



RESEARCH CENTER
Saclay - Île-de-France

FIELD

Activity Report 2013

Section Dissemination

Edition: 2014-03-19

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COMETE Project-Team

8. Dissemination

8.1. Scientific Animation

Note: In this section we include only the activities of the permanent internal members of Comète.

8.1.1. Editorial activity

Catuscia Palamidessi is/has been:

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 Franck van Breughel, Elham Kashefi and Jan Rutten) of a festschrift dedicated to Prakash Panagaden. Special issue of **Lecture Notes in Computer Science**.

Co-editor (with Geoffrey Smith) of the special issue of **Mathematical Structures in Computer Science** dedicated to Quantitative Information Flow.

Co-editor (with Mark Ryan) of the proceedings of TGC 2012, Trustworthy Global Computing. [27]

Frank D. Valencia has been:

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 have been:

Co-editors (with Sebastian Mödersheim and Jun Pang) 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:

Workshop on Logic, Language, Information and Computation. TU Darmstadt, Germany. August 2013.

Forum des jeunes mathématiciennes. ENS Lyon. Novembre 2013.

8.1.4. Organization of workshops and conferences

Catuscia Palamidessi is serving as PC co-chair (together with Erika Ábrahám) of **FORTE 2014**: the 34th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems. Berlin, Germany, 3-6 June 2014. Co-located with **DisCoTec 2014**.

8.1.5. Participation in program committees

Catuscia Palamidessi is/has been a member of the program committees of the following conferences:

QEST 2014. The 11th International Conference on Quantitative Evaluation of Systems. Florence, Italy, 8-12 September 2014.

POST 2014. The 3rd Conference on Principles of Security and Trust. Grenoble, 5-13 April 2014.

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.

Frank D. Valencia is/has been 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.

Konstantinos Chatzikokolakis is/has been a member of the program committees of the following conferences and workshops:

ICFEM 2014: The 6th International Conference on Formal Engineering Methods.

PETS 2014: The 14th Privacy Enhancing Technologies Symposium.

HotPETs 2014: 7th Workshop on Hot Topics in Privacy Enhancing Technologies.

QAPL 2014: 12th Workshop on Quantitative Aspects of Programming Languages.

ISPEC 2013: 9th International Conference on Information Security Practice and Experience.

QAPL 2013: 11th Workshop on Quantitative Aspects of Programming Languages.

HotPETs 2013: 6th Workshop on Hot Topics in Privacy Enhancing Technologies.

8.1.6. Participation in other committees

Catuscia Palamidessi has been serving in the following committees:

Member of the Swedish Research Council Committee for Computer Science, 2013. The main duty of this committee is to evaluate and select the grant applications.

Member of the committee for the ACM SIGSAC 2014 Doctoral Dissertation Award for Outstanding PhD Thesis in Computer and Information Security.

Member of the committee for the **Ackermann Award 2013**: The EACSL outstanding dissertation award for logic in Computer Science.

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 Nicolás Bordenabe 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.

8.1.8. 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.

8.2. Teaching - Supervision - Juries

8.2.1. 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: Frank D. Valencia has been teaching the course "Concurrence" at the "Master Parisien de Recherche en Informatique" (MPRI) in Paris. Level M2. Total 12 hours.

Master. Frank D. Valencia has been teaching an advanced course on Process Modeling at the Master Program in Computer Science of the Pontificia Universidad Javeriana de Cali, Colombia. Total 30 hours. A.Y. 2012-13.

8.2.2. Supervision

PhD (2010-2013) **Sophia Knight**. Ecole Polytechnique. Grant Inria/CORDIS. Title of the thesis: *The Epistemic Dimension of Concurrency Theory*. Defended on 20 Sep 2013. Co-supervised by Catuscia Palamidessi and Frank D. Valencia.

PhD (2009-2013) **Ivan Gazeau**. Ecole Polytechnique. Grant ANR. Title of the thesis: *Safe Programming in finite precision: Controlling the errors and information leaks*. Defended on 14 Oct 2013. Co-supervised by Catuscia Palamidessi and Dale Miller.

PhD in progress (2012-) **Marco Stronati**. Ecole Polytechnique. Grant EDX Monge. Co-supervised by Catuscia Palamidessi and Konstantinos Chatzikokolakis.

PhD in progress (2011-) **Lili Xu**. 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 (2013-) **Salim Percy**. Ecole Polytechnique. Grant Digiteo-Digicosme. Co-supervised by Frank D. Valencia and Stefan Haar.

8.2.3. Other didactical duties

Catuscia Palamidessi is:

- Co-responsible of the Master 2 course on Concurrency since 2003, first at the DEA in Theoretical Computer Science (Paris) and then at the MPRI.
- External member of the scientific council for the PhD in Computer Science at the University of Pisa, Italy. Since 2012.
- Member of the advising committee for the PhD of Andrea Margheri, University of Florence, Italy.

GEOMETRICA Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Editorial boards of scientific journals

Jean-Daniel Boissonnat is a member of the Editorial Board of *Journal of the ACM, Discrete and Computational Geometry, Algorithmica, International Journal on Computational Geometry and Applications*.

Frédéric Chazal is a member of the Editorial Board of *SIAM Journal on Imaging Sciences, Graphical Models* and *Discrete and Computational Geometry* (start in Jan. 2014).

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*.

Monique Teillaud and Mariette Yvinec are members of the CGAL editorial board.

9.1.2. Conference program committees

Jean-Daniel Boissonnat was a member of the PC of the Symposium on Geometry Processing SGP 2013.

Jean-Daniel Boissonnat chaired WoCG (Workshops in Computational Geometry) and was a member of the program committee of the Young Researchers Forum, two satellite events of the ACM Symposium on Computational Geometry SoCG 2013.

Frédéric Chazal was a member of the PC of the ACM Symposium on Computational Geometry 2013, of the Scientific committee of the SMAI 2013 conference, and of Geometric Science of Information (GSI 2013).

Monique Teillaud was a member of the PC of EuroCG, the European workshop on computational geometry.

9.1.3. Steering committees

Jean-Daniel Boissonnat is a member of the steering committee of the international conference on Curves and Surfaces.

Monique Teillaud was a member of the Computational Geometry Steering Committee until April.

Monique Teillaud has been a member of the Steering Committee of the European Symposium on Algorithms (ESA) since September.

9.1.4. Inria committees

Jean-Daniel Boissonnat was a member of the recruitment committee of Inria Rhône-Alpes.

Frédéric Chazal was a member of the recruitment committee of Inria Saclay (vice-chair).

Monique Teillaud is a member of the Inria Evaluation Committee.

She was a member of the national Inria DR2 interview committee and the local CR2 interview committee.

Monique Teillaud is a member of the local Committee for Technologic Development.

She was also a member of the local committee for transversal masters.

9.1.5. Other committees

Jean-Daniel Boissonnat is a member of the Conseil de l'AERES (Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur).

9.1.6. Conference organization

- O. Devillers and M. Teillaud coorganized the workshop on Geometric Computing (<http://www.acmac.uoc.gr/GC2013/> Heraklion, Greece, January) with Menelaos Karavelas (University of Crete) and Elias Tsigaridas (EPI POLSYS).
- M. Teillaud coorganized the Dagstuhl Seminar on Computational Geometry [38] (<http://www.dagstuhl.de/en/program/calendar/semhp/?semnr=13101>, March 4-8) with Otfried Cheong (KAIST) and Kurt Mehlhorn (MPI Saarbrücken)
- M. Teillaud coorganized the Dagstuhl Seminar on Drawing Graphs and Maps with Curves [39] (<http://www.dagstuhl.de/en/program/calendar/semhp/?semnr=13151>, April 8-12) with Stephen Kobourov (University of Arizona) and Martin Nöllenburg (Karlsruhe Institute of Technology)
- O. Devillers organized the workshop of ANR Presage (Valberg, France, June).
- M. Teillaud (chair) and O. Devillers coorganized ALGO 2013, in cooperation with members of EPI ABS and COATI (<http://algo2013.inria.fr/>. Sophia Antipolis, France, September 2-6). ALGO 2013 combined the European Symposium on Algorithms (ESA) and six more specialized conferences and workshops. There were about three hundred attendees.
- D. Cohen-Steiner organized the 2013 edition of the “Journées de Géométrie Algorithmique” held at the CIRM, Luminy in December <http://quentin.mrgt.fr/events/jga2013.html>.

9.1.7. 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.

9.1.8. Geometrica seminar

The seminar featured presentations by the following scientists:

Omri Azencot (Technion) : An Operator Approach to Tangent Vector Field Processing

Mirela Ben Chen (Technion - Israel Institute of Technology) : Can Mean-Curvature Flow be Modified to be Non-singular?

Benjamin Burton (University of Queensland) : Untangling knots using combinatorial optimisation

A. Chiara de Vitis (Pavia) : Geometrical and Topological Descriptors for Protein Structures

C. Couprie (Courant Institute) : Graph-based Variational Optimization and Applications in Computer Vision

J. Demantke (IGN) : Geometric Feature Extraction from LIDAR Point Clouds and Photorealistic 3D Facade Model Reconstruction from Terrestrial LIDAR and Image Data

Kyle Heath (Stanford University) : Image Webs: Discovering and using object-manifold structure in large-scale image collections

N. Mitra (UCL London) : Computational Design Tools for Smart Models Synthesis

P. Machado Manhães de Castro (UFPE, Brasil) : Invariance for Single Curved Manifolds

Natan Rubin (Freie Universität Berlin) : On Kinetic Delaunay Triangulations: A Near Quadratic Bound for Unit Speed Motions

D. Salinas (Gipsa Lab, Grenoble) : Using the Rips complex for Topologically Certified Manifold Learning

Régis Straubhaar (Université de Neuchâtel) : Numerical optimization of an eigenvalue of the Laplacian on a domain in surfaces

Jian Sun (Mathematical Sciences Center, Tsinghua University) : Rigidity of Infinite Hexagonal Triangulation of Plane

Anaïs Vergne (Télécom ParisTech) : Algebraic topology and sensor networks

Yuan Yao (School of Mathematical Sciences, Peking University) : The Landscape of Complex Networks

H. Zimmer (Aachen) : Geometry Optimization for Dual-Layer Support Structures

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Graduate level: Olivier Devillers, *Delaunay triangulation*, 6h, Universidade Federal de Pernambuco, Brasil.

Master : J.D. Boissonnat, D. Cohen-Steiner, M. Yvinec, *Computational Geometric Learning* , 24h, International Master Sophia-Antipolis.

Master : S. Oudot, *Computational Geometry: from Theory to Applications*, 36h, École polytechnique.

Master: Jean-Daniel Boissonnat, Frédéric Chazal, Mariette Yvinec, *Computational Geometric Learning*, 24h, Master MPRI, Paris.

Master: Olivier Devillers and Monique Teillaud, *Algorithmes géométriques, théorie et pratique*, 16h, Master SSTIM-VIM, Université Nice Sophia Antipolis.

Doctorat : Jean-Daniel Boissonnat, Frédéric Chazal, Mariette Yvinec, *Analyse géométrique des données* , 7h, Ecole Jeunes Chercheurs GDR Informatique Mathématique, Perpignan.

9.2.2. Supervision

PhD: Mikhail Bogdanov, Delaunay triangulations of spaces of constant negative curvature, Université de Nice - Sophia Antipolis, December 9, Monique Teillaud.

PhD in progress: Thomas Bonis, Topological persistence for learning, started on December 2013, Frédéric Chazal.

PhD in progress: Mickaël Buchet, Topological and geometric inference from measures, Université Paris XI, started October 2011, Frédéric Chazal and Steve Oudot.

PhD in progress : Ross Hemsley, Probabilistic methods for the efficiency of geometric structures and algorithms, started October 1st 2011, Olivier Devillers.

PhD in progress: Ruqi Huang, Algorithms for topological inference in metric spaces, started on December 2013, Frédéric Chazal.

PhD in progress : Clément Maria, Data structures and Algorithms in Computational Topology, started October 1st, 2011, Jean-Daniel Boissonnat.

PhD in progress : Rémy Thomasse, Smoothed complexity of geometric structures and algorithms, started December 1st 2012, Olivier Devillers.

PhD in progress : Mael Rouxel-Labbé, Anisotropic Mesh Generation, started October 1st, 2013, Jean-Daniel Boissonnat and Mariette Yvinec.

9.2.3. Juries

Jean-Daniel Boissonnat was a member (reviewer) of the HDR defense of Dominique Attali (Univ. Grenoble).

Jean-Daniel Boissonnat was a member (reviewer) of the PhD defense committee of David Salinas (Univ. Grenoble). Steve Oudot was also part of that defense committee.

Jean-Daniel Boissonnat was a member (reviewer) of the PhD defense of Jérémy Espinas (Univ. Lyon).

Frédéric Chazal was a member (reviewer) of the PhD defense of Lucie Druoton (Univ. de Bourgogne).

Frédéric Chazal was a member (reviewer) of the PhD defense of Anaïs Vergne (Telecom Paris).

Olivier Devillers was a member of the HDR defense committee of Nicolas Bonichon (Univ. Bordeaux).

Monique Teillaud was a member of the PhD defense committee of Marcel Roeloffzen, TU Eindhoven, October.

9.2.4. Internships

Thomas Bonis, image and shape classification using persistent homology (F. Chazal)

Claudia Werner, Triangulations on the sphere, Hochschule für Technik Stuttgart (Monique Teillaud)

Arnaud Poinas, Statistical manifold reconstruction (Jean-Daniel Boissonnat)

Sergei Kachanovich, Graph-induced simplicial complex (Jean-Daniel Boissonnat)

Chunyu Li, Persistence-based object recognition (F. Chazal and M. Ovsjanikov)

Venkata Yamajala, Implementing (and simplifying) the tangential complex (Jean-Daniel Boissonnat)

9.3. Popularization

Jean-Daniel Boissonnat, Au delà de la dimension 3, Caféin Inria Sophia Antipolis.

Jean-Daniel Boissonnat, Geometry Understanding in Higher Dimensions. Conference for the students of ENS Lyon (Inria Sophia Antipolis)

Monique Teillaud, “à quoi sert un triangle ?”, 2x2h, Collège Le Prés des Roures, Le Rouret, in the framework of the national Week of Mathematics.

Steve Oudot was coordinator of the *Photomaton 3d* booth at the *Nuit des chercheurs* event at École polytechnique in September 2013. Marc Glisse, Maks Ovsjanikov, Mickaël Buchet, and Thomas Bonis also participated.

9.4. Participation to conferences, seminars, invitations

9.4.1. Invited Talks

Jean-Daniel Boissonnat gave an invited lecture at the International Symposium on Voronoi Diagrams (St Petersburg) : on the empty sphere on manifolds. July.

Jean-Daniel Boissonnat gave an invited talk at the Jean-Paul Laumond’s day (on the occasion of his 60th anniversary) : Comprendre la géométrie des données.

Frédéric Chazal gave invited talks at the Workshop on Topological Data analysis, Institute for Mathematics and its Applications, Minneapolis, October 2013; at the Workshop on Topological Methods in Complexity Science, European Conference on Complex Systems satellite conference, Barcelona, September 2013.

9.4.2. 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.

Frédéric Chazal, Filtrations et entrelacements : théorie et applications en Analyse Topologique des Données, Séminaire Brillouin, Paris, Dec. 2013.

Frédéric Chazal, Transport de mesures et inférence géométrique, Journées de Contrôle et Transport Optimal, Dijon, February 2013.

Frédéric Chazal, Computer Science and Machine Learning Seminar at Carnegie Mellon University, Pittsburg, September 2013.

Frédéric Chazal, Convergence rates for persistence diagrams in Topological Data Analysis, Workshop on Applied and Computational Topology, Bremen, July 2013.

Frédéric Chazal, Inférence géométrique et analyse topologique des données à l'aide de fonctions distance, colloquium de mathématiques, Univ. Paris 6, May 2013.

Olivier Devillers. Qualitative Symbolic Perturbations. Workshop on Geometric Computing. Heraklion. January.

Olivier Devillers. Hyperbolic Delaunay Triangulation, Universidade Federal de Pernambuco. June.

Monique Teillaud. Delaunay Triangulations of Point Sets in Closed Euclidean d -orbifolds. Workshop on Geometric Computing. Heraklion. January.

Monique Teillaud. Delaunay Triangulations of Point Sets in Closed Euclidean d -orbifolds. Meeting of ANR Presage. January.

Monique Teillaud. Curves in CGAL (with Michael Hemmer, University of Technology Braunschweig). Dagstuhl Seminar on Drawing graphs and maps with curves. April.

Monique Teillaud. 3D meshes in CGAL. Mathematics for Industry and Society, French Embassy Berlin. July.

9.4.3. Short scientific visits

Frédéric Chazal, Carnegie Mellon University, Sept. 2013.

Frédéric Chazal, Stanford University, May 2013.

Olivier Devillers and Monique Teillaud, University of Athens, January.

Monique Teillaud, Zuse Institut Berlin, July.

Monique Teillaud, TU Eindhoven, October.

GRACE Project-Team

9. Dissemination

9.1. Scientific Committees

- Daniel Augot is member of the scientific committee of the French *CCA seminar*, held thrice a year in Institut Henry Poincaré.
- Daniel Augot was member of the programm committee of Fq11, the 11th International Conference on Finite Fields and their Applications, Magdeburg, July 22-26, 2013.

9.2. Administrative committees

- Alain Couvreur and Benjamin Smith are elected members of the *Comité de centre* of Inria Saclay.
- Alain Couvreur is *Jeune chercheur référent* for the *Commission de suivi doctoral* of Inria Saclay.
- Daniel Augot is member of the *Conseil de Laboratoire* of the LIX as a team leader.
- François Morain, Julia Pielant and Benjamin Smith are elected members of the *Conseil de Laboratoire* of the LIX.
- Daniel Augot is head of the *Commission de suivi doctoral* of Inria Saclay.
- Daniel Augot is member of the *Bureau du comité des projets* de l’Inria Saclay–Île-de-France.
- Daniel Augot is member of the *commission scientifique* de l’Inria Saclay–Île-de-France.
- Daniel Augot is member of the *commission formation du labex Digicosme*
- Daniel Augot is member of the *comité de programme* of the Digiteo RTRA.
- Daniel Augot was member of the *comité de sélection pour un maître de conférence* at University of Versailles–Saint-Quentin.
- Benjamin Smith became the (scientific) international correspondent for Inria Saclay.
- Benjamin Smith became a member of Inria’s Groupe de Travail "Relations Internationales" du Comité d’Orientation Scientifique et Technologique (COST-GTRI).
- Benjamin Smith is responsible for office assignments at LIX.
- Benjamin Smith was the chair of the LIX/Qualcomm/Carnot fellowship committee.
- François Morain is vice-head of the Département d’informatique of Ecole Polytechnique.
- François Morain represents École polytechnique in the committee in charge of *Mention HPC* in the *Master de l’université Paris Saclay*.

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Master: Daniel Augot, “Codes correcteurs d’erreurs et applications à la cryptographie” 13.5h (equiv TD), M2, Master Parisien de Recherche en Informatique (MPRI), France

Master: Benjamin Smith, Algorithmes arithmétiques pour la cryptologie, 13.5h (equiv TD), M2, Master Parisien de Recherche en Informatique (MPRI), France

Master: François Morain, Algorithmes arithmétiques pour la cryptologie, 9h (equiv TD), M2, Master Parisien de Recherche en Informatique (MPRI), France

Master: Benjamin Smith, Cryptologie, 18h (equiv TD), M1, École polytechnique, France

Licence: Benjamin Smith, Introduction à l’informatique, 40h (equiv TD), L3, École polytechnique, France

Master: Françoise Levy-dit-Vehel, Introduction à la cryptographie, 12h (equiv TD), Mastère spécialisé architecture et sécurité des systèmes d'information, ENSTA ParisTech.

Licence : F. Morain, 10 lectures of 1.5h, 1st year course "Introduction à l'informatique" (INF311) at École polytechnique (L2). Responsibility of this module (350 students).

Master (M1) : F. Morain, 9 lectures of 1.5h, 3rd year course "cryptology" at École polytechnique.

9.3.2. Supervision

- PhD in progress : Cécile Gonçalves, Algorithmes avancés de calcul de cardinalité pour des courbes intéressantes en cryptologie, 1/10/2011, Benjamin Smith and François Morain.
- PhD in progress: Gwezheneg Robert, Métrique rang et codes de Gabidulin en caractéristique zéro, 1/10/12, Daniel Augot and P. Loidreau.
- PhD: Alexander Zeh, Algebraic Soft- and Hard-Decision Decoding of Generalized Reed–Solomon and Cyclic Codes, Ulm Universität, 2/09/2013, Daniel Augot and Martin Bossert.

