



RESEARCH CENTER
Saclay - Île-de-France

FIELD

Activity Report 2015

Section Dissemination

Edition: 2016-03-21

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COMETE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

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

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committee

Catuscia Palamidessi is member of:

The Executive Committee of **SIGLOG**, the ACM Special Interest Group on Logic and Computation. Since 2014.

The Organizing Committee of **LICS**, the ACM/IEEE Symposium on Logic in Computer Science. Since 2010.

The Council of **EATCS**, the European Association for Theoretical Computer Science. Since 2005.

The Steering Committee of **ETAPS**, the European Joint Conferences on Theory and Practice of Software. Since 2006.

The Steering Committee of **EACSL**, the European Association for Computer Science Logics. Since 2015.

The IFIP Technical Committee 1 – Foundations of Computer Science. Since 2007.

The IFIP Working Group 2.2 – Formal Description of Programming Concepts. Since 2001.

The IFIP Working Group 1.7 – Theoretical Foundations of Security Analysis and Design. Since 2010.

Frank D. Valencia is member of:

The steering committee of the International Workshop in Concurrency **EXPRESS**. Since 2010.

9.1.2. Scientific events selection

9.1.2.1. Chair of conference program committee

Catuscia Palamidessi:

has served as PC chair of **LICS 2015**. 30th Annual ACM/IEEE Symposium on Logic in Computer Science. Kyoto, Japan, 6-10 July 2015.

Frank Valencia:

has served as PC chair (with Camilo Rueda and Martin Leucker as co-chairs) of **ICTAC 2015**: The 12th International Colloquium on Theoretical Aspects of Computing. Cali, Colombia Oct 29-31 2015. Co-located with **11th International Workshop on Developments in Computational Models DCM 2015**.

as general chair of **ICTAC 2015**: The 12th International Colloquium on Theoretical Aspects of Computing. Cali, Colombia Oct 29-31 2015.

9.1.2.2. Member of the conference program committee

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

ICTAC 2016. 13th International Colloquium on Theoretical Aspects of Computing Taipei, Taiwan, 24-31 October 2016.

CONCUR 2016. The 27th International Conference on Concurrency Theory. Québec City, Canada, 23-26 August 2016.

TASE 2016. The 10th International Symposium on Theoretical Aspects of Software Engineering. Shanghai, China, 17-19 July 2016.

FCS 2016. The Workshop on Foundations of Computer Security. Lisbon, Portugal, 27 June 2016.

MFPS XXXII. The Thirty-second Conference on the Mathematical Foundations of Programming Semantics. Carnegie Mellon University, Pittsburgh, USA, 23-26 May 2016.

PhDs in Logic VIII. Darmstadt, Germany, 9-11 May 2016.

UEOP 2016. The 1st Workshop on Understanding and Enhancing Online Privacy. San Diego, USA, 21 February 2016.

ATVA 2015. The 13th International Symposium on Automated Technology for Verification and Analysis. Shanghai, China, 12-15 October 2015.

WPES 2015. The Workshop on Privacy in the Electronic Society. Denver, Colorado, USA, 12 October 2015.

QUEST 2015. The 12th International Conference on Quantitative Evaluation of SysTems. Madrid, Spain, 1-3 September 2015.

LOPSTR 2015. The 25th International Symposium on Logic-Based Program Synthesis and Transformation. Siena, Italy, 13-15 July 2015.

FORTE 2015. The 35th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems. Inria Grenoble, France, 2-4 June 2015.

TPDP 2015. Theory and Practice of Differential Privacy London, UK, 18 April 2015.

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

PETS 2016: The 16th Privacy Enhancing Technologies Symposium

WWW 2016: 25th World Wide Web conference

ICISSP 2015: 1st International Conference on Information Systems Security and Privacy

PETS 2015: The 15th Privacy Enhancing Technologies Symposium

FCS 2015: Workshop on Foundations of Computer Security

TPDP 2015: 1st workshop on the Theory and Practice of Differential Privacy

QAPL 2015: 13th Workshop on Quantitative Aspects of Programming Languages

APVP 2015: 6ème Atelier sur la Protection de la Vie Privée

Frank D. Valencia is/has been a member of the program committees of the following conferences and workshops:

PPDP 2016. The 18th International Symposium on Principles and Practice of Declarative Programming (PPDP 2016).

ICTAC 2016. The 13th International Colloquium on Theoretical Aspects of Computing (ICTAC 2016).

PPDP 2015. The 17th International Symposium on Principles and Practice of Declarative Programming (PPDP 2014). Siena, Italy, July 14-16, 2015.

ICLP DC 2015. 11th ICLP Doctoral Consortium.

9.1.2.3. Reviewer

The members of the team reviewed several papers for international conferences and workshops.

9.1.3. Journal

9.1.3.1. Member of the editorial board

Catuscia Palamidessi is:

Member of the Editorial Board of **Mathematical Structures in Computer Science**, published by the Cambridge University Press.

Member of the Editorial Board of **Acta Informatica**, published by the Springer.

Member of the Editorial Board of the **Electronic Notes of Theoretical Computer Science**, Elsevier Science.

Member of the Editorial Board of **LIPICs: Leibniz International Proceedings in Informatics**, Schloss Dagstuhl –Leibniz Center for Informatics.

Konstantinos Chatzikokolakis is:

Editorial board member of the newly established **Proceedings on Privacy Enhancing Technologies (PoPETs)**, a scholarly journal for timely research papers on privacy.

9.1.3.2. Reviewer

The members of the team reviewed several papers for international journals.

9.1.4. Other Editorial Activities

Catuscia Palamidessi is/has been:

Co-editor of the special issue on Quantitative Information Flow on **Mathematical Structures in Computer Science**. 2015.

Frank D. Valencia has been:

Co-editor of the special issue on **Mathematical Structures in Computer Science** dedicated to the best papers from the 12th International Colloquium on Theoretical Aspects of Computing.

9.1.5. Other Activities

9.1.5.1. Invited talks

Catuscia Palamidessi has given invited talks at the following conferences and workshops:

ETAPS 2015 (Unifying speaker). The European Joint Conferences on Theory and Practice of Software. London, UK, 11-18 April 2015.

QAPL 2015 (Invited speaker). Thirteenth International Workshop on Quantitative Aspects of Programming Languages and Systems. London, UK, 11-12 April 2015.

ICTAC 2015 (Keynote speaker). The 12th International Colloquium on Theoretical Aspects of Computing. Cali, Colombia, 29-31 October 2015.

9.1.5.2. Participation in other committees

Catuscia Palamidessi has been serving in the following committees:

Member of the **Alonzo Church Award** Committee. Since 2014. This award is for an outstanding contribution to Logic and Computation within the past 25 years.

Member of the Swedish Research Council Committee for Computer Science, 2015. The main duty of this committee is to evaluate and select the grant applications.

President of the selection committee for the **EATCS Best Paper Award** at the ETAPS conferences. Since 2006.

Member of the **EAPLS PhD Award** committee. Since 2010.

9.1.5.3. Service

Catuscia Palamidessi serves as:

Member of the Comité d'Orientation Scientifique et Technique, Groupe de travail Relation Internationales (COST-GTRI). Since November 2007.

Directrice adjointe du LIX, le Laboratoire d'Informatique de l'Ecole Polytechnique. April 2010 - December 2015.

Member of the Comité de These for Mathematics and Computer Science at the École Polytechnique. October 2007 - September 2015.

Reviewer for the projects proposal for the program PRIN, sponsored by the Italian MIUR ("Ministero dell'Istruzione, dell'Università e della Ricerca"). Since 2004.

Member of the comité de selection for two full professor positions at l'Université de Paris VII (Paris Diderot). Spring 2015.

Member of the comité de selection for a position for Maitre de Conférences à l'Université de Lorraine.

Frank Valencia served as:

President of the Selection Committee for the LIX Postdoctoral Fellowship. May - July 2014.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

PhD : Catuscia Palamidessi has been teaching a course for PhD students, on Protection of sensitive information, at the **BISS 2015**, the Bertinoro International Spring School. Bertinoro, Italy. March 2015. Total 13 hours.

PhD: Konstantinos Chatzikokolakis has been teaching a course for PhD students, on Security and Information Flow, at the **ICTAC 2015** Summer School. Cali, Colombia. Oct 2015. Total 5 hours.

Master : Frank D. Valencia has been teaching the masters course "Computability Theory", 60 hours, at the Pontificia Universidad Javeriana de Cali, Colombia. July 27 - Nov 1, 2015.

Master: Konstantinos Chatzikokolakis and Catuscia Palamidessi have been teaching a course on the Foundations of Privacy at the **MPRI**, the Master Parisien pour la Recherche en Informatique. University of Paris VII. A.Y. 2015-16. Total: 24 hours plus 6 hours for the exam and the exercise session is preparation to the exam.

9.2.2. Supervision

PhD in progress (2015-) **Joris Lamare**. Ecole Polytechnique. Grant MSR Center. Co-supervised by Catuscia Palamidessi and Konstantinos Chatzikokolakis.

PhD in progress (2014-) **Michel Guzman**. Ecole Polytechnique. Grant Inria CORDI-S. Co-supervised by Catuscia Palamidessi and Frank D. Valencia.

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

PhD in progress (2012-15) **Marco Stronati**. Ecole Polytechnique. Grant EDX Monge. Co-supervised by Catuscia Palamidessi and Konstantinos Chatzikokolakis.

PhD in progress (2011-15) **Lili Xu**. Ecole Polytechnique and Chinese academy of Science, Beijing, China. Co-supervised by Catuscia Palamidessi and Huimin Li.

9.2.3. Juries

Catuscia Palamidessi has been reviewer for the thesis of the following PhD students:

Hamid Ebadi, PhD student supervised by David Sands, Chalmers University, Sweden. June 2015. The thesis is still in progress, Catuscia Palamidessi was reviewer and member of the committee for the half-way thesis defense, that in Sweden is called Licentiate.

Frank Valencia has been a member of the committee board for the following PhD students:

Thierry Martinez, Title of the thesis: *Execution models for Constraint Programming: kernel language design through semantics equivalence..* Advised by Francois Fages. University Paris-Diderot. Defended in Dec 2015.

Jaime Arias, Title of the thesis: *Formal Semantics and Automatic Verification of Hierarchical Multimedia Scenarios with Inter- active Choice..* Advised by Myriam Desainte-Catherine. University of Bordeaux. Defended in Nov 2015.

9.2.4. Other didactical duties

Catuscia Palamidessi is:

Co-responsible of the Master 2 course on Concurrency since 2003, first at the DEA in Theoretical Computer Science (Paris) and then at the MPRI.

External member of the scientific council for the PhD in Computer Science at the University of Pisa, Italy. Since 2012.

Member of the Committee d'Encadrement de Thèse of Jun Wang (PhD student supervised by Qiang Tang and Peter Ryan), University of Luxembourg. Since December 2014.

Member of the advising committee for the PhD of Andrea Margheri (PhD student supervised by Rosario Pugliese), University of Florence, Italy. Since 2014.

Konstantinos Chatzikokolakis and Catuscia Palamidessi have designed, and coordinate, a course on the Foundations of Privacy at the **MPRI**, the Master Parisien pour la Recherche en Informatique. University of Paris VII. A.Y. 2015-16.

GEOMETRICA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

- Jean-Daniel Boissonnat and Frédéric Chazal co-organized the joint GUDHI-TOPDATA workshop in Porquerolles, October 20-24.
- Frédéric Chazal co-organised the Focused program on “Functoriality in Geometric Data” at the Institute for Advanced Study, HKUST Hong-Kong, April 2015.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

Frédéric Chazal: Geometric Science of Information 2015 (GSI 2015).

10.1.3. Journal

10.1.3.1. Member of the editorial boards

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

Frédéric Chazal is a member of the Editorial Board of *SIAM Journal on Imaging Sciences, Discrete and Computational Geometry, Graphical Models*.

Steve Oudot is a member of the Editorial Board of *Journal of Computational Geometry*.

10.1.4. Invited talks

Frédéric Chazal, Focused program on “Functoriality in Geometric Data”, Institute for Advanced Study, HKUST Hong-Kong, April 2015.

Frédéric Chazal, Geometry and Data Analysis conference, Stevanovich Center for financial mathematics, University of Chicago, June 2015.

Frédéric Chazal, Mini-conference on Topological Data Analysis, Oxford University, June 2015.

Frédéric Chazal, European Meeting of Statisticians (EMS 2015), Amsterdam, July 2015.

Frédéric Chazal, 2nda Escuela/Conferencia de Análisis Topológico de Datos, Queretaro, Mexico, December 2015

Steve Oudot, *GETCO (Applications of Algebraic Topology in Computer Science and Data Analysis)*, Aalborg, April 2015.

10.1.5. Scientific expertise

Frédéric Chazal was a member of the ANR committee, CES 40 (Mathematics and Computer Science).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master : S. Oudot, *Computational Geometry: from Theory to Applications*, 18h, École polytechnique.

Master : S. Oudot, *Topological Data Analysis*, 36h, École polytechnique.

Master : S. Oudot, *Geometric Methods for Data Analysis*, 12h, École Centrale Paris.

Master : J.D. Boissonnat, *Winter School : "Algorithmic Geometry of Triangulations"*, January 2015.

Master : S. Oudot, *Summer School BioMed : "Topological Descriptors for Geometric Data Comparison"*, July 2015.

Master : S. Oudot, *Young Researchers School at the Journées de l'AFIG: "Topological Methods for 3D Processing"*, November 2015.

Doctorat : Frédéric Chazal, *Topology and Geometry of Data Analysis*, 9h eq-TD, nd EATCS Young Researchers School and TopDrim School "Understanding Complexity and Concurrency through Topology and Data", Camerino, Italy, July 2015.

10.2.2. Supervision

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

PhD in progress : Alba Chiara de Vitis, *Computational Geometry in High Dimensions*, started February 2014. Jean-Daniel Boissonnat and David Cohen-Steiner.

PhD in progress : Siargey Kachanovich : *Manifold Learning*, started October 2015. Jean-Daniel Boissonnat

PhD in progress: Thomas Bonis, *Statistical Learning Algorithms for Geometric and Topological Data Analysis*, started December 1st, 2013, Frédéric Chazal.

PhD in progress: Ruqi Huang, *Algorithms for topological inference in metric spaces*, started December 1st, 2013, Frédéric Chazal.

PhD in progress: Eddie Aamari, *A Statistical Approach of Topological Data Analysis*, started September 1st, 2014, Frédéric Chazal (co-advised by Pascal Massart).

PhD in progress: Claire Brécheteau, *Statistical aspects of distance-like functions*, started September 1st, 2015, Frédéric Chazal (co-advised by Pascal Massart).

PhD in progress: Jérémy Cochoy, *Zigzag persistence: stability and applications to Topological Data Analysis*, started September 1st, 2015, Steve Oudot (co-advised by F. Chazal).

PhD in progress: Mathieu Carrière, *Signatures for Geometric Shapes*, started September 1st, 2014, Steve Oudot.

10.2.3. Juries

Jean-Daniel Boissonnat was a member of the HDR defense committee of Quentin Mérigot (Université de Grenoble).

Frédéric Chazal was a member of the HDR defense committee of Bertrand Michel (Université Pierre et Marie Curie).

Frédéric Chazal was a member (and reviewer) of the PhD defense committee of Julien André (Université Grenoble).

Frédéric Chazal was a member of the PhD defense committee of Stéphane Calderon (Telecom Paris).

Frédéric Chazal was a member of the PhD defense committee of Fabrizio Lecci (Carnegie Mellon University).

GRACE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

- D. Augot is member of the committee of the **CCA** seminar on coding and cryptology. This seminar regularly attracts around 30 participants.
- A. Couvreur organized with David Kohel (I2M, Marseille) and Alp Bassa (Bogazici University, Turkey) the conference **AGC²T 15** (Arithmetic Geometry, Cryptography, and Coding Theory) at CIRM (Marseille). This 15th edition of this international conference happened from May 18 to 22, 2015.
- F. Morain, B. Smith and A. Guillevic were the organizers of **Advances in Discrete Logarithms**, an international workshop on discrete logarithms to conclude the CATREL project, at École polytechnique from October 1 to 2, 2015.
- P. Lebacque and B. Smith organized **Arithmetic Geometry: Explicit Methods and Applications** with C. Ritzenthaler and A. Zykin. This was an international number theory conference, held in Moscow from December 7 to 11, 2015.
- A. Guillevic and P. Karpman were members of the local organizing team of CHES 2015 (Cryptographic Hardware and Embedded Systems), at Saint-Malo, France, in September.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- A. Couvreur was member of the program committee of *Journées Codes et Cryptographie 2015*, La Londe les Maures. October 2015.
- A. Couvreur was member of the program committee of WCC (Workshop on Codes and Cryptology) 2015. Paris, May 2015.
- A. Couvreur was member of the scientific committee of the *École Mathématique Africaine: Théorie des nombres et Cryptologie, Équations aux dérivées partielles, analyse numérique et calcul scientifique*. March 2015, Franceville (Gabon).

10.1.2.2. Reviewer

- D. Augot was reviewer for
 - ISIT 2015 (International Symposium on Information Theory)
 - CAI 2015 (6th International Conference on Algebraic Informatics)
 - SODA 2016 (Symposium on Discrete Algorithms)
- A. Couvreur was reviewer for
 - PQCrypto 2016.
- P. Karpman was reviewer for
 - ACNS 2015
 - CRYPTO 2015
 - ASIACRYPT 2015
 - INDOCRYPT 2015
 - EUROCRYPT 2016

- FSE 2016
- B. Smith was a reviewer for
 - MEGA 2015
 - PKC 2015
 - EUROCRYPT 2016

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- D. Augot is member of the editorial board of the *RAIRO - Theoretical Informatics and Applications*, a Cambridge journal published by EDP Sciences.
- D. Augot is member of the editorial board of the *International Journal of Information and Coding Theory*, InderScience publishers.

10.1.3.2. Reviewer - Reviewing activities

- D. Augot was a reviewer for
 - Designs, Codes and Cryptography
 - IEEE Transactions on Information Theory
 - Discrete Mathematics
 - Transactions on Computers
 - Applicable Algebra in Engineering, Communication and Computing
 - Advances in Mathematics of Communications
 - Ars Comb
- A. Couvreur was reviewer for
 - Finite Fields Appl.
 - Des. Codes Cryptogr.
 - Mosc. Math. J.
 - J. Numbers.
- B. Smith was a reviewer for
 - Journal of Cryptology
 - SICOMP (SIAM Journal on Computing)

10.1.4. Invited talks

- D. Augot was invited to the colloquium of IRMAR, Rennes
- D. Augot was invited to the workshop "Codage et cryptographie", USTHB, Algiers, November 2-5.
- A. Couvreur was invited at the seminar of number theory of University of Oxford.
- A. Couvreur was invited speaker at the conference *Arithmetic Geometry: explicit methods and applications*, Moscow, december 2015.
- A. Guillevic was invited at the Workshop in Elliptic Curve Cryptography (ECC), Bordeaux, September 2015.
- A. Guillevic was invited at the CATREL Workshop on Discrete Logarithms organized by the GRACE team at Palaiseau, October 2015.
- P. Karpman was invited at the RISC seminar of CWI, Amsterdam.
- B. Smith was an invited speaker in the LFANT seminar, Bordeaux, February 2015
- B. Smith was an invited speaker in the security seminar at University College London, UK, May 2015

- B. Smith was an invited speaker at the Colóquio de Geometria e Aritmética (Geometry and Arithmetic Colloquium) at IMPA, Rio de Janeiro, Brazil, October 2015
- B. Smith gave an invited Tech Talk at Cisco France, Paris, November 2015
- B. Smith gave an invited talk in the cryptography and security seminar at Radboud University Nijmegen, Netherlands, December 2015

10.1.5. Leadership within the scientific community

Together with Inria Nancy Caramel team, we are leader on records discrete logarithms, thanks to the CATREL project, which delivered the CADO-NFS software, and to our experience to run hard computational projects to achieve these records. We have also proposed the best curves for cryptographic computations.

10.1.6. Scientific expertise

- D. Augot explained the fundamental concepts underlying bitcoin to the “Direction de la prospective de la Poste”

10.1.7. Research administration

Committees

- A. Couvreur is an elected member of Saclay’s *comité de centre*.
- A. Couvreur is an elected member of Saclay’s *Comité local Hygiène, Sécurité et Conditions de Travail*.
- A. Couvreur is the *jeune chercheur référent* for the *commission de suivi doctoral* of Inria Saclay.
- D. Augot is a member of LIX’s *conseil de direction*.
- D. Augot is the vice-head of Inria’s *comité de suivi doctoral*
- D. Augot is a member of LIX’s *conseil de laboratoire*
- D. Augot is elected member of the *conseil académique consultatif* of Paris-Saclay University.
- B. Smith was a reviewer for ANRT CIFRE funding.
- F. Morain and B. Smith are elected members of the *Conseil de Laboratoire* of the LIX.
- F. Morain is vice-head of the Département d’informatique of Ecole Polytechnique.
- F. Morain represents École polytechnique in the committee in charge of *Mention HPC* in the *Master de l’université Paris Saclay*.
- F. Morain is member of the Board of Master Parisien de Recherche en Informatique (MPRI).
- B. Smith is a *Correspondant* for International Relations at Saclay.
- B. Smith is a member of the COST-GTRI.
- B. Smith is a member of the teaching committee of the Department of Computer Science of the École polytechnique.

Juries

- D. Augot was in committee assessing candidates for Institut Mines-Télécom.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence

A. Couvreur, INF311: “Introduction à l’informatique”, 40h (equiv TD), L3, École polytechnique, France

A. Couvreur INF411: “Les bases de la programmation et de l’algorithmique”, 32h (equiv TD), M1, École polytechnique, France

F. Levy-dit-Vehel, “Cours de Cryptographie”, 30h. (equiv TD), 3rd year (M1), ENSTA ParisTech, France.

F. Levy-dit-Vehel, “Mathématiques discrètes pour la protection de l’information”, 24h (equiv TD), 2nd year (L3), ENSTA ParisTech, France.

F. Morain, Lectures for INF311: “Introduction à l’informatique”, 15h (equiv TD), 1st year (L3), École polytechnique. Coordinator of this module (350 students).

B. Smith, INF442: “Traitement des données massives”, 32h (equiv TD), L4, École polytechnique, France

Master

A. Couvreur, “Error-correcting codes and applications to cryptography”, 12h (equiv TD), M2, MPRI, France.

F. Morain, “Algorithmes arithmétiques pour la cryptologie”, 9h (equiv TD), M2, MPRI, France.

F. Morain, Lectures for INF568: “Cryptology”, 13.5h (equiv TD), 3rd year (M1), École polytechnique, France.

B. Smith, “Algorithmes arithmétiques pour la cryptologie”, 13.5h (equiv TD), M2, MPRI, France.

B. Smith, Cryptologie, 18h (equiv TD), M1, École polytechnique, France

10.2.2. Supervision

- PhD: G. Robert defended his thesis on December 4th, 2015 [12].
- PhD in progress. J. Lavauzelle has began his Ph.D. on locally decodable codes and cryptogra[phic applications, on October 1st, 2015, under the supervision of D. Augot and F. Levy-dit-Vehel.
- PhD in progress. E. Barelli has begun his PhD on Algebraic-Geometry codes for code-based crypto on October 1st, 2015, under the supervision of D. Augot and A. Couvreur.
- PhD in progress. N. Duhamel has begun his PhD on genus 2 curves for cryptography, under the supervision of B. Smith and F. Morain.
- PhD in progress. P. Karpman, starting in 2013, will defend in 2016 his PhD on security of symmetric cryptographic primitives.

10.2.3. Juries

- D. Augot was reviewer of
 - J. Roué PhD thesis, “Analyse de la résistance des chiffrements par blocs aux attaques linéaires et différentielles”, Université Pierre et Marie Curie
 - F. de Portzamparc PhD thesis, “Algebraic and Physical Security in Code-Based Cryptography”, Université Pierre et Marie Curie
- A. Couvreur
 - was reviewer of F. de Portzamparc PhD thesis, “Algebraic and Physical Security in Code-Based Cryptography”, Université Pierre et Marie Curie
 - is member of the Jury of Agrégation de Mathématiques and in charge of option C (*Algèbre et calcul formel*)

- B. Smith
 - was an examiner for L. Xu’s PhD thesis, “Vérification formelle de la vie privée dans les systèmes concurrents”, École polytechnique, 4/5/2015.

10.3. Popularization

- D. Augot gave a lecture about bits, exclusive-or, coding and digital pictures, at Lycée de la vallée de Chevreuse (Jan 22)
- D. Augot, N. Duhamel, A. Guillevic, J. Lavauzelle, D. Lucas, and B. Smith participated in the Fête la Science at École polytechnique (Oct 12)
- A. Couvreur gave a conference “Les mathématiques pour protéger l’information” for the pupils of Collège Moreau in Monthléry (91).

10.4. Institutional commitment

- F. Levy-dit-Vehel is member of ENSTA ParisTech working group “compétences et validation des acquis de l’expérience”.
- B. Smith was “responsable des bureaux” (responsible for allocating desks and offices) at LIX.

MEXICO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. LIA INFORMEL

The Indo-French Formal Methods Lab is an International Associated Laboratory (LIA) fostering the scientific collaboration between India and France in the domain of formal methods and applications to the verification of complex systems. Our research focuses on theoretical foundations of games, automata, and logics, three important tools in formal methods. We study applications to the verification of safety-critical systems, with an emphasis on quantitative aspects (time, cost, energy, etc.), concurrency, control, and security protocols. The Laboratory was founded in 2012 by a consortium of researchers from the French Centre for Scientific Research (CNRS), Ecole Normale Supérieure de Cachan (ENS Cachan), Université Bordeaux 1, the Institute of Mathematical Sciences Chennai (IMSc), the Chennai Mathematical Institute (CMI), and the Indian Institute of Science Bangalore (IISc). It is directed by Paul Gastin (ENS Cachan, MEXICO team) and Madhavan Mukund (CMI). The LIA has been scientifically extremely active and productive since its creation. The LIA has supported numerous scientific exchanges and joint research papers, see <http://projects.lsv.ens-cachan.fr/informel/>. Among many other activities, the LIA organised another edition of the ACTS workshop, see [here](#).

