Int. Conf. on Cooperative Information systems (CoopIS): Z. Bellahsene, 2012
- Int. Conf. on Advanced Information Systems Engineering (CAiSE) : Z. Bellahsene, 2012, 2013
- European Semantic Web Conference (ESWC) 2012: Z. Bellahsene
- ACM Symposium On Applied Computing (ACM SAC, data stream track), 2012: F. Masseglia
- Int. Conf. on Advances in Databases, Knowledge, and Data Applications (DBKDA), 2012: F. Masseglia
- Conférence Internationale Francophone sur l’Extraction et la Gestion de Connaissance (EGC), 2012: F. Masseglia
- IEEE Int. Conf. on Data Mining (ICDM), 2012: F. Masseglia
- Int. Conf. on Artificial Intelligence in Medicine (LEMEDS@AIME), 2011: F. Masseglia
- Int. Workshop on Multimedia Data Mining (MDM@KDD), 2011: F. Masseglia
- Int. Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD), 2012: F. Masseglia
- IEEE Int. Conf. on Advanced Information Networking and Applications (AINA) 2012: H. Bouziane
- Rencontres Francophones sur les Aspects Algorithmiques de Telecommunications (AlgoTel), 2012: H. Bouziane
- IEEE Int. Parallel and Distributed Processing Symposium (IPDPS) 2013: H. Bouziane

Other activities (national):

- The members of Zenith have always been strongly involved in organizing the French database research community, in the context of the I3 GDR and the BDA conference.
- Esther Pacitti organized a workshop on bigdata and life science in the context of the Mastodons project in Montpellier (<http://www.lirmm.fr/~pacitti/Mastodons.html>).
- Patrick Valduriez gave a talk on “Open Data Integration with WebSmatch” at SophiaConf2012, organized by Telecom Valley in Sophia-Antipolis. He also chaired the ModSiCS2020 workshop on Data, Models and Theories for Complex Systems: new challenges and opportunities, organized by UM2 in march.

Other activities (international):

- Since 2011, Alexis Joly organizes a system-oriented evaluation initiative dedicated to plant’s identification in the context of the CLEF evaluation forum <http://clef2012.org/>. This initiative is the first one dealing with the evaluation of content-based technologies in the context of ecological data. Finally, he chaired a panel on "Scientific Multimedia Data" at the 10th international workshop on Content-Based Multimedia Indexing (CBMI2012). He also chaired a session on "Search in Large-Scale Multimedia Data" at the International Workshop on Search Computing (sponsored by the EU commission).
- Patrick Valduriez chaired a panel on “Big Data: Scientific and Societal Challenges” at the Berkeley Inria Stanford (BIS2012) workshop in June.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Enseignant, titre du cours, nombre d’heures en équivalent TD, niveau (L1, L2, L3), université, pays

Master : Enseignant, titre du cours, nombre d’heures en équivalent TD, niveau (M1, M2), université, pays

Doctorat : Enseignant, titre du cours, nombre d’heures en équivalent TD, université, pays

Most permanent members of Zenith teach at the Licence and Master degree levels at UM2.

Reza Akbarinia:

Master Research: Data sharing in P2P, 9h, level M2, Faculty of Science, UM2

Master : Distributed Data Management, 9h, level M1, Faculty of Science, UM2

Licence Pro: JavaScript/jQuery, 10h, level L3, IUT, UM2

Licence: Computer Tools, 36h, level L2, Faculty of Science, UM2

Zohra Bellahsène:

IUT 1: Relational Databases , 100h, level L1, IUT, UM2

IUT 2: Object-relational Databases, 60h, Level L2, IUT, UM2

Master Computer Science : Data Integration, 15h, level M2, Faculty of Science, UM2

Hinde Bouziane:

Licence: Networks, 36h, level L3, Faculty of Science, UM2

Master DECOL: Networks and communication, 90h, level M1, Faculty of Science, UM2

Master DECOL: Distributed Data Management, 6h, level M1, Faculty of Science, UM2

Master IPS: Introduction to operating systems and networks, 36h, level M1, Faculty of Science, UM2

Master Research DECOL: Data sharing in P2P, 15h, level M2, Faculty of Science, UM2

Esther Pacitti:

IG3: Database design, physical organization, 54h, level L3, Polytech' Montpellier, UM2

IG4: Networks, 42h, level M1, Polytech' Montpellier, UM2

IG4: Object-relational databases, 32h, level M1, Polytech' Montpellier, UM2

IG5: Distributed systems, virtualization, 27h, level M2, Polytech' Montpellier, UM2

Master Research: Data sharing in P2P, 4,5h, level M2, Faculty of Science, UM2

Didier Parigot:

Master Research: Data sharing in P2P, 9h, level M2, Faculty of Science, UM2

Patrick Valduriez:

Master Research: Data sharing in P2P, 13h, level M2, Faculty of Science, UM2

Professional: Distributed Information Systems, 55h, level M2, Capgemini Institut

Professional: XML, 40h, level M2, Orsys Formation

9.2.2. Supervision

- PhD: Vincenzo Gulisano, StreamCloud: An Elastic Parallel-Distributed Stream Processing Engine, 20 dec. 2012, Univ. Madrid, Advisors: Ricardo Jiménez Peris, Patrick Valduriez
- PhD: Ayoub Ait-lahcen, Developing component-based applications with a data-centric approach and within a service-oriented P2P architecture: specification, analysis and middleware, 15 dec. 2012, Univ. Mohammed V Rabat and Univ. Nice, Advisors: Driss Aboutajdine and Didier Parigot
- PhD: Duy Hoa Ngo, A generic approach to ontology matching, 14 dec. 2012, UM2, Advisor: Zohra Bellahsène, co-advisor: Rémi Coletta
- PhD: Imen Mami, Une approche déclarative pour la modélisation et la résolution du problème de la sélection de vues à matérialiser, 15 nov. 2012, UM2, Advisor: Zohra Bellahsène, co-advisor: Rémi Coletta
- PhD: Toufik Sarni, Real-time support for software transactional memory in multicore systems, 16 oct. 2012, Univ. Nantes, Advisor: Patrick Valduriez, co-advisor: Audrey Queudet
- PhD in progress: Yoann Couillec, Langages de programmation et données ouvertes, started oct. 2012, Univ. Nice Sophia-Antipolis, Advisors: Manuel Serrano and Patrick Valduriez
- PhD in progress: Jonas Dias, Interactive Workflows for Data-Centric Experiments, started nov. 2011, Universidade Federal de Rio de Janeiro, Brazil, Advisors: Marta Mattoso and Patrick Valduriez
- PhD in progress : Pierre Letessier, Frequent Visual Objects Discovery in Multimedia Collections, started nov. 2009, Telecom ParisTech, Advisor: Nozha Boujemaa, co-advisors: Olivier Buisson and Alexis Joly
- PhD in progress : Miguel Liroz, Massive Data Management for Scientific Applications, started oct. 2010, UM2, Advisors: Esther Pacitti and Patrick Valduriez, co-advisor: Reza Akbarinia
- PhD in progress : Saber Salah, Optimizing a Cloud for Data Mining Primitives, started nov. 2012, UM2, Advisors: Florent Masegla, co-advisor: Reza Akbarinia
- PhD in progress : Maximilien Servajean, Decentralized and Personalized Recommendation Protocols for Content Sharing: application to phenotyping, started oct. 2011, UM2, Advisor: Esther Pacitti, co-advisor: Pascal Neveu
- PhD in progress : Naser Ayat, Uncertain Data Integration, started sept. 2010, University of Amsterdam, Netherlands, Advisors: Hamideh Afsarmanesh and Patrick Valduriez, co-advisor: Reza Akbarinia

9.2.3. Juries

Members of the team participated to the following Ph.D. committees: R. Akbarinia: Asma Souhli (TELECOM ParisTech); Z. Bellahsène: Imen Mami (UM2), Duy Hoa Ngo (UM2); F. Masegla: Pierre-Nicolas Mougél (Univ. Lyon); E. Pacitti: Fady Draïdi (UM2), Hien Truong (Univ. Nancy); D. Parigot: Ayoub Ait Lahcen (Univ. Rabat, Univ. Nice); P. Valduriez: Fady Draïdi (UM2), Toufiq Sarni (Univ. Nantes), Vincenzo Gulisano (Univ. Madrid).

E. Pacitti participated to the PES (Prime d'Excellence Scientifique) committee of the CNU (Conseil National des Universités).

9.3. Popularization

ZENITH has animated Inria's booth during 3 days at WWW 2012 conference in Lyon through demos of Pl@ntNet tools <http://www.inria.fr/actualite/actualites-inria/inria-a-www2012>.

Several movies were realized in collaboration with INA in order to disseminate the results of the French ANR project OTMedia <http://www.inria.fr/actualite/actualites-inria/inria-a-www2012>. One of the movie was used as a visual support for an oral presentation of Alexis Joly at ACM Multimedia 2012 in the context of our participation to the Multimedia Grand Challenge <http://www.acmmm12.org/>.