9.3.3. Juries

- Alain Couvreur is member of the Jury of the *Agrégation de Mathématiques*, Options C (computer algebra) and D (computer science).
- Benjamin Smith was an examiner for the PhD of Louise Huot (UPMC, 13/12/2013)
- Benjamin Smith was an examiner for the PhD of Aurore Guillevic (ENS, 20/12/2013)
- Benjamin Smith was a member of the jury for the CNRS Concours IE63 (BAP E), 24-25/10/2013.
- Daniel Augot was examiner for the PhD of Mamdouh Abbara (X, 09/04/2013)
- Daniel Augot was reviewer of the PhD of Mila Tukumuli, (Aix-Marseille University, 13/09/2013)
- Daniel Augot was examiner for the PhD of Lin Sok (Télécom Paristech, 20/09/2013)
- Daniel Augot was examiner and reviewer of Johan Nielsen's PhD (DTU Lyngby, 30/09/2013)
- Daniel Augot was examiner and reviewer of Muhammad Foizul Islam Chowdhury's PhD (Western University Canada, London, Canada, 8/11/2013)
- Daniel Augot was reviewer of Stéphanie Dib's PhD (Aix-Marseille University, 11/12/2013)

9.4. Invitations to seminars and conferences

- Daniel Augot : 14/02/2014, GREYC, Caen. "Les connexions entre le logarithme discret sur les corps finis non premiers et le décodage des codes de Reed-Solomon".
- Daniel Augot was invited to participate to a session Cryptography and Number Theory at 2013 SIAM Conference on Applied Algebraic Geometry, 01-04/08/2013.
- Daniel Augot gave a talk at Dagstuhl Seminar 13351 on coding theory, 25-30/08/2013
- Alain Couvreur gave a talk at the Seminar on Coding Theory and Cryptography common to the universities of Neuchâtel and Zurich. 22/04/2013.
- Benjamin Smith was an invited speaker at the international Workshop on Number Theory at the American University of Beirut, Lebanon, 25-27/04/2013.
- Benjamin Smith gave a talk at AGCT-14, an invitational conference on Arithmetic, Geometry, Cryptography, and Coding Theory, 03-07/06/2013.
- Benjamin Smith gave two lectures on number-theoretic cryptography at the CryptoBG international summer school in Oriahovitsa, Bulgaria, 20-27/07/2013.
- Benjamin Smith gave an invited talk at the PIMS Workshop on Curves and Applications, Calgary, Canada, 19-21/08/2013.
- Benjamin Smith gave visited Microsoft Research, Redmond from 22/08/2013 to 04/09/2013, and gave a talk in their seminar.

- Benjamin Smith gave two lectures at the ECC 2013 summer school on Elliptic Curves for Cryptography in Leuven, Belgium, 11-13/09/2013.
- Benjamin Smith was an invited speaker at ECC 2013 (the 17th annual Elliptic Curve Cryptography workshop) in Leuven, Belgium, 16-18/09/2013.
- F. Morain gave three lectures in the summer school *Number theory for cryptography* in Warwick University, June 2013.

9.5. Popularization

- Alain Couvreur gave a talk at *UniThé ou Café*, a monthly science popularization event dedicated to all the employees of Inria Saclay.
- Daniel Augot presented bit operations, the Hamming code, the one-time pad and a bit of steganography to high school students in Courcouronnes, 10/04/2013.

MEXICO Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. *Benedikt Bollig*

was on the program committee of *YR-CONCUR 2013*. He also was a member of the commission scientifique Inria Saclay.

8.1.2. *Thomas Chatain*

was on the program committee *ACSD 2013* and of *FORMATS 2013*. He also participated in the organization of the latter.

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.

8.1.4. *Stefan Haar*

is an associated editor for the journal *Discrete Event Dynamic Systems: Theory and Application*, and was on the program committee of *PNSE 2013*. At the Inria Center Saclay, Stefan was the correspondent for international relations until September 2013 (his successor is Benjamin Smith), and has since become the correspondent for European Partnerships; he continues as a member of the GTRI (working group on international relations) of Inria's *COST*. In 2013 he also joined the DIGITEO program committee.

8.1.5. *Serge Haddad*

has been a member of the steering committee of the international conference Applications and Theory of Petri Nets (ATPN) since 2001. In 2013, he was a member of the following program committees of international conferences:

- *7th International Workshop on Verification and Evaluation of Computer and Communication systems*, Florence, Italy;
- *21st International Conference on Real Time Networks and Systems (RTNS 2013)*, Sophia-Antipolis, France;
- PC Co-Chaire of *SMC*, associated workshop at *Run-Time Verification 2013*, Rennes, France;
- *33rd International Conference on Application and Theory of Petri Nets (ATPN)*, Milan, Italy;
- *Petri Nets in Software Engineering (PNSE)*, associated Workshop at ATPN 2013.

Serge Haddad served on the program committees of the following national conferences:

- *9ème Colloque Francophone sur la Modélisation des Systèmes Réactifs (MSR) 2013*, Rennes
- *Ecole d'été Temps Réel (ETR) 2013*, Toulouse.

8.1.6. Claudine Picaronny

is a member of the Program committee of the *SIMUL* conference. She is a *Maître de Conférence* at ENS Cachan, and in charge of the Master M2 FESUP and the *préparation à l'agrégation en mathématiques* at ENSC. Moreover, Claudine Picaronny is a member of the jury for the second ENSC entrance examination in mathematics, coordinator of the entrance examinations MP and PC of the groupe E3A, and of the jury of the national olympics in mathematics and computer science.

8.1.7. Stefan Schwoon

was on the program committee of *SPIN 2013*.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Here we present the teaching activities of *researchers*; note that in addition to the classes here, five team members (Th. Chatain, P. Gastin, S. Haddad, C. Picaronny and S. Schwoon) are full-time professors (*professeurs* ou *maître de conférences*) of ENS Cachan and fulfill their teaching obligations there.

Master : Stefan Haar, *Analyse structurelle de Réseaux de Petri*, 15 TDEQ, M2 SAR, UPMC
 Agrégation: Stefan Haar, Algorithmique, ca. 20 TDEQ, *Préparation Agrégation option informatique*, ENS Cachan

Thomas Chatain and Stefan Schwoon gave lectures on unfoldings of Petri nets at the Petri Nets 2013 conference.

8.2.2. Supervision

8.2.2.1. HdR

Thomas Chatain, *Concurrency in Real-Time Distributed Systems, from Unfoldings to Implementability*, ENS Cachan, defended Dec. 13, 2013; *garant*: Stefan Haar

HdR : Stefan Schwoon, *Efficient verification of sequential and concurrent systems*, ENS Cachan, defended Dec. 6, 2013; *garant*: Stefan Haar

8.2.2.2. PhD

Benjamin Monmege, *Specification and Verification of Quantitative Properties: Expressions, Logics, and Automata*, ENS Cachan, defended Oct 24, 2013; Supervisors: Paul Gastin and Benedikt Bollig.

César Rodríguez, *Verification Based on Unfoldings of Petri Nets with Read Arcs*, ENS Cachan, defended Dec 12, 2013; Supervisor: Stefan Schwoon

8.2.2.3. PhD in progress

Benoît Barbot, *Rare event handling in statistical model checking*, since September 2011; Supervisors: Serge Haddad and Claudine Picaronny.

Aiswarya Cyriac, *Verification of Communicating Recursive Programs via Split-width*, since September 2010; Supervisors: Paul Gastin and Benedikt Bollig.

Hernán Ponce de León, Testing concurrent systems using event structures, ENS Cachan, since September 2011; Supervisors: Stefan Haar and Delphine Longuet

Simon Theissing, Supervision of Multi-Modal Transport Systems, since September 2013, ENS Cachan/Inria/IRT SystemX project MIC; Supervisor: Stefan Haar

Salim Perchy, *D-Spaces*, Ecole Polytechnique, since November 2013; main supervisor : Supervisors: Frank D. Valencia (COMETE Team) and Stefan Haar

8.2.3. Juries

8.2.3.1. Paul Gastin

was a reviewer

- of the PhD thesis of Amélie Stainer, Rennes , defended on Nov. 25;
- and of the HdR thesis of Loic Helouet, Rennes, defended on May 17.

As supervisor of Benjamin Monmege, he also served as *rapporteur* on the jury of his defense, on Oct 24.

8.2.3.2. Stefan Haar

was a reviewer of the PhD theses of

- Elisabeta Mangioni, Univ. Milan-Bicocca, Italy,
- Florent Avellaneda, Univ. Aix-Marseille, defended Dec 10, and
- Sébastien Chédor, Université Rennes 1, defended on January 7, 2014.

Except for the defence of E. Mangioni, he also participated in the respective juries. Moreover, he was jury president for the defence of Aurore Junier, ENS Cachan, defended on December 16 in Rennes, and *examineur* in the PhD jury of César Rodríguez, defended December 12. He also was a member of the HdR juries (as *garant*) of Stefan Schwoon (December 6) and Thomas Chatain (December 13), both at ENS Cachan.

8.2.3.3. Serge Haddad

was a reviewer for the PhD thesis of Henri Debrat in Nancy and member of the Jury on December 6, 2013. He also served on the jury for the HdR of Kais Klai at Université Paris 13/ Nord on December 9, 2013.

8.2.3.4. Stefan Schwoon

was *examineur* for the PhD thesis of Yan Zhang at Université Paris 6. [18], [22], [23], [17], [19], [21]

8.3. Popularization

Benedikt Bollig gave an invited talk at the German Workshop “Automaten und Logik”, held on September 25, 2013, in Ilmenau.

Paul Gastin has given a talk on “Automates: Applications et Algorithmique” during the *Rencontres Algorithmiques et Programmation*, addressing secondary teachers of the *classes préparatoires* level, at CIRM Marseille, 6 to 10 May. He also gave an invited talk on *Evaluation of Weighted Specifications over Nested Words* for the opening of the research training group *Quantitative Logics and Automata (QuantLa)*, Leipzig, on April 30.

PARSIFAL Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Organization

Dale Miller served on the Program Committee of Tableaux 2013, 16-19 September, Nancy, France.

Dale Miller is the editor-in-chief of the ACM Transactions on Computational Logic (ToCL) (June 2009 - May 2015).

Dale Miller has editorial duties on the following three other journals: *Journal of Automated Reasoning*, published by Springer (member of Editorial Board since 2011), *Theory and Practice of Logic Programming* published by Cambridge University Press (an editorial advisor since 1999), and *Journal of Applied Logic*, published by Elsevier (an area editor for “Type Theory for Theorem Proving Systems” since 2003).

Dale Miller is a member of the selection jury for the 2013 E. W. Beth Dissertation Award of the Association for Logic, Language and Information.

8.1.2. Invited Talks

François Lamarche gave a total of eight hours of lectures on path functors at the Groupe de Travail sur les Catégories supérieures, polygraphes et homotopie at the PPS laboratory, Université Paris VII.

Dale Miller gave an invited talk at LFMTP 2013: Logical Frameworks and Meta-Languages: Theory and Practice, affiliated with ICFP’13, Boston, 23 September 2013.

Dale Miller is on the Advisory Board for LICS (for 2012 - 2015) and is a member of the Steering Committee of CPP since 2012.

Dale Miller gave invited departmental colloquia at the College of Engineering and Computer Science, Australian National University, 14 May and the Department of Mathematics and Computer Science, Freie Universität Berlin, 22 February.

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: 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”.

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.

Dale Miller was an invited lecturer at the CUSO Winter School in Mathematics and Computer Science “Proof and Computation”, Les Diablerets, Switzerland, 27-31 January 2013.

8.2.2. Supervision

PhD: Nicolas Guenot, “Nested Deduction in Logical Foundations for Computation”, Ecole Polytechnique, April 10 2013, supervisor Lutz Straßburger (thesis available at [12])

PhD: Ivan Gazeau, “Safe Programming in finite precision: Controlling the errors and information leaks”, Ecole Polytechnique, October 14 2013, supervisors: Dale Miller and Catuscia Palamidessi [11].

PhD: Mahfuza Farooque, “Automated reasoning techniques as proof search in sequent calculus”, Ecole Polytechnique, December 19 2013, supervisor: Stéphane Graham-Lengrand [29].

PhD in progress: Quentin Heath, since October 2013, supervisor: Dale Miller.

PhD in progress: Zakaria Chihani, since October 2012, supervisor: Dale Miller.

PhD in progress: Hernán Vanzetto, since October 2010, co-supervisors: Stefan Merz and Kaustuv Chaudhuri.

8.2.3. *Juries*

François Lamarche was member of the PhD jury of Pierre Rannou, Université Aix-Marseille, October 21 2013.

Dale Miller was a member of the PhD jury of the following three students during 2013: Mahfuza Farooque, Ecole Polytechnique 19 December 2013 (evaluator); Stéphane Zimmermann, University of Paris Diderot, 10 December 2013 (president); Matthias Puech, University of Bologna, 8 April 2013 (reporter).

Stéphane Graham-Lengrand was member of the PhD jury of Sophia Knight, École Polytechnique, September 20 2013.

SECSI Project-Team

8. Dissemination

8.1. Scientific Animation

Administrative charges:

- 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”.
- Hubert Comon-Lundh is member of the jury “appel à projets Digiteo”
- Hubert Comon-Lundh is member of the Master MPRI studies committee and director of the MPRI until sept. 2013.
- Stéphanie Delaune has been a member of the scientific committee of Inria Saclay since February 2012.
- Stéphanie Delaune has been “Déléguée aux thèses” at the École Doctorale Sciences Pratiques at ENS Cachan since September 2012.
- Jean Goubault-Larrecq is 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.

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).
- 24th International Conference on Automated Deduction (CADE), Lake Placid, New York, USA, 2013 (Stéphanie Delaune)
- 26th IEEE Computer Security Foundations Symposium (CSF), Tulane University, New Orleans LA, USA, 2013 (Stéphanie Delaune)
- 24th International Conference on Rewriting Techniques and Applications (RTA), Eindhoven, The Netherlands, 2013 (Stéphanie Delaune)
- 20th Workshop on Logic, Language, Information and Computation (WoLLIC), Darmstadt, Germany, 2013 (Stéphanie Delaune)
- Workshop *Formal and Computational Cryptography (FCC)*, president of the program committee. June 30, 2013, New Orleans (Hubert Comon-Lundh).
- Workshop on *Logical Frameworks and Meta-Languages: Theory and Practice* LFMTTP' 13, Boston, U.S.A., September 2013 (David Baelde).
- Workshop on *Fixed Points in Computer Science* FICS' 13, Torino, Italy, September 2013 (David Baelde).
- 24th Journées Francophones des Langages Applicatifs JFLA'13, Aussois, France, February 2013 (David Baelde).

Organization of conferences:

- Workshop on *Fixed Points in Computer Science* FICS' 13, Torino, Italy, September 2013 (David Baelde).
- 25th Journées Francophones des Langages Applicatifs JFLA'14, Fréjus, France, January 2014 (David Baelde).

Selection committees:

- Hubert Comon-Lundh was president of the “Maitre de Conférences” selection committee, ENS Paris, 2013.
- Hubert Comon-Lundh was member of the selection committee of “Maitre de conférences” selection committee, Univ. Paris-Diderot, 2013.
- Hubert Comon-Lundh was member of the Inria Paris-Rocquencourt junior recherche selection committee, 2013.
- Jean Goubault-Larrecq was member of the Inria Saclay-Ile-de-France junior researcher selection committee, 2013.

Scientific boards:

- Hubert Comon-Lundh, CNRS INSII, Oct. 2010-Oct 2014
- Hubert Comon-Lundh, scientific committee, labex CPU.
- Hubert Comon-Lundh, scientific committee, LIPN.
- Jean Goubault-Larrecq, external member of the selection committee of the Formal Methods and Security Inria-DGA seminar, Rennes
- Jean Goubault-Larrecq, external member of the selection committee of the Formal Methods and Security Inria-DGA seminar, Rennes
- Jean Goubault-Larrecq, member of the scientific committee of the Labex “Fondation Sciences Mathématiques de Paris”.
- Jean Goubault-Larrecq, member of the scientific committee of the “Ecole de Printemps d’Informatique Théorique” (EPIT).

Invited talks:

- Hubert Comon-Lundh, *LICS: Logic in Computer Security*, invited tutorial, IEEE Symp. Logic in Computer Science, New Orleans, July 2013.
- Jean Goubault-Larrecq, *A few Pearls in the Theory of Quasi-Metric Spaces*, semi-plenary talk, Summer Topology Conference, North Bay, Ontario, Canada, July 23-26, 2013.
- Jean Goubault-Larrecq, *A Simple Proof of the Schröder-Simpson Theorem*, session on Asymmetric Topology, Summer Topology Conference, North Bay, Ontario, Canada, July 23-26, 2013.
- Jean Goubault-Larrecq, *A Constructive Proof of the Topological Kruskal Theorem*, Mathematical Foundations of Computer Science (MFCS), IST Austria, near Vienna, Austria, August 26-30, 2013.
- Jean Goubault-Larrecq, *Is Mathematical Rigor Needed in Intrusion Detection?*, Foundations and Practice of Security (FPS), La Rochelle, France, October 21, 2013.

Invitation to seminars:

- Hubert Comon-Lundh, *Towards Unconditional Soundness*, IRISA, Rennes, Feb 1, 2013.
- Hubert Comon-Lundh, *Computationally Sound Automated Proofs of Security*, LRI, Orsay, March 15, 2013.
- Jean Goubault-Larrecq, *Orchids, ou: de l’importance de la sémantique*, séminaire DGA Inno-science, DGA, Bagneux, June 25, 2013.
- Jean Goubault-Larrecq, *Full Abstraction for Non-Deterministic and Probabilistic Extensions of PCF*, Pierre-Louis Curien Festschrift, Venice, Italy, September 9-11, 2013.

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 Computer Science*, 24h., L3, ENS Cachan, France
- David Baelde, *Logic II*, 22.5h., L3, ENS Cachan, France
- David Baelde, *Programming II*, 22.5h., 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, 3h., M1, Séminaire Regards Croisés Mathématiques-Physique, ENS Cachan, France
- Stéphanie Delaune, *Cryptography, Cryptographic Protocols and Quantum Cryptography*, Part 2/3, 3h., M1, Séminaire Regards Croisés Mathématiques-Physique, ENS Cachan, France
- Jean Goubault-Larrecq, *Advanced Complexity*, 42h., M1, MPRI course 1-17, France
- David Baelde, *Software Engineering Project*, 30h., M1, ENS Cachan, 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 *Preparation 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
- Hubert Comon-Lundh, *Tree Automata*, M1, MPRI, 22h
- Jean Goubault-Larrecq, rehearsal of Computer Science Lessons, préparation à l'agrégation de Mathématiques, 18h., ENS Cachan, France

8.2.2. Supervision

PhD in progress :

- Rémy Chrétien, *Trace equivalence for an unbounded number of sessions*, Started Oct. 2012, supervised by Stéphanie Delaune and Véronique Cortier
- Lucca Hirschi, *Reduction techniques for equivalence-based properties*, Started Sep. 2013, supervised by David Baelde and Stéphanie Delaune
- Guillaume Scerri, *Preuves abstraites de protocoles cryptographiques concrets*, Started Oct. 2011, supervised by Hubert Comon-Lundh

8.2.3. Juries

- PhD:

- Jean Goubault-Larrecq, member of the jury: Rémi Bonnet, *Decidability and Undecidability in Vector Addition Systems with one (or more !) Zero-Tests*, ENS Cachan, January 22, 2013.
- Jean Goubault-Larrecq, president of the jury: Song Fu, *On Pushdown Systems Model Checking: Application to Malware Detection and Software Model-Checking*, U. Paris Diderot, April 12, 2013.
- Jean Goubault-Larrecq, president of the jury: Alexis Goyet, *The $\lambda\bar{\lambda}$ -calculus, A Dual Calculus for Unconstrained Strategies*, U. Paris Diderot, December 11, 2013.
- Jean Goubault-Larrecq, member of the jury: David Cadé, *Implémentations de protocoles cryptographiques prouvées dans le modèle calculatoire*, U. Paris Diderot, December 16, 2014.
- Jean Goubault-Larrecq, member of the mid-term evaluation jury: Pablo Rauzy, SupTelecom Paris Tech, December 4, 2013.
- HdR:
 - Hubert Comon-Lundh, president of the jury: Jérôme Leroux. *Presburger Counter Machines*, Bordeaux, Dec.6, 2012.
 - Jean Goubault-Larrecq, reviewer and member of the jury: Michele Pagani, *Some Advances in Linear Logic*, U. Paris Nord Villetaneuse, December 5, 2013.
 - Jean Goubault-Larrecq, reviewer and member of the jury: Michele Pagani, *Some Advances in Linear Logic*, U. Paris Nord Villetaneuse, December 5, 2013.

8.3. Popularization

- Stéphanie Delaune, member of the scientific mediation committee at Inria Saclay. (“Mediation” is the new name for popularization.)
- Rémy Chrétien and Stéphanie Delaune, *La protection des informations sensibles*, article in *Pour La Science*, Nov. 2013.

Specfun Team

9. Dissemination

9.1. Scientific Animation

The team started a seminar, first on an irregular basis, but with the view of running more regular sessions. It attracted researchers from teams in the neighbouring environment and had 8 sessions in 2013.

F. Chyzak is part of the scientifique committee of the *Journées Nationales de Calcul Formel*, the annual meeting of the French computer algebra community.

A. Mahboubi and E. Tassi have organized the 5th edition of the Coq international workshop (satellite of the Itp 2013 conference, Rennes, July 2013).

A. Mahboubi has participated to the organization of the Lix Colloquium (November 2013) and of the satellite PSATT international workshop.

A. Mahboubi has served in the program committee of the 5th edition of the Coq international workshop.

A. Mahboubi has served in the program committee of the ITP 2013 international conference.

A. Bostan has served as the Poster Committee Chair for the ISSAC 2013 international conference.

A. Bostan has served in the program committee of the MEGA 2013 international conference.

A. Bostan has served in the program committee of the FPSAC 2013 international conference.

A. Bostan has served in the program committee of the SYNASC 2013 international conference.

A. Bostan is part of the Scientific advisory board of the MEGA conference series.

A. Mahboubi and E. Tassi have given an invited tutorial at the ITP 2013 international conference (Rennes, France).

A. Mahboubi has given an invited talk at the Calculemus 2013 conference (Bath, United Kingdom).

A. Mahboubi has given an invited talk at the Colloquium of the Institute of Mathematics at the University of Nantes (France).

A. Mahboubi has given an invited talk, joint with G. Gonthier at the Dutch Mathematical Congress 2013 (Nijmegen, Netherlands).

A. Mahboubi has given an invited talk at the British Colloquium for Theoretical Computer Sciences (Bath, United Kingdom).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Master : A. Bostan, *Algorithmes efficaces en calcul formel*, 12h, M2, MPRI, France
- Master : F. Chyzak, *Algorithmes efficaces en calcul formel*, 12h, M2, MPRI, France
- Master : A. Mahboubi, *Assistants de preuves*, 18h, M2, MPRI, France
- Agrégation de Mathématiques : A. Bostan, *Préparation épreuve de modélisation, option C*, 12h, ÉNS Cachan, France

9.2.2. Supervision

- PhD: B. Morcrette, *Combinatoire analytique et modèles d'urnes*, June 2013, Ph. Flajolet, M. Soria and Ph. Dumas

- PhD in progress: A. Barillec, *Asymptotique automatique certifiée des fonctions spéciales*, September 2013, F. Chyzak and A. Mahboubi
- PhD in progress: L. Dumont, *Algorithmique efficace pour les diagonales, applications en combinatoire, physique et théorie des nombres*, September 2013, A. Bostan and B. Salvy
- PhD in progress: P. Lairez, *Algorithmique efficace pour la création télescopique, et ses applications*, September 2011, A. Bostan and B. Salvy
- L3: D. Rouhling, ÉNS Lyon, *Proof search modulo a theory in sequent calculus*, June–July 2013, S. Graham-Lengrand (CNRS, LIX) and A. Mahboubi

9.2.3. Juries

- A. Mahboubi has served as examiner in the PhD jury of Mahfuza Farooque, *Automated reasoning techniques as proof-search in sequent calculus*, December 19, 2013.
- A. Bostan has served as examiner in the PhD jury of Basile Morcrette, *Combinatoire analytique et modèles d'urnes*, Université Paris 6, June 26, 2013.

9.3. Popularization

- A. Mahboubi has given a lecture to laureates of the *Olympiades académiques de mathématiques, académie de Créteil*.
<http://maths.ac-creteil.fr/spip/spip.php?article463>.
- A. Mahboubi has been involved in the scientific committee for the elaboration of the board game *Mémoire Vive* produced by the Inria communication services.
- A. Mahboubi has given a talk at the forum STIC Paris-Saclay (Palaiseau, France) in November 2013.

TOCCATA Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Event Organization

- C. Marché organizer of the first DigiCosme Spring School (<http://labex-digicosme.fr/Spring+School+2013>) whose theme is *Program Analysis and Verification* in April 2013.
- C. Paulin, organizer with D. Pichardie and S. Blazy of the 4th Conference on Interactive Theorem Proving (<http://itp2013.inria.fr/>) in July 2013.
- C. Paulin, organizer with Zhong Shao (Yale Univ.) of the workshop “Certification of high-level and low-level programs” July 7-11, 2014, as part of the Institut Henri Poincaré thematic trimester on Semantics of proofs and certified mathematics <https://ihp2014.pps.univ-paris-diderot.fr>.

9.1.2. Editorial boards

- S. Boldo, 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, 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

- É. Contejean, member of the program committee of the 24th International Conference on Automated Deduction (CADE 24, <http://www.cade-24.info/>), member of the program committee of the ACM SIGPLAN 2014 Workshop on Partial Evaluation and Program Manipulation (PEPM 2014, <http://www.program-transformation.org/PEPM14>), and member of the program committee of the 13th International Workshop on Termination (WST 2013, <http://www.imn.htwk-leipzig.de/WST2013/>).
- 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/index.php/2013/tacas>), 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/index.php/2013/tacas/tacas13-tool-papers-menu>).
- C. Paulin, member of the program committees of the fourth and fifth conferences on Interactive Theorem Proving (ITP 2013, <http://itp2013.inria.fr/> and ITP 2014 <http://www.cs.uwyo.edu/~ruben/itp-2014/>).
- J.-C. Filliâtre is a member of the program committees of the 5th NASA Formal Methods Symposium (NFM 2013), Certified Programs and Proofs (CPP 2013), Symposium on Languages, Applications and Technologies (SLATE 2013), VeriSure: Verification and Assurance (2013), and the 5th Working Conference on Verified Software: Theories, Tools and Experiments (VSTTE 2013).
- A. Paskevich is a member of the program committee of the 3rd International Workshop on Proof Exchange for Theorem Proving (PxTP 2013) affiliated with the CADE-24 conference.

9.1.5. Invited Presentations

- J.-C. Filliâtre, “One logic to use them all”, CADE-24, Lake Placid, USA, June 2013 [19].

- J.-C. Filiâtre, “Deductive Program Verification”, PLMW 2013, Rome, Italy, January 2013 [18].
- S. Boldo, “Formal proofs and the 1D wave equation”, MOISE seminar, Grenoble, January 10th.
- S. Boldo, “Formal verification of numerical programs”, long talk at the Journées du GDR IM, Lyon, January 21st.
- É. Contejean, “A first Coq mechanized course in relational databases”, ANR Typex, Paris, December 17th.
- C. Lelay, “Real Analysis in Coq”, LIX PhD seminar, Palaiseau, September 27th.
- G. Melquiond, “Formal Proof of Numerical Properties and Automation”, CEA LSL seminar, Gif-sur-Yvette, February 26th.
- G. Melquiond, “Formal Proof and Interval Arithmetic, a Virtuous Circle”, College of Engineering, University of Texas, El Paso, USA, April 12th.
- G. Melquiond, “What is in Store for Coq.Interval”, ANR Tamadi, Lyon, July 16th.
- G. Melquiond, “Automations for Verifying Floating-point Algorithms in Coq”, the 5th Coq Workshop, Rennes, July 22th.
- S. Conchon, “Cubicle: Design and Implementation of an SMT based Model Checker for Parameterized Systems”, SMT Workshop 2013, Helsinki, Finland, July 9th.
- A. Paskevich, “Deductive Program Verification with Why3”, IRISA seminar, Rennes, October 10th.
- S. Conchon and A. Paskevich, “Savoir-faire et logiciels open source — Toccata”, Open World Forum, “Rencontre Inria-Industrie sur la qualité logicielle”, Montrouge, October 4th.
- C. Dross, “Defining new theories in SMT solvers using first-order axioms with triggers”, CEA LSL seminar, Gif-sur-Yvette, November 12th.

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) in Sophia and Saclay.
- S. Boldo was in the committee in charge of upgrading an Inria support staff at the IR level (*ingénieur de recherche*), which is the highest level for support staff.
- S. Boldo, member of the CLFP, *comité local de formation permanente*.
- S. Boldo and A. Charguéraud, members 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.

9.2.2. Collective Responsibilities outside Inria

- A. Charguéraud is vice-president of *France-IOI*, a non-profit organization in charge of the selection and the training of the French team to the International Olympiads in Informatics. France-IOI also provides online exercises in programming and algorithmics — in average, more than 70,000 such exercises are solved every month on the website.
- A. Charguéraud is a board member of the non-profit organization *Animath*, which aims at developing interest in mathematics among young students.
- 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.

- 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 from November 2011 to November 2013.
- C. Marché (since April 2007) and C. Paulin (since September 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, president of this committee since July 2013.
- 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.
- C. Paulin, scientific leader of Labex DigiCosme <http://labex-digicosme.fr> (Digital Worlds Distributed data, programs and architectures), a project launched by the French Ministry of research and higher education as part of the program “Investissements d’avenir”, it involves the 14 research units in computer science and communications from the “Paris-Saclay” cluster.
- 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, president of the assembly of directors of graduate schools at the Université Paris-Sud since September 2012.
- 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 in 2012–2013 and B. Cautis in 2013–2014) of Licence professionnelle PER (L3) at IUT d’Orsay, Paris-Sud University since September 2012.

9.3. Teaching - Supervision - Juries

9.3.1. Teaching

Licence (L2): “Principes d’interprétation des langages”, C. Dross (30h), Université Paris-Sud, France

Licence (L2): “Mathématiques pour l’Informatique”, C. Paulin (64h), M. Iguernelala (10h), A. Tafat (10h), Université Paris-Sud, France

Licence (L3): “Eléments de logique pour l’informatique”, C. Paulin (32h), Université Paris-Sud, France

Licence (L3): “Programmation fonctionnelle”, C. Dross (4h), Université Paris-Sud, France

Licence Professionnelle «Programmation en environnements répartis» (LP PER): “Programmation concurrente” (L3Pro), A. Paskevich (36h), IUT d’Orsay, Université Paris-Sud, France

Licence (L3): “Programmation fonctionnelle”, M. Clochard (15h), ENSIIE, France

Master (M1): “Projet de Programmation”, A. Tafat (42h), Université Paris-Sud, France

Master (M1): “Compilation”, A. Tafat (28h), Université Paris-Sud, France

Master (M1): “Complément objet”, A. Tafat (12h), Polytech, Université Paris-Sud, France

Master (M1): “Compilation”, A. Tafat (12h), Polytech, Université Paris-Sud, France

Master (M1): “Projet de Compilation”, A. Tafat (12h), Polytech, Université Paris-Sud, France

Master (M2Pro): “XML et Programmation Internet”, A. Tafat (13h), Université Paris-Sud, France

Master (M2-agrégation): “Logique”, C. Paulin (21h), Université Paris-Sud and ENS Cachan, France

Master Parisien de Recherche en Informatique (MPRI) <https://wikimpri.dptinfo.ens-cachan.fr/doku.php>: “Automated Deduction” (M2-5), S. Conchon (9h), É. Contejean (3h), Université Paris 7, France.

Master Parisien de Recherche en Informatique (MPRI) <https://wikimpri.dptinfo.ens-cachan.fr/doku.php>: “Proofs of Programs” <http://www.lri.fr/~marche/MPRI-2-36-1/> (M2), C. Marché (12h), G. Melquiond (12h), Université Paris 7, France.

DUT (Diplôme Universitaire de Technologie): “Structures de données et algorithmique fondamentale” (S1), C. Lelay (38h, “moniteur” position), IUT d’Orsay, Université Paris-Sud, France.

DUT (Diplôme Universitaire de Technologie): “Introduction aux systèmes informatiques” (S1), A. Paskevich (97h), C. Lelay (30h), IUT d’Orsay, Université Paris-Sud, France.

DUT (Diplôme Universitaire de Technologie): “Programmation système” (S4), A. Paskevich (48h), IUT d’Orsay, Université Paris-Sud, France.

Teaching teachers (“Formation de formateurs”) S. Boldo (3h) January 17th

École Jeunes Chercheurs en Programmation (EJCP 2013): J.-C. Filliâtre, “Deductive Program Verification with Why3” (4h) <http://why3.lri.fr/ejcp-2013/>.

Licence: “Langages de programmation et compilation” (L3), J.-C. Filliâtre (36h), École Normale Supérieure, France

Licence: “INF421: Les bases de l’algorithmique et de la programmation” (L3) et “INF431” (L3), J.-C. Filliâtre (70h), École Polytechnique, France

9.3.2. Supervision

PhD: P. Herms, “Certification of a Tool Chain for Verification of C programs” [12], Univ. Paris-Sud Jan. 14, 2013, C. Marché, B. Monate (CEA-LIST)

PhD: M. Iguernelala, “Strengthening the heart of an SMT-solver: Design and implementation of efficient decision procedures” [13], Univ. Paris-Sud, June 10, 2013, S. Conchon, É. Contejean

PhD: A. Tafat, “Preuve par raffinement de programmes avec pointeurs” [14], Univ. Paris-Sud, Sep. 6, 2013, C. Marché

PhD in progress: C. Dross, “Theories and Techniques for Automated Proof of programs”, since Jan. 2011, C. Marché, A. Paskevich, and industrial supervisors Y. Moy and J. Kanig (AdaCore company)

PhD in progress: A. Mebsout, “SMT-based Model-Checking”, since Sep. 2011, F. Zaidi, S. Conchon

PhD in progress: C. Lelay, “Real numbers for the Coq proof assistant”, since Oct. 2011, S. Boldo, G. Melquiond

PhD in progress: S. Dumbrava, “Towards data certification”, since Oct. 2012, V. Benzaken (LRI), É. Contejean

PhD in progress: L. Gondelmans, “Obtention de programmes corrects par raffinement dans un langage de haut niveau”, since Oct. 2013, J.-C. Filliâtre, A. Paskevich

PhD in progress: M. Clochard, “A unique language for developing programs and prove them at the same time”, since Oct. 2013, C. Marché, A. Paskevich

9.3.3. Juries

C. Marché: president of the PhD committee of C. Keller, “A Matter of Trust: Skeptical Communication Between Coq and External Provers”, (École Polytechnique, LIX laboratory, June 19, 2013)

C. Marché: reviewer, PhD committee of X. Shi “Certification of an Instruction Set Simulator” (University Grenoble, Verimag laboratory, July 10th, 2013)

C. Marché: president of the PhD committee of E. Tushkanova “Schematic calculi for the analysis of decision procedures” (University Besançon, FEMTO-ST laboratory, July 19th, 2013)

C. Marché: reviewer, PhD committee of H. Debrat “Certification formelle de la correction d’algorithmes de Consensus” (University Nancy, LORIA laboratory, Dec 6th, 2013)

C. Marché: president of HDR committee of S. Gérard “Ingénierie dirigée par les modèles” (University Paris-Sud, LISE laboratory of CEA-LIST, Dec 17th, 2013)

S. Conchon: president of the PhD committee of L. Gerard “Programmer le parallélisme avec des futures en Heptagon un langage synchrone flot de données et étude des réseaux de Kahn en vue d’une compilation synchrone” (University Paris-Sud, ENS, Sept. 25th, 2013)

S. Conchon: president of the PhD committee of J. Cheng “Stochastic Combinatorial Optimization” (University Paris-Sud, Nov. 8th, 2013)

S. Conchon: reviewer, PhD committee of M. Farooque “Automated reasoning techniques as proof-search in sequent calculus” (École Polytechnique, Dec. 19th, 2013)

J.-C. Filliâtre: reviewer, PhD committee of David Miguel Ramalho Pereira “Towards certified program logics for the verification of imperative programs” (Universidade do Porto, April 18, 2013)

J.-C. Filliâtre: reviewer, PhD committee of Jean Fortin “BSP-Why: a Tool for Deductive Verification of BSP Programs” (Université Paris Est, October 14, 2013)

J.-C. Filliâtre: reviewer, PhD committee of Maxime Denès “Formal study of efficient algorithms in linear algebra” (Université de Nice - Sophia Antipolis, November 20, 2013)

9.4. Industrial Dissemination

- As a final result of the Hi-Lite project, the Adacore company (Paris) implemented the new environment Spark2014 for the development of critical Ada software (<http://www.spark-2014.org/>), the successor of Spark, to be released in 2014. Part of this environment is the tool GnatProve which aims at formal verification. It translates 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.

9.5. Education, Popularization

- S. Conchon and J.-C. Filliâtre were involved in the writing of a new book supporting the new teaching program for the “*Classes préparatoires aux grandes écoles*” [39].
- 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 170,000 teenagers played on the more than 30 proposed exercises in November 2013.
- Since April 2008, S. Boldo is member of the editorial committee of the popular science web site *Interstices* (<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 was among the authors of a document [41] that describes the present and future of popularization at Inria.
- S. Boldo is responsible for a *mission doctorale* for popularization. She is in charge of Li Gong of the LIMSI laboratory: he wrote an Interstices article: <http://interstices.info/traduction-automatique-statistique>.
- S. Boldo, talk at the *Fête de la science* 2013 for the laboratory, October 11th.
- S. Boldo, talk for a general audience at the Courbevoie library, February 9th
- S. Boldo, talk for teenagers at the lycée Talma de Brunoy, April 23th

- S. Boldo, talk for mathematics teachers at Rocquencourt, June 5th
- S. Boldo, “speed-dating” with teenagers at the Halle Forum, October 18th, in an event called “Science au carré(e)”.
- S. Boldo, article for the French blog celebrating 2013 as the “Mathematics of Planet Earth” year: <http://mpt2013.fr/meme-les-ordinateurs-font-des-erreurs/>.
- C. Lelay tried the 2013 mathematics test of the scientific Baccalaureate in Coq. After the test, a meeting was organized with some teachers and the produced proofs and results were presented.
- C. Paulin organised at the *Fête de la science* 2013 an action of Labex DigiCosme to promote the new course “Informatique and Sciences du Numériques” in high-school, a few selected projects developed by students as part of their curriculum were exhibited.

COMMANDS Project-Team

8. Dissemination

8.1. Scientific Animation

- 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) until June 2013.

8.2. Teaching - Supervision - Juries

- 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

PhD: Xavier Dupuis, Optimal control with or without memories. ended Nov. 2013, F. Bonnans.

PhD : Laurent Pfeiffer, Sensitivity analysis for optimal control problems; Stochastic optimal control with probability constraints. ended Nov. 2013, F. Bonnans.

PhD: Zhiping Rao, Hamilton-Jacobi equations with discontinuous coefficients. Ended Dec. 2013, H. Zidani and N. Forcadel.

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: 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.

PhD in progress: Benjamin Heymann, Dynamic optimization with uncertainty; application to energy production. Oct. 2013, F. Bonnans.

8.3. Popularization

Pierre Martinon presented an “Unithé ou Café” talk about optimal control on November 8th, entitled “Quand le mieux n’est pas l’ennemi du bien”.

DEFI Project-Team

9. Dissemination

9.1. Scientific Animation

- Grégoire Allaire is the President of SMAI (Société de Mathématiques Appliquées et Industrielles). Until November 2013 he was also the director of the Gaspard Monge program on optimization (PGMO) at the Jacques Hadamard Mathematical Foundation. He is a board member of Institut Henri Poincaré (IHP). He 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 B, Computational and Applied Mathematics, Mathematical Models and Methods in Applied Sciences (M3AS), Annali dell'Università di Ferrara, OGST (Oil and Gas Science and Technology).
- Houssem 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 / school organization

- H. Haddar was co-organizing chair of the Waves 2013 conference, June 3-7, Gammath, Tunisia <http://www.lamsin.tn/waves13/>
- H. Haddar is co-organizer of the conference "International Conference on Novel Directions in Inverse Scattering", Honoring David Colton, July 29 - August 2, 2013 University of Delaware, Newark DE, USA <http://www.cmap.polytechnique.fr/~colton/>.
- H. Haddar is co-organizer of the Franco-German Summer School "Inverse Problems and Partial Differential Equations" University of Bremen, October 7-11, 2013 <http://www.math.uni-bremen.de/zetem/ip-school2013>
- 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

- H. Haddar
 - Oberwolfach Conference on "Computational Electromagnetics and Acoustics", Oberwolfach, Jan 20 - 26, 2013
 - Conference "Inverse Problems: Scattering, Tomography and Identification Problems" on the occasion of Andreas Kirsch's 60th birthday, Karlsruhe, Apr 6 - 11, 2013.
 - IFIP TC7.2 Workshop: "Electromagnetics — Modelling, Simulation, Control and Industrial Applications", Berlin, May 13 – 17, 2013.
 - International Conference on "Mathematical and Numerical Aspects of Waves" (Waves 2013), Gammath, Tunisia, June 3 - 7, 2013.
 - International Conference on "Novel Directions in Inverse Scattering", Honoring David Colton, July 29 - August 2, 2013 University of Delaware, Newark DE.
 - Workshop "Journées d'Analyse Numérique et d'Optimisation" (JANO10), Essaouira, Oct 31 - Nov 02, 2013.
- G. Allaire

- Workshop on Numerical Methods for Optimal Control and Inverse Problems, Munich, (march 2013).
- Interpore conference, Prague (may 2013).
- Conference in the honor of M. Vogelius, Luminy (may 2013)
- SMAI conference, Seignosse (june 2013).
- Conference Waves, Tunis (june 2013).
- Workshop "New trends in Shape Optimization", Erlangen (september 2013).
- 1st French-Mexican Meeting on Industrial and Applied Mathematics, Villahermosa, Mexique (novembre 2013).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

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: 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 Laurent Bourgeois a course on "Inverse problems: mathematical analysis and numerical algorithms" (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: 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: M. Chamaillard, Effective boundary conditions for thin periodic coatings, Ecole Polytechnique, 2011, Housseem Haddar (with P. Joly).

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.

Ph.D. in progress: Gabrielle Fournet, Inclusion of blood flow in micro-vessels in a new dMRI signal model, 2013, Jing-Rebecca Li (with Luisa Ciobanu).

Ph.D. in progress: Simona Schiavi, Homogenized models for Diffusion MRI, 2013, Housseem Haddar and Jing-Rebecca Li.

Ph.D. in progress: Thi-Phong Nguyen, Inverse scattering for perturbed periodic media, 2013, Housseem Haddar.

Ph.D. in progress: Mohamed Lakhel, Radar Imaging of buried mines, 2013, Housseem Haddar.

PhD: G. Migliorati, Electrostatic Imaging with uncertain backgrounds, April 2013, H. Haddar and F. Nobile.

PhD: F. Ouaki, On multi-scale numerical methods for multiphasic transport in porous media, 2013, Grégoire Allaire.

PhD: G. Delgado, Optimal design of the draping of composite materials, 2013, Grégoire Allaire.

HdR: Jing-Rebecca Li, "Modelisation et simulation de la diffusion", Université Paris Sud, 16 dec, 2013.

DISCO Project-Team

9. Dissemination

9.1. Scientific Animation

- Catherine Bonnet is a member of the IFAC Technical Committee 2.5 on Robust Control and of the IFAC Technical Committee 2.6 on Distributed Parameter Systems. She is also in the boards of the association *Femmes et Mathématiques* and of the consortium Cap'Maths. She has been the co-chair of the NOC and a member of IPC of the first IFAC Workshop on Control of Systems Modeled by Partial Differential Equations, Paris September 2013 and has co-organized the workshop Modeling and Analysis of Cancer Cells Dynamics, Paris June 2013 (ISSMA 2013). She is a member of the organizing committee of the *Colloque en l'honneur d'Abdelhad El Jai* to be held 29-30 May 2014 in Ifrane, Marocco. She is a co-Editor of the book "Low Complexity Controllers for Time-Delay Systems" of the Springer Series *Advances in Dynamics and Delays*. She is co-organizer of the "Séminaire du Plateau de Saclay". She has co-organized with K. Morris (Univ of Waterloo) the session *Analysis and Control of Infinite-Dimensional Systems* at the SIAM CT13 Conference.
- Frédéric Mazenc was Associate Editor for the conferences 2014 American Control Conference, Portland, USA. and 52th IEEE Conference on Decision and Control, Florence, Italy, (2013). He is member of the Mathematical Control and Related Fields editorial board, member of the European Journal of Control editorial board and Associate Editor for the Asian Journal of control. He was member of the national organizing committee of 1st IFAC Workshop on Control of Systems Modeled by Partial Differential Equation, Paris 2013. He was member of the international program committee of the 2014 European Control Conference, Strasbourg, France, the 2013 IFAC Ncolcos, Toulouse, France and the 5th IFAC International Workshop on Periodic Control Systems, Caen, France, 2013. He is evaluator for the National Agency for the Italian Evaluation of Universities and Research Institutes (ANVUR). He is evaluator for Partnersio Programme - Joint Applied Research Projects - PCCA of the Roumanian National Council for Development and Innovation. He was invited to the seminar of the Laboratoire d'Automatique, Ecole polytechnique Fédérale de Lausanne, Lausanne, Switzerland (13/03/2013 - 21/03/2013). He was invited to the seminar of the LAGEP, Université Claude Bernard, Lyon 1 in December 2013 (17/12/2013 - 20/12/2013).
- Alban Quadrat is an Associate Editor of the journal "Multidimensional Systems and Signal Processing", Springer. With Eva Zerz, he organized a special issue "Symbolic Methods in Multidimensional Systems Theory" for this journal (to appear in 2014). With Georg Regensburger, he organized an invited session "Algebraic and symbolic methods in mathematical systems theory" at the 5th Symposium on System Structure and Control (Grenoble, 4-6/02/2013). With Eva Zerz, he organized an invited session "Algebraic and behavioural approaches to multidimensional system theory" at the 8th International Workshop on Multidimensional Systems (nDS13), Erlangen, Germany (9-11/09/13). Moreover, they have also proposed two invited sessions "Algebraic methods and symbolic-numeric computation in systems theory" at the forthcoming 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS), Groningen, the Netherlands (7-11/07/14). With Mohamed Barakat and Thierry Coquand, he organized a mini-workshop "Constructive homological algebra with applications to coherent sheaves and control theory" at Oberwolfach (12-18/5/2013). He was an International Programm Committee member of the 8th International Workshop on Multidimensional (nD) Systems (nDS13), Erlangen (Germany) (9-11/09/13), and a National Organizing Committee member of the 1st IFAC Workshop on Control Systems Modeled by Partial Differential Equations, IHP, Paris (France) (25-27/09/13). Finally, with Hugues Mounier (University of Orsay, L2S) and Sette Diop (CNRS, L2S), he organizes a seminar on algebraic systems theory at L2S (<http://pages.saclay.inria.fr/alban.quadrat/Seminar.html>).

- Alban Quadrat was a plenary speaker at the 5th International Workshop on Differential Algebra and Related Topics (DART V), Lille, France (24-26/06/13) and a semi-plenary speaker at the Colombian Congress of Mathematics, Barranquilla, Colombia (15-19/07/13). He was invited to give a talk at the University of Versailles (23/04/13), at the Centre Automatique et Systèmes (CAS), Mines ParisTech (20/06/13), at the Institute of Cybernetics of the University of Tallinn, Estonia (01/10/13), and at the Tampere University of Technology, Finland (24/10/13). Finally, he participated to the workshop Geometry and algebra of linear matrix inequalities, CIRM, Luminy (12-16/11/13).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence : Le Ha Vy Nguyen, Applied Informatics in Physics, 16h, L2, Paris-Sud University
 Licence : Le Ha Vy Nguyen, Signals and Systems, 28h, L3, Paris-Sud University
 Licence : Sorin Olaru, Numerical Methods and Optimization, 24h, L2, SUPELEC, France
 Licence : Sorin Olaru, Hybrid Dynamical Systems, 18h, L3, SUPELEC, France
 Licence : Guillaume Sandou, Signals and Systems, 87h, L3, Supélec
 Licence : Guillaume Sandou, Mathematics and programming, 18h, L3, Supélec
 Master : Le Ha Vy Nguyen, Information Processing and Source Coding, 12h, M1, Paris-Sud University
 Master : Guillaume Sandou, Automatic Control, 8h, M1, Supélec
 Master : Guillaume Sandou, Numerical methods and optimization, 28h, M1 and M2, Supélec
 Master : Guillaume Sandou, Modelling and system stability analysis, 21h, 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, Automatic control, 23h, M2, Ecole Centrale Paris
 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. Supervisor : Catherine Bonnet. Co-supervisors : Jean Clairambault and Silviu Iulian Niculescu.
- PhD in progress: Thach Ngoc Dinh, Interval Observers and Delay Systems, December 2011. University Paris-Sud STITS. Supervisor: Frédéric Mazenc. Co-Supervisor: Silviu Iulian 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: Catherine Bonnet.
- PhD in progress Nikola Stankovic, Set-based control methods for systems affected by time-varying delay, September 30th 2010, University Paris-Sud, STITS. Defense: 20 November 2013. Supervisor: Sorin Olaru Co-Supervisor: Silviu Iulian Niculescu

9.2.3. Juries

Catherine Bonnet was an examiner member and President of the jury of the PhD Thesis of Hao Lu entitled "Approximation and Applications of Distributed Delays", INSA Lyon, 1st October 2013; and an examiner member of the jury of the PhD Thesis of Julien Chaudenson entitled "Analyse de robustesse par contraintes intégrales quadratiques, application aux lanceurs spatiaux", Supélec, 4 December 2013.

She was a member of the Recruiting Committee of the *Chargé de Recherche de 2ème classe* competition of Inria Saclay-Ile-de-France and in the Recruiting Committee of the *Maître de Conférences* competition at University Paris-Sud.

Alban Quadrat was the opponent of the PhD thesis “Robust Regulation for Infinite-Dimensional Systems and Signals in Frequency Domain” by Petteri Laakkonen, Tampere University of Technology, Finland (25/11/13), and the reviewer of the PhD thesis “Ring and Module Theoretic Properties of σ -PBW Extensions” by Milton Reyes Armando Villamil, Universidad Nacional de Colombia, Colombia (23/07/13).

9.3. Popularization

Catherine Bonnet spoke at the “Cérémonie de remise des prix des Olympiades de Mathématiques, Ministère de l’éducation nationale, juin 2013. She gave a talk and met high school students groups at the event “Sciences au Carré” in the context of Fête de la Sciences, CNES, October 2013.

Alban Quadrat was invited to give a popularization talk on the development of ideas in mathematics and physics at the conference “Lieux de passage en Science-Fiction”, University of La Rochelle (France), Lettres, Langues, Arts et Sciences Humaines (FLASH), 11-13/04/13.

GECO Project-Team

8. Dissemination

8.1. Scientific Animation

8.1.1. Conference organization

- Y. Chitour, P. Mason and M. Sigalotti organized a double session named “Stability of switched systems: theoretical and computational aspects” for the 52nd IEEE Conference on Decision and Control, Firenze, Italy, December 10-13, 2013.
- Y. Chitour, P. Mason and M. Sigalotti organized a session named “Control issues for switched systems” for the 52nd IEEE Conference on Decision and Control, Firenze, Italy, December 10-13, 2013.

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. Supervision

PhD: Dario Prandi, “Geometric control and PDEs”, supervisors: Ugo Boscain, Mario Sigalotti, defended in september 2013.

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.

PhD in progress: Guiherme Mazanti, “Stabilité et taux de convergence pour les systèmes à excitation persistante”, 1/9/2013, supervisors: Yacine Chitour, Mario Sigalotti.

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 de pilotage du PGMO (programme Gaspard Monge d'optimisation, FMJH et EDF), nommé directeur de ce programme depuis le 1er Novembre.
 - Coorganisateur du Séminaire Parisien d'Optimisation.

9.2. Enseignement - Encadrement - Jurys /Teaching - Supervision - Juries

9.2.1. Enseignement/Teaching

- 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).
- P. Benchimol
 - Monitorat en L1 à l'Univ. Paris VI, 72h.
- 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 et de l'École Polytechnique.
 - 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 [75].
- Z. Qu
 - Petites classes d'Automatique (AO102) en première année à l'ENSTA (14h).

9.2.2. Encadrement/Supervision

- PhD: Zheng Qu, inscrite à l'École Polytechnique, depuis septembre 2010, directeur de thèse: S. Gaubert, coencadrement: S. Tang (Université Fudan, Shanghai, Chine), soutenue le 21 Octobre 2013.

- 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 : Victor Magron, inscrit à l'École Polytechnique, depuis septembre 2010, directeur de thèse: Benjamin Werner (Inria et LIX), coencadrement: S. Gaubert et X. Allamigeon, soutenue le 9 décembre 2013.
- 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).
- PhD in progress : Antoine Hochart, inscrit à l'École Polytechnique, depuis octobre 2013, directeur de thèse: Stéphane Gaubert, codirection: Marianne Akian.
- PhD in progress : Eric Fodjo, inscrit à l'École Polytechnique, depuis octobre 2013, directeur de thèse: Marianne Akian.

9.2.3. *Jurys/Committees*

- M. Akian
 - Jury (rapporteur) de thèse de Jean-Christophe Alais (16 décembre 2013).
- X. Allamigeon
 - Membre du jury du prix de thèse Gilles Kahn de la Société Informatique de France (septembre-décembre 2013).
 - Examineur dans le jury de soutenance de thèse de Victor Magron (Décembre 2013).
- S. Gaubert
 - Membre de la commission de recrutement en informatique à l'École Polytechnique.
 - Membre du jury de concours Inria CR2 Grenoble.
 - Jury de thèse de Richard Combes (rapporteur), Université Pierre et Marie Curie, Février 2013.
 - Jury de thèse de Jean-Robin Medori (rapporteur), Université Pierre et Marie Curie, Juin 2013.
 - Jury de thèse de Rabah Boukra (rapporteur), Université d'Angers, Novembre 2013.
 - Jury de thèse de Matthew Bourque, University of Illinois at Chicago, Juillet 2013.
 - Jury de thèse de Daniel Hoehener, Université Pierre et Marie Curie, 17 Septembre 2013.
 - Jury de thèse de Zheng Qu, École Polytechnique, 21 Octobre 2013.
 - Jury de thèse de Dario Prandi, École Polytechnique, 23 Octobre 2013.
 - Jury de thèse de Victor Magron, École Polytechnique, 9 Décembre 2013.

9.3. Popularization

- J.P. Quadrat :
 - Administre le site d'intérêt général <http://www.maxplus.org>, dédié à l'algèbre max-plus.

9.4. Participation à des colloques, séminaires/Conférences, Seminars

- M. Akian
 - Tropical Mathematics Seminar and Reading Group, Univ. Manchester, 30 avril 2013. Titre de l'exposé: "Majorisation inequalities for valuations of eigenvalues"

- Tropical Mathematics and its Applications Meeting (Workshop) of the LMS Joint Research Group, Univ. Birmingham, 16 mai 2013. Titre de l'exposé: "Majorisation inequalities for valuations of eigenvalues"
- 18th Conference of the International Linear Algebra Society (ILAS), Providence, June 3-7, 2013. Minisymposium "Linear and Nonlinear Perron-Frobenius Theory". Titre de l'exposé: "Policy iteration algorithm for zero-sum two player stochastic games: complexity bounds involving nonlinear spectral radii"
- Seminario di Modellistica Differenziale Numerica, Mathematics Dept., Univ. La Sapienza, Rome, 10 décembre 2013. Titre de l'exposé: "Policy iteration for stochastic games"
- 52nd IEEE Conference on Decision and Control, Florence, 10 décembre 2013. Titre de l'exposé: "Solving multichain stochastic games with mean payoff by policy iteration"
- X. Allamigeon
 - SIAM Conference on Control and its Applications, San Diego (Etats-Unis), du 8 au 10 juillet 2013, dans le cadre du mini-symposium "Max-Plus/Tropical Analysis in Control and Systems Theory". Titre de l'exposé: "Tropicalizing the simplex algorithm".
- P. Benchimol
 - Séminaire des thésards, CMAP, Ecole Polytechnique, Mars 2013. Titre de l'exposé: "Petite visite sous les tropiques".
 - SMAI 2013 - 6ème biennale des mathématiques appliquées et industrielles (2013), Seignosse (Landes), 27-31 mai 2013. Titre du Poster: "Tropicalizing the Simplex Algorithm"
 - 18th Conference of the International Linear Algebra Society (ILAS), Providence, June 3-7, 2013. Minisymposium "Applications of Tropical Mathematics". Titre de l'exposé: "Tropicalizing the simplex algorithm".
 - Journée des doctorants, CMAP, Ecole Polytechnique, Juin 2013
 - Institut für Mathematik, TU Berlin, Décembre 2013
 - Séminaire parisien de théorie des jeux, IHP, Décembre 2013
- S. Gaubert
 - Séminaire de calcul formel, Université de Limoges, 7 Février 2013.
 - Séminaire pluridisciplinaire d'optimisation de Toulouse, May 6, 2013.
 - Control and Games Workshop May 7-10, 2013, Warwick.
 - Conférence plénière à SMAI 2013, Seignosse (Landes), 27-31 mai 2013.
 - Conférence SIAM CT'2013, Juillet, San Diego.
 - Conférence ECC'2013, Juillet, Zurich.
 - Minicours (3h00) aux Journées de Géométrie Algorithmique, Marseille, Décembre 2013.
- A. Marchesini
 - 18th Conference of the International Linear Algebra Society (ILAS), Providence, June 3-7, 2013. Minisymposium "Applications of Tropical Mathematics". Titre de l'exposé: "Tropical bounds for eigenvalues of matrices"
- Z. Qu
 - Séminaire PGMO, le 19/02/2013. Titre de l'exposé: "Maxplus basis methods for high dimensional optimal control problem: introduction and perspectives"
 - SMAI 2013, Seignosse (Landes), 27-31 mai 2013. Titre de l'exposé: "Taux de contraction de flots croissants sur un cône et application au contrôle stochastique"

- 18th Conference of the International Linear Algebra Society (ILAS), Providence, June 3-7, 2013. Titre de l'exposé: "Dobrushin ergodicity coefficient for Markov operators on cones, and beyond"
- SIAM conference on control and its applications (SIAM CT 13), San Diego, du 8 au 10 juillet 2013. Titre de l'exposé: "Contraction of Riccati flows applied to the convergence analysis of a max-plus curse of dimensionality free method"
- European control conference 2013 (ECC 13), Zurich, du 17 au 19 juillet 2013. Titre des 2 exposés: "Markov Operators on Cones and Non-Commutative Consensus", "Contraction of Riccati Flows Applied to the Convergence Analysis of the Max-Plus Curse of Dimensionality Free Method"
- Journée PGMO, le 04/10/2013. Titre de l'exposé: "Max-plus numerical methods for Hamilton-Jacobi equations: attenuation of the curse of dimensionality"
- C. Walsh
 - Séminaire de théorie ergodique à l'Université de Rennes 1, le 8 avril 2013. Titre de l'exposé: "The horofunction boundary of Teichmüller space".
 - Series de trois exposés au "Special Program on Teichmüller Theory" à l'institut Erwin Schrödinger, Vienne, Autriche, du 10 au 12 avril 2013. Titre des exposés: "The horofunction boundary of Teichmüller space".
 - Séminaire de géométrie différentielle à l'Université de Nancy 1, le 21 mai 2013. Titre de l'exposé: "Horofunctions and isometries of Hilbert geometries".
 - Workshop "Journée dynamique et géométrie de Hilbert" à Jussieu (Université Paris VI), le 3 mai 2013. Titre de l'exposé: "Horofunctions and isometries of Hilbert geometries".

POEMS Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Membership

- 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 chairs the scientific council of the CNRS Institute for Engineering and Systems Sciences (INSIS)
- A. S. Bonnet-Ben Dhia is associate editor of SINUM (SIAM Journal of Numerical Analysis).
- M. Bonnet is associate editor of European Journal of Mechanics A/Solids
- M. Bonnet is associate editor of Engineering Analyses with Boundary Elements
- 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)
- P. Ciarlet is an editor of CAMWA (Computers & Mathematics with Applications)
- P. Ciarlet is an editor of ESAIM:M2AN (Mathematical Modeling and Numerical Analysis)
- 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: S. Chaillat, S. Marmorat)

9.1.2. Organisation of conferences

- POEMS has co-organized the international conference WAVES 2013 (Tunis june 2013).
- Patrick Joly was co-organizer of the Oberwolfach seminar (Computational Acoustics and Electromagnetism) in February 2013.
- Sonia Fliss organized the CEA-EDF-Inria summer school (Waves in periodic media : mathematical and numerical aspects), ENSTA-Paristech in april 2013.
- Anne-Sophie Bonnet-Ben Dhia co-organized a workshop (Mathematical methods for spectral problems : applications to waveguides, periodic media and metamaterials), Helsinki in Mars 2013.
- Anne-Sophie Bonnet-Ben Dhia organized a workshop on waveguides, ENSTA-Paristech in october 2013.
- Stéphanie Chaillat organized a workshop (Error Estimates and Adaptive Mesh Refinement Strategies for Boundary Elements Methods), ENSTA-Paristech in may 2013.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Éliane Bécache

- *Compléments sur la méthode des éléments finis*, ENSTA Paristech, (2nd year).

Marc Bonnet:

- *Problèmes inverses*, Master TACS (ENS Cachan) and DSMSC (Centrale Paris)
- *Méthodes intégrales*, Master TACS (ENS Cachan)
- *Equations intégrales et multipôles rapides*, Ecole doctorale MODES (Univ. Paris Est, Marne la Vallée)
- *Outils élémentaires d'analyse pour les équations aux dérivées partielles*, ENSTA Paristech (1st year)

Anne-Sophie Bonnet-Ben Dhia

- *Outils élémentaires d'analyse pour les EDP*, ENSTA Paristech (1st year).
- *Propagation dans les guides d'ondes*, ENSTA Paristech (3rd year).
- *Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques*, ENSTA Paristech (2nd year).
- *Propagation des ondes*, Ecole Centrale de Paris (M2).

Laurent Bourgeois

- *Outils élémentaires pour l'analyse des EDP*, ENSTA Paristech (1st year)
- *Fonction de la variable complexe*, ENSTA Paristech (2nd year)
- *Inverse problems: mathematical analysis and numerical algorithms*, Université Pierre et Marie Curie (Master 2)

Aliénor Burel

- *Calculus, L1 PCST*, Université Paris-Sud XI (1st year)
- *Systèmes Linéaires, L3 MAP, Matlab*, Université Paris-Sud XI (3rd year)
- *Probabilités*, IUT d'informatique, Université Paris-Sud XI (2nd year)
- *Analyse*, IUT d'informatique, Université Paris-Sud XI (1st year)

Camille Carvalho

- *Optimisation Quadratique*, ENSTA Paristech (1st year)
- *Fonction d'une variable complexe*, ENSTA Paristech (2nd year)
- *Tutorat pour les élèves en difficulté en mathématiques appliquées*, ENSTA Paristech (1st year)

Maxence Cassier

- *Système dynamique: Stabilité et Commande*, ENSTA Paristech (1st year)
- *Introduction à MATLAB*, ENSTA Paristech (1st year)
- *Fonctions d'une variable complexe*, ENSTA-Paristech, (2nd year)
- *Tutorat pour élèves en difficulté en mathématiques appliquées*, ENSTA Paristech (1st year)

Stéphanie Chaillat

- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA Paristech (1st year)
- *Fonctions d'une variable complexe*, ENSTA, ENSTA Paristech (2nd year)

Patrick Ciarlet

- *The finite element method*, ENSTA Paristech (2nd year)
- *The finite element method – extensions*, ENSTA Paristech (2nd year)
- *Theory and algorithms for distributed computing*, ENSTA Paristech (3rd year), and Master "Modeling and Simulation" (M2)
- *Maxwell's equations and their discretization*, ENSTA Paristech (3rd year), and Master "Modeling and Simulation" (M2)

Rémi Cornaggia:

- *Mécanique*, Polytech' Paris Sud, Orsay (PeiP, 1st year)
- *Physique des solides*, Université Paris 11, Orsay (L3 "Physique et mécanique")
- *Méthodes numériques pour la physique*, Université Paris 11, Orsay (M1 "Mécanique physique")

Sonia Fliss

- *Méthode des éléments finis*, ENSTA Paristech (2nd year)
- *Programmation scientifique et simulation numérique*, ENSTA Paristech (2nd year)
- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA Paristech (1st year).
- *Local perturbations of periodic media*, International Summer School in Mathematics on the topic "Periodic structures in Applied Mathematics", Georg-August Universität, Göttingen.

Christophe Hazard

- *Outils élémentaires d'analyse pour les EDP*, ENSTA Paristech (1st year)
- *Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques*, ENSTA Paristech (2nd year).

Patrick Joly

- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA Paristech (1st year).
- *Outils élémentaires d'analyse pour les EDP*, ENSTA Paristech (1st year).

Nicolas Kielbasiewicz

- *Programmation scientifique et simulation numérique*, ENSTA-Paristech (2nd year)
- *Parallélisme et calcul réparti*, ENSTA-Paristech (Master 2)

Marc Lenoir

- *Fonctions d'une variable complexe*, ENSTA Paristech (2nd year)
- *Equations intégrales* ENSTA Paristech (Master 2)

Simon Marmorat

- *Introduction à la discrétisation des équations aux dérivées partielles et à leur discrétisation*, ENSTA Paristech (1st year)
- *La méthode des éléments finis*, ENSTA Paristech (2nd year)

Jean-François Mercier

- *Outils élémentaires d'analyse pour les équations aux dérivées partielles*, ENSTA Paristech (1st year)
- *Fonctions d'une variable complexe*, ENSTA-Paristech, ENSTA Paristech (2nd year)
- *Théorie spectrale des opérateurs autoadjoints et application aux guides optiques*, ENSTA Paristech (Master 2)

Nicolas Salles

- *Analyse et séries de Fourier*, Université Paris-Sud XI (L2)
- *Systèmes Linéaires (Matlab)*, Université Paris-Sud XI (L3)
- *Calcul scientifique*, Université Paris-Sud XI (L3)
- *Géométrie et Analyse de Fourier*, Université Paris-Sud XI (L2)

Elizaveta Vasilevskaya

- *Algèbre linéaire*, Institut Galilée (L1)
- *Mathématiques générales*, Univ. Paris XIII (L1)
- *Mathématiques générales*, Univ. Paris XIII (L2)

Valentin Vinales

- *La méthode des éléments finis*, ENSTA Paristech (2nd year)
- *Introduction à MATLAB*, ENSTA-Paristech, ENSTA Paristech (1st year)

9.2.2. Supervision

PhD : Nicolas Salles, "Stabilisation du calcul des singularités dans les méthodes d'équations intégrales variationnelles", September 2013, Marc Lenoir and Eliane Bécache

PhD in progress : Aliénor Burel, "Méthodes numériques pour les ondes élastiques en présence d'interfaces minces et de milieux mous", October 2010, Patrick Joly and Marc Bonnet

PhD in progress : Maxence Cassier, "Focalisation par retournement temporel sur des obstacles diffractants.", October 2010, Christophe Hazard and Patrick Joly

PhD in progress : Matthieu Chamaillard, "Conditions aux limites effectives pour des revêtements minces périodiques", October 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 : Antoine Tonnoir, "Simulation numérique de la diffraction d'ondes ultrasonores par un défaut localisé dans une plaque élastique anisotrope", October 2011, Anne-Sophie Bonnet-Ben Dhia and Sonia Fliss

PhD in progress : Audrey Vigneron, "Formulations intégrales pour la simulation du contrôle non destructif par courants de Foucault", November 2011, Marc Bonnet

PhD in progress : Rémi Cornaggia, "Asymptotique petit-défaut de fonctions-coût et son application en identification: justifications théorique et expérimentale, extensions", October 2012, Marc Bonnet

PhD in progress : Geoffrey Beck, "Modélisation de la propagation d'ondes électromagnétiques dans des câbles co-axiaux", October 2012, Patrick Joly

PhD in progress : Elizaveta Vasilevskaya, "Modes localisés dans les guides d'onde quantiques", November 2012, Patrick Joly

PhD in progress : Camille Carvalho, "Étude théorique et numérique de guides d'ondes plasmoniques", October 2012, Anne-Sophie Bonnet-Ben Dhia and Patrick Ciarlet

PhD in progress : Valentin Vinales, "Analyse asymptotique des équations de Maxwell en présence de métamatériaux", October 2012, Sonia Fliss and Patrick Joly

PhD in progress : Mathieu Lecouvez, "Méthodes de décomposition de domaine optimisées pour la propagation d'ondes en régime harmonique", March 2012, Patrick Joly

PhD in progress : Luca Desiderio, "Efficient visco-elastic wave propagation in 3D for high contrast media", October 2013, Stéphanie Chaillat and Patrick Ciarlet

9.3. Popularization

Marc Bonnet:

- Opening workshop of UCL Centre for Inverse Problems (London, UK, March 2013),
- Conference honoring Andreas Kirsch for his 60th birthday (Bad Herrenalb, Germany, April 2013),
- International Conference on Novel Directions in Inverse Scattering (Newark DE, USA, July 2013),
- Singular Days (Rennes, France, August 2013)

Laurent Bourgeois

- *On sampling methods to identify defects in a periodic waveguide from far field data*, Inverse Problems: Scattering, Tomography and Parameter Identification, Conference honoring Andreas Kirsch for his 60th birthday, Bad Herrenalb - Germany, 8-11/4/2013
- *On Lipschitz stability for a class of inverse problems*, Inverse Problems and Nonlinear equations, Ecole Polytechnique, Palaiseau, 22-24/05/2013
- *On the far field of scattering solutions in a periodic waveguide. Part II : The inverse problem*, Waves conference, Gammarth, Tunisie, 3-7/6/2013

Aliénor Burel

- *Using potentials in elastodynamics : a challenge for FEM*, WONAPDE, Concepción (Chile), January 14-18th
- *Utilisation des potentiels en élastodynamique : un challenge pour les méthodes éléments finis ?*, GTN Orsay, Université Paris-Sud, February, 19th
- *Effective Transmission Conditions for Thin-Layer Transmission Problems in Elastodynamics*, WAVES '13, Gammarth (Tunisia), June 3-7th
- *Utilisation des potentiels en élastodynamique : un challenge pour les méthodes éléments finis ?*, Poems Seminar, Palaiseau, June 27th

Camille Carvalho

- *Plasmonic cavity modes with sign-changing permittivity*, WAVES, Tunis, June
- *Plasmonic cavity modes: black-hole phenomena captured by Perfectly Matched Layers*, PIERS, Stockholm, August

Maxence Cassier

- *Space-time focusing on unknown obstacles*, International conference in applied mathematics, Heraklion, Greece, September 2013.
- *Space-time focusing for acoustic waves* (poster session), International conference on novel directions in inverse scattering, honoring David Colton, Newark, United states, July 2013.
- *Selective focusing on unknown scatterers*, Maxence Cassier, Christophe Hazard and Patrick Joly, Waves conference, Tunis, Tunisia, June 2013.
- *Selective focusing for time-dependent waves*, Maxence Cassier, Christophe Hazard and Patrick Joly, Workshop: Inverse problems and imaging, institut Henri Poincaré, Paris, France, February 2013.
- *Selective focusing for time-dependent waves*, Maxence Cassier, Christophe Hazard and Patrick Joly, Workshop: Computational electromagnetism and acoustics, Oberwolfach, Germany, January 2013.

Stéphanie Chaillat

- *Fast multipole accelerated boundary integral equation method for 3-D elastodynamic problems in a half-space*, Séminaire EDP LJK, Grenoble, France, November 2013.
- *Fast multipole accelerated boundary integral equation method for 3-D elastodynamic problems in a half-space*, Séminaire Equipe ENI MSSMAT, Chatenay-Malabry, France, November 2013.

- *A fast and adaptive algorithm for the inverse medium problem based on Singular Value Decomposition*. 3rd European Conference on Computational Optimization, Chemnitz, Germany, July 2013.
- *An Adapted Fast Multipole Accelerated Boundary Element Method for 3D Elastodynamics*, SIAM in the Geosciences, Padua, Italy, June 2013.
- *Fast Multipole Accelerated Boundary Element Method for problems in an elastic Half-Space*, WAVES 2013, Tunis, Tunisia, June 2013.
- *Fast multipole accelerated boundary integral equation method for 3-D elastodynamic problems in a half-space*, Séminaire ISTERRE, Grenoble, France, February 2013.
- *Fast multipole accelerated boundary integral equation method for 3-D elastodynamic problems in a half-space*, Séminaire du LMA, Marseille, France, January 2013.
- *Comparison of two Fast Multipole Accelerated BEMs for 3D elastodynamic problems in semi-infinite media*, IABEM 2013, Santiago, Chile, January 2013.

Patrick Ciarlet

- *Strong convergence for Gauss' law with edge elements*, Mafelap'13, Uxbridge (G.-B.), 10-14/06/2013
- *Numerical approximation of transmission problems with sign changing coefficients*, Journées Singulières Augmentées, Rennes, 26-30/08/2013

Sonia Fliss

- *DtN approach for the exact computation of guided modes in a photonic crystal waveguides*, Séminaire EDP de Metz, Metz, January 18th.
- *Sufficient conditions for existence of guided modes in photonic crystal waveguide or how useful can be a numerical method*, Mathematical Methods for spectral problems, University of Helsinki, March 5th-7th
- *Transparent boundary conditions in periodic media*, HF 2013, Nancy, March 19th-21th
- *Scattering in locally perturbed periodic waveguides : forward and inverse problems*, Applied Analysis for the Material Sciences with a special hommage to Michael Vogelius, CIRM Marseille, May 27th-31st
- *On the far field of scattering solutions in a periodic waveguide. Part 1: the forward problem*, Waves 2013, Tunis, June 3rd-7th

Patrick Joly

- *Numerical simulation of a grand piano*, Conference WONAPDE, Concepcion, Chile, January 2013
- *A rigorous approach to the propagation of electromagnetic waves in co-axial cables*, Workshop EMSCA, Weierstrass Institute, Berlin, Germany, May 2013
- *Simulation numérique d'un piano de concert*, Journées EDPs, Contrôle et Musique, Université Pierre et Marie Curie, Paris, May 2013
- *A rigorous approach to the propagation of electromagnetic waves in co-axial cables*, Conference WAVES2013, Gammarth, Tunisia, June 2013
- *Quasi-local transmission conditions and iterative domain decomposition methods for time harmonic wave propagation*, International Conference on Novel Directions in Inverse Scattering, Newark (Delaware), USA, Juillet 2013
- *Riesz potentials and quasi-local transmission condition for iterative non overlapping domain decomposition methods for the Helmholtz equation*, Conference JSA 2013, Rennes, France, August 2013
- *Perfectly Matched Layers for time domain wave propagation : overview and recent progress*, Conference CEDYA 2013, Castellon, Spain, September 2013

- *Conditions de transmission quasi-locales et méthodes de décomposition de domaine pour la propagation d'ondes en régime harmonique*, CMAP Seminar, Ecole Polytechnique, Palaiseau, France, December 2013

Simon Marmorat

- *An improved linear sampling method in the time domain*, WONAPDE 2013, Concepción, Chile, January.
- *Time domain computation of the scattering of waves by small heterogeneities*, Waves 2013, Tunis, Tunisia, June.
- *An asymptotic model for the scattering of waves by small heterogeneities*, Inria Junior Seminar, Rocquencourt, France, November.
- *Méthodes d'échantillonnage pour la diffraction inverse en fréquence et en temps*, POems Seminar, ENSTA, France, December.

Jean-François Mercier

- *Aeroacoustics in a waveguide with a shear flow*, Anne-Sophie Bonnet-BenDhia, Jean-François Mercier et Florence Millot, 11th International Conference on Mathematical and Numerical Aspects of Wave Propagation (WAVES' 13), Tunisia (june 2013)
- *Numerical modeling of nonlinear acoustic waves with fractional derivatives*, B. Lombard et J.-F. Mercier, 11th International Conference on Mathematical and Numerical Aspects of Wave Propagation (WAVES' 13), Tunisia (june 2013)

Nicolas Salles

- *Explicit evaluation of integrals arising in Galerkin BEM*, XIV International Conference on Boundary Element & Meshless Techniques, Palaiseau (France), July 2013

Antoine Tonnoir

- *New transparent boundary conditions for time harmonic acoustic diffraction in anisotropic media*, Waves International conference on Mathematical and numerical aspects of waves, Tunis, June 2013

Elizaveta Vasilevskaya

- *Localized modes in perturbed ladder-like periodic waveguides*, Workshop on waveguides, ENSTA ParisTech, Palaiseau, France, October 2013

REGULARITY Project-Team

9. Dissemination

9.1. Scientific Animation

Benjamin Arras attended the *Journées de Probabilités* at Orléans from 17th june 2013 to 21st june 2013. During a talk, he presented his research regarding wavelets expansion and Hölderian regularity of stochastic processes belonging to Wiener chaoses.

Benjamin Arras attended classes during the "Ecole de probabilités de Saint-Flour" at Saint-Flour from 10th july 2013 to 21st july 2013.

Paul Balança attended the *Journées de Probabilités* at Orléans from 17th june 2013 to 21st june 2013: Presentation on 2-microlocal analysis and Lévy processes. Paul Balança attended the *7th international conference on Lévy processes* at Wroclaw: Poster on 2-microlocal analysis and Lévy processes.

Alexandre Richard attended the *Journées de Probabilités* at Orléans from 17th june 2013 to 21st june 2013: Presentation on fractional Brownian fields in abstract Wiener spaces.

Alexandre Richard attended classes during the "Ecole de probabilités de Saint-Flour" at Saint-Flour from 10th july 2013 to 21st july 2013.

Xiequan Fan is a reviewer for Mathematical Reviews (AMS).

Jacques Lévy Véhel is associate editor of the journal *Fractals*.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence: Erick Herbin, Probability course at Ecole Centrale Paris (20h).
- Master: Erick Herbin, Advanced Probability course at Ecole Centrale Paris (30h).
- Master: Erick Herbin and Jacques Lévy Véhel, Brownian Motion and Stochastic Calculus course at Ecole Centrale Paris (30h).
- Master: Jacques Lévy Véhel teaches a course on Wavelets and Fractals at Ecole Centrale Nantes (8h).
- Licence: Benjamin Arras, Analysis, Probability and PDE, 3x10 hours, L3, Ecole Centrale Paris.
- Licence: Paul Balança, Analysis, Probability, 2x10 hours, L3, Ecole Centrale Paris.
- Master: Benjamin Arras, Brownian motion and Stochastic Calculus, 20 hours, M2, Ecole Centrale Paris.
- Master: Paul Balança, Advanced Probability, 18 hours, M1, Ecole Centrale Paris.

9.2.2. Supervision

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.

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 *Journal de la SFdS*.
He is Associate Editor of *Statistics and Computing*, *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, Jean-Michel Poggi.

- Gilles Celeux was invited speaker to the annual meeting of the Italian Society of Statistics in Brescia (June 2013), to the joint meeting of the British Classification Society, and the German Classification Society in London (November 2013) and to the Summer Model-Based Clustering working group in Bologna (July 2013).
- Jean-Michel Poggi was invited speaker at , International workshop Unsupervised Learning and High-dimensional Statistics, ENS Ulm, Paris, 11 (September 2013).

9.1.3. Scientific animation

Participants: Gilles Celeux, Christine Keribin, Erwan Le Pennec, Pascal Massart, Jean-Michel Poggi.

- Gilles Celeux was Chair of the Program Committee of the Annual Journées de Statistique de la SFdS, Toulouse, May 2013. Gilles Celeux was organizer of the ERCIM 2013 Session Model Selection, London, 14-16 December 2013.
- 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). Christine Keribin is member of the council of the French statistical society (SFdS). Since this year, she organizes conferences for statisticians from various backgrounds (academic, software, companies) to exchange experiences on statistical methods and software http://www.sfds.asso.fr/323-Rendez_vous_SFdS_Methodes_et_Logiciels.
- 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.
- Jean-Michel Poggi was President of the French statistical society (SFdS).
- Jean-Michel Poggi is member of the EMS (European Mathematical Society) Committee for Applied Mathematics.

- Jean-Michel Poggi is Guest Editor (with R. Kenett, A. Pasanisi) of the special issue on Special Issue on Graphical causality models: Trees, Bayesian Networks and Big Data, in Quality Technology and Quantitative Management (QTQM).
- Jean-Michel Poggi is Editor (with A. Antoniadis, X. Brossat) of a Lecture Notes in Statistics: Modeling and Stochastic Learning for Forecasting in High Dimension, Springer 2014.
- Jean-Michel Poggi was Member Editorial committee of 2013 Mathématiques pour la planète terre : un jour, une brève, an initiative from Cap'Maths, Inria, INSMI, SFdS, SMAI, SMF for 2013 the year of Mathematics for Planet Earth.
- Jean-Michel Poggi is Organizer and President of the Scientific committee (with R. Kenett, A. Pasanisi) of the ENBIS-SFdS 2014 Spring Meeting on Graphical causality models: Trees, Bayesian Networks and Big Data, IHP, Paris, 9-11 April 2013.
- Jean-Michel Poggi is Organizer of the meeting Horizons de la Statistique, Paris, IHP, 21 January 2014.
- Jean-Michel Poggi was organizer of the ERCIM 2013 Session Random forests and related methods: theory and practice, London, 14-16 December 2013

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: 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 in progress: Vincent Brault, 2011, Gilles Celeux and Christine Keribin

PhD in progress: Rémi Fouchereau, 2011, Gilles Celeux and Patrick Pamphile

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: 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

9.3. Popularization

Erwan Le Pennec takes care of a Math en Jeans group at lycée Joliot Curie from Nanterre.

TAO Project-Team

9. Dissemination

9.1. Scientific Animation

9.1.1. Management positions in scientific organisations

International

- THRaSH, *Theory of Randomized Search Heuristics workshop*: Anne Auger, member of Steering Committee
- ACM SIGEVO (Special Interest Group on Evolutionary Computation), Marc Schoenauer, member of Executive Board since 2000, officer (Secretary) since 2012; member of Business Committee (2011-2013).
- Parallel Problem Solving from Nature: Marc Schoenauer, Member of Steering Committee, (since 1998).
- PASCAL NoE (Pattern Analysis, Statistical modelling, Computational Learning), Michèle Sebag, member of the Steering Committee (PASCAL 2004-2008; PASCAL2, 2009-2013).
- European Machine Learning and Knowledge Discovery from Databases Steering Committee, MichèleSebag, member since 2010;
- ECCAI Fellow, Michèle Sebag, since 2011;
- Marc Schoenauer, Honorary Adjunct Professor, School of Computer Science, University of Adelaide, Australia (2009-2015).

National

- Michèle Sebag, member of the CoNRS; Senior Advisory Board CHIST-ERA; member of the CSFRS (Conseil Supérieur de la Formation et Recherche Stratégique); member of the Senate at Université Paris-Saclay; responsible for the DataSense axis in the DigiCosme Labex;
- EA – Association Evolution Artificielle: Marc Schoenauer, founding president, now member of Advisory Committee. Anne Auger, member of Executive Committee since 2008.
- SimTools Network (RNSC Network). Philippe Caillou, coordinator since 2011.

Université Paris-Sud

- Jamal Atif, “Directeur d’études” at Computer Science department of IUT d’Orsay ; membre de la CCSU 27 (membre du Bureau) since 2012; membre élu au conseil d’Institut, IUT d’Orsay ; membre du Bureau du département Informatique de l’IUT d’Orsay since 2011.
- Anne Auger, membre du Conseil du Laboratoire de Recherche en Informatique since 2012;
- Philippe Caillou, membre élu du Conseil Scientifique de l’université since 2013, directeur des études à l’IUT de Sceaux since 2009
- Cécile Germain, membre élu du Conseil Scientifique de l’université since 2012, membre du Bureau, chargée de mission à l’Informatique Scientifique.
- Michèle Sebag, membre élu du Conseil du Laboratoire de Recherche en Informatique et membre de la CCSU 27 since 2004.
- Olivier Teytaud, représentant des B pour le comité d’évaluation du LRI.

Inria Saclay

- Anne Auger, membre de la Commission de Suivi Doctoral ; représentante du centre de Saclay à la Commission des Jeunes Chercheurs.
- Marc Schoenauer, Délégué Scientifique (aka VP Research) since 2010.
- Olivier Teytaud, TAO representative at CUMI since 2008.

9.1.2. Organisation of Conferences and Scientific Events

- *BBOB Black-Box Optimization Benchmarking* workshop at the ACM GECCO Genetic and Evolutionary Computation Conference, 2013, Anne Auger and Nikolaus Hansen, co-organizers.
- Dagstuhl Seminar 13271 *Theory of Evolutionary Algorithms*, 2013: Nikolaus Hansen, co-organizer.
- ACM-GECCO, ES-EP track, Anne Auger co-chair.
- Franco-Taiwanese 2013 meeting on AI, E-learning and power systems: <https://www.lri.fr/~teytaud/france2013.html>

9.2. Teaching - Supervision - Juries**9.2.1. Teaching**

- L1 (IUT Orsay, Univ. Paris-Sud), Computer Science, Jamal Atif, approx. 192h since 2010.
- L1-3 (Ecole Centrale Paris), Stochastic Optimization, Anne Auger, 20h since 2011.
- L1 (IUT Sceaux, Univ. Paris-Sud), Computer science for Managers, Philippe Caillou, approx. 192h since 2011.
- L2, L3 (Polytech, Univ. Paris-Sud), Computer Architecture, Cécile Germain-Renaud, head of Licence, approx. 120h since 2009.
- L2 Univ Paris-Sud, Vie Artificielle, Michèle Sebag, 10h in 2013.
- L3 (ENS-Cachan), Introduction to Machine Learning, Michèle Sebag, approx. 24h since 2011.
- M1 Computer Science (U. Paris-Sud), Parallelisme, Cécile Germain-Renaud, approx. 50h since 2009.
- M1 Computer Science MPRI, Machine Learning, Michèle Sebag, 25h since 2013.
- Master 2 Recherche (U. Paris-sud), Optimisation, Anne Auger, 12h since 2011.
- Master 2 Recherche (U. Paris-Sud), Machine Learning, Michèle Sebag, 24h since 2011.
- Master 2 Recherche (U. Paris-Sud), Evolutionary Robotics, MichèleSebag, 15h since 2013.
- Master 2 Recherche (U. Paris-Sud), Multi-Agents Systems, Philippe Caillou, 27h since 2011.
- Master 2 Recherche Paris-Dauphine, Multi-Agent Based Simulation, Philippe Caillou, 3h since 2011.

9.2.2. Supervision

- HdR: Jamal Atif, *Quelques contributions à l'interprétation d'images, à l'apprentissage statistique et à la cartographie cérébrale*, Université Paris-Sud, 31/10/2013
- PhD: Ludovic Arnold, *Learning Deep Representations: toward a new understanding of the deep learning paradigm*, 25/06/2013, Hélène Pagam-Moisy et Philippe Tarroux [1]
- PhD: Jean-Baptiste Hoock, *Contributions to Simulation-based High-dimensional Sequential Decision Making*, 10/4/2013, Olivier Teytaud [3]
- PhD: Ilya Loshchilov, *Surrogate-Assisted Evolutionary Algorithms*, 6/1/2013 [4]
- PhD: Jean-Marc Montanier, *Environment-driven Distributed Evolutionary Adaptation for Collective Robotic Systems*, 1/3/2013, Nicolas Bredèche [6]

- PhD: Victorin Martin, *Modélisation Probabiliste et Inférence par l'Algorithme Belief Propagation*, 23/5/2013, Cyril Furtlehner and Jean-Marc Lasgouttes [5]
- PhD: Adrien Couétoux, *Monte Carlo Tree Search (MCTS) for Continuous and Stochastic Sequential Decision Making Problems*, 30/9/2013, Olivier Teytaud [2]
- PhD in progress: Ouassim Ait Elhara, *Stochastic Black-Box Optimization and Benchmarking in Large Dimension*, 1/10/2012, Anne Auger and Nikolaus Hansen
- PhD in progress: Riad Akrou, *Preference Based Reinforcement Learning*, 1/11/2010, Marc Schoenauer and Michèle Sebag
- Sandra Cecilia Astete Morales, *Random Processes for Optimization with Risk*, 1/9/2013, Olivier Teytaud
- PhD in progress: Asma Atamna, *Analysis, Improvement and Benchmarking of Constraint Handling for Stochastic Blackbox Continuous Optimization*, 1/11/2013, Anne Auger and Nikolaus Hansen
- PhD in progress: Jérémy Bensadon, *Information theory for learning and optimization*, 1/10/2012, Yann Ollivier
- PhD in progress: Vincent Berthier, *Unsupervised Learning and Brain Wave Data*, 1/10/2013, Jamal Atif and Michèle Sebag
- PhD in progress: Marie-Liesse Cauwet, *Noisy Optimization for Artificial Intelligence*, 1/9/2013, Olivier Teytaud
- PhD in progress: Alexandre Chotard, *Enhancement and Analysis of Evolution Strategies*, 01.10.2011, Anne Auger and Nikolaus Hansen
- PhD in progress: Jérémie Decock, *Large Scale Constrained Direct Policy Search and Applications to Power Systems*, 3/10/2011, Olivier Teytaud
- PhD in progress: Dawei Feng, *Détection et diagnostic d'anomalies dans les systèmes répartis à grande échelle*, 1/10/2010, Germain-Renaud
- PhD in progress: Nicolas Galichet, *Risk-Aware Reinforcement Learning*, 1/10/2011, Michèle Sebag
- PhD in progress: Yoann Isaac, *Une approche non-supervisée pour la passage à l'échelle des interfaces cerveau-machine*, 1/10/2011, Jamal Atif and Michèle Sebag
- PhD in progress: Jialin Liu, *Portfolios of Noisy Optimization Algorithms*, 14/03/2013, Marc Schoenauer and Olivier Teytaud
- PhD in progress: Gaetan Marceau Caron, *Global Multi-objective Optimization in Air Traffic Control*, 14/12/2010, Marc Schoenauer
- PhD in progress: Weija Wang, *Multi-Objective Reinforcement Learning*, 1/10/2010, Michèle Sebag
- PhD in progress: Yifan Yang, *Jamal*, 1/9/2013, Jamal Atif
- PhD in progress: Guohua Zhang, *Curiosity-Driven Navigation in Evolutionary Robotics*, 1/9/2011, Michèle Sebag

9.2.3. Juries

- Marc Schoenauer, reviewer for Pawan Kumar Mudigonda's HDR, Ecole Normale Supérieure de Cachan, Nov. 2013
- Marc Schoenauer, external reviewer for Martin Pilat's PhD, Charles University, Prague, Czech Republic, July 2013 ; external reviewer for Tianjun Liao's PhD, Ecole Polytechnique de l'Université Libre de Bruxelles, Belgian, June 2013; jury member for Una Blenic's PhD at Université d'Angers, France, April 2013; external jury member for José Manuel Garcia-Nieto's PhD, University of Malaga, Spain, January 2013.
- Michèle Sebag, reviewer for Yuan Yang, Telecom ParisTech, June 2013; Emilie Morvant, Université Aix Marseille, June 2013; Floarea Serban, University of Zurich, Switzerland, 2013; Darko Cerepnalkoski, Josef Stefan Institute, Slovenia, Sept. 2013.

- Marc Schoenauer, reviewer for Irish Science Foundation, Project *Multi-core Attribute Grammatical Evolution* at University Limerick, July 2013
- Michèle Sebag, jury de recrutement CR Inria Lille, April 2013; jury de recrutement TelecomParisTech, June 2013; jury de promotion TelecomParisTech, Oct. 2013.
- Jamal Atif, Michèle Sebag, Olivier Teytaud, members of juries for MDC and PR hiring at Université Paris-Sud.
- Michèle Sebag, jury AAP Digiteo, March 2013.

9.3. Popularization

- Michèle Sebag is interviewed at the *Palais de la Découverte* about Artificial Intelligence, and the video, by "Société de production Stand Alone Media", is visible on YouTube at <http://www.youtube.com/watch?v=uEW32KikKJ8>; talk in "Questions de science et enjeux citoyens" (QSEC), opération culturelle de la région Île-de-France (Ulm, May 2013);
- Yann Ollivier co-organized a bi-monthly math seminar for undergrad students on Saturdays at Institut Henri Poincaré, 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 was part of the scientific steering committee for the booklet *L'explosion des mathématiques* presenting a wide range of applications of mathematics, edited by the SMF and SMAI (planned diffusion: 10,000–20,000 copies).

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 Pérès, 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. A. Denise is a member of the Scientific Committee. Y. Ponty is animator of the *Structure et interactions des macromolécules* scientific axis. C. 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: D. Saakian (A. Sinica, Taiwan), V. Reinharz (McGill), L. Tchertanov (ENS Cachan), H. Babou (Nantes), P. Ballarini (ECP), Nicolas Ferey (LIMSI), Van Du TRAN Thong (IGM), Ulf Leser (Humboldt U.), A. Zinoviev (Institut Curie, Paris), H.K. Hwang (Taipeh U.).

7.1.2.2. Other seminars

J. Bernauer presented her works at *International Conference on Biomolecular Dynamics: Experiment Meet Computation, KAUST, Saudi Arabia*.

R. Fonseca gave a talk at the Inria@SiliconValley Workshop BIS2013 in May in Stanford.

D. Iakovishina gave two talks at Institut Curie : at the weekly seminar of NGSand during the “Structural variants day” in december 2013.

7.1.2.3. International exchanges

J. Bernauer visited H. van den Bedem at SSRL (SLAC) and M. Levitt at Stanford University (USA). She visited the Huang group at HKUST (Hong-Kong).

M. Régnier and D. Iakovishina visited IoGene (Moscow).

7.1.3. Program Committee

P. Amar was a member of the steering committee and chair of the organizing committee for aSSB workshop, advances in Systems and Synthetic Biology, Nice (2013).

J. Bernauer was a member of ICBD 2013 program committee.

S. Cohen-Boulakia was member of the DILS 2013, SWEET 2013 and BDA 2013 program committees and she is member of the editorial board of the Journal on Data Semantics.

Ch. Froidevaux is a member of the editorial board of 1024, Bulletin de la Société Informatique de France, SIF.

Y. Ponty, M. Régnier, and J.-M. Steyaert served as PC members for BICOB 2013 (5th International Conference on Bioinformatics and Computational Biology, Honolulu, USA).

Y. Ponty served as PC member for ISMB/ECCB 2013 (21st International conference on Intelligent Systems for Molecular Biology/12th European Conference on Computational Biology).

M. Régnier co-organized MCCMB'13 <http://mccmb.belozersky.msu.ru/2013/>.

F. d'Alché-Buc, Ch. Froidevaux and Y. Ponty were members of JOBIM 2013 program committee.

J. Bernauer organized IAMB workshop (Integrative Approaches for Modeling Biomolecular Complexes) in Nice in collaboration with McGill University (Canada) and Nice University.

A one day meeting on Cancer and Metabolism was organized at LIX by J.-M. Steyaert on October 4th.

7.1.4. Research administration

- J. Bernauer is member of the IDEX Paris - Saclay Groupe de travail Sciences du Vivant.
- J. Bernauer and C. Froidevaux are member of the Comité de Pilotage of the IDEX Paris - Saclay Institut transverse de Modélisation des Sciences du Vivant.
- A. Denise is a member of the Scientific Commission of the Inria-Saclay research center. He is deputy director of the computer science department at University Paris-Sud. He is member of the Academic Senate of the Paris-Saclay University.
- Ch. Froidevaux is the head of the Bioinfo group at LRI. She was a member of a hiring committee for a Full Professor position at Polytech Paris Sud, Orsay.
- Y. Ponty is an elected member of the *Comité national du CNRS* (6th section – Foundations of Computer Science and CID 51 –Bioinformatics).
- M. Régnier is a deputy-member of DIGITEO program committee.
- J.-M. Steyaert is a member of the Board of Administrators of Polytechnique.
- J.-M. Steyaert has contributed to the organization of a workshop in July 2013 to present currently running projects between AP-HP and Polytechnique. He serves in the selection committee of a MD from HP-HP for a yearly funded research position in the Polytechnique Research Center.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

We have and we will go on having trained a group of good multi-disciplinary students both at the Master and PhD level. Being part of this community as a serious training group is obviously an asset. Our project is also very much involved in two major student programs in France: the Master BIBS (Bioinformatique et Biostatistique) at Université Paris-Sud/École Polytechnique and the parcours d'Approfondissement en Bioinformatique at École Polytechnique. We are also involved in a student partnership with McGill University (partenariat France Quebec offering French and Canadian students co-supervised internships (short term -3 to 6 months- or long term -part of the PhD studies-). J.-M. Steyaert is involved in the development of an interdisciplinary cooperation between Polytechnique and AP-HP that will favor interships of Polytechnicians and Masters students in AP-HP operational services.

Ch. Froidevaux is a member of the Scientific Committee of the Computer Science Doctoral School of Paris-Sud University.

J.-M. Steyaert organizes BIBS (M1 and M2) at Ecole Polytechnique. Ch. Froidevaux is co-heading the Master (M1 and M2) at the University Paris Sud. Most team members are teaching in this master.

J. Bernauer was appointed *Chargé d'enseignement* in the Computer Science Department of École Polytechnique (DIX) in 2013.

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, Algorithmes et Programmation INF421, 36h, 2ème année, Ecole Polytechnique, France

Cycle Ingénieur Polytechnicien: J. Bernauer, Modal Web Tablette INF441a, 36h, 2ème année, Ecole Polytechnique, France

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

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

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

Master : J.-M. Steyaert, X cycle ingénieur BioINF588- Algorithms for Bioinformatics, 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 : Patrick Amar, Contributions à l'étude de la dynamique des systèmes biologiques et aux systèmes de calcul en biologie synthétique, Paris Sud University, 19/12/2013

PhD : Jiuqiang Chen, Designing scientific workflows following a structure and provenance -aware strategy, Université Paris Sud, Defended on 10/10/2013, S. Cohen-Boulakia and C. Froidevaux.

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

PhD in progress : Marc Bouffard, Étude de circuits logiques moléculaires et détection de portes logiques dans un réseau métabolique, Université Paris Sud, 01/10/2013, P. Amar and F. Molina.

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: 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 : Adrien Rougny, Raisonnements sur des connaissances biologiques pour la construction et l'analyse des réseaux de signalisation, 01/10/2013, C. Froidevaux.

PhD in progress : Antoine Soulé, Evolutionary study of RNA-RNA interactions in yeast, 01/09/2013, J.-M. Steyaert 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

7.2.3. Juries

- HDR
 - Ch. Froidevaux was a reviewer for an HDR (Montpellier).
 - J.-M. Steyaert served as a jury member for Hubert Lincet HDR defence (Caen).
- PhD
 - P. Amar served as a referee for Laurent Crepin's PhD defence (Brest University).
 - Ch. Froidevaux served as a referee for a PhD thesis in Rennes and was a member of the committee for J. Leblay.
 - M. Régnier served as a referee for O. Abdou Arbi's PhD defence (Rennes University).
- Funding agencies
 - ANR 2012-2013, SIMI2, J. Bernauer and S. Cohen-Boulakia
 - UEFISCDI 2011-2013 (Research Council Romania), Y. Ponty
- Selection committees
 - Cnrs CR/DR: *comité national* (Section 6 and CID 51), Y. Ponty.
 - Inria CR2/CR1 committee: Saclay, J. Bernauer;
 - Maître de conférence: Paris-Sud, Computer science department, S. Cohen-Boulakia and J. Azé.
 - Maître de conférence: Bordeaux I, A. Denise.
 - Ingénieur de recherche: LIP6 UPMC (Paris), Y. Ponty.

- Chargés d'enseignement et Professeur : Ecole Polytechnique, M. Régnier et J.-M. Steyaert.

7.3. Popularization

- Outreach seminar at *Lycée Blaise Pascal* (Orsay, France) – Yann Ponty – Popular science seminar (2h), jointly organised by INRIA (Saclay) and Académie de Versailles.
- Unite ou café, Inria Saclay Popularization seminar, *Les briques de construction de la vie*, see: <https://intranet.saclay.inria.fr/vie-du-centre/unithe-cafe/rencontres-2013/briques-construction-vie>.

We also had the opportunity to be part of a few valorization related events. RNA structural studies were presented at the Rencontres Inria Industrie - Modélisation, simulation et calcul intensif in June 2013 <http://www.inria.fr/centre/saclay/innovation/rii-modelisation-simulation-calcul-intensif/presentation>. This led to an invitation at Sanofi Pharmacometry and Bioinformatics day in December 2013.

GALEN Project-Team

9. Dissemination

9.1. Scientific Animation

- **Andreas Argyriou**
 - **Conference Committee:** International Joint Conference on Artificial Intelligence (IJCAI), International Conference on Machine Learning (ICML), Advances in Neural Information Processing Systems (NIPS)
 - **Workshop and Tutorials Organization:** International Workshop on Advances in Regularization, Optimization, Kernel Methods and Support Vector Machines: theory and applications (ROKS).
- **Matthew Blaschko**
 - **Conference Committee:** British Machine Vision Conference (BMVC - area chair), IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Neural Information Processing Systems (NIPS), Medical Image Computing and Computer Assisted Intervention (MICCAI), International Conference in Computer Vision (ICCV)
 - **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:** Stanford University - USA.
- **Iasonas Kokkinos**
 - **Editorial Activities:** Associate Editor, Image and Vision Computing Journal.
 - **Editorial Activities:** Guest Editor, Computer Vision and Image Understanding Journal.
 - **Conference Committee:** International Conference on Computer Vision (ICCV), International Conference on Computer Vision (CVPR), Artificial Intelligence and Statistics (AIS-TATS),
 - Energy Minimization Methods in Computer Vision and Pattern Recognition (EMM-CVPR).
 - **Journal Reviewing Services:** International Journal of Computer Vision, IEEE Transactions on Pattern Analysis and Machine Intelligence, Computer Vision and Image Understanding, Machine Vision and Applications.
 - **Invited Seminars/Presentations:** Institute for Pure and Applied Mathematics (IPAM) - USA, University of Oulu - FI, Konrad-Zuse Center for Computer Science - DE, Stony Brook University - USA.
- **Nikos Paragios**
 - **Editorial Activities:** Editor in Chief, Computer Vision and Image Understanding.
 - **Editorial Activities:** Associate Editor, 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.
 - **Editorial Activities:** Guest Editor, IEEE Transactions on Pattern Analysis and Machine Intelligence, Medical Image Analysis.
 - **Conference Committee:** IEEE International Conference in Computer Vision (ICCV-area chair), IEEE International Conference in Computer Vision (CVPR), Information Processing in Medical Imaging (IPMI), Medical Image Computing and Computer Assisted Intervention (MICCAI - area chair).

- **Workshop and Tutorials Organization:** Biomedical Image Analysis Summer School (BIOMED).
- **Journal Reviewing Services:** International Journal of Computer Vision, IEEE Transactions on Medical Imaging, NeuroImage.
- **Invited Seminars/Presentations:** Siemens Corporate Research - USA, Colloquium on Data Science in the Big Data Era - FR, SEERSS International Congress in Robotic Surgery - GR.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Participants: Matthew Blaschko, Iasonas Kokkinos, Pawan Kumar, Nikos Paragios.

9.2.2. 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.

9.2.3. Supervision

- HdR : Pawan Kumar, Weakly Supervised Learning for Structured Output Prediction, Ecole Normale Supérieure de Cachan - ENS Cachan, 12/2013
- HdR : Iasonas Kokkinos, Learning and Optimization for Shape-based Representations, Université Paris-Est, 9/2013
- PhD: Pierre-Yves Baudin, Graph-based Segmentation of Skeletal Striated Muscles in NMR Images, Ecole Centrale de Paris, 05/2013, Nikos Paragios
- PhD: Katerina Gkirtzou, Sparsity Regularization and Graph-based Representations in Medical Imaging, 12/2013, Ecole Centrale de Paris, Nikos Paragios
- PhD: Nicolas Honnorat, Curvilinear Structures Segmentation and Tracking in Interventional Imaging, 01/2013, Ecole Centrale de Paris, Nikos Paragios
- PhD: Helene Langet, Sampling and Motion Reconstruction in Three-dimensional X-Ray Interventional Imaging, 03/2013, Ecole Centrale de Paris, Gilles Fleury & Nikos Paragios
- PhD: Fabrice Michel, Multi-Modal Similarity Learning for 3D Deformable Registration of Medical Images, 10/2013, Ecole Centrale de Paris, Nikos Paragios
- PhD: Sarah Parisot, Graph-based Detection, Characterization & Segmentation of Brain Tumors, 11/2013, Ecole Centrale de Paris, Nikos Paragios
- PhD: Bo Xiang, Knowledge-Based Image Segmentation Using Sparse Shape Priors and High-Order MRFs, Ecole Centrale de Paris, 11/2013, Nikos Paragios

PhD in progress : Stavros Alchatzidis, Message Passing Methods, Parallel Architectures & Visual Processing, 2011-2014, Nikos Paragios

PhD in progress : Wacha Bounliphone, Sparse Methods towards data mining in Bio-informatics& Bio-imaging, 2013-2016, Matthew Blaschko

PhD in progress : Haithem Boussaid, Learning-based mid-level processing for computer vision and medical imaging, 2010-2014, Iasonas Kokkinos

PhD in progress : Enzo Ferrante, 2D-to-3D Multi-Modal Deformable Image Fusion, 2012-2015, Nikos Paragios

PhD in progress : Vivien Fecamp, Linear-Deformable Multi-Modal Deformable Image Fusion, 2012-2015, Nikos Paragios

PhD in progress : Evgenios Kornaropoulos, Diffusion Coefficient: a novel computer aided biomarker, 2010-2013, Nikos Paragios

PhD in progress : Puneet Kumar, Weakly Supervised Learning for Object Detection and Semantic Segmentation, 2010-2013, Pawan Kumar

PhD in progress : Stavros Tsogkas, Learning-based mid-level processing for computer vision and medical imaging, 2011-2014, Iasonas Kokkinos

9.2.4. *Juries*

- **Andreas Argyriou**
 - **PhD Thesis Participation:** G. Zappella - IT (PhD).
- **Matthew Blaschko**
 - **PhD Thesis Participation:** K. Gkirtzou - FR (PhD).
- **Iasonas Kokkinos**
 - **Grant Reviewing Services:** Swiss National Science Foundation.
- **Nikos Paragios**
 - **PhD Thesis Participation:** P-Y. Baudin - FR (PhD), K. Gkirtzou - FR (PhD), M. Heinrich - UK (PhD), N. Honnorat - FR (PhD), P. Kumar (HDR), H. Langet - FR (PhD), S. Merlet - FR (PhD), F. Michel - FR (PhD), S. Parisot - FR (PhD), B. Xiang - FR (PhD).
 - **Grant Reviewing Services:** Agence National de la Recherche, Austrian Research Council, Danish Research Council, Dutch Research Council, European Research Council, Israel Research Foundation, Swiss National Science Foundation.

M3DISIM Team

8. Dissemination

8.1. Scientific Animation

Dominique Chapelle

- Member of the editorial boards of journals *Computers & Structures* and *M2AN*
- Program committee of conference “Functional Imaging and Modeling of the Heart 2013”
- Invited lecturer at conference “Shell Structures - Theory and Applications 2013”
- Member of the Academic Senate of FCS Paris-Saclay

Philippe Moireau

- Reviewer this year for ACOM IJNME JOMP MCCA journals, the Waves conference and the American Control Conference

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Philippe Moireau

Bachelor’s degree: “MA103 - Introduction aux EDP et à leur approximation numérique”, 14h, M1, ENSTA ParisTech, France

Master’s: “MA201 - La méthode des éléments finis”, 3h lectures and 14h classes, M2, ENSTA ParisTech, France

Sébastien Imperiale

Master’s: “MA201 - La méthode des éléments finis”, 12h, M2, ENSTA ParisTech, France

Post-graduate: “Numerical methods for waves propagation simulations”, 4h30, Collège Polytechnique, France

Post-graduate: “Piezoelectric sensor and wave based inverse problems”, Summer school on Inverse Problems, Bremen, 1h30, Germany

Annabelle Collin

Oral examination: “Algebra and Geometry”, UPMC, Spring 2012

Bachelor’s degree: “Multivariable Calculus”, UPMC, fall 2012

8.2.2. Supervision

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: Bruno Burtshell, “Mechanical modeling and numerical methods for poromechanics: Applications to cardiac perfusion”, Ecole Polytechnique, started October 2013, advisors D. Chapelle and P. Moireau

PhD defended in December: Alexandre Imperiale, “Image-based observation operators for data assimilation in cardio-mechanics”, UPMC, started October 2010, advisors D. Chapelle and P. Moireau

8.2.3. Juries

Dominique Chapelle: member of PhD committee of S. Marchesseau

Philippe Moireau: member of PhD committee of A.-C. Boulanger

8.3. Popularization

TV News Story “**la météo du coeur**” (how to predict the heart weather) on France5 “Magazine de la santé” (11 March 2013)

D. Chapelle invited speaker at “**Horizon Maths 2013**”

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 2013 conference: *Functional Data-Driven Atlases of the Brain*<http://www.humanbrainmapping.org/i4a/pages/index.cfm?pageid=3526> and took part to the morning workshop entitled *Big Data in Neuroimaging: Big Opportunities or Just a Big Hassle - The Skeptical Neuroimagers View*.
- Bertrand Thirion organized a national workshop on Brain-Computer Interfaces at ICM, paris, on June 4th <https://itneuro.aviesan.fr/Local/itneuro/dir/documents/newsletter/Newsletteroctobre2013.pdf>.
- B. Thirion and G. Varoquaux organized the MMBC workshop at MICCAI 2013 <http://groups.csail.mit.edu/vision/mmhc2013/>.
- G. Varoquaux was program chair for PRNI 2013 and committee for Euroscopy 2013.
- G. Varoquaux acts as reviewer for NeuroImage, HBM, MedIA, TMI, Frontiers in NeuroInformatics, Frontiers in Brain Imaging methods and Trends in cognitive science Review editor for Frontiers in NeuroInformatics and Frontiers in Brain Imaging methods and as expert for ANR and Agoranov.
- Gael Varoquaux presented scikit-learn and machine learning tools and concepts at the Microsoft Spark incubator, and at Cap Digital.
- Philippe Ciuciu is IEEE senior member, member of the BioImaging Signal Processing (BISP) committee of the IEEE ISBI conference for 3 years (2013-15). He will be BISP area chair of the 2014 IEEE ICASSP conference in Florence.
- Philippe Ciuciu was the main organizer with JM Lina of a symposium in Montreal in Oct 2013: *Scale-free Dynamics and Networks in Neurosciences*, financially supported by the Centre de recherche mathématique de l'université de Montreal. <http://www.crm.umontreal.ca/2013/Neuro13/>.
- Philippe Ciuciu is an international expert and reviewer for the *Biotechnology and Biological Sciences Research Council*: <http://www.bbsrc.ac.uk> and the *Technology Foundation STW, Netherlands*. He also serves as **reviewer** for the French research funding agency (ANR) in the field of biomedical engineering and life science research calls. He is also reviewer for 16 peer-reviewing journals including IEEE TMI/BME/SP/IP/PAMI, Medical Image Analysis, NeuroImage, Human Brain Mapping, Plos One, MAGMA, JMRI, Journal of Neuroscience Methods, Signal Processing. He regularly serves as reviewer for the MICCAI, IEEE (ICASSP, ISBI, ICIP, EMBC, PRNI), EUSIPCO, HBM, SampTA, conferences.
- 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.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Gael Varoquaux

- Stat Course cogmaster (3 × 3H)
- Python course Inria Rocquencourt et Rennes: 8Hrs each time
- Optimization tutorial at Euroscipy: 2H
- Scikit-learn tutorial at Scipy: 4H
- Functional connectivity course at OHBM: 30mn, ISMRM 30mn

Bertrand Thirion

- Master MVA, Imagerie fonctionnelle cérébrale et interface cerveau machine, 12h + 3h, M2, ENS Cachan, France.

8.2.2. Supervision

PhD : Solveig Badillo, Study of hemodynamic variability in sane adults and children in fMRI, Paris XI, 18/11/2013, supervised by Philippe Ciuciu

PhD : Virgile Fritsch, High-dimensional statistical methods for inter-subject neuroimaging studies, Paris XI, 18/12/2013, supervised by J.-B. Poline and B. Thirion

8.2.3. Juries

- B. Thirion was reviewer for the PhD thesis of A.C. Philippe (Inria Sophia-Antipolis); the defense took place at Sophia-Antipolis on Dec. 19th, 2013.
- G. Varoquaux was examiner for the PhD defense of Katerina Gkirtzou at Centrale Paris, in Dec. 2013.
- P.Ciuciu took part to three PhD committees in 2013, one as reviewer (F. Karahonuglu, EPFL, Lausanne, Switzerland).

8.3. Popularization

PARIETAL presented a game designed by Virgile Fritsch to illustrate our research activities on brain activity decoding, at the Salon de jeux et culture mathématique (May 30th-June 2nd, 2013).

Popix Team

9. Dissemination

9.1. Scientific Animation

Editorial Activity.

POPIX members reviewed articles for *Bioinformatics*, *Journal of Statistical Software*, *Computational Biology and Chemistry*, *European Journal of Clinical Pharmacology*, *Ecological Modelling*, *Scientia Iranica*, *Computers in Biology and Medicine*, *Communications in Mathematical Sciences*, *SIAM journal of Scientific Computing*, *Computational Statistics and Data Analysis*, *Statistical Sciences*.

Bertrand Maury is Associate Editor of *M2AN*.

Conference Participation

Marc Lavielle:

- PAGE Meeting, Glasgow UK, June 2013
- ACOP Meeting, Fort-Lauderdale USA, May 2013
- Rencontres de statistiques, Avignon, June 2013
- Combine 2013, Paris, September 2013
- GDR Metice, Paris, June 2013
- SMB 2013, Paris, September 2013

Bertrand Maury:

- MMCS 2013 (Ecole Centrale de Paris),
- CPDE 2013 (IHP),
- French Chilian Polish Conference 2013 (Poland),
- Conference NUMACH 2013 (Sevilla)
- Bertrand Maury is the leader of the GDR (Groupement de Recherche) Maths-Entreprise, a group of more than 300 researchers, dedicated to tighten the links between academic research in mathematics and private companies (<http://www.maths-entreprises.fr>).

Astrid Decoene:

- MOTIMO colloquium, Nice, September 2013.

Célia Barthélémy:

- PAGE Meeting, Glasgow UK, June 2013
- Journées de la SFdS, Toulouse, June 2013

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Masters: Astrid Decoene, Elements finis et optimisation sous contraintes, Master EDPCS, Paris-Sud University.

Licence: Astrid Decoene, Licence Sciences Technologie Santé, mention mathématiques, Paris-Sud University.

Masters: Marie-Anne Poursat, Coordinator of the Mathematical Engineering course, Paris-Sud University

Masters: Marc Lavielle, Modèles Mixtes et Approche de Population, 24 hours, Paris-Sud University.

Masters: Bertrand Maury, Finite element method and optimization, modeling of the respiratory system, Paris-Sud University.

Masters: Bertrand Maury, Computational Fluid Dynamics, Numerical Analysis and Optimization, Ecole Polytechnique.

Miscellaneous: Marc Lavielle, Population approach and Mixed effects models: PAGE meeting 2013 (Glasgow); ACOP meeting 2013 (Fort-Lauderdale); University of Manchester (UK); University of Buffalo (USA).

9.2.2. Supervision

- PhD in progress: Célia Barthélémy, *Modèles à effets mixtes pour l'assimilation de données en oncologie*, debut: October 2012, Marc Lavielle.
- Bertrand Maury co-supervises several PhD students: J. Fouchet-Incaux, A. Preux, G. Le Poutier, L. Lacouture, C. Etchegarai.
- Astrid Decoene co-supervises the PhD thesis of L. Lacouture.
- 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.

9.2.3. Juries

- Kevin Bleakley was in selection committees for Maître de Conférence positions in biostatistics at Paris 6 and Paris 11 Universities. He also participated in the Thesis Committee of Eltaf Alamyar, Montpellier 2 University.
- Marc Lavielle was referee for the HDR of Stéphanie Allasonnière.
- Bertrand Maury was member of the jury for CR2 Inria. He was also member of the selection committees of Nice (PR) and Orsay (MCF).
- Marie-Anne Poursat was member of the selection committee of Orsay (MCF).

9.3. Popularization

We have built a comprehensive online wiki (WikiPopix, <https://wiki.inria.fr/popix>) for the population approach with mixed-effects models. This wiki aims to be an invaluable resource for all pharmacometricians, statisticians, teachers, graduate and undergraduate students in academia, industry and regulatory agencies. It is freely available online for all these communities.

Furthermore, the team developed an online animated film called *Introduction to PK modeling* for interested members of the public and for teaching and training purposes. It can be seen at <https://team.inria.fr/popix/files/2013/02/PKmodelling.swf>, and joins two previous animated films already developed by the team (see <http://team.inria.fr/popix/files/2011/11/PopulationApproach.swf>).

GRAND-LARGE Project-Team

7. Dissemination

7.1. Scientific Animation

Christine Eisenbeis

- IJPP (International Journal on Parallel Programming) editorial board.

Marc Baboulin

- Member of Steering Committee of ACM High Performance Computing Symposium (HPC 2013), San Diego, April 7-10, 2013.

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. 3 heures de cours.

Master: M. Baboulin and J. Falcou teach in "Calcul Haute Performance" of M2 recherche NSI of University Paris Sud 11.

Polytech 5th year: M. Baboulin and J. Falcou teach the "Parallel Computing" class.

7.2.2. Supervision

PhD : Amal Khabou, Dense matrix computations: communication cost and numerical stability, University Paris Sud 11, 11 February 2013, PhD Supervisor: L. Grigori

PhD in progress: Ian Masliah, Automatic code generation in high-performance computing numerical libraries, University Paris Sud 11, Supervisors: M. Baboulin and J. Falcou

PhD in progress: Adrien Rémy, Solving dense linear systems on accelerated multicore architectures, University Paris Sud 11, Supervisors: M. Baboulin and B. Rozoy

PhD in progress: Yushan Wang, Numerical simulations of incompressible fluid flows on heterogeneous parallel architectures, University Paris Sud 11, Supervisors: M. Baboulin and O. Le Maître

PhD in progress: Lénaïc Bagnères, université Paris-Sud 11, supervisors: Cédric Bastoul and Christine Eisenbeis

PhD in progress: Alessandro Leite, université Paris-Sud 11, supervisors: Alba de Melo (university of Brazilia), Claude Tadonki (CRI, école des Mines de Paris), Christine Eisenbeis

PhD in progress: Michael Kruse, Polytopic memory layout optimization, université Paris-Sud 11, supervisor: Christine Eisenbeis

7.2.3. Committees

- Marc Baboulin, President of the PhD committee of Marc Letournel: "Approches duales dans la résolution de problèmes stochastiques", September 27, 2013.
- Christine Eisenbeis, jury de HdR de Claude Tadonki, "High Performance Computing as a Combination of Machines and Methods and Programming", jeudi 16 mai 2013, université Paris-Sud.

7.3. Popularization

Christine Eisenbeis est membre du conseil scientifique des programmes du centre d'Alembert, Centre Interdisciplinaire d'Étude de l'Évolution des Idées, des Sciences et des Techniques (CIEEIST), de l'université Paris-Sud.

AVIZ Project-Team

9. Dissemination

9.1. Scientific Animation

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

9.1.1. Keynotes and Invited Talks

- Jean-Daniel Fekete: Panel “Dataviz, pour quel buzz ?” at Ouverture des données massives scientifiques. Quels risques, quels bénéfices ?, ISCC, CNRS, Paris, Dec. 6, 2013
- Jean-Daniel Fekete: Advanced Interaction for Information Visualization, Bergen, Norway, Nov. 21, 2013
- Jean-Daniel Fekete: ANF - Fréjus 2013 La carte, le territoire et l’explorateur : où est la visualisation ?, Fréjus, 23 Sep. 2013 Ecole d’été de Lille en Méthodes Quantitatives des Sciences Sociales,
- Jean-Daniel Fekete: “Visualisation pour l’exploration de données relationnelles”, Lille, July 4, 2013,
- Jean-Daniel Fekete: Invited talk for the 25th anniversary of Fraunhofer IGD: Visual Analytics of Large Social Networks, Darmstadt, Germany, Nov. 14, 2013
- V. Puig and Samuel Huron: “La visualisation comme vecteur de contribution”, CEA Saclay, November 2013.

9.1.2. Scientific Associations

- Jean-Daniel Fekete is a member of the Steering Committee of EuroVis (Eurographics WG on Data Visualization).
- Jean-Daniel Fekete is a member of the Steering Committee of the IEEE Information Visualization Conference.
- Jean-Daniel Fekete is the president of the French-Speaking HCI Association.
- Tobias Isenberg is a member of the Steering Committee of the Expressive conference.

9.1.3. Conference Organization

- Jean-Daniel Fekete is a member of the ACM SIGCHI Conference Management Committee, in charge of Data Analysis.
- Jean-Daniel Fekete co-organized the International Workshop on Interactive, Ultra-High-Resolution Displays.
- Petra Isenberg was workshop co-chair for IEEE VIS.
- Tobias Isenberg was tutorials and workshops co-chair for ACM Interactive Tabletops and Surfaces (ITS).

9.1.4. Conference Program Committees

- Pierre Dragicevic was a member of the program committee for CHI 2013,
- Pierre Dragicevic was a member of the program committee for VIS 2013,
- Pierre Dragicevic was a member of the doctoral consortium for IHM 2013,
- Jean-Daniel Fekete was a member of the program committee for Interact 2013,
- Jean-Daniel Fekete was a member of the program committee for IEEE InfoVis 2013,

- Jean-Daniel Fekete was a member of the program committee for IEEE VAST 2013,
- Petra Isenberg was a member of the program committee for the BLEND 2013 workshop,
- Petra Isenberg was a member of the program committee for the CMI 2013 workshop,
- Petra Isenberg was a member of the program committee for the EuroRVVV 2013 workshop,
- Petra Isenberg was a member of the program committee for the ITS 2013 workshop on collaboration meets interactive surfaces,
- Petra Isenberg was a member of the program committee for EuroVA 2013,
- Petra Isenberg was a member of the program committee for EuroVis 2013,
- Petra Isenberg was a member of the program committee for CHI 2013,
- Petra Isenberg was a member of the program committee for IEEE InfoVis 2013,
- Petra Isenberg was a member of the program committee for ACM ITS 2013,
- Tobias Isenberg was a member of the program committee for ISIS3D 2013,
- Tobias Isenberg was a member of the program committee for ACM/Eurographics Expressive 2013,
- Tobias Isenberg was a member of the program committee for IEEE InfoVis 2013,
- Tobias Isenberg was a member of the program committee for the EuroRVVV 2013 workshop,
- Tobias Isenberg was a member of the program committee for ACM SUI 2013,
- Tobias Isenberg was a member of the program committee for EuroVis full papers 2013,
- Tobias Isenberg was a member of the program committee for EuroVis short papers 2013,
- Wesley Willett was a member of the program committee of CHI 2013 Works-in-Progress.

9.1.5. Journal Editorial Board

- Jean-Daniel Fekete is associate editor of IEEE Transactions on Visualization and Computer Graphics.
- Tobias Isenberg is associate editor of Elsevier Computers & Graphics.
- Tobias Isenberg was a guest editor of a special issue of Sage Publishing's Information Visualization on visualization evaluation.

9.1.6. Conference Reviewing

3DUI IEEE Symposium on 3D User Interfaces: Tobias Isenberg
 BioVis IEEE Symposium on Biological Data Visualization: Tobias Isenberg
 CAe International Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging: Tobias Isenberg
 CGI Computer Graphics International: Tobias Isenberg
 CHI ACM Conference on Human Factors in Computing System: Benjamin Bach, Pierre Dragicevic, Jean-Daniel Fekete, Petra Isenberg, Tobias Isenberg, Welsey Willet
 CHI-WIP ACM Conference on Human Factors in Computing Systems—Work in Progress: Petra Isenberg
 CSCW ACM Conference on Computer Supported Cooperative Work: Petra Isenberg, Welsey Willet
 EG Annual Conference of the Eurographics Association: Tobias Isenberg
 EuroVA EuroVis Workshop on Visual Analytics: Jean-Daniel Fekete, Petra Isenberg
 EuroVis Eurographics/IEEE Conference on Visualization: Jean-Daniel Fekete, Petra Isenberg, Tobias Isenberg, Welsey Willet
 GD Graph Drawing: Pierre Dragicevic
 IHM Conférence Francophone sur l'Interaction Homme-Machine: Pierre Dragicevic, Tobias Isenberg

InfoVis IEEE Information Visualization Conference: Benjamin Bach, Pierre Dragicevic, Petra Isenberg, Tobias Isenberg, Welsey Willet

Interact IFIP Conference on Human-Computer Interaction: Petra Isenberg

ITS ACM Conference on Interactive Tabletops and Surfaces: Petra Isenberg, Tobias Isenberg

NPAR ACM Symposium on Non-Photorealistic Animation and Rendering: Tobias Isenberg

PacificVis IEEE Pacific Visualization Symposium: Tobias Isenberg

Pervasive IEEE Conference on Pervasive Computing: Welsey Willet

SciVis IEEE Scientific Visualization Conference: Tobias Isenberg

SIGGRAPH ACM Conference on Computer Graphics and Interactive Techniques: Tobias Isenberg

SIGGRAPH Asia ACM Conference on Computer Graphics and Interactive Techniques in Asia: Tobias Isenberg

SUI ACM Symposium on Spatial User Interaction: Tobias Isenberg

UbiComp ACM International Joint Conference on Pervasive and Ubiquitous Computing: Welsey Willet

UIST ACM Symposium on User Interface Software and Technology: Petra Isenberg, Welsey Willet

VR IEEE Virtual Reality: Tobias Isenberg

9.1.7. Journal Reviewing

C&G Elsevier Computers and Graphics: Petra Isenberg, Tobias Isenberg

IJHCS : Pierre Dragicevic, Petra Isenberg

InfoVis Journal Palgrave's InfoVis Journal: Petra Isenberg

IWC Journal Interacting with Computers: Petra Isenberg

JOCCH ACM Journal on Computing and Cultural Heritage: Tobias Isenberg

PUC Journal of Personal and Ubiquitous Computing: Petra Isenberg

ToCHI ACM Transactions on Computer-Human Interaction: Pierre Dragicevic, Petra Isenberg, Tobias Isenberg

TVCG IEEE Transactions on Visualization and Computer Graphics: Benjamin Bach, Pierre Dragicevic, Tobias Isenberg

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Module “Interactive Information Visualization” of Univ. Paris-Sud (M2, 24h, taught by Pierre Dragicevic, Jean-Daniel Fekete, Petra Isenberg, Wesley Willett, Charles Perin), Master course
- “Innovative Interactive Systems” taught by Tobias Isenberg at the University of Groningen, the Netherlands
- “Non-Photorealistic Rendering” taught by Tobias Isenberg at the University of Granada, Spain
- “Interaction with 3D visualizations” taught by Tobias Isenberg at the summer school of the EU Data Intensive Visualization and Analysis project at Göteborg (Gothenburg), Sweden

9.2.2. Supervision

- PhD in progress: Yvonne Jansen, Physical and Tangible Information Visualization, Pierre Dragicevic, Jean-Daniel Fekete (will defend on 10 March 2014)
- PhD in progress: Benjamin Bach, Visualization of Dynamic Networks, Emmanuel Pietriga, Jean-Daniel Fekete (will defend May 2014)
- PhD in progress: Charles Perin, Visualization and interaction with Multidimensional and Temporal Data, Jean-Daniel Fekete & Frédéric Vernier

- PhD in progress: Jeremy Boy, Visualization for the People, Jean-Daniel Fekete & Françoise Detienne
- PhD in progress: Nicolas Heulot, Visualization and Interaction of High-Dimensional Data, Jean-Daniel Fekete & Michael Aupetit
- PhD in progress: Pascal Goffin, From Individual to Collaborative Work, Petra Isenberg, Jean-Daniel Fekete

9.2.3. Juries

- Pierre Dragicevic was external examiner for Raphaël Hoarau's PhD defense: "Interaction et visualisation avec des liens de dépendances," Université de Toulouse, Aug. 2013
- Jean-Daniel Fekete was external examiner for Cyprien Pindat, "A Content-Aware Design Approach to Multiscale Navigation," Univ. Paris-Sud, Dec. 20, 2013
- Jean-Daniel Fekete was external examiner for Çağatay Turkyay, "Integrating Computational Tools in Interactive and Visual Methods for Enhancing High-dimensional Data and Cluster Analysis", Univ. of Bergen, Nov. 22, 2013
- Tobias Isenberg was external examiner for Tiffany Inglis, "Pixelating Vector Art," University of Waterloo, Canada, December 2013
- Tobias Isenberg was external examiner for Hua Li, "Perception-Motivated High Quality Stylization," Carleton University, Canada, January 2013

9.3. Popularization

Samuel Huron: 9.3. News Paper and press cover : 04/2013, "Zeitgeist Borders shows a world of Google searches", NewScientist, Hal Hodson 11/2013, "Les flux de données visualisés en temps réel", La Recherche, Samuel Huron, Romain Vuillemot, Jean Daniel Fekete

DAHU Project-Team

7. Dissemination

7.1. Scientific Animation

Organization of workshops and conferences.

- Serge Abiteboul, Pierre Senellart and Victor Vianu organized the Final Workshop for Web data management (nicknamed Webdone) in Paris 2013.

Program Committees.

- Cristina Sirangelo: 16th Intl. Conf. on Database Theory (ICDT 2013). ICDT 2013 Test of Time Award.
- Luc Segoufin: Intl. Conf. on Logic in Computer Science (LICS'13).

Responsibilities.

- Luc Segoufin is since 2010 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/>).
- S. Abiteboul is the principal investigator of the European Research Council Grant Webdam on Web Data Management.

As a member of the Sciences Academy, S. Abiteboul wrote a report on "L'enseignement de l'informatique en France - Il est urgent de ne plus attendre".

S. Abiteboul is since 2013 a member of the Conseil national de la recherche. As a member, he participated in 2013 in reports on Net neutrality, Computer science education, and digital inclusion.

S. Abiteboul is chairman of the Inria Awards committee.

S. Abiteboul is chairman of the Scientific Board of Société d’Informatique de France.

S. Abiteboul is a member of the Academic Senat of the University Paris-Saclay.

S. Abiteboul is a member of the Academia Europea.

Larger audience. In 2013, S. Abiteboul gave talks to Entretiens de la Cité in Lyon, Conférence cultures numériques, éducation aux médias et à l’information in Lyon, Conférences Science et société in Nancy, Congrès de la Société informatique de France in Nice, Forum régionaux des Savoirs in Rouen. Journée Economie de la connaissance et économie numérique at IHEST, Saclay.

In particular, S. Abiteboul gave talks on Big data in insurances at Journée SCOR sur les Big data et les assurances, and Journée Ifpas de l’assurance in Paris; on Big data and health at Open data et santé, Congrès Health IT. He also discussed the place of fiction in the Web at Séminaire Vérification, CNAM, Paris, 2013.

S. Abiteboul a été également auditionné à l’Assemblée nationale par la commission des affaires économiques, Mission d’information sur l’économie numérique; et par l’Office parlementaire d’évaluation des choix scientifiques et technologiques, sur le Risque numérique. 2013.

S. Abiteboul gave interviews to Le Monde, Famille Chrétienne, and 01Net.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Master : Cristina Sirangelo, Complexité avancée, 18 hours ETD, M1, MPRI, France

Master : Cristina Sirangelo, Algorithms, 15 hours ETD, Préparation à l'agrégation, École Normale Supérieure de Cachan, France

Licence : Cristina Sirangelo, Bases de données, 30 hours ETD, L3, École Normale Supérieure de Cachan, France

Doctorat : Cristina Sirangelo, Bases de données et sites Web dynamiques, 18 hours ETD, École Normale Supérieure de Cachan, France

Doctorat : Cristina Sirangelo, Création de sites Web, 18 hours ETD, 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

Master : Luc Segoufin, Finite Model Theory and Descriptive Complexity, MPRI.

Licence : Émilien Antoine, Algorithmique et complexité, 32h, L3, Université de Paris-Sud, France

7.2.2. Supervision

PhD: Wojciech Kazana, Query Evaluation with Constant Delay, 16/09/2013, Luc Segoufin

PhD in Progress: Nadime Francis, graph databases, 01/09/2011, Cristina Sirangelo and Luc Segoufin

PhD : Émilien Antoine, Data management in social network, 05/12/2013, Serge Abiteboul

7.2.3. Juries

- Luc Segoufin was reviewer for the PhD thesis of Stefan Mengel, Paderborn, Germany.
- Luc Segoufin was reviewer for the PhD thesis of Johann Brault-Baron, Université de Caen, France.

7.3. Popularization

Serge Abiteboul participated to a popularization book on mathematics, « Mathématiques, l'explosion continue », with an article, Chercher sur le Web : juste un point fixe et quelques algorithmes.

Serge Abiteboul wrote with Pierre Senellart an article on “ Un déluge de données”, in Pour la science sur le Big bang numérique, 2013.

IN-SITU Project-Team

9. Dissemination

9.1. Scientific Animation

Conference Organization

- CHI 2013, *ACM Conference on Human Factors in Computing Systems*, Paris, 2013: Wendy Mackay (General Chair), Michel Beaudouin-Lafon (Technical Program Co-Chair)
- ECRC 2013, *First ACM European Computer Research Congress*, Paris, 2013: Michel Beaudouin-Lafon (Organizing Committee member)
- IHM 2013, *Conférence Francophone d'Interaction Homme-Machine*: Stéphane Huot (Program Co-Chair)

Program Committees

- CHI, *ACM Conference on Human Factors in Computing*: Caroline Appert, Stéphane Huot
- UIST, *ACM Symposium on User Interface Software and Technology*: Caroline Appert
- INTERACT 14th IFIP TC13 *Conference in Human-Computer Interaction*: Caroline Appert, Olivier Chapuis, Stéphane Huot
- Eurographics, *34th Annual Conference of the European Association for Computer Graphics*: Theophanis Tsandilas
- PacificVis, *IEEE Pacific Visualization Symposium 2013*: Anastasia Bezerianos
- IHM, *Conférence Francophone d'Interaction Homme-Machine*: Olivier Chapuis

Editorial Boards

- CACM, *Communications of the ACM*, ACM: Wendy Mackay (2008-)
- TOCHI, *Transactions on Computer Human Interaction*, ACM: Michel Beaudouin-Lafon (2009-)
- IJHCS, *International Journal of Human-Computer Study*, Elsevier: Michel Beaudouin-Lafon (Member of the Advisory Board, 2009-)
- JCSCW, *Journal of Computer Supported Cooperative Work*, Springer: Michel Beaudouin-Lafon (Member of the Advisory Board, 2010-)

Journal and Conference Reviewing

- Transactions on Computer-Human Interaction (TOCHI), ACM: Anastasia Bezerianos, Olivier Chapuis, Lora Oehlberg, Theophanis Tsandilas
- International Journal of Human-Computer Studies (IJHCS), Elsevier: Olivier Chapuis
- Journal on Computing and Cultural Heritage (JOCCH), ACM: Theophanis Tsandilas
- ACM CHI 2013: Anastasia Bezerianos, David Bonnet, Jérémie Garcia (Work In Progress), Theophanis Tsandilas
- ACM UIST 2013: Michel Beaudouin-Lafon, Anastasia Bezerianos, David Bonnet, Olivier Chapuis, Stéphane Huot, Theophanis Tsandilas
- ACM EICS 2013 - ACM Symposium on Engineering Interactive Computing Systems: Stéphane Huot
- ACM ITS 2013 - ACM Conference on Interactive Tabletop and Surfaces: Anastasia Bezerianos, Olivier Chapuis, Stéphane Huot
- ACM MobileHCI 2013 - ACM Conference on Human-Computer Interaction with Mobile Devices and Services: Olivier Chapuis
- TEI 2013 - Conference on Tangible Embedded and Embodied Interaction: Stéphane Huot
- IEEE InfoVis 2013 - IEEE Information Visualization Conference: Anastasia Bezerianos
- IHM 2013 - Conference Francophone d'Interaction Homme-Machine: Michel Beaudouin-Lafon, Theophanis Tsandilas

Research Organizations

- Agence Nationale de la Recherche (ANR), “Contenus et Interactions” program: Michel Beaudouin-Lafon (Steering Committee member)
- Agence Nationale de la Recherche (ANR), “Blanc” program: Caroline Appert and Theophanis Tsandilas (Reviewers)
- Agence Nationale de la Recherche (ANR), “Blanc International” and “Jeunes Chercheuses Jeunes Chercheurs” programs: Caroline Appert (Reviewer)
- Steering Committee of the Campus Paris-Saclay “Institute for Digital Society” (“Institut de la Société Numérique”): Michel Beaudouin-Lafon (Member)
- Alliance des Sciences et Technologies du Numérique (ALLISTENE), Working group “Knowledge, Content and Interaction”: Wendy Mackay and Michel Beaudouin-Lafon (Members)
- Alliance des Sciences et Technologies du Numérique (ALLISTENE), Working group “Interactions des mondes physiques, de l’humain et du monde numérique” for the National Research Strategy agenda: Michel Beaudouin-Lafon (Co-chair)

Learned Societies

- Association Francophone d’Interaction Homme-Machine (AFIHM): Olivier Chapuis (member of the board, vice-president), Stéphane Huot (members of the board and of the scientific council – CPPMS)
- Paris SIGCHI Local Chapter: Anastasia Bezerianos (vice-president)
- ACM Europe Council: Michel Beaudouin-Lafon (member)
- ACM SIGCHI: Wendy Mackay (member of conference management committee)

Hiring committees

- 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, Wendy Mackay
- Univ. Bordeaux I (Bordeaux) hiring committee, Comité de Sélection 27ème section (computer science), members: Stéphane Huot

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Interaction Masters (Research Master in Computer Science, Interaction Specialty): Anastasia Bezerianos & Michel Beaudouin-Lafon, Chairs, Caroline Appert, Cédric Fleury, & Wendy Mackay, Internships organization, M2, Univ. Paris-Sud

HCID Masters (EIT ICT Labs European Master in Human-Computer Interaction and Design): Michel Beaudouin-Lafon & Anastasia Bezerianos, Chairs, Wendy Mackay, M1 & M2, Univ. Paris-Sud

DUT Informatique: Stéphane Huot, Director of studies for the 1st year, IUT Orsay – Univ. Paris-Sud

Masters in Computer Science & HCID Masters: Anastasia Bezerianos & Cédric Fleury *Programming of Interactive Systems*, 63 hrs, M1, Univ. Paris-Sud

Research Masters in Computer Science: Wendy Mackay & Anastasia Bezerianos *Formation à la Recherche* 45 hrs, M2 (all research specialties), Univ. Paris-Sud

Interaction Masters & HCID Masters: Michel Beaudouin-Lafon, *Fundamentals of Human-Computer Interaction*, 38 hrs, M1/M2, Univ. Paris-Sud

Interaction Masters & HCID Masters: Wendy Mackay *Design and Evaluation of Interactive Systems*, 63 hrs, M1/M2, Univ. Paris-Sud

HCID Masters: Wendy Mackay *Business Design Labs*, 8 hrs, M1, Univ. Paris-Sud

Master 2 Professional: Anastasia Bezerianos *Design and Evaluation of Interactive Systems*, 38 hrs, M2Pro, Univ. Paris-Sud

Interaction Masters: Anastasia Bezerianos, *Mixed Reality and Tangible Interaction*, 18 hrs, M2, Univ. Paris-Sud

Interaction Masters: Michel Beaudouin-Lafon & Cédric Fleury, *Groupware and Collaborative Interaction*, 38 hrs, M2, Univ. Paris-Sud

HCID Masters: Caroline Appert, *Evaluation of interactive systems*, 63 hrs, M1, Univ. Paris-Sud

HCID Masters: Anastasia Bezerianos, Wendy Mackay, Michel Beaudouin-Lafon, *Human-Computer Interaction project*, 50 hrs, M1, Univ. Paris-Sud

Polytech 3ème année: Anastasia Bezerianos *Interaction Homme-Machine*, 18 hrs, M1, Univ. Paris-Sud

License 2: Anastasia Bezerianos *Developpement Logiciel*, 15 hrs, L2, Univ. Paris-Sud

DUT Informatique: Stéphane Huot, *Programmation Orientée Objet*, 21 hrs, L2, IUT Orsay – Univ. Paris-Sud

9.2.2. Supervision

Habilitations

HdR : Stéphane Huot, “*Designing Interaction*”: *A Missing Link in the Evolution of Human-Computer Interaction*, Université Paris-Sud, 7 May 2013

PhD Students

PhD : Cyprien Pindat, *A Content-Aware Design Approach to Multiscale Navigation*, Université Paris-Sud, defended on 20 December 2013, Claude Puech, Emmanuel Pietriga & Olivier Chapuis

PhD in progress : David Bonnet, *Gesture-based interactions and instrumental interaction*, October 2011, Michel Beaudouin-Lafon & Caroline Appert

PhD in progress : Jérémie Garcia, *Supporting creative activities with interactive paper*, October 2010, Wendy Mackay & Theophanis Tsandilas

PhD in progress : Ghita Jalal, *Co-Adaptive Systems*, September 2013, Wendy Mackay

PhD in progress : Alexandre Kouyoumdjian, *Multimodal Selection of Numerous Moving Targets in Large Visualization Platforms: Application to Interactive Molecular Simulation.*, October 2013, Stéphane Huot, Patrick Bourdot & Nicolas Ferey (LIMSI-CNRS)

PhD in progress : Can Liu, *Collaborative Multiscale Navigation and Interaction*, October 2012, Michel Beaudouin-Lafon, Olivier Chapuis & Eric Lecolinet (Telecom ParisTech)

PhD in progress : Justin Mathew, *New visualization and interaction techniques for 3D spatial audio*, June 2013, Stéphane Huot & Alan Blum (ENS Louis-Lumière)

PhD in progress : Daniel Strazzulla, *Multimedia Communication*, October 2012, Wendy Mackay

PhD in progress : Oleksandr Zinenko, *Interactive Code Restructuring*, September 2013, Stéphane Huot & Cédric Bastoul (Université de Strasbourg)

Masters students

Jessalyn Alvina. *RouteLens: efficient route following for map applications*, April - September 2013, Caroline Appert & Olivier Chapuis

Stephan Delarue. *Performance gestuelle et physiologie*, April – August 2013, Caroline Appert & Halla Olafsdottir

Evanthia Dimara. *Linking AI and HCI through Co-Adaptive Instruments*. April - September 2013, Wendy Mackay.

Magdalini Grammatikou. *BricoSketch: Replicating and reusing electronic and physical material in professional illustrations*, April - September 2013, Stéphane Huot & Theophanis Tsandilas

Thibaut Jacob. *Sketching Interactions for Data Exploration*, April - September 2013, Anastasia Bezerianos & Theophanis Tsandilas

Ghita Jalal. *Co-Adaptive Instruments*. May - September 2013, Wendy Mackay

Antoine Ponsard. *Interactive Visualisation with Temporal Data*. April - June 2013, Michel Beaudouin-Lafon September 2013, Anastasia Bezerianos & Theophanis Tsandilas

Julia Vlasenko. *Interactive Visualization of Ubiquitous Dat*. May - November 2013, Wendy Mackay

Summer Schools

Reviewing process workshop, Rencontres Jeunes Chercheurs en Interaction Homme-Machine. June 17-20, 2013. RJC-IHM'13, Lyon, France. Caroline Appert.

Les thèmes émergents de l'IHM, Rencontres Jeunes Chercheurs en Interaction Homme-Machine. June 17-20, 2013. RJC-IHM'13, Lyon, France. Olivier Chapuis.

Tangible Interfaces and Instrumental Interaction, French-German Tangible Interaction Studio. August 26-28, 2013, Biarritz, France. Michel Beaudouin-Lafon.

Participatory Information Technology, Generative Walkthroughs Summer School. August 26-28, 2013, Aarhus, Denmark. Michel Beaudouin-Lafon & Wendy Mackay.

UXdesign : l'expérience au service des apprentissages ?, Keynote at the Campus Européen d'Été 2013 de l'Université de Poitiers. September 16-20, 2013, Poitiers, France. Wendy Mackay.

9.2.3. Juries

Simon Perrault (Télécom ParisTech, Paris): Olivier Chapuis, reviewer

Sebastien Rufiange (École de Technology Supérieure, Canada): Anastasia Bezerianos, reviewer

Raphaël Hoarau (ENAC, Toulouse): Michel Beaudouin-Lafon, reviewer and president

Joseph Malloch (McGill University, Canada): Michel Beaudouin-Lafon, reviewer

Eakachai Charoenchaimonkon (AIT, Bangkok): Michel Beaudouin-Lafon, reviewer

Dong-Bach Vo (Télécom ParisTech, Paris): Stéphane Huot, jury member

9.3. Popularization

Wendy Mackay was interviewed for Inria/Technoscope: "L'interaction homme-machine en ligne de mire", February, 2013, and for an article in "Science & Vie" on the topic of Google Glass, November 12, 2013.

Wendy Mackay was interviewed on two *France Culture* radio shows: "Place de la Toile" on the topic of tomorrow's computers ("l'ordinateur de demain") on September 7, 2013 and on "Science Publique" on the topic of whether augmented reality will change our vision of the world ("La réalité augmentée va-t-elle changer notre vision du monde?") on November 1, 2013.

Wendy Mackay and Michel Beaudouin-Lafon were each interviewed as the scientist of the day ("savant du jour") on the *France Inter* radio show "On va tous y passer", on October 30 and November 20, 2013 respectively.

OAK Project-Team

8. Dissemination

8.1. Scientific Animation

Journal editorial responsibilities

- I. Manolescu has been the editor-in-chief of the ACM SIGMOD Record and an associate editor of the ACM Transactions on Internet Technologies. She has also been a member of the editorial board of PVLDB. Further, she has been the guest editor of a special issue of the *Ingénierie et Science Informatique (ISI)* journal vol. 18, no. 4, 2013.

Program committees memberships

- Nicole Bidoit served in the program committee of ADBIS 2013, the 7th East-European Conf. on Advances in Databases and Information Systems, Genoa (Italy).
- Bogdan Cautis served as program committee member for the international conferences ACM SIGMOD 2013 and ACM CIKM 2013.
- Dario Colazzo served as program committee member for the national conference Bases de Données Avancées (BDA) 2013.
- F. Goasdoué has participated to the program committees of the International Joint Conference on Artificial Intelligence (IJCAI, senior PC), IEEE International Conference on Tools with Artificial Intelligence (ICTAI), and International Workshop on Open Data (WOD), 2013.
- M. Herschel served as program committee member at the following conferences: Bases de Données Avancées (BDA) 2013, Advances in Databases and Information Systems (ADBIS) 2013, Data Management Technologies and Applications (DATA) 2013, IEEE Big Data 2013, Extending Database Technology (EDBT) 2013, and Business, Technology, and Web (BTW) 2013.
- I. Manolescu has participated to the program committees of the ACM SIGMOD Conference 2013, EDBT 2013 demonstration track, International Workshop on the Web and Databases (WebDB) 2013, Workshop on Open Data (WOD) 2013, and the Workshop "Data Engineering Meets the Semantic Web (DESWEB)" associated with the IEEE ICDE Conference, 2013.

Participation to scientific bodies

- International:
 - * I. Manolescu: member of the ACM SIGMOD Executive Committee, the EDBT Association, and the IEEE TCDE Awards Committee (since October 2013).
- National:
 - * I. Manolescu has been the president of the *Bases de Données Avancées (BDA)* steering committee in Jan-Oct 2013.
 - * N. Bidoit and I. Manolescu: members of the BDA committee.
- Faculty recruitment committees:
 - * N. Bidoit has been a member of a Professor recruitment committee at UNIV. PARIS-SUD (IUT).
 - * I. Manolescu has been a member of a Assistant Professor recruitment committees at U. Paris VI and U. Paris IX, and of a Professor committee at U. Paris IX.
- Other local committees and responsibilities:

- * Nicole Bidoit has been the head of the UNIV. PARIS-SUD Database team (until Jun 2013). In July, the team has fused with another Univ. one to form the new University team LaHDaK, of which N. Bidoit is the vice-head.
- * Nicole Bidoit is the head of the CS Doctoral School (ED 427) of UNIV. PARIS-SUD, a member of the HdR ad-hoc Committee, a member of the Inria SIF Scientific Committee, and is in charge of the CS Doctoral School in the EIT ICT Labs Doctoral Program. She is also a member of the LRI council, of the CCSU 27, and of the Telecom SudParis School Committee.
- * Nicole Bidoit and Ioana Manolescu are members of the steering committee of *Institut de la Société Numérique - ISN* within the Paris-Saclay IdEx.
- * Ioana Manolescu is a member of the executive committee of the DIGICOSME LabEx; she is also an elected member of Inria SIF personnel representative committee (since Oct 2013).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: François Goasdoué, Databases, 62.5 ETD, L3, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Relational database systems: application tuning, 21h ETD, M2, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Databases, 21 ETD, M2, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Database Management Systems, 36h ETD, Polytech, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Databases, 21 ETD, Polytech, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Advanced Databases, 31 ETD, Polytech, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Remedial Databases, 17 ETD, M1, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Web Data Management, 18 ETD, M1, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, Databases, 20 ETD, Polytech, UNIV. PARIS-SUD, France.

Master: Dario Colazzo, XML and Web programming, 18 ETD, M2, UNIV. PARIS-SUD, France.

Master: François Goasdoué, Semantic Web, 74 ETD, M2, UNIV. PARIS-SUD, France.

Master: François Goasdoué, Data and Knowledge for the Web, 7.5 ETD, M2, UNIV. PARIS-SUD, France.

Master: François Goasdoué, Distributed Reasoning, 4.5 ETD, M2, UNIV. PARIS-SUD, France.

Master: Ioana Manolescu, Big Data Algorithms and Techniques for the Web, 18 ETD, M2, UNIV. PARIS-SUD, France.

Master: Melanie Herschel, Data Warehouses and OLAP, 99.5 ETD, M2, UNIV. PARIS-SUD, France.

Master: Bogdan Cautis, Introduction to Databases, 30 ETD, M1, Telecom ParisTech, France.

Master: Bogdan Cautis, Advanced Databases, 60 ETD, M1, Telecom ParisTech, France.

Master: Bogdan Cautis, Modern Web Data Management, 45 ETD, Telecom ParisTech – Athens week, France.

Master: Bogdan Cautis, Massive Data Analysis, 18 ETD, Ecole Polytechnique – COMASIC Master, France.

8.2.2. Supervision

PhD: Julien Leblay, “Techniques d’optimisation pour des données semi-structurées du web sémantique”, UNIV. PARIS-SUD, September 2013, François Goasdoué and Ioana Manolescu.

PhD: Asterios Katsifodimos, “Scalable view-based techniques for web data : algorithms and systems”, UNIV. PARIS-SUD, July 2013, Ioana Manolescu.

Raphael Bonaque: “Structured, Social and Semantic Search”, since October 2013, Bogdan Cautis, François Goasdoué, and Ioana Manolescu.

Jesús Camacho-Rodríguez : “Cloud-based Web Data Management”, since October 2011, Dario Colazzo and Ioana Manolescu.

Alexandra Roatiş: “Scalable Database Techniques for the Semantic Web”, since October 2011, Dario Colazzo, François Goasdoué, and Ioana Manolescu.

Aikaterini Tzompanaki: Foundations and Algorithms to Compute the Provenance of Missing Data, since November 2012, Melanie Herschel and Nicole Bidoit.

Stamatis Zampetakis: “Massively Parallel Algorithms for Semantic Web Data”, since October 2012, François Goasdoué and Ioana Manolescu.

Ioana Ileana: “Extracting and Archiving Web Data: a holistic approach”, since October 2011, Bogdan Cautis.

8.2.3. *Juries*

Ioana Manolescu has been a member of the PhD committee of Siarhei Bykau in April 2013, University of Trento, Italy.

François Goasdoué has been a member of the PhD committee of Anh Tuan Ly in December 2013, University Paris-Sud, France.

Bogdan Cautis has been a member of the PhD committee of Émilien Antoine (December 2013, University of Paris-Sud, France).

8.3. Popularization

- T. Ghosh, I. Manolescu, A. Tzompanaki, A. Roatiş and S. Zampetakis have presented a graph-based game to the audience of *Fête de la Science* in October 2013.
- Still part of *Fête de la Science* 2013, I. Manolescu has participated to a “speed dating” event between researchers and high-school students in Paris.