



RESEARCH CENTER
Nancy - Grand Est

FIELD

Activity Report 2015

Section Dissemination

Edition: 2016-03-21

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CAMUS Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

Cédric Bastoul has been co-organizing the HIP3ES 2015 workshop (High Performance Energy Efficient Embedded Systems) held in conjunction with the international conference HiPEAC 2015. He is also currently organizing the next HIP3ES event, to be held in conjunction with the international conference HiPEAC 2016.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

Philippe Clauss and Vincent Loechner have been part of the program committee of IMPACT 2015 (International Workshop on Polyhedral Compilation Techniques), held in conjunction with the international conferences HiPEAC 2015.

Philippe Clauss has been part of the program committee of the third workshop on Energy Efficient Super Computing (E2SC), held in conjunction with SC15.

Alain Ketterlin has been part of the program committee of CGO 2016 (International Symposium on Code Generation and Optimization, cgo.org/cgo2016).

Cédric Bastoul and Vincent Loechner have been part of the program committee of both HIP3ES 2015 and HIP3ES 2016 (International Workshop on High Performance Energy Efficient Embedded Systems), held in conjunction with the international conferences HiPEAC 2015 (resp. HiPEAC 2016).

Cédric Bastoul has been part of the program committee of IMPACT 2016 (International Workshop on Polyhedral Compilation Techniques), held in conjunction with the international conferences HiPEAC 2016.

Cédric Bastoul has been part of the program committee of PARMA+DITAM 2015 and PARMA+DITAM 2016 (Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures + Workshop on Design Tools and Architectures for Multicore Embedded Computing Platforms), held in conjunction with HiPEAC 2015 (resp. HiPEAC 2016).

10.1.2.2. Reviewer

Cédric Bastoul has been reviewer for the following conferences and workshops: PARMA 2015 and 2016 (International Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures), IMPACT 2016 (International Workshop on Polyhedral Compilation Techniques), HIP3ES 2015 and 2016 (International Workshop on High Performance Energy Efficient Embedded Systems).

10.1.3. Journal

10.1.3.1. Editorial board membership

Since October 2001, J. Gustedt is Editor-in-Chief of the journal *Discrete Mathematics and Theoretical Computer Science* (DMTCS).

In 2014, the [episcience](http://episcience.inria.fr) platform for open access journals has been created in a joint effort by Inria and CNRS. In 2015, DMTCS, as one of the first journals, has moved to this platform presenting a new [server interface](http://serverinterface.inria.fr) which lives on top of the national scientific archive [HAL](http://hal.inria.fr). We have been a driving force in the definition and debugging of the new platform, see [1].

10.1.3.2. Reviewer - Reviewing activities

Jens Gustedt has served as a reviewer for *Theory of Computing Systems* and *IEEE Transactions on Parallel and Distributed Systems*.

Philippe Clauss has served as a reviewer for the following journals: *ACM Transactions on Architecture and Code Optimization*, *ACM Transactions on Programming Languages and Systems*.

Alain Ketterlin has served as a reviewer for the following journals: *Parallel Computing*, and *International Journal of Parallel Programming*. He has also served as sub-reviewer for the PACT 2015 conference.

Cédric Bastoul has been reviewer for the *Parallel Computing international journal* (ParCo).

10.1.4. Scientific expertise

Cédric Bastoul has been an expert for the European Commission for the call FETHPC of the H2020 programme. He also has been an expert for the French research ministry and the French finance ministry for the research tax credit programme.

10.1.5. Standardization

Since Nov. 2014, Jens Gustedt is a member of the ISO working group SC22-WG14 for the standardization of the C programming language. He participates actively in the **defect report** processing, the planning of future versions of the standard, and publishes an ongoing document to track inconsistencies and improvements of the C threads interface, see [27].

This work on the C programming language also gave rise to the proposal of a language extension, **Modular C**, see [25].

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : Alain Ketterlin, Algorithmique et Structures de Données (Licence de Mathématique), 40h, L3, Université de Strasbourg, France

Licence : Alain Ketterlin, Réseaux et Protocoles (Licence d'Informatique), 64h, L3, Université de Strasbourg, France

Master : Alain Ketterlin, Ingénierie de la preuve, 21h, M1, Université de Strasbourg, France.

Licence : Alain Ketterlin, Architecture et Programmation des mécanismes de base d'un système informatique, 68h, L1 (IUT), Université de Strasbourg, France.

Licence : Alain Ketterlin, Modèles de calcul, 14h, L1, Université de Strasbourg, France.

2nd year engineering school: Jens Gustedt, programmation avancée, 20h, ENSIIE Strasbourg, France

Licence : Jens Gustedt, systèmes concurrents, 20h, Université de Strasbourg, France

Licence : Philippe Clauss, Architecture des ordinateurs, 45h, Université de Strasbourg, France

Licence : Philippe Clauss, Systèmes d'exploitation, 40h, Université de Strasbourg, France

Master : Philippe Clauss, Compilation, 78h, Université de Strasbourg, France

Master : Philippe Clauss, Système et programmation temps-réel, 25h, Université de Strasbourg, France

Master : Philippe Clauss, Compilation avancée, 30h, Université de Strasbourg, France

Licence : Vincent Loechner, Systèmes d'exploitation, 38h, L2, Université de Strasbourg, France

Master : Vincent Loechner, parallélisme, 14h, M1, Université de Strasbourg, France

Master : Vincent Loechner, calcul parallèle, 32h, M1, Université de Strasbourg, France

Master : Vincent Loechner, langages interprétés, 37h, M1, Université de Strasbourg, France

Master : Vincent Loechner, OS embarqués, 31h, M2, Université de Strasbourg, France
 Telecom Physique Strasbourg : Vincent Loechner, calcul parallèle, 20h, M2, Université de Strasbourg, France
 Licence : Eric Violard, Programmation Fonctionnelle, 21h, L2, Université de Strasbourg, France
 Licence : Eric Violard, Architecture des Ordinateurs, 16h, L2, Université de Strasbourg, France
 Licence : Eric Violard, Logique et Programmation Logique, 26h, L2, Université de Strasbourg, France
 Licence : Eric Violard, Algorithmique et Structure de Données, 35h, L3, Université de Strasbourg, France
 Licence : Cédric Bastoul, Architecture, 68h, L1 (IUT), Strasbourg University, France
 Licence : Cédric Bastoul, Operating Systems, 16h, L2, Strasbourg University, France
 Licence : Cédric Bastoul, Concurrent Systems, 19h, L3, Strasbourg University, France
 Master : Cédric Bastoul, Compiler Design, 48h, M1, Strasbourg University, France
 Master : Cédric Bastoul, Advanced Compilation, 23h, M1, Strasbourg University, France
 Master : Cédric Bastoul, Parallelism, 16h, M1, Strasbourg University, France
 Master : Cédric Bastoul, Introduction to Research, 7h, L3+M1, Strasbourg University, France

10.2.2. Supervision

PhD in progress: Yann Barsamian, *Space-Filling Curves and their Application to the Numerical Resolution of Vlasov Equations*, since Oct 2014, Eric Violard

PhD in progress: Tomasz Buchert, Madynes team, *Orchestration of experiments on distributed systems*, since Oct 2011, defended on Jan 6 2016, Jens Gustedt & Lucas Nussbaum.

PhD in progress: Mariem Saied, *Ordered Read-Write Locks for Multicores and Accelerators*, since Nov 2013, Jens Gustedt & Gilles Muller.

PhD in progress: Daniel Salas, *integration of the ORWL model into parallel applications for medical research*, since Mar 2015, Jens Gustedt & Isabelle Perseil.

PhD in progress: Juan Manuel Martinez Caamaño, *Dynamic and flexible generation of parallel loops using a dedicated intermediate representation*, since November 2013, Philippe Clauss and Philippe Helluy (IRMA lab., University of Strasbourg)

PhD in progress: Nabil Hallou, *Dynamic binary optimizations*, since January 2013, Erven Rohou (ALF team) and Philippe Clauss

PhD in progress: Luis Esteban Campostrini, *Virtual linear data layout*, since January 2015, Philippe Clauss

PhD in progress : Lénaïc Bagnères, Automatic parallelization and optimization for manycore architectures, November 2012, Christine Eisenbeis and Cédric Bastoul

PhD in progress : Alexander Zinenko, Interactive program manipulation, September 2013, Stéphane Huot and Cédric Bastoul

PhD: Aravind Sukumaran-Rajam, *Beyond the Realm of the Polyhedral Model: Combining Speculative Program Parallelization with Polyhedral Compilation*, University of Strasbourg, November the 5th, 2015, Philippe Clauss

PhD: Imen Fassi, *XFOR (Multifor): A New Programming Structure to Ease the Formulation of Efficient Loop Optimizations*, University of Strasbourg, November the 27th, 2015, Philippe Clauss

PhD: Jean-François Dollinger, *A framework for efficient execution on GPU and CPU+GPU systems*, University of Strasbourg, July the 1st, 2015, Vincent Loechner and Philippe Clauss

10.2.3. Juries

Jens Gustedt participated to the following PhD jury in 2015:

Date	Candidate	Place	Role
July 8	Florian David	Univ. Pierre et Marie Curie, Paris	Examiner

Philippe Clauss participated to the following PhD juries in 2015:

Date	Candidate	Place	Role
Oct. 9	Hangbing Li	Univ. Rennes 1	Reviewer
Sept. 18	Nicolas Triquenaux	Univ. Versailles Saint-Quentin-en-Yvelines	Reviewer

Alain Ketterlin was a member of the following PhD juries in 2015:

Date	Candidate	Place	Role
Mar. 5	Bharath Narasimha-Swamy (Adv.: André Seznec)	Univ. Rennes 1	Examiner
Nov. 5	Fabien Rozar (Adv.: Jean Roman & Guillaume Latu)	Univ. Bordeaux	Examiner

Cédric Bastoul participated to the following HDR jury in 2015:

Date	Candidate	Place	Role
May 18	Corinne Ancourt	École des Mines de Paris	President
Nov. 2	Erven Rohou	Université de Rennes 1	Examiner

Cédric Bastoul participated to the following PhD juries in 2015:

Date	Candidate	Place	Role
September 25	Riyadh Badhdadi	Pierre et Marie Curie University	Reviewer

10.3. Popularization

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

Cédric Bastoul presented lectures and activities at the *Kids University* event at the University of Strasbourg in November 2015

Cédric Bastoul prepared activities for *Fête de la Science* at University of Paris-Sud in October 2015

CAMEL Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

Maïke Massierer and Pierre-Jean Spaenlehauer organized a minisymposium on “Applications of polynomial system solving in cryptology”⁰ within the SIAM conference on applied algebraic geometry conference, held in Daejeon (Corea) on August 3-7, 2015.

10.1.2. Scientific events selection

10.1.2.1. Member of steering committees

- Pierrick Gaudry is a member of the steering committee of the Workshop on Elliptic Curve Cryptography (ECC).

10.1.2.2. Member of the conference program committees

- Jérémie Detrey was a member of the program committee of
 - the *Conférence d’informatique en Parallélisme, Architecture et Système* (Compas 2015);
 - the Fourth International Conference on Cryptology and Information Security in Latin America (Latincrypt 2015).
- Pierrick Gaudry was a member of the program committee of
 - the 9th International Workshop on Coding and Cryptography (WCC 2015);
 - the 7th International Workshop on Parallel Symbolic Computation (PASCO 2015).
- Emmanuel Thomé was a member of the program committee for
 - the 19th Workshop on Elliptic Curve Cryptography (ECC 2015);
 - the 8th International Symposium on Foundations & Practice of Security (FPS 2015);
 - the 35th Annual International Conference on the Theory and Applications of Cryptographic Techniques (Eurocrypt 2016).
- Marion Videau was a member of the program committee of
 - the Symposium sur la sécurité des technologies de l’information et des communications, SSTIC 2015;
 - the International Conference on Information Security and Cryptology, ICISC 2015;
 - the GreHack, 2015.

10.1.2.3. Reviewing activities

- Jérémie Detrey reviewed submissions to
 - the 22nd IEEE Symposium on Computer Arithmetic (ARITH 22);
 - the *Conférence d’informatique en Parallélisme, Architecture et Système* (Compas 2015);
 - the Fourth International Conference on Cryptology and Information Security in Latin America (Latincrypt 2015);
 - the 19th International Conference on the Theory and Practice of Public-Key Cryptography (PKC 2016).
- Pierre-Jean Spaenlehauer reviewed submissions to

⁰http://wiki.siam.org/siag-ag/index.php/Applications_of_Polynomial_System_Solving_in_Cryptography

- the 40th International Symposium on Symbolic and Algebraic Computations (ISSAC 2015);
- the 21st Annual Conference on the Theory and Application of Cryptology and Information Security (Asiacrypt 2015);
- 6th International Conference on Mathematical Aspects of Computer and Information Sciences (MACIS 2015);
- The 28th International Conference of the Jangjeon Mathematical Society (ICJMS 2015).
- Maïke Massierer reviewed a submission to the IACR International Conference on Practice and Theory of Public-Key Cryptography (PKC 2015).
- Pierrick Gaudry reviewed submissions to
 - the 30th ACM/SIGAPP Symposium On Applied Computing (SAC 2015);
 - the 22nd IEEE Symposium on Computer Arithmetic (ARITH 22);

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- Pierrick Gaudry is a member of the editorial board of *Applicable Algebra in Engineering, Communication and Computing* (AAECC).

10.1.3.2. Reviewing activities

- Jérémie Detrey reviewed submissions to
 - the IEEE Transactions on Dependable and Secure Computing (TDSC);
 - the ACM Transactions on Mathematical Software (TOMS).
- Pierre-Jean Spaenlehauer reviewed submissions to
 - the Journal of Symbolic Computation (JSC);
 - *Commentationes Mathematicae Universitatis Carolinae* (CMUC);
 - *Mathematical Modeling and Numerical Analysis* (ESAIM-M2AN);
 - the Journal of Cryptographic Engineering (JCEN).
- Maïke Massierer reviewed submissions to
 - *Finite Fields and Applications* (FFA);
 - *Applicable Algebra in Engineering, Communication and Computing* (AAECC).
- Pierrick Gaudry reviewed submissions to
 - *Applicable Algebra in Engineering, Communication and Computing* (AAECC).
 - *Journal of Cryptology*;

10.1.4. Invited talks

- Jérémie Detrey gave invited talks at
 - the tutorial session of the 22nd IEEE Symposium on Computer Arithmetic (ARITH 22, June, Lyon, France);
 - the summer school of the 19th Workshop on Elliptic Curve Cryptography (ECC 2015, September, Bordeaux, France).
- Pierre-Jean Spaenlehauer gave invited talks at
 - the Workshop on Structured Low-Rank Approximation (June, Grenoble, France);
 - the SIAM conference on Applied Algebraic Geometry, Minisymposium on Algorithms and Complexity in Polynomial System Solving (August, Daejeon, Korea);
 - the SIAM conference on Applied Algebraic Geometry, Minisymposium on ML Degree and Critical Points (August, Daejeon, Korea);

- the Third Workshop on Hybrid Methodologies for Symbolic-Numeric Computations (August, Beijing, China);
- the Workshop on Algebra, Geometry and Proofs in Symbolic Computation (December, Toronto, Canada).
- Pierrick Gaudry gave invited talks at
 - the CATREL Workshop: Advances in Discrete Logarithms (October, Palaiseau, France);
 - the Colloquium Jacques Morgenstern (Nice-Sophia).
- Emmanuel Thomé gave an invited talk at the CATREL Workshop: Advances in Discrete Logarithms (October, Palaiseau, France).

10.1.5. Other committees

- Jérémie Detrey is chairing the *Commission des Utilisateurs des Moyens Informatiques* (CUMI) of the Inria Nancy – Grand Est research center.
- Pierre-Jean Spaenlehauer is a member of the *Commission des développements technologiques* (CDT) of the Inria Nancy – Grand Est research center.
- Pierrick Gaudry was a member in 2015 of
 - the *Commission de mention Informatique* of the *École doctorale IAEM* of the University of Lorraine;
 - the hiring committee for an associate professor position Univ. Montpellier;
 - the committee for the HCERES evaluation of the LITIS laboratory in Rouen;
 - the evaluation committee for the *Algorithmics, Computer Algebra and Cryptology* Inria theme, acting as *coordinator*.
- Emmanuel Thomé is a member of
 - the management committee for the research project “CPER Cyberentreprises” (co-chair).
 - the *Comité Local Hygiène, Sécurité, et Conditions de Travail* of the Inria Nancy – Grand Est research center.
- Marion Videau was a member of the hiring committee for the 2015 junior research positions (CR2) at Inria Saclay.
- Laurent Grémy is a member of the *Conseil de laboratoire* of the Loria.

10.1.6. Seminar organisation

10.1.6.1. CAMEL seminar

Five speakers were invited in our seminar in 2015: Matthieu Rambaud, Roland Wen, Jan Tuitman, Frédéric Bihan, Chenqi Mou.

10.1.6.2. Joint security seminar with the university master in computer science

The team is involved with other teams and the university master in computer science in the organization of the security seminar which started in 2013. Fifteen speakers were invited in 2015: Graham Steel, Nicolas Fischbach, Georges Bossert, Jean-Philippe Aumasson, Khartik Bhargavan, Kenny Paterson, Bertrand Wallrich, Cédric Lauradoux, Nora Cuppens, Christian Grothoff, Éric Freyssinet, Maxime Clementz, Kostas Chatzikokolakis, Emmanuel Thomé, Olivier Levillain.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence

Jérémy Detrey, *Security of websites*, 2 hours (lecture), L1, Université de Lorraine, IUT Charlemagne, Nancy, France.

Jérémy Detrey, *Introduction to Cryptology and Information Security*, 10 hours (lectures) + 10 hours (tutorial sessions) + 10 hours (practical sessions), L3, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Pierrick Gaudry, *Algorithmique et Programmation*, 16 hours (practical sessions), L1, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Pierrick Gaudry, *Méthodologie*, 24 hours (practical sessions), L1, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Master

Pierre-Jean Spaenlehauer, *Introduction to Cryptography*, 12 hours (lectures), M1, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Emmanuel Thomé, *Introduction to Cryptography*, 12 hours (lectures), M1, Télécom Nancy, Vandœuvre-les-Nancy, France.

Emmanuel Thomé, *Cryptography and Security*, 20 hours (lectures + exercices), M2, Télécom Nancy and École des Mines de Nancy, France.

Marion Videau and Stéphane Glondu supervised the semestrial project of all the students of M2, SSSR-SAW, Université de Lorraine, département d'informatique, France.

Other

Emmanuel Thomé, *Discrete logarithms in Finite Fields*, advanced course for the ECC 2015 summer school, Bordeaux, France.

10.2.2. Supervision

- **Ph.D. in progress**

Simon Abelard, *Comptage de points de courbes algébriques sur les corps finis et interactions avec les systèmes polynomiaux*, since Sep. 2015, Pierrick Gaudry & Pierre-Jean Spaenlehauer.

Svyatoslav Covanov, *Algorithmes de multiplication : complexité bilinéaire et méthodes asymptotiquement rapides*, since Sep 2014, Jérémy Detrey & Emmanuel Thomé.

Laurent Grémy, *Analyse et optimisation d'algorithmes de cribles arithmétiques*, since Oct. 2013, Pierrick Gaudry & Marion Videau.

Hugo Labrande, *Calcul effectif d'isogénies entre jacobiniennes de courbes algébriques par une méthode d'analyse complexe*, since Sep 2013, Emmanuel Thomé & Michael J. Jacobson, Jr. (Univ. Calgary, Canada).

- **Ph.D. defended in 2015**

Cyril Bouvier, *Algorithmes pour la factorisation d'entiers et le calcul de logarithme discret*, supervised by Paul Zimmermann, defended in June.

Hamza Jeljeli, *Accélérateurs logiciels et matériels pour l'algèbre linéaire creuse sur les corps finis*, supervised by Jérémy Detrey & Emmanuel Thomé, defended in July.

10.2.3. Juries

- Jérémy Detrey was a member of the jury of the ÉNS competitive entrance exam.

- Pierrick Gaudry was a reviewer and member of the jury for the PhD thesis of Enea Milio (Univ. Bordeaux); he was in the jury for the PhD thesis of Florent Rovetta (Univ. Aix-Marseille).
- Emmanuel Thomé was a reviewer and member of the jury for the PhD thesis of Bastien Vialla (Montpellier).
- Marion Videau was a reviewer and member of the jury for the PhD thesis of Stéphanie Riaud (Rennes).

10.3. Popularization

- Jérémie Detrey gave a presentation on the Enigma machine and its cryptanalysis to high-school teachers as part as the *journée EPI-ISN*.
- Laurent Grémy has given in April an introductory course about the Diffie-Hellman protocol for high school students during a discovery day of the Université de Lorraine.
- Pierre-Jean Spaenlehauer has participated in a session “activités débranchées” organized by Marie Dufлот-Kremer (MCF Univ. Lorraine) during the event MathC2+ which was held in CRI Nancy – Grand Est. The aim of this session was to provide junior high school students with an initiation to computer science through a set of algorithmic games.
- Pierre-Jean Spaenlehauer has animated a stand in the “Village des Sciences du Loria” in April 2015.

CARTE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committees

- Guillaume Bonfante and Jean-Yves Marion participated to the organisation of the partnership meeting between JAIST and LORIA in Nancy, October 2015
- Simon Perdrix has been member of the organizing committee of the Workshop of the Groupe de Travail informatique Quantique in Grenoble 26-27 November 2015.
- Simon Perdrix has been member of the organizing committee of the Workshop of the Groupe de Travail GeoCal-LAC-LTP in Nancy 12-14 October 2015.

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

- Guillaume Bonfante was co-chair of the 8th international symposium on foundation and practice of security 2015.
- Guillaume Bonfante was in the Program Committee of Protection and Reverse Engineering Workshop 2015.
- Guillaume Bonfante was in the Program Committee of the workshop on Logic and Computational Complexity (LCC) 2015.
- Emmanuel Jeandel was in the Program Committee of Computability in Europe (CiE) 2015.
- Jean-Yves Marion was in the Program Committee of the 8th international symposium on foundation and practice of security 2015.
- Jean-Yves Marion was in the Program Committee of Protection and Reverse Engineering Workshop 2015.
- Romain Péchoux was in the Program Committee of FOundational and Practical Aspects of Resource Analysis (FOPARA) 2015.
- Simon Perdrix was in the Program Committee of Asian Quantum Information Science Conference (AQIS) 2015.
- Simon Perdrix is in the Program Committee of Quantum Physics and Logic (QPL), forthcoming: QPL'16 in Glasgow in June 2016.

9.1.2.2. Reviewer

Mathieu Hoyrup reviewed articles for:

- MFCS 2015
- STACS 2015

Emmanuel Jeandel reviewed articles for:

- MFCS 2015
- STACS 2015

Romain Péchoux reviewed articles for:

- FOPARA 2015
- ISMVL 2015
- FOSSACS 2016

Simon Perdrix reviewed articles for:

- AQIS 2015
- ICALP 2015
- LICS 2015
- QPL 2016

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing activities

Emmanuel Hainry reviewed articles for:

- *Theoretical Computer Science*
- *Applicable Analysis and Discrete Mathematics*

Mathieu Hoyrup reviewed articles for:

- *Journal of Symbolic Logic*
- *Information and Computation*
- *Mathematical Structures in Computer Sciences*
- *Logical Methods in Computer Science*
- *Theory of Computing Systems*

Emmanuel Jeandel reviewed articles for:

- *Discrete Mathematics and Theoretical Computer Science*
- *Ergodic Theory and Dynamical Systems*

Romain Péchoux reviewed articles for:

- *Computability - Journal of the association Computability In Europe*
- *Information and Computation*

Simon Perdrix reviewed articles for:

- *Quantum Information and Computation*

9.1.4. Invited talks

- Guillaume Bonfante was invited to give a talk on implicit complexity within NC at the Shonan Meeting on Low Level Code Analysis and Application to Computer Security.
- Mathieu Hoyrup was invited to give a talk at the annual workshop Continuity, Computability, Constructivity (CCC 2015) in Kochel am See, Germany, September 2015.
- Simon Perdrix was invited to give a talk:
 - “The ZX Calculus is incomplete for Clifford+T quantum mechanics”, at "Quantum Theory: from foundations to technologies – QTFT", Vaxjo, Sweden, June 2015,
 - “Supplementary of Interacting Frobenius Algebras” at the Workshop on “Higher topological quantum field theory and categorical quantum mechanics” Erwin Schrödinger International Institute, Vienna, October 2015
 - “Informatique quantique et théorie des graphes” at Journées Graphes et Algorithmes 2015, Orléans, Novembre 2015.

9.1.5. Scientific expertise

Romain Péchoux is external expert for the European commission Horizon 2020 program.

9.1.6. Research administration

Isabelle Gnaedig is:

- vice-leader of the team Carte.

Emmanuel Hainry is:

- member of the CNU (Conseil National des Universités), Section 27.
- organizer of the Carte Seminar.

Mathieu Hoyrup is:

- principal investigator of a PHC Imhotep with Walid Gomaa (Alexandria E-Just University).
- organizer of the Formal Methods Seminar at Loria.

Romain Pécoux is:

- responsible of the Project-team Carte activity report 2015.
- principal investigator of the Inria associate team Acra proposal.

Simon Perdrix is:

- responsible of GT IQ (groupe de travail Informatique quantique) at the CNRS GdR IM (groupe de recherche Informatique Mathématique).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Unless explicitly stated, the teachings below are given at Université de Lorraine.

Licence:

- Guillaume Bonfante
 - Java, L3, Mines Nancy
- Emmanuel Hainry
 - Operating Systems, 30h, L1, IUT Nancy Brabois
 - Algorithmics, 40h, L1, IUT Nancy Brabois
 - Dynamic Web, 60h, L1, IUT Nancy Brabois
 - Databases, 30h, L1, IUT Nancy Brabois
 - Object Oriented Languages, 12h, L2, IUT Nancy Brabois
 - Complexity, 30h, L2, IUT Nancy Brabois
- Mathieu Hoyrup
 - Programmation C, 15h, L1 PACES
 - Programmation JAVA, 56h, L1, IUT Charlemagne
- Emmanuel Jeandel
 - Algorithmics and Programming 1, 60h, L1 Maths-Info
 - Algorithmics and Programming 4, 30h, L3 Informatique
 - Modelling Using Graph Theory, 30h, L3 Informatique
 - Networking, 15h, L3 Informatique
 - Data Compression, 45h, L2 Informatique
- Romain Pécoux
 - Programmation orientée objet, 61,5h, L3 MIASHS
 - Programmation orientée objet, 53,5h, L2 MIASHS
 - Outils logiques pour l'informatique, 35h, L1 MIASHS
 - Bases de données, 40h, L3 Sciences de la Gestion
 - Algorithmic complexity, 30h, L3 MIAGE, IGA Casablanca, Morocco.
- Simon Perdrix

- Structure de données, 72h, L1, IUT Charlemagne
- Licence : Modelling Using Graph Theory, 15h, L3 Informatique

Master:

- Guillaume Bonfante
 - Modelling and UML, M1, Mines Nancy
 - Video Games, M1, Mines Nancy
 - Semantics, M1, Mines Nancy
 - Safety of Software, M2, Mines Nancy
- Isabelle Gnaedig
 - Design of Safe Software, Coordination of the module, M2, Telecom-Nancy
 - Rule-based Programming, 20h, M2, Telecom-Nancy
- Emmanuel Hainry
 - Implicit Complexity, 15h, M2 Informatique
- Emmanuel Jeandel
 - Algorithmics and Complexity, 30h, M1 Informatique
 - Combinatorial Optimization, 36h, M1 Informatique
- Romain Péchoux
 - Mathematics for computer science, 30h, M1 SCA
 - Advanced Java, 52,5h, M1 MIAGE
 - Implicit Complexity, 15h, M2 Informatique

9.2.2. Supervision

PhD in progress: Hubert Godfroy, Semantics of Self-modifying Programs, Jean-Yves Marion (director).

PhD in progress: David Cattaneo, Combinatorial Modelization in Quantum Computation and Generalized Cover Problems, Pablo Arrighi (director), Simon Perdrix (co-advisor).

PhD: Thanh Dinh Ta, 11 May 2015, Malware Algebraic Modeling and Detection, started Sept. 2010, Jean-Yves Marion (director) and Guillaume Bonfante (co-advisor).

PhD: Aurélien Thierry, 11 March 2015, Morphological Analysis of Malware, Jean-Yves Marion (director).

PhD in progress: Paul Bakouche, Mesure de complexité en topologie de petites dimensions, Florian Deloup (co-advisor) and Guillaume Bonfante (director).

9.2.3. Juries

Isabelle Gnaedig was:

- member of the Inria hiring committee for young researchers,
- member of the Telecom-Nancy engineering school admission committee.

Emmanuel Jeandel was:

- Reviewer and Examiner of Simon Martiel's PhD Defense on "Approches informatique et mathématique des dynamiques causales de graphes", defended in Université de Nice Sophia Antipolis, July 6th 2015
- Reviewer of Ilkka Törmä's PhD on "Structural and Computational Existence Results for Multidimensional Subshifts", defended in Turku (Finland), July 31st 2015
- Reviewer of Rodrigo Torres' PhD on "Some Dynamical Properties of Turing Machines Dynamical Models", to be defended in January 2016, Santiago de Chile (Chile)

9.3. Popularization

- Isabelle Gnaedig is member of the scientific vulgarization committee of Inria Nancy - Grand Est. This committee is a choice and guidance instance helping the direction of the center and the person in charge of popularization events to elaborate a strategy, to realize events and to help researchers to get involved in various actions aiming at popularizing our research themes, and more generally computer science and mathematics.
- Mathieu Hoyrup wrote an article on his recent work for Images des Mathématiques.

CASSIS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

The CNIL (Commission Nationale Informatique et Liberté) has official recommendations in terms of electronic voting⁰. These recommendations influence the design of e-voting systems that are deployed in France. However, some of the recommendations seem a bit outdated and dedicated to particular classes of systems. Even more importantly, the CNIL recommendations focus on vote privacy but do not say much about verifiability. Véronique Cortier, David Galindo, and Stéphane Glondu have formulated new recommendations, submitted to the CNIL. They have met some CNIL members to discuss how to integrate some of the propositions to the new version of the CNIL recommendations that should appear in 2016.

10.1.1. Scientific Events Selection

10.1.1.1. Program Committee Chair

- Véronique Cortier: HotSpot 2016
- Frédéric Dadeau: AFADL 2015
- Steve Kremer: GRSRD 2015, GRSRD 2016
- Michaël Rusinowitch: IWSPA 2016

10.1.1.2. Program Committee Member

- Véronique Cortier: Concur 2015, LICS 2015, POST 2015, EuroS&P 2016, SAC 2016, MFCS 2016, E-VoteID 2016, Concur 2016.
- Christophe Ringeissen: CADE-25, FroCoS 2015, WRLA 2016, UNIF 2016, IJCAR 2016.
- Frédéric Dadeau : AMOST 2015, AFADL 2015, QSR 2015
- Abdessamad Imine : DEXA 2015, ICEIS 2015, DASFAA 2015, DEXA 2016, ICEIS 2016
- Steve Kremer : CSF 2016, AsiaCCS 2016, ACISP 2016, AsiaCCS 2015, ESORICS 2015, FCS 2015, TGC 2015.
- Michaël Rusinowitch: TGC 2015, LPAR 2015, CRISIS 2015, PAS 2015, POST 2016.
- Fabrice Bouquet : AMOST 2015, MODEVVA 2015

10.1.2. Journal

10.1.2.1. Editorial Board Member

- Véronique Cortier: Information & Computation, Journal of Computer Security, ACM Transactions on Information and System Security (TISSEC), Foundations and Trends (FnT) in Security and Privacy.
- Olga Kouchnarenko: Modelling and Analysis of Information Systems (Russian Academy of Science and Springer partnership).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

⁰<http://www.cnil.fr/documentation/deliberations/deliberation/accessible/non/delib/249/>

- Summer School:
 - Véronique Cortier, Summer School École Jeunes Chercheurs en Programmation (EJCP 2015), Nancy, France, June 2015 and Summer School Marktoberdorf 2015, Marktoberdorf, Germany, August 2015.
 - Frédéric Dadeau, Summer School École Jeunes Chercheurs en Programmation (EJCP 2015), Nancy, France, June 2015
- Continuing Education: Fabrice Bouquet, How to Realize Test (audience: CNRS / Inria employees), Marseille, France, 8 october and 1 december 2015
- Master:
 - Fabrice Bouquet, Functional Testing, 18 hours, M2 Computer science, Franche-Comté University, France.
 - Fabrice Bouquet, Artificial Intelligence, 42 hours, M1 Computer science, Franche-Comté University, France.
 - Véronique Cortier, Security of flows, 20 hours, M2 Computer Science, Telecom Nancy and Mines Nancy, France.
 - Frédéric Dadeau, Structural testing, 9 hours (ETD), M2 Computer science, Franche-Comté University, France.
 - Alain Giorgetti, Program Proofs, 58 hours, M1 Computer science, Franche-Comté University, France.
 - Alain Giorgetti, Decision Procedures, 13 hours, M2 Computer science, Franche-Comté University, France.
 - Olga Kouchnarenko, Specification, Verification and Validation, 12 hours (ETD), M2 Computer science, Franche-Comté University, France.
 - Olga Kouchnarenko, Security and Components, 10.5 hours (ETD), M2 Computer science, Franche-Comté University, France.
 - Steve Kremer, Security Theory, 24 hours (ETD), M2 Computer science, Lorraine University, France.
 - Abdessamad Imine, Security for XML Documents, 12 hours (ETD), M1, Lorraine University, France.
 - Christophe Ringeissen, Decision Procedures for Software Verification, 24 hours (ETD), M2 Computer science, Lorraine University, France.
 - Laurent Vigneron, Security of information systems, 22.5 hours (ETD), M2 Computer science, Lorraine University, France.
 - Laurent Vigneron, Security of information systems, 24 hours (ETD), M2 MIAGE – Distributed Information Systems, Lorraine University, France.
- Licence:
 - Alain Giorgetti, Logics and Deduction, 52 hours, L2 Computer science, Franche-Comté University, France.
 - Olga Kouchnarenko, Formal Languages, 60 hours (ETD), L3 Computer science, Franche-Comté University, France.
- E-Learning:
 - Fabrice Bouquet, Artificial Intelligence, 78 hours (ETD), M1 Computer science, Franche-Comté University, France.
 - Fabrice Bouquet, Specification Validation and Test, 39 hours (ETD), M2 Computer science, Franche-Comté University, France.

Alain Giorgetti, Formal Methods, 81 hours, L3 computer science, Franche-Comté University, France.

Olga Kouchnarenko, Languages, Specification and Proof, 25 hours (ETD), L3 Computer science, Franche-Comté University, France.

Olga Kouchnarenko, Compositional approaches in verification, 18 hours (ETD), M2 Computer science, Franche-Comté University, France.

10.2.2. Supervision

- PhD (defended in 2015):
 - Guillaume Scerri, Proof of security protocols revisited, January 29, Hubert Comon-Lundh and Véronique Cortier
 - Bao Thien Hoang, On the Polling Problem for Decentralized Social Networks, February 3, Abdessamad Imine and Christophe Ringeissen
 - Alexandre Vernotte, A pattern-driven and model-based vulnerability testing for Web applications, October 29.
 - Guillaume Petiot, *Contribution à la vérification de programmes C par combinaison de tests et de preuves*, November 4, Jacques Julliand, Nikolai Kosmatov and Alain Giorgetti
 - Jean-Marie Gauthier, Method for validation and simulation of SysML model: Applied on micro-systems, November 19, Fabrice Bouquet, Fabien Peureux and Ahmed Hammad
- PhD in progress: Younes Abid, Privacy control for social networks, started in March 2015. Abdessamad Imine, Michaël Rusinowitch and Orpailleur co-advising.
 - Hadrien Bride, Validation and Reconfiguration of Modal Petri Nets within Constraint Logic Programming, started in October 2013, Olga Kouchnarenko and Fabien Peureux
 - Rémy Chrétien, Decision procedures of equivalence properties, started in October 2012, Véronique Cortier and Stéphanie Delaune
 - Alicia Filipiak, Design and validation of security services for mobile platforms: smartphones and tablets, started in March 2015, Véronique Cortier
 - Richard Genestier, Formal specification and verification of programs generating structured data, started in October 2012, Alain Giorgetti and Olga Kouchnarenko
 - Jean-Luc Joly, Randomized approaches for validation and verification procedures, started in December 2011, Pierre-Cyrille Héam
 - Éric Le Morvan, Secure composition of cryptographic protocols, started in October 2013, Véronique Cortier
 - Huu Hiep Nguyen, Secure Collaboration in Mobile Social Networks, started in November 2013, Abdessamad Imine and Michaël Rusinowitch
 - Ludovic Robin, Verification of cryptographic protocols using weak secrets, started in October 2014, Stéphanie Delaune and Steve Kremer

10.2.3. Juries

- Inria evaluation committee (Steve Kremer, Michaël Rusinowitch)
- Jury Junior Research Position Bordeaux (Véronique Cortier)
- Jury Junior Research Position Inria Paris-Rocquencourt (Véronique Cortier)
- Jury Junior Research Position Inria Saclay-IdF (Michaël Rusinowitch)
- Jury Junior Research Position Inria Rennes-Bretagne Atlantique (Steve Kremer)
- Jury Junior Research Position Inria Grenoble-Rhône Alpes (Steve Kremer)

Jury Chair in Computer Security of CNAM Paris (Michaël Rusinowitch)
Jury Prix Région Lorraine for Thesis, Researcher, Science and Society (Michaël Rusinowitch)
Jury Maitre de conférences U. Lorraine (Véronique Cortier)
Reviewer for Henning Schnoor Habilitation, Kiel U., Germany (Véronique Cortier)
Reviewer for Mathilde Duclos PhD, Grenoble (Véronique Cortier)
Reviewer and Chair of the jury for Elio Goettelmann PhD, U. Lorraine (Laurent Vigneron)
Examiner for Edouard Cuvelier PhD, Louvain-la-Neuve, Belgium (Steve Kremer)
Examiner and Chair of the jury for Ali Kassem PhD, Grenoble (Steve Kremer)
Reviewer for Alessandro Bruni PhD, Lingby, Denmark (Steve Kremer)
Examiner for Mathilde Duclos PhD, Grenoble (Steve Kremer)
Reviewer for Kim Pecina PhD, Saarbruecken, Germany (Steve Kremer)
Reviewer for Amira Amira Henaïen PhD, U. Lorraine (Olga Kouchnarenko)
Examiner and Chair of the jury for Alexandre Vernotte PhD, Besançon (Olga Kouchnarenko)
Reviewer for Anis Bkakria PhD, Telecom Bretagne (Michaël Rusinowitch)
Reviewer for Mohammed Bekkouche PhD, U. Nice-Sophia Antipolis (Fabrice Bouquet)

10.3. Popularization

- Vote électronique : un scrutin à sécuriser. Véronique Cortier. *La Recherche*, 504:70-73, October 2015.
- Blog entries for Blog Binaire (*Le Monde*): Attaque à l'italienne (Véronique Cortier), Les bonnes propriétés d'un système de vote électronique (Véronique Cortier and Steve Kremer), Le vote papier est-il réellement plus sûr que l'électronique ? (Véronique Cortier), Qu'est-ce qu'un bon système de vote ? (Véronique Cortier).
- Pour vivre heureux, vivons anonymes. Abdessamad Imine. *MAIF Magazine*, Novembre 2015.

VEGAS Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific events organisation

8.1.1.1. Member of the organizing committees

Sylvain Lazard organized with S. Whitesides (Victoria University) the 14th Inria - McGill - Victoria Workshop on Computational Geometry⁰ at the Bellairs Research Institute of McGill University in Feb. (1 week workshop on invitation).

Guillaume Moroz co-organized the *Journées Nationales de Calcul Formel 2015 (JNCF)*.

Monique Teillaud co-organized the Dagstuhl Seminar on Computational Geometry, with Otfried Cheong (KAIST, Korea) and Jeff Erickson (University of Illinois at Urbana-Champaign), Leibniz-Zentrum für Informatik, Germany, March 9-13. <http://www.dagstuhl.de/en/program/calendar/semhp/?semnr=15111>

Monique Teillaud co-organized the Workshop on Computational Geometry in non-Euclidean Spaces, with Éric Colin de Verdière (CNRS, ENS Paris) and Jean-Marc Schlenker (Mathematics Research Unit, U. Luxembourg), Inria, Loria, Nancy, August 26-28. The slides of the talks are available on the workshop website <http://neg15.loria.fr/>.

Monique Teillaud and Marc Pouget organized the 39th **CGAL** Developer Meeting, Sept 28 - Oct 2 at Inria Nancy - Grand Est.

8.1.2. Scientific events selection

8.1.2.1. Member of the conference program committees

Monique Teillaud was a member of the program committee of the 2015 *Symposium on Computational Geometry* SoCG'15.

8.1.2.2. Reviewer

All members of the team are regular reviewers for the conferences of our field, namely the *Symposium on Computational Geometry* (SoCG) and the *International Symposium on Symbolic and Algebraic Computation* (ISSAC) and also SODA, CCCG, EuroCG.

8.1.3. Journal

8.1.3.1. Member of the editorial boards

Olivier Devillers is a member of the Editorial Board of *Graphical Models*.

Monique Teillaud is a managing editor of JoCG, *Journal of Computational Geometry*. She is also a member of the Editorial Boards of CGTA, *Computational Geometry: Theory and Applications*, and of IJCGA, *International Journal of Computational Geometry and Applications*.

Marc Pouget and Monique Teillaud are members of the **CGAL** editorial board.

8.1.3.2. Reviewer - Reviewing activities

All members of the team are regular reviewers for the journals of our field, namely *Discrete and Computational Geometry* (DCG), *Computational Geometry. Theory and Applications* (CGTA), *Journal of Computational Geometry* (JoCG), *International Journal on Computational Geometry and Applications* (IJCGA), *Journal on Symbolic Computations* (JSC), *SIAM Journal on Computing* (SICOMP), *Mathematics in Computer Science* (MCS), etc.

⁰Workshop on Computational Geometry

8.1.4. Invited talks

Guillaume Moroz was invited to give a talk at the Fields Institute in Toronto for the workshop on Algebra, Geometry and Proofs in Symbolic Computation. He was also invited to give a talk at the IHP for the seminar on algorithmic and computational geometry and at Supelec.

8.1.5. Research administration

8.1.5.1. Hiring committees

S. Lazard was president of the hiring committee for a Professor position (UL/ENSEM/LORIA).

8.1.5.2. Steering Committees

M. Teillaud is a member of the Steering Committee of the European Symposium on Algorithms (ESA).

8.1.5.3. National committees

L. Dupont is a member of “Commission Pédagogique Nationale” (CPN) Information-Communication / Métiers du Multimédia et de l’Internet.

M. Teillaud is a member of the Scientific Board of the *Société Informatique de France* (SIF).

M. Teillaud is a member of the working group for the BIL, *Base d’Information des Logiciels* of Inria.

8.1.5.4. Local committees and responsibilities

S. Lazard: Head of the PhD and Post-doc hiring committee for Inria Nancy-Grand Est (since 2009). Member of the *Bureau de la mention informatique* of the *École Doctorale IAE+M* (since 2009). Head of the *Mission Jeunes Chercheurs* for Inria Nancy-Grand Est (since 2011). Head of the Department Algo at LORIA (since 2014). Member of the *Conseil Scientifique* of LORIA (since 2014).

M. Teillaud is a member of the CDT, *Commission de développement technologique*, of Inria Nancy - Grand Est.

8.1.5.5. Websites

M. Teillaud is maintaining the Computational Geometry Web Pages <http://www.computational-geometry.org/>, hosted by Inria Nancy - Grand Est since December. This site offers general interest information for the computational geometry community, in particular the Web proceedings of the Video Review of Computational Geometry, part of the Annual Symposium on Computational Geometry.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Guillaume Moroz, *Géométrie algébrique et applications en robotique*, 12h, M1, École Mathématique Africaine, Sénégal.⁰

Master: Marc Pouget, *Introduction to computational geometry*, 10.5h, M2, École Nationale Supérieure de Géologie, France.

Licence: Laurent Dupont, *Algorithmique*, 72h, L1, Université de Lorraine, France.

Licence: Laurent Dupont, *Web development*, 75h, L2, Université de Lorraine, France.

Licence: Laurent Dupont, *Traitement Numérique du Signal*, 10h, L2, Université de Lorraine, France.

Licence: Laurent Dupont, *Data structures*, 40h, L1, Université de Lorraine, France.

Licence: Sylvain Lazard, *Algorithms and Complexity*, 25h, L3, Université de Lorraine, France.

⁰<http://nlaga-simons.ucad.sn/index.php/new-international-events>

8.2.2. Supervision

PhD: Rémy Thomasse, Complexity analysis of random convex hulls, defended December 18th 2015. The student is hosted in EPI GEOMETRICA but supervised by O. Devillers [10].

PhD in progress : Ranjan Jha, Étude de l'espace de travail des mécanismes à boucles fermées, started in Oct. 2013, supervised by Damien Chablat, Fabrice Rouillier and Guillaume Moroz.

PhD in progress : Sény Diatta, Complexité du calcul de la topologie d'une courbe dans l'espace et d'une surface, started in Nov. 2014, supervised by Daouda Niang Diatta, Marie-Françoise Roy and Guillaume Moroz.

Postdoc: Rémy Imbach, Topology and geometry of singular surfaces with numerical algorithms, supervised by Guillaume Moroz and Marc Pouget.

Postdoc: Laurent Veysseire, Probabilistic analysis of geometric structures, supervised by Olivier Devillers.

8.2.3. Juries

O. Devillers was a member (advisor) of the PhD defense committee of Rémy Thomasse (Univ. Nice - Sophia Antipolis).

S. Lazard was an external examiner (rapporteur) of the Ph.D. of Cuong Tran (Univ. Pierre et Marie Curie).

8.3. Popularization

Guillaume Moroz is a member of the organizing committee of the *Olympiades académiques de mathématiques*.

VERIDIS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Organization of scientific events

10.1.1.1. General chair, scientific chair

Jasmin Blanchette and Christoph Weidenbach co-organized the **Dagstuhl seminar 15381** “Information from Deduction: Models and Proofs” with Nikolaj Bjørner (Microsoft Research, Redmond, USA) and Viorica Sofronie-Stokkermans (Universität Koblenz-Landau, Germany).

Jasmin Blanchette is an ex officio member of the steering committee of the conference series *Interactive Theorem Proving*.

Pascal Fontaine and Thomas Sturm co-organized the **Dagstuhl seminar 15471** “Symbolic Computation and Satisfiability Checking” with Erika Abraham (RWTH, Aachen, Germany) and Dongming Wang (Beihang University, Beijing, China).

Stephan Merz is a member of the steering committee of the workshop on Automated Verification of Critical Systems (AVoCS). He chaired the organizing committee of the *Journées Nationales* of the working groups *Géométrie du Calcul*, *Logique*, *Algèbre et Calcul*, and *Logique, Types et Preuve* of GDR IM and GDR GPL in October 2015 in Nancy.

Thomas Sturm is chair of the steering committee of the conference series *Mathematical Aspects of Computer and Information Sciences* (MACIS).

Christoph Weidenbach is a member of the steering committee of *Bundeswettbewerb Informatik*, the German competition among high-school students in computer science.

10.1.1.2. Membership in organizing committees

Jasmin Blanchette was co-chair of workshops, tutorials, and system competitions of CADE-25 in Berlin.

The International Summer School on Verification Techniques, Systems, and Applications (VTSA) has been organized since 2008 in the Greater Region (Nancy, Saarbrücken, Luxembourg, Liège, and Koblenz), and Stephan Merz and Christoph Weidenbach are co-organizers of VTSA. In 2015, VTSA took place during the last week of August in Koblenz, Germany.

Dominique Méry and Stephan Merz were part of the organizing committee of the 10th edition of the conference *Modélisation des Systèmes Réactifs* (MSR 2015) in November 2015 in Nancy.

10.1.2. Service in Program Committees

10.1.2.1. Chair of conference program committees

Jasmin Blanchette co-chaired the program committee of the Ninth International Conference on Tests and Proofs in July, as part of the STAF Conference Series in L'Aquila, Italy.

Dominique Méry co-chaired the program committee of the Second Workshop on Formal Integrated Development Environments [38], a satellite of the Formal Methods conference in Oslo, in June 2015.

Stephan Merz co-chaired the program committee of the Second International Workshop on Formal Reasoning in Distributed Algorithms (FRIDA) in June, as part of the DisCoTec federation of conferences in Grenoble, and of the 10th edition of the French conference *Modélisation des Systèmes Réactifs* (MSR 2015) in Nancy.

10.1.2.2. Membership in conference program committees

Jasmin Blanchette served on the program committee of the International Conference on Automated Deduction (CADE).

Pascal Fontaine served on the program committees of the International Conference on Frontiers of Combining Systems (FroCoS) and of the workshop SMT.

Dominique Méry served on the program committees of FM2015, ICTAC 2015, ICECCS 2015, and MEDI 2015.

Stephan Merz served on the program committees of the international conferences ICFEM, NETYS, SEFM, and of the workshops AVoCS, GRSRD, SETS, and SYNASC.

Thomas Sturm served on the program committees of CASC 2015, MACIS 2015, and ISSAC 2015.

Uwe Waldmann served on the program committee of the 11th International Workshop on the Implementation of Logics.

Christoph Weidenbach served on the program committee of the International Conference on Frontiers of Combining Systems (FroCoS).

10.1.3. Editorial boards of journals

Pascal Fontaine, Thomas Sturm, and Uwe Waldmann edited Mathematics in Computer Science 9(3), a special focus volume on *Constraints and Combinations*.

Dominique Méry is a member of the editorial board of the journal *Formal Aspects of Computing* (Springer).

Stephan Merz, together with Jun Pang of the University of Luxembourg, is the editor of a special issue of Formal Engineering Methods in the journal *Formal Aspects of Computing*.

Martin Quinson is a member of the editorial board of the Interstices journal, aiming at increasing the scientific outreach of informatics.

Thomas Sturm is a member of the editorial boards of the *Journal of Symbolic Computation* (Elsevier) and *Mathematics in Computer Science* (Springer).

Christoph Weidenbach is an editor of the Journal of Automated Reasoning.

10.1.4. Invited talks

Stephan Merz gave an invited lecture at *Journées Francophones des Langages Applicatifs* in January 2015. He also gave an invited talk at Aarhus University on *Modeling Distributed Algorithms in TLA⁺*.

Thomas Sturm gave an invited talk at FroCoS 2015 titled *From Complete Elimination Procedures to Subtropical Decisions over the Reals*.

Christoph Weidenbach gave an invited tutorial “25th Anniversary of Superposition: Status and Future” at the International Conference on Automated Deduction (CADE), together with Stephan Schulz. He gave an invited tutorial “Automated Reasoning Building Blocks” at the International Conference on Frontiers of Combining Systems (FroCoS).

10.1.5. Leadership within the scientific community

Jasmin Blanchette was elected editor of the newsletter of the Association for Automated Reasoning (AAR) and member of the AAR board.

Pascal Fontaine is one of three SMT-LIB managers. He was elected CADE trustee in October 2014.

Dominique Méry is a member of the IFIP Working Group 1.3 on *Foundations of System Specification*.

Stephan Merz is a member of the IFIP Working Group 2.2 on *Formal Description of Programming Concepts*.

Christoph Weidenbach is a trustee of CADE (elected 2009, reelected 2012).

10.1.6. Scientific expertise

Jasmin Blanchette is an expert for the French Agence Nationale de la Recherche (ANR) and the Deutsche Forschungsgemeinschaft (DFG).

Pascal Fontaine was a panel member for the CASC-25 competition of first-order theorem provers.

Dominique Méry is an expert for the French Agence Nationale de la Recherche (ANR) and for HCERES.

Stephan Merz is an expert for the French Agence Nationale de la Recherche (ANR), for the German DFG, and for the European Research Council (ERC). He helped IRISA Rennes evaluate the opportunity of creating a new research team.

Christoph Weidenbach is an advisor for the German-Israeli Foundation for Scientific Research.

10.1.7. Research administration

Dominique Méry is the head of the Doctoral School IAEM Lorraine for the University of Lorraine and head of the Formal Methods department of the LORIA laboratory.

Stephan Merz is a member of the Scientific Directorate of the International Computer Science Meeting Center in Schloss Dagstuhl. He is the delegate for the organization of conferences at the Inria Nancy – Grand Est research center and head of the PhD committee for computer science of the Doctoral School IAEM Lorraine. He is also the coordinator of the CPER *Sciences du Numérique* in Lorraine (2015–2020).

Thomas Sturm is a member of the selection committee for MSc and PhD students at the International Max Planck Research School.

Christoph Weidenbach is a member of the selection committee of the Saarbrücken Graduate School in Computer Science.

10.2. Teaching, Supervision, Juries

10.2.1. Teaching

Licence: Jasmin Blanchette and Daniel Wand, Concrete Semantics with Isabelle/HOL, 60 HETD, Universität des Saarlandes, Germany

Licence: Marie Duflot-Kremer, Algorithmique et Programmation 1, 113 HETD L1 Mathématiques, Informatiques Sciences pour l'Ingénieur, Université de Lorraine, France.

Licence: Marie Duflot-Kremer, Projet personnel, 15 HETD, L2 informatique, Université de Lorraine, France.

Licence: Marie Duflot-Kremer, Bases de données 2, 10 HETD, L2 informatique, Université de Lorraine, France.

Licence: Marie Duflot-Kremer, Projet personnel et communication, 50 HETD, L2 informatique, Université de Lorraine, France.

Master : Marie Duflot-Kremer, Vérification de systèmes, 30 HETD, M1 Informatique, Université de Lorraine, France.

Master: Marie Duflot-Kremer and Stephan Merz, Vérification algorithmique, 30 HETD, M2 Informatique, Université de Lorraine, France.

Master: Marie Duflot-Kremer and Stephan Merz, Elements of Model Checking, 36 HETD, M2 Informatique and Master Erasmus Mundus DESEM, Université de Lorraine, France.

Licence: Pascal Fontaine, Structure des ordinateurs, 67 HETD, L2 MIASHS, parcours MIAGE, Université de Lorraine, France.

Licence: Pascal Fontaine, Logique des prédicats, 32 HETD, L2 MIASHS, Université de Lorraine, France.

- Master: Pascal Fontaine, Réseaux, 50 HETD, M1 MIAGE, Université de Lorraine, France.
- Master: Pascal Fontaine, Génie Logiciel, 30 HETD, M1 MIAGE, IGA Rabbat et Université de Lorraine, Maroc.
- Master: Pascal Fontaine, Procédures de décision et vérification de programmes, 6 HETD, M2 informatique, Université de Lorraine, France.
- Master: Dominique Méry, Models and algorithms, 60 HETD, M1, Telecom Nancy, Université de Lorraine, France.
- Master: Dominique Méry, Modeling and verification of distributed algorithms, 30 HETD, M1, Université de Lorraine, France.
- Master: Dominique Méry, Modeling and verification of distributed algorithms, 30 HETD, M1 informatique, Université de Lorraine, France.
- Master: Dominique Méry, Modeling and verification of software systems, 60 HETD, M1 (continued education), Telecom Nancy, Université de Lorraine, Nancy.
- Master: Dominique Méry, Formal model engineering, 24 HETD, M2, Telecom Nancy, Université de Lorraine, France.
- Master: Dominique Méry, Modeling Systems, 30 HETD, M2, Telecom Nancy, Université de Lorraine, France.
- Master: Dominique Méry, Modeling Systems, 36 HETD, M2 informatique and Master Erasmus Mundus DESEM, Université de Lorraine, France.
- Master: Dominique Méry, Event-B modeling, 8 HETD, NUI Maynooth.
- Licence: Martin Quinson, Algorithmique et Programmation, 48 HETD, L3, Telecom Nancy, Université de Lorraine, France.
- Licence: Martin Quinson, Langage C et programmation shell, 48 HETD, L3, Telecom Nancy, Université de Lorraine, France.
- Master: Martin Quinson, Programmation Système, 24 HETD, M1, Telecom Nancy, Université de Lorraine, France.
- Master: Thomas Sturm and Christoph Weidenbach, seminar on decision procedures, Universität des Saarlandes, Germany.
- Master: Uwe Waldmann, Automated Reasoning, 90 HETD, Universität des Saarlandes, Germany

10.2.2. Supervision

- PhD: Manamiary Andriamiarina, Développement d'algorithmes répartis corrects par construction, Université de Lorraine. Supervised by Dominique Méry, defended on October 20, 2015.
- PhD: Marion Guthmuller, Dynamic verification of distributed applications, using a model-checking approach, Université de Lorraine. Supervised by Martin Quinson and Sylvain Contassot-Vivier, defended on June 29, 2015.
- PhD: Manuel Lamotte Schubert, Automatic Authorization Analysis, Saarland University. Supervised by Christoph Weidenbach, defended on September 18, 2015.
- PhD: Martin Suda, Resolution-based Methods for Linear Temporal Reasoning, Universität des Saarlandes. Supervised by Christoph Weidenbach, defended on October 16, 2015.
- PhD in progress: Noran Azmy, On the Automation of Proofs in TLAPS, Saarland University. Supervised by Stephan Merz and Christoph Weidenbach, since 11/2012.
- PhD in progress: Haniel Barbosa, Refutational Completeness in Satisfiability Modulo Theories, Université de Lorraine and UFRN (Natal, Brazil). Supervised by David Déharbe, Pascal Fontaine, and Stephan Merz, since 12/2013.
- PhD in progress: Gabor Alági, Efficient Reasoning in Finite Domains, Saarland University. Supervised by Christoph Weidenbach, since 11/2012.

PhD in progress: Martin Bromberger, Arithmetic Reasoning, Saarland University. Supervised by Christoph Weidenbach, since 07/2014.

PhD (on hold for personal reasons): Pablo Federico Dobal, Satisfiability Modulo Arithmetic Theories, Université de Lorraine and Saarland University. Supervised by Pascal Fontaine, Stephan Merz, and Thomas Sturm, since 09/2014.

PhD in progress: Mathias Fleury, Formalization of Logical Calculi, Saarland University. Supervised by Christoph Weidenbach and Jasmin Blanchette, since 09/2015.

PhD in progress: Marek Košta, Computational Logic, Universität des Saarlandes. Supervised by Thomas Sturm, since 11/2011.

PhD in progress: Marco Voigt, Decidable Hierarchic Combinations, Saarland University. Supervised by Christoph Weidenbach, since 11/2013.

PhD in progress: Daniel Wand, First-Order Extensions to Support Higher-Order Reasoning, Saarland University. Supervised by Christoph Weidenbach, since 02/2011.

10.2.3. Thesis committees

Dominique Méry served as PhD examiner at IRIT.

Stephan Merz served as a reviewer for the PhD theses of Luís Diogo Couto (Aarhus University, Denmark), Hugues Evrard (University of Grenoble), Laure Millet (University Pierre et Marie Curie, Paris), and Alexander Schimpf (University of Freiburg, Germany).

Uwe Waldmann served as a reviewer for the PhD thesis of Simon Cruanes (École Polytechnique).

10.3. Popularization

Marie Dufлот-Kremer took part in various popularization activities, with a public ranging from primary school kids to high school and potential University students. A selection of these activities is given below:

- two days at “Fête de la science” in Nancy;
- a course on databases for high school professors in charge of teaching optional course ISN (Informatique et Sciences du Numérique);
- her explanations of unplugged activities have been recorded by Inria, and a Youtube channel has been created by the Interstice team to promote and share such activities;
- she is a member of two groups dedicated to the training of math teachers who will teach computer science to students of age 11 to 18;
- “Journée femmes de Sciences”: one day dedicated to the promotion of science among 14 years old girls;
- she is a member of the steering committee preparing an itinerant exposition intended for explaining computer science to the public, to be released in 2016;
- she presented a poster at the Scratch2015 conference about teaching computer programming to kids from the age of 8 years onward.

Pascal Fontaine and Stephan Merz illustrated techniques that underly formal verification of protocols and algorithms at events like “Fête de la Science”. Using wooden puzzles and Sudoku sheets, they explained how real-life problems can be represented in logical form and then solved using automated tools based on formal logic.

Martin Quinson organized a 2-days workshop for secondary math teachers on how algorithms could be used to reinforce the abilities of pupils to verbalize, set out arguments and conduct rigorous demonstrations (Nancy, March 2-3 2015). This workshop was co-organized by the IREM (Institut de Recherche en Enseignement des Mathématiques) of Nancy. He also co-organized a one day workshop for about 100 secondary computer science teachers. This event spreads the best practices to teach our topic (Nancy, March 12th 2015). Martin Quinson was a scientific expert in an experiment in which we explored how Scratch can be used to teach Computer Science in after school activities every week for the whole week. The results of this experiment, conducted in a collaboration between Inria and the MJC Nomade (Nancy) were published in [35].

Christoph Weidenbach lectured within the series “Perspektiven der Informatik” at Saarland University and within the public lecture series of the federal state of Saarland.

SPHINX Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

Together with Colin Guillarmou, Matti Lassas and Jérôme Le Rousseau, David Dos Santos Ferreira organized an **IHP trimester on Inverse Problems** in April-June 2015 (more than 100 participants).

Takahashi and Tucsnak organized a workshop “Infinite dimensional systems in fluid mechanics and biology”, from December 7th to December 11th in the Guadeloupe Island.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- Xavier Antoine was a member of the program committee of Waves 2015, Germany, Karlsruhe, July 20-24, 2015.
- Thomas Chambrion is a member of the program committee of IFAC CPDE 2016.

10.1.2.2. Reviewer

- Thomas Chambrion is a regular reviewer for papers submitted to IEEE CDC (2 papers in 2015) and ACC (2 papers in 2015).
- David Dos Santos Ferreira has written reviews for papers submitted to Annales Scientifiques de l'École Normale Supérieure and Annales de l'Institut Fourier.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

Xavier Antoine has been in charge of Numerical Analysis in the editorial board of “Mathématiques Appliquées pour le Master/SMAI” since 2014.

10.1.3.2. Reviewer - Reviewing activities

Most of the members are reviewer for major journals in the fields.

- Xavier Antoine is a referee for about 15 journal papers a year in “Journal of Computational Physics” and various SIAM journals.
- Thomas Chambrion is a regular referee for the journals “Automatica” and “IEEE Transactions on Automatic Control”.
- Julie Valein is a regular referee for the journals “Mathematical Control and Related Fields” and “Discrete and Continuous Dynamical Systems A”.

10.1.4. Invited talks

Thomas Chambrion was organizer and chairman of the invited minisymposium “Quantum Control” in the conference SIAM CT 2015, organized in Paris.

Xavier Antoine has given invited talks in the following scientific events

- Minisymposium “Numerical Simulation of Quantum and Kinetic Problems”, ICCP9, Singapore, January 2015.
- Workshop “Mathematical physics for cold atoms”, Grenoble, March 2015.
- Semaine d'Analyse Numérique de Besançon : “XFEM, Nitsche FEM, FEM Adaptive, Conditions aux Limites Artificielles”, June 2015.
- “Complex phenomena in optics: theory and experiments”, November 2015 Besançon,

David Dos Santos Ferreira has given talks in the following conferences:

- Applied Inverse Problems, Helsinki, May 2015.
- School on Fourier Integral Operators, Ouagadougou, Burkina Faso.

Alexandre Munnier has participated to the following workshops as an invited speaker:

- Waveguides: Asymptotic Methods and Numerical Analysis, Naples, May 2015.
- Third Workshop “Problèmes Inverses et Domaines Associés”, Marseille, December 2015.

Karim Ramdani participated as an invited speaker to the following workshops and conferences:

- Workshop of GDRI ReaDiNet : “Reaction-Diffusion Systems Arising in Biology”, (Nancy, December 16–17, 2015).
- Conference “Stability and Reconstruction issues in Inverse Problems” (IHP, Paris, June 29 — July 4, 2015).
- Workshop DELSyS : Observing and controlling complex dynamical systems (Grenoble, November 12–14, 2014).

Julie Valein gave an invited talk at “Workshop on control and inverse problems”, Besançon, March 2015.

10.1.5. Scientific expertise

- Xavier Antoine was in charge of the ANR mathematics program until August 2015.
- Thomas Chambrion belongs to the selection panel for the Natural Sciences and Engineering Research Council of Canada.
- Julie Valein belongs to the ANR expert panel for ANR JCJC.

10.1.6. Research administration

Xavier Antoine has been head of IECL since September 2015.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Most of the members of the team have a teaching position at Université de Lorraine.

- Xavier Antoine teaches at Mines Nancy and ENSEM (Université de Lorraine), L3-M1, 96 hours.
- Thomas Chambrion teaches at ESSTIN (Université de Lorraine), L1-L2, 192 hours.
- David Dos Santos Ferreira teaches at UFR STMIA (Université de Lorraine), 96 hours (délégation CNRS).
- Alexandre Munnier teaches at UFR STMIA (Université de Lorraine), 192 hours.
- Jean-François Scheid teaches at Telecom Nancy (Université de Lorraine), 192 hours.
- Julie Valein teaches at ESSTIN (Université de Lorraine), L1-L2, 96 hours (maternity leave).

10.2.2. Supervision

PhD in progress : Chi-Ting Wu, Contrôle en temps optimal pour quelques EDP réversibles en temps, since October 2012, Marius Tucsnak and Julie Valein.

PhD in progress : Boris Caudron, CIFRE thesis with Thales, since June 2015, Xavier Antoine.

10.2.3. Juries

- Xavier Antoine was referee of the PhD thesis of E. Veneros (Université de Genève, May 2015) and M. Lecouvez (Ecole Polytechnique, July 2015). He was also referee of the HDR of F. Triki (Université de Grenoble, December 2015).
- Karim Ramdani was member of the PhD committees of Camille Carvalho (Ecole Polytechnique, December 4th, 2015) and Simon Marmorat (Université Paris-Saclay, November 12th, 2015).

10.3. Popularization

Karim Ramdani is interested in economic models of scientific publishing. He has given several talks to raise awareness of researchers on the risks of author-pays publication model.

TOSCA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Promotion of Mathematics in the industry

- M. Deaconu was invited to give a talk at the Workshop *Table ronde Assurance*, on october 2015, in Luxembourg.
- D. Talay continued to serve as the Vice-President of the Fondation d'Entreprise Natixis which aims to contribute to develop research in quantitative finance. He also serves as a member of the Scientific Committee of the Foundation.
- D. Talay continued to serve as a member of the Scientific Committee of the AMIES National Agency aimed to promote interactions between Mathematics and Industry.

10.1.2. Scientific events organisation

- M. Deaconu organized an interdisciplinary workshop: Avalanches and rupture phenomena, 3-4 February 2015 in Nancy. URL: <http://iecl.univ-lorraine.fr/~Madalina.Deaconu/workshop2015>
- E. Tanré animates a transverse working group . In 2015, Philip Protter (Columbia University) gave lectures on Brownian Motion and Poisson Processes (six courses with around 45 participants issued from 12 teams).
- E. Tanré has organized two mini-courses for the interdisciplinary axe of University of Nice “Modélisation Théorique et Computationnelle en Neurosciences et Sciences Cognitives”. B. de Saporta (University of Montpellier) gave a course on Piecewise deterministic Markov Processes. M. Thieullen (University Paris 6) gave a course on a “Probabilistic study of membrane potential models, including ionic channels.”
- D. Villemonais organized a mini-symposium at the *Congrès SMAI 2015*, at Les Karellis in June 2015.

10.1.2.1. Member of the organizing committees

- J. Inglis and E. Tanré were members of the organizing committee of the First International Conference on Mathematical NeuroScience (ICMNS) in Juan-les-Pins (June 2015), 170 participants.

10.1.3. Scientific events selection

10.1.3.1. Chair of conference program committees

- D. Talay organized and chaired the NASPDE 2015 conference in Sophia Antipolis (September 2015), 50 participants.

10.1.3.2. Member of the conference program committees

- A. Lejay is member of the conference program committees of *CANUM 2016* (Obernai, France) and *Journées de Probabilités 2015* (Toulouse, France).
- D. Talay served as a member of the scientific committee of the First International Conference on Mathematical NeuroScience (ICMNS) in Juan-les-Pins (June 2015), 2015 Conference in Stochastic Analysis and Mathematical Physics in Chile (September 2015), Conference in the honor of Vlad Bally (Le Mans, October 2015).

10.1.4. Journal

10.1.4.1. Member of the editorial boards

- N. Champagnat served as an Associate Editor of *Stochastic Models*.

- A. Lejay is one of the three editors of the *Séminaire de Probabilités*.
- M. Bossy served as an Associate Editor of *Annals of Applied Probability*.
- D. Talay served as an Associate Editor of: *Stochastic Processes and their Applications*, *ESAIM Probability and Statistics*, *Stochastics and Dynamics*, *Journal of Scientific Computing*, *Monte Carlo Methods and Applications*, *Oxford IMA Journal of Numerical Analysis*, *SIAM Journal on Scientific Computing*, *Communications in Applied Mathematics and Computational Science*, *Éditions de l'École Polytechnique*. He also served as the Co-editor in chief of *MathematicS in Action*.

10.1.4.2. Reviewer - Reviewing activities

- M. Bossy wrote reviews for manuscripts submitted to *Bernoulli Journal*, *Stochastic Processes and their Applications*.
- N. Champagnat wrote reviews for manuscripts submitted to *Journal of Mathematical Biology*, *Bernoulli Journal*, *Stochastic Processes and their Applications*, *Journal of Theoretical Biology*.
- M. Deaconu wrote reviews for *Mathematical Reviews of the American Mathematical Society (MathSciNet)* and for manuscripts submitted to *Mathematics and Computers in Simulation*, *ESAIM: Mathematical Modelling and Numerical Analysis*, *Journal of Computational and Applied Mathematics*, *Revue Roumaine de Mathématiques Pures et Appliquées* and *Journal of Nonlinear Analysis: Real World Applications*.
- C. Fritsch wrote reviews for manuscripts submitted to *Stochastic Models and Ecological Modelling*.
- J. Inglis wrote reviews for *Mathematical Reviews of the American Mathematical Society (MathSciNet)* and for manuscripts submitted to *Annales de l'Institut Henri Poincaré*.
- A. Lejay wrote reviews for manuscripts submitted to *Electronic Journal of Probability*, *Journal of Computational Mathematics*, *Journal of Mathematical Analysis and Applications*, *Journal of Scientific Computing*, *Journal of Statistical Computation and Simulation*, *Mathematics and Computers in Simulation*, *Probability and Mathematical Statistics*, *SIAM Journal of Control and Optimization* and *SIAM Journal of Mathematical Analysis*.
- E. Tanré wrote reviews for manuscripts submitted to *Bernoulli Journal*, *The Journal of Mathematical Neuroscience*, *Applied Mathematical Finance*, *Annales de l'Institut Henri Poincaré*, *Probabilistic Engineering Mechanics*.
- D. Villemonais wrote reviews for *Mathematical Reviews of the American Mathematical Society (MathSciNet)* and for manuscripts submitted to *Science China Mathematics*, *Journal of Inequalities and Applications*, *Theoretical Population Biology* and *Electronic Communications in Probability*.

10.1.5. Invited talks

- M. Bossy has been invited to give talks at the *Workshop on "Subgrid-scale modeling for particle simulations in LES"* (Chatou) in March, at the *Workshop EDS Incertitudes of GDR MascotNum* (Paris) in May, at the *workshop "probabilistic numerical methods for non-linear PDE"* ICL (London) in June, and at the *NASPDE Workshop*, (Sophia Antipolis) in September.
- M. Bossy gave seminar talks at the MFEE departement EDF Chatou, and a Colloquium talk at LJAD (Nice) in November.
- N. Champagnat has been invited to give talks at the *Conference on Probability and Biological Evolution* at CIRM (Luminy), Marseille in June; at the *MMEE 2015* conference (Mathematical Models in Ecology and Evolution) in Paris in July; the *Workshop on Probabilistic models in Biology* in Playa del Carmen, Mexico, in October; and the *Colloque Franco-Maghrébin en Analyse Stochastique* in Nice in November.
- M. Deaconu has been invited to give talks to the *Eighth Congress of Romanian Mathematicians*, June 26-July 1, 2015, Iași, Romania; and the *Rencontre EDP/Probab*, March 6, 2015, Institut Henri Poincaré, Paris.

- C. Fritsch has been invited to give talks at the *Congrès SMAI 2015*, at Les Karellis in June and at the MMEE 2015 conference (*Mathematical Models in Ecology and Evolution*) in Paris in July.
- B. Henry has been invited to give talks at the *Congrès SMAI 2015*, at Les Karellis in June and at the *SPA Conference* (Stochastic processes and applications) in Oxford in July. He also presented a poster at the MMEE 2015 conference (*Mathematical Models in Ecology and Evolution*) (Paris, July).
- J. Inglis gave a talk at the workshop *QFT methods in neuronal networks dynamics* at the University of Bielefeld, as part of the Mathemacms European project.
- A. Lejay has been invited to give talks at the *Conference in honor of Professor Vlad Bally* (Le Mans, October), the conference *Stochastic Analysis and Numerical Perspectives* (Sophia-Antipolis, September), the *AMS / EMS / SPM International Meeting* (Porto, June), the *Stochastic analysis, controlled dynamical systems an applications* (Iena, February).
- A. Lejay also gave seminar talks at Univ. Paris 6 in June, Univ. Marne-la-Vallée in May and CMAP (École Polytechnique) in February.
- P. Pigato gave seminar talks at the *Séminaire de probabilités et statistiques* of IECL, Univ. Lorraine, in November, and at the *Séminaire de probabilités et statistiques* of Laboratoire Dieudonné, Univ. Nice, in December.
- A. Richard gave an invited talk at the *French-Maghrebi conference on stochastic analysis* held in Nice in November, and seminar talks at the *IECL Probability Seminar* in March, at the *Seminar of the CIMFAV* (Valparaíso) in June.
- K. Salhi gave a talk at the 8th European Summer School in Financial Mathematics (Le mans, September 2015) . He also participated to the Advanced Risk and Portfolio Management bootcamp 2015 organized by SYMMYS (New York University, July 2015).
- D. Talay gave a seminar at Ecole Polytechnique in March and at Paris 6 university in May.
- D. Talay gave an invited talk at the 2015 Conference on Stochastic Analysis and Mathematicla Physics (Chile, September 2015) and at the Conference of the Honor of Vlad Bally (Le Mans, October 2015).
- E. Tanré gave invited talks at the ANR SloFaDyBio meeting in March, at an HBP-EITN workshop in April, and a seminar talk at the *IECL Probability Seminar* in October.
- D. Villemonais has been invited to give a lecture on quasi-stationary distributions at the LPMA (Paris) during the *Thematic meeting of the STAB ANR project* of November 2015.

10.1.6. Scientific expertise

- M. Bossy wrote reports about research projects submitted to the PACA Region council.
- M. Bossy was member of the hiring committee 26 PRF 4320 (Univ. Nice).
- N. Champagnat reported on a proposal submitted to ANR (Agence Nationale de la Recherche).
- N. Champagnat was member of the hiring committee 26 MCF 1219 (Univ. Paul Sabatier, Toulouse III).
- M. Deaconu was member of the hiring committee 26 MCF 0221 (Univ. Bourgogne) and of the hiring committee 26 MCF 80 (Univ. Bordeaux).
- D. Villemonais was member of the hiring committee 26 MCF 0706 (IUT de Dijon).
- D. Talay reported on applications to Research Grants Council (RGC) of Hong Kong.
- D. Talay participated in a Professor position recruitment committee at Paris 7 University.

10.1.7. Research administration

- M. Bossy is a elected member of the Inria Evaluation Board.
- M. Bossy has been a member of the Committee for junior permanent research positions of Inria Grenoble Rhône-Alpes.

- M. Bossy is a member of the *Collectif Andromede* of the PACA Region council.
- N. Champagnat is a member of the *Commission de Développement Technologique* and the *Commission Information Scientifique et Technique* of Inria Nancy - Grand Est, a substitute member of the *Comité de Centre* of Inria Nancy - Grand Est, *Responsable Scientifique* for the library of Mathematics of the IECL, member of the *Conseil du laboratoire* of IECL (as *responsable scientifique* of the library). He is also local correspondent of the COERLE (*Comité Opérationnel d'Évaluation des Risques Légaux et Éthiques*) for the Inria Research Center of Nancy - Grand Est. This year, together with Aline Wagner (Inria Nancy - Grand Est), he is in charge of the new version of the application form for research approval by the COERLE (ethical committee of Inria).
- M. Deaconu is a member of the *Bureau du Comité de Projet* of Inria Nancy - Grand Est, and of the *Comité de Projet* of Inria Nancy - Grand Est.
- A. Lejay is a member of the Administration Council of the SMAI.
- A. Lejay is a member of the COMIPERS of Inria Nancy Grand-Est.
- A. Lejay has been appointed as representative of Inria Nancy-Grand Est in the Agence Mathématiques et Entreprise (AMIES)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: M. Bossy, *Continuous time stochastic models for quantitative Finance*, 45h, M2 IMAFA (Informatique et Mathématiques Appliquées à la Finance et à l'Assurance), École Polytechnique Universitaire, Univ. Nice - Sophia Antipolis, France.

Master : M. Bossy, *Risk on energetic financial markets*, 27h, Master Spécialisé, Ingénierie et Gestion de l'Énergie, Mine ParisTech, France.

Master : M. Bossy *Stochastic Particle Methods for PDEs*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 18h, M1, École des Mines de Nancy, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 18h, M2, École des Mines de Nancy, France.

Master: N. Champagnat, *Processus de Markov et génétique des populations*, 22.5h, M2 MFA, Université de Lorraine, France.

Master: N. Champagnat, *Processus de Galton-Watson*, 22.5h, M2 "double diplôme" Mathématiques et Applications - Ecole Supérieure des Sciences et de Technologie de Hammam Sousse, Tunisie (lieu des cours) - Université de Lorraine, France.

Master: M. Deaconu, *Équations différentielles stochastiques : résolution numérique et applications*, 21h, M2, École des Mines de Nancy, France.

Master: M. Deaconu, *Simulation de variables aléatoires*, 12h, M1, École des Mines de Nancy, France.

Master: M. Deaconu, *Modélisation stochastique*, 30h, M2, Université de Lorraine, France.

Master: M. Deaconu, *Simulation Monte Carlo*, 24h, M1, Faculté de Droit, Sciences Economiques et Gestion, Université de Lorraine, France.

Master: C. Fritsch, *Introduction à la finance quantitative*, 3h, M1, École des Mines de Nancy, France.

Licence: C. Fritsch, *Analyse numérique*, 18h, L3, École des Mines de Nancy, France.

Licence: B. Henry, *Analyse numérique*, 18h, L3, École des Mines de Nancy, France.

Licence: B. Henry, *Probabilités*, 36h, L3, École des Mines de Nancy, France.

Master: J. Inglis, *Numerical Methods for Computational Finance*, 15h, M2, UNSA (Mathmods Erasmus Mundus), France.

Master: A. Lejay, *Simulation des marchés financiers*, 28.5h, M2, Université de Lorraine (Metz), France.

Master: A. Lejay, *Probabilités Appliquées*, 22.5h, M2, Université de Lorraine (Nancy), France.

Master: A. Richard and E. Tanré, *Advanced Numerics for Computational Finance*, 40h (2*20h), M2, UNSA (Mathmods Erasmus Mundus), France.

Licence: K. Salhi, *Mathématiques Appliquées et Probabilités*, 24h, L3, Télécom Nancy, France

Master: K. Salhi, *Probabilités et Statistiques*, 42h, M1, ENSEM Nancy, France.

Master: D. Talay *Invariant measures of diffusion processes*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

Master: E. Tanré, *Numerical Probability in Finance*, 44h, M2, Ecole PolytechNice (IMAF), France.

Master: E. Tanré, *Mathematical Methods for Neurosciences*, 37h, M2, ENS - Master MVA / Paris 6 - Master Maths-Bio, France.

10.2.2. Supervision

- HdR: Nicolas Champagnat, *Approches stochastiques et déterministes en biologie: dynamique adaptative, modélisation pour l'écologie, génétique des populations et dynamique moléculaire; caractère bien posé d'équations différentielles ordinaires et stochastiques*, Univ. Lorraine, 18 February 2015.
- PhD : Lionel Lenôtre, *Étude et simulation de processus de diffusion biaisés*, Université Rennes 1, November 27, 2015, Jocelyne Erhel (Irisa), Antoine Lejay, Géraldine Pichot (Irisa).
- PhD in progress: Maxime Bonelli, *Behavioral finance approach to risk assessment in quantitative portfolio management*, September 2013, M. Bossy.
- PhD in progress: Antone Brault, *Équations rugueuses linéaires*, October 2015, Laure Coutin (Université Toulouse III) and A. Lejay.
- PhD in progress: Baldwin Dumortier, *Contrôle acoustique des éoliennes*, October 2014, M. Deaconu and E. Vincent (EPI MULTISPEECH).
- PhD in progress: Benoît Henry, *Modeling Evolutionary Relationships Between Three-Dimensional Protein Structures*, October 2013, N. Champagnat, D. Ritchie (EPI ORPAILLEUR).
- PhD in progress: Radu Maftai, *A stochastic approach to colloidal particle agglomeration in turbulent flows*, November 2014, M. Bossy.
- PhD in progress: Khaled Salhi, *Estimation of Risk in Finance*, October 2013, M. Deaconu and A. Lejay.
- PhD in progress: Milica Tomasevic, *Stochastic approaches to Keller–Segel equations*, October 2015, D. Talay.

10.2.3. Juries

- M. Bossy served as a referee for the Ph.D. theses of Bénédicte Jourdier, *Ressource éolienne en France métropolitaine : méthodes d'évaluation du potentiel, variabilité et tendances*, École Polytechnique, September 2015, and of Lucie Rottner, *Reconstruction de l'atmosphère turbulente à partir d'un lidar Doppler 3D et étude du couplage avec Meso-NH*, Université Toulouse III Paul Sabatier, December 2015.
- M. Bossy served as an examiner for the Ph.D. thesis of M. Michaël Benguigui, *Valorisation d'option américaine et Value At Risk de portefeuille sur cluster de GPUs/CPUs hétérogène*. Université de Nice, August 2015.

- N. Champagnat served as a referee for the Ph.D. theses of Cristobal Quinao, *Mathematical modeling in Neuroscience: collective behavior of neuronal networks and the role of local homeoproteins diffusion in morphogenesis*, UPMC, June 2, 2015, and of Marie-Noémie Thai, *Processus de Fleming-Viot, distributions quasi-stationnaires et marches aléatoires en interaction de type champ moyen*, Univ. Paris-Est, November 27, 2015.
- A. Lejay served as an examiner for the Ph.D. thesis of Thi Quynh Giang Nguyen, *Méthodes de Monte Carlo pour les diffusions discontinues : application à la tomographie par impédance électrique*, Université de Toulon, October 2015; of Willian Minvielle, *Some problems related to statistical error in stochastic homogenization*, Université Paris-Est, October, 2015; of Lionel Lenôtre, *Étude et simulation de processus de diffusion biaisés*, Université Rennes 1, November, 2015 and of Johann Nicod, *Approximation numérique par chaos de Wiener de quelques EDPS*, Université Paris-Est, December 2015.
- D. Talay served as an examiner for the HdR of Nicolas Champagnat (see above) and the Ph.D. theses of Lorick Huang, *EDS dirigées par des processus stables. Méthode parametrix pour des estimées de densités et application aux algorithmes stochastiques*, Université Paris Diderot Sorbonne Paris Cité, July 2015, and of Athena Picarelli, *Sur des problèmes de contrôle stochastique avec contraintes sur l'état*, Ecole Polytechnique, April 2015. He also served as a referee for the Ph.D. thesis of Clément Rey, *Etude et Modélisation d'équations différentielles stochastiques*, Paris-Est university, December 2015.

10.3. Popularization

- M. Deaconu gave an interview for a paper in Eureka Lorraine. URL : <http://eureka.lorraine.eu/jahia/Jahia/pid/1968?actu=23647>

BIGS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

- R. Azaïs: Organization of the weekly seminar of the Probability and Statistics group at the Institut Élie Cartan de Lorraine
- P. Vallois organised a meeting "Fédération Charles Hermite", with assurance societies in Luxembourg, 2015 October

10.1.1.2. Member of the organizing committees

A. Gégout-Petit co-organised the day "Méga données pour la santé" for the Fédération Charles Hermite, Nancy, March 2015.

10.1.2. Scientific events selection

10.1.2.1. Chair of conference program committees

A. Gégout-Petit was chair of 2015 "Forum des jeunes mathématicien-ne-s", Lille November 2015.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

P. Vallois is in the editorial board of "Risk and Decision Analysis".

10.1.3.2. Reviewer - Reviewing activities

All the BIGS members are regular reviewers for journals in probability, statistics and machine learning as: Bernoulli, Scandinavian Journal of statistics, Stochastics, Journal of Statistical Planning Inference, Journal of theoretical Biology, IEEE Trans. Biomedical Eng., Theoretical Biology and Medical Modelling, LIDA, Annals of Applied Probability, Annals of Operations Research and Journal of Machine Learning Research, ICML and IJCAI conferences, ...

10.1.4. Invited talks

- P. Vallois: New York, Finance Department, April 2015
- P. Vallois: Journées de probabilités, Toulouse, May 2015
- P. Vallois: Conference in memory to Marc Yor, June 2015
- C. Lacaux: Invited as plenary speaker at *Adventure in Self-Similarity*, Cornell University, USA, June 2015
- C. Lacaux: Invited speaker at *9th International conference on Extreme Value Analysis, Session Max-stable processes and applications*, Ann Arbor, Michigan, USA
- C. Lacaux: Invited as plenary speaker at *4th Stochastic Geometry Days*, Poitiers, August 2015
- R. Azaïs: *Choix optimal parmi une classe d'estimateurs non paramétriques du taux de saut d'un processus markovien déterministe par morceaux*. Rencontres de l'ANR Piece à Saint-Martin-de-Londres (May 2015)
- R. Azaïs: *Recursive kernel estimates for piecewise-deterministic Markov processes*. Rencontres de l'ANR Piece à Tours (November 2015)
- A. Muller-Gueudin: *Certainty bands for the conditional cumulative distribution function and applications*. Séminaire Statistique, Probabilités, Optimisation et Contrôle, Institut de Mathématiques de Bourgogne (June 2015)

10.1.5. Leadership within the scientific community

A. Gégout-Petit was the president of the french statistical society (SFdS) until June 2015.

10.1.6. Scientific expertise

- C. Lacaux: Elected member of the Conseil National des Universités (section 26) (2011–2015)
- R. Azaïs: Member of the Technological Development Committee (Commission de Développement Technologique (CDT) in french), Inria Nancy – Grand Est

10.1.7. Research administration

- C. Lacaux: Member of the board of SMAI-MAS group
- A. Gégout-Petit: elected member of the laboratory of mathematics "Institut Elie Cartan de Lorraine"
- P. Vallois: head of the "Fédération Charles Hermite", consortium of three laboratories from Université de Lorraine in mathematics (Institut de Elie Cartan), computer science (Loria) and automatics (CRAN)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

R. Azaïs and B. Scherrer excepted, BIGS members are teachers at "Université de Lorraine" and are teaching at least 200 hours each years. Many of them have pedagogical responsibilities.

- Licence: A. Gueudin, Statistics, 45h, L3, first year of ENSAIA, Université de Lorraine, France
- Licence: S. Ferrigno, Descriptive and inferential statistics, 60h, L2, second year of EEIGM, Université de Lorraine, France
- Licence: S. Ferrigno, Statistical modeling, 60h, L2, second year of EEIGM, Université de Lorraine, France
- Licence: S. Ferrigno, Mathematical and computational tools, 20h, L3, third year of EEIGM, Université de Lorraine, France
- Licence: S. Ferrigno, Training projects, 33.5h, L1/L2/L3, first, second and third year of EEIGM, Université de Lorraine, France
- Licence: A. Gégout-Petit, Permutation test, 20h, Université de Lorraine, France
- Licence: P. Vallois, Exercices in probability, 30h, Université de Lorraine, France
- Licence: C. Lacaux, Probability, 35h, Université de Lorraine, France
- Licence: S. Wantz-Mézières, Probability and Statistics, financial mathematics, 164h, I.U.T, Université de Lorraine, France
- Licence: S. Wantz-Mézières, Probability, 60h, first year in Telecom Nancy, Université de Lorraine, France
- Licence: J-M. Monnez, Probability and Statistics, financial mathematics, 136h, I.U.T, Université de Lorraine, France
- Licence: C. Lacaux, Probability, 35h, L3, first year of Mines Nancy, Université de Lorraine, France
- Licence: S. Tindel, Introduction to probability and statistics, 30h, 2nd year for Bioengineering majors (LVE CMI), Université de Lorraine, France
- Licence: T. Bastogne, Automatics, 70h
- Master: S. Tindel, Stochastic calculus, 60h, M2, Université de Lorraine, France
- Master: S. Tindel, Applied mathematics and probability, 60h, 1st year of Telecom Nancy engineering school, Université de Lorraine, France
- Master: C. Lacaux, Stochastic Differential Equations, 31h, M1, third year of Mines Nancy, Université de Lorraine, France
- Master: A. Gueudin, Probability and Statistics, 202 h, M1, second year of ENSEM and ENSAIA, Université de Lorraine, France

- Master: S. Ferrigno, Experimental designs, 3h, M1, fourth year of EEIGM, Université de Lorraine, France
- Master: S. Ferrigno, Data analyzing and mining, 63h, M2, third year of Ecole des Mines, Université de Lorraine, France
- Master: S.Ferrigno, Modeling and forecasting, 43h, M1, second year of Ecole des Mines, Université de Lorraine, France
- Master: S.Ferrigno, Training projects, 18h, M2/M3, second and third year of Ecole des Mines, Université de Lorraine, France
- Master: A.Gégout-Petit, Statistics, modeling, 20h, future teacher, Université de Lorraine, France
- Master: P.Vallois, Mathematical finance, 70h, Université de Lorraine, France
- Master: A.Gégout-Petit, Statistics, modeling, 150h, master in applied mathematics, Université de Lorraine, France
- Master: A.Gégout-Petit, Statistics, 20h, future engineer in informatics, Telecom Nancy, Université de Lorraine, France
- Master: C.Lacaux, Stochastic Differential Equations, 31,5h, Université de Lorraine, France
- Master: J-M.Monnez, Data analysis, statistical learning, Master 2 IMOI (Ingénierie Mathématique et Outils Informatiques), Université de Lorraine, France
- Master: J-M.Monnez, Multivariate analysis, Master 2 IFM (Ingénierie de la Finance de Marché), Université de Lorraine, France
- Master: R. Azaïs, 20h, Mines de Nancy (TD de Probabilités)
- Master: T. Bastogne 120h
- B.S: S. Tindel, Differential equations, 90h, 2nd year for various Engineering majors, Purdue University, USA
- Doctoral and research: B. Scherrer gave a course on stochastic optimal control at the Machine Learning Summer School organized by Centre International de Mathématiques et d'Informatique de Toulouse

10.2.2. *Diplomae management*

- J-M. Monnez: Until June 2015 : Head of the Master 2 "Ingénierie Mathématique et Outils Informatiques (Mathematical Engineering and Computer Tools)", Université de Lorraine
- A. Gégout-Petit: since June 2015 : Head of the Master 2 "Ingénierie Mathématique et Outils Informatiques (Mathematical Engineering and Computer Tools)", Université de Lorraine
- A. Gégout-Petit created and is now in charge of cursus CMI in applied mathematics for Lorraine University
- C. Lacaux is in charge of the cursus *Ingénierie Mathématique* of École Nationale Supérieure des Mines de Nancy, until 09/2015
- P. Vallois is head of the "Parcours Mathématiques Financières" of the master "Applied mathematics" of Université de Lorraine
- P. Vallois is head of the convention between "Université de Lorraine and Université Hammam Sousse" about master organization. Master ISC (Ingénierie de Systèmes Complexes)
- T. Bastogne is in charge of the spécialité Systèmes & TIC du master Ingénierie de Systèmes Complexes
- T. Bastogne created and is now in charge of professional master: CIIBLE (Cybernétique, Instrumentation, Image en Biologie et medecinE) en M2 with Medicine Faculty of Université de Lorraine
- T. Bastogne created and is now in charge research master « Biosanté Numérique » with engineering school "Telecom Nancy"

10.2.3. Supervision

- PhD : Shuxian Li, "Modélisation spatio-temporelle pour l'esca de la vigne à l'échelle de la parcelle", INRA- Université de Bordeaux , defence December, 15, 2015. Advisor : A. Gégout-Petit
- PhD in progress : Kévin Duarte, 2013, Jean-Marie Monnez and Eliane Albuison
- PhD : Marwa HAMZA "Caractérisations des familles exponentielles naturelles cubiques : étude des lois Beta généralisées et de certaines lois de Kummer", Université de Lorraine, Université de Sfax, defense May, 15, 2015. Advisors : P. Vallois and A. Hassairi
- PhD (2014-), in progress, Lévy Batista, Grant CIFRE with Cybernano, "Identification de modèles dynamiques linéaires à effets mixtes. Applications aux dynamiques de populations cellulaires", Université de Lorraine, Advisor: T. Bastogne
- PhD, in progress, Paul Rétif, "Modélisation, simulation et analyses numériques de l'interaction nanoparticules-rayons X. Applications à la radiothérapie augmentée", Université de Lorraine, CHR Metz-Thionville, Advisor: T. Bastogne, defense expected in March 2016
- PhD, in progress, Yann Petot, "Modèle probabiliste d'aide à la décision multicritère pour les études médico-économiques", Université de Lorraine, Advisors : P. Vallois and T. Bastogne
- Master: all BIGS members regularly supervise project and internship of master IMOI students
- Engineering school: all BIGS members regularly supervise project of "Ecole des Mines ", ENSEM or EEIGM students

10.2.4. Juries

- PhD: Marthe-Aline Jutand, Université de Bordeaux, "Etudes de phénomènes de transposition didactique de la statistique dans le champ universitaire et ses environnements", December, 15, 2015, Referee : A. Gégout-Petit
- PhD: Pierre Colin, AgroParistech, Sanofi, "Méthodes bayésiennes et adaptatives pour la recherche de dose optimale : le développement clinique précoce de thérapies ciblées en oncologie", December, 2015, Referee : A. Gégout-Petit
- PhD: Julien Riposo, Université Paris 6 "Computational and Mathematical Methods for Data Analysis in Biology and Finance", September, 2015, Referee: A. Gégout-Petit
- PhD: Yingjun DENG , Université Technologique de Troyes "Degradation modeling based on a time-dependent Ornstein-Uhlenbeck Process and Prognosis of system failures", February, 2015, Referee : A. Gégout-Petit
- PhD: Jérémy Rohmer, Université de Lorraine, "Importance ranking of parameter uncertainties in geo-hazard assessments ", November, 15, 2015, President: A. Gégout-Petit
- B. Scherrer was a reviewer ⁰ for the Phd committee of Romain Hollanders (Université Louvain La Neuve)
- HdR: Nicolas Champagnat Université de Lorraine, February, 15, 2015, President: P. Vallois
- PhD: Aurélie Beal, "Description et sélection de données en grandes dimensions", Université Aix-Marseille, February 2015. Referee: T. Bastogne

10.2.5. Selection Juries

Anne Gégout-Petit was member of four selection committies: CR2 Inria Bordeaux, PR Statistics Université Paris 6, MCF Statistics Toulouse, MCF Psychology and Statistics Grenoble.

⁰"Habilitation à diriger les recherches" is not required for reviewing a Phd in Belgium.

10.3. Popularization

- A. Gégout-Petit: manager of the project "ZOOM des métiers des mathématiques et de l'informatique" brochure and videos about 22 professionals in mathematics and computer science in order to promote these two domains with young people. <http://metiers-mathsinfo.fr/>
- S. Ferrigno: Advisor of a group of students, "La main à la Pâte" project, elementary schools, Nancy, January-June 2015
- S. Ferrigno: Advisor of a group of students, "La main à la Pâte" project, Institut médico-éducatif (IME), Commercy, September-December 2015
- R. Azaïs: Animation of a workshop "MATH.en.JEANS", Collège George Chepfer, Villers-lès-Nancy
- P. Vallois: popularizing talk at MJC de Toul

CAPSID Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Marie-Dominique Devignes is a member of the Steering Committee for the European Conference on Computational Biology (ECCB).

David Ritchie is a member of the Bureau of the GGMM (Groupe de Graphisme et Modélisation Moléculaire).

Marie-Dominique Devignes is organising a workshop (“Atelier Santé”) for the Fédération Charles Hermite.

9.1.1.2. Member of Organizing Committees

Marie-Dominique Devignes co-organised a workshop on Structural Modeling of Type IV Secretion Systems.

9.1.2. Scientific Events Selection

9.1.2.1. Member of Conference Program Committees

Marie-Dominique Devignes was a member of the programme committee for KDIR-2015, NETTAB-2015, and MIVBM-2015.

9.1.2.2. Reviewer

David Ritchie was a reviewer for IJCAI-2015.

9.1.3. Journal

9.1.3.1. Member of Editorial Boards

David Ritchie is a member of the editorial board of Scientific Reports.

9.1.3.2. Reviewing Activities

The members of the team have reviewed manuscripts for Algorithms, AIMS Biophysics, Bioinformatics, Current Opinion in Structural Biology, Journal of Biomedical Semantics, Journal of Chemical Information and Modeling, Journal of Molecular Modeling, Molecules, and Proteins.

9.1.4. Invited Talks

David Ritchie gave a presentation to the *Plateau de Modélisation Moléculaire Multi-échelle* (University of Reims).

Seyed Alborzi presented the EC-DomainMiner approach at *JOBIM-2015* (Clermont-Ferrand, France).

Bernard Maigret gave presentations for the *11th International Symposium on Bioinformatics Applied to Health* (State University of Maringá, Brasil) and the *Workshop Franco-Brasileiro de programa Ciência sem Fronteira* (EMPBRAPA, Brasil).

Marie-Dominique Devignes gave a presentation to the *Institute for Structural and Molecular Biology* at Birkbeck College (London, UK).

9.1.5. Scientific Expertise

David Ritchie has reviewed grant proposals for the French ANR and the British BBSRC.

9.1.6. Research Administration

Marie-Dominique Devignes is Chargée de Mission for the CyberBioSanté research axis at the LORIA.

David Ritchie is a member of the Commission de Mention Informatique (CMI) of the IAEM doctoral school of the University of Lorraine.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Marie-Dominique Devignes, *Relational Database Design and SQL*, 30 hours, L1, Univ. Lorraine.

Master: Marie-Dominique Devignes, *Biological Data Mining and Classification*, 12 hours, L3, Univ. Lorraine.

Doctorat: Bernard Maigret, *Virtual Screening*, 10-17 June, EMBRAPA, Brasil.

9.2.2. Supervision

PhD in progress: Gabin Personeni, *Exploration of linked open data in view of knowledge discovery. Application to the biomedical domain*, 01/10/2014, Marie-Dominique Devignes, Adrien Coulet.

PhD in progress: Seyed Ziaeddin Alborzi, *Large-scale exploration of 3D protein domain family binding sites*, 01/10/2014, David Ritchie, Marie-Dominique Devignes.

PhD in progress: Benoît Henry, *Probability theory applied to evolutionary biology*, 01/10/2013, Nicolas Champagnat, David Ritchie.

9.2.3. Juries

HdR: Julie Bernauer, *Méthodes géométriques et statistiques pour l'analyse et la prédiction des interactions structurales de biomolécules*, Université Paris Sud 11, 13/01/2015.

PhD: Romain Vasseur, *Développements HPC pour une nouvelle méthode de docking inverse : Application aux protéines matricielles*, Université de Reims – Champagne Ardennes, 29/01/2015, Pr Manuel Dauchez, Dr Stéphanie Baud, Dr Luiz-Angelo Steffemel.

PhD: Clovis Galiez, *Fragments structuraux : comparaison, prédictibilité à partir de la séquence et application à l'identification de protéines de virus*, Université de Rennes 1, 08/12/2015, Dr François Coste, Dr Jacques Nicolas.

PhD: Alicia Zhukov, *Knowledge-based generalization for metabolic models*, Université de Bordeaux, 18/12/2014, Dr David Sherman.

9.3. Popularization

An article on our KBDock software has been accepted for publication in ERCIM News (edition 104, January 2016) [18].

MIMESIS Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events selection

9.1.1.1. Reviewer

Stéphane Cotin made reviews for the following conferences:

VRIPHYS

VCBM (Visual Computing in Biology and Medicine)
and MICCAI.

David Cazier made reviews for the conference:

Computer Graphics International (CGI)

Nazim Haouchine made reviews for the conference:

International Symposium on Biomedical Imaging

9.1.2. Journal

9.1.2.1. Reviewer - Reviewing activities

Stéphane Cotin made reviews for:

the Medical Image Analysis journal.

Hadrien Courtecuisse made reviews for:

IEEE Haptics Symposium,
Transactions on Haptics,
The Visual Computer,
Medical & Biological Engineering & Computing.

David Cazier made reviews for:

the Computer-Aided Design (CAD) journal,
the Visual Computer journal.

Huu Phuoc Bui made reviews for:

the Computational Mechanics journal,

Nazim Haouchine made reviews for the journal:

IET Computer Vision

Rosalie Plantefeve made reviews for the journal:

IJCARS

9.1.3. Invited talks

Stéphane Cotin has been invited speaker:

keynote lecture at "Open Your Mind" seminar series, ECAM (Paris, France),
keynote lecture at the 10th MICCAI Computational Biomechanics Workshop (Munich, Germany)

keynote lecture at Visual Computing in Biology and Medicine (Chester, UK),
invited talk at HCST Medical Robotics (Tel Aviv, Israel),

invited speaker at the International Conference on Augmented and Virtual Reality (Salento, Italy).

Hadrien Courtecuisse has been invited speaker:

in the legato team at the Computational Mechanics department of the Luxembourg University July 2015,

at SINTEF Technology and Society Medical Technology Department. Trondheim, Norway,

at HCST Medical Robotics symposium. Tel-Aviv, Israel.

Hugo Talbot has been invited speaker:

at the Karlsruhe Institute of Technology in July 2015, Germany.

at the AVR Salento conference in October 2015, Italy.



Figure 16. Presentation of SOFA at the conference AVR Salento in Lecce (Italy)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Stéphane Cotin was in charge of the following course:

Course on real-time biomechanical simulation at École Catholique d'Arts et Métiers (Paris, France)

Hadrien Courtecuisse was in charge of the following courses:

Master TIC-Santé. Télécom Physique Strasbourg : Real time simulation (30h)

Master IRMC : (10 h) Real time simulation

David Cazier was in charge of the following course:

Licence : Web technologies and programming, 96hTD, DUT2, Université de Strasbourg, France

9.2.2. Supervision

Stéphane Cotin supervised

PhD defended (in co-direction with DEFROST team): Vincent Majorczyk, Modeling of the interactions between deformable bodies and fluids in the context of medical simulation in real-time, 1/01/2010 - 28/04/2015

PhD defended : Nazim Haouchine, Image-guided Simulation for Augmented Reality during Hepatic Surgery, 1/10/2011 - 16/01/2015

PhD in progress : Christoph Paulus, Modélisation et simulation temps-réel pour la prise en compte des changements topologiques dans les tissus mous, 1/01/2014

PhD in progress : Rosalie Plantefeve, Augmented reality and numerical simulations for resection of hepatic tumors, 1/01/2014

Hadrien Courtecuisse supervised:

PhD in progress: Yinoussa adagolodjo, Coupling between robotics and medical simulation for automated procedures in the scope of the CONECT project. University of Strasbourg, 1/02/2015

PhD in progress (in co-direction with the TIMC laboratory): Fanny Morin, Non linear simulation for intraoperative guidance for neurosurgery. Université de Grenoble, 1/10/2014

Internship : Asmaa Ait Hadouch, from Telecom Physique Strasbourg. Topic: communication protocol between Sofa, Mitsubishi MRV1A robot, and optitrack system for the project CONECT, 1/06/2015 - 31/08/2015

David Cazier supervised:

PhD defended: Thomas Pitiot, Multiresolution tools for the management of interaction in real time simulations (Outils multirésolutions pour la gestion des interactions en simulation temps-réel), Université de Strasbourg, 17/12/2015

PhD in progress : Christoph Paulus, Modélisation et simulation temps-réel pour la prise en compte des changements topologiques dans les tissus mous, 1/01/2014

Frédéric Roy and Rosalie Plantefeve co-supervised:

Internship : Santiago Camacho, from Universidad de Buenos Aires. Topic: software development around visualization for augmented reality applications, 1/07/2015 - 1/12/2015

Hugo Talbot supervised:

Internship : David John, from Karlsruhe Institute of Technology. Topic: research around simulation of thermal effect in living tissues, development of specific solvers, 1/11/2015

Christoph Paulus supervised:

Internship : Sabrina Izcovich, from Universidad de Buenos Aires. Topic: research around second-order finite element methods and simulation of cutting, 1/09/2015

9.2.3. Juries

Stéphane Cotin was part of the following juries:

PhD defense: Mariem Gargouri Osman : "Caractérisation des usagers de la route par imagerie médicale : Extraction fine des paramètres géométriques des côtes à partir de volumes d'images CT", 06/2015 (President)

PhD defense: Vincent Majorczyk "Modélisation des interactions entre solides déformables et films fluides pour la simulation médicale temps-réel", 04/2015 (Supervisor)

PhD defense: Chloe Audigier "Modélisation de l'ablation radiofréquence pour la planification de la résection de tumeurs abdominales", 10/2015 (President)

PhD defense: Pierre Chantereau "Caractérisation biomécanique et modélisation histologique des mécanismes de vieillissement et d'endommagement du système pelvien", 07/2015 (Reviewer)

David Cazier was part of the following juries:

PhD defense: Vincent Majorczyk, Modeling of the interactions between deformable bodies and fluids in the context of medical simulation in real-time, 4/11/2015 (Reviewer)

PhD defense: Evans Bohl, Modélisation de fruits de leurs structures internes et de leurs défauts, Université de Poitiers, 4/11/2015 (Reviewer)

PhD defense: Kevin Jordao, Interactive design of crowd animations in large environments, 21/12/2015 (Reviewer)

9.3. Popularization

9.3.1. IHU Scientific Days

At the occasion of the 4 IHU Scientific days in 2015, the MIMESIS took part and organized several meetings, presentation and discussions around simulation in medicine.

9.3.2. *Journée Française de Radiologie, JFR*

The MIMESIS team was part of the JFR 2015 event in Paris on the 16 and 17th October 2015. Hugo Talbot presented the work and the projects achieved by the team.



Figure 17. Our booth in the RII Health 2015 in Bordeaux

9.3.3. *Rencontre Inria Industrie, RII*

Hugo Talbot presented the SOFA framework and our current work during the "Rencontre Inria Industrie" 2015 which took place in Bordeaux. We had many nice discussions and feedback about SOFA.

9.3.4. *Journée Alsacienne d'Ophtalmologie, JAO*

In collaboration with the ophthalmologist Pr. Gauchet, several members of the team (Rémi Bessard, Bruno Marques and Stéphane Cotin) participated at the JAO (Journée Alsacienne d'Ophtalmologie) on the 28th and 29th of November 2015. They presented our prototype simulator for retinal surgery.

9.3.5. *Talk at Université Paris Descartes*

On the 4th of December, Stéphane Cotin was invited as a speaker to the BME seminar at University Paris Descartes. His talk was entitiled "patient safety through real-time numerical simulation".

9.3.6. *Talk at MEDinISRAEL*

Stéphane Cotin and Hadrien Courtecuisse were invited at the MedinISRAEL 2015 conference which took place in Tel Aviv. This event was the opportunity for the team to present our work to the community. Moreover, the university from Tel-Aviv strongly supports new collaborations with French laboratory.

9.3.7. *Science & You*

In Nancy, Science & You opened its doors on the 2nd of June. The MIMESIS team participated on June 5th and 6th to present some of our simulations. This was a great success and a large audience came to our booth.



Figure 18. Rémi Bessard presenting our simulation at JAO 2015



Figure 19. Presentation of Stéphane Cotin at MEDinISRAEL 2015

9.3.8. Pitch at B.E.S.T. Symposium

B.E.S.T. (Business Engineering and Surgical Technologies) is an original education program proposed by the IHU Strasbourg dedicated to undergraduate, graduate and postgraduate students in medicine, engineering and management. In the context of the B.E.S.T. Symposium, Hugo Talbot presented a concept of start-up about medical training based on simulation which any student could afford. Rosalie Plantefevé also attended the B.E.S.T. Symposium.

NEUROSYS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of Organizing Committees

- NETT workshop about *Neural Engineering in Medicine and related fields* in Nancy, 2-3 July 2015 (A. Hutt, L. Bougrain)
- BCI competition, IEEE Neural Engineering Conference, Montpellier, 2015 (L. Bougrain).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Chair of the international workshop *Neural Engineering in Medicine and Related Fields*, July 2-3, Nancy

10.1.2.2. Member of Conference Program Committees

- Workshop *Neural Engineering in Medicine and Related Fields*, July 2-3, Nancy (A. Hutt, L. Bougrain)
- French conference on machine learning CAP 2015 (L. Bougrain)
- IEEE International Conference on Systems, Man, and Cybernetics (SMC) special sessions on Brain-Machine Interfaces, Hong Kong, 2015 (L. Bougrain)
- International Joint Conference on Artificial Intelligence (IJCAI) 2015 (L. Bougrain)

10.1.2.3. Reviewer

- French conference on machine learning CAP 2015 (L. Bougrain)
- IEEE International Conference on Systems, Man, and Cybernetics (SMC) special sessions on Brain-Machine Interfaces, Hong Kong, 2015 (L. Bougrain)
- International Joint Conference on Artificial Intelligence (IJCAI) 2015 (L. Bougrain)

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

Nonlinearity, Neurocomputing, Journal of Computational Neuroscience, SIAM Journal of Applied Dynamical Systems, Journal of Mathematical Neuroscience, Frontiers in Neurology, Physical Review E, Physical Review Letters, Journal of Neuroscience (A. Hutt); PLoS Computational Biology, Frontiers in Computational Neuroscience (L. Buhry); Reviewing activities: IEEE Transactions on Signal Processing, ACM Transactions on Sensor Networks, Signal Processing: Image Communication (T. Tomic)

10.1.4. Invited talks

- Tutorial "Fundamentals in Neural Field and Neural Mass models", Computational Neuroscience Conference, July 17 and 18, Prague (A. Hutt);
- Seminar talk "Noise-induced neural oscillations", Max Planck Institute for Brain Research, May 26, Frankfurt am Main (A. Hutt);
- Seminar talk "Brain Signals Analysis for Brain-Machine Interfaces", UCL-France Workshop *Virtual reality in rehabilitation, accessibility and mobility*, Univ. College London, May 21-22, London (L. Bougrain)
- Seminar talk "EEG-based control of a Jaco robotic arm", International workshop *Neural Engineering in Medicine and Related Fields*, July 2-3, Nancy (L. Bougrain);
- Tutorial "Time-frequency analysis", Ludwig-Maximilians-Universität (LMU), Nov. 2015, Munich (M. Fedotenkova)
- Seminar talk "Distinguishing between pre- and post-incision under general anesthesia by spectral and recurrence analysis of EEG", Ludwig-Maximilians-Universität (LMU), Nov. 2015, Munich (M. Fedotenkova)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Engineering School: L. Bougrain, *Artificial Intelligence*, 109h, 3rd year, Telecom Nancy, France

Engineering School: L. Bougrain, *Brain-Computer interfaces*, 4.5h, 3rd year, Supelec, France

Engineering School: T. Tasic, *Process and knowledge modeling*, 27h, 3rd year, École des Mines Nancy, France

Engineering School: T. Tasic, *Informatique I*, 20h, 2nd year, École des Mines Nancy, France

Engineering School: T. Tasic, *Techniques et solutions informatiques*, 24h, 3rd year, École des Mines Nancy, France

Engineering School: T. Tasic, *ARTEM workshop ABCD Web*, 40h, 3rd year, ICN, Ecole d'art et design, École des Mines, France

Engineering School: A. Hutt, *Pépites Algorithmiques*, 9h, niveau M1, École des Mines Nancy, France

Engineering School: F. Giovannini, *Artificial Intelligence*, 32h, 3rd year, Telecom Nancy, France

Engineering School: F. Giovannini, *Techniques and tOols for Programming*, 32h, 1st year, Telecom Nancy, France

Licence: L. Buhry, *Applications en Sciences Cognitives*, 3h, niveau L1 MIASHS, University of Lorraine, France

Licence: L. Buhry, *Programmation Python*, 37h, niveau L1 MIASHS, University of Lorraine, France

Licence: L. Buhry, *IA et Résolution de problèmes*, 25h, niveau L3 MIASHS, University of Lorraine, France

Licence: L. Bougrain, *mobile development*, 35h, Licence of computer science (3st year), University of Lorraine, France

Licence: L. Bougrain, *artificial intelligence*, 35h, Licence of computer science (3st year), University of Lorraine, France

Licence: L. Bougrain, *optimization*, 37.5h, Licence of computer science (3st year), University of Lorraine, France

Master: L. Buhry, *Algorithmique pour l'intelligence artificielle*, 31h, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine, France

Master: L. Buhry, *IA fondamentale et fouille de données*, 18h, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine, France

Master: L. Buhry, *Formalismes de Représentation et Raisonnement*, 25h, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine, France

Master: L. Buhry, *Memory and Machine Learning (in English)*, 38h, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine, France

Master: L. Buhry, *Neurosciences Computationnelles*, 25h, niveau Master 2 SCMN, University of Lorraine, France

Master: L. Bougrain, *Machine learning*, 18h, Master of computer science, 2st year, University of Lorraine, France

Master: L. Bougrain, *Human factors*, 30h, Master of computer science 1st year, University of Lorraine, France

10.2.2. Supervision

- PhD in progress: Meysam Hashemi, Analytical and numerical studies of thalamo-cortical neural population models during general anesthesia, May 2012, A. Hutt
- PhD in progress: Mariia Fedotenkova, Detection of EEG-signal features for pain under general anaesthesia, November 2013, A. Hutt
- PhD in progress: Cecilia Lindig-Leon, Multilabel classification for a 3D control of a robotic arm using band-specific EEG markers associated with a motor task, November 2013, L. Bougrain and A. Hutt
- PhD in progress: Francesco Giovannini, Mathematical modelling of the memory system under general anesthesia, October 2014, L. Buhry and A. Hutt
- Winter 2015 Internship: Jean-Baptiste Jordan Schneider (M1 Biology, univ. de Lorraine), *Investigating the Effects of Propofol-Induced Tonic Inhibition on Rhythmic Neural Activity in a Hippocampal Interneuron Network* (F. Giovannini, L. Buhry)
- Master research project (2nd year): Louis Viard (Engineering School Ecole des Mines de Nancy), *Detection of micro-awake episodes in sleep signal using time-frequency descriptors* (T. Tomic)
- Master thesis: Sébastien Rimbart (master of cognitive science, univ. de Lorraine) *Study of the dynamics of brain motor components during anesthesia* (L. Bougrain)
- Master thesis: Benjamin Le Golvan (master of biomedical engineering, univ. de Lorraine) *Longitudinal study of motor activities* (L. Bougrain)

10.2.3. Juries

- Axel Hutt was member of PhD committee of Arnaud Legendre, University of Mulhouse, as reviewer. He has participated in the candidates defence October 28 2015.

10.2.4. Commitees

- Member of the IES committee (Commission Information et Edition Scientifique) at Inria Nancy–Grand-Est (Laurent Bougrain)
- Member of Inria committee COST-GTRI to evaluate Inria Associate Teams (Axel Hutt).

10.3. Popularization

- Talks at Science and You: atelier scolaire “Femmes et sciences : une équation facile à résoudre !” – June 5th 2015 (L. Buhry)
- Talk during the National Brain week: Brain, Consciousness and Anesthesia, March 24th 2015, central hospital, Nancy (D. Schwartz, A. Hutt, L. Bougrain)
- Exhibit at Loria’s open day for master students: controlling a robotic arm using EEG, April 9th, 2015 (L. Bougrain, B. le Golvan)

TONUS Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Journal

10.1.1.1. Member of the editorial boards

Philippe Helluy is member of the editorial board of IJFV <http://ijfv.org/>

10.1.1.2. Reviewer - Reviewing activities

Emmanuel Franck participates in reviewing for

- ENUMATH 2015 Proceedings
- Comptes Rendus Mathematique

Philippe Helluy participates in reviewing for

- Mathematical reviews
- ESAIM Procs
- Computers and fluids
- Computational physics paper
- International Journal for Numerical Methods in Fluids
- SINUM
- Computer Physics Communications
- Journal of Mechanical Science and Technology

Sever Adrian Hirstoaga participates in reviewing for

- Discrete and Continuous Dynamical Systems-Series S
- ESAIM Procs.

Michel Mehrenberger participates in reviewing for

- Electronic Journal of Qualitative Theory of Differential Equations (EJQTDE)
- ESAIM Procs
- SISC
- Zeitschrift fuer Angewandte Mathematik und Physik (ZAMP)
- Abstract and Applied Analysis (AAA)

Laurent Navoret participates in reviewing for

- ESAIM Procs
- J. Comp. Phys.

10.1.2. Invited talks

Emmanuel Franck was invited at

- Congrès SMAI 2015", Mini-symposium "Numerical method for Plasma physic", Karellis, June 2015.
- "Multi-scale Numerical Methods for the Vlasov Poisson system with strong magnetic field", <http://www.ipp.mpg.de/3874888/Program>, October, 26th 2015.
- " Workshop JOEREK ", Garching, May 2015.
- Seminar Nantes, October 2015

Philippe Helluy was invited at:

- Numkin 2015, Max Planck Institute for Plasma Physics, Munich, Germany, October 2015, <http://www.ipp.mpg.de/3874888/Program>
- JLESC workshop, Barcelona, June 2015, <http://jlesc.bsc.es/>
- Forum ORAP, November 2015, http://orap.irisa.fr/?page_id=129

Sever Adrian Hirstoaga was invited at

- the workshop Modeling and Numerical Methods for Hot Plasmas II, Bordeaux, October 12-14, 2015
- the "Séminaire d'Analyse", IRMA Strasbourg, December 10, 2015.

Michel Mehrenberger was invited at

- IFIP Nice June 30, 2015, Mini Symposium "Oscillation, Degeneracy and Controllability".

Laurent Navoret was invited at

- Séminaire LAMA, Université de Savoie
- Séminaire Calcul Stochastique, IRMA, Université de Strasbourg
- Workshop "Collective dynamics of active particles, swimmers, motile cells", IMFT, Toulouse

10.1.3. Scientific expertise

Sever Adrian Hirstoaga, expertises for:

- computational project proposal at the Swiss National Supercomputing Centre

Philippe Helluy, expertises for:

- ANR
- U.S. Army Research Office
- Defence Institute of Advanced Technology (India)
- Energy research call CNRS (France).

10.1.4. Research administration

Michaël Gutnic is member of the National Commity for Scientific Research (from september 2012).

Philippe Helluy:

- head of the "Modélisation et Contrôle" research team at IRMA Strasbourg,
- chargé de mission calcul scientifique at CNRS.

Michel Mehrenberger is partly responsible of the seminar MOCO (MOdelisation et COntôle, IRMA, Université de Strasbourg).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Michaël Gutnic, Mathématiques pour les sciences du vivant, 84h eq. TD, L1 Sciences du Vivant, Université de Strasbourg, France

Licence: Michaël Gutnic, Statistiques pour les biologistes, 117h eq. TD, L2 Sciences du Vivant, Université de Strasbourg, France

Licence: Philippe Helluy, Calcul scientifique, 54h eq. TD, L2 Maths, Université de Strasbourg, France

Licence: Michel Mehrenberger, Fonctions de plusieurs variables et analyse vectorielle, 30 h eq. TD, L2, Université de Strasbourg, France

Licence: Laurent Navoret, Calcul scientifique, 65 h eq. TD, L3, Université de Strasbourg, France

Licence: Laurent Navoret, Optimisation Non-Linéaire, 54h eq. TD, Cours et TD, L3 Maths-Eco, Université de Strasbourg, France

Master: Michaël Gutnic, Probabilités et Statistiques, 30h eq. TD, Formation d'ingénieur en informatique en apprentissage, Institut des Techniques d'Ingénieur de l'Industrie, Centre de Formation d'Apprentis de l'Industrie, Conservatoire national des arts et métiers, France.

Master: Philippe Helluy, Recherche opérationnelle, 45h eq. TD, ENSIIE, Université de Strasbourg, France

Master: Philippe Helluy, Contrôle Optimal, 26h eq. TD, M2, Université de Strasbourg, France

Master: Philippe Helluy, Méthode des volumes finis, 26h eq. TD, M2, Université de Strasbourg, France

Master: Philippe Helluy, Calcul scientifique, 10h eq. TD, M2 Agrégation, Université de Strasbourg, France

Master: Michel Mehrenberger, Cours avancé math fonda, 20 h eq. TD, M1, Université de Strasbourg, France

Master: Michel Mehrenberger, PIP certification Python, 13 h eq. TD, M1, Université de Strasbourg, France

Master: Laurent Navoret, PIP : certification python, 13h eq. TD, M1 Mathématiques, Université de Strasbourg, France.

Master: Laurent Navoret, Calcul scientifique, 54 h eq. TD, M2 Agrégation, Université de Strasbourg, France.

Master: Laurent Navoret, Correction de devoir, 26 h eq. TD, M2 Agrégation, Université de Strasbourg, France.

Master: Laurent Navoret, Basics in Maths, 24h eq. TD, Cours, M2 Cell Physics, Université de Strasbourg, France.

10.2.2. Supervision

PhD : Thomas Strub, "Résolution des équations de Maxwell tridimensionnelles instationnaires sur architecture massivement multicoeur", Université de Strasbourg, March 2015, Advisor: Philippe Helluy.

PhD in progress: Thi Trang Nhung Pham, "Méthodes numériques pour Vlasov", October 2012, Advisors: Philippe Helluy, Laurent Navoret.

PhD in progress: Pierre Gerhard, "Résolution des modèles cinétiques. Application à l'acoustique du bâtiment.", October 2015, Advisor: Philippe Helluy, Laurent Navoret.

PhD in progress: Bruno Weber, "Optimisation de code Galerkin Discontinu sur ordinateur hybride. Application à la simulation numérique en électromagnétisme", March 2015, Advisor: Philippe Helluy.

PhD in progress: Nicolas Bouzat, "Fine grain algorithms and deployment methods for exascale codes", October 2015, Advisor: Michel Mehrenberger, Jean Roman, Guillaume Latu.

PhD in progress: Michel Massaro, "Méthodes numériques pour les plasmas sur architectures multicœurs", December 2012, Advisor: Philippe Helluy.

10.2.3. Juries

Michel Mehrenberger was invited member of the jury of the PhD of Fabien Rozar (CEA Cadarache).

Philippe Helluy, PhD defence of: Lauriane Schneider (Strasbourg), Rémi Chauvin (Toulouse).

10.3. Popularization

Philippe Helluy participated to the redaction of an ONISEP brochure about the jobs related to Mathematics or computer sciences <http://www.onisep.fr/Toute-l-actualite-nationale/Decouvrir-les-metiers/Mars-2015/Zoom-sur-les-metiers-des-mathematiques-et-de-l-informatique>

Michel Mehrenberger is in the IREM ("Instituts de recherche sur l'enseignement des mathématiques") team "Modélisation" for the year 2015-2016.

COAST Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific events selection

8.1.1.1. Member of the conference program committees

- Claude Godart was PC member of the conference program committee of BPM (Business Process Management), BPMDS (Business Process Modeling, Development and Support), CBI (IEEE Conference on Business Informatics), EDOC (The enterprise computing conference), ICSOC (International Conference on Services Computing), IEEE CLOUD Computing, ICWS (IEEE International Conference on Web Services), SCC (IEEE International Conference on Services Computing), IEEE/WIC/ACM WI (Web Intelligence conference), WISE (Web Information Systems Engineering) conferences.
- Claudia-Lavinia Ignat was PC member of CSCW (International Conference on Computer Supported Cooperative Work and Social Computing) 2015 and 2016, CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2015, ICEBE (International Conference on e-Business Engineering) 2015, Best paper awards committee at CSCW 2016
- Olivier Perrin was PC Member of ICSOC 2015, I3E 2015 (14th IFIP Conference on e-Business, e-Services and e-Society), VECOS 2015 (9th International Workshop on Verification and Evaluation of Computer and Communication Systems), SITIS 2015.
- François Charoy was PC Member of ICEBE (International Conference on Business Engineering) 2015, CTS 2015 (International Symposium on Collaborative Technologies and Systems), DG.O (International Conference on Digital Government Research) 2015, IEEE International Conference on Business Information Systems and of several workshops.
- Khalid Benali was PC Member of IWEI 2015 (International IFIP Working Conference on Enterprise Interoperability), COLLA 2015 (International Conference on Advanced Collaborative Networks, Systems and Applications), WorldCIST'15 (World Conference on Information Systems and Technologies), ICDS 2015 (The International Conference on Digital Society), MEDES 2015 (ACM/IFIP International Conference on Management of Emergent Digital EcoSystems), INFORSID'2015, INNOV 2015 (International Conference on Communications, Computation, Networks and Technologies), I3E 2015 (The 14th IFIP Conference on e-Business, e-Services and e-Society), and AFIN 2015 (The Seventh International Conference on Advances in Future Internet).
- Gérald Oster was a PC member of CoopIS 2015 (International Conference on Cooperative Information Systems).

8.1.1.2. Member of the editorial boards

- Claude Godart is member of the editorial board of "IEEE transaction on Service Computing", "International Journal of Services Computing" and member of the review board of the "International Journal of Next Generation Computing".
- Claudia-Lavinia Ignat is member of the editorial board of Journal of CSCW (Computer Supported Cooperative Work).
- François Charoy is member of the editorial board of Service Oriented Computing and Applications Journal (Springer).

8.1.1.3. Reviewer - Reviewing activities

- In 2015, Olivier Perrin reviewed papers for IEEE Transactions on Services Computing journal and Elsevier Computers & Security journal.

- In 2015, Claudia-Lavinia Ignat reviewed papers for IEEE Transactions on Software Engineering.

8.1.2. Invited talks

- François Charoy has been invited as a keynote Speaker at the Pro-VE Conference in Albi [5] on Collaborative Networks and Crisis Management.
- François Charoy has been invited as a keynote Speaker at the ISCRAM Med conference in Tunis [6] on Web Scale collaboration and Crisis Management.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Permanent members of the COAST project-team are leading teachers in their respective institutions. They are responsible of lecture in disciplines like software engineering, database systems, object oriented programming and design, distributed systems, service computing and even more advanced topics at all levels and in all kind of departments in the University. Most of the PhD Students have also teaching duties in the same institutions. As a whole, the COAST team accounts for more than 2500 hours of teaching. Members of the COAST team are also deeply involved in the pedagogical and administrative life of their departments.

- G r me Canals is the head of the Computer science department of the Nancy-Charlemagne University Institute of Technology (IUT Nancy Charlemagne) since sept. 2010, and is responsible for the professional licence degree “Web application programming” since sept. 2001.
- Claude Godart is responsible for the Computer Science department of the engineering school ESSTIN.
- Khalid Benali is responsible for the professional Master degree speciality “Distributed Information Systems” of MIAGE and of its international branch in Morocco.
- Fran ois Charoy is responsible of the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- G rard Oster is responsible of the 3rd year internship program at the TELECOM Nancy Engineering School of University of Lorraine.
- Pascal Urso is responsible for the “Security, Services, Systems and Network” track of the master degree in computer science at University of Lorraine since September 2013.

8.2.2. Supervision

PhD (in progress): Quang Vinh Dang, Trust-based large scale collaboration, started in 10/2014, Claudia-lavinia Ignat and Fran ois Charoy

PhD (in progress): Hoai Le Nguyen, Study of group performance and behavior in collaborative editing, started in 9/2015, Claudia-Lavinia Ignat and Fran ois Charoy

PhD (in progress): Hoang Long Nguyen, A Trust Based Authorization Model and Framework for the Cloud, started in 11/2015, Claudia-Lavinia Ignat and Olivier Perrin

PhD (in progress): Luc Andr , Replication and Consistency Maintenance in Peer-to-Peer Collaborative Environment, started in 9/2011, Fran ois Charoy and G rard Oster

PhD (in progress): Victorien Elvinger, Secured Replication for Peer-to-Peer Collaborative Infrastructures, started in 10/2015, Fran ois Charoy and G rard Oster

PhD (in progress): Ahmed Bouchami , S curit  des donn es collaboratives d’une plateforme PaaS, started in 11/2012, Olivier Perrin

PhD (in progress): Adrien Devresse , Study of effective sharing and analysis of very large metadata repositories: application to the High Energy Physics computing community, started on 11/2011, Olivier Perrin

PhD (in progress): Jordi Martori i Adrian, Data constraints for large-scale collaboration, started in 10/2013, François Charoy and Pascal Urso

PhD (in progress): Guillaume Rosinoski, Elastic BPM and the Cloud, started in 10/2014, François Charoy and Samir Youssef

PhD (defended): Mehdi Ahmed Nacer ended 5/2015, François Charoy and Pascal Urso.

8.2.3. *Juries*

- Claudia-Lavinia Ignat was a member of the jury for the recruitment in 2015 of permanent Inria junior researchers at Inria Nancy-Grand Est.
- François Charoy was head of the Selection committee at TELECOM Nancy, Université de Lorraine

COAST members were members of the following PhD and HdR defense committees:

- Amina Saoutal, PhD, Université de Technologie de Troyes, December 2015 (François Charoy et Claudia-Lavinia Ignat)
- Laurent Cailleux, PhD, Telecom Bretagne, January 2015 (François Charoy)
- Mehdi Ahmed Nacer, PhD, Université de Lorraine, May 2015 (François Charoy and Pascal Urso)
- Victor Codecedo, PhD, Université de Lorraine, September 2015 (François Charoy)
- Aurélie Montarnal, PhD, Ecoles des Mines D'Albi, October 2015 (François Charoy)
- Houssemed Medhioub, PhD, Université Pierre et Marie Curie, Paris, April 2015 (Olivier Perrin)
- Akram Bedoui, PhD, Université de Lorraine, Nancy, November 2015 (Olivier Perrin)
- Kevin Royer, PhD, ENSMA Poitiers, March 2015 (Claude Godart)
- Saoussen Cheikhrouhou, PhD, Université de Sfax, June 2015 (Claude Godart)
- Samuel Marchal, PhD, Université de Lorraine and Université du Luxembourg, June 2015 (Claude Godart)
- Mustapha Aznag, PhD, Université Aix-Marseille, Juillet 2015 (Claude Godart)
- Mohamed Bentounsi, PhD, Université Paris-Descartes, Juillet 2015 (Claude Godart)
- Elio Goettelmann, PhD, Université de Lorraine, October 2015 (Claude Godart)
- Kahina Gani, PhD, Université Blaise Pascal, Clermont-Ferrand, December 2015 (Claude Godart)

8.3. Popularization

- In 2015, Claudia-Lavinia Ignat participated at “Le Village des Sciences” at Loria.
- François Charoy has been invited to participate to a panel at Grand Est Numérique 3

8.4. Institutional commitment

- Claudia-Lavinia Ignat is in charge of European affairs for Inria Nancy Grand-Est. She is the Delegate of International Relations for Inria Nancy-Grand Est and member of COST-GTRI commission. She is member of the Inria Nancy-Grand Est COMIPERS committee. She led a working group called GT Europe that had to come up with certain propositions that could reinforce the participation of Inria Nancy-Grand Est researchers at european project calls. She participated to the working group “Livret d'accueil” that was in charge with the design of a booklet for newcomers at Inria Nancy-Grand Est. She is responsible with the activity kindergarten at AGOS Inria Nancy-Grand Est.

8.5. Collective Responsibilities outside Inria

- François Charoy is head of the “Commission de choix” of TELECOM Nancy and member of the Administration Council of TELECOM Nancy.
- François Charoy is elected member of CNU.
- Gérald Oster is member of the Administration Council of TELECOM Nancy and of the “Commission de choix” of TELECOM Nancy.
- Claude Godart is member of the Administration Council of the engineering school ESSTIN and member of the recruitment committee of the engineering school ESSTIN.

MADYNES Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

Thomas Silverston organized (General Chair) the 2nd international Workshop on Crowd-Assisted Sensing in Pervasive Systems and Communications (CASPER'2015) along with the IEEE PERCOM Conference on March 27th 2015.

10.1.1.2. Member of the organizing committees

Remi Badonnel was member of the organizing committee for the following conferences: IEEE International Conference on Cloud Networking (IEEE CloudNet 2015), IEEE International Conference on Network Softwarization (IEEE NetSoft 2016).

Isabelle Chrisment was member of the organizing committee for the following conferences: JCSA 2015 (Journée du Conseil Scientifique de l'AFNIC) "*Quelles mesures sur Internet, pour quels usages scientifiques et techniques*", RESSI'15 (*Rendez-vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information*).

Lucas Nussbaum was member of the organizing committee for the following conferences: Reppar (2st International Workshop on Reproducibility in Parallel Computing, held together with Euro-Par 2015).

Vassili Rivron and Cécile Dolbeau-Bandin organized a one-day seminar on "*Us et abus de l'Internet : enjeux sociologiques et psychologiques des pratiques numériques*", Université de Caen Basse Normandie, Caen, on 25th September 2015.

Vassili Rivron, Claudia Ignat and Isabelle Chrisment organized a one-day seminar on "Social science insights for large scale and mobile collaboration/networks", LORIA, Nancy, on 14th September 2015.

Ye-Qiong Song was member of the organizing committee for MSR 2015 (<http://msr2015.loria.fr/>) and co-organizer for "networks and real-time QoS" session of the real-time system summer school ETR 2015 (Ecole temps réel 2015).

10.1.2. Scientific events selection

10.1.2.1. Chair of conference program committees

Rémi Badonnel was TPC co-chair for the following conferences: IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2015), the Experience Track of the IFIP/IEEE Network Operations and Management Symposium (IFIP/IEEE NOMS 2016), IFIP/IEEE International Workshop of Management of the Future Internet (IFIP/IEEE ManFI 2016), IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2016).

Laurent Ciarletta was associated Associate Editor for IEEE CSS / RAS International Conference on Unmanned Aircraft Systems ICUAS 2015.

Jérôme François was co-chair of the PhD workshop at IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'15).

10.1.2.2. Member of the conference program committees

Bernardetta Addis: International Conference on Green IT Solutions (ICGREEN 2015) ; Design of Reliable Communication Networks (DRCN 2016)

Remi Badonnel: IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2015) ; IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2015) ; IFIP/IEEE International Conference on Network and Service Management (IFIP/IEEE CNSM 2015) ; IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS 2015) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2015) ; IEEE Global Communications Conference (IEEE GLOBECOM - SAC 2015) ; IFIP/IEEE Network Operations and Management Symposium (IFIP/IEEE NOMS 2016).

Thibault Cholez: 7th IEEE International Workshop on Network Science for Communication Networks (NetSciCom 2015) ; 9th International Conference on Autonomous Infrastructure, Management and Security (AIMS 2015) PhD workshop.

Isabelle Chrisment: IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'15); Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel'15); Colloque francophone sur l'ingénierie des protocoles et Nouvelles Technologies de la Répartition (CFIP-NOTERE'15); IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15); IFIP/IEEE International Symposium on Network Operations and Management (IFIP/IEEE NOMS'16).

Laurent Ciarletta: IEEE CSS / RAS International Conference on Unmanned Aircraft Systems ICUAS 2015.

Olivier Festor: IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2015); IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2015); IFIP/IEEE International Conference on Network and Service Management (IFIP/IEEE CNSM 2015); Asia Pacific Network Operations and Management Symposium (APNOMS 2016); ACM SIGCOMM Poster/Demo Committee 2015; IEEE International Conference in COmmunications (IEEE ICC 2016); IEEE International Conference on Network Softwarization (IEEE Netsoft 2015, IEEE Netsoft 2016); IFIP/IEEE Network Operations and Management Symposium (IFIP/IEEE NOMS 2016).

Jérôme François: IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15); Sec-SDN workshop of the 1st Network Softwarization Conference (IEEE NetSoft, 2015); Asia-Pacific Network Operations and Management Symposium (APNOMS 2015); Principles, Systems and Applications of IP Telecommunications (IPTComm'15); Global Information Infrastructure and Networking Symposium (IEEE GIIS 2015).

Abdelkader Lahmadi: IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15); IFIP/IEEE International Symposium on Network Operations and Management (IFIP/IEEE NOMS'16); Asia-Pacific Network Operations and Management Symposium (APNOMS 2015); IFIP/IEEE International Workshop on Management of the Future Internet (ManFI 2015).

Lucas Nussbaum: Reppar (2nd International Workshop on Reproducibility in Parallel Computing, held together with Euro-Par 2015); CloudCom'2015 (HPC on Cloud track); WETICE'2015 (Convergence of Distributed Grid, Cloud and their Management track); ComPAS'2015.

Thomas Silverston: CASPER'15 Workshop (with IEEE Percom); ICNS Workshop (with IEEE Globecom'15); ACM AINTEC 2015, ACM ICN 2015 (Posters and Demos).

Françoise Simonot-Lion: 10th IEEE International Workshop on Factory Communication Systems (WFCS 2015); CARS@EDCC2015, satellite workshop of the 11th European Dependable Computing Conference - Dependability in Practice, 2015.

Ye-Qiong Song: 10th IEEE International Workshop on Factory Communication Systems (WFCS 2015); 5th IEEE International Conference on Communications and Networking (ComNet 2015); 20th IEEE International Conference on Emerging Technologies and Factory Automation (ETFAs 2015); 13th International Conference on Smart Homes and Health Telematics (ICOST 2015); 8th IFIP Wireless and Mobile Networking Conference; 23rd International Conference on Real-Time Networks and Systems (RTNS 2015).

10.1.3. Journal

10.1.3.1. Member of the editorial boards

Rémi Badonnel is Associate Editor for the Wiley International Journal of Network Management (IJNM).

Olivier Festor is Associate Editor for -IEEE Transactions on Network and Service Management and -Wiley International Journal of Network Management (IJNM).

Françoise Simonot-Lion is Associate Editor for the IEEE Transactions on Industrial Informatics.

Ye-Qiong Song is Associate Editor for the Elsevier Computers and Electrical Engineering Journal.

10.1.3.2. Reviewer - Reviewing activities

The following reviews for journals has been made by team members:

Bernardetta Addis: Computers and Operation Research (COR), Discrete Applied Mathematics (DAM), Journal of Network and Systems Management (JONS), Telecommunication Systems (TELS).

Remi Badonnel: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer Journal of the Network and Systems Management (JNSM), Elsevier International Journal on Computer Networks (COMNET), IEEE Communications Magazine (COMMAG).

Thibault Cholez: IEEE Transactions on Network and Service Management (IEEE TNSM), IEEE Communications Letters.

Isabelle Chrisment: Elsevier Computer Communications (COMCOM).

Abdelkader Lahmadi: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer Journal of the Network and Systems Management (JNSM), Wiley International Journal of Network Management (IJNM).

Lucas Nussbaum: Concurrency and Computation: Practice and Experience ; SoftwareX.

Thomas Silverston: Elsevier Computer Network.

Françoise Simonot-Lion: Journal Mathematical Problem in Engineering, IEEE Transactions on Industrial Informatics.

Ye-Qiong Song: the Elsevier Computers and Electrical Engineering journal, Elsevier Ad hoc network journal, Journal of Real-time systems (Springer), ACM Transactions on Architecture and Code Optimization (TACO), IEEE transaction on cloud computing.

10.1.4. Invited talks

Isabelle Chrisment gave a talk on Mitigation of Topological Attacks in RPL based Networks at the IFIP WG11.2 seminar in June 2015, Paris, France.

Isabelle Chrisment and Jérôme François gave a talk on Internet Monitoring for Tracking Cybercriminal Activities at the French-German Cybersecurity Workshop, in February 2015, Saarbrücken, Germany.

Jérôme François gave a talk on monitoring network for fighting cybersecurity threats at the Cybersecurity French-Japanese Workshop in April 2015, Tokyo, Japan. He presented a tutorial on data analytics for network management at IFIP AIMS 2015. He also presented flow aggregation techniques at the first NMLRG (Network Machine Learning Research group) meeting at the IETF 94.

10.1.5. Leadership within the scientific community

Olivier Festor is Chair of the IFIP Working-Group 6.6 on Network and systems management. This working group is actively involved the animation of most major conferences in this research area and organizes frequent meetings and workshops on the domain.

Olivier Festor was Co-chair together with Lisandro Zambenedetti Grandvile from the Federal University of Rio Grande do Sul (UFRGS) of the Internet Research Task Force (IRTF) Network Management Research Group until november 2015.

10.1.6. Scientific expertise

Isabelle Chrisment is member of AFNIC scientific board since January 2013.

Thibault Cholez was invited by Thales to review the results of the NoE FP7 CAPITAL whose objective was to propose and motivate a research program in the field of cyber security for the European Commission.

Olivier Festor served as external expert in the AERES panel for the LIG laboratory evaluation.

Isabelle Chrisment participated in the review of a FNR (Fonds National de la Recherche - Luxembourg) proposal.

Thomas Silverston participated in the review of a FNR proposal (Luxembourg).

Françoise Simonot-Lion is Scientific Delegate with HCERES. She was member of the regional jury for the i-LAB 2015 Competition (Ministère de l'Enseignement Supérieur et de la Recherche and BPI-France)

Ye-Qiong Song is a member of the national Gilles Kahn best computer science PhD thesis awards committee.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Remi Badonnel is heading the Telecommunications, Networks and Services specialization of the 2nd and 3rd years at the TELECOM Nancy engineering school, and is coordinating the Security Pathway Program at the same school, elaborated in the context of the International Master of Science in Security of Computer Systems built with the Mines Nancy and ENSEM engineering schools.

Laurent Ciarletta is heading the specialization Safe Systems Architecture of the Computer Science and IT department of the Ecole des Mines de Nancy ("Grande Ecole", Engineering School, Master degree level).

Olivier Festor is the Director of the TELECOM Nancy Engineering School.

E-learning

MOOC : Rémi Badonnel, "Introduction to Nagios-based Monitoring", MOOC exercices complementing the initial course (45 minutes + 25 minutes), Youtube Platform (Flamingo Channel), TELECOM Nancy, Master/Engineering Students, more than 30 000 views in 2 years (initial course).

Team members are teaching the following courses:

Bernardetta Addis 216 hours, -M2 -Operational Research, Discrete Optimization -Écoles des Mines de Nancy, Université de Lorraine

Rémi Badonnel 242 hours -L3, M1, M2 Networks, Systems and Services, Software Design and Programming, Cloud Computing, Network and Security Management -TELECOM Nancy, Université de Lorraine

Thibault Cholez 340 hours, -L3, M1, M2 -Main topics: Computer Networks, Databases, Object-Oriented Programming, C and Shell Programming, Techniques and Tools for Programming, Network Services, Constraint development on small Connected Objects, Mobile applications and Internet of Things -TELECOM Nancy, Université de Lorraine

Isabelle Chrisment 220 hours -L3, M1, M2 -C and Shell Programing, Computer Networking, Operating Systems, Network Security. -TELECOM Nancy, Université de Lorraine

Laurent Ciarletta 250 hours -L3, M1, M2 -Component-based software development, Pervasive Computing, Networking and Systems -Écoles des Mines de Nancy, Université de Lorraine & ARTEM

Olivier Festor 192 hours -L3, M1, M2 -Network, Programming, Algorithmics, Complexity - TELECOM Nancy, Université de Lorraine

Jérôme François 70 hours -M1, M2 -Network security, Big Data -Université de Lorraine & Telecom Nancy

Abdelkader Lahmadi 280 hours - L1, M1, M2 -Algorithms and Java programming, C language programming, Real Time systems, Databases, Distributed algorithms, Constrained systems programming -ENSEM & Telecom Nancy

Emmanuel Nataf 192 hours -L1 L2 M2 -Network, operating system, network monitoring -IUT Nancy-Charlemagne & Telecom Nancy & Université de Lorraine

Lucas Nussbaum 96 hours (due to partial leave to Inria), -L3, M1, M2 -Systems and networks administration -IUT Nancy-Charlemagne

Ye-Qiong Song 230 hours, -L1, M1, M2 -Algorithms and Java programming, Databases, Networking, Sensor networks -ENSEM

10.2.2. Supervision

10.2.2.1. PhD in progress in team

Jonathan Arnault, *Data-Analytics infrastructure for Security Monitoring*, since November 2015, supervised by Isabelle Chrisment & Jérôme François.

Elian Aubry, *Using Software Defined Network to manage Content Centric Networks*, since October 2013, supervised by Isabelle Chrisment & Thomas Silverston.

Tomasz Buchert, *Orchestration of Experiments on Distributed Systems*, since Oct 2011, supervised by Jens Gustedt & Lucas Nussbaum.

Maxime Compastie, *Software-Defined Security for the Cloud*, since Dec 2015, supervised by Olivier Festor & Remi Badonnel.

Giulia De Santis, *Modelling and Analysis of Complex and Targeted Cyberattacks*, since October 2015, Olivier Festor & Abdelkader Lahmadi.

Meihui Gao, *Optimization models and methods for Network Functions Virtualization architectures*, since Nov 2015, supervised by Ye-Qiong Song & Bernardetta Addis.

Florian Greff, *QoS and fault-tolerance of distributed real-time systems over mesh networks*, since Feb. 2015, supervised by Ye-Qiong Song & Laurent Ciarletta.

Gaetan Hurel, *Mobile Cloud Security*, since Jan 2014, supervised by Olivier Festor, Abdelkahder Lahmadi & Remi Badonnel.

Patrick-Olivier Kamgue, *Routing management in WSNs*, since Jun 2012, supervised by Emmanuel Nataf & Olivier Festor in France, Thomas Djotio in Cameroun.

Daishi Kondo, *New Networking Architecture through Virtualization*, since September 2015, supervised with Olivier Perrin (EPI COAST) & Thomas Silverston.

Xavier Marchal, *Secure operation of virtualized Named Data Networks traffic*, since December 2015, supervised by Olivier Festor & Thibault Cholez.

Anthea Mayzaud, *Monitoring and Security for the Internet of Things*, since May 2013, supervised by Isabelle Chrisment & Rémi Badonnel.

Kevin Roussel, *Dynamic management of QoS and energy in heterogeneous sensor networks for e-health applications*, since December 2012, supervised by Ye-Qiong Song & Olivier Zendra.

Abdulqawi Saif, *Open Science for the scalability of a new generation search technology*, since December 2015, supervised by Ye-Qiong Song & Lucas Nussbaum.

Evangelia Tsiontsiou, *Multiconstrained QoS routing for wireless sensors networks with applications to smart space for ambient assisted living*, since Oct 2013, supervised by Ye-Qiong Song & Bernardetta Addis.

Shbair Wazen, *Contributions for the Management of HTTPS traffic*, since December 2013, supervised by Isabelle Chrisment & Thibault Cholez.

10.2.2.2. PhD defended in team

- [1] François Despau, *Modelling and evaluation of the end to end delay in WSN*, Université de Lorraine, September 2015, supervised by Ye-Qiong Song & Abdelkahder Lahmadi.
- [2] Mohamed Said Seddiki, *Dynamic resource allocation and quality of service management in Network Virtualization*, Université de Lorraine, April 2015, supervised by Ye-Qiong Song & Mounir Frikha.

10.2.3. *Juries*

Team members participated to the following Ph.D. defense committees in Computer Science if no other indication:

- Dalal Belabed, in Informatics, Telecommunication and Electronics from Université Paris 6. Title: Optimization of Virtual Networks: design and assessment, 2015 – (Bernardetta Addis).
- Manamiary Bruno Andriamiarina, in Computer Science and Networking from Télécom SudParis and Université Pierre et Marie Curie. Title: Corrélation d’alertes : un outil plus efficace d’aide à la décision pour répondre aux intrusions, April 2015 – (Isabelle Chrisment as president).
- Florent Fourcot, joint Ph.D. from Télécom Bretagne and TU Dresden. Title: Address Spreading in Future Internet Supporting both the Unlinkability of Communication Relations and the Filtering of Non Legitimate Traffic, January 2015 – (Isabelle Chrisment as reviewer)
- Badis Hammi, in Networking, Knowledge and Organization from Université de Technologie de Troyes. Title: Vers une détection à la source des activités malveillantes dans les clouds publics : application aux attaques de déni de service, September 2015 – (Isabelle Chrisment as reviewer).
- Christopher Humphries, from Université de Rennes 1. Title: User-centred security event visualisation, December 2015 – (Isabelle Chrisment as president).
- Yosra Ben Mustapha. From Université de Lorraine. Title: Développement d’algorithmes répartis corrects par construction, May 2015 – (Isabelle Chrisment as reviewer)
- Yves Studnia. In Networking, Telecommunication, System and Architecture from Université Fédérale Toulouse Midi-Pyrénées, delivered by INSA Toulouse. Title: Détection d’intrusion pour des réseaux embarqués automobiles : une approche orientée langage, September 2015 – (Isabelle Chrisment as reviewer).
- Khalid Alsubli, from the University of Waterloo. Title: Security Configuration Management in Intrusion Detection, November 2015 – (Olivier Festor as reviewer).
- Yann Bachi, from Université Fédérale Toulouse Midi-Pyrénées. Title: Sécurité des équipements grands publics connectés à Internet: évaluation des liens de communication, June 2015 – (Olivier Festor as reviewer).
- Jonathan Dechaux, from École Polytechnique. Title: Formalisation, implémentation et tests d’une méthodologie et des techniques d’évaluation de logiciels antivirus. Application aux virus de documents, December 2015 – (Olivier Festor as reviewer).
- Léa El Samarji. From Télécom Bretagne. Title: Risk-aware Decision Support System to Counter Coordinated and Simultaneous Attacks, March 2015 – (Olivier Festor as reviewer).
- Samuel Marchal, joint Ph.D. from University of Luxembourg and Université Lorraine. Title: DNS and Semantic Analysis for Phishing Detection, June 2015 – (Olivier Festor as reviewer).
- Patrick Raad, from Université Pierre et Marie Curie, Paris 6. Title: Protocol Architecture and Algorithms for Distributed Data Center Networks, December 2015 – (Olivier Festor as reviewer).
- Mihai Andries, from Université de Lorraine. Title: Object and human tracking, and robot controls through a load sensing floor, December 2015 – (Ye-Qiong Song as president).
- Mouna Abdelmoumen, from Université de Carthage - SUPCOM Tunis. Title: Modèles de mobilité et leur impact sur la capacité des réseaux sans fil et mobiles, December 2015 – (Ye-Qiong Song as reviewer).

- Ali Kadhum Idrees, from Université de Franche-Comté. Title: Distributed Coverage Optimization Techniques for Improving Lifetime of Wireless Sensor Networks, October 2015 – (Ye-Qiong Song as reviewer).
- Ehsan Muhammad, from Université de Pau et des Pays de l'Adour. Title: Designing of MAC layer for Mission-Critical Surveillance Applications in Wireless Image Sensor Networks, June 2015 – (Ye-Qiong Song as reviewer).

Team members participated to the following Habilitation Degree in Computer Science defense committees of:

- Yves Roudier, from Université Nice-Sophia Antipolis, France. Title: Advances in the Design and Engineering of Secure Distributed Systems, December 2015 – (Isabelle Chrisment as examiner).
- Bertrand Mathieu, from Université Rennes 1. Title: Efficient Use of Network Resources for End-Users Quality Quality Improvement, April 2015 – (Olivier Festor as reviewer)
- Alain Pirovano, from Université Paul Sabatier de Toulouse. Title: Conception et Optimisation d'Architectures Réseaux pour les Systèmes de Communication Aéronautiques. February 2015 – (Olivier Festor as reviewer)
- Patrick Senac, from Université Pierre et Marie Curie, Sorbonne Universités. Title : L'Internet de l'extrême. Modèles, protocoles et mécanismes de bout en bout pour les réseaux de communication de nouvelle génération. December 2015 – (Olivier Festor as examiner)
- Claire Pagetti, from INP-ENSEEIH. Title: Programmation sûre de plates-formes embarquées de type multi/pluri-cœurs, (January 2015) – (Françoise Simonot-Lion as examiner)

Team members participated to the following recruitment selection committee:

- Isabelle Chrisment was member of the selection committee from Université de Technologie de Troyes to recruit an Assistant Professor (February 2015), from Université de Nice-Sophia Antipolis to recruit an Assistant Professor (April 2015) and from Université de Strasbourg to recruit a Professor (May 2015).

10.3. Popularization

Thomas Silverston gave an interview with a subject on smart cities for the program *Mov'Futur* on the *Le Mouv'* radio (December 2015).

ALICE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Selection

9.1.1.1. Member of Conference Program Committees

Bruno Lévy was a member of the conference committees of SGP2015 and ACM SIGGRAPH 2015.

Sylvain Lefebvre was a member of the technical papers committee of SIGGRAPH 2015.

9.1.1.2. Reviewer

Bruno Lévy was a reviewer for Eurographics.

Sylvain Lefebvre was a reviewer for SIGGRAPH Asia and Eurographics.

Nicolas Ray was a reviewer for SIGGRAPH, SIGGRAPH Asia and Eurographics.

Jérémie Dumas was a reviewer for UIST.

Laurent Alonso was a reviewer for LATIN 2016.

Samuel Hornus was a reviewer for Eurographics.

9.1.2. Journal

9.1.2.1. Member of Editorial Boards

Sylvain Lefebvre is associate editor for the journal ACM Transactions on Graphics.

Bruno Lévy is a member of the editorial boards of Graphical Models J. and the Visual Computer J.

9.1.2.2. Reviewer - Reviewing Activities

Sylvain Lefebvre reviewed articles for ACM Transactions on Graphics.

Bruno Lévy was a reviewer for ACM Transactions on Graphics, SIAM journal on scientific computing, IEEE TVCG, Computer Graphics Forum.

Jérémie Dumas was a reviewer for IEEE TVCG.

Samuel Hornus was a reviewer for IEEE TVCG, ACM Transactions on Graphics, REFIG.

Laurent Alonso reviewed articles for Discrete Applied Mathematics, Graphs and Combinatorics.

9.1.3. Invited Talks

- Bruno Lévy, 11/24/2015, Séminaire Equations aux Dérivées Partielles de l'IRMA - Strasbourg, invited talk
- Bruno Lévy, 19/10/2015: Intl. Conference on 3D Vision (3DV), invited tutorial
- Bruno Lévy, 07/10/2015: Journées Informatique et Géométrie (JIG2015), invited talk
- Bruno Lévy, 06/29/2015: Journée de l'ANR Geometrya - Summer School Geometric Measure Theory at Institut Fourier - invited talk, [video available](#).
- Bruno Lévy, 06/24-26/2015: Shape Modeling International - keynote talk
- Bruno Lévy, 03/6/2015: New trends in Optimal Transport - Computational Optimal Transport and applications - Bonn, Germany
- Bruno Lévy, 02/15/2015-02/20/2015: BIRS workshop, Advances in Numerical Optimal Transportation - Banff, Canada. [Video available](#).

- Bruno Lévy, 01/23/2015: seminar at the Jacques Louis Lions lab on Optimal Transport. [Slides available](#).
- Jonas Martínez Bayona, gave a talk in CNR Pisa about offset surfaces for fabrication while he was visiting the Visual Computing Lab from 03/03/2015 to 06/03/2015.
- Jonas Martínez Bayona, 29/09/2015, seminar at UPC (Barcelona) to introduce IceSL and the research results it includes.
- Sylvain Lefebvre, 06/03/2015, seminar at Collège de France entitled *Balancing and supporting shapes for 3D printing*, [video available](#).
- Sylvain Lefebvre, 01/07/2015, keynote talk at CEIG 2015 (Spain).

9.1.4. Research Administration

Bruno Lévy was Vice-president of the Inria Chargé de Recherche hiring committee in Centre Nancy - Grand Est.

Samuel Hornus is a member of the CDT (Commission du Développement Technologique) of Inria Nancy - Grand Est. He is the « correspondant RAweb » to organize the writing of the activity reports of the Inria Nancy research teams.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

9.2.1.1. Master

Bruno Lévy, Pépites Algorithmiques, 20h ETD, École des Mines de Nancy, France

Bruno Lévy, Analyse Numérique, 20h ETD, 2ème année école d'Ingénieurs en Géologie de Nancy, France

Dmitry Sokolov, Infographie, 30h ETD, Université de Lorraine, France

Dmitry Sokolov, Algorithmique et programmation, 45h ETD, Université de Lorraine, France

Dmitry Sokolov, Algorithmique et Programmation Avancée, 60h ETD, Université de Lorraine, France

Dmitry Sokolov, Optimisation Combinatoire, 30h ETD, Université de Lorraine, France

Sylvain Lefebvre, Programmation OpenCL, 20h ETD, Université de Lorraine, France.

Sylvain Lefebvre, Programmation pour le jeux vidéo, 30h ETD, École des Mines de Nancy, France.

Sylvain Lefebvre, Introduction au parallélisme et au graphique, 9h ETD, ENSG Nancy, France.

Sylvain Lefebvre, Introduction à la fabrication additive, 9h ETD, ENSEM Nancy, France.

9.2.1.2. Licence

Dobrina Boltcheva, Image et son numériques, 100h ETD, IUT Saint-Dié-des-Vosges, France

Dobrina Boltcheva, 2A DUT INFO, Advanced programming, 100h ETD, IUT Saint-Dié-des-Vosges, France

Dobrina Boltcheva, 1A DUT INFO, Programming, 50h ETD, IUT Saint-Dié-des-Vosge, France

Dmitry Sokolov, Informatique graphique, 55h ETD, Université de Lorraine, France

Dmitry Sokolov, Programmation Avancée, 40h ETD, Université de Lorraine, France

Samuel Hornus, Mathématique pour l'informatique, 32h ETD, Télécom-Nancy, France

Samuel Hornus, Programmation Fonctionnelle en OCaml, 32h ETD, Épitech Nancy, France.

9.2.2. Internships

Tristan Ezequel, Université Jean Monnet (St Etienne), *méthodes d'apprentissage pour l'aide à la sélection de paramètres de modèles 3D*, March-July 2015, supervised by Sylvain Lefebvre and Amaury Habrard (Université Jean Monnet).

Charles Helbing, ENSEM (Nancy), *dépot de filament suivant une surface courbe*, March-August 2015, supervised by Dmitry Sokolov, Nicolas Ray and Sylvain Lefebvre.

Guillaume Devoille, Epitech, *OpenSCAD plugin for IceSL*, March-July 2015, supervised by Frédéric Claux.

Bolun Zhang, Hong Kong University, *Using the finite element method to determine infill parameters*, June-August 2015, supervised by Jonas Martínez Bayona and Sylvain Lefebvre.

Semigambi Andy-Saleh and Ouhdadi Yassine, Lorraine University, *Modeling and analysis of preferences in multicriteria decisions*, Mars-June 2015, supervised by Dmitry Sokolov.

Thomas Pagelot and Thibaut Humbert, Lorraine University, *Measuring filament diameter on the fly*, Mars-June 2015, supervised by Dmitry Sokolov.

9.2.3. Supervision

PhD in progress : Maxence Reberol, *Finite elements for non-conformal mixed hexahedral-tetrahedral meshes*, Janvier 2015, co-directed by Bruno Lévy and Sylvain Lefebvre

PhD in progress : Jean Hergel, *Modeling under Fabrication Constraints*, Oct. 2013, directed by Sylvain Lefebvre

PhD in progress : Jérémie Dumas, *By-example shape synthesis for Fabrication*, Sept. 2013, directed by Sylvain Lefebvre

PhD in progress : Arnaud Botella, *Génération de maillages hex-dominants pour la simulation numérique appliquée à la géologie*, Oct. 2012, co-directed by Guillaume Caumon and Bruno Lévy

Julien Renaudeau, *Méthode de l'élément frontière et ses applications en géomécanique*, Nov. 2015, co-directed by Guillaume Caumon and Bruno Lévy

PhD : Kun Liu, *Multi-view oriented 3D data processing*, Université de Lorraine, defended on December 14, 2015, co-directed by Bruno Lévy and Rhaleb Zayer.

9.2.4. Juries

Bruno Lévy participated to the following Ph.D. and habilitation juries:

- Committee member for the Habilitation Thesis of Boris Thibert (LJK Grenoble)
- Committee member for the Habilitation Thesis of Franck Hetroy (Inria Grenoble)
- Committee member for the Ph.D. defense of Norbert Bus (ESIEE, Paris)

9.3. Popularization

Bruno Lévy gave a talk in front of the general public in the context of the conference cycle *Sciences et Société*, entitled *Simuler la physique avec un ordinateur* on 12/10/2015.

Sylvain Lefebvre demonstrated IceSL at the Science Festival using a custom designed 3D printer. He jointly organized with the Nancy Makerspace (fablab) an event to present IceSL to the fablab users on October 22, 2015 <http://nybi.cc/2015/10/workshop-icesl/>.

LARSEN Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Amine Boumaza co-organized “Tentatives, tentations, intentions”, the first workshop of the PsyPhINe project (<http://www.msh-lorraine.fr/actualites/single-calendar/tentatives-tentations-intentions/2015/12/>).
- François Charpillat co-organized with Jan Jaigl and Olivier Simonin the IROS 2015 workshop “On-line decision-making in multi-robot coordination” (<http://robotics.fel.cvut.cz/demur15/>).
- Serena Ivaldi organized the ICRA 2015 Workshop on Force & Tactile sensing. She also co-organized the BMVA Workshop on Force, vision & tactile sensing for robotics manipulation (<http://www.ausy-tu-darmstadt.de/Workshops/ICRA2015TactileForce>).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Serena Ivaldi was co-chair of the track “Learning and Adaptive Systems III” at the IEEE International Conference on Robotics and Automation (ICRA) 2015.
- Jean-Baptiste Mouret was chair of the “Generative and Developmental Systems” track at international Genetics and Evolutionary Computation Conference (GECCO) 2015.

10.1.2.2. Member of Conference Program Committees

- Amine Boumaza was PC member of GECCO’2015 (Genetic and Evolutionary Computation Conference), ECAL’2015 (European Conference on Artificial Life), CEC’2015 (Congress on Evolutionary computation), EA’2015 (Artificial Evolution).
- François Charpillat was a PC member of MSDM 2015 (International Workshop on Multiagent Sequential Decision Making Under Uncertainty), DEMUR’15 (International Workshop on On-line Decision-Making in Multi-Robot Coordination), ICAART’2015 (International Conference on Agents and Artificial Intelligence), SENSORNETS’2015 (International Conference on Sensor Networks).
- Serena Ivaldi was PC member of RSS 2015 (Robotics: Science and Systems), associate editor of IROS 2015 (IEEE International Conference on Intelligent Robots and Systems), associate editor of ICRA 2015 (IEEE International Conference on Robotics and Automation), associate editor of HRI 2015 (ACM International Conference on Human-Robot Interaction), associate editor of HUMANOIDS 2015 (IEEE/RAS International Conference on Humanoid Robots). She was also a PC member in several workshops at international conferences (ICRA 2015, AIRO 2015, ACII 2015, ENHANCE 2015).
- Jean-Baptiste Mouret was PC member of GECCO’2015 (Genetic and Evolutionary Computation Conference), ECAL’2015 (European Conference on Artificial Life), and EVOstar’2015.

10.1.2.3. Reviewer

- François Charpillat was a reviewer for the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) and the 2016 IEEE International Conference on Robotics and Automation (ICRA).

- Francis Colas was a reviewer for the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), the Fifth Joint IEEE International Conference on Development and Learning and on Epigenetics Robotics (ICDL-EPIROB), and the 2016 IEEE International Conference on Robotics and Automation (ICRA).
- Serena Ivaldi was a reviewer for the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), the 2015 IEEE/RAS International Conference on Robotics and Automation (ICRA), the 2015 ACM Conference on Human-Robot Interaction (HRI), the 2015 IEEE/RAS International Conference on Humanoid Robots (HUMANOIDS).
- Jean-Baptiste Mouret was a reviewer for the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) and the 2016 IEEE International Conference on Robotics and Automation (ICRA).

10.1.3. Journal

10.1.3.1. Member of Editorial Boards

- Serena Ivaldi is member of the editorial board of the Springer Journal of Intelligent Service Robotics.

10.1.3.2. Reviewer - Reviewing activities

- Amine Boumaza is a Review Editor for Frontiers in AI and Robotics.
- François Charpillet was a reviewer for Signal Processing: Image Communication.
- Francis Colas was a reviewer for Autonomous Robots, the Journal of Intelligent and Robotics Systems, and the Journal of Field Robotics.
- Serena Ivaldi was a Review Editor for Frontiers in Robotics and AI, a guest Editor for the Springer Journal Autonomous Robots, and a reviewer for IEEE Transaction on Robotics.
- Jean-Baptiste Mouret was a Review Editor for Frontiers in AI and Robotics, a guest Editor for PLOS Computation Biology, and a reviewer for IEEE Transactions on Evolutionary Computation, PLOS One, Evolutionary Computation, and IEEE Transactions on Robotics.

10.1.4. Invited Talks

- François Charpillet was invited to a round table discussion on acceptability of robotics technology, Entretiens Jacques-Cartier, in Lyon, France.
- Serena Ivaldi gave invited talks on “Social and physical interaction between humans and robots” at the University of Plymouth, UK, at the Technical University of Munich, Germany, at the NETT Workshop 2015 - Neural Engineering and related fields, Nancy, France.
- Jean-Baptiste Mouret gave invited talks on “Robots that can adapt to damage in minutes” at the EvoEvo workshop (Satellite workshop at ECAL, the European Conference for Artificial Life), York, UK, at the Ifsttar (PhD days), Aix en Provence, France, and at the Institut des Neurosciences de la Timone (PhD Days), Marseille, France.

10.1.5. Leadership Within the Scientific Community

- François Charpillet is member of the scientific committee of Robotics GDR.
- Serena Ivaldi is member of the CIS task force -web presence- for the IEEE Technical Committee on “Cognitive and Developmental Systems”.
- Jean-Baptiste Mouret is chair of the “Evo-Devo-Robot” task force of the IEEE Technical Committee on “Cognitive and Developmental Systems”.

10.1.6. Research Administration

- Amine Boumaza is a board member of the Évolution Artificielle association.
- François Charpillet is member of the LORIA laboratory board (*conseil de laboratoire*) and is member of the computer science committee of the doctoral school IAEM.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master: Serena Ivaldi, “Analysis of Human Behavior”, 15h eq. TD, M2 Sciences de la Cognitive et Applications, Université de Lorraine, France;
- Master: Vincent Thomas, “Agent intelligent et collectifs”, 20h eq. TD, M1 Sciences de la Cognition et Applications, Université de Lorraine, France;
- Master: Vincent Thomas, “Game Design”, 20h eq. TD, M1 Sciences de la Cognition et Applications, Université de Lorraine, France;
- Master: Vincent Thomas, “Serious Game”, 12h eq. TD, M2 Sciences de la Cognition et Applications, Université de Lorraine, France;
- Master: Vincent Thomas, “Apprentissage numérique”, 16h eq. TD, M2 Informatique, Université de Lorraine, France.

10.2.2. Supervision

- PhD: Mihai Andries, “*Object and Human Tracking, and Robot Control through a Load-Sensing Floor*”, Université de Lorraine, 15 Dec. 2015, F. Charpillet (advisor), O. Simonin [6].
- PhD: Arsène Fansi Tchango, “*Reconnaissance comportementale et suivi multi-cible dans des environnements partiellement observés*”, Université de Lorraine, 04 Dec. 2015, A. Dutech (advisor), V. Thomas, O. Buffet [7].
- PhD in progress: Adrian Bourgaud, “*Multi-sensor Fusion and Active Sensing*”, started in Jul. 2015, François Charpillet (advisor).
- PhD in progress: Konstantinos Chatzilygeroudis, “*Diagnosis-free Damage Recovery in Robotics with Machine Learning*”, started in Oct. 2015, Jean-Baptiste Mouret (advisor).
- PhD in progress: Oriane Dermy, “*Learning to control the physical interaction of a humanoid robot with humans*”, started in Nov. 2015, François Charpillet (advisor), Serena Ivaldi.
- PhD in progress: Abdallah Dib, “*Assistance à la personne en perte d'autonomie : étude de l'apport d'un robot compagnon*”, started in Mar. 2013, F. Charpillet (advisor).
- PhD in progress: Iñaki Fernández Pérez, “*Apprentissage incrémental évolutionnaire*”, started in Oct. 2013, F. Charpillet (advisor), A. Boumaza.
- PhD in progress: Nassim Kaldé, “*Exploration et reconstruction d'un environnement inconnu par une flottille de robots*”, started in Oct. 2012, F. Charpillet (advisor), O. Simonin.
- PhD in progress: Van Quan Nguyen, “*Mapping of a sound environment by a mobile robot*”, started in Dec. 2014, E. Vincent (advisor), F. Colas, F. Charpillet.

10.2.3. Juries

- Jean-Baptiste Mouret was member of the PhD committee of:
 - Fabien Benureau, Inria Bordeaux, 18th of May, 2015.
- François Charpillet was member of the HDR committee of:
 - Jean-Baptiste Mouret, Université Pierre et Marie Curie, 16th of June, 2015.
- François Charpillet was reviewer of the HDR of:
 - Fabien Michel, Université de Montpellier, 15th of June, 2015.
- François Charpillet was reviewer of the PhD of:
 - Alan Ali, Ecole Centrale de Nantes, 21st September 2015;
 - Youwei Dong, Ecole centrale de Lille, 16th December 2015.
- François Charpillet was examiner of the PhD of:
 - Dung Tran, Université de Lorraine, 20th November 2015.

10.3. Popularization

- Amine Boumaza coached a team of programmers that participated in the R2T2 (Remote Rescue using Thymio2) Robot challenge organized by EPFL. The challenge brought together 100 children from 5 countries to save a Martian base using a group of robots (<https://www.thymio.org/en:thymio-r2t2>).
- Serena Ivaldi was portrayed in the book “Le cerveau fait-il deux choses à la fois ?” by Fiamma Luzzatti.
- Jean-Baptiste Mouret gave a talk on “Robots that can adapt to damage in minutes” at Café Neu Romance, Prague (28th of November, 2015)
- Vincent Thomas gave a talk and proposed a tutorial on “physics simulation” during “journées ISN-EPI” (15th of Mars, 2015)
- Vincent Thomas made a presentation about planning for students of Lycée Bichat-Lunéville (19th of Mars, 2015)
- Vincent Thomas participated in “journées Village Master” (9th of April, 2015)
- Vincent Thomas participated in the preparation of “Computer Science Exporoute” (conducted by Inria Nancy - Grand Est) planned for 2016
- Vincent Thomas created the exposition “jeux ateliers de la pensée” (http://ticri.univ-lorraine.fr/wicri-lor.fr/index.php/Exposition_Jeu) in 2013 with master students from cognitive sciences. This exposition is still presented in several *Bibliothèques Universitaires of Université de Lorraine (BU Brabois, BU St Dié)*.

MAGRIT Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events selection

9.1.1.1. Member of the conference program committees

- M.-O. Berger was member of program committee of the following conferences: International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2015) and of the International Symposium on mixed and augmented reality (ISMAR 2015).
- Erwan Kerrien was a member of the program committee of MICCAI 2015 and of IPCAI 2016.
- G. Simon was a member of the program committee of ISMAR 2015, of the ISMAR UrbanAR workshop and of the french conference on computer vision ORASIS 2015.
- P.-F. Villard was a member of the program committee of MICCAI 2015 and Eurographics Workshop on Visual Computing for Biology and Medicine 2015.

9.1.2. Journal

9.1.2.1. Reviewer - Reviewing activities

The members of the team reviewed articles for IEEE Transactions on Visualization and Computer Graphics, IEEE Transactions on Services Computing, SIAM Journal on Imaging Sciences, The Visual Computer, Experimental Mechanics, Traitement du Signal.

9.1.3. Invited talks

P.-F. Villard gave invited talks at:

- Markey Cancer Center and Radiology Department, September 18th, University of Kentucky
- Department of Mechanical Engineering and Department Of Biomedical Engineering (**program of the seminar**), William Maxwell Reed Seminar Series, September 18th, University of Kentucky.

9.1.4. Research administration

- Marie-Odile Berger is president of the Association française pour la reconnaissance et l'interprétation des formes (AFRIF).
- Marie-Odile Berger was a member of the jury d'admissibilité for chargé de recherche at Inria Nancy.
- Marie-Odile Berger was a member of the hiring committees for Professor position at Univ. Rouen.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

The four associate professors of the MAGRIT team actively teach at Université de Lorraine with an annual number of around 200 teaching hours in computer science, some of them being accomplished in the field of image processing. Inria researchers have punctual teaching activities in computer vision and shape recognition mainly in the computer science Master of Nancy and in several Engineering Schools near Nancy (ENSMN Nancy, SUPELEC Metz, ENSG). Our goal is to attract Master students with good skills in applied mathematics towards the field of computer vision. The list of courses given by staff members which are tightly related to image processing and computer vision is detailed below:

- Master: Signal analysis, 50 h, Université de Lorraine.
- Master: Augmented reality, 24 h, Télécom-Nancy, Université de Lorraine.

- Master: Introduction to computer vision, 12 h, Université de Lorraine.
- Master: Shape recognition, 15 h, Université de Lorraine.
- Master: Computer vision: foundations and applications, 15 h, Université de Lorraine.
- Master: Introduction to image processing, 21 h, École des Mines de Nancy
- Master: Image processing for Geosciences, ENSG, 12 h.
- Master : Introduction to signal processing and applications, 21 h, Ecole des Mines de Nancy
- Master: Augmented reality, 24 h, M2 IHM Metz
- Master: Augmented reality, 3 h, SUPELEC Metz.

9.2.2. Supervision

PhD defended in 2015: Nazim Haouchine, Modèles physiques pour la réalité augmentée des organes déformables, Marie-Odile Berger, Stéphane Cotin (MIMESIS).

PhD in progress: Pierre Rolin, Calcul de pose par simulation de points de vue pour la réalité augmentée, octobre 2013, Marie-Odile Berger, Frédéric Sur.

PhD in progress: Charlotte Delmas, Reconstruction 3D des outils chirurgicaux en radiologie interventionnelle, avril 2013, Marie-Odile Berger, Erwan Kerrien.

PhD in progress: Antoine Fond, Introduction de sémantique dans la modélisation urbaine dans un contexte de calcul du point de vue, octobre 2014, Marie-Odile Berger, Gilles Simon.

PhD in progress: Jaime Garcia Guevara, Vers une utilisation clinique de la réalité augmentée pour la chirurgie hépatique, novembre 2015, Marie-Odile Berger, Stéphane Cotin (MIMESIS).

PhD in progress: Raffaella Trivisonne, Image-guided real-time simulation using stochastic filtering. Novembre 2015, Erwan Kerrien, Stéphane Cotin (MIMESIS).

9.2.3. Juries

- Marie-Odile Berger was external reviewer of the PhD thesis of Z. Habibi and a member of the jury for the PhD thesis of F. Chadebecq.
- F. Sur was examiner for the PhD thesis of I. Rey-Otero.

9.3. Popularization

Members of the team participate on a regular basis, to scientific awareness and mediation actions.

- Gilles Simon attended a forum on digital technologies in Lorraine (GEN#3) and gave a talk about the role of augmented reality in the industry 4.0.
- Erwan Kerrien is Chargé de Mission for scientific mediation at Inria Nancy-Grand Est. As such, he is a member of the steering committee of "la Maison pour la Science de Lorraine"⁰, and member of the IREM⁰ steering council. He also serves as the academic referent of an IREM working group aiming at introducing computer science in secondary and high school curricula. Among other activities, he was also an associate researcher to a MATH.en.JEANS workshop.

⁰"Houses for Science" project, see <http://maisons-pour-la-science.org/en>

⁰Institut de Recherche sur l'Enseignement des Mathématiques - *Research Institute for Teaching Mathematics*

MULTISPEECH Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

General co-chair, 3rd CHiME Speech Separation and Recognition Challenge, Scottsdale, USA, December 2015 (E. Vincent)

Elected chair, Steering Committee of the Latent Variable Analysis and Signal Separation (LVA/ICA) conference series (E. Vincent)

Chair, Challenges Subcommittee, IEEE Technical Committee on Audio and Acoustic Signal Processing (E. Vincent)

Co-chair, special session on Audio for Robots – Robots for Audio, 2015 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (E. Vincent)

Co-chair, Workshop-satellite event of ICPhS2015. Phonetic Learner Corpora. Glasgow, GB, 08/12/15 (A. Bonneau)

10.1.1.2. Special session organisation

Special session Structuring Multimedia Streams, International Conference on Information Systems & Economic Intelligence, Hammamet, Tunisia, February 2015 (I. Illina, D. Fohr)

Co-organiser Workshop-satellite event of ICPhS2015. Phonetic Learner Corpora. Glasgow, GB, 08/12/15 (A. Bonneau)

10.1.1.3. Member of organizing committees

Member of the organizing committee, FAAVSP - The 1st Joint Conference on Facial Analysis, Animation and Auditory-Visual Speech Processing (S. Ouni)

10.1.2. Scientific events selection

10.1.2.1. Chair of conference program committees

Program chair, 12th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA), Liberec, Czech Republic, August 2015 (E. Vincent) [71]

10.1.2.2. Member of conference program committees

Area chair for Analysis of Speech and Audio Signal, INTERSPEECH'2015 (D. Jouvét)

Area chair for Audio and Speech Source Separation, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (E. Vincent)

IROS'2015 - 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (D. Jouvét)

ICNLSP'2015 - International Conference on Natural Language and Speech Processing (D. Jouvét)

FAAVSP - The 1st Joint Conference on Facial Analysis, Animation and Auditory-Visual Speech Processing (S. Ouni)

10.1.2.3. Reviewer

EUSIPCO'2015 - European Signal Processing Conference (D. Jouvét)

ICNLSP'2015 - International Conference on Natural Language and Speech Processing (D. Jouvét)

INTER_SPEECH'2015 (I. Illina, A. Bonneau, S. Ouni, Y. Laprie)

ICASSP'2016 - 41th International Conference on Speech, Acoustic and Signal Processing (D. Jouvét, S. Ouni, Y. Laprie)

FAAVSP - The 1st Joint Conference on Facial Analysis, Animation and Auditory-Visual Speech Processing (S. Ouni)

10.1.3. Journal

10.1.3.1. Member of editorial boards

Speech Communication (D. Jouvét)

Traitement du signal (E. Vincent)

Computer Speech and Language, special issue on Multi-Microphone Speech Recognition in Everyday Environments (E. Vincent)

Eurasip Journal on Audio, speech and music processing (Y. Laprie)

10.1.3.2. Reviewer - reviewing activities

IEEE Transactions on Audio, Speech, and Language Processing (D. Jouvét)

Journal of Phonetics (Y. Laprie)

Journal of the Acoustical Society of America (Y. Laprie)

IEEE Signal Processing Letters (Y. Laprie)

10.1.4. Invited talks

Keynote, 2015 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (E. Vincent) [85]

Lecture, LVA/ICA 2015 Summer School on Latent Variable Analysis and Signal Separation (E. Vincent) [84]

Invited talk, Expressive Virtual Actors workshop, Nov 2015, Grenoble, France (S. Ouni) [22]

Reconnaissance de la parole, application aux personnes sourdes et malentendantes. Inria Scientific Days 2015. Nancy-Inria Grand-Est, June 19th 2015 (A. Piquard-Kipffer)

Dyslexie-dysorthographe et situation de handicap. Journées des dys, AFON. Vandœuvre-Lès-Nancy, Faculty of Medicine, October 20th 2015 (A. Piquard-Kipffer)

Invited talk, Contribution of the acoustic cues to the non-native accent, Spring ASA meeting Pittsburgh (Y. Laprie) [20]

10.1.5. Leadership within the scientific community

Elected chair, ISCA Special Interest Group on Robust Speech Processing (E. Vincent)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

DUT: Irina Illina, Programming in Java, 150 hours, L1, University of Lorraine, France

DUT: Irina Illina, Linux System, 65 hours, L1, University of Lorraine, France

DUT: Irina Illina, Supervision of student projects and stages, 50 hours, L2, University of Lorraine, France

DUT: Slim Ouni, Programming in Java, 24 hours, L1, University of Lorraine, France

DUT: Slim Ouni, Web Programming, 24 hours, L1, University of Lorraine, France

DUT: Slim Ouni, Graphical User Interface, 96 hours, L1, University of Lorraine, France

DUT: Slim Ouni, Advanced Algorithms, 24 hours, L2, University of Lorraine, France

Licence: Vincent Colotte, C2i - Certificat Informatique et Internet, 50h, L1, University of Lorraine, France

Licence: Vincent Colotte, System, 115h, L3, University of Lorraine, France

Licence: Joseph Di Martino, Programming in C 1, 67 hours, L1, University of Lorraine, France

Licence: Joseph Di Martino, Programming in C 2, 85 hours, L2, University of Lorraine, France

Licence: Joseph Di Martino, Programming in C/C++, 45 hours, L3, University of Lorraine, France

Licence: Odile Mella, C2i - Certificat Informatique et Internet, 28h, L1, University of Lorraine, France

Licence: Odile Mella, Introduction to Web Programming, 30h, L1, University of Lorraine, France

Licence: Odile Mella, Computer Networking, 81h, L2-L3, University of Lorraine, France

Licence: Agnès Piquard-Kipffer, Psycholinguistics, 30 hours, L1, University of Lorraine, France

Licence: Agnès Piquard-Kipffer, Reading and Writing, 24 hours, L2, Département Orthophonie, University of Lorraine, France

Master: Vincent Colotte, Introduction to Speech Analysis and Recognition, 18h, M1, University of Lorraine, France

Master: Vincent Colotte, Supervising student in research internship, M2, University of Lorraine, France

Master: Yves Laprie, Analysis, Perception and recognition of speech, 30 hours, M1, University of Lorraine,

Master: Odile Mella, Computer Networking, 66h, M1, University of Lorraine, France

Master: Odile Mella, Supervising students in company internship, M2, University of Lorraine, France

Master: Slim Ouni, Multimedia in Distributed Information Systems, 31 hours, M2, University of Lorraine, France

Master: Agnès Piquard-Kipffer, Dyslexia, 25 hours, Département Orthophonie, University of Lorraine, France

Master: Agnès Piquard-Kipffer, Deaf People and Reading, 9 hours, Département Orthophonie, University of Lorraine, France

Master: Agnès Piquard-Kipffer, Psycholinguistics, 12 hours, Département Orthophonie, University Pierre et Marie Curie-Paris, France

Master: Agnès Piquard-Kipffer, Psychology, 70 hours, ESPE, University of Lorraine, France

Master: Agnès Piquard-Kipffer, French Language Didactics, 80 hours, ESPE, University of Lorraine, France

Master: Agnès Piquard-Kipffer, Psychology, 6 hours, University Blaise Pascal, Clermont-Ferrand, France

Ecole Audioprothèse: Anne Bonneau, Phonétique, 16 hours, Université de Lorraine, France

School of engineers: Vincent Colotte, XML, 20h, Telecom Nancy, France

Doctorat: Piquard-Kipffer Agnès, Language Pathology, 15 hours, EHESP, University of Sorbonne-Paris Cité, France

Adults: Odile Mella, Computer science courses for secondary school teachers (Informatique et Sciences du Numérique courses) (10h), ESPE of Academy Nancy-Metz, University of Lorraine, France

Other: Vincent Colotte, Responsible for "Certificat Informatique et Internet" for the University of Lorraine, France (50000 students, 30 departments)

10.2.2. Supervision

PhD: Xabier Jaureguiberry, "Fusion pour la séparation de sources audio", Télécom ParisTech, 16 June 2015, Gaël Richard and Emmanuel Vincent [8].

PhD : Dung Tran, "Uncertainty learning for noise robust ASR", University of Lorraine, 20 November 2015, Emmanuel Vincent and Denis Juvet [11].

PhD: Nathan Souviraà-Labastie, "Détection de motifs audio pour la séparation de sources guidée. Application aux bandes-son de films.", University Rennes 1, 23 November 2015, Frédéric Bimbot and Emmanuel Vincent [10].

PhD : Luiza Orosanu, "Speech recognition for helping communication for deaf or hard-of-hearing people", University of Lorraine, 11 December 2015, Denis Juvet [9].

PhD in progress: Imran Sheikh, "OOV proper name retrieval", February 2014, Irina Illina and Georges Linares.

PhD in progress: Baldwin Dumortier, "Contrôle acoustique d'un parc éolien", September 2014, Emmanuel Vincent and Madalina Deaconu.

PhD in progress: Quan Nguyen, "Mapping of a sound environment by a mobile robot", November 2014, Francis Colas and Emmanuel Vincent.

PhD in progress: Aditya Nugraha, "Deep neural networks for source separation and noise-robust speech recognition", January 2015, Antoine Liutkus and Emmanuel Vincent.

PhD in progress: Ken Deguernel, "Apprentissage de structures musicales en situation d'improvisation", March 2015, Emmanuel Vincent and Gérard Assayag.

PhD in progress: Amal Houdidhek, "Élaboration et analyse d'une base de parole arabe pour la synthèse vocale", November 2015, Denis Juvet and Vincent Colotte (France) and Zied Mnasri (Tunisia).

PhD in progress: Imène Zangar, "Amélioration de la qualité de synthèse vocale par HMM pour la parole arabe", November 2015, Denis Juvet and Vincent Colotte (France) and Zied Mnasri (Tunisia).

10.2.3. Participation in HDR and PhD juries

Participation in Habilitation thesis Jury for Pavel Král (University of West Bohemia, May 2015), D. Juvet, reviewer.

Participation in PhD thesis Jury for Grégor Dupuy (Université du Maine, July 2015), D. Juvet.

Participation in PhD thesis Jury for Sarah Flora Samson Juan (Université de Grenoble, July 2015), D. Juvet, reviewer.

PhD thesis reviewer for Marc Evrard (Université de Paris Sud, September 2015), Y. Laprie.

PhD thesis reviewer for Heikki Kallasjoki (Aalto University, Finland, October 2015), E. Vincent.

Participation in PhD thesis Jury for Adela Barbulescu (Université de Grenoble, November 2015), S. Ouni.

10.2.4. Participation in other juries

Chairman of Scientific « Baccalauréat », specialty Earth Sciences (Académie de Nancy-Metz and Université de Lorraine, June 2015), A. Piquard-Kipffer.

Participation in PGCE (french CAFIPEMF) Juries for Master Learning Facilitator (DSDEN 54, April, June 2015), A. Piquard-Kipffer.

Participation in the Competitive Entrance Examination into Speech-Language Pathology Department (University of Lorraine, June 2015), A. Piquard-Kipffer.

10.2.5. Participation to external committees

Member of the Scientific Committee of an Institute for deaf people (La Malgrange), A. Piquard-Kipffer

Member of an expertise Committee for specific language disabilities (MDPH 54), A. Piquard-Kipffer

Titular member of the National Council of Universities (CNU section 61), E. Vincent.

Member of the "Conseil de secteur IAEM" at the Faculté de sciences et technologie- Université de Lorraine, V. Colotte

Elected member, and member of the board of the "Conseil du pôle AM2I" Université de Lorraine, Y. Laprie

10.2.6. Participation to internal committees

Titular member of the "Comité de Centre Inria", E. Vincent

Member of the Comipers, E. Vincent

Member of the "Comité Espace Transfert", E. Vincent

Member of the "Commission locale de développement durable", D. Fohr

Head of the "Commission des utilisateurs des moyens informatiques" (CUMI), D. Fohr

Member of the "Bureau de la Commission de Mention Informatique", I. Illina

Member of the "Commission de développement technologique", A. Bonneau

Elected member of the "Conseil de Laboratoire" (LORIA), S. Ouni

Appointed member of the "Conseil de Laboratoire" (LORIA), Y. Laprie

Appointed member at "Conseil de la Fédération Charles Hermite", S. Ouni

10.3. Popularization

Demonstration at Forum des métiers, Collège Peguy, Le Chesnay, March 2015 (A. Piquard-Kipffer).

Demonstration at Village Sciences LORIA, April 2015 (S. Ouni, J. Di Martino).

Demonstration at Science & You, Nancy, June 2015 (K. Deguernel, E. Vincent).

Demonstration to students of the Master Erasmus Mundu Program DESEM, Inria, July 2015 (Y. Laprie).

Demonstration at Fête de la Science, Artem, October 2015 (A. Liutkus, N. Souviraà-Labastie, E. Vincent).

Demonstration to students of ENS Cachan, Inria, December 2015 (S. Ouni, E. Vincent).

Les troubles Dys : la dyslexie-dysorthographe. Conf' curieuses, Museum & Aquarium of Nancy, Grand Nancy & University of Lorraine. Nancy, January 15th 2015 (A. Piquard-Kipffer).

“Séparation de sources audio”, Interstices, to appear (A. Liutkus and E. Vincent).

“Loria : un articulographe pour étudier la production de la parole”, Eureka Lorraine, 21/10/2015 (S. Ouni).

ORPAILLEUR Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organization, General Chairs, Scientific Chairs

- “CCC”. Emmanuel Nauer co-organized the “Computer Cooking Contest” at ICCBR 2015 which held this year in Bad Homburg (Germany) (see <http://ccc2015.loria.fr/>).
- “FCA4AI 2015”. Amedeo Napoli organized with Sergei O. Kuznetsov (HSE Moscow) and Sebastian Rudolph (TU Dresden) the fourth workshop FCA4AI (“What can do FCA for Artificial Intelligence”) which was associated with the IJCAI Conference in Buenos Aires (Argentina, July 2015, see <http://www.fca4ai.hse.ru/2015> and <http://ceur-ws.org/Vol-1430>).

9.1.1.1. Scientific Animation

- The scientific animation in the Orpailleur team is based on the Team Seminar which is called the “Malotec” seminar (<http://malotec.loria.fr/?p=1>). The Malotec seminar is held in general twice a month and is used either for general presentations of members of the team or for invited presentations of external researchers. members of the team are also aware of the BINGO seminar which is organized by the Capsid Team (composed of former members of the Orpailleur Team), whose topics are related to biology, chemistry, and medicine. Actually, both seminars are active and are useful instruments for researchers in the team.
- Members of the Orpailleur team are all involved, as members or as head persons, in various national research groups.
- The members of the Orpailleur team are involved in the organization of conferences and workshops, as members of conference program committees (ECAI, ECML-PKDD, ICCBR, ICDM, ICFCA, IJCAI, KDD...), as members of editorial boards, and finally in the organization of journal special issues.

9.2. Teaching - Supervision - Juries

- The members of the Orpailleur team are involved in teaching at all levels of teaching, mainly at University of Lorraine. Actually, most of the members of the Orpailleur team are employed on university positions.
- The members of the Orpailleur team are also involved in student supervision, at all university levels, from under-graduate until post-graduate students.
- Finally, the members of the Orpailleur team are involved in HDR and thesis defenses, being thesis referees or thesis committee members.

SEMAGRAMME Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific events organisation

8.1.1.1. General chair, scientific chair

- Maxime Amblard organized the workshop (In)Cohérence du discours 3, with the SLAM project (Schizophrenia and Language: Analysis and Modeling).

The objective of the workshop was to discuss the latest advances in the modelling of discourses in particular those with pathological issues. The adopted modeling paradigm is that of formal semantics, which falls within the scope of both linguistics and logic while also making ties to the philosophy of language.

- Maxime Amblard co-organized with Karen Fort and Gilles Adda the first workshop ETeRNAL about ethics in natural language processing.

8.1.1.2. Member of the organizing committees

- Maxime Amblard and Jiří Maršík were members of the organization committee of the workshop (In)Cohérence du discours 3.

8.1.2. Scientific events selection

8.1.2.1. Chair of conference program committees

- Philippe de Groote and Sylvain Pogodalla are members of the steering committee of the international conference series *Logical Aspects of Computational Linguistics (LACL)*.
- Maxime Amblard is member of the steering committee of the workshop (In)Coherence of Discourse

8.1.2.2. Member of the conference program committees

- Guy Perrier was member of the program committee of the ACL workshop “Grammar Engineering Across Frameworks” (GEAF2015), 30 July 2015, Beijing (China).
- Philippe de Groote was member of the program committee of the 20th Conference on Formal Grammar (Barcelona, Spain, August 8–9, 2015).

8.1.2.3. Reviewer

- Maxime Amblard:
 - Reviewer for Traitement Automatique des Langues Naturelles (TALN) 2015
 - Reviewer for Journées de Phonétique Clinique (JPC) 6
 - Reviewer for (In)Cohérence du discours 3
 - Reviewer for the workshop ETeRNAL 1
- Sylvain Pogodalla:
 - Reviewer for the international workshop on *Logic and Engineering of Natural Language Semantics 12 (LENLS12)*.
- Bruno Guillaume:
 - Reviewer for the international conference *Language Resources and Evaluation Conference (LREC 2016)*.

8.1.3. Journal

8.1.3.1. Member of the editorial boards

- Philippe de Groote:
 - Area editor of the *FoLLI-LNCS series*.
 - Associate editor of *Higher-Order and Symbolic Computation*.
 - Member of the editorial board of *Cahiers du Centre de Logique*.
- Sylvain Pogodalla: Member of the editorial board of the journal **Traitement Automatique des Langues**, in charge of the *Résumés de thèses* section.

8.1.3.2. Reviewer - Reviewing activities

- Maxime Amblard: Reviewer for the special issue of the TAL revue (55-3) 'TAL et Cognition'
- Guy Perrier: reviewer for the *Journal of Logic, Language and Information*.
- Sylvain Pogodalla:
 - reviewer for the **Computational Linguistics**.
 - reviewer for **Linguistic Issues in Language Technology LiLT**

8.1.4. Scientific expertise

- Maxime Amblard has provided scientific evaluation for the AAP ASTRID (Accompagnement spécifique des travaux de recherches et d'innovation défense)

8.1.5. Research administration

Maxime Amblard is member of:

- Scientific council of the Univ. Lorraine
- board of the Scientific council of the Univ. Lorraine
- Lab council (LORIA)
- management council of the "Maison des sciences de l'homme" MSH-Lorraine

Maxime Amblard is the head of the master second year in Natural Language Processing.

Bruno Guillaume is the head of the department Natural Language Processing and Knowledge Discovery.

Bruno Guillaume was one of the two animators of the CPER 2015-2020 project "Langues, Connaissances et Humanités Numériques" (Languages, Knowledge and Digital Humanities) in which ten laboratories of the Université de Lorraine are implied.

Bruno Guillaume is an elected member of the "Pôle scientifique AM2I" of the Université de Lorraine.

Bruno Guillaume is a member of the Comipers (Inria committee for PhD and Post-doctoral selection).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence: Maxime Amblard, Traitement Automatique des Langues, 3h, L1, Univ. Lorraine, France

Master: Maxime Amblard, Formalisms: from Syntax to Discourse, 50h, M2, Univ. Lorraine, France

Master: Maxime Amblard, Remise à niveau TAL, 5h, M2, Université de Lorraine, France

Master: Maxime Amblard, Algorithms for Artificial Intelligence, 43h, M1, Univ. Lorraine, France

Master: Philippe de Groote, Formal logic, 35h, M2, Université de Lorraine, France

Master: Philippe de Groote, Computational structures and logics for natural language modeling, 18h, M2, Université Paris Diderot, France

Licence: Bruno Guillaume, Algorithmique et programmation, 44h, L1, Université de Lorraine, France

Master: Bruno Guillaume, Linguistic resources and NLP toolchain, 30h, M2, Université de Lorraine, France

Licence: Jiří Maršík, Ingénierie linguistique, 25h, L3, Université de Lorraine, France

Master: Jiří Maršík, IA fondamentale : représentation des connaissances et fouille de données, 11.5h, M1, Université de Lorraine, France

Master: Jiří Maršík, Communication scientifique, 15.5h, M1, Université de Lorraine, France

Master: Jiří Maršík, Cognitive Aspect of Computational Linguistic, 31.5h (15h in English and 16.5h in French), M2, Université de Lorraine, France

Master: Jiří Maršík, Remise à niveau TAL, 10h, M2, Université de Lorraine, France

Master: Sylvain Pogodalla, Formal Language Theory, 27.5h, M2, Univ. Lorraine, France

8.2.2. Supervision

- PhD in progress: Clément Beysson, "Quantificateurs généralisés dynamiques pour l'analyse discursive", since september 2015, Philippe de Groote and Bruno Guillaume
- PhD in progress: Jiří Maršík, "Modeling Discourse in a Dynamics framework: formal integration and evaluation", since september 2013, Philippe de Groote and Maxime Amblard
- PhD in progress : Aleksandre Maskharashvili, "Generation and Discourse with Abstract Categorical Grammars", since November 2012, Philippe de Groote and Sylvain Pogodalla.

8.2.3. Juries

- Guy Perrier was reviewer of the PhD thesis of Jérôme Kirman, *Mise au point d'un formalisme syntaxique de haut niveau pour le traitement automatique des langues*, Dec. 4, 2015, Université de Bordeaux.
- Philippe de Groote was member of the jury of the HDR of Sylvain Salvati, Dec. 10, 2015, Université de Bordeaux.

8.3. Popularization

- Maxime Amblard is member of the editorial board of *interstice* (i), a french revue popularisation for computer sciences (<http://interstices.info>). He is the head of the rubric informatique -ou presque- dans les films and co-author of the series of article on where we could find computer science in real life.
- Maxime Amblard delivered an invited talk "Le langage, logique !" at the "Conférence Curieuse" of Univ. Lorraine, at the Nancy musée aquarium (September 17th 2015).
- Maxime Amblard delivered an invited talk "Le langage, logique !" at the Luxembourg University (October 15th 2015).
- Bruno Guillaume presentend the game ZombiLingo during the conference Science&You in Nancy (June).
- Nicolas Lefebvre demonstrated the prototype ZombiLingo and Jiří Maršík the ACGtk during the "Forum Sciences Cognitive" in Nancy (November).