



RESEARCH CENTER
Saclay - Île-de-France

FIELD

Activity Report 2016

Section Dissemination

Edition: 2017-08-25

ALGORITHMICS, PROGRAMMING, SOFTWARE AND ARCHITECTURE

1. COMETE Project-Team	4
2. DATASHAPE Team	8
3. DEDUCTEAM Team	10
4. GRACE Project-Team	12
5. MEXICO Project-Team	16
6. PARSIFAL Project-Team	19
7. SPECFUN Project-Team	22
8. TOCCATA Project-Team	25

APPLIED MATHEMATICS, COMPUTATION AND SIMULATION

9. COMMANDS Project-Team	29
10. DEFI Project-Team	31
11. DISCO Project-Team	34
12. GAMMA3 Project-Team	38
13. GECO Project-Team	39
14. POEMS Project-Team	41
15. SELECT Project-Team	45
16. TAO Project-Team	47
17. TROPICAL Team	52

DIGITAL HEALTH, BIOLOGY AND EARTH

18. AMIB Project-Team	58
19. GALEN Project-Team	60
20. LIFEWARE Project-Team	63
21. M3DISIM Project-Team	68
22. PARIETAL Project-Team	71
23. XPOP Team	76

NETWORKS, SYSTEMS AND SERVICES, DISTRIBUTED COMPUTING

24. INFINE Project-Team	77
-------------------------------	----

PERCEPTION, COGNITION AND INTERACTION

25. AVIZ Project-Team	79
26. CEDAR Team	82
27. DAHU Project-Team	84
28. EX-SITU Team	87
29. ILDA Project-Team	93
30. SMIS Project-Team	97

COMETE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

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

10.1.1. Scientific events organisation

10.1.1.1. 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 Steering Committee of **CONCUR**, the International Conference in Concurrency Theory. Since 2016.

The Steering Committee of **FORTE**, the International Conference on Formal Techniques for Distributed Objects, Components, and Systems. Since 2014.

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.

10.1.2. Scientific events selection

10.1.2.1. Member of conference program committees

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

ICTAC 2017. The 14th International Colloquium on Theoretical Aspects of Computing. Hanoi, Vietnam, 23-27 October 2017.

TASE 2017. The 11th International Symposium on Theoretical Aspects of Software Engineering. Nice, France, 13-15 September 2017.

CONCUR 2017. The 28th International Conference on Concurrency Theory. Berlin, Germany, 5-8 September 2017.

CSL 2017. The 26th EACSL Annual Conference on Computer Science Logic. Stockholm, Sweden, 20-25 August 2017.

ICSOFPT 2017. The 12th International Conference on Software Paradigm Trends. Lisbon, Portugal, 24-26 July 2017.

ICALP 2017 (Track B). The 44th International Colloquium on Automata, Languages, and Programming. Warsaw, Poland, 10–14 July 2017.

FORTE 2017. The 37th IFIP International Conference on Formal Techniques for Distributed Objects, Components, and Systems. Neuchâtel, Switzerland, 19–22 June 2017.

CSR 2017. The 12th International Computer Science Symposium in Russia. Kazan, Russia, 8–12 June 2017.

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

LOPSTR 2016. The 26th International Symposium on Logic-Based Program Synthesis and Transformation, 6–8 September 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.

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

ICDE 2017: IEEE International Conference on Data Engineering

CSF 2017: 30th IEEE Computer Security Foundations Symposium

POST 2017: 6th International Conference on Principles of Security and Trust

BIGQP 2017: International Workshop on Big Geo Data Quality and Privacy

PETS 2016: The 16th Privacy Enhancing Technologies Symposium

WWW 2016: 25th World Wide Web conference

APVP 2016: 7ème 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).

ICLP DC 2016. 12th ICLP Doctoral Consortium.

10.1.2.2. Reviewer

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

10.1.3. Journals

10.1.3.1. 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 Springer.

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

10.1.3.2. Reviewer

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

10.1.4. Other Editorial Activities

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.

10.1.5. Other Activities

10.1.5.1. Invited talks

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

DISCOTEC 2016 (Keynote speaker). The 11th International Federated Conference on Distributed Computing Techniques. Crete, Greece, 6-9 June 2016.

Journée sur la Sécurité, la Sureté et la Confidentialité. Organized by Paris VII, Paris XIII and Systematic. Paris, France, 10 May 2016.

10.1.5.2. Participation in other committees

Catuscia Palamidessi has been serving in the following committees:

Member of the **Alonzo Church Award** Committee. Since 2015. This award is for an outstanding contribution to Logic and Computation within the past 25 years.

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

10.1.5.3. Service

Catuscia Palamidessi has served as:

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 a position for Maitre de Conférences at l'Université de Paris VII (Paris Diderot). Spring 2016.

Frank Valencia has served as:

Directeur adjoint de l'UMR 7161, le Laboratoire d'Informatique de l'Ecole Polytechnique (LIX). May 2016 - .

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

PhD : Catuscia Palamidessi has been teaching a course for PhD students, on Protection of sensitive information, at the University of Venice, Italy. April 2016. Total 30 hours.

Master : Frank D. Valencia has been teaching the undergraduate course "Computability", 45 hours, at the Pontificia Universidad Javeriana de Cali, Colombia. July 27 - Nov 1, 2016.

Master : Frank D. Valencia has been teaching the masters course "Foundations of Computer Science", 45 hours, at the Pontificia Universidad Javeriana de Cali, Colombia. Jan 27 - Jun 1, 2016.

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. 2016-17. Total: 24 hours plus 6 hours for the exam and the exercise session is preparation to the exam.