The renewal beyond 2015 has been approved by CNRS' national committee, the FSD's approval is pending.

10.1.2. Scientific events organisation

10.1.2.1. General chair, scientific chair

Serge Haddad is a member of the steering committee for ICATPN.

10.1.3. Scientific events selection

10.1.3.1. Chair of conference program committees

- Stefan Haar was co-chair of the program committee of the conference Application of Concurrency to System Design (ACSD) 2015 [38].

10.1.3.2. Member of the conference program committees

- Thomas Chatain was a member of the program committee of the conference Application of Concurrency to System Design (ACSD) 2015 [38].
- Paul Gastin was a member of the program committee of the workshop ACTS 2015.
- Stefan Haar was a member of the program committees of the ETFA 2015 workshop, the CHIA 2015 workshop, and of the SAFEPROCESS 2015 Symposium and the ICTAC 2015 conference.
- Stefan Schwoon was a member of the PCs for ICATPN 2015 and SPIN 2015.
- Serge Haddad was a member of the PCs of the workshops
 - FOR-MOVES, associated with ICSOC 2015, Goa, India;
 - VECOS 2015, Bejaia, Algeria;
 - ADECS and PNSE, both associated with ICATPN 2015, Brussels, Belgium.

10.1.3.3. Reviewer

- Stefan Haar was a reviewer for CSL 2015, ACC 2015
- Stefan Schwoon was a reviewer for the 2015 editions of SODA, TAMC, POPL, and TACAS.
- Paul Gastin, Benedikt Bollig and Serge Haddad are regularly reviewers for many international conferences.

10.1.4. Journal

10.1.4.1. Member of the editorial boards

- Paul Gastin is on the advisory boards of *Journal of Automata, Languages and Combinatorics* and of the EATCS Springer Book series *Monographs in Theoretical Computer Science* and *Texts in Theoretical Computer Science*.
- Serge Haddad was Editor of one edition of the TOPNOC journal (LNCS 8910).
- Stefan Haar is an associate editor for the *Journal of Discrete Event Dynamic systems*.

10.1.4.2. Reviewer - Reviewing activities

- Stefan Haar was a reviewer for *Automatica*, *Journal of Computer and System Sciences*, *IEEE Transactions on Automatic Control*, *Computer Journal* and *TOPNOC*. He is also a regular reviewer for *AMS Mathematical Reviews*.
- Thomas Chatain was a reviewer for reviewer for *ACM Transactions on Embedded Computing Systems*.
- Stefan Schwoon acted as reviewer for the journals TCS, Fundamenta, STTT, FAOC (Formal Aspects of Computing), and ToPNoC.
- Paul Gastin, Benedikt Bollig and Serge Haddad are regularly reviewers for many international journals.

10.1.5. Invited talks

- Serge Haddad gave invited talks
 - on 'Active Diagnosis', July 7, 2015, Turin University;
 - on 'Time and Stochastic Petri Nets', June 22, during the Petri Nets tutorials at ICATPN 2015, Brussels, Belgium;
 - on 'Polynomial Interrupt Timed Automata' at Inria Rennes, Sept. 17,
 - on 'probabilistic automata' at *Ecole Jeunes Chercheurs EJCIM 2015*, April 1st, 2015, Orléans, France.
- Paul Gastin was an invited speaker for
 - 'Formal methods for the verification of distributed algorithms' Invited talk at **INFINITY 2015**, Bangalore (India), December 15, 2015.
 - 'Weighted Automata: Highlighted Excerpts.' Tutorial at **HIGHLIGHTS'15**, Prague, September 15, 2015.
 - Gossip: Maintening latest information beyond channel bounds.
 Invited talk at **ALFA'15**, Bordeaux (France), June 15 - 17, 2015, and talk at **FRIDA'15**, Grenoble (France,) June 5, 2015.
 - '10 years of weighted logics for weighted automata.' Invited talk at **AutoMathA**, Leipzig (Germany), May 6 - 9, 2015.
- Benedikt Bollig was an invited speaker
 - at the 22nd International Symposium on Temporal Representation and Reasoning (TIME 2015), Kassel, Germany
 - at the 20th International Conference on Implementation and Application of Automata (CIAA 2015), Umeå, Sweden
 - at the 2nd Workshop on Parameterized Verification, Madrid, Spain
 - at ALFA 15: Automata, Logic, Formal languages, Algebra, Bordeaux, France
 - at Automata, Concurrency and Timed Systems (ACTS 2015), Chennai, India
- Stefan Schwoon gave a talk in the CASSTING workshop in Brussels on May 18th, 2015.

10.1.6. Scientific expertise

- Serge Haddad was member of a selection committee for a professor's position at U. Paris 6, and an external expert for the evaluation of ONERA's DCPS department in November 2015.

10.1.7. Research administration

- Paul Gastin is director of the LIA **INFORMEL**.
- Stefan Haar is the Saclay Inria center's correspondent for european partnerships. He also was a member of DIGITEO's project selection committee, and will be directing the *SCILEX* axis of the *LABEXDIGICOSME*.

All members of the team reviewed numerous papers for numerous international conferences.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Note: We only list here the teaching activities of researchers, not the courses of full-time teachers in the team.

Licence : Stefan Haar, *Théorie des Langages*, 22.3 h (EQT D) L2, Université Paris-René Descartes, France

Master : Benedikt Bollig, *Non-Sequential Theory of Distributed Systems*, 22.5 h (EQT D), M2, Parisian Master of Research in Computer Science (MPRI), France

We further note that as of September 2015, Serge Haddad is no longer the coordinator of the M1 level but has become the director of the computer science department of ENS Cachan, as the successor of Paul Gastin in this position; and Stefan Schwoon has become the coordinator of the L3 level.

10.2.2. Supervision

- PhD in progress :
 - Engel Lefauchaux, *controlling information in probabilistic systems*, Co-supervisors Serge Haddad and Nathalie Bertrand (Inria Rennes, SUMO team);
 - Yann Duploux, *application of formal methods to the development of embedded systems for autonomous vehicles*, since Sept. 2015, Supervisor Serge Haddad (with Béatrice Berard, UPMC).
 - Simon Theissing, *Supervision for Multi-Modal Transport Systems*, since September 2013, Supervisor Stefan Haar
 - Salim Perchy (Ecole Polytechnique), *D-spaces*, since November 2013, co-supervisor Stefan Haar, Supervisor Franck Valencia (Note : S. Perchy belongs to the COMETE team, not MEXICO).

10.2.3. Juries

- Benedikt Bollig was a member of the PhD committee of Mathieu Caralp, "Problèmes de bornes pour les automates et les transducteurs à pile visible", December 18, 2015 at Université Marseille.
- Paul Gastin was
 - President of the PhD committee for Jad Hamza at University Paris-Diderot, on November 27, 2015;
 - Reviewer for the theses of Roy Mennicke, Universität Ilmenau (Germany), and of Vitaly Perevoshchikov, Universität Leipzig (Germany);
 - a member of the HdR committees of Nathalie Bertrand, Rennes, November 16 and of Benedikt Bollig, ENS Cachan, June 2, 2015;
 - reviewer of the HDR of Olivier Serre, University Paris-Diderot, March 10, 2015

- Serge Haddad was a member of the PhD committees of M. Amziani at Telecom SudParis in June 2015, and of D. Paquereau at INSA Lyon in March 2015.
- On May 27, 2015, *Thomas Chatain* was a member of the jury in the competition for recruitment of Master's level students at ENS Rennes.
- *Stefan Haar* was a reviewer of the thesis by Kari Kähkönen on *Automated Systematic Testing Methods for Multithreaded Programs*, defended on February 2, 2015, at Aalto University, Finland.
- *Stefan Haar* was a member of the PhD examination board of the Thesis of Houssame-Eddine Gougam on *Analyse de l'impact du temps sur la diagnosticabilité des systèmes à événements discrets*, defended on Sep 28, INSA Toulouse.

PARSIFAL Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committees

L. Straßburger was on the Organization Committee for the International Workshop on Efficient and Natural Proof Systems, held at the University of Bath 14-16 December, 2015

9.1.2. Scientific events selection

9.1.2.1. Chair of conference program committees

K. Chaudhuri was the Program Committee chair of the following meeting.

LFMTP 2015: Logical Frameworks and Meta-Languages: Theory and Practice
Co-chaired with Iliano Cervesato, Carnegie Mellon University (Qatar)

9.1.2.2. Member of conference program committees

D. Miller was on the Program Committees of the following meetings.

TABLEAUX 2015: Automated Reasoning with Analytic Tableaux and Related Methods, Wroclaw, Poland, September.

PPDP 2015: 17th International Symposium on Principles and Practice of Declarative Programming, Siena, Italy, 13-16 July.

PxTP 2015: Fourth Workshop on Proof eXchange for Theorem Proving, Berlin, Germany, 2-3 August.

ICALP 2015 (42nd International Colloquium on Automata, Languages, and Programming), Track B, Kyoto, Japan, 6-10 July.

S. Graham-Lengrand was on the Program Committees of the following meetings.

TABLEAUX 2015: Automated Reasoning with Analytic Tableaux and Related Methods, Wroclaw, Poland, September.

CSL 2015: 24th EACSL Annual Conference on Computer Science Logic, Berlin, Germany, 7-10 September.

K. Chaudhuri was on the Program Committees of the following meetings.

CPP 2015: ACM-SIGPLAN Conference on Certified Programs and Proofs

FICS 2015: International Workshop on Fixed Points in Computer Science

WoF 2015: International Workshop on Focusing

L. Straßburger was on the Program Committees of the following meetings.

FoSSaCS 2015: 18th International Conference on Foundations of Software Science and Computation Structures

WENSP: International Workshop on Efficient and Natural Proof Systems

G. Reis was on the Program Committee for the following meeting.

LFMTP 2015: Logical Frameworks and Meta-Languages: Theory and Practice

9.1.2.3. Reviewer

T. Libal was a reviewer for the following workshops:

Fourth Workshop on Proof eXchange for Theorem Proving.

S. Graham-Lengrand was a reviewer for the following conferences:

LPAR 2015: 20th International Conference on Logic for Programming, Artificial Intelligence and Reasoning, Suva, Fiji, November.

LICS 2015: 30th Annual ACM/IEEE Symposium on Logic in Computer Science, Kyoto, Japan, July.

D. Ilik was a reviewer for the following conferences:

ESOP 2015: 24th European Joint Conferences on Theory and Practice of Software

FoSSaCS 2015: 18th International Conference on Foundations of Software Science and Computation Structures

TLCA 2015: 13th International Conference on Typed Lambda Calculi and Applications

M. Volpe was a reviewer for the following conferences:

Tableaux 2015: 24th International Conference on Automated Reasoning with Analytic Tableaux and Related Methods, Wroclaw, Poland, September.

L. Straßburger was a reviewer for the following conferences:

TLCA 2015: 13th International Conference on Typed Lambda Calculi and Applications

LPAR 2015: 20th International Conference on Logic for Programming, Artificial Intelligence and Reasoning, Suva, Fiji, November.

FLOPS 2016: Thirteenth International Symposium on Functional and Logic Programming March 4-6, 2016, Kochi, Japan

B. Accattoli was a reviewer for the following conferences:

- CSL 2015: 24th EACSL Annual Conference on Computer Science Logic, Berlin, Germany, 7-10 September.
- TGC 2015: 10th International Symposium on Trustworthy Global Computing, Madrid, Spain, August 31 to September 1.
- FoSSaCS 2016: 19th International Conference on Foundations of Software Science and Computation Structures, to be held in Eindhoven, The Netherlands, 2-8 April 2016.

T. Brock-Nannestad was a reviewer for the following conferences:

- ITP 2015: 6th Conference on Interactive Theorem Proving, Nanjing, China, August 24–27 August, 2015.
- CPP 2016: The 5th ACM SIGPLAN Conference on Certified Programs and Proofs, Saint Petersburg, Florida, USA, January 18–19, 2016.

9.1.3. Journal

9.1.3.1. Editor-in-chief

D. Miller was Editor-in-Chief of the ACM Transactions on Computational Logic. He completed a six year term on June 2015.

9.1.3.2. Member of the editorial boards

D. Miller is on the editorial board of the following journals: *ACM Transactions on Computational Logic*, *Journal of Automated Reasoning* (Springer), *Theory and Practice of Logic Programming* (Cambridge University Press), and *Journal of Applied Logic* (Elsevier).

D. Miller served on as an editor for Logical Methods in Computer Science for the production of a special issue for papers from CSL-LICS 2014.

K. Chaudhuri served as a guest editor for Mathematical Structures in Computer Science special issue on Logical Frameworks and Meta Languages, based on selected papers from LFMTTP 2015

9.1.3.3. Reviewer - Reviewing activities

- T. Libal was a reviewer for the following journals:
Journal of Automated Reasoning (Springer).
- S. Graham-Lengrand was a reviewer for the following journals: J. Appl. Logic, Theoret. Comput. Sci., Acta Inform.
- D. Ilik was a reviewer for the following journals:
Mathematical Reviews (MathSciNet)
Zentralblatt MATH
- M. Volpe was a reviewer for the following journals:
Annals of Mathematics and Artificial Intelligence;
Journal of Automated Reasoning;
Logica Universalis.
- L. Straßburger was a reviewer for the following journals:
Logical Methods in Computer Science (two articles)
Theoretical Computer Science, Elsevier
Ontos Mathematical Logic, Walter De Gruyter
Logic Journal of the IGLP, Oxford University Press
- B. Accattoli was a reviewer for the following journals:
 - Logical Methods in Computer Science (two articles)
 - Theoretical Computer Science, Elsevier

9.1.4. Invited talks

D. Miller was a plenary speaker at the joint meeting of LOPSTR 2015 and PPDP 2015 (Siena, Italy) and was an invited speaker at LSFA 2015 (Natal Brazil) and in the Session on History and Philosophy of Computing at the 15th Congress of Logic, Methodology and Philosophy of Science, Helsinki.

D. Miller gave spoke at the ETH Zurich Department of Computer Science Distinguished Colloquium Series on 20 April.

S. Graham-Lengrand gave an invited talk at the IFIP Working Group 1.6 on Term Rewriting, on the occasion of its 2015 annual meeting in Warsaw, Poland.

B. Accattoli was an invited speaker at the 16th International Workshop on Logic and Computational Complexity (Kyoto, Japan, 5th of July).

9.1.5. Leadership within the scientific community

D. Miller was a member of the ACM SIGLOG Advisory Board, the LICS Organizing Board, the CPP Steering Committee, and the ACM SIGLOG Executive Committee Nominating Committee. He was also the Chair of the LICS 1995 Test-of-Time Award selection committee.

S. Graham-Lengrand is head of the French National Workgroup on *Logic, Algebra, and Computation* (part of GDR Informatique Mathématique, funded by CNRS).

K. Chaudhuri was elected to the Steering Committee of LFMTTP (<http://lfmtp.org>) for a term of 5 years in 2015.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: K. Chaudhuri, “*INF 321 : Les principes des langages de programmation*”, 40 hours eq. TD, L3, École polytechnique, France

Licence: K. Chaudhuri, “*INF 431 : Programmation concurrente et distribuée*”, 40 hours eq. TD, L3, École polytechnique, France

Licence: S. Graham-Lengrand, “*INF411: Les bases de la programmation et de l’algorithmique*”, 32 hours eq. TD, L3, École Polytechnique, France.

Master: S. Graham-Lengrand, “*INF551: Computational Logic*”, 45 hours eq. TD, M1, École Polytechnique, France.

Master: S. Graham-Lengrand, “*MPRI 2-1: Logique linéaire et paradigmes logiques du calcul*”, 12 hours, M2, Master Parisien de Recherche en Informatique, France.

Master: D. Miller, “*MPRI 2-1: Logique linéaire et paradigmes logiques du calcul*”, 12 hours, M2, Master Parisien de Recherche en Informatique, France.

Licence: T. Libal, “*INF 321 : Les principes des langages de programmation*”, 40 hours eq. TD, L3, École polytechnique, France

Master: T. Libal, “*INF551: Computer-aided reasoning*”, 20 hours eq. TD, M1, École Polytechnique, France.

9.2.2. Supervision

PhD: Zakaria Chihani, “*Certification of first-order proofs in classical and intuitionistic logics*”, École Polytechnique, 2 Nov 2015; supervised by Dale Miller.

PhD in progress: Sonia Marin, 1 Nov 2014, supervised by L. Straßburger and D. Miller

PhD in progress: Roberto Blanco, Ulysse Gérard, and Quentin Heath, supervised by D. Miller

Internship: Horace Blanc, May-September 2015, supervised by B. Accattoli.

9.2.3. Juries

D. Miller was a reporter and president for the PhD jury of Ali Assaf, École Polytechnique, 28 September.

S. Graham-Lengrand was a member of the PhD thesis committee of Simon Cruanes, École Polytechnique, 10 September.

K. Chaudhuri was a member of the PhD thesis committee of Yuting Wang, University of Minnesota, 5 November.

9.3. Popularization

K. Chaudhuri organized a half-day tutorial on Abella as a satellite event of CADE 2015 in Berlin. The slides from the talk are available as [40], and the tutorial web-site is: <http://abella-prover.org/tutorial>. This event was co-organized with Gopalan Nadathur, professor of Computer Science at the University of Minnesota, USA.

G. Reis participated in “Fête de la Science” as an assistant to the programming activities.

POSTALE Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committees

- Marc Baboulin,
 - Member of the steering committee of HPC 2015
 - Minisymposium “Randomized algorithms in numerical linear algebra.” Organizers: Marc Baboulin, Jack Dongarra (Univ. of Tennessee) et Sherry Li (Lawrence Berkeley National Laboratory), SIAM Conference on Computational Science and Engineering, Salt Lake City, USA, March 14-18, 2015.
- Christine Eisenbeis, comité d’organisation du colloque "Les métiers du travail scientifique : images et valeurs, réalités et défis", 20-21 mai 2015, Orsay, (<http://www.centre-dalembert.u-psud.fr/2015-les-metiers-du-travail-scientifique-images-et-valeurs-realites-et-defis/>).

9.1.2. Journal

9.1.2.1. Member of the editorial board

- Christine Eisenbeis, IJPP

9.1.3. Invited talks

- Marc Baboulin, invited plenary speaker at the HPCSE conference, Solan, Czech Republic, May 25-28, 2015.

9.1.4. Scientific expertise

- Marc Baboulin, comité de sélection pour un poste de maître de conférences en informatique, université Paris-Sud 11, mai 2015.
- Christine Eisenbeis, comité de sélection pour un poste de professeur d’informatique, université Paris-Sud 11, mai 2015.
- Joël Falcou, comité de sélection pour un poste de maître de conférences en informatique, université Paris-Sud 11, mai 2015.
- Lionel Lacassagne, comité de sélection pour un poste de maître de conférences en informatique, université Paris-Sud 11, mai 2015.

9.2. Teaching - Supervision - Juries

9.2.1. Supervision

PhD in progress: Lénaïc Bagnères, "Adaptation automatique et semi-automatique des optimisations de programmes", University Paris-Sud 11, supervisors: Cédric Bastoul and Christine Eisenbeis

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

PhD defended: Jason Lambert, "Parallélisation de simulations interactives de champs ultrasonores pour le contrôle non destructif", CEA List/Disc funding, University Paris-Sud 11, July 3rd, 2015, Supervisor: Lionel Lacassagne

PhD defended: Adrien Rémy, "Solving dense linear systems on accelerated multicore architectures", University Paris Sud 11, July 8th, 2015, Supervisors: M. Baboulin and B. Rozoy

PhD defended: Antoine Tran Tan, "Squelettes algorithmiques asynchrones : application aux langages orientés domaine", University Paris-Sud 11, October 8th, 2015, Supervisor: Joël Falcou

PhD defended: Yushan Wang, "Solving Incompressible Navier-Stokes Equations on Heterogeneous Parallel Architectures", University Paris Sud 11, April 9th, 2015, Supervisors: M. Baboulin and O. Le Maître

9.2.2. Juries

- Marc Baboulin,
 - PhD defence of Michele Mangili, Politecnico di Milano (15/12/2015), chairman of the committee.
 - HDR defence of Stéphane Louise, CEA Saclay (29/06/2015), chairman of the committee.
- Christine Eisenbeis, rapporteuse de la thèse de Nicolas Triquenaux, « Energy Characterization and Savings in Single and Multiprocessor Systems : Understanding how much can be saved and how to achieve it in modern systems » , 18 septembre 2015, université de Versailles-Saint-Quentin.

9.3. Popularization

Christine Eisenbeis est membre du conseil scientifique des programmes du centre d'Alembert, Centre Interdisciplinaire d'Étude de l'Évolution des Idées, des Sciences et des Techniques (CIEEIST), de l'université Paris-Sud. À ce titre, elle a fait partie du comité d'organisation du colloque "Les métiers du travail scientifique : images et valeurs, réalités et défis", 20-21 mai 2015, Orsay, (<http://www.centre-dalembert.u-psud.fr/2015-les-metiers-du-travail-scientifique-images-et-valeurs-realites-et-defis/>).

SPECFUN Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committees

- A. Bostan has served in the organizing committee of the *Journées Nationales de Calcul Formel* (JNCF 2015), the annual meeting of the French computer algebra community.
- A. Mahboubi has served in the organizing and scientific committees of *Mathematics, Algorithms and Proofs* (MAP 2016).

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

- A. Bostan is part of the Scientific advisory board of the conference series *Conference on Effective Methods in Algebraic Geometry* (MEGA).
- F. Chyzak has served as a conference program committee member for the *Conference on Intelligent Computer Mathematics* (CICM 2015).
- A. Mahboubi has served as a program committee member for the *25th International Conference on Automated Deduction* (CADE 25).
- A. Mahboubi has served as a program committee member for the *21st International Conference on Types for Proofs and Programs* (TYPES 2015).
- A. Mahboubi has served as a program committee member for the *Workshop on Logical Frameworks and Meta-Languages: Theory and Practice* (LFMTP 2015).

9.1.2.2. Reviewer

- A. Bostan has served as reviewer for the *International Symposium on Symbolic and Algebraic Computation* (ISSAC 2015).
- F. Chyzak has served as reviewer for the *International Symposium on Symbolic and Algebraic Computation* (ISSAC 2015).
- A. Mahboubi has served as reviewer for the international conferences *NASA Formal Methods Symposium* (NFM 2015), *Certified Programs and Proofs* (CPP 2015), *Typed Lambda Calculi and Applications* (TLCA 2015), *Conference on Intelligent Computer Mathematics* (CICM 2015) and for the national conference *Journées Nationales des Langages Applicatifs* (JFLA 2015).
- Th. Sibut-Pinote has served as reviewer for the *International Conference on Automated Deduction* (CADE 2015).

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing activities

- A. Bostan has served as reviewer for the *Journal of Symbolic Computation*, the *Journal of Complexity and Applicable Algebra in Engineering, Communication and Computing*.
- F. Chyzak has served several times as a reviewer for the *Journal of Symbolic Computation*.
- A. Mahboubi has served as a reviewer for the *Journal of Formalized Reasoning* and several times for *Journal of Automated Reasoning*.

9.1.4. Invited talks

- A. Bostan has given an invited 3-hours lecture at the Séminaire Lotharingien de Combinatoire in Ellwangen, Germany (March 2015) and another 3-hours lecture at the *SFB-Workshop on Restricted Lattice Walks* in RISC, Hagenberg, Austria (May 2015).
- A. Bostan has given an invited talk in the conference *Automatic Sequences, Number Theory, and Aperiodic Order*, held at the Technical University of Delft, Netherlands (Oct 2015).
- A. Bostan has given a talk during the *Thematic Program on Computer Algebra* (Fields Institute, Toronto, Canada, September 2015).
- F. Chyzak has given a number of talks on his ongoing work (joint with A. Bostan of the team) on obtaining hypergeometric closed-form expressions in the enumerative combinatorics of walks: *Functional Equations in Limoges* (Limoges, March 2015), *Thematic Program on Computer Algebra* (Fields Institute, Toronto, Canada, September 2015), *Séminaire Philippe Flajolet* (Institut Henri Poincaré, Paris, October 2015).
- A. Mahboubi has given an invited talk common to the conferences *14th Asian Logic Conference* (ALC 15) and *6th Indian Conference on Logic and its Application* (ICLA 15), in Mumbai, India (January 2015).
- A. Mahboubi has given an invited talk to the Workshop on Homotopy Type Theory / Univalent Foundations, satellite of the International Conference on Rewriting, Deduction, and Programming, in Warsaw, Poland (July 2015).
- A. Mahboubi has given a talk during the *Thematic Program on Computer Algebra* (Fields Institute, Toronto, Canada, December 2015).

9.1.5. Scientific expertise

- F. Chyzak is member of the steering committee of the *Journées Nationales de Calcul Formel* (JNCF 2015), the annual meeting of the French computer algebra community.
- A. Mahboubi has been nominated as a member of the management committee the COST action EUTYPES (CA15123) *The European research network on types for programming and verification*, coordinated by Herman Geuvers.

9.1.6. Research administration

- A. Mahboubi is a member of the *Commission Scientifique* of the Inria–Saclay–Île-de-France center.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: A. Bostan, *Algorithmes efficaces en calcul formel*, 18h, M2, MPRI, France

Master: F. Chyzak, *Algorithmes efficaces en calcul formel*, 4.5h, M2, MPRI, France

Master: A. Mahboubi, *Assistants de preuve*, 18h, M2, MPRI, France

License: L. Dumont, various courses, 64h, Université Paris-Sud, France.

License: Th. Sibut-Pinote, various courses, 64h, École Polytechnique, France.

9.2.2. Supervision

- PhD in progress: L. Dumont, *Algorithmique efficace pour les diagonales, applications en combinatoire, physique et théorie des nombres*, École Polytechnique, started in September 2013, supervised by A. Bostan and B. Salvy.
- PhD in progress: Th. Sibut-Pinote, *Calcul numérique et démonstrations mathématiques, de la rigueur à la preuve formelle*, École Polytechnique, started in September 2014, supervised by A. Mahboubi.

- Master internship in progress (M1): G. Boisseau and Th. Huffschmitt, *Combination of decision procedures in presence of meta-variables*, École Polytechnique, supervised by A. Mahboubi (jointly with S. Graham-Lengrand from LIX).

9.2.3. Juries

- A. Bostan has served as a jury member of the French *Agrégation de Mathématiques – épreuve de modélisation, option C*.
- A. Bostan has served as an examiner in the PhD jury of Cuang Tran, *Calcul formel dans la base des polynômes unitaires de Chebyshev*, Université Paris 6, October 9, 2015.
- F. Chyzak has served as an examiner in the PhD jury of Suzy Maddah, *Formal Reduction of Differential Systems*, Université de Limoges, September 25, 2015.
- A. Mahboubi has served as an examiner in the half-way PhD defense of Pierre Boutry, *Learning environment for interactive proof in geometry*, University of Strasbourg, June 15th, 2015.

9.3. Popularization

- A. Bostan has published, together with Kilian Raschel, a popularization article titled *Compter les excursions sur un échiquier* in the popular science magazine *Pour la Science*, the French version of the *Scientific American*.

TOCCATA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

- S. Conchon is the program committee co-Chair of ICFEM 2015 (CNAM, Paris, 3-6 November 2015). <http://icfem2015.lri.fr>.
- A. Charguéraud is the organizer of the 2nd International Workshop on Coq for Programming Languages, co-located with POPL, January 23rd 2016. <http://conf.researchr.org/home/CoqPL-2016>.
- A. Paskevich is the co-organizer of the 4th international workshop on Proof eXchange for Theorem Proving (PxTP 2015), affiliated with CADE-25 (August 2-3, 2015, Berlin, Germany).

10.1.1.2. Member of the organizing committees

- S. Boldo and G. Melquiond are members of the organizing committee for the 22nd IEEE Symposium on Computer Arithmetic (ARITH 2015), held in Lyon in June 2015.
- G. Melquiond is a member of the organizing committee for the 23rd IEEE Symposium on Computer Arithmetic (ARITH 23), held in Santa Clara, CA, USA in July 2016.
- S. Conchon is a member of the organizing committee for ICFEM 2015, CNAM, Paris, 3-6 November 2015. <http://icfem2015.lri.fr>.
- S. Conchon is local chair for the 44th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL 2017), held in Paris, France in January 2017.

10.1.2. Scientific events selection

10.1.2.1. Chair of conference program committees

- A. Charguéraud is program chair for the 2nd International Workshop on Coq for Programming Languages, co-located with POPL, January 23rd 2016. <http://conf.researchr.org/home/CoqPL-2016>.
- A. Paskevich is the co-chair of the 4th international workshop on Proof eXchange for Theorem Proving (PxTP 2015), affiliated with CADE-25 (August 2-3, 2015, Berlin, Germany).

10.1.2.2. Member of the conference program committees

- S. Boldo is a member of the program committee of the 26th Journées Francophones des Langues Applicatifs (JFLA 2015).
- S. Boldo is a member of the program committee of the 8th International Workshop on Numerical Software Verification (NSV-8).
- S. Boldo is a member of the program committee of the 22nd IEEE Symposium on Computer Arithmetic (ARITH 2015).
- S. Boldo is a member of the program committee of the 27th Journées Francophones des Langues Applicatifs (JFLA 2016).
- S. Boldo is a member of the program committee of the 23rd IEEE Symposium on Computer Arithmetic (ARITH 2016).
- A. Charguéraud is a member of the program committee for the 25th European Symposium on Programming (ESOP), to be held in April 2016, <http://www.etaps.org/index.php/2016/esop>.
- A. Paskevich is a member of the program committee of the 20th International Symposium on Formal Methods (FM 2015).

- C. Paulin is a member of the program committee of the 4th ACM-SIGPLAN Conference on Certified Programs and Proofs (CPP 2015, colocated with POPL 2015).
- C. Paulin is a member of the program committee of the conference on Mathematics of Program Construction (MPC 2015).
- C. Paulin is a member of the program committee of the 21st International Conference on Types for Proofs and Programs (Types 2015).
- C. Paulin is a member of the program committee of the 20th International Conferences on Logic for Programming, Artificial Intelligence and Reasoning (LPAR-20).
- C. Paulin is a member of the program committee of the 31st Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2016).
- C. Paulin is a member of the program committee of the 7th International Conference on Interactive Theorem Proving (ITP 2016).

10.1.2.3. Reviewer

The members of the Toccata team have reviewed papers for numerous international conferences.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- G. Melquiond is a member of the editorial board of *Reliable Computing*.
- S. Boldo is member of the editorial committee of the popular science web site “i()”: <http://interstices.info/>.
- S. Boldo is member of the editorial board of Binaire <http://binaire.blog.lemonde.fr>, the blog of the French Computer Science Society.
- J.-C. Filliâtre is member of the editorial board of the *Journal of Functional Programming*.
- C. Paulin is member of the editorial board of the *Journal of Formalized Reasoning*.

10.1.3.2. Reviewer - Reviewing activities

The members of the Toccata team have reviewed numerous papers for numerous international journals.

10.1.4. Invited talks

- S. Boldo was speaker in a panel at the 2015 congress of the French Computer Science Society, on February 4th in Orléans. The panel was about stereotypes and academic orientation of girls.
- S. Boldo gave a talk at the French-Japanese Workshop on Numerical Computations in Paris, on March 25th.
- S. Boldo gave several invited talks in French laboratories: for the Deducteam team (Inria Paris - Rocquencourt) on March 27th, for the Pequan team (UPMC, Paris) on November 30th, at the Digicosme Research Days on March 23rd.
- A. Charguéraud was invited to teach at the Spring School in Theoretical Computer Science, entitled “Mechanizing proofs of programs”, June 26th, <http://www.epit2015.website/>
- C. Marché, “An History of Frama-C”, Frama-C Day, CEA LIST, March 13th, 2015, <http://frama-c.com/framaCDay.html>
- G. Melquiond, “Formal verification of a floating-point elementary function”, ARITH 22 tutorials, June 25th, 2015, <http://www.ens-lyon.fr/LIP/AriC/tutorials-june-25-2015>.
- C. Paulin gave a talk “Langages and systems for interactive proofs” at Collège de France as part of the seminar “Proving programs : why, when and how ?” organised by Gérard Berry <http://www.college-de-france.fr/site/gerard-berry/seminar-2015-03-18-17h30.htm>.
- C. Paulin was invited by FRAE (Fondation de Recherche pour l’Aéronautique et l’Espace, <http://www.fnrae.org/>) to contribute to a panel discussion on how to master complex systems.

- C. Paulin was invited to give a presentation at the Ecole Jeunes Chercheurs Informatique Mathématique (EJCIM 2015, <http://www.univ-orleans.fr/lifo/evenements/EJCIM2015/>) on the Coq proof assistant.

10.1.5. Leadership within the scientific community

- C. Paulin, scientific leader of Labex DigiCosme <http://labex-digicosme.fr> (Digital Worlds: distributed data, programs and architectures), a project launched by the French Ministry of research and higher education as part of the program “Investissements d’avenir”, it involves the 14 research units in computer science and communications from the “Paris-Saclay” cluster.
- É. Contejean, leader of the VALS team of LRI since February 2014.

10.1.6. Scientific expertise

- S. Boldo, member of the reviewing board for the ANR (first and second step in 2015, first step in 2016).
- S. Boldo, member of the 2015 committee for the Gilles Kahn PhD award of the French Computer Science Society.
- S. Conchon and A. Paskevich, members of the “*commission consultative de spécialistes de l’université*”, Section 27, University Paris-Sud since December 2014.
- É. Contejean, elected member of the “*section 6 du Comité National de la Recherche Scientifique*” since September 2012.
- C. Marché, member of the “*jury de l’agrégation externe de mathématiques*” as expert in computer science, since 2012.
- C. Marché, president of the evaluation committee of the joint Digiteo-DigiCosme call for projects <https://digicosme.lri.fr/AAPDigiteoDigiCosme2015>. The committee selected 16 thesis projects for funding, among 52 submissions. The committee also selected to support 6 scientific events in the Île-de-France region.
- C. Marché, A. Paskevich, reviewer for the ANR (second step in 2015).

10.1.7. Research administration

- S. Boldo, member of the CCD, *commission consultative des doctorants*.
- S. Boldo, member of the CLFP, *comité local de formation permanente*.
- S. Boldo, scientific head for Saclay for the MECSI group for networking about computer science popularization inside Inria.
- A. Charguéraud is vice-president of *France-ioi*, a non-profit organization in charge of the selection and the training of the French team to the International Olympiads in Informatics (IOI). France-ioi also provides online exercises in programming and algorithmics—in average, over 70,000 such exercises are solved every month on the website.
- A. Charguéraud is a board member of the non-profit organization *Animath*, which aims at developing interest in mathematics among young students.
- A. Charguéraud and G. Melquiond are members of the committee for the monitoring of PhD students (“*commission de suivi des doctorants*”).
- J.-C. Filliâtre is *correcteur au concours d’entrée à l’École Polytechnique et aux ENS* (computer science examiner for the entrance exam at École Polytechnique and Écoles Normales Supérieures) since 2008.
- C. Marché, director of the ProofInUse Joint Laboratory between Inria and AdaCore, <http://www.spark-2014.org/proofinuse>
- C. Paulin, member of the “*commission consultative de spécialistes de l’université*”, Section 27, University Paris-Sud since April 2010. C. Paulin is the president of this committee since December 2014.

- G. Melquiond, elected officer of the IEEE-1788 standardization committee on interval arithmetic since 2008.
- C. Paulin, chaired the hiring committee for a professor position in computer science at Université Paris-Sud.
- J.-C. Filliâtre, member of the board of GDR GPL, since January 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

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

Master: Fondements de l’informatique et ingénierie du logiciel (FIIL) https://www.lri.fr/~conchon/parcours_fil/: “Programmation C++11 avancée” (M2), G. Melquiond (18h), “Preuves Interactives et Applications” (M2), C. Paulin (9h), “Vérification déductive de programmes” (M2), A. Paskevich (11.5h), Université Paris-Sud, France.

Licence: “Mathématiques pour l’informatique 2” (L2), C. Paulin (50h), Université Paris-Sud, France.

Licence: “Logique pour l’informatique” (L3), C. Paulin (54h), Université Paris-Sud, France.

Master: “Logique pour l’option informatique à l’agrégation” (M2), C. Paulin (21h), ENS Cachan, France.

Licence: “Programmation fonctionnelle avancée” (L3), S. Conchon (30h), Université Paris-Sud, France.

Licence: “Introduction à la programmation fonctionnelle” (L2), S. Conchon (10h), Université Paris-Sud, France.

Master: “Compilation et langages” (M1), S. Conchon (45h), Université Paris-Sud, France.

Master: “Software Model Checking” (M2), S. Conchon (10h), Université Paris-Sud, France.

Licence: “Langages de programmation et compilation” (L3), J.-C. Filliâtre (26h), École Normale Supérieure, France.

Licence: “INF411: Les bases de l’algorithmique et de la programmation” (L3), J.-C. Filliâtre (16h), École Polytechnique, France.

DUT (Diplôme Universitaire de Technologie): M1101 “Introduction aux systèmes informatiques” (S1), A. Paskevich (36h), M3101 “Principes des systèmes d’exploitation” (S3), A. Paskevich (58.5h), IUT d’Orsay, Université Paris-Sud, France.

10.2.2. Internships

- S. Conchon supervised the M2 internship of Mattias Roux, who developed a new reachability algorithm for the Cubicle Model Checker.
- A. Charguéraud supervised, with F. Pottier (Inria Paris) the M2 internship of Armaël Guéneau, who developed a formalization in Coq of the big-O notation, and put it to practice to establish big-O asymptotic bounds in CFML, in particular for a sequence data structure with logarithmic-time random access operations.
- C. Paulin supervised with F. Hivert (LRI) the magistère of Mathematics internship of Olivier Stietel, who developed a proof in Coq of a result in combinatorics (a result of Frame, Robinson and Thrall counting the number of Young tableaux of a given shape) using a probabilistic method.

10.2.3. Supervision

PhD: C. Lelay, “Repenser la bibliothèque réelle de Coq : vers une formalisation de l’analyse classique mieux adaptée”, Université Paris-Sud, June 15th 2015, supervised by S. Boldo and G. Melquiond [11].

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

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

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

PhD in progress: D. Declerck, “Vérification par des techniques de test et model checking de programmes C11”, since Sep. 2014, supervised by F. Zaïdi (LRI) and S. Conchon.

PhD in progress: M. Roux, “Model Checking de systèmes paramétrés et temporisés”, since Sep. 2015, supervised by Sylvain Conchon.

PhD in progress: M. Pereira, “A Verified Graph Library. Tools and techniques for the verification of modular higher-order programs, with extraction”, since May 2015, supervised by J.-C. Filliâtre.

PhD in progress: A. Coquereau, “[ErgoFast] Amélioration de performances pour le solveur SMT Alt-Ergo : conception d’outils d’analyse, optimisations et structures de données efficaces pour OCaml”, since Sep. 2015, supervised by Sylvain Conchon, Fabrice Le Fessant et Michel Mauny.

10.2.4. Juries

S. Boldo: reviewer, PhD committee of O. Kupriianova, “Towards a Modern Floating-Point Environment”, Université Pierre et Marie Curie, France, December 2015.

A. Charguéraud: examiner, PhD committee of Lidia Sánchez Gil, “On the equivalence of operational and denotational semantics for parallel functional languages”, Universidad Complutense de Madrid, July 2015.

C. Marché: reviewer, PhD committee of A. Dieumegard, “Formal Guarantees for Safety Critical Code Generation: The Case of Highly Variable Languages”, Université Toulouse 3 Paul Sabatier, France, January 2015.

C. Marché: external reviewer of the PhD memoir of D. Larraz, “Automatic Program Analysis using Max-SMT”, Universitat Politècnica de Catalunya, Barcelona, Spain, April 2015.

C. Marché: president of the PhD committee of A. David, “Vers la synthèse de systèmes ouverts : tableaux pour les logiques temporelles multi-agents”, Université Évry Val d’Essonne, Évry, France, September 2015.

C. Marché: examiner, PhD committee of Z. Chihani, “Certification of First-order proofs in classical and intuitionistic logics”, École Polytechnique, Palaiseau, France, November 2015.

10.3. Popularization

- A. Charguéraud and S. Boldo contributed to the preparation of the exercises of the *Concours Castor informatique* <http://castor-informatique.fr/>. A. Charguéraud is also one of the three organizers of this contest. The purpose of the Concours Castor is to introduce pupils (from *CM1* to *Terminale*) to computer sciences. More than 345,000 teenagers played with the interactive exercises in November 2015.
- C. Marché, together with J. Kanig from AdaCore company, wrote an article in the ERCIM news journal [17] to advertise on the work done in the ProofInUse joint laboratory for the popularization of formal methods in the development of safety-critical Ada programs.

- S. Boldo, with T. Vieville (Mnemosyne team, Inria Bordeaux - Sud-Ouest), F. Maseglia (Zenith team, Inria Sophia Antipolis - Méditerranée and P. Bernhard (INRA) wrote a text about the TIPE 2016 (personal work before the competitive entrance in engineering schools). The topic was “Structures: organization, complexity, dynamic”. This was published on the popularization website <http://pixees.fr> [31].
- S. Boldo co-organized popularization talks for the administrative staff of Inria Saclay - Île-de-France. She gave a talk on January 29th about a scientific article [21] and led a coding session (with Scratch) on February 12th with A. Imperiale (M3DISIM team).
- S. Boldo co-organized the coming of teenagers from the collège Flemming in Orsay to the laboratory on May 28th and gave talks to several groups all day long.
- S. Boldo co-organized the Inria Saclay - Île-de-France *Fête de la science*. She created two stands (about programming) and run one on October 9th.
- S. Boldo gave a talk to the winners of the Mathematics Olympiads on June 10th in Rocquencourt.
- S. Boldo gave a talk at the “Girls can code” week on August 27th, in Paris.
- S. Boldo gave a talk to high school teenagers in Angers on October 12th.
- S. Boldo gave a talk to “Classes Préparatoires” at l’Essouriau, Les Ulis on September 24th.
- S. Boldo gave a talk at “Futur en Seine” a popularization festival in Paris and Paris area, in Orsay, on June 18th.
- C. Paulin together with I. Glas from labex DigiCosme is proposing an introduction to computer science (various activities on programming, data representation, algorithms during 6 sessions of 1 hour) as an extracurricular activity in schools for pupils in *CM1-CM2*.
- C. Paulin organised in 2015 the third edition of the Concours ISN of the Labex DigiCosme, supported by the Rectorat de l’Académie de Versailles. Selected projects developed by the high school pupils (Terminale) as part of their curricula in Computer Science are submitted to this contest. The best projects are selected and presented during a general event.
- C. Paulin, I. Glas, and A. Paskevich run a stand (introduction to information technologies and programming) during the “Fête de la science” Île-de-France on October 9 and 10.

COMMANDS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

- Axel Kröner (chair), Frederic Bonnans: Workshop on “Optimal Control of Partial and Ordinary Differential Equations”, Palaiseau, November 16-17
- Axel Kröner: Minisymposium on “Optimal Control and Hamilton-Jacobi Bellman Equations: Numerical Methods and Applications”

10.1.1.2. Member of the organizing committees

- F. Bonnans: PGMO days, Oct. 27-28, Ensta, Palaiseau.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- F. Bonnans: XII International Seminar on Optimization and Related Areas (ISORA), Lima, Peru, 5-9 October 2015.
16th IFAC Workshop Control Applications of Optimization (CAO'2015) Garmisch-Partenkirchen, Germany, Oct. 6-9, 2015.
EUROPT Workshop on Advances in Continuous Optimization, July 8-10, 2015, Edinburgh.

10.1.2.2. Organization of sessions

- A. Kröner (with D. Kalise (RICAM)): Minisymposium on “Optimal Control and Hamilton-Jacobi Bellman Equations: Numerical Methods and Applications. 27 th IFIP TC7 Conference 2015 on System Modelling and Optimization. SophiaTech Campus Sophia Antipolis, France, June 29 - July 3, 2015

10.1.3. Journal

10.1.3.1. Editorial boards

- F. Bonnans is Corresponding Editor of “ESAIM:COCV” (Control, Optimization and Calculus of Variations), and Associate Editor of “Applied Mathematics and Optimization”, “Optimization, Methods and Software”, and “Series on Mathematics and its Applications, Annals of The Academy of Romanian Scientists”.

10.1.3.2. Reviewer - Reviewing activities

Reviews for major journals in the field such as Applied Mathematics and Optimization, Automatica, Journal of Optimization Theory and Applications the SIAM J. Optimization, SIAM J. Control and Optimization.

10.1.4. Leadership within the scientific community

- F. Bonnans: member of the PGM0 board (Gaspard Monge Program for Optimization and Operations Research, EDF-FMJH).
- F. Bonnans: member of the Broyden Prize committee (from the Journal Optimization Methods and Software).

10.1.5. Research administration

- F. Bonnans: member of the Institut carnot Inria commission, and of the Inria-Saclay commission for “Technological development actions” (ADT).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master :
F. Bonnans: Numerical analysis of partial differential equations arising in finance and stochastic control, 24h, M2, Ecole Polytechnique and U. Paris 6, France.
F. Bonnans: Optimal control, 15h, M2, Optimization master (U. Paris-Saclay) and Ensta, France.
F. Bonnans : Stochastic optimization, 15h, M2, Optimization master (U. Paris-Saclay), France.

E-learning

Pedagogical resources: F. Bonnans, several lecture notes on the page
<http://www.cmap.polytechnique.fr/~bonnans/notes.html>

10.2.2. Supervision

- PhD in progress : Cédric Rommel, Data exploration for the optimization of aircraft trajectories. Started November 2015, F. Bonnans and P. Martinon, CIFRE fellowship (Safety Line).
- PhD in progress : Benjamin Heymann, Dynamic optimization with uncertainty; application to energy production. Started October 2013, F. Bonnans, Polytechnique fellowship.
- PhD: Florine Bleuse, Optimal control and robustness for rechargeable hybrid vehicles. Started October 2014, stopped September 2015. F. Bonnans and P. Martinon, IFPEN fellowship.
- PhD: Nicolas Grébillé, Numerical methods for solving stochastic equilibrium problems; application to energy markets. Started January 2013, stopped December 2015, F. Bonnans, CIFRE fellowship (EDF R & D).
- PhD: Cristopher Hermosilla, Optimal control problems on well-structured domains and stratified feedback controls, ENSTA ParisTech, February 2015, F. Jean, H. Zidani. <https://hal.inria.fr/tel-01128691> [11][cite:picarelli:tel-01145588]
- PhD: A. Picarelli, On some stochastic control problems with state constraints, ENSTA ParisTech, April 2015, H. Zidani.

10.2.3. Juries

Various PhD juries in France.

10.3. Popularization

- F. Bonnans: article on 'Optimal Control' for the Encyclopédie des sciences de l'ingénieur [30].
- F. Bonnans and P. Martinon: Inria-industry day on energetic transition, June 12, 2015. Common stand with Safety Line on energy savings by optimization aircraft trajectories.
- B. Heymann: talk at the Workshop on open power systems (WOPS), Oct. 16, 2015, Institut des systèmes complexes, Paris .

DEFI Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

- H. Haddar organized with A. Lechleiter the second edition of the Franco-German Summer School Inverse Problems for Waves Ecole Polytechnique, August 24-28, 2015. Over 50 participants took part of this event. This event was mainly funded by the Franco-German university with participation of Inria, Ecole polytechnique and University of Bremen. http://www.math.uni-bremen.de/zetem/cms/detail.php?template=ipschool2015_parse_title&person=ip-school2015

9.1.1.1. General chair, scientific chair

- G. Allaire is the scientific chair and one of the main organizers of the CEA/GAMNI seminar on computational fluid mechanics, IHP Paris (January 2015).

9.1.1.2. Member of the organizing committees

- G. Allaire, PGMO conference (27-28 October 2015).

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

- H. Haddar, Waves 2015, Karlsruhe (July 2015)

9.1.3. Journal

9.1.3.1. Member of the editorial boards

- G. Allaire is member of the editorial board of
 - book series "Mathématiques et Applications" of SMAI and Springer,
 - ESAIM/COCV, Structural and Multidisciplinary Optimization,
 - Discrete and Continuous Dynamical Systems Series B,
 - Computational and Applied Mathematics,
 - Mathematical Models and Methods in Applied Sciences (M3AS),
 - Annali dell'Universita di Ferrara,
 - OGST (Oil and Gas Science and Technology),
 - Journal de l'Ecole Polytechnique - Mathématiques,
 - Journal of Optimization Theory and Applications.
- H. Haddar is member of the editorial advisory board of Inverse Problems
- J.-R. Li is an Associate Editor of the SIAM Journal on Scientific Computing.

9.1.3.2. Reviewer - Reviewing activities

The members of the team reviewed numerous papers for numerous international journals. Too many to make a list.

9.1.4. Invited talks

- Lucas Chesnel gave a talk at the “Séminaire de Mathématiques Appliquées du Collège de France”. The video is available here <http://www.college-de-france.fr/site/pierre-louis-lions/seminar-2015-01-16-11h15.htm>
- Grégoire Allaire
 - 4ème conférence internationale de la SM2A, Oujda, Maroc (february 2015). Congrès "Simulation" de la Société des Ingénieurs de l'Automobile (SIA), Montigny le Bretonneux (march 2015).
 - Journées du GDR Mascot-Num, Saint-Etienne (april 2015).
 - European forum on additive manufacturing, Chatenay Malabry (june 2015).
 - Ecole d'été du CIMPA, Mumbai (july 2015).
 - Variational Analysis and Aerospace Engineering, Erice (september 2015).
 - Workshop on Optimal Control of Partial and Ordinary Differential Equations, Palaiseau (november 2015).
 - Calculus of Variations and its Applications, Lisboa (december 2015).
- Housseem Haddar
 - Mini-symposium “Inverse problems for elliptic PDEs, analysis and applications”, IFIP, June 29 - July 3, 2015
 - IMA Hot Topics Workshop, Hydraulic Fracturing: From Modeling and Simulation to Reconstruction and Characterization, University of Minnesota, May 11-14, 2015
 - Workshop "reconstruction, stability and applications in inverse problems", IHP, 29 June - 3 July 2015
 - Workshop “problèmes inverses pour les EDP”, Université de Reims, 2-3 June, 2015
 - Workshop on "Inverse Problems in Wave Propagation", IWaP 2015, University of Bremen, April 7-10, 2015.
 - Workshop on “Multi-scale Waveform Modeling and Inversion” at KAUST from March 22-24 2015

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence : Grégoire Allaire, Approximation Numérique et Optimisation, for students in the second year of Ecole Polytechnique curriculum: 8 lessons of 1h30.
- Licence : Housseem Haddar, Approximation Numérique et Optimisation, for students in the second year of Ecole Polytechnique curriculum: 8 TDs of 4h.
- Licence : Housseem Haddar, Variational analysis of partial differential equations, for students in the second year of Ecole Polytechnique curriculum: 8 TDs of 4h.
- Licence: Lucas Chesnel, “Elementary tools of analysis for partial differential equations”, 29 equivalent TD hours, L3, Ensta ParisTech, Palaiseau, France
- Licence: Lucas Chesnel, Mentoring for the course “Variational analysis of partial differential equations”, 15 equivalent TD hours, L3, École Polytechnique, Palaiseau, France
- Master : Grégoire Allaire, Optimal design of structures, for students in the third year of Ecole Polytechnique curriculum. 9 lessons of 1h30.
- Master : Grégoire Allaire, Transport et Diffusion, for students in the third year of Ecole Polytechnique curriculum. With F. Golse, 1/2 of 9 lessons of 1h30.

- Master : Grégoire Allaire, Functional analysis and applications, for Master (M2) students of Ecole Polytechnique and Paris 6 University, 6 lessons of 3h.
- Master : Housseem Haddar, Inverse problems, for Master (M2) students of Ecole Polytechnique and Paris 6 University, 1/2 of 9 lessons of 2h.
- Master: Lucas Chesnel, “A mathematical study of transmission problems with sign-changing coefficients”, (main instructor) 16 equivalent TD hours, M2, Ensta ParisTech, Palaiseau, France

9.2.2. Supervision

- Ph.D. : L. Audibert, Qualitative methods for non destructive testing of concrete like materials, September 2015, Ecole polytechnique, H. Haddar.
- Ph.D. : T. Mercier Data assimilation for temperature estimates in PWR, September 2015, Ecole polytechnique, H. Haddar.
- Ph.D. : T. Rienmuller, Scattering for inhomogeneous waveguides, 2015, September 2015 University of Bremen and Ecole polytechnique, A. Lechleiter and H. Haddar.
- Ph.D. in progress: M. Lakhali, Time domain inverse scattering for buried objects, 2014, H. Haddar
- Ph.D. in progress: T.P. Nguyen, Direct and Inverse scattering from locally perturbed layers, 2013, H. Haddar
- Ph.D. in progress: B. Charfi, Identification of the singular support of a GIBC, 2014, H. Haddar and S. Chaabane
- Ph.D. in progress: G. Fournet, Inclusion of blood flow in micro-vessels in a new dMRI signal model, 2013, J.-R. Li and L. Ciobanu
- Ph.D. in progress: S. Schiavi, Homogenized models for Diffusion MRI, 2013, H. Haddar and J.-R. Li
- Ph.D. in progress: K. Van Nguyen, Modeling, simulation and experimental verification of water diffusion in neuronal network of the Aplysia ganglia, 2014, J.-R. Li and L. Ciobanu
- PhD in progress : A. Maury, shape optimization for non-linear structures, 2013, G. Allaire and F. Jouve
- PhD in progress : J.-L. Vié, optimization algorithms for topology design of structures, 2013, G. Allaire and E. Cancès
- PhD in progress : C. Patricot, coupling algorithms in neutronic/thermal-hydraulic/mechanics for numerical simulation of nuclear reactors, 2013, G. Allaire and E. Hourcade
- PhD in progress : A. Talpaert, the direct numerical simulation of vapor bubbles at low Mach number with adaptative mesh refinement, 2013, G. Allaire and S. Dellacherie
- PhD in progress : A. Bissuel, linearized Navier Stokes equations for optimization, floating and aeroacoustic, 2014, G. Allaire
- PhD in progress : M. Giacomini, Shape optimization and Applications to aeronautics, 2013, O. Pantz and K. Trabelsi
- PhD in progress :P. Geoffroy on topology optimization by the homogenization method in the context of additive manufacturing (Safran Tech, to be defended in 2019), G. Allaire.

DISCO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

- Catherine Bonnet was co-chair of the Organizing Committee of SIAM CT15 which will held 8-10 July in Paris.
- Catherine Bonnet is together with Alexandre Chapoutot and Paolo Mason the organizer of the Working Group Shy of Digicosme on the Plateau de Saclay.

10.1.1.2. Member of the organizing committees

- Catherine Bonnet was with Maurice Robin (DIGITEO) the co-Local Conference Organizer of SIAM CT15 which will held 8-10 July in Paris.
- Catherine Bonnet was a member of th organizing Committee of IFIP 2015, June 29-July 3rd 2015, Sophia-Antipolis, France.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- Catherine Bonnet is a member of the IPC of the IFAC TDS16 Conference, Istanbul, june 2016.
- Hakkı Unal is a Member of National Programme Committee of Turkish Automatic Control Meeting in 2016.
- Frédéric Mazenc a member of the scientific committee of SIAM on Control and Its Applications CT15, (Paris, France, July 2015), <http://www.siam.org/meetings/ct15/>
- Sorin Olaru was member of the IPC for ICSTCC 2015.
- Guillaume Sandou was a member of the program committee of the 2015 IEEE Symposium on Computational Intelligence in Production and Logistics Systems, Cape Town, South Africa.

10.1.2.2. Reviewer

The team reviewed many papers for international conferences e.g IEEE Conference on Decision and Control, American Control Conference, European Control Conference, the power systems computation conference (PSCC)

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- Frédéric Mazenc is Member of the Mathematical Control and Related Fields editorial board.
- Frédéric Mazenc is Member of the European Journal of Control editorial board.
- Frédéric Mazenc is Associate Editor for the Asian Journal of control.
- Frédéric Mazenc is Associate Editor for the Journal of Control and Decision.
- Frédéric Mazenc is Associate Editor for IEEE Transactions on Automatic Control.
- Frédéric Mazenc was Associate Editor for the conferences 2016 American Control Conference, Boston, USA and the 54th IEEE Conference on Decision and Control, Osaka, Japan, (2015).
- A. Quadrat is an associate editor of the journal *Multidimensional Systems and Signal Processing*, Springer.
- Sorin Olaru is an associate editor for IMA Journal of Mathematical Control and Information

10.1.3.2. Reviewer - Reviewing activities

The team reviewed many papers for international journals of mathematics, control Theory and symbolic computation e.g European Journal of Control, Automatica, IEEE Trans. Aut. Contr., IEEE Trans. on Control Systems Technology, IMA Journal of Mathematical Control and Information, Journal of Process Control, Asian Journal of Control, transactions on control systems and technology journal and for a book for Springer.

10.1.4. Invited talks

Y. Bouzidi was an invited speaker at the conference ANR GeoLIM, Jussieu 22-24/06 and at the Cadi Ayyad university, Marrakesh, Morocco (17/12), and gave a talk at the seminar of the Vegas team, Inria Nancy Grand Est (30/06).

Frédéric Mazenc was a plenary speaker of 12th International Multi-Conference on Systems, Signals and Devices, SDD'15, <http://www.ssd-conf.org/ssd15/>. March 16-19, 2015, Mahdia, Tunisia. Title of his talk: *Stabilization of Time-Varying and Nonlinear Systems with Pointwise and Distributed Delays Through the Reduction Model Approach*.

Frédéric Mazenc gave a talk entitled "*Interval Observer: recent advances*" for the Journée Analyse et Synthèse d'observateur pour les systèmes complexes, INSA Centre Val de Loire, Campus de Bourges, 17 juin 2015, <http://www.ensea.fr/webecs/New-SYNC/>

Frédéric Mazenc gave a talk entitled "*Continuous-Discrete Observers for Time-Varying Nonlinear Systems: A Tutorial on Recent Results*" for the workshop entitled "Praly's fest" in July, 27-28th 2015, Mines ParisTech, Paris, <http://cas.ensmp.fr/petit/LP/>

A. Quadrat was an invited speaker at 7th Functional Equations in LIMoges (FELIM), Limoges, 23-25/03, at the conference ANR GeoLIM, Jussieu 22-24/06, and at the 4th DelSys conference (25-27/11). He gave a talk at the GT Systèmes à Retards (SAR) (04/06) and at the seminar of the Non-A team, Inria Lille - Nord Europe (06/02) and of the SpecFun team, Inria Saclay (15/06).

Sorin Olaru delivered an IEEE talk in Montreal, Canada in 2015. Details at: <https://meetings.vtools.ieee.org/m/34673>

10.1.5. Leadership within the scientific community

Frédéric Mazenc was Co-Editor of "Recent Results on Nonlinear Delay Control Systems, Springer", Advances in Delays and Dynamics, Volume 4 2016,

Editors: Michael Malisoff, Pierdomenico Pepe, Frédéric Mazenc, Iasson Karafyllis,

ISBN: 978-3-319-18071-7 (Print) 978-3-319-18072-4 (Online).

10.1.6. Scientific expertise

Catherine Bonnet is a member of the Evaluation Committee of Inria since September 2015.

Catherine Bonnet has been an expert for ANR.

Since 2014, Frédéric Mazenc is an expert for the FNRS (Belgium). His mission consists in evaluating research projects funded by this institution.

Since 2012, Frédéric Mazenc is a, expert for the ANVUR (National Agency for the Evaluation of Universities and Research Institutes, Italy). His mission consists in evaluating the contribution of Italian scientists.

Since 2011, Frédéric Mazenc is a, expert for the Romanian National Council for Development and Innovation (Romania). His mission consists in evaluating research projects funded by the this institution.

10.1.7. Research administration

Catherine Bonnet is in the board of Directors of the consortium Cap'Maths.

She is also involved in the Inria Parity Committee created in 2015.

Frédéric Mazenc and Sorin Olaru are members of the Conseil du Laboratoire of Laboratoire des Signaux et Systèmes (L2S).

Frédéric Mazenc is president of the commission scientifique du CRI Saclay-Ile-de-France.

Frédéric Mazenc is member of the Bureau du Comité des Projets du CRI Saclay - Ile-de-France

A. Quadrat was in charge for Inria Saclay of the ANR MDOS.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: A. Quadrat gave a course on constructive algebra (30 hours) at AIMS Structured Master's Mathematical Sciences, African Institute for Mathematical Sciences, South Africa, 23/02-13/03/2015.

Licence : Guillaume Sandou, Signals and Systems, 87h, L3, CentraleSupélec

Licence : Guillaume Sandou, Mathematics and programming, 18h, L3, CentraleSupélec

Master : Guillaume Sandou, Automatic Control, 8h, M1, CentraleSupélec

Master : Guillaume Sandou, Numerical methods and optimization, 28h, M1 and M2, Centrale-Supélec

Master : Guillaume Sandou, Modelling and system stability analysis, 21h, M2, CentraleSupélec

Master : Guillaume Sandou, Control of energy systems, 22h, M2, CentraleSupélec

Master : Guillaume Sandou, Robust control and mu-analysis, 9h, M2, CentraleSupélec

Master : Guillaume Sandou, Systems identification, 32h, M2, ENSTA

Master : Guillaume Sandou, System Analysis, 22h, M2, Ecole des Mines de Nantes

10.2.2. Supervision

- PhD in progress : Mohamed Lotfi Derouiche, Sur l'optimisation par métaheuristiques avancées de lois de commande prédictive non linéaire. Supervisor: Soufienne Bouallegue, Joseph Haggège et Guillaume Sandou.
- PhD in progress Walid Djema, Analysis of an AML model enabling evaluation of polychemiotherapies delivered in the case of AML which have a high level of Flt-3 duplication (Flt-3-ITD). Supervisor : Catherine Bonnet. Co-supervisors : Jean Clairambault and Frédéric Mazenc.
- PhD : Philippe Feyel, Optimisation des correcteurs par les métaheuristiques et application à la stabilisation inertielle de ligne de visée, soutenue le 16 juin 2015.
- PhD in progress : Sophie Frasnedo, Optimisation globale des lois de commande des autodirecteurs sur critère optronique : application à un autodirecteur à double phase de stabilisation. Supervisors : Gilles Duc et Guillaume Sandou.
- PhD in progress : Nicolo Gionfra, Optimisation du pilotage d'un parc d'énergies renouvelables avec stockage et du réseau de distribution sous-jacent. Supervisors: Houria Siguerdidjane et Guillaume Sandou.
- PhD in progress : Mohamad Koteich, Modélisation et Observabilité des Machines Electriques en vue de la commande sans capteur mécanique. Supervisors: Gilles Duc et Guillaume Sandou.
- PhD in progress : Juliette Pochet, Analyse de performance et de résilience d'une ligne de type RER équipée d'un automatisme CBTC. Supervisors: Guillaume Sandou.
- PhD: G. Rance, *Stabilisation paramétrique de systèmes flexibles à retard et applications aux viseurs*, SAGEM Défense Sécurité, CIFRE. Supervisors: A. Quadrat and H. Mounier.
- Postdoc: Y. Bouzidi, *Constructive study of analysis and synthesis problems of multidimensional systems*, Inria Saclay - Île-de-France, ANR MSDOS. Supervisor: A. Quadrat.

10.2.3. Juries

Catherine Bonnet was the President of the Jury of the Junior Researcher (CR2) Competition of the Saclay-Ile-de-France Inria center in 2015.

She was the external examiner of the thesis of Aolo Bashar Abusaksakar entitled "*Properties of Delay Systems and Diffusive Systems*", School of Mathematics, University of Leeds, UK, 29 June 2015.

Frédéric Mazenc was a reviewer of the PhD thesis of Vincent Léchappé, entitled "*Predictive control and estimation of uncertain systems with an input delay*", (Université de Nantes Angers Le Mans, ECN, December 7, 2015).

A. Quadrat was a reviewer of the PhD thesis of S. Damak, "Approximation de systèmes à paramètres répartis : Analyse, simulation et commande", INSA Lyon, 31/03.

Sorin Olaru was member of the PhD defense committee of Juan Manuel Grosso Perez at Universitat Politecnica de Catalunya.

Guillaume Sandou was a member of the following PhD theses committees:

- + Yujun He, Contribution au réglage de la tension sur un réseau HTA avec producteurs. Apport de la flexibilité de la demande, 5 mars 2015.
- + Rodrigo Mena, Risk based Modeling, Simulation and Optimization for the Integration of Renewable Distributed Generation into Electric Power Networks, 30 juin 2015.

GECO Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific events organisation

8.1.1.1. General chair, scientific chair

Ugo Boscain was member of the scientific committee of the workshop Nonlinear Control and Geometry, 23-29/08/2015, Banach Center Conferences, Bedlewo. Poland.

8.1.2. Journal

8.1.2.1. Member of the editorial boards

- Ugo Boscain is Associate Editor of SIAM Journal of Control and Optimization
- Ugo Boscain is Managing Editor of Journal of Dynamical and Control Systems
- Mario Sigalotti is Associate Editor of Journal of Dynamical and Control Systems
- Ugo Boscain is Associate Editor of ESAIM Control, Optimisation and Calculus of Variations
- Ugo Boscain is Associate Editor of Mathematical Control and Related Fields
- Ugo Boscain is Associate editor of Analysis and Geometry in Metric Spaces

8.1.3. Invited talks

- Mario Sigalotti gave an invited talk at the Journée McTAO, Dijon, Jan 2015;
- Ugo Boscain gave an invited talk at the Workshop on Infinite-dimensional Riemannian geometry, Wien Austria, Jan 2015;
- Mario Sigalotti gave an invited talk at the conference on Persistence of population models in temporally fluctuating environments, Lausanne, Switzerland, Feb 2015;
- Mario Sigalotti gave an invited talk at the GSSI-GDRE CONEDP workshop in L'Aquila, Italy, Apr 2015;
- Ugo Boscain gave an invited talk at the INDAM meeting "The Hamilton-Jacobi Equation: at the crossroads of PDE, Dynamical Systems and Geometry", Cortona, Italy, Jun 2015;
- Ugo Boscain gave an invited talk at the workshop "From Open to Closed Loop Control", Mariatrost, Graz, Austria Jun 2015;
- Mario Sigalotti gave an invited talk at the Workshop on Nonlinear Control and Geometry, Bedlewo, Poland, Aug 2015;
- Ugo Boscain gave an invited talk at the Workshop on Analysis and PDE, Leibniz Universität, Hannover, Germany, Sep 2015;
- Ugo Boscain gave an invited talk at the workshop "Stochastic Analysis and Numerical Perspectives", Inria Sophia Antipolis, Sep 2015;
- Ugo Boscain has been plenary speaker at the "Journées Annuelles 2015 du GdR MOA", Dijon, Dec 2015.

8.2. Teaching - Supervision - Juries

8.2.1. Supervision

- PhD in progress: Guiherme Mazanti, "Stabilité et taux de convergence pour les systèmes à excitation persistante", started in 1/9/2013, supervisors: Yacine Chitour, Mario Sigalotti.
- PhD in progress: Ludovic Sacchelli, "Sub-Riemannian geometry, hypoelliptic operators, geometry of vision", started in 1/9/2015, supervisors: Ugo Boscain, Mario Sigalotti.
- PhD in progress: Leonardo Suriano, "Conception d'un cortex visuel primaire artificiel", started in 1/10/2015, supervisors: Ugo Boscain, Mario Sigalotti.

8.2.2. Juries

Mario Sigalotti was member of the commission for the PhD defense of Pierre-Olivier Lamare, University of Grenoble, September 2015.

8.3. Popularization

Ugo Boscain gave a popularization conference at the “Rencontres Mathématiques de Rouen” with a general introduction to sub-Riemannian geometry and its applications, Jun 2015.

Maxplus Team

10. Dissemination

10.1. Animation de la communauté scientifique/Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

- M. Akian et S. Gaubert, co-organisateurs (avec William McEneaney, San Diego, et Guillaume Vigeral, Paris-Dauphine) du minisymposium “Dynamic Games and Operators” de SIAM CT’15 (SIAM Conference on Control and its Applications) Juillet, Paris.
- S. Gaubert co-organisateur (avec William McEneaney, San Diego, et Peter Dower, Univ. Melbourne) du minisymposium “Complexity Issues in Control Computation and Max-Plus Methods” de SIAM CT’15 (SIAM Conference on Control and its Applications) Juillet, Paris.
- S. Gaubert, co-organisateur du Séminaire Parisien d’Optimisation.

10.1.2. Scientific events selection

10.1.2.1. Chair of conference program committees

- S. Gaubert, président du comité scientifique de SMAI-MODE 2016 (Toulouse, Mars 2016).

10.1.2.2. Member of the conference program committees

- S. Gaubert, membre du comité scientifique de SIAM CT’15, Paris, Juillet 2015.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- S. Gaubert est membre du comité éditorial de la collection Mathématiques et Applications, SMAI et Springer.
- S. Gaubert est membre du comité éditorial du journal RAIRO Operations research.

10.1.4. Invited talks

- S. Gaubert, Oberwolfach Workshop on Noncommutative Geometry, Tropical linear programming, June 2016.
- Cours introductif aux Journées Nationales de Calcul Formel, Cluny, Novembre 2015, “Tropical algebra applied to linear programming, mean payoff games, and eigenvalue problems”.
- Exposé introductif au GDR MOA, Dijon, Dec. 2015: “Long and winding central paths, games and non-archimedean linear programming”.

10.1.5. Research administration

- S. Gaubert :
 - Directeur du PGM (Programme Gaspard Monge d’optimisation, programme de mécénat d’EDF administré par la FMJH).
 - Vice-président du comité des projets du Centre de Recherche Inria de Saclay – Île-de-France, et membre nommé de la commission d’évaluation de l’Inria (Janvier 2008 – Août 2015).
 - Membre du conseil scientifique du CMAP.
 - Membre du CNU en 26ième section (2011 – 2015).
- X. Allamigeon:

- Membre du conseil de laboratoire du CMAP.

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

10.2.1. Enseignement/Teaching

- M. Akian
 - Cours “Markov decision processes: dynamic programming and applications” commun à la troisième année de l’ENSTA et au M2 “Optimisation” de l’Université Paris Saclay, cours partagé avec Jean-Philippe Chancelier (15 heures chacun).
- X. Allamigeon
 - Petites classes et encadrement d’enseignements d’approfondissement de Recherche Opérationnelle en troisième année à l’École Polytechnique (programme d’approfondissement de Mathématiques Appliquées) (niveau M1).
 - Cours du M2 “Optimisation” de l’Université Paris Saclay, cours partagé avec Céline Gicquel et Dominique Quadri (LRI, Université Paris Sud)
 - Co-responsabilité du programme d’approfondissement en mathématiques appliquées (troisième année) à l’École Polytechnique
- V. Boeuf
 - Petite classe du cours de tronc commun de 1ere année "Introduction à l’optimisation" de l’École des ponts (ENPC), niveau L1.
 - Encadrement des projets informatiques du cours de 3e année de l’Ensta ParisTech "Programmation mathématique" C9-1.
- S. Gaubert
 - Cours “Systèmes à Événements Discrets”, option MAREVA, ENSMP.
 - Cours “Algèbre max-plus pour le contrôle optimal et les jeux” du Parcours Optimisation, Jeux et Dynamique (ODJ) du M2 Mathématiques et Applications de l’Université de Paris 6 et de l’École Polytechnique.
 - Cours magistral, petites classes et organisation des enseignements d’approfondissement de Recherche Opérationnelle en troisième année à l’École Polytechnique (programme d’approfondissement de Mathématiques Appliquées), avec polycopié [75].
- A. Hochart
 - Cours de niveau L1 à l’Univ. Paris Diderot (Paris VII), dans le cadre d’un monitorat (34h).
- A. Marchesini
 - TD du Cours de L2 “Traitement du signal” (16 heures) et du cours de L1 "Graphes et langages" (2x21 heures) à l’IUT d’Orsay dans le cadre d’un monitorat.
- N. Stott
 - Cours et TD “Introduction à la programmation graphique en C++”, option MAREVA et semaine Athens à l’ENSMP (École des Mines de Paris), niveau M1.

10.2.2. Encadrement/Supervision

- PhD : Andrea Marchesini, inscrit à l’École Polytechnique, à partir de septembre 2012, directeur de thèse: Marianne Akian, codirection: S. Gaubert, avec une participation à l’encadrement de Françoise Tisseur (U. Manchester), soutenue le 15 décembre 2015.
- PhD in progress : Antoine Hochart, inscrit à l’École Polytechnique, depuis octobre 2013, directeur de thèse: Stéphane Gaubert, codirection: Marianne Akian.
- PhD in progress : Eric Fodjo, inscrit à l’École Polytechnique, depuis octobre 2013, directeur de thèse: Marianne Akian.

- PhD in progress : Nikolas Stott, inscrit à l'École Polytechnique, depuis octobre 2014, directeur de thèse: Stéphane Gaubert, codirection: Xavier Allamigeon, Éric Goubault et Sylvie Putot.
- PhD in progress : Vianney Boeuf, inscrit à l'École Polytechnique, depuis octobre 2014, directeur de thèse: Stéphane Gaubert, codirection: Stéphane Raclot (BSPP), Marianne Akian, Xavier Allamigeon.
- PhD in progress : Mateusz Skomra, inscrit à l'Univ. Paris Saclay depuis Oct. 2015, directeur de thèse: Stéphane Gaubert, codirection: Xavier Allamigeon.
- PhD in progress : Jean-Bernard Eytard, inscrit à l'Univ. Paris Saclay depuis Oct. 2015, directeur de thèse: Stéphane Gaubert, codirection: Marianne Akian et Mustapha Bouhtou.
- M2 internship de Mateusz Skomra.
- Enseignement d'approfondissement (EA) de l'École Polytechnique (élèves de troisième année) d'Alexandre Hannebelle et Armelle Patault (Jan-Mars), portant sur une étude d'évaluation de performance de l'évolution projetée de la chaîne de réponse aux appels d'urgence. Ce travail était cosupervisé avec le Cdt Stéphane Raclot (BSPP), Régis Reboul (Préfecture de Police) et Philippe Robert (projet Inria RAP), avec le concours de Xavier Allamigeon, et Vianney Boeuf. Ce travail a été poursuivi par un autre EA (Sep-), de Paul Dejan de la Bâtie et de Sarah Petroff, coencadré par Xavier Allamigeon, avec le concours de Vianney Boeuf. Voir Section 7.5.5 pour plus de détails.

10.2.3. Jurys/Committees

- M. Akian
 - Membre du jury de concours Inria CR2 de l'Inria Saclay-Île-de-France.
 - Jury de thèse de Mohamed Assellaou (ENSTA, Palaiseau, décembre 2015).
 - Jury de thèse d'A. Marchesini (X, Palaiseau, décembre 2015).
- S. Gaubert
 - Membre de la commission de recrutement en informatique à l'École Polytechnique.
 - Membre du jury de concours Inria CR2 de l'Inria Lille.
 - Membre du jury national de concours Inria DR2.
 - Jury de thèse de Xavier David Henriot (cotutelle Univ. Angers et TU Berlin, rapporteur, 2015).
 - Jury de thèse de Simone Naldi (INSA Toulouse, rapporteur, 2015).
 - Jury d'HdR de B. Cottenceau (Angers, 2015; rapporteur).
 - Jury de thèse d'A. Marchesini (X, Palaiseau, décembre 2015).

10.3. Popularization

- J.P. Quadrat :
 - Administre le site d'intérêt général <http://www.maxplus.org>, dédié à l'algèbre max-plus.
- V. Boeuf
 - Article dans la brochure "La recherche en mathématiques appliquées" diffusée à des lycéens d'Île de France, exposant la plateforme téléphonique pompiers + police.
- N. Stott
 - Finaliste Paris-Saclay du concours MT180 "Ma thèse en 180 secondes".

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

- M. Akian

- STORY - UCB Workshop on Stochastic and Robust Optimization, Jan. 26-27, 2015. Titre de l'exposé: "Value iteration and Policy iteration algorithms for stochastic control".
- Séminaire jeux de l'IHP, 23 mars. Titre de l'exposé: "Complexité de l'itération sur les politiques pour les jeux stochastiques à somme nulle".
- Bar-Ilan Algebra Seminar, Bar Ilan Univ., June 24, 2015. Titre de l'exposé: "Majorization inequalities for valuations of eigenvalues using tropical algebra".
- SIAM Conference on Control and its Applications (SIAM CT' 15), Paris, 8-10 juillet. Titre de l'exposé: "Ergodicity Condition for Zero-Sum Games".
- 4th International Conference on Matrix methods in Mathematics and Applications (MMMA-2015), Moscow, August 24-28, 2015. Titre de l'exposé: "Majorization inequalities for valuations of eigenvalues using tropical algebra".
- SIAM Conference on Applied Linear Algebra (SIAM LA), Atlanta, Oct. 26-30, 2015. Titre des exposés: "Hungarian Scaling of Polynomial Eigenproblems" et "Tropical Bounds for the Eigenvalues of Block Structured Matrices".
- X. Allamigeon
 - SIAM Conference on Control and its Applications (SIAM CT' 15), Paris, 8-10 juillet 2015. Titre de l'exposé: "Long and winding central paths"
 - Journée TropiX, Ecole Polytechnique, Palaiseau, 26 novembre 2015. Titre de l'exposé: "Long and winding central paths"
- V. Boeuf
 - 13th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2015), Madrid, September 2-4. Titre de l'exposé : "Performance Evaluation of an Emergency Call Center: Tropical Polynomial Systems applied to Timed Petri Nets"
 - Séminaire des doctorants du CMAP.
 - PGM days 2015, 27-28 octobre, École polytechnique. Titre de l'exposé : "Performance Evaluation of an Emergency Call Center: Tropical Polynomial Systems applied to Timed Petri Nets".
- S. Gaubert
 - SIAM Conference on Control and its Applications (SIAM CT' 15), Paris, 8-10 juillet. Titre de l'exposé: "Tropicalizing Semialgebraic Pivoting Rules, Or How to Solve Mean Payoff Games in Polynomial Time on Average".
 - SIAM Conference on Control and its Applications (SIAM CT' 15), Paris, 8-10 juillet. Titre de l'exposé: "A Hamilton-Jacobi Approach to Barabanov Norms of Positive Linear Systems."
 - Exposé au Workshop on Tropical Geometry, Bar Ilan, Dec 2015, "Tropicalizing linear programming".
- A. Hochart
 - Séminaire des thésards, École polytechnique, 12 juin. Titre de l'exposé: "Hypergraph conditions for the solvability of the ergodic equation for zero-sum games".
 - SIAM Conference on Control and its Applications (SIAMCT15), Paris, 8-10 juillet. Titre de l'exposé: "Generic uniqueness of the bias vector of mean-payoff zero-sum games".
 - PGM Days 2015, ENSTA ParisTech, 27 et 28 octobre. Titre de l'exposé: "Hypergraph conditions for the solvability of the ergodic equation for zero-sum games".
 - 54th IEEE Conference on Decision and Control (CDC 2015), Osaka, Japon, 15-18 décembre. Titre de l'exposé: "Hypergraph conditions for the solvability of the ergodic equation for zero-sum games".

- A. Marchesini
 - ICIAM 2015, August 10-14, 2015, Beijing, China. Titre de l'exposé: "Tropical diagonal scaling for asymptotic eigenvalue problems"
- A. Niv
 - January 14, 2015, Tropical geometry seminar, Jussieu Institute, University Pierre and Marie Curie. Titre de l'exposé: "Tropical definite forms, normal forms and the quasi-inverse".
 - March 26, 2015, Optimization seminar, School of Mathematics, University of Birmingham. Titre de l'exposé: "Properties of the Characteristic Maxpolynomial".
 - April 18, 2015, Tropical algebraic geometry symposium, Brown University. Titre de l'exposé: "Factorization of Tropical Matrices".
 - June 17, 2015, Algebra seminar, Mathematics department, Bar-Ilan University. Titre de l'exposé: "Tropical totally non-negative matrices".
- N. Stott
 - SIAM Conference on Control and its Applications (SIAM CT'15), Paris, 8-10 juillet. Titre de l'exposé: "Eigenvectors of Non-Linear Maps on the Cone of Positive Semidefinite Matrices Application to Stability Analysis"
 - EMSOFT 2015, Amsterdam, 4-10 octobre. Titre de l'exposé : "A Scalable Algebraic Method to Infer Quadratic Invariants of Switched Systems"
 - SIAM Conference on Applied Linear Algebra (SIAM LA), Atlanta, Oct. 26-30, 2015. Titre de l'exposé: "Maximal Lower Bounds in the Loewner order".
- C. Walsh
 - Séminaire du CMAP, Ecole Polytechnique, 10 novembre 2015. Titre de l'exposé: "The Tropical Martin boundary".

POEMS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Advisory and management activities

- P. Joly is a member of the scientific committee of CEA-DAM.
- E. Lunéville is the Head of UMA (Unité de Mathématiques Appliquées) at ENSTA ParisTech.

9.1.2. Scientific events organisation and selection

- E. Bécache, A. S. Bonnet-Ben Dhia, M. Bonnet, C. Hazard, P. Joly and E. Lunéville have been members of the scientific committee for the 12th international conference on mathematical and numerical aspects of wave propagation, which has been held in Karlsruhe in July 2015.
- A. S. Bonnet-Ben Dhia has been a member of the organizing committee of the workshop *Waveguides: asymptotic methods and numerical analysis* which has been held in Napoli in May 2015.
- P. Joly has been a member of the organizing committee of the workshop *Asymptotic analysis and spectral theory* which has been held in Orsay in October 2015.

9.1.3. Journal

- A. S. Bonnet-Ben Dhia is associate editor of SINUM (SIAM Journal of Numerical Analysis).
- M. Bonnet is associate editor of Engineering Analysis with Boundary Elements
- M. Bonnet is in the editorial board of Inverse Problems.
- M. Bonnet is in the editorial board of Computational Mechanics.
- M. Bonnet is in the editorial board of Journal of Optimization Theory and Application.
- P. Ciarlet is an editor of CAMWA (Computers & Mathematics with Applications).
- P. Ciarlet is an editor of ESAIM:M2AN (Mathematical Modeling and Numerical Analysis).
- P. Joly is an editor of ESAIM:M2AN (Mathematical Modeling and Numerical Analysis).
- P. Joly is a member of the editorial board of AAMM (Advances in Applied Mathematics and Mechanics).
- P. Joly is a member of the Book Series Scientific Computing of Springer Verlag.
- The team members regularly review papers for many international journals.

9.2. Teaching - Supervision

9.2.1. Teaching

Eliane Bécache

- *Méthode des éléments finis*, ENSTA ParisTech (2nd year)
- *Compléments sur la méthode des éléments finis*, ENSTA ParisTech, (2nd year)
- *Fonctions d'une variable complexe*, ENSTA ParisTech (1st year)

Marc Bonnet

- *Problèmes inverses*, Master MS2SC (Centrale Paris and ENS Cachan)
- *Méthodes intégrales*, Master TACS (ENS Cachan)
- *Outils élémentaires d'analyse pour les équations aux dérivées partielles*, ENSTA Paris-Tech (1st year)

Anne-Sophie Bonnet-Ben Dhia

- *Fonctions d'une variable complexe*, ENSTA ParisTech (1st year)
- *Propagation dans les guides d'ondes*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)
- *Etude mathématique de quelques problèmes de transmission avec coefficients changeant de signe*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)
- *Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques*, ENSTA ParisTech (2nd year)

Laurent Bourgeois

- *Outils élémentaires pour l'analyse des équations aux dérivées partielles*, ENSTA ParisTech (1st year)
- *Inverse problems: mathematical analysis and numerical algorithms*, (Master AN& EDP, Paris 6 and Ecole Polytechnique)
- Speaker in the Franco-German Summer School Inverse Problems for Waves, Ecole Polytechnique, August 24-28, 2015.

Stéphanie Chaillat

- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA ParisTech (1st year)
- *Fonctions d'une variable complexe*, ENSTA ParisTech (1st year)
- *Equations intégrales et multipôles rapides*, Ecole doctorale MODES (Univ. Paris Est, Marne la Vallée)
- *Résolution des problèmes de diffraction par équations intégrales*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)

Colin Chambeyron

- *Analyse réelle: optimisation libre et sous contraintes*, Dauphine University (1st year)
- *Outils mathématiques*, Dauphine University (1st year)
- *Algèbre linéaire*, Dauphine University (2nd year)

Patrick Ciarlet

- *Compléments sur la méthode des éléments finis*, ENSTA ParisTech (2nd year)
- *Theory and algorithms for distributed computing*, ENSTA ParisTech (3rd year), and Master "Modeling and Simulation" (M2)
- *Maxwell's equations and their discretization*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)
- *Etude mathématique de quelques problèmes de transmission avec coefficients changeant de signe*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)

Sonia Fliss

- *Méthode des éléments finis*, ENSTA ParisTech (2nd year)
- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA ParisTech (1st year).
- *Propagation des ondes dans les milieux périodiques*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)
- *Homogenisation*, Master ANEDP Paris 6 and Ecole Polytechnique (M2)

Christophe Hazard

- *Outils élémentaires d'analyse pour les équations aux dérivées partielles*, ENSTA ParisTech (1st year)

- *Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques*, ENSTA ParisTech (2nd year)

Patrick Joly

- *Introduction à la discrétisation des équations aux dérivées partielles*, ENSTA ParisTech (1st year)
- *Outils élémentaires d'analyse pour les équations aux dérivées partielles*, ENSTA ParisTech (1st year)
- *Propagation des ondes dans les milieux périodiques*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)
- Speaker in the Franco-German Summer School Inverse Problems for Waves, Ecole Polytechnique, August 24-28, 2015.

Nicolas Kielbasiewicz

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

Marc Lenoir

- *Fonctions d'une variable complexe*, ENSTA ParisTech (2nd year)
- *Equations intégrales*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)
- *Méthodes asymptotiques hautes fréquences pour les équations d'ondes - course notes*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)

Eric Lunéville

- *Introduction au Calcul Scientifique*, ENSTA ParisTech (2nd year).
- *SIMNUM : Simulation numérique*, ENSTA ParisTech (2nd year).
- *Propagation dans les guides d'ondes*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)

Jean-François Mercier

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

9.2.2. Supervision

PhD: Antoine Tonnoir, "Simulation numérique de la diffraction d'ondes ultrasonores par un défaut localisé dans une plaque élastique anisotrope", June 2015, Anne-Sophie Bonnet-Ben Dhia and Sonia Fliss

PhD: Matthieu Lecouvez, "Méthodes de décomposition de domaine optimisées pour la propagation d'ondes en régime harmonique", July 2015, Patrick Joly and Francis Collino

PhD: Simon Marmorat, "Etude d'un modèle asymptotique et de son couplage avec une approche par éléments finis pour simuler la propagation d'ondes ultrasonores dans un milieu complexe perturbé par de petites inclusions", November 2015, Patrick Joly and Xavier Claeys

PhD: Camille Carvalho, "Étude théorique et numérique de guides d'ondes plasmoniques", December 2015, Anne-Sophie Bonnet-Ben Dhia and Patrick Ciarlet

PhD in progress : Zouhair Adnani, "Modélisation numérique tridimensionnelle des effets de site en interaction sol-structure par une méthode adaptée aux problèmes sismiques de très grande taille", October 2014, Marc Bonnet and Stéphanie Chaillat

PhD in progress : Marc Bakry, "Estimateurs a posteriori pour la résolution des problèmes de diffraction par équations intégrales", October 2013, Patrick Ciarlet and Sébastien Pernet.

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

PhD in progress : Antoine Bensalah, "Une approche nouvelle de la modélisation mathématique et numérique en aéroacoustique par les équations de Goldstein et applications en aéronautique", October 2014, Patrick Joly and Jean-François Mercier

PhD in progress : Mathieu Chamaillard, "Conditions aux limites effectives pour des revêtements minces périodiques", October 2011, Patrick Joly and Housseem Haddar

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

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

PhD in progress : Léandre Giret, "Development of a domain decomposition method on non-conforming meshes: application to the modeling of a Reactivity-Initiated Accident (RIA) in a Pressurized Water Reactor (PWR)", October 2014, Patrick Ciarlet

PhD in progress : Laure Pesudo, "Modélisation de la réponse ultrasonore de défauts de type fissure par méthode BEM et couplage à un modèle de propagation - Application à la simulation des contrôle non destructifs", October 2014, Marc Bonnet and Stéphanie Chaillat

PhD in progress : Arnaud Recocquillay, "Identification de défauts dans un guide d'ondes en régime temporel", October 2014, Laurent Bourgeois

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

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

PhD in progress : Emmanuel Zerbib, "Eléments finis spectraux sur maillages décalés en électromagnétisme pour la simulation de grands modèles", October 2014, Gary Cohen

SELECT Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. General chair, scientific chair

Jean-Michel Poggi:

- Organization of the session: Wavelet Methods in Statistics, at the 8th International Conference of the ERCIM WG on Computational and Methodological Statistics, London, 12-14 December 2015.
- Organization of two sessions on MOOCs, ENBIS 2015, 6-10 Sept 2015, Prague. 1) Presentation session on MOOCs, 2) Realization of MOOCs – technology, content and funding opportunities.
- Organisation of the conference: “MOOC et formation continue en statistique”, 3 mars 2015, IHP, Paris.

9.1.1.2. Member of the organizing committees

Gilles Celeux is one of the co-organizers of the international working group on model-based clustering. This year this workshop took place in Seattle (USA).

9.1.2. Journal

9.1.2.1. Member of the editorial boards

Gilles Celeux is Editor-in-Chief of the *Journal de la SFdS*. He is Associate Editor of *Statistics and Computing*, *CSBIGS*.

Pascal Massart is Associate Editor of *Annals of Statistics*, *Confluentes Mathematici*, and *Foundations and Trends in Machine Learning*.

Jean-Michel Poggi is Associate Editor of *Journal of Statistical Software*, *Journal de la SFdS* and *CSBIGS*. He is also editor (with A. Antoniadis, X. Brossat) of a Lecture Notes in Statistics: Modeling and Stochastic Learning for Forecasting in High Dimension, Springer 2015.

9.1.2.2. Reviewer - Reviewing activities

The members of the team have reviewed numerous papers for numerous international journals.

9.1.3. Invited talks

The members of the team have given many invited talks on their research in the course of 2015.

9.1.4. Leadership within the scientific community

Jean-Michel Poggi is:

- Vice-President ENBIS (European Network for Business and Industrial Statistics), 2015-18
- Vice-President FENStatS (Federation of European National Statistical Societies) since 2012
- Council Member of the ISI (2015-19)
- Member of the Board of Directors of the ERS of IASC (since 2014)

9.1.5. Scientific expertise

Jean-Michel Poggi is member of the EMS Committee for Applied Mathematics (since 2014).

9.1.6. Research administration

Jean-Michel Poggi is the president of ECAS (European Courses in Advanced Statistics) since 2015

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

SELECT members teach various courses at several different universities, and in particular the Master 2 “Modélisation stochastique et statistique” of University Paris-Sud.

9.2.2. Supervision

PhD: Jana Kalawoun, Modélisation statistique de l'état de charge des batteries électriques, Université Paris-Sud, November 2015, Gilles Celeux and Patrick Pamphile

PhD: Mélina Gallopin, Classification et inférence de réseaux pour les données RNA-seq, Université Paris-Sud, December 2015, Gilles Celeux with Andrea Rau and Florence Jaffrezic (INRA)

PhD: Émilie Devijver, Modèles de mélange pour la régression en grande dimension, application aux données fonctionnelles, Université Paris-Sud, July 2015, Pascal Massart and Jean-Michel Poggi

PhD: Solenne Thivin, Détection automatique d'anomalies sur fonds complexes pour des images ou séquences d'images, Université Paris-Sud, December 2015, Erwan Le Pennec

PhD: Vincent Thouvenot, Estimation et sélection pour les modèles additifs et application à la prévision de la consommation électrique, December 2015, Jean-Michel Poggi and Anestis Antoniadis (Univ. Joseph Fourier, Grenoble)

PhD in progress: Valérie Robert, 2013, Gilles Celeux and Christine Keribin

PhD in progress: Yann Vasseur, 2013, Gilles Celeux and Marie-Laure Martin-Magniette (URGV)

PhD in progress: Neska El Haouij, 2014, Jean-Michel Poggi and Meriem Jaïdane, Raja Ghozi (ENIT Tunisie) and Sylvie Sevestre-Ghalila (CEA LinkLab), Thesis ENITUPS

PhD in progress: Florence Ducros, 2015, Gilles Celeux and Patrick Pamphile

PhD in progress: Claire Brecheteau, 2015, Pascal Massart

PhD in progress: Jeanne Nguyen, 2015, Claire Lacour

9.3. Popularization

Emilie Devijver:

- Organisation of a spring school for high school students about probability, Pristina, Kosovo
- Organisation of the “Séminaire de Vulgarisation des Doctorants” at Université Paris Sud
- Several talks in high schools to give tools to students to understand conferences: “Un texte, un mathématicien” organized at BNF.

TAO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

- Cécile Germain, DataScience@LHC Workshop <http://indico.cern.ch/event/395374/>, 9-13 November 2015, CERN
- Marc Schoenauer, Steering Committee, Parallel Problem Solving from Nature (PPSN); Steering Committee, Learning and Intelligent Optimization (LION).
- Michele Sebag, Steering Committee, Eur. Conf. on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD).

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

All TAO members are members of the Program Committees of the main conferences in the fields of Machine Learning, Evolutionary Computation, and Information Processing.

10.1.2.2. Reviewer

All TAO member review papers for the most prestigious journals in the fields of Machine Learning and Evolutionary Computation.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- Anne Auger, member of Editorial Board, *Evolutionary Computation Journal*, MIT Press.
- Gregory Grefenstette, member of Editorial Board, *Journal of Natural Language Engineering*, Cambridge University Press.
- Nikolaus Hansen, member of Editorial Board, *Evolutionary Computation Journal*, MIT Press.
- Marc Schoenauer, member of Advisory Board, *Evolutionary Computation Journal*, MIT Press; member of Editorial Board, *Genetic Programming and Evolutionary Machines*, Springer Verlag; action editor, *Journal of Machine Learning Research*(JMLR).
- Michèle Sebag: Editorial Board, Machine Learning, Springer Verlag.
- Olivier Teytaud, action editor, *Journal of Machine Learning Research* (JMLR).

10.1.3.2. Reviewer - Reviewing activities

All members of the team reviewed numerous articles for international conferences and journals.

10.1.4. Invited talks

- Aurélien Decelle, workshop of Machine Learning at the Yukawa institute.
- Cyril Furtlehner, International Workshop on Innovative Algorithms for Big Data (Kyoto).
- Gregory Grefenstette, CLEF 2015, Toulouse, Sept. 8, 2015
- Gregory Grefenstette, Journée Recherche - les Big Data, Ecole Centrale Marseille, Nov 18, 2015
- Philippe Caillou, Workshop PICS at Hanoi, May 2015.
- Odalric Maillard, Journées YSP at IHP, Paris, Jan. 31, 2015.
- Odalric Maillard, Workshop CIMI at Toulouse, November 2015.
- Yann Ollivier, Deep Learning Workshop at ICML 2015.
- Yann Ollivier, Deep Learning Scoping Workshop of the Alan Turing Institute (Edinburgh).
- Yann Ollivier, American Mathematical Society - Mathematical Association of America Joint Math Meetings (San Antonio).
- Michèle Sebag, DATA 2015
- Michèle Sebag, AutoML Wshop, @ ICML 2015.
- Michèle Sebag, Constructive Machine Learning Wshop, @ICML 2015
- Michèle Sebag, Intelligence Artificielle et Interfaces Hommes-Machines 2015
- Michèle Sebag and Marc Schoenauer, Big Data Business Convention, *Seeded Influencer Ranking*, Dec. 2015.
- Marc Schoenauer, *Numbers don't Count*, Conférence en l'honneur de Laurence Halpern, January 2015.
- Marc Schoenauer *Rank-SVM for flexible optimization*, ISEGI seminar, Lisbon, Jan. 2015.
- Marc Schoenauer and Michèle Sebag, *More is different: When, and What For?*, JS Inria, Nancy, June 2015.
- Marc Schoenauer, DataScience@LHC, Nov. 9-13, 2015.

10.1.5. Leadership within the scientific community

- Michèle Sebag, Chair of Steering Committee, ECML-PKDD.
- Marc Schoenauer, elected Chair of ACM-SIGEVO (Special Interest Group on Evolutionary Computation), July 2015 (2-years term).
- Marc Schoenauer, founding President of SPECIES (Society for the Promotion of Evolutionary Computation In Europe and Surroundings), that organizes the yearly series of conferences *EvoStar*.

10.1.6. Scientific expertise

- Cécile Germain, evaluator for the H2020 calls: *ICT-2015 Topic ICT-16 – Big Data - research*
- Gregory Grefenstette, evaluator for FU21, Cap Digital, Digiteo (IASI) review board
- Gregory Grefenstette, project reviewer for the H2020 (SemCare): *Information and Communication Technologies ICT*
- Michele Sebag, evaluator for the Swedish Foundation for Strategic Research; CNRS PEPS Fascido, FNRS Belgium
- Michele Sebag, president of a CNRS hiring jury (EHES, research engineer); member of hiring juries for Inria, U. Paris-1, U. Lille.

10.1.7. Research administration

- Cécile Germain, elected member of the Scientific Council and of its board. University officer for scientific computing. Deputy head of the computer science departement, in charge of research.
- Philippe Caillou, elected member of the Scientific Council and Academic Council.

- Marc Schoenauer, *Délégué Scientifique* (aka VP-Research) for the Inria Saclay Île-de-France branch.
- Michele Sebag, deputy director of LRI, CNRS UMR 8623; elected member of the Research Council of Univ. Paris-Saclay; head of the Research Committee of Labex Digicosme; member of the Board of the Lidexes *Institut de la Société Numérique* and *Center for Data Science*.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : Philippe Caillou, Computer Science for students in Accounting and Management, 192h, L1, IUT Sceaux, Univ. Paris Sud

Licence : Aurélien Decelle, Computer Architecture, 50h, L3, Univ. Paris-Sud

Licence : Aurélien Decelle, Machine Learning and Artificial Life, 27h, L2, Univ. Paris-Sud

Licence : Aurélien Decelle, Databases, 30h, L2, Univ. Paris-Sud

Master : Aurélien Decelle, Machine Learning, 6h, M2 Recherche, Univ. Paris-Sud

Master : Anne Auger, Optimisation, 12h, M2 Recherche, U. Paris-sud.

Master : Philippe Caillou, Multi-Agents Systems, 27h, M2 Recherche, U. Paris-sud.

Master : Philippe Caillou, Multi-Agent Based Simulation, 3h, M2 Recherche, U. Paris-Dauphine.

Master : Guillaume Charpiat (et Gaétan Marceau), Machine Learning, 18h, M2 Recherche, Centrale-Supelec.

Master : Odalric-Ambrym Maillard, Machine Learning, 6h, M2 Recherche, Univ. Paris-Sud

Master : Yann Ollivier, Deep learning, 4h, M2 Recherche, Telecom/Polytech.

Master : Michèle Sebag, Machine Learning, 12h; Deep Learning, 6h; Reinforcement Learning, 6h; M2 Recherche, U. Paris-sud.

10.2.2. Supervision

PhD: Yoann ISAAC, *Représentations redondantes pour les signaux d'électroencéphalographie*, 29/05/2015, Jamal Atif and Michèle Sebag.

Alexandre Chotard, *Markov Chain Analysis of Evolution Strategies*, Université Paris-Sud, 24/09/2015, Anne Auger and Nikolaus Hansen

PhD: Nicolas Galichet, *Contributions to Multi-Armed Bandits: Risk-Awareness and Sub-Sampling for Linear Contextual Bandits*, Université Paris-Sud, 28/09/2015, Michèle Sebag.

PhD: Guohua Zhang, *Exploratory Robotic Controllers: An Evolution and Information Theory Driven Approach*, Université Paris-Sud, 24/09/2015, Michèle Sebag and Jingzhong Zhang.

PhD: Jialin Liu, *Portfolio methods in uncertain contexts*, Université Paris-Sud, 11/12/2015, Olivier Teytaud and Marc Schoenauer.

PhD in progress: Ouassim AIT ELHARA, *Large-scale optimization and Evolution Strategies*, 1/09/2012, Anne Auger and Nikolaus Hansen.

PhD in progress: Sandra ASTETE-MORALES, *Noisy optimization, with applications to power systems*, 1/09/2013, Olivier Teytaud.

PhD in progress: Asma ATAMNA, *Evolution Strategies and Constrained Optimization*, 1/10/2013, Anne Auger and Nikolaus Hansen.

PhD in progress: Jérémy BENSADON, *Applications of Information Theory to Statistical Learning*, Yann Ollivier, defense planned for 02/02/2016.

PhD in progress: Nacim BELKHIR, *On-line parameter tuning*, 1/5/2014, Marc Schoenauer and Johann Dréo (Thalès), CIFRE Thalès.

PhD in progress: Vincent BERTHIER, *Large scale parallel optimization, with application to power systems*, 1/09/2013, Michèle Sebag et Olivier Teytaud.

PhD in progress: Marie-Liesse CAUWET, *Artificial intelligence with uncertainties, application to power systems*, 1/09/2013, Olivier Teytaud.

PhD in progress: François GONARD, *Automatic optimization algorithm selection and configuration*, 1/10/2014, Marc Schoenauer and Michèle Sebag, thèse IRT SystemX.

PhD in progress: Pierre-Yves MASSÉ, *Gradient Methods for Statistical Learning*, 1/10/2014, Yann Ollivier

PhD in progress: Sourava MISHRA, *AutoML: An empirical approach to Machine Learning*, 1/10/2014, Balazs Kégl and Michèle Sebag

PhD in progress: Thomas SCHMITT, *A Collaborative Filtering Approach to Matching Job Openings and Job Seekers*, 1/11/2014, Michèle Sebag.

PhD in progress : Emmanuel Maggiori, *Large-Scale Remote Sensing Image Classification*, 1/1/2015, Guillaume Charpiat (with Yuliya Tarabalka and Pierre Alliez, Inria Sophia-Antipolis)

PhD in progress: Mehdi Cherti *Learning to discover: supervised discrimination and unsupervised representation learning with applications in particle physics*. 01/10/2014, Balazs Kégl and Cécile Germain.

PhD in progress: Karima Rafes *Gestion et sécurité des données personnelles dans le web des objets*. 01/10/2014, Serge Abiteboul and Cécile Germain.

10.2.3. Juries

All senior TAO members participated to many PhD or HDR committees.

10.3. Popularization

- **Odalric-Ambrym Maillard** May, participation to day "Petits débrouillards", during which secondary schools students come and visit a lab.
- **Aurélien Decelle** May, participation to day "Petits débrouillards", during which secondary schools students come and visit a lab.
- **Yann Ollivier** co-organizes the European Union Contest for Young Scientists (science fair for high school students from 30+ countries organized by the European Commission).
- **Michele Sebag**, participation to IHP debate on AI and society; panel at Technion Research Day.

AMIB Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific events organisation

8.1.1.1. General chair, scientific chair

Mireille Régnier

SeqBio 2015

NGS day at INRIA

8.1.1.2. Member of the organizing committees

Yann Ponty

SeqBio 2015

8.1.2. Scientific events selection

8.1.2.1. Chair of conference program committees

Mireille Régnier acted as chair of the program committee for the SeqBio 2015 workshop (Orsay, France).

8.1.2.2. Member of the conference program committees

Yann Ponty

ISMB/ECCB 2015

WABI 2015

BioVis 2015

BiCOB 2015

SeqBio 2015

Mireille Régnier

SeqBio 2015

MCCMB 2015

8.1.2.3. Reviewer

Y. Ponty acted as an external reviewer for the ACM-SIGMOD 2015 conference.

8.1.3. Journal

8.1.3.1. Member of the editorial boards

M. Régnier is an editor of PeerJ Computer Science.

8.1.3.2. Reviewer - Reviewing activities

M. Régnier and Y. Ponty reviewed manuscripts for a large selection of journals in Mathematics, Computer Science and Bioinformatics: Discrete Mathematics and Theoretical Computer Science, Theoretical Computer Science, Bioinformatics, BMC Bioinformatics, Journal of Mathematical Biology, IEEE/ACM Transactions on Computational Biology and Bioinformatics, Journal of Discrete Algorithms, Algorithms for Molecular Biology, PLOS One, Journal of Theoretical Biology, RNA, Nucleic Acids Research...

8.1.4. Invited talks

Y. Ponty:

Keynote address at the bi-annual the Canadian Discrete Applied Mathematics (CanaDAM'15) meeting held at the university of Saskatoon (Canada);

Invited talk at the *Benasque RNA* triannual meeting (Spain);

Invited talk at the Mathematical Biosciences Institute (Columbus, Ohio) during the *Geometric and Topological Modeling of Biomolecules workshop*;

Invited talk at the bi-annual *meeting of the CNRS GDR BIM* at Institut Pasteur, Paris.

M. Régnier

Invited talk at Sydney University (Australia).

8.1.5. Leadership within the scientific community

Y. Ponty is scientific animator (2014-2018) of the *Structure and interactions of macromolecules* axis of the CNRS research group in molecular bioinformatics (GdR BIM);

Y. Ponty and M. Régnier are active members of the COMATEGE and the ALEA working group <http://igm.univ-mlv.fr/~josuatv/webalea/> of the CNRS research group in Mathematical Computer Science (GDR IM) <https://www.gdr-im.fr/>.

8.1.6. Scientific expertise

Y. Ponty is a member of the 'Comité National' (hiring/evaluation committee) of CNRS in computer science (section 6) and Maths/Physics/Computer Science interfaces with life science (CID 51); he acted as an external expert for the Emergence program of Ville de Paris

M. Régnier is a member of DIGITEO program Committee and SDV working group in Saclay area.

8.1.7. Research administration

M. Régnier participates to the *Conseil de laboratoire* of LIX as head of the AMIB team.

Y. Ponty is an elected member of the *comité national du CNRS*, and takes part in the evaluation of CNRS research scientists and structures at a national level in Computer Science (Section 6) and Life Science interfaces (CID 51).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

We have and we will go on having trained a group of good multi-disciplinary students both at the Master and PhD level. Being part of this community as a serious training group is obviously an asset. Our project is also very much involved in two major student programs in France: the Master AMI2B at Paris-Saclay (previously BBS (Bioinformatique et Biostatistique) at Université Paris-Sud/École Polytechnique) and the parcours d'Approfondissement en Bioinformatique at École Polytechnique. We are also involved in a student partnership with McGill University (partenariat France Quebec offering French and Canadian students co-supervised internships (short term -3 to 6 months- or long term -part of the PhD studies-).

At Ecole Polytechnique, M. Régnier is in charge of M1 and M2. Most team members are teaching in this master

Beyond the plateau de Saclay, Y. Ponty taught 12h at the M2 level for University Pierre et Marie Curie in the BIM Master program.

8.2.2. Supervision

HdR

Julie Bernauer, *Geometric and statistical methods for the analysis and prediction of structural interactions between biomolecules*, Université Paris-Sud XI, January 2015, Habilitation à diriger des recherches. <https://tel.archives-ouvertes.fr/tel-01136261>

PhD

Daria Iakovishina, *Detection of structural variants in tumoral genomes with a Bayesian approach*, Ecole Polytechnique, November 2015. Encadrantes: Mireille Régnier and Valentina Boeva.

PhD in progress

Mélanie Boudard, *Game theory and stochastic learning for predicting the three-dimensional structure of large RNA molecules*, Univ. Paris XI, Encadrant(els): D. Barth, J. Cohen and A. Denise.

Alice Héliou, *Identification et caractérisation d'ARN circulaires dans des séquences NGS*, Ecole Polytechnique, Encadrant(els): Mireille Régnier and Hubert Becker

Amélie Héliou, *Game theory and conformation sampling for multi-scale and multi-body macromolecule docking*, Ecole Polytechnique, Encadrant(els): Johanne Cohen

Vincent Le Gallic, *Design de structures secondaires avec contraintes de séquences : une approche globale fondée sur les langages formels*, Univ. Paris XI, Encadrant(els): Yann Ponty and Alain Denise.

Cécile Pereira, *Nouvelles approches bioinformatiques pour l'étude à grande échelle de l'évolution des activités enzymatiques*, Univ. Paris XI, Encadrant(els): Olivier Lespinet et Alain Denise.

Afaf Saaidi, *Differential analysis of RNA SHAPE probing data*, Ecole Polytechnique, Encadrants: Yann Ponty and Mireille Régnier.

Antoine Soulé, *Evolutionary study of RNA-RNA interactions in yeast*, Ecole Polytechnique, Encadrants: Jean-Marc Steyaert and J. Waldispohl (U. McGill, Canada)

8.2.3. Juries

Yann, JMS, Philippe, MR

Hiring committees

Chargé de Recherches, INRIA, 2015, CRI Saclay Ile de France: M. Régnier

Ingénieur, INRIA, 2015, CRI Grenoble Rhone-Alpes: Mireille Régnier

Research Scientists/Directors, CNRS, Theoretical Computer Science (section 6) and Interfaces of Life Sciences (CID 51), 24 positions in 2015: Y. Ponty

PhD juries

Paul Dallaire, RNA Bioinformatics, Université de Montréal: Y. Ponty (External reviewer)

Magali Semeria, Comparative Genomics, Université Lyon I: Y. Ponty (Jury Member)

HDR juries

J. Bernauer (Paris-Sud U.): J.-M. Steyaert

8.3. Popularization

AMIB animated the *Construisons les ARN* booth at *Fête de la Science*, October 2015, <http://www.inria.fr/centre/saclay/agenda/fete-de-la-science-2015> with the participation of Y. Ponty, M. Régnier, A. Héliou, A. Héliou and A. Saaidi.

GALEN Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. General chair, scientific chair

- Kokkinos, Iasonas: (i) Co-Organizer of From Image Statistics to Probabilistic Deep Learning in conjunction with ICCV 2015, (ii) Co-Organizer of Search and Planning for Inference and Learning (SPIL), in conjunction with CVPR 2015
- Paragios, Nikos: (i) Organizer of 3rd Biomedical Image Analysis Summer School : Modalities, Methodologies & Clinical Research

9.1.2. Scientific events selection

9.1.2.1. Chair of conference program committees

- Blaschko, Matthew: British Machine Vision Conference (BMVC)
- Kokkinos, Iasonas: IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- Paragios, Nikos: Medical Image Computing and Computer Assisted Intervention (MICCAI)

9.1.2.2. Member of the conference program committees

- Blaschko, Matthew: International Conference on Computer Vision (ICCV), Annual Conference on Neural Information Processing Systems (NIPS)
- Kokkinos, Iasonas: International Conference on Computer Vision (ICCV), Neural Information Processing Systems (NIPS), International Conference on Learning Representations (ICLR)

9.1.2.3. Reviewer

The members of the team reviewed numerous papers for several international conferences, such as for the annual conferences on Computer Vision and Pattern Recognition (CVPR), and Medical Image Computing and Computer Assisted Intervention (MICCAI)

9.1.3. Journal

9.1.3.1. Member of the editorial boards

- Paragios, Nikos: Medical Image Analysis Journal (MedIA), SIAM Journal on Imaging Sciences
- Kokkinos, Iasonas: Image and Vision Computing Journal (IVC), Computer Vision and Image Understanding Journal (CVIU).
- Kumar, Pawan: Computer Vision and Image Understanding Journal (CVIU).

9.1.3.2. Reviewer - Reviewing activities

- Blaschko, Matthew: IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI), Journal of Machine Learning Research (JMLR)
- Kokkinos, Iasonas: International Journal of Computer Vision, IEEE Transactions on Pattern Analysis and Machine Intelligence, Computer Vision and Image Understanding (CVIU)
- Ferrante, Enzo: IEEE Transactions on Medical Imaging (T-MI), Medical Image Analysis (MedIA), Computerized Medical Imaging and Graphics (CMIG)
- Zacharaki, Evangelia: IEEE Transactions on Medical Imaging (T-MI), Transactions on Biomedical Engineering
- Dokania, Puneet: Computer Vision and Image Understanding (CVIU)

9.1.4. Invited talks

- Paragios, Nikos: Hong Kong University of State and Technology, Chinese University of Hong Kong, Swiss Federal Institute of Technology in Zurich (ETHZ), Queen Mary University of London, Bayesian and Graphical Models in Biomedical Imaging (in conjunction with MICCAI), National Technical University of Athens

9.1.5. Scientific expertise

- Paragios, Nikos: (i) member of the Scientific Council of the SAFRAN Conglomerate, (ii) Member of the advisory board of the Data HealthCare Institute

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Masters

Blaschko, Matthew:

- Master: Neural Information Processing, Spring, Ecole CentraleSupélec Paris, FR

Kokkinos, Iasonas

- Master: Machine Learning for Computer Vision, 24, M2, Ecole Normale Supérieure-Cachan, FR
- Master: Introduction to Deep Learning, 24, M2, CentraleSupélec, FR
- Master: Introduction to Signal Processing, 36, M1, CentraleSupélec, FR

9.2.2. Supervision

PhD in progress : Eugene Belilovsky, Structured Output Prediction on Large Scale Neuroscience Data, Université Paris-Saclay & KU Leuven, 2014-2017, M. Blaschko

PhD in progress : Jiaqian Yu, Structured Prediction Methods for Computer Vision and Medical Imaging, Université Paris-Saclay, 2014-2017, M. Blaschko

PhD in progress : Wacha Bounliphone, Statistical tools for Imaging-Genetics data integration, 2013-2016, Université Paris-Saclay & KU Leuven, M. Blaschko & A. Tenenhaus

PhD in progress : Amal Rannen, Deep Neural Networks for OCT image analysis, Yonsei University & KU Leuven, M. Blaschko & Y.M. Jung

PhD in progress : Jose Ignacio Orlando, Computer assisted fundus image analysis for eye disease detection, Universidad Nacional del Centro de la Provincia de Buenos Aires, M. Blaschko & M. del Fresno

PhD in progress : Puneet Kumar Dokania, Learning to Rank with Missing and High-Order Information, 2012-2015, M. Pawan Kumar

PhD in progress : Diane Bouchacourt, Large Scale Diverse Learning for Structured Output Prediction, 2014-2017, M. Pawan Kumar

PhD in progress: Haithem Boussaid, Efficient Inference and Learning in Graphical Models for Multi-organ Shape Segmentation, 2011-2015, I. Kokkinos

PhD in progress: Stavros Tsogkas, Learning structured mid-level representations for object recognition, 2011-2015, I. Kokkinos

PhD in progress: Siddhartha Chandra, Efficient Learning and Optimization for 3D Visual Data, 2013-2016, I. Kokkinos, Pawan Kumar

PhD in progress: Stefan Kinauer, Surface-based representations for high-level vision tasks, 2013-2016, I. Kokkinos.

PhD in progress: Alp Guler, Learning 3D representations for high-level vision, 2016-2018, I. Kokkinos.

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

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

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

PhD in progress : Evgenios Kornaropoulos, Diffusion Coefficient: a novel computer aided bio-marker, 2013-2016, N. Paragios

PhD in progress : Maxim Berman, Learning Higher Order Graphical Models, 2014-2017, N. Paragios, I. Kokkinos

PhD in progress : Hariprasad Kannan, Efficient Inference on Higher Order Graphs, 2014-2017, N. Paragios

PhD in progress : Huu Dien Khue Le, Graph-based Visual Perception : Theories and Applications, 2014-2017, N. Paragios

9.2.3. *Juries*

- **Matthew Blaschko**
 - **Grant Reviewing Services:** European Research Council (ERC), The French National Research Agency (ANR).
- **Iasonas Kokkinos**
 - **PhD Thesis Participation:** Mateusz Kozinski, Ecole des Ponts ParisTech (PhD).
- **Paragios, Nikos**
 - **PhD Thesis Participation**
 - **Grant Reviewing Services**

9.3. Popularization

- **Blaschko, Matthew**
 - **Presentations:** V Argentina Applied Maths Conference (MACI 2015)
- **Kokkinos, Iasonas**
 - **Presentations:** University of California at Los Angeles, Imperial College, Boston University, Xerox Research Center Europe

M3DISIM Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

Philippe Moireau

- Member of the CEMRACS-2016 organizing committee
- P. Le Tallec's 60th Birthday conference

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

Dominique Chapelle

- Program committee of conference "Functional Imaging and Modeling of the Heart 2015"

10.1.2.2. Reviewer

Dominique Chapelle

- Reviewer for conference "Functional Imaging and Modeling of the Heart 2015"

10.1.3. Journal

10.1.3.1. Member of the editorial boards

Dominique Chapelle

- Member of the editorial board of journal *Computers & Structures*
- Member of the editorial board of journal *ESAIM: M2AN*

10.1.3.2. Reviewer - Reviewing activities

The members of the team reviewed numerous papers:

- D. Chapelle: *Computers & Structures*, *CMAME*, *IJNME*, *BMMB*, etc.
- P. Moireau: *Computers in Biology and Medicine*, *ESAIM: COCV*, *ESAIM: M2AN*
- S. Imperiale: *ESAIM: M2AN*, et *Waves in Random and Complex Media*
- A. Aalto: *International Journal of Control*

10.1.4. Invited talks

Philippe Moireau

- "Mechanisms of observers and observers in mechanics ", P. Le Tallec's 60th Birthday conference, Ecole Polytechnique, France

Dominique Chapelle

- Invited lecturer at International Workshop on Electroactivity of Biological Systems (Orsay Univ., November 18-19 2015)
- Seminar at CERMICS (Ecole des Ponts ParisTech, Nov. 10)

10.1.5. Leadership within the scientific community

Dominique Chapelle

- Member of the Academic Senate of FCS Paris-Saclay
- Member of the board of directors of the VPH Institute

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Bachelor: S. Imperiale, “MA102 – Analyse pour les EDP”, 12h, (L3), ENSTA ParisTech, France

Bachelor: S. Imperiale, “MA104 – Analyse complexe”, 8h, (L3), ENSTA ParisTech, France

Master: S. Imperiale, “MA2610 Calcul Scientifique – Mécanique des solides”, 6h, (M1), Central/Supélec, France

Master: P. Moireau, “MA103 – Introduction aux EDP et à leur approximation numérique”, 14h, (L3), ENSTA ParisTech, France

Master: P. Moireau, “MAP-Ann1 – La méthode des éléments finis”, 21h, (M1), ENSTA ParisTech, France

Master: P. Moireau, “MAP 411 – Approximation numérique et optimisation”, (M1), Ecole Polytechnique, France

Master: D. Chapelle, “Biomechanical Modeling of Active Tissues”, 18h, (M2), Université Paris-Saclay, France

Master: P. Moireau, “Biomechanical Modeling of Active Tissues”, 17h, (M2), Université Paris-Saclay, France

Master: P. Moireau, “Méthodes et Problèmes inverses en dynamique des populations”, 6h, (M2), UPMC, France

Master: D. Chapelle, lecture on biomechanical modeling in Master BME, 3h, (M2), Paris 5 and ParisTech

E-learning

Mooc: Contributor: Main teacher Emmanuel De Langre, Title: Fundamentals of Fluid-Solid Interactions, 6 weeks long, Coursera, Ecole Polytechnique, About 2000 students, Level M1

Pedagogical resources: B. Burtschell, Poromechanical modelling and application to the myocardium perfusion, video

10.2.2. Supervision

PhD in progress: Bruno Burtschell. Title: Poromechanical modelling and application to the myocardium perfusion. Started: October 2013. Supervisors: Dominique Chapelle and Philippe Moireau.

PhD in progress: Aurora Armiento⁰. Title: Inverse problems for depolymerization models. Started: October 2013. Supervisors: Marie Doumic⁰ and Philippe Moireau.

PhD in progress: Federica Caforio, Mathematical and numerical modelling of elastic waves propagation in the heart. Started: November 2015. Supervisors: Sébastien Imperiale, Dominique Chapelle.

PhD in progress: Geoffrey Beck, Mathematical modelling of electrical cables network. Started: September 2012. Supervisors: Patrick Joly⁰, Sébastien Imperiale.

10.2.3. Juries

- D. Chapelle was the chairman of the PhD jury of Fang Yao (Ecole Polytechnique, Nov. 25)
- D. Chapelle and P. Moireau have actively participated in the recruitment of an Ecole Polytechnique assistant professor intended to join the team (soon to become a joint team between LMS / Ecole Polytechnique and Inria). The selection process led to the recruitment of Martin Genet.

10.3. Popularization

D. Chapelle, Febr. 9th, article in “Le Figaro”: “A quoi sert de modéliser le fonctionnement du cœur ?”

P. Moireau, May 20th 2015, keynote entitled “The heart forecasting” at Créteil District Academy “Olympiade de Mathématiques” award ceremony.

⁰Mamba Team
⁰Mamba Team
⁰Poems Team

PARIETAL Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

- **Bertrand Thirion**: STAMLINS workshop (ICML 2015)
- **Gaël Varoquaux**: MLOSS workshop (ICML 2015)

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- **Philippe Ciuciu**: Member of the program committee for the GRETSI 2015 conference located in Lyon.
- **Philippe Ciuciu**: Organizer of the special session dedicated to Signal processing for Neurosciences
- **Bertrand Thirion**: Organization for Human Brain Mapping.

10.1.2.2. Reviewer

- **Bertrand Thirion**: IPMI, MICCAI, NIPS, ISBI, PRNI
- **Gaël Varoquaux**: IPMI, MICCAI, NIPS, ICASSP, Scipy
- **Philippe Ciuciu**: IEEE ICASSP, IEEE ISBI, IEEE ICIP, PRNI.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- **Bertrand Thirion**: Medical Image Analysis, Frontiers in brain imaging
- **Gaël Varoquaux**: Frontiers in Neuroinformatics, Frontiers in brain imaging methods, NeuroImage

10.1.3.2. Reviewer - Reviewing activities

- **Bertrand Thirion**: Human Brain Mapping, IEEE TMI, MedIA, NeuroImage, PNAS
- **Gaël Varoquaux**: NeuroImage, JSTSP, PNAS
- **Philippe Ciuciu**: IEEE Signal Processing letters, IEEE Trans on Medical Imaging, IEEE Trans on Selected Topics in Signal Processing, NeuroImage, Human Brain Mapping, The Journal of Neuroscience, Frontiers in Neuroscience - Brain Imaging Section, The Journal of Neuroscience Methods. Reviewer for the following international conferences in 2015: The first three are commitments due to my involvement to the IEEE BioImaging Signal Processing committee since 2013. Reviewer for the following national conference: GRETSI

10.1.4. Invited talks

10.1.4.1. Bertrand Thirion

- Seminar QBIN, Montreal (Jan 30th)
- Invited talk MILM workshop, ICML, Lille (July 11th)
- Seminar Lear, Inria GRA (Sept 3rd)
- Seminar Univ. Liège (Sept 23rd)
- Seminar INT, Marseille (Sept 24th)
- Invited talk, Big Data Convention, Saclay (Nov 30th)
- Invited Talk, Seminar 'Horizon Math', FSMP (Dec 15th)

10.1.4.2. Gaël Varoquaux

- Seminar Max Planck Institute Tuebingen (Oct 8th)
- Seminar fMRIB Oxford (Sept 24th)
- Invited talk MLOSS workshop, ICML, Lille (July 7th)
- Seminar OECD Paris, (July 1st)
- Invited talk ODSC (Boston May 30th)
- Keynote: workshop on machine learning at Society for Affective Neuroscience (Oakland, April 9th)
- Invited talk IRT Système X, (Palaiseau, May 19th)
- Keynote Pycon Russia (Yekaterinburg, Sept 18th)
- Keynote Pydata Paris (Paris, April 4th)
- Invited talk, Feindel Brain Imaging Lecture (McGill, Montreal): <http://www.mcgill.ca/bic/channels/event/feindel-brain-imaging-lecture-methods-resting-state-connectome-biomarkers-dr-gael-varoquaux-256587>
- Invited speaker BioImage Informatics GDR, Paris <http://gdr-miv.fr/en/events/bioimageinformatics2015/>
- Invited speaker, workshop LHCb, Paris <https://indico.cern.ch/event/337568/session/1/contribution/32>

10.1.4.3. Philippe Ciuciu

- European Institute of Theoretical Neuroscience: March, 13 2015: Convergence to Asymptotic Multifractal Dynamics Predicts Learning
- IXXI Rhône Alpes, Grenoble Dec, 8 2015: Complexity Measures in Brain Activity: The functional Role of Scale-Free Brain Dynamics

10.1.4.4. Loïc Estève

- Scipy 2015 (July 9th), <http://scipy2015.scipy.org/ehome/115969/297898/>
- Open Software Initiative (October 26th), <https://indico.lal.in2p3.fr/event/2987/other-view?view=standard>

10.1.5. Leadership within the scientific community

- Gaël Varoquaux: Chair of the steering committee, IEEE PRNI
- Philippe Ciuciu: Member of the newly founded Biomedical Image & Signal Analytics Special Area Teams in the EURASIP society. Chairman: Dimitri Van De Ville.
- Bertrand Thirion: member of the *Committee on Best Practices in Data Analysis and Sharing* for the OHBM community.

10.1.6. Scientific expertise

Gaël Varoquaux:

- Member of the working group on big data for the Paris-Saclay university
- Member of the working group on smart data in the "TIC & Santé" commission

Philippe Ciuciu:

- Expert for funding agencies: 1st round for ANR, annual call of FWO (Flanders universities), Fond National Suisse de la Recherche, Wellcome Trust (UK), NSERC (Canada).
- Participation to the CEA scientific council on Nov/Dec 2015 on High Performance Computing.

10.1.7. Research administration

Bertrand Thirion:

- Comex Labex Digicosme
- Comex Lidex PIM
- Comex department STIC Paris-Saclay University
- DSA Saclay.

Gaël Varoquaux:

- Member of "Comité de suivi doctoral", Inria Saclay
- Member of "Comité cluster", Inria Saclay

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master : Bertrand Thirion, Brain Computer interface and Functional Neuroimaging, 12 heures équivalent TD, niveau M2, ENS Cachan

Master : Bertrand Thirion, Analysis of functional connectivity, 3 heures équivalent TD, niveau M2, Université Paris 5

Master : Gaël Varoquaux, Advanced Neuroimaging Data Analysis, 7.5 heures équivalent TD, niveau M2, Télécom ParisTech, Paris

Master : Gaël Varoquaux, Python for data science, 3 heures équivalent TD, niveau M2, ENSAE, Paris

Master : Michael Eickenberg, Loïc Estève, Practical sessions on scikit-learn, 6 hours, M2, Paris-Saclay University, France

Doctorat : Gaël Varoquaux, nilearn: machine learning for neuroimaging, 12 heures équivalent TD, Max Planck Institute Leipzig, Allemagne

Doctorat : Gaël Varoquaux, nilearn: machine learning for neuroimaging, 12 heures équivalent TD, Stanford, Etats Unis

Doctorat : Gaël Varoquaux, pattern recognition for neuroimaging, 1 heures équivalent TD, OHBM, Honolulu, Etats Unis

Doctorat : Gaël Varoquaux, statistics in Python, 3 heures équivalent TD, Euroscipy, Cambridge, Angleterre

Doctorat : Loïc Estève (helper), Software Carpentry Bootcamp, 12 hours, European Institute for Theoretical Neuroscience, France <https://btel.github.io/2015-11-19-eitn/>

E-learning

Pedagogical resources : Gaël Varoquaux, Scipy lecture notes, ebook, niveau master ou plus, <http://www.scipy-lectures.org>

10.2.2. Supervision

PhD : Nicolas Chauffert, "Physically plausible k-space trajectories for compressed sensing in MRI", Université de Paris-Sud, ED EOBE, 28/9/2015, Philippe Ciuciu (Directeur) & Pierre Weiss

PhD : Yannick Schwartz, "Large-scale functional MRI analysis to accumulate knowledge on brain functions" Université de Paris-Sud, ED STIC, 21/4/2015, Bertrand Thirion (Directeur) & Gaël Varoquaux

PhD : Fabian Pedregosa, "Feature extraction and supervised learning on fMRI: from practice to theory" Université de Paris-Sud, ED STIC, 21/4/2015, Bertrand Thirion (Directeur) & Alexandre Gramfort

PhD : Michael Eickenberg,” Université de Paris-Sud, ED STIC, 21/4/2015, Bertrand Thirion (Directeur) & Alexandre Gramfort

PhD : Alexandre Abraham,” “ Université de Paris-Sud, ED STIC, 21/4/2015, Bertrand Thirion (Directeur) & Gaël Varoquaux

10.2.3. Juries

Bertrand Thirion:

- Rapporteur de la thèse de Raphael Liégeois (Liège University, Belgium)
- Rapporteur de la thèse de Loïc Le Folgoc (Université Nice Sophia-Antipolis)
- Directeur du jury de thèse de Sylvain Takerkart (Université Aix-Marseille)

Gaël Varoquaux:

- Rapporteur de la thèse de Siina Pamila (Aalto University, Finlande)
- Examineur de la thèse de Yoann Isaac (Université Paris Sud, directrice de thèse Michèle Sébag)

10.3. Popularization

Gaël Varoquaux: La tête au carré, on Junarury 13th, 2015: <http://www.franceinter.fr/emission-la-tete-au-carre-big-data-quand-les-donnees-servent-a-predire>

Stand à la Fete de la science CRI Saclay, 9 octobre (Alexandre Abraham, Arthur Mensch, Bertrand Thirion).

POPIX Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Invited talks

Marc Lavielle was invited speaker at Bayes 2015 (Basel).

10.1.2. Scientific expertise

Marc Lavielle is member of the Scientific Committee of the High Council for Biotechnologies

10.1.3. Research administration

Marc Lavielle is member of

- the Scientific Programming Committee (CPS) of the Institute Henri Poincaré (IHP),
- the Executive Board (CA) of SMAI.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Miscellaneous: Marc Lavielle, Population approach and Mixed effects models: PAGE meeting 2015 (Crete);

Miscellaneous: Marc Lavielle, SFdS Workshop about mixed effects models, Paris 2015.

10.2.2. Juries

- Marc Lavielle was referee for PhD of Artemis Llamosi (Paris Diderot)

INFINE Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. General chair, scientific chair

- Emmanuel Baccelli co-chair of ACM MobileHealth 2015

9.1.1.2. Member of the organizing committees

- Aline Viana was Publication Chair of ACM MobiCom 2015, IEEE SECON 2015 and part of Poster and Demo committee of ACM SIGCOMM 2015

9.1.2. Scientific events selection

9.1.2.1. Chair of conference program committees

- In 2015 Aline Viana was TPC co-chair of the Symposium on Selected Topics in Communications.

9.1.2.2. Member of the conference program committees

- In 2015 Aline Viana was on the conference programm committee for IFIP NTMS, IEEE SECON

9.1.2.3. Reviewer

- In 2015 Cedric Adjih was reviewer for InterIoT 2015, ICC 2016, PEMWN 2015, Ad Hoc & Sensor Wireless Networks.

9.1.3. Journal

9.1.3.1. Member of the editorial boards

- In 2015 Aline Viana was Associate Editor of ACM Computer Communication Review (ACM CCR)

9.1.3.2. Reviewer - Reviewing activities

- In 2015 Aline Viana was reviewer for IEEE Transaction on Mobile Computing (TMC), IEEE Transactions on Parallel and Distributed Systems (TPDS), Elsevier Pervasive and Mobile Computing, Elsevier AdHoc Networks.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- **Masters**
- Engineering School: Cédric Adjih, “Microcontrollers: from embedded systems to the Internet of Things”, 3 hours TD, Telecom SudParis.
- Engineering school, third year students at Ecole Polytechnique: Laurent Massoulié taught an 18 hour course on “Networks: distributed control and emerging phenomena”, and gave 18 hours of exercise classes for the Operations Research course taught by Stéphane Gaubert.
- PhD students course: Laurent Massoulié taught a 10 hour course to PhD students (mostly from EPFL and ETH but not only) on community detection, as part of a summer school in Les Diablerets.
- M2 course: Laurent Massoulié taught 10 hours in an M2 course of the Master of Probability and Statistics at Jussieu, on random graphs and epidemic models.

9.2.2. Supervision

1. Cedric Adjih currently advises Fatma Soma, on "handling mobility in routing in wireless sensor networks", thesis started in 2013 and co-advised with Inès El Korbi (Institut Supérieur d'Informatique et de Gestion de Kairouan, Tunisie).
2. Laurent Massoulie currently advises 2 PhD students: Lennart Gulikers and Remi Varloot.
3. Emmanuel Baccelli currently advises 2 PhD students: Oliver Hahm, on "Dependable IoT protocols and platforms", (Nov. 2012-) and Hauke Petersen, on "Holistic and generic IoT network stacks", (Nov. 2013-).
4. Aline Viana currently advises 3 PhD students: Felipe Domingos, on "Identifying Social Attributes in VANETs" (January 2013-). Roni Shigueta, on "Resource allocation in highly mobile wireless networks" (January 2012-). Guangshuo Chen, on "Understanding and predicting human demanded content and mobility" (September 2014-).
5. PhD completed: Eduardo Mucelli, "Revealing new facets of human behavior", November 2011-May 2015. Advisor: Aline Carneiro Viana.

9.2.3. Juries

1. Aline Viana was on the PhD jury of Filippo Rebecchi, "Device-to-Device Data Offloading: From Model to Implementation", Univ. Paris 6 - Sorbone Universite, September 2015;
2. Aline Viana was on the PhD jury of N. R. Zema, "Spontaneous mobility and autonomous (Re)configuration techniques to support next generation networks", Univ. of Reggio Calabria, April 2015;

9.3. Popularization

1. An interview from Laurent Massoulie was published in «La Recherche », concerning our work on community detection.
2. Cedric Adjih participated to the "Inria-Industry Meeting" dedicated to energy transition, with a demo of RIOT, an open-source OS for the Internet of Things. Among different uses of the RIOT, RIOT enables IoT devices and embedded systems to easily participate in an interoperable, IP-based, communication infrastructure. Such a standard-based infrastructure is essential for data collection (e.g. sensors) providing the information feeding smart energy systems (big data analytics).
3. Emmanuel Baccelli was the editor (with Dave Raggett) of ERCIM News Special Issue on Internet of Things and Web of Things (ERCIM News No 101).

AVIZ Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. General chair, scientific chair

- Petra Isenberg and Tobias Isenberg co-chaired the Workshop on Data Exploration for Interactive Surfaces at ITS (DEXIS)

9.1.1.2. Member of the organizing committees

- Petra Isenberg was IEEE VIS VisKids co-chair
- Tobias Isenberg was IEEE VIS exhibits co-chair
- Pierre Dragicevic was IEEE VIS panels co-chair

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

- ACM Conference on Human Factors in Computing Systems – Work In Progress: Samuel Huron
- ACM/Eurographics Expressive: Tobias Isenberg
- ACM Symposium on Spatial User Interfaces (SUI): Tobias Isenberg
- ACM Tabletop and Interactive Surfaces: Petra Isenberg, Tobias Isenberg
- Eurographics Visual Analytics Workshop (EuroVA): Nadia Boukhelifa
- Eurographics/VGTC Conference on Visualization (EuroVis) Short Papers: Tobias Isenberg
- IEEE 3D User Interfaces (3DUI): Tobias Isenberg
- IEEE Information Visualization (InfoVis): Pierre Dragicevic, Tobias Isenberg, Jean-Daniel Fekete
- IEEE Scientific Visualization (SciVis): Tobias Isenberg
- IEEE VIS Art Show (VISAP): Samuel Huron, Tobias Isenberg

9.1.2.2. Reviewer

- 3DUI: IEEE Symposium on 3D User Interfaces: Tobias Isenberg
- CHI: ACM Conference on Human Factors in Computing System: Nadia Boukhelifa, Jeremy Boy, Pierre Dragicevic, Pascal Goffin, Samuel Huron, Mathieu LeGoc, Petra Isenberg, Tobias Isenberg, Jean-Daniel Fekete
- EXPRESSIVE: The Joint Symposium on Computational Aesthetics and Sketch-Based Interfaces and Modeling and Non-Photorealistic Animation and Rendering: Tobias Isenberg
- EUROVA: EuroVis Workshop on Visual Analytics: Nadia Boukhelifa
- EUROVIS: Eurographics/IEEE Conference on Visualization: Tobias Isenberg, Jean-Daniel Fekete
- GI: Graphics Interface: Samuel Huron
- IHM: Conférence Francophone sur l'Interaction Homme-Machine: Pierre Dragicevic
- INFOVIS: IEEE Information Visualization Conference: Nadia Boukhelifa, Pierre Dragicevic, Pascal Goffin, Tobias Isenberg
- INTERACT: IFIP Conference on Human-Computer Interaction: Pierre Dragicevic
- ITS: ACM Conference on Interactive Tabletops and Surfaces: Jeremy Boy, Petra Isenberg, Tobias Isenberg

- IUI: Intelligent User Interfaces: Tobias Isenberg
- MOBILEHCI: International Conference on Human-Computer Interaction with Mobile Devices and Services: Pierre Dragicevic
- PACIFICVIS: IEEE Pacific Visualization Symposium: Nadia Boukhelifa
- SCCG: Spring Conference on Computer Graphics: Tobias Isenberg
- SCIVIS: IEEE Scientific Visualization Conference: Tobias Isenberg
- SIGGRAPH: ACM Conference on Computer Graphics and Interactive Techniques: Tobias Isenberg
- SIGGRAPH ASIA: ACM Conference on Computer Graphics and Interactive Techniques in Asia: Tobias Isenberg
- SUI: ACM Symposium on Spatial User Interaction: Tobias Isenberg
- TEI: Tangible, Embedded and Embodied Interaction: Mathieu LeGoc
- UIST: ACM Symposium on User Interface Software and Technology: Pierre Dragicevic
- VAST: IEEE Visual Analytics Science and Technology: Nadia Boukhelifa
- VISAP: IEEE Visualization Arts Program: Petra Isenberg, Tobias Isenberg
- VR: IEEE Virtual Reality: Tobias Isenberg

9.1.3. Journal

9.1.3.1. Member of the editorial boards

- Jean-Daniel Fekete was Associate Editor of IEEE Transactions on Visualization and Computer Graphics.
- Petra Isenberg was a guest editor of a special issue of Sage Publishing's Information Visualization on selected papers from BELIV 2014.
- Tobias Isenberg is associate editor of Elsevier Computers & Graphics.
- Tobias Isenberg was a guest editor of a special issue of Sage Publishing's Information Visualization on selected papers from BELIV 2014.

9.1.3.2. Reviewer - Reviewing activities

- Applied Mathematical Modeling: Tobias Isenberg
- Book review for Morgan Claypool Publishers: Petra Isenberg
- C&G: Computers & Graphics Journal: Nadia Boukhelifa, Tobias Isenberg
- JCSCW: Journal on Computer Supported Cooperative Work: Petra Isenberg
- Information Visualization Journal: Tobias Isenberg
- SCC: Spatial Cognition Computational Journal: Nadia Boukhelifa
- TVCG: IEEE Transactions on Visualization and Computer Graphics: Jeremy Boy, Tobias Isenberg

9.1.4. Invited talks

- Jean-Daniel Fekete: Invited Talk, MIT, "Visualizing Large and Dense Graphs", Dec. 2nd, 2015
- Jean-Daniel Fekete: Invited Talk, Brown University, "ProgressiVis: a New Workflow Model for Scalability in Information Visualization", Nov. 4. 2015
- Jean-Daniel Fekete: Invited Talk, Columbia University, "Visualizing Large and Dense Networks", Sep. 18th, 2015
- Jean-Daniel Fekete: Invited Talk, IBM Watson Research Center, "ProgressiVis: a New Workflow Model for Scalability in Information Visualization", Sep. 17. 2015
- Jean-Daniel Fekete: Invited Talk, Center for Data Science, New York University, "ProgressiVis: a New Workflow Model for Scalability in Information Visualization", Sep. 14, 2015

- Jean-Daniel Fekete: Invited Talk, University of Maryland, “Visualization for the People: Where Are We Now”, Sep. 10th, 2015
- Jean-Daniel Fekete: Invited Talk, CANVAS Summer School, Toronto, “Visualization for the People: Where Are We Now”, Jul. 2015
- Jean-Daniel Fekete: Invited Talk, Microsoft Research Redmond, “Visualization for the People: Where Are We Now”, Tuesday, Jun. 9, 2015
- Jean-Daniel Fekete: Invited Talk, Tableau Software, “Matrix-Based Visualization”, Monday, Jun. 8, 2015
- Jean-Daniel Fekete: The Visualization Distinguished Lecture Series, Georgia Tech “Visualization for the People: Where Are We Now”, Friday, Apr. 10, 2015
- Jeremy Boy: Invited talk at Harvard, December 1, 2015 on “Towards Enabling Casual-Users to Engage in Data Exploration Using Information Visualization Interfaces”.
- Pierre Dragicevic: “Recent and Future Information Visualization Research at Inria / Aviz”. Guest lecture at HIIT Finland, 4 March 2015.
- Pierre Dragicevic: “Introduction aux nouvelles statistiques pour l’IHM”. Rencontre Jeunes Chercheurs en Interaction Homme-Machine (RJC IHM 2015), Oléron, 1 June 2015.
- Pierre Dragicevic: “How to Adopt the New Statistics in HCI”. Doctoral Colloquium HCI Group Univ Munich, Venice, 6 October 2015.
- Pierre Dragicevic: “Overview of Temporal Data Visualization Approaches”. 3ème journée ESSTE INRA – Visualisation des données spatio-temporelles et méthodes, Agro ParisTech, 27 November 2015.
- Petra Isenberg: keynote at the 2015 CANVAS summer school, Toronto, Canada on “Novel Display Technology for Visual Analytics”.
- Tobias Isenberg: ““Touching” the Third Dimension—Exploration of Scientific Data on Surfaces”. Inria Méditerranée, Sophia Antipolis, France, Sep. 28, 2015.
- Tobias Isenberg: “Illustrative Visualization for Molecular Data”. Keynote, conference of the thematic groups “Enzymes” and “Graphics and Molecular Modeling” of the Société Française de Biophysique, Sète, France, May 28 2015
- Tobias Isenberg: “Abstraction in Non-Photorealistic Rendering and Illustrative Visualizations.”. Hasso Plattner Institute Potsdam, Germany, Apr. 30, 2015
- Romain di Vozzo: “How to create a fablab?” Institut Supérieur des Etudes Techniques de Sousse. Sousse, Tunisia.

9.1.5. Leadership within the scientific community

- Jean-Daniel Fekete is a member of the Visualization Executive Committee of the IEEE VIS Conference
- Jean-Daniel Fekete is the chair of the Steering Committee of the IEEE Information Visualization Conference
- Jean-Daniel Fekete is a member of the Steering Committee of the EuroVis Conference
- Tobias Isenberg is a member of the Steering Committee of the Expressive conference.
- Tobias Isenberg is a Member of the Executive Committee of the Visualization and Computer Graphics Technical Committee of the IEEE Computer Society (Publications Chair).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Aviz members were involved in teaching the following lectures at the Masters or PhD level:

Jean-Daniel Fekete: *Information Visualization*, course on Interaction, 2h, Harvard, USA

Jean-Daniel Fekete: *Information Visualization*, course on Interaction, 2h, NYU-Poly, USA

Petra Isenberg, Pierre Dragicevic, *Visual Analytics*, Ecole Centrale, Paris, France

Pierre Dragicevic, Jean-Daniel Fekete, Lonni Besançon, Nadia Boukhelifa, Tobias Isenberg, *Information Visualization*, Université Paris Sud, France

Tobias Isenberg, *Non-Photorealistic Rendering*, University of Granada, Spain

Tobias Isenberg, *Interaction with 3D visualizations*, Tobias Isenberg at the CANVAS summer school in data analytics, visual analytics, and visualization in Toronto, Canada

Romain di Vozzo: *Digital Fabrication* 24h, HCID Master, Université Paris Sud, France

Aviz members were involved in teaching the following tutorials at international scientific conferences to students, data analysis specialists, and academics:

Tutorial on *Tools & Techniques for Direct Volume Interaction* co-taught by Tobias Isenberg at IEEE Visualization 2015

Tutorial on *Tools & Techniques for Direct Volume Interaction* co-taught by Tobias Isenberg at Eurographics 2015

9.2.2. Supervision

PhD in progress: Lonni Besançon, An Interaction Continuum for Scientific Visualization, Université Paris-Sud, 2014, Tobias Isenberg and Mehdi Ammi

PhD in progress: Evanthia Dimara, Information Visualization for Decision Making, Université Paris-Sud, 2014, Pierre Dragicevic, Anastasia Bezerianos and Jean-Daniel Fekete

PhD in progress: Pascal Goffin, From Individual to Collaborative Work, Université Paris-Sud, 2013, Petra Isenberg and Jean-Daniel Fekete

PhD in progress: Mathieu Le Goc, Dynamic and Interactive Physical Visualization, Université Paris-Sud, 2013, Pierre Dragicevic and Jean-Daniel Fekete

9.2.3. Juries

Jean-Daniel Fekete: PhD committee of Jorge Poco Medina, "Visual Intercomparison of Multifaceted Climate Data", NYU-Poly, June 2015

Jean-Daniel Fekete: Nivan Ferreira, "Visual Analytics Techniques For Exploration Of Spatiotemporal Data", NYU-Poly, June 2015

PhD committee: Dr. Emmanuel Iarussi, Computer-Assisted Drawing, Inria Sophia Antipolis, France, September 2015, Tobias Isenberg

PhD committee: Dr. Leïla Schemali, Édition et Visualisation Stéréoscopiques [Interaction with, Editing of, and Visualization of Stereoscopic 3D Objects], Telecom ParisTech, France, January 2015, Tobias Isenberg

Pierre Dragicevic: Commission Scientifique Inria Saclay

Pierre Dragicevic: Commission Consultative de Spécialistes de l'Université Paris-Sud (CCSU)

Pierre Dragicevic: Jury MCF UPSud 0274

Pierre Dragicevic: PhD committee of Bin Yang, Memory island: visualizing hierarchical knowledge as insightful islands, Université Pierre et Marie Curie, 8 June 2015.

Pierre Dragicevic: PhD committee of Azam Khan, Choice & Consequence: Exploratory Data Analysis for Critical Decision Making, University of Copenhagen, 14 Aug 2015.

Pierre Dragicevic: PhD committee of Renaud Gervais, Interaction and introspection with tangible augmented objects, Université de Bordeaux, 9 Dec 2015.

Romain di Vozzo: Fablab projects evaluation. Master Innovation Technologique & Entrepreneuriat. Ecole Polytechnique.

9.3. Popularization

Aviz members have been involved in several popularization activities:

- Romain di Vozzo: invitation of Richard Stallman to give a Digiteo conference on Free Software.
- Jeremy Boy wrote a chapter for “Le kit Serie graphique : Connaître et pratiquer le design graphique au collège” published by Le Centre National des Arts Plastiques (CNAP) .
- Jeremy Boy’s *Is the World a Better Place Today* online visualization platform was mentioned in Le Monde <http://data.blog.lemonde.fr/2015/10/21/la-journee-de-la-statistique-un-evenement-francais-pas-celebre-en-france/>
- Jeremy Boy gave an interview on his *Is the World a Better Place Today* online visualization platform to the NYU News and Publications Department <http://engineering.nyu.edu/news/2015/11/23/when-united-nations-puts-call-out-data-pros>
- Mathieu Le Goc, Pierre Dragicevic, Samuel Huron, Jeremy Boy, Jean-Daniel Fekete: [SmartTokens: Embedding Motion and Grip Sensing in Small Tangible Objects - Extended Material](#).
- Pierre Dragicevic and Yvonne Jansen: the [Curated List of Physical Visualizations](#) is continuously being updated.

DAHU Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. General chair, scientific chair

Serge Abiteboul participated with Olivier Baudon to the organization in 2015 of the seminar of the Société Informatique de France “Enseignement de l’informatique pour les humanités et les sciences sociales”.

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

Serge Abiteboul: Data engineering (ICDE’2015); Management of data (Sigmod’2015); Very Large Database (VLDB’2015); Web Database (WebDB’2015). In 2015, Serge Abiteboul also participated in Awards committees for the French Academy of Sciences and the British Royal Society (Milner Award).

Sylvain Schmitz: Reachability Problems (RP’15).

Cristina Sirangelo: ICDT’15. PODS’15. PODS’16.

Victor Vianu: ICDT’15.

9.1.2.2. Reviewer

The members of the team reviewed numerous papers for numerous international conferences and journals.

9.1.3. Journal

9.1.3.1. Member of the editorial boards

Victor Vianu: Editor-in-Chief of JACM, Associate Editor of ACM TOCL, Editor of the Database Theory column in SIGACT News.

9.1.4. Invited talks

Victor Vianu gave two invited talks: One at the Alberto. O. Mendelzon Workshop, Lima, Peru, May 6-8 2015. A second one at the Martin Abadi Honoris Causa Symposium, ENS Cachan, June 2015.

Sylvain Schmitz gave two invited talks, at ACTS 2015 in Chennai, India, and at the DIMAP Logic Day 2015 in Warwick, UK.

Serge Abiteboul gave invited talks at the Advances in Database and Information Systems Conference (keynote - Poitiers), Profile, Predict, and Prevent Conference (Law, Paris), TTOW Conference (History, Paris), DSAAI Conference (Paris), Filocs Workshop (Tel Aviv), Data science symposium (Rennes), CNRS Mastodons Workshop (Paris), Inria EPFL Workshop (Lausanne), UPMC Seminar (Paris 6)...

He also gave invited talks in industry (Thalles, Accenture).

9.1.5. Leadership within the scientific community

Serge Abiteboul was nominated co-chair of the Parity and Equality committee of Inria.

9.1.6. Scientific expertise

Sylvain Schmitz reviewed grant proposals for the Agence Nationale de la Recherche (ANR) and the Austrian Science Fund (FWF).

9.1.7. Research administration

Since 2015 Luc Segoufin is an elected member of the CNRS of Inria.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Cristina Sirangelo, Databases, 24h L3, ENS Cachan
 Licence : Cristina Sirangelo, Database project, 22.5h, L3, ENS Cachan
 Master : Cristina Sirangelo, Algorithms, 37h, M2, ENS Cachan
 Master : Cristina Sirangelo, Advanced complexity theory, 30h M1, ENS Cachan
 Graduate : Cristina Sirangelo, Web sites, 18h, Ecole doctorale ENS Cachan
 Graduate : Cristina Sirangelo, Databases, 18h, Ecole doctorale ENS Cachan
 Graduate : Cristina Sirangelo, Web search, 18h, Ecole doctorale ENS Cachan
 Licence : Sylvain Schmitz, Complexity, 22.5h, L3, ENS Cachan, France
 Master : Sylvain Schmitz, Introduction to Verification, 19h, M1, ENS Cachan, France
 Master : Sylvain Schmitz, Formal Languages, 37.5h, M2, ENS Cachan, France
 Master : Sylvain Schmitz, Logical and Computational Structures for Linguistic Modeling, 18h, M2, ENS Cachan, France
 Master : Serge Abiteboul, Web data management, 15h, MPRI
 Licence : Serge Abiteboul, Relational databases, 30h, ENS Cachan

E-learning

Mooc Bases de Données Relationnelles - Bador (in French), Inria Fun, Serge Abiteboul, Benjamin Nguyen and Philippe Rigaux, Start January 2016; about 6000 students registered, 6+ weeks. Target audience: students in L3/Master, engineers and scientists using databases.

9.2.2. Supervision

PhD : Nadime Francis, View-based query determinacy and rewritings over graph databases, 08/12/2015 [11], Luc Segoufin and Cristina Sirangelo
 PhD in progress: Nathan Grosshans, branching program, 01/09/2014, Luc Segoufin and Pierre McKenzie (University of Montreal)
 PhD in progress: David Montoya, Personal information management systems, 01/02/2014, Serge Abiteboul
 PhD in progress: Alexandre Vigny, enumeration, 01/09/2015, Luc Segoufin and Arnaud Durand
 PhD in progress: Karima Rafes, Web semantic and Internet of Thing, 01/02/2015, Serge Abiteboul
 PhD in progress: Simon Halfon, Well quasi orders, 01/09/2015, Sylvain Schmitz and Philippe Schnoebelen

9.2.3. Juries

Cristina Sirangelo was in the jury for ingénieur d'étude of ENS-Cachan in July 2015.

Sylvain Schmitz was on the Ph.D. committee of Jérôme Kirman, Université de Bordeaux, in December 2015.

Serge Abiteboul was on the Ph.D. committee of Stamatis Zampetakis, University of Paris-Saclay, in September 2015.

9.3. Popularization

For the last couple of years, Serge Abiteboul has initiated and is coordinating an invited blog for Le Monde newspaper, namely Binaire, <http://binaire.blog.lemonde.fr>. He is the initiator of “The Cabale Informatique de France”, a joint action between the Société Informatique de France and Wikipédia France to improve the quality of Wikipédia pages about Computer Science in France.

Serge Abiteboul participated in a documentary "Nos ordinateurs ont-ils la mémoire courte" (directed by Vincent Amouroux, Zed production) that was showed on Arte in September 2015. He wrote popularization articles, in particular, [13] (on Personal information systems), [28] (on the Responsibility of algorithms, and notably data analysis algorithms; short version in French in Le Monde) and [27] (on Digital humanities).

Serge Abiteboul gave talks to Congrès National des Profs de Physique Chimie (La Rochelle), Forum Big Data (La Vilette), Congrès APLCPCGE ("prépas", Paris), UPMC Colloquium (Paris)... He was audited for the French Parliament (OPECST, Big data and Agriculture).

In 2015, Serge Abiteboul was a member of the "Conseil national du numérique".

EX-SITU Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. Member of the organizing committees

- Paper Electronics Workshop, February 2015: Wendy Mackay (organizer)
- MIDWAY Workshop, May 2015: Michel Beaudouin-Lafon, Wendy Mackay, Joe Malloch (co-organizers)
- MOCO 2015, *International Workshop on Movement and Computing*: Sarah Fdili Alaoui (organizing committee)
- Workshop on *Supporting Creative Design Processes in Blended Interaction Spaces* at ACM Creativity and Cognition 2015: Wendy Mackay (organizing committee)

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- ACM CHI 2015, *ACM Conference on Human Factors in Computing*: Wendy Mackay, Theophanis Tsandilas
- ACM UIST 2015, *ACM Symposium on User Interface Software and Technology*: Michel Beaudouin-Lafon, Wendy Mackay
- NIME 2015, *New interfaces for Musical Expression*: Theophanis Tsandilas, Sarah Fdili Alaoui
- CMIS 2015, *Workshop on Collaboration Meets Interactive Surfaces*: Theophanis Tsandilas
- IHM 2015, *Conférence Francophone d'Interaction Homme-Machine*: Theophanis Tsandilas
- GRAPP 2015, *Conference on Computer Graphics Theory and Applications*: Cédric Fleury
- 3DCVE 2015, *IEEE VR Workshop on Collaborative Virtual Environments*: Cédric Fleury
- MOCO 2015, *International Workshop on Movement and Computing*: Michel Beaudouin-Lafon, Sarah Fdili Alaoui

10.1.2.2. Reviewer

- ACM CHI 2016 *ACM Conference on Human Factors in Computing*: Michel Beaudouin-Lafon, Cédric Fleury, Sarah Fdili Alaoui, Joseph Malloch, Ignacio Avellino, Ghita Jalal, Nolwenn Maudet, Carla Griggio, Germán Leiva, Jessalyn Alvina, Sarah Alaoui, Joseph Malloch, Alex Zinenko
- ACM UIST 2015 *ACM Symposium on User Interface Software and Technology*: Theophanis Tsandilas, Cédric Fleury, Ignacio Avellino
- ACM TEI 2016 *ACM Conference on Tangible Embodied Interaction*: Sarah Fdili Alaoui
- IEEE InfoVis 2015, *IEEE Information Visualization Conference*: Theophanis Tsandilas
- GI 2015, *Graphics Interface Conference*: Theophanis Tsandilas
- UBICOMP 2015, *ACM International Joint Conference on Pervasive and Ubiquitous Computing*: Michel Beaudouin-Lafon
- IHM 2015, *Conférence Francophone d'Interaction Homme-Machine*: Cédric Fleury

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- Editor for the Human-Computer Interaction area of the new ACM Books Series (published with Morgan & Claypool Publishers): Michel Beaudouin-Lafon (2013-)
- CACM, *Communications of the ACM Web Editorial Board*, ACM: Wendy Mackay (2008-)
- CACM *Communications of the ACM New Publications Board*, ACM: Wendy Mackay (2015-)
- TOCHI, *Transactions on Computer Human Interaction*, ACM: Michel Beaudouin-Lafon (2009-)
- JIPS, *Journal d'Interaction Personne-Système*, AFIHM: Michel Beaudouin-Lafon (2009-)
- IJHCS, *International Journal of Human-Computer Study*, Elsevier: Michel Beaudouin-Lafon (Member of the Advisory Board, 2009-)
- JCSCW, *Journal of Computer Supported Cooperative Work*, Springer: Michel Beaudouin-Lafon (Member of the Advisory Board, 2010-)

10.1.3.2. Reviewer - Reviewing activities

- Transactions on Visualization and Computer Graphics (TVCG): Theophanis Tsandilas
- Transactions on Computer-Human Interaction (TOCHI): Wendy Mackay
- Ubiquitous Computing (UbiComp'15): Wendy Mackay
- International Journal of Human-Machine Studies (IJHMS): Wendy Mackay

10.1.4. Invited talks

- Keynote address at ACM/TEI'15 (Tangible, Embedded and Embodied Interaction) *Interactive Paper: Tangible Computing from the Digital Desk to Music Composition* 19 January 2015: Wendy Mackay
- Keynote address at LTM21C (Learning and Teaching Music in the Twenty-First Century: The Contribution of Science and Technology) *Supporting Creative Expression with Co-Adaptive Human-Computer Partnerships* 5 November 2015: Wendy Mackay
- Keynote address at Paper Electronics Workshop *Interactive Paper: A Whirlwind Tour of Tangible Computing from the Digital Desk to Music Composition* 20 February 2015: Wendy Mackay
- Research Seminar at University of Munich *Interactive Paper: Tangible Computing from the Digital Desk to Music Composition* 8 July 2015: Wendy Mackay
- Research Seminar at KTH, Sweden *Interactive Paper: Tangible Computing from the Digital Desk to Music Composition* 30 January 2015: Wendy Mackay
- Microsoft Faculty Summit *Dynachord* July 08 2015: Jianqiao Li
- GT Interco3D @ IHM 2015, "*Perception spatiale dans des systèmes de téléprésence adaptés à des murs d'images*", 27 October 2015: Cédric Fleury
- Microsoft Research - Devices and Networking Summit - 11-13 May 2015, Paris - panel The Next Big Hurdle, "*The myth of perfection*": Michel Beaudouin-Lafon
- NCRS-CNRS Korean-French workshop - 30 June 2015, "*Human-Computer Interaction*": Michel Beaudouin-Lafon
- CNRS workshop "Sciences Sociales et Cognitives du Comportement" - 16 July 2015, "*Interaction Humain-Machine et Sciences du Comportement*": Michel Beaudouin-Lafon
- TedX Leuven, "*Instrumented Bodies: Designing Interfaces for Digital Performance*", 20 February 2015: Joseph Malloch
- Centre National de la Danse, "*Rencontre entre notateurs*", 2 December 2015: Sarah Fdili Alaoui
- Inria Lille, "*Interaction Beyond Computation*", 16 October 2015: Michel Beaudouin-Lafon
- Inria Lille, "*Sketch-based interaction for creative exploration*", 11 March 2015: Theophanis Tsandilas
- Journées Scientifiques Inria, InriART, "*Supporting Computer-Aided Composition with Interaction on Paper*", 17 Juin 2015: Theophanis Tsandilas

- Université Paris Sud, “*la journée Sciences du Mouvement FEDEV*”, 27 Novembre 2015: Sarah Fdili Alaoui
- Inria Lille, “*Designing Interfaces for Digital Performance*”, 15 July 2015: Joseph Malloch
- Inria Lille, “*Interactive Systems for Music and Dance Performance*”, 7 December 2015: Joseph Malloch

10.1.5. Leadership within the scientific community

- Digiscope “Equipement d’Excellence”: Michel Beaudouin-Lafon (Scientific director)
- Doctoral School in Computer Science (EDSTIC), Université Paris-Saclay: Michel Beaudouin-Lafon (co-director, Data, Knowledge, Learning & Interaction section)
- DigiCosme “Laboratoire d’Excellence”: Michel Beaudouin-Lafon (chair of theme Interaction-Visualization and member of scientific committee)

10.1.6. Scientific expertise

- European Research Council (ERC), Avanced Grants Expert Panel: Michel Beaudouin-Lafon (external expert)
- FWF (Austrian Science Fund): Wendy Mackay (external expert)
- Sapere Aude Starting Grant, Danish Council for Independent Research, International Advisory Board: Wendy Mackay (external expert)
- Agence Nationale de la Recherche (ANR), appel à projets génériques “IHM, Contenus, Connaissances, Big Data, simulation, HPC”: Cédric Fleury (reviewer), Theophanis Tsandilas (reviewer)
- CNRS Mission pour l’Interdisciplinarité, Action “Sciences Sociales et Cognitives des Comportements Collectifs”: Michel Beaudouin-Lafon (committee member)

10.1.7. Research administration

- Computer Science Department (“GT-STIC”), Université Paris-Saclay: Michel Beaudouin-Lafon (member of steering committee)
- “Institut de la Société Numérique”, IDEX Laboratory of Université Paris-Saclay: Michel Beaudouin-Lafon (member of steering committee)
- Telecom ParisTech: Michel Beaudouin-Lafon (member of research committee)
- IRCAM: Michel Beaudouin-Lafon (member of scientific committee)
- “Conseil de Laboratoire”, LRI: Wendy Mackay, Cédric Fleury (members)
- “Conseil Scientifique”, LRI: Michel Beaudouin-Lafon (member)
- CCSU, “Commission Consultative de Spécialistes de l’Université”, Computer Science department: Michel Beaudouin-Lafon, Wendy Mackay (members)

10.1.8. Professional service

- ACM SIGCHI Conference Management Committee: Wendy Mackay (member)
- ACM SIGCHI Lifetime Service Award Committee: Wendy Mackay (member)
- ACM nominating committee: Michel Beaudouin-Lafon (member)
- ACM Europe Council: Michel Beaudouin-Lafon (member)
- EUACM Steering Committee, policy office of ACM Europe Council: Michel Beaudouin-Lafon (member)
- AFIBM Working Group on Ethics: Wendy Mackay (chair)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching administration

Interaction Specialty, Master in Computer Science, Univ. Paris-Sud & Université Paris-Saclay: Michel Beaudouin-Lafon (chair), Cédric Fleury (internships)

HCID Masters (EIT Digital European Master in Human-Computer Interaction and Design), Univ. Paris-Sud: Michel Beaudouin-Lafon (chair)

10.2.2. Teaching

Interaction & HCID Masters: Wendy Mackay, *Formation à la Recherche* 21 hrs, M2, Univ. Paris-Sud

Interaction & HCID Masters: Michel Beaudouin-Lafon, *Fundamentals of Human-Computer Interaction*, 21 hrs, M1/M2, Univ. Paris-Sud

Interaction & HCID Masters: Sarah Fdili Alaoui & Theophanis Tsandilas, *Programming of Interactive Systems*, 21 hrs, M1, Univ. Paris-Sud

Interaction & HCID Masters: Wendy Mackay, *Design of Interactive Systems*, 42 hrs, M1/M2, Univ. Paris-Sud

Interaction & HCID Masters: Wendy Mackay, *Business Development Lab* 21 hrs, M1, Univ. Paris-Sud

Interaction & HCID Masters: Joseph Malloch *Digital Fabrication*, 10 hrs, M1/M2, Univ. Paris-Sud

Interaction & HCID Masters: Michel Beaudouin-Lafon & Cédric Fleury, *Groupware and Collaborative Interaction*, 21 hrs, M1/M2, Univ. Paris-Sud

Interaction & HCID Masters: Sarah Fdili Alaoui, *Creative Design*, 21 hrs, M1/M2, Univ. Paris-Sud

Interaction & HCID Masters: Sarah Fdili Alaoui, *Design Project*, 15 hrs, M1/M2, Univ. Paris-Sud

Interaction & HCID Masters: Sarah Fdili Alaoui, *Gesture and Mobile Interaction*, 4 hrs, M1/M2, Univ. Paris-Sud

Polytech Fifth year: Cédric Fleury, *Réalité Virtuelle et Interaction*, 48 hrs, M2, Univ. Paris-Sud

Polytech Fifth year: Sarah Fdili Alaoui, *Informatique Graphique et visualisation*, 42 hrs, M2, Univ. Paris-Sud

Polytech Third year: Cédric Fleury, *Projet Java-Graphique-IHM*, 24 hrs, M1, Univ. Paris-Sud

Polytech First year: Cédric Fleury, *Introduction à l'Informatique*, 64 hrs, L1, Univ. Paris-Sud

10.2.3. Supervision

PhD students

PhD: Can Liu, *Collaborative Multiscale Navigation and Interaction*, Université Paris-Saclay, defended on 17 December 2015 [10]. Advisors: Michel Beaudouin-Lafon, Olivier Chapuis (LRI & Inria ILDA), Eric Lecolinet (Telecom ParisTech)

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

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

PhD in progress: Ignacio Avellino, *Remote Collaboration in Large Interactive Spaces*, September 2014. Advisors: Michel Beaudouin-Lafon & Cédric Fleury

PhD in progress: Jessalyn Alvina, *Mobile Co-Adaptive Instruments*, September 2014. Advisor: Wendy Mackay

PhD in progress: Nolwenn Maudet, *Substrates and Co-Adaptive Instruments*, September 2014. Advisors: Wendy Mackay & Michel Beaudouin-Lafon

PhD in progress: Marc-Emmanuel Perrin, *Novel Interaction Models for Multi-surface Visualization*, September 2014. Advisors: Michel Beaudouin-Lafon & James Eagan (Télécom ParisTech)

PhD in progress: Marianela Ciolfi Felice, *Substrates and Co-adaptive Instruments for Creativity*, September 2015. Advisors: Wendy Mackay & Sarah Fdili Alaoui

PhD in progress: Carla Griggio, *Interactive Human-Machine Learning*, September 2015. Advisor: Wendy Mackay

PhD in progress: Germán Leiva, *Interaction-driven Software Development*, September 2015. Advisor: Michel Beaudouin-Lafon

PhD in progress: Wanyu Liu, *Modeling the speed-accuracy trade-off of pointing tasks using the tools of information theory*, October 2015. Advisors: Olivier Rioul (Institut Mines Telecom) & Michel Beaudouin-Lafon

PhD in progress: Yujiro Okuya, *Sensorimotor interface for Collaborative Virtual Environments based on heterogeneous interactive devices: application to industrial design*, October 2015. Advisors: Patrick Bourdot (LIMSI-CNRS) & Cédric Fleury

PhD in progress: Michael Wessely, *Sketching and Physical Prototyping for Creative Fabrication Design*, November 2015. Advisors: Theophanis Tsandilas & Wendy Mackay

Masters students

Jean-Baptiste Louvet, Insa Rouen, “Touch-based Interaction Technique for 3D Manipulation on Wall-sized Displays”: Cédric Fleury

Niyati Roy Chowdhury, Univ. Paris-Sud, “Brain on the wall: An observational study with a novel brain image analysis tool, BrainTwister”: Wendy Mackay & Michel Beaudouin-Lafon

Panagiota Tziouva, Univ. Paris-Sud, “Bad Hacks and Good tricks: How professional designers appropriate creativity tools”: Wendy Mackay

Xu Yuebai, Univ. Paris-Sud, “Interactive Brain Visualization”: Michel Beaudouin-Lafon & Wendy Mackay

Maxence Bobin, Univ. Paris-Sud “Internet of Things for stroke rehabilitation in a home-based context”: Wendy Mackay (reviewer)

10.2.4. Juries

PhD committee of Carl Unanader-Sharin (KTH Royal Institute of Technology, January 2015, Stockholm, advisor: K. Hook): Wendy Mackay (Opponent examiner)

PhD committee of Jérémie Boy (Inria University Paris-Sud, May 2015, advisors: Françoise Detienne and Jean-Daniel Fekete): Wendy Mackay (President)

PhD committee of Olivier Perrotin (LIMSI, Sept 2015, advisor: Ch. d’Alessandro): Michel Beaudouin-Lafon (President).

PhD committee of Jonathan Aceituno (Inria Lille, Octobre 2015, advisor: Nicolas Roussel): Michel Beaudouin-Lafon (Reviewer).

PhD committee of William Delamare (LIG Grenoble, Nov. 2015, advisor: Laurence Nigay): Michel Beaudouin-Lafon (President).

PhD committee of Quentin Roy (Telecom ParisTech, Dec. 2015, advisor: Y. Guiard & E. Lecolinet): Michel Beaudouin-Lafon (President).

PhD committee of Weiya Chen (LIMSI, Dec. 2015, advisor: P. Bourdot): Michel Beaudouin-Lafon (President).

Hiring Committee for Professor position, Univ. Paris-Sud: Wendy Mackay (member)

Hiring Committee for Assistant Professor position, Univ. Paris-Sud: Wendy Mackay (member)

10.3. Popularization

BD Interactive: 2101 Sciences et science-fiction, Chromatiques (Web documentaire) April 2015: Wendy Mackay (interview) <http://www.chroma-tv.com>

Journée d'étude robots/travail/intelligence : La Chaire des Bernadins -- L'Humain au défi du numérique, FING, 8 Oct 2015 *Table Ronde: Les robots : substitution ou complément ?*: Wendy Mackay (panel member)

Lindau, Film on the Attractivity of Research in France, Ministère de Recherche, June 2015: Wendy Mackay (interview)

Ableton Loop Summit, 1 November 2015 *Panel: New Instruments and Evolving Performance Practices*: Joseph Malloch (panel member)

Fête de la Science, LRI, 9 October 2015, *Wilder*: Olivier Gladin, Rémi Hellequin, Amani Kooli, and Jonathan Thorpe

ILDA Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events selection

9.1.1.1. Chair of conference program committees

- CHI 2015, 33rd ACM SIGCHI Conference on Human Factors in Computing Systems: Caroline Appert (SC - subcommittee chair)

9.1.1.2. Member of the conference program committees

- CHI 2015, 33rd ACM SIGCHI Conference on Human Factors in Computing Systems: Anastasia Bezerianos, Emmanuel Pietriga (AC - associate chairs)
- VL/HCC 2015, 32nd IEEE Symposium on Visual Languages and Human-Centric Computing: Emmanuel Pietriga
- InfoVis 2015, IEEE Information Visualization Conference: Anastasia Bezerianos (AC - associate chair)
- Mobile HCI 2015, 17th ACM SIGCHI International Conference on Human-Computer Interaction with Mobile Devices and Services: Caroline Appert (AC - associate chair)
- DocEng 2015, 15th ACM SIGWEB International Symposium on Document Engineering: Emmanuel Pietriga
- MobiSys 2015 – Future Mobile User Interfaces workshop, 13th ACM SIGCHI International Conference on Mobile Systems, Applications, and Services: Caroline Appert
- VOILA @ ISWC 2015, Visualizations and User Interfaces for Ontologies and Linked Data, workshop co-located with ISWC 2015: Emmanuel Pietriga
- IHM 2015 – Conference of the Association Francophone d’Interaction Homme-Machine: Olivier Chapuis (AC - associate chair)

9.1.1.3. Reviewer

- ACM CHI, Conference on Human Factors in Computing Systems: Olivier Chapuis
- ACM UIST, Symposium on User Interface Software and Technology: Caroline Appert, Anastasia Bezerianos, Olivier Chapuis, Emmanuel Pietriga
- ACM ITS, International Conference on Interactive Tabletops and Surfaces: Caroline Appert, Anastasia Bezerianos, Olivier Chapuis
- ACM Mobile HCI, International Conference on Human-Computer Interaction with Mobile Devices and Services: Anastasia Bezerianos
- ACM UbiComp, International Joint Conference on Pervasive and Ubiquitous Computing: Anastasia Bezerianos
- IEEE InfoVis, Information Visualization Conference: Emmanuel Pietriga
- IEEE Virtual Reality: Olivier Chapuis
- GI, International conference on Graphics, Visualization and Human-Computer Interaction: Anastasia Bezerianos
- IHM, Conférence Francophone sur l’interaction Homme-Machine: Caroline Appert

9.1.2. Journal

9.1.2.1. Member of the editorial boards

- Semantic Web Journal: Emmanuel Pietriga (guest editor, special issue on Visual Exploration and Analysis of Linked Data)

9.1.2.2. Reviewer - Reviewing activities

- ACM ToCHI, Transactions on Computer-Human Interaction: Caroline Appert, Olivier Chapuis, Emmanuel Pietriga
- IEEE TVCG, Transactions on Visualization and Computer Graphics: Anastasia Bezerianos, Emmanuel Pietriga
- IWC, Interacting with Computers: Emmanuel Pietriga
- IHCS International Journal of Human-Computer Studies: Olivier Chapuis
- IEEE CG&A, Computer Graphics and Applications: Anastasia Bezerianos

9.1.3. Invited talks

- Emmanuel Pietriga, Advances in Human-Computer Interaction for Operations Monitoring and Control and Exploratory Data Analysis, III Taller Astroingeniería, November 2015, Santiago de Chile
- Emmanuel Pietriga, Interactive, collaborative visualization of large datasets on ultra-high-resolution wall-sized displays, March 2015, Viseo, Grenoble, France

9.1.4. Scientific expertise

- Evaluator for European Commission's H2020 Programme Future and Emerging Technologies Open Scheme RIA: Emmanuel Pietriga
- Evaluation Committee member for the appel générique, ANR (French National Research Agency), CES Contenus, connaissances, interactions: Caroline Appert
- Referee for the appel générique, ANR (French National Research Agency): Emmanuel Pietriga

9.1.5. Research administration

Hiring committees

- Univ. Paris-Sud hiring committee, Commission Consultative des Spécialistes de l'Université 27ème section (computer science), members: Caroline Appert.
- Univ. Paris-Sud hiring committee, Comités de Sélection 27ème section (computer science), members: Caroline Appert, Anastasia Bezerianos.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Caroline Appert, Design Project in HCI, 25h TD, M1 HCID, Univ. Paris-Sud

Master: Caroline Appert, Evaluation of Interactive Systems, 48h CM, M1 HCID, Univ. Paris-Sud

Master: Caroline Appert, Evaluation of Interactive Systems – Intro, 21h CM, M1 HCID + M2R Interaction, Univ. Paris-Sud

Master: Caroline Appert, Programming Interactive Systems, 3h CM, M1 HCID + M2R Interaction, Univ. Paris-Sud

Master: Anastasia Bezerianos, Mixed Reality and Tangible Interaction, 11h CM, M2R Interaction + M1 HCID + M2 HCID, Univ. Paris-Sud.

Master: María-Jesús Lobo, Programming Project, 11h, M1 HCID, Univ. Paris-Sud.

Master: Emmanuel Pietriga, Data Visualization, 24h CM, M2 Informatique Décisionnelle, Univ. Paris-Dauphine.

Licence: Bruno Fruchard, Initiation à la Programmation Orientée Objet (Java) - 13h - Télécom Paristech.

Licence: Bruno Fruchard, Paradigmes de programmation - 3h - Télécom Paristech.

Licence: María-Jesús Lobo, Informatique Graphique, 28h, L3 Univ. Paris-Sud

Licence: María-Jesús Lobo, Programmation d'Interfaces Interactives avancées, 29h, L3 Univ. Paris-Sud

Licence: Arnaud Prouzeau, Interaction Homme-Machine - 12h - Polytech Paris-Sud.

Licence: Arnaud Prouzeau, Projet de Programmation Concurrentielle et Interfaces Interactives - 25h - L3 Université Paris-Sud.

Licence: Olivier Chapuis, Interaction Homme-Machine - 12h - Polytech Paris-Sud.

9.2.2. Supervision

PhD : Can Liu, Embodied Interaction for Data Manipulation Tasks on a Wall-Sized Display, Université Paris-Sud, Dec 17th, 2015: Advisors: Olivier Chapuis, Michel Beaudouin-Lafon, Eric Lecolinet

PhD in progress : María-Jesús Lobo, Interaction Techniques for Map Multiplexing, since October 2014, Advisors: Caroline Appert, Emmanuel Pietriga

PhD in progress : Rafael Morales Gonzalez, Surface Gestures for Advanced Graphical Interfaces: Which Gesture for What, November 2014, Advisors: Caroline Appert, Gilles Bailly, Emmanuel Pietriga

PhD in progress : Arnaud Prouzeau, Collaboration around Wall-Displays in Time Critical and Command and Control Contexts, since October 2014, Advisors: Anastasia Bezerianos, Olivier Chapuis

PhD in progress : Evanthia Dimara, Merging Interactive Visualization and Automated Analysis for Group Decision-Making Involving Large Datasets, October 2014, Advisors: Pierre Dragicevic, Anastasia Bezerianos

PhD in progress : Bruno Fruchard, Techniques d'interaction exploitant la mémoire spatiale pour faciliter l'accès rapide aux commandes et aux données, October 2015, Advisors: Eric Lecolinet, Olivier Chapuis

9.3. Popularization

- Publication in Bits de Ciencia about our research and development activities on wall-sized displays [18].
- *Antenna Dance at ALMA* movie, in collaboration with Denis Barkats (ALMA). <http://almaobservatory.org/en/press-room/announcements-events/790-antenna-dance-at-alma>

OAK Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. General chair, scientific chair

I. Manolescu has been a co-chair of the Digicosme Spring School in Databases (May 2015) <http://labex-digicosme.fr/SpringSchool+2015+%28en%29>.

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

- I. Manolescu has been a Review Board member of PVLDB 2015 (Experiment and Analysis track), and a PC member for PODS 2015, SIGMOD 2015 (Demonstrations track), BICOD 2015, the Data Engineering and the Semantic Web (DESWeb) workshop 2015 as well as BDA (the French database conference) 2015

9.1.3. Journal

9.1.3.1. Member of the editorial boards

- I. Manolescu has been an associate editor for the ACM Transactions on the Web since september 2015.
- I. Manolescu is a member of the editorial board of the Springer "Data-Centric Systems and Applications" book series

9.1.4. Invited talks

- I. Manolescu gave two keynote talks: on efficient query answering techniques for RDF at the SEBD 2015 conference [4], and on RDF summarization at DESWeb workshop in conjunction with ICDE 2015 [5].

9.1.5. Leadership within the scientific community

N. Bidoit and I. Manolescu are members of the BDA steering committee.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : B. Groz, Introduction to Databases, 28 ETD, L2, Univ. Paris-Sud, France

Licence : B. Groz, Databases, 71 ETD, L3 (and M1), Univ. Paris-Sud, France

Master : B. Groz, Data Warehouses and Olap, 65 ETD, M1 MIAGE, Univ. Paris-Sud, France

Master : I. Manolescu, Architectures for Massively Distributed Data Management, 28 ETD, M2R IAC, Univ. Paris-Sud, France

9.2.2. Supervision

PhD: Katarina Tzompanaki: "Foundations and Algorithms to Compute the Provenance of Missing Data", defended in December 2015, Melanie Herschel and Nicole Bidoit.

PhD: Stamatis Zampetakis: "Massively Parallel Algorithms for Semantic Web Data", defended in September 2015, François Goasdoué and Ioana Manolescu.

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

PhD in progress : Damien Bursztyn: “Scalable Techniques for Web Data Management”, since January 2014, François Goasdoué and Ioana Manolescu.

PhD in progress : Sejla Čebirić: “CloudSelect: Data Mobility Within, Across and Outside Clouds”, since September 2015, A. Bounfour, F. Goasdoué and I. Manolescu.

PhD in progress : Paul Lagrée: “Adaptive Learning for Intelligent Crowdsourcing and Information Access”, since October 2014, Bogdan Cautis.

9.2.3. *Juries*

Nicole Bidoit has been a member of the PhD committee of Katarina Tzompanaki.

François Goasdoué has been a member of the PhD committee of Stamatis Zampetakis.

Ioana Manolescu has been a member of the PhD committee of Stamatis Zampetakis, and of the HDR committee of Sarah Cohen-Boulakia (Université de Paris Sud).

9.3. Popularization

- I. Manolescu has given a conférence “Big Data and the Internet” in January in the *UniverCité Ouverte* conference series organized by the city of Gif sur Yvette for the general public .
- R. Bonaque, D. Bursztyn, S. Cebiric and I. Manolescu have presented a game based on RDF graphs and social networks as part of Fête de la Science in Inria Saclay, in October.
- I. Manolescu has presented a vision of data management techniques for journalistic fact-checking at the congress of the french Association of the Information Press Journalists (Association des Journalistes de la Presse d’Information) in October. The same topic has lead to articles in the general press, in Ouest France (<http://www.ouest-france.fr/leditiondusoir/data/569/reader/reader.html#!preferred/1/package/569/pub/570/page/8>), the canadian Le Devoir (<http://www.ledevoir.com/politique/canada/450937/sur-la-piste-du-mensonge>), Le Monde (<http://data.blog.lemonde.fr/2015/10/23/le-fact-checking-peut-il-sautomatiser/>), Rue89 (<http://rue89.nouvelobs.com/2015/10/26/algorithmes-antimensonge-fin-bobards-politique-261827>), as well as in the Journal du CNRS (<https://lejournel.cnrs.fr/articles/un-logiciel-qui-decrypte-la-politique>) and Inria’s national Web site (<http://www.inria.fr/centre/saclay/actualites/un-logiciel-de-fact-checking-pour-comprendre-le-monde-qui-nous-entoure>).
- I. Manolescu has presented a database management vision for Data Science in the Big Data Business Convention in November, attended by 600 participants among which half were academics and half from the industry. S. Zampetakis has presented CliqueSquare at the Business Convention.