10.2.2. Supervision

PhD in progress (2016-) **Tymofii Prokopenko**. Ecole Polytechnique and ENS Cachan. Grant Digiteo-Digicosme. Co-supervised by Konstantinos Chatzikokolakis, Catuscia Palamidessi, and Serge Haddad.

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 completed (2013-16) **Salim Percy**. Ecole Polytechnique. Grant Digiteo-Digicosme. Co-supervised by Frank D. Valencia and Stefan Haar.

10.2.3. Juries

Catuscia Palamidessi has been reviewer and member of the board at the PhD defense for the thesis of the following PhD student:

Huu-Hiep Nguyen, PhD student supervised by Abdessamad Imine, University of Lorraine, France. November 2016. Title of the thesis: Social Graph Anonymization.

10.2.4. Other didactical duties

Catuscia Palamidessi is:

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. 2014-16.

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. 2016-17.

DATASHAPE 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 17-20.

Frédéric Chazal co-organized the SMAI-SIGMA Conference 2016 at Luminy (CIRM) in November.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Maks Ovsjanikov: Paper co-chair of the Symposium on Geometry Processing 2016 (SGP 2016).

10.1.2.2. Member of the Conference Program Committees

Frédéric Chazal: Symposium on Geometry Processing 2016 (SGP 2016).

Steve Oudot: Symposium on Geometry Processing 2016 (SGP 2016).

Marc Glisse: Symposium on Computational Geometry (SoCG 2016).

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*, *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 (Springer)*, *Graphical Models (Elsevier)*, and *Journal of Applied and Computational Topology (Springer)*.

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

10.1.4. Invited Talks

Frédéric Chazal, ACCAPT conference, Aalborg, Danmark, April 2016.

Frédéric Chazal, Joint Mathematical Meetings, Seattle, USA, January 2016.

Frédéric Chazal, Séminaire Parisien de Géométrie Algorithmique, Paris, October 2016.

Frédéric Chazal, 9th International Conference of the ERCIM WG on Computational and Methodological Statistics, December 2016.

Steve Oudot, ACCAPT conference, Aalborg, Danmark, April 2016.

Steve Oudot, Workshop SIGMA 2016, CIRM, France, November 2016.

Steve Oudot, Applied Topology Seminar, Brown University, USA, November 2016.

Steve Oudot, Topology and Neuroscience Seminar, Princeton University, USA, November 2016.

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 : Frédéric Chazal, Analyse Topologique des Données, 30h eq-TD, Université Paris-Sud, France.

Master : Jean-Daniel Boissonnat and Marc Glisse, Computational Geometry Learning, 36h eq-TD, M2, MPRI, France.

Doctorat : Frédéric Chazal and Bertrand Michel, An introduction to Topological Data Analysis, 18h eq-TD, Universidad Autonoma de Barcelona, Spain.

Master : Steve Oudot, Topological Data Analysis, 45h eq-TD, M1, École Polytechnique, France.

Master : Steve Oudot and Frédéric Cazals, Geometric Methods for Data Analysis, 30h eq-TD, M1, École Centrale Paris, France.

Master : Jean-Daniel Boissonnat, Winter School on Computational geometry and Topology, Inria Sophia Antipolis Méditerranée, January 2016.

Doctorat : Steve Oudot, École Mathématique en Afrique on *Topologie différentielle, géométrie algébrique et applications*, La Marsa, Tunisia, March-April 2016.

Doctorat : Steve Oudot, Summer School on Mathematical Methods for High-Dimensional Data Analysis, Technical University of Munich, Germany, July 2016.

10.2.2. Supervision

PhD: Thomas Bonis, Statistical Learning Algorithms for Geometric and Topological Data Analysis, December 1st, 2016, Frédéric Chazal.

PhD : Mael Rouxel-Labbé, Génération de maillages anisotropes, december 16, 2016, Jean-Daniel Boissonnat.

PhD: Ruqi Huang, Algorithms for topological inference in metric spaces, December 14, 2016, 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: Bertrand Beauflis, Méthodes topologiques et apprentissage statistique pour l'actimétrie du piéton à partir de données de mouvement, started November 2016, Frédéric Chazal (co-advised by Bertrand Michel).

PhD in progress: Mathieu Carrière, Topological signatures for geometric data, started November 1st, 2014, Steve Oudot.

PhD in progress: Jérémy Cochoy, Decomposition and stability of multidimensional persistence modules, started September 1st, 2015, Steve Oudot.

PhD in progress: Nicolas Berkouk, Categorification of topological graph structures, started November 1st, 2016, Steve Oudot.

PhD in progress: Alba Chiara de Vitis, Concentration of measure and clustering.

PhD in progress: Siargey Kachanovich, Approximate algorithms in higher dimensional geometry.

PhD in progress: François Godi, Data structures and algorithms for topological data analysis and high dimensional geometry.

10.2.3. Juries

Frédéric Chazal was a member (and reviewer) of the PhD defense committee of Mariia Fodetenkova (Inria Nancy).

DEDUCTEAM Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

G. Dowek has co-organized the meeting Universality of Proofs in Dagstuhl.

8.1.1.2. Member of the Organizing Committees

G. Dowek is a member of the steering committee of FSCD.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

F. Blanqui was member of the program committee of the 2016 Coq Workshop.

8.1.2.2. Reviewer

F. Blanqui reviewed papers for IJCAR 2016 and CSL 2016.

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

G. Dowek is an editor of TCS-C.

8.1.4. Invited Talks

G. Dowek has been an invited speaker at ISEEP 2016.

G. Dowek has been an invited speaker at Physics and Computation 2016.

8.1.5. Scientific Expertise

G. Dowek has been a member of a committee dedicated to an update of the high school informatics curriculum.

8.1.6. Research Administration

G. Dowek is the President of the Scientific Board of the Société informatique de France.

G. Dowek is a member of the Scientific Board of la Main à la Pâte.

G. Dowek is a member of the commission de réflexion sur l'éthique de la recherche en sciences et technologies du numérique d'Allistene.

G. Dowek is a member of the comité national français d'histoire et de philosophie des sciences et des techniques.

F. Blanqui is co-director of the pole 4 (programming: models, algorithms, languages and architectures) of Paris-Saclay University's doctoral school on computer science.

F. Blanqui is referent of LSV PhD students.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

G. Dowek is attached professor at the École normale supérieure de Paris-Saclay. He has given a course at MPRI. He has given a course to the student preparing the teacher's recruiting exam Agrégation. He is responsible for the second year of master.

F. Blanqui gave a course (15h) on rewriting theory at the MPRI.

8.2.2. Supervision

PhD : Raphaël Cauderlier, Object-Oriented Mechanisms for Interoperability between Proof Systems, CNAM, 10/10/2016, Catherine Dubois

8.2.3. Juries

F. Blanqui was member of the 2016 Inria recruitment committee for young graduate scientists.

F. Blanqui was member of the jury for the best scientific production of the year within Paris-Saclay University's doctoral school on computer science.

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.

10.1.2. Scientific Events Selection

10.1.2.1. Reviewer

- D. Augot was reviewer for International Symposium on Information Theory

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.
- F. Morain is member of the editorial board of the *Applicable Algebra in Engineering, Communication and Computing*, Springer.
- A. Couvreur was editor with Alp Bassa (Bogazici University, Turkey) and David Kohel (Aix-Marseille University) of a number of *AMS Contemporary Mathematics* for the proceedings of the conference AGCT (*Arithmetic Geometry Cryptography and Coding Theory*) 2015.

10.1.3.2. Reviewer - Reviewing Activities

- D. Augot was reviewer for
 - Discrete Mathematics
 - Designs, Codes and Cryptography
 - Linear and Multilinear Algebra
 - Finite Fields and their applications
- A. Couvreur was reviewer for
 - Discrete Mathematics
 - Designs, Codes and Cryptography
 - Journal of Algebra

10.1.4. Invited Talks

- D. Augot was invited speaker at Yet Another Cryptography Conference (YACC), Porquerolles, June 2016.
- B. Smith was an invited speaker at the 20th international Workshop on Elliptic Curve Cryptography (ECC), Izmir, Turkey, September 2016.
- A. Couvreur gave a talk to represent the group *Codes et Cryptographie* of the GdR *Informatique Mathématiques* (GdR IM) at the *Journées nationales du GdR IM* at University Paris 13 (January 13).

10.1.5. Scientific Expertise

- D. Augot participated in a round table at a **workshop** organized by French National Assembly (lower house) at, on blockchains (March 24th).
- D. Augot participated in a **round table at Paris Dauphine** on blockchains, organized by the chair “Chaire Gouvernance & Régulation” (November 1).
- D. Augot made a talk on hashing and blockchain at a **workshop** on blockchains held at Institut Poincaré (November 16).

10.1.6. Teaching in international postgraduate summer schools

- B. Smith gave lectures on *Basic public-key constructions with elliptic curves* and *Advanced constructions in curve-based cryptography* at the *Summer school on real-world crypto and privacy*, Sibenik, Croatia, June 2016.
- B. Smith gave a course on *asymmetric cryptography and elliptic curves* at the *Crypto-CO summer school on cryptography and security*, Bogota, Colombia, July 2016.
- B. Smith gave lectures on elliptic curves at the *ECC2016 Computational Algebraic Number Theory School*, Izmir, Turkey, September 2016.

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 *assemblée des chefs d’équipe*
- D. Augot is elected member of the *conseil académique consultatif* of Paris-Saclay University.
- F. Levy-dit-Vehelis is a representative of “enseignants-chercheurs” of LIX.
- F. Morain, B. Smith and A. Couvreur 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.
- B. Smith is the academic coordinator for Computer Science in the new *Bachelor* program at École polytechnique.

Committees

- D. Augot was in the committee assessing candidates for Univ. Paris 8.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence :

- D. Augot was mentoring a group of polytechnique students on a L3 projet on homomorphic encryption and voting (6 students)
- D. Augot was mentoring a group of polytechnique students on a L3 projet on blockchains and hyperledger, in collaboration with Orange (5 students)
- F. Levy-dit-Vehel, “Mathématiques discrètes pour la protection de l’information”, 24h (equiv TD), 2nd year (L3), ENSTA ParisTech, France.
- J. Lavauzelle, 1I002, “Introduction à la programmation en C”, tutorial class (38.5h), L1, Université Pierre et Marie Curie, France
- J. Lavauzelle, 2I011, “Méthodes numériques”, tutorial class (21h), L2, Université Pierre et Marie Curie, France
- J. Lavauzelle, 1I001, “Éléments de programmation”, tutorial class (38.5h), L1, Université Pierre et Marie Curie, France
- J. Lavauzelle, 2I003, “Initiation à l’algorithmique”, tutorial class (21.25h), L2, Université Pierre et Marie Curie, France
- A. Couvreur and E. Barelli, INF311, ”Introduction à l’informatique“, 26.7h(equiv TD), 1st year, Ecole Polytechnique, France.
- E. Barelli, INF411, "Les bases de la programmation et de l’algorithmique", 21.3h (equiv TD), 2nd year (L3), Ecole Polytechnique, France.
- B. Smith, INF442, "Traitement des données massives", 32h TD, 2nd year, École polytechnique
- A. Couvreur and B. Smith, INF411, "Les bases de la programmation et de l’algorithmique", 32h TD, 2nd year, École polytechnique

Master :

- D. Augot was mentoring François Bonnal, on a M1 research training projet, “bitcoin malleability”
- D. Augot was mentoring Édouard Dufour-Sans, on a M1 research training projet, “symmetric information theoretically secure private information retrieval schemes and applications”
- F. Levy-dit-Vehel, “Cours de Cryptographie”, 30h. (equiv TD), 3rd year (M1), ENSTA ParisTech, France.
- B. Smith, “Algorithmes arithmétiques pour la cryptologie”, 15h, MPRI (M2), Paris
- A. Couvreur, INF558a, “Introduction to cryptology”, 25h, Ecole Polytechnique (M1).
- A. Couvreur, “Introduction to coding theory and cryptology”, 10h, MPRI (M2), Paris.
- B. Smith supervised Nagarjun Chinthamani Dwarakanath for a 3A project and an M1 project on efficient curve-based cryptosystems at École polytechnique
- A. Couvreur supervised Evrim Petek’s M2 internship on the power decoding algorithm.
- A. Couvreur supervised Anas Aarab’s M1 TRE (*Travail de Recherche Encadré*) on the decoding of Reed Solomon codes.

Doctorat :

- Ben Smith made a lecture at the [spring school on coding and cryptology](#) at La Chapelle-Gauthier.

10.2.2. Supervision

- PhD in progress. J. Lavauzelle has begun his Ph.D. on locally decodable codes and cryptographic 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.
- Completed PhD. P. Karpman, starting in 2013, defended in November 2016 his PhD on security of symmetric cryptographic primitives.

10.2.3. Juries

- D. Augot was examiner in the jury of Fanny Jardel, who defended her thesis “Calcul et Stockage Distribués pour les Réseaux de Communication”, January 11, Télécom-ParisTech
- D. Augot was examiner in the jury of Cécile Pierrot, who defended her thesis “Le logarithme discret dans les corps finis”, November 25, Pierre and Marie Curie University.
- F. Morain was referee and examiner in the jury of Alexandre WALLET, who defended his thesis “Le problème de décomposition de points dans les variétés jacobiniennes”, December 14, Pierre and Marie Curie University.
- A. Couvreur is member of the jury of the agrégation de mathématiques and coordinator of option C (“algèbre et calcul formel”).

10.3. Popularization

- At the occasion of Nokia Bell Labs Future X-Days, September 2016, D. Augot, N. Coxon and F. Levy-dit-Vehel demoed N. Coxon’s implementation of a code based *private information retrieval scheme*
- D. Augot made a two hours lecture on bitcoin to the French *institut des actuaires*.

MEXICO Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. 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 [here](#). Among many other activities, the LIA organised another edition of the ACTS workshop.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Thomas Chatain was a member of the program committee of ([ACSD 2016](#)).
- Matthias Függer was a member of the PCs of DDECS'16 and ASYNC'16.
- Stefan Haar was a member of the PCs of *13th International Workshop on Discrete Event Systems* [WODES 2016](#), the *16th International Conference on Applications of Concurrency to Systems Design* ([ACSD 2016](#)), *Int. WS on Petri Nets and Software Engineering PNSE 2016*, *ATAED Workshop on Analysis of Event Data 2016*, and *IEEE Int. Conf. on Emerging Technologies and Factory Automation (ETFA) 2016*.
- Serge Haddad was a member of the PC of the 10th International Workshop on Verification and Evaluation of Computer and Communication Systems (VECOS 2016), Tunis, Tunisia.
- Stefan Schwoon was a member of the PC of the 37th International Conference on Applications and Theory of Petri Nets and Concurrency (PN 2016).
- Claudine Picaronny was a PC member for the Eighth International Conference on Advances in System Simulation ([SIMUL'16](#))

9.1.2.2. Reviewer

- Matthias Függer was a reviewer for ICALP, ASYNC, DISC, DDECS, and IPDPS.
- Stefan HAAR was a reviewer for MFCS 2016.
- Stefan Schwoon acted as a reviewer for the following conferences taking place in 2016 : TACAS, ACSD, CONCUR, FSTTCS.

9.1.3. Journal

9.1.3.1. Member of Editorial Boards

- Stefan Haar is an associate editor of the *Journal of Discrete Event Dynamic Systems: Theory and Applications*, and a guest editor (with R. Meyer) of the upcoming special issue on ACSD 2015 in *ACM Transactions on Embedded Computing Systems (TECS)*.

9.1.3.2. Reviewer - Reviewing Activities

- Matthias Függer was a reviewer for the Journal *Energies*.
- Stefan Haar was a reviewer for *LMCS*, *MSCS*, *IEEE Transactions on Automatic Control* and *Journal of Discrete Event Dynamic Systems*.
- Stefan Schwoon acted as a reviewer for the following journals in 2016 : *Fundamenta Informaticae*, *Transactions on Software Engineering*.

9.1.4. Invited Talks

- Serge Haddad gave the following invited talks:
 - at the Joint AFSEC/ANR PACS workshop on May 26, 2016, Paris, France, on "Polynomial Interrupt Timed Automata";
 - at the VECOS 2016 conference, Tunis, Tunisia, on October 6, 2016, "Active Diagnosis";
 - at IDC 2016 (10th International Symposium on Intelligent Distributed Computing), October 11, 2016, Paris, France, on "Fault Diagnosis in Probabilistic Systems".
- Benedikt Bollig gave an invited tutorial at Highlights, Brussels, Belgium, 2016, on Automata and Logics for Distributed Systems

9.1.5. Research Administration

- Paul Gastin is one of the directors of the LIA INFORMEL.
- Stefan Haar is the head of the *SCILEX* axis within the *DIGICOSME* Labex. He was the Inria center of Saclay's correspondent for european partnerships until the summer of 2017, when he stepped down from this position to accept the presidency of Inria's COST-GTRI (international relations working group).
- Serge Haddad was a member of the recruitment committee for a professorship at INSA Toulouse.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Serge Haddad and Paul Gastin are professors at ENS Cachan (now ENS Paris-Saclay), Claudine Picaronny, Thomas Chatain and Stefan Schwoon are associate professors of the same university. Serge Haddad is the head of the Computer Science Department, and Stefan Schwoon is in charge of the L3 class. Claudine Picaronny is a co-director of the ENS Paris-Saclay's Mathematics department and a member of the juries of 'l'agrégation interne de Mathématiques' and of the second 'concours de Mathématiques' of ENS Cachan; she is also the coordinator of the mathematics/computer science examination of E3A, parts MP and MC.

Master : Benedikt Bollig, Non-sequential Theory of Distributed Systems, 36, M2, MPRI, ENS Cachan, France.

9.2.2. Supervision

Defended theses:

- PhD ([3]) by Salim Perchy , 'Opinions, Lies and Knowledge. An Algebraic Approach to Mobility of Information and Processes', Ecole Polytechnique, defended October 4, supervised by Stefan Haar and Franck Valencia (COMETE team).
- PhD by Simon Theissing [4], 'Supervision for Multimodal Transport Systems', ENS Cachan, defended December 5, supervised by Stefan Haar.

PhD in progress:

- Tymofii PROKOPENKO, Ecole Polytechnique since Oct 1, 'Privacy', jointly supervised by Catuscia Palamidessi (COMETE team) and Serge Haddad;
- Engel Lefauchaux, ENS Paris-Saclay since 2015, 'controlling information in probabilistic systems', jointly supervised by Nathalie Bertrand (SUMO team) and Serge Haddad

- Yann Duploux, ENS Paris-Saclay since 2015, 'application of formal methods to the development of embedded systems for autonomous vehicles', supervised by Béatrice Bérard and Serge Haddad. Marie Fortin (ENS Paris-Saclay since Oct 1); 'Tree-automata techniques for the analysis of distributed systems', co-supervised by Benedikt Bollig and Paul Gastin.
- Hugues Mandon (ENS Paris-Saclay since Oct 1, Digicosme Grant), Computational Models and Algorithms for the Prediction of Cell Reprogramming Strategies; supervised by Stefan Haar, co-supervision by Loic Paulevé (LRI).
- Robert Najvirt (TU Wien, Austrian FWF SIC project), *realistic delay models with applications in high-speed and low-power circuits*, co-supervised by Matthias Függer and Andreas Steininger.
- Martin Perner (TU Wien, Austrian FWF SIC project), *clock generation on-chip and formalisms suitable to prove correct VLSI circuits*, co-supervised by Matthias Függer and Ulrich Schmid.
- Juergen Maier (TU Wien, Austrian FWF SIC project), *on realistic delay models with applications in high-speed and low-power circuits, with focus on noise and high-order models*, co-supervised by Matthias Függer and with Ulrich Schmid.

9.2.3. Juries

- Benedikt bollig was
 - reviewer and jury member of the PhD thesis Logics on Data Words: Expressivity, Satisfiability, Model Checking by Ahmet Kara (Supervisor: Thomas Schwentick), Universität Dortmund, Germany, 2016, and
 - Reviewer of the PhD thesis Probabilistic Logic, Probabilistic Regular Expressions, and Constraint Temporal Logic by Thomas Weidner (Supervisor: Manfred Droste), Universität Leipzig, Germany, 2016
- Thomas Chatain was a member of the jury for the PhD defense of María Martos-Salgado, Universidad Complutense de Madrid, in January 2016.
- In addition to the juries of the two supervised students, Stefan Haar was the president of the jury for the PhD of Hassan Ibrahim, on 'SAT-based Diagnosability and Predictability Analysis in Centralized and Distributed Discrete Event Systems' at Université Paris-Sud on December 16.
- Serge Haddad was
 - a member of the juries for the PhD of Amira Methni on 'Méthodes de vérification de logiciel système critique", on July 7, 2016, at CNAM,
 - the president of the PhD jury for Hadrien Bride on "Verifying Modal Specifications of Workflow Nets" on October 24, 2016, at Université de Franche-Comté, and
 - a member of the HdR jury for Yann Thierry-Mieg, "From Symbolic Verification To Domain Specific Languages", on December 7, 2016, at Université Paris 6.

9.3. Popularization

- Stefan Haar gave a talk entitled 'Post hoc sed non propter hoc, or: why you should care about causality', in the Seminar@SystemX series of IRT SystemX on September 14, 2016.

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

D. Miller was on the Steering Committee for the FSCD series of International Conference on Formal Structures for Computation and Deduction.

D. Miller was a member of the jury for selecting the 2016 Ackermann Award (the EACSL award for outstanding doctoral dissertation in the field of Logic in Computer Science).

D. Miller was an ex officio member of the Executive Committee of the ACM Special Interest Group on Logic and Computation (SIGLOG), from April 2014 to June 2016. He was also a member of the SIGLOG advisory board, starting November 2015.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

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

FSCD'16: First International Conference on Formal Structures for Computation and Deduction, Porto, Portugal, 22-26 June.

IJCAR 2016: International Joint Conference on Automated Reasoning, Coimbra, Portugal, 27 June - 2 July.

CPP 2016, Fifth International Conference on Certified Programs and Proofs, 18-19 January, Saint Petersburg, Florida.

B. Accattoli was one of the two Program Committee chairs of the 5th International Workshop on Confluence (IWC 2016).

N. Zeilberger served on the program committee for workshops Computational Logic and Applications (CLA 2016) and Off the Beaten Track (OBT 2016).

N. Zeilberger served on external review committee for POPL 2017

L. Straßburger was on the Program Committee for LICS 2016.

9.1.2.2. Reviewer

D. Miller was a reviewer for CONCUR 2016: the International Conference on Concurrency Theory.

B. Accattoli was a reviewer for the international conferences ICTAC 2016, FSCD 2016, LICS 2016 (twice), FOSSACS 2017.

S. Graham-Lengrand was a reviewer for the international conferences FSCD 2016 (twice), LICS 2016 (three times), Concur 2016, VSTTE 2017, HATT 2017, FSTTCS 2017.

L. Straßburger was a reviewer for the international conferences LICS 2016 (8 times), FLOPS 2016.

M. Volpe was a reviewer for the international conferences IJCAR 2016 and CSL 2016.

H. Steele was a reviewer for the internal conference LICS 2016.

9.1.3. Journal

9.1.3.1. 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).

9.1.3.2. Reviewer - Reviewing Activities

S. Graham-Lengrand has been a reviewer for the journals *Fundamenta Informaticae*, *Transactions on Computational Logic*, *Journal of Logic and Computation*, *Logical Methods in Computer Science*, *Journal of Automated Reasoning*.

Danko Ilik was a reviewer for *Mathematical Reviews* and *Zentralblatt MATH*.

F. Lamarche was a reviewer for *Mathematical Structures in Computer Science*.

Lutz Straßburger was a reviewer for the journals *Theoretical Computer Science* and *Logical Methods in Computer Science*.

Marco Volpe was a reviewer for the journal *Annals of Mathematics and Artificial Intelligence*.

Beniamino Accattoli was a reviewer for the journals *Theoretical Computer Science* and *Logical Methods in Computer Science*.

9.1.4. Invited Talks

D. Miller was an invited speaker at the following conferences and workshops.

Workshop on linear logic, mathematics and computer science as part of “LL2016-Linear Logic: interaction, proofs and computation”, 7-10 November 2016, Lyon. France.

Linearity 2016. Porto, 25 June 2016.

CIPPMI (Current issues in the philosophy of practice of mathematics and informatics) Workshop on Proofs, justifications and certificates. 3-4 June 2016, Toulouse, France.

TYPES 2016: 22nd International Conference on Types for Proofs and Programs. Novi Sad, Serbia, 23-26 May 2016.

D. Miller was an invited speaker at the research seminar titled “Interactions between logic, computer science and linguistics: history and philosophy”, Université de Lille 3, 15 June 2016.

D. Miller was an invited speaker at the ACADIA research centre, Ca’ Foscari University, Venice, 27 April 2016.

B. Accattoli was invited speaker at WPTE 2016: 3rd International Workshop on Rewriting Techniques for Program Transformations and Evaluation (Porto, 23 June 2016).

S. Graham-Lengrand gave an invited talk at CLAM 2016: 5th Latin American Congress of Mathematicians, thematic session on Logic and Computability (Barranquilla, Colombia, 15th July 2016).

N. Zeilberger was an invited lecturer at OPLSS 2016: Oregon Programming Languages Summer School on Types, Logic, Semantics, and Verification.

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.

S. Graham-Lengrand is the head of the National Workgroup on “Logic, Algebra, and Computation”, within the Informatique Mathématique section of CNRS.

9.1.6. Research Administration

L. Straßburger serves on the “commission développement technologique (CDT)” for Inria Saclay-Île-de-France since June 2012

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

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

Licence: S. Graham-Lengrand, “*INF412: Fondements de l’Informatique: Logique, Modèles, Calcul*”, 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*”, 6 hours, M2, Master Parisien de Recherche en Informatique, France.

Undergraduate: K. Chaudhuri, R. Blanco, M. Volpe, G. Reis, T. Libal all taught or tutored exercises for first and second year undergrad courses, mostly at École Polytechnique.

9.2.2. Supervision

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

PhD in progress: François Thiré (since 1st October 2016), supervised by S. Graham-Lengrand (joint with G. Dowek)

9.2.3. Juries

Miller was a reporter for the PhD juries of Raphaël Cauderlier (CNAM, 10 October 2016) and Gabriel Scherer (Université Paris-Diderot, 30 March 2016).

Graham-Lengrand was a reporter for the PhD juries of Pierre Halmagrand (CNAM, 10 December 2016).

SPECFUN Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Frédéric Chyzak is member of the steering committee of the *Journées Nationales de Calcul Formel* (JNCF), the annual meeting of the French computer algebra community.
- Frédéric Chyzak has been elected member of the steering committee of the *International Symposium on Symbolic and Algebraic Computation* (ISSAC, 3-year term).
- Alin Bostan is part of the Scientific advisory board of the conference series *Effective Methods in Algebraic Geometry* (MEGA).
- Assia Mahboubi serves in the scientific advisory board of the Mathematics, Algorithms and Proofs community (MAP).
- Assia Mahboubi has served in the scientific advisory board of the École du GDR Informatique – Mathématiques 2016.
- Georges Gonthier is a member of the steering committee of the *Certified Programs and Proofs* conference (CPP).

9.1.1.2. Member of the Organizing Committees

- Assia Mahboubi has co-organized the *MAP'16 conference* at CIRM (Marseille), with B. Spitters (Aarhus University, Denmark) and P. Schuster (University of Verona, Italy): <http://scientific-events.weebly.com/1508.html>.
- Assia Mahboubi has co-organized, with E. Tassi (Marelle), the workshop *Mathematical Components: an introduction*, satellite of the conference ITP 2016: <https://itp2016.inria.fr/workshops/#mc>.
- Assia Mahboubi has co-organized, with K. Nakata (FireEye, Germany), the workshop *TTT*, satellite of the POPL'17 conference: <http://popl17.sigplan.org/track/TTT-2017>.
- Suzy Maddah has co-organized the gathering *Functional Equations in Limoges (FELIM 2016)*: <https://indico.math.cnrs.fr/event/919/>.
- Suzy Maddah has co-organized a session on software for the symbolic study of functional equations at the *International Congress on Mathematical Software (ICMS 2016)*: <http://icms2016.zib.de/>.
- Alin Bostan has co-organized, together with Bruno Salvy (Inria and ENS Lyon) and Conrado Martinez (UPC BarcelonaTech), the conference *ALEA 2016* at CIRM (Marseille): <http://scientific-events.weebly.com/1406.html>.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

- Alin Bostan has served as Symbolic Computation track chair for the international conference SYNASC 2016.

9.1.2.2. Member of the Conference Program Committees

- Assia Mahboubi has served as a member of the program committee for the international conferences with proceedings CPP 2017, ITP 2016, CSL 2016, CICM 2016 and SCSS 2016. She has also served as member of the program committee for the MAP 2016 conference and for the HaTT workshop.
- Alin Bostan has served as a member of the program committee of the ISSAC 2016 and of the SYNASC 2016 international conferences.

9.1.2.3. Reviewer

- Assia Mahboubi has served as reviewer for the proceedings of the international conferences CPP 2017, ITP 2016, CSL 2016, CICM 2016 and SCSS.
- Alin Bostan has served as reviewer for the proceedings of the international conferences FPSAC 2016, ISSAC 2016, AofA 2016 and SYNASC 2016.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Georges Gonthier is a member of the editorial board of the *Journal of Formalized Reasoning*.

9.1.3.2. Reviewer - Reviewing Activities

- Assia Mahboubi has served as a reviewer for the *Journal of Automated Reasoning*.
- Frédéric Chyzak has served as a reviewer for the journals: *Applicable Algebra in Engineering, Communication and Computing*; *Journal of Symbolic Computation*; *Journal of Algebra*; and *Electronic Journal of Combinatorics*.
- Alin Bostan has served as a reviewer for the journals: *Journal of Complexity*; *Mathematics of Computation*; *Linear Algebra and its Applications*; *Journal of Physics A: Mathematical and Theoretical*; *Journal of Algebra and its Applications*; *Journal of Symbolic Computation*; *Advances in Applied Mathematics*.

9.1.4. Invited Talks

- Assia Mahboubi has given an invited talk at the special trimester Mathematics – Computer Science – Philosophy CIPPMI in Toulouse in March 2016.
- Assia Mahboubi has given an invited lecture for the students of École Normale Supérieure Paris-Saclay in September 2016.
- Alin Bostan has been invited to give a series of five lectures at the summer school *Algorithmic and Enumerative Combinatorics* (RISC, Hagenberg, Austria), August 1–5, 2016.
- Philippe Dumas has given an invited lecture about divide-and-conquer recurrences at the *Journées Aléa* (CIRM, Marseille, France), March 7–11, 2016 [18].

9.1.5. Leadership within the Scientific Community

- Assia Mahboubi is leading the working group *Type theory based tools* inside the EUTYPES COST project. She is also M.C. for France for this project and a member of its core management group.

9.1.6. Research Administration

- Assia Mahboubi is member of the *Commission Scientifique* of Inria Saclay — Île-de-France.
- Georges Gonthier is a member of the board of the *École doctorale de mathématiques Hadamard (EDMH)*.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

License:

Louis Dumont, two L1 maths courses, 64h, Université Paris-Sud, France.

Master:

Assia Mahboubi, *Proof Assistants*, 18h, M2, Denis Diderot University (Paris), France.

Frédéric Chyzak, *Algorithmes efficaces en calcul formel*, 18h, M2, MPRI, France.

Alin Bostan, *Algorithmes efficaces en calcul formel*, 40.5h, M2, MPRI, France.

Pierre Lairez, *Algorithmique avancée*, 18h, M1, École polytechnique, France.

9.2.2. Supervision

PhD in progress: Thomas Sibut-Pinote, “Calcul numérique et démonstrations mathématiques: de la rigueur à la preuve formelle”, September 2014, Assia Mahboubi

PhD in progress: Louis Dumont, “Algorithmes rapides pour le calcul symbolique de certaines intégrales de contour à paramètre”, started in September 2013, supervised by Alin Bostan and B. Salvy.

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

9.2.3. Juries

- Alin Bostan has served as a jury member of the French *Agrégation de Mathématiques – épreuve de modélisation, option C*.
- Alin Bostan has served as an examiner in the PhD jury of Aladin Virmaux, *Théorie des représentations combinatoires de tours de monoïdes, Application à la catégorification et aux fonctions de parking*, Université Paris-Saclay, June 13, 2016.

9.3. Popularization

- Assia Mahboubi has written a paper [8] for the quarterly journal of the Royal Dutch Mathematical Society.
- Alin Bostan has given a talk at the *Mathematic Park* seminar at IHP, Paris, on January 23rd 2016.

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. Boldo, vice-president of the 28th “Journées Francophones des Langages Applicatifs” (JFLA 2017)
- J.-C. Filliâtre, organizer of EJCP (École Jeunes Chercheurs en Programmation du GDR GPL) at Lille on June 27–July 1, 2016. 42 participants. <http://ejcp2016.univ-lille1.fr/>
- A. Paskevich, program chair of the 9th Working Conference on Verified Software: Theories, Tools, and Experiments (VSTTE 2017), in collaboration with Thomas Wies (NYU).

10.1.1.2. Member of the Organizing Committees

- S. Conchon, local chair for the 44th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL 2017), held in Paris, France in January 2017.
- G. Melquiond, web chair for the 23rd IEEE Symposium on Computer Arithmetic (Arith 23), held in Silicon Valley, USA in July 2016.
- S. Boldo, member of the organization committee of the Inria Scientific Days in Rennes (June 2016).

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- S. Boldo, PC of the 23rd IEEE Symposium on Computer Arithmetic (ARITH 2016).
- S. Boldo, PC of the 9th International Workshop on Numerical Software Verification (NSV 2016).
- S. Boldo, PC of the 1st Workshop on High-Consequence Control Verification (HCCV 2016).
- S. Boldo, PC of the 27th “Journées Francophones des Langages Applicatifs” (JFLA 2016).
- A. Charguéraud, PC of the International Workshop on Hammers for Type Theories (HaTT 2016).
- A. Charguéraud, PC of the Workshop on ML (ML 2016).
- G. Melquiond, PC of the 3rd International Workshop on Coq for Programming Languages (CoqPL 2017).

10.1.2.2. 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 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 gave an invited lecture at Effective Analysis: Foundations, Implementations, Certification in January 2016 at Marseille, France.
- S. Boldo gave a keynote talk in Cambridge at a local workshop about Testing and Verification in Computational Science.
- A. Charguéraud gave an invited talk at the Royal Society specialist meeting “Verified trustworthy software systems”, presenting an interactive interpreter for the semantics of JavaScript, in London, on April 7th.
- S. Conchon gave an invited lecture “Model Checking Modulo Theories with Cubicle” at the 2016 edition of the School for Junior Researchers in Programming (École Jeunes Chercheurs en Programmation, EJCP 2016, <http://ejcp2016.univ-lille1.fr/>) held in Lille, France.
- A. Paskevich gave an invited lecture “Deductive Program Verification using Why3” at the 2016 edition of the School for Junior Researchers in Programming (École Jeunes Chercheurs en Programmation, EJCP 2016, <http://ejcp2016.univ-lille1.fr/>) held in Lille, France.

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), until June 2016. It is a project launched by the French Ministry of research and higher education as part of the program “Investissements d’avenir”, it involves the 14 research units in computer science and communications from the “Paris-Saclay” cluster.
- C. Paulin, dean of the Faculty of Sciences of Université Paris-Sud, since July 2016.

10.1.6. Scientific Expertise

- S. Boldo, member of the reviewing board for the ANR (first step in 2016).
- S. Boldo, member of the 2016 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.
- C. Marché, president of the evaluation committee of the joint Digiteo-DigiCosme call for projects <https://digicosme.lri.fr/AAPDigiteoDigiCosme2016>. The committee selected 10 thesis projects for funding, among 52 submissions. The committee also selected to support 10 scientific events in the Île-de-France region.
- C. Marché, member of the scientific commission of Inria-Saclay, in charge of selecting candidates for PhD grants, Post-doc grants, temporary leaves from universities (“délégations”)
- C. Marché, member of the “Bureau du Comité des Projets” of Inria-Saclay, in charge of examining proposals for creation of new Inria project-teams.
- C. Marché, member of a hiring committee for an associate professor position in computer science at CNAM, Paris, France. (sep-oct 2016)

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 100,000 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.
- 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/: “Software Model Checking” (M2), S. Conchon (9h), “Programmation C++11 avancée” (M2), G. Melquiond (12h), “Vérification déductive de programmes” (M2), A. Paskevich (10.5h), Université Paris-Sud, France.

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

Licence: “Programmation fonctionnelle avancée” (L3), S. Conchon (45h), Université Paris-Sud, France.

Licence: “Introduction à la programmation fonctionnelle” (L2), S. Conchon (25h), Université Paris-Sud, France.

10.2.2. Internships

- Raphaël Rieu-Helft (ENS, Paris) is a pre-PhD student doing an internship for 6 months under supervision of C. Marché, G. Melquiond and A. Paskevich. He is working on the design and the formal verification of a library for unbounded integer arithmetic. Why3 is used for formally verifying the functional behaviour of the library operations. Raphaël is also implementing in Why3 a mechanism for extracting code to the C language, in order to obtain a certified code that runs very efficiently.
- Lucas Baudin (ENS, Paris) is a master 1 intern under the supervision of J.-C. Filliâtre between September 2016 and January 2017. He is working on the inference of loop invariants by abstract interpretation in the tool Why3.

- F. Faissole was a master 2 trainee under the supervision of S. Boldo between March and August 2016. He worked on the formal proof of the Lax-Milgram theorem.

10.2.3. Supervision

PhD: L. Gondelmans, “Obtention de programmes corrects par raffinement dans un langage de haut niveau”, Université Paris-Saclay & Université Paris-Sud, December 13, 2016, 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.

PhD in progress: F. Faissole, “Stabilité(s): liens entre l’arithmétique flottante et l’analyse numérique”, since Oct 2016, supervised by S. Boldo and A. Chapoutot.

10.2.4. Juries

J.-C. Filliâtre: president of the PhD committee of A. Djoudi, “Analyse statique au niveau binaire”, Université Paris Saclay, France, December 2016.

S. Conchon: examiner of the PhD of M. Morterol, “Méthodes avancées de raisonnement en logique propositionnelle : application aux réseaux métaboliques”, Université Paris-Saclay, December 2016.

S. Conchon: reviewer of the PhD of A. Blanchard, “Aide à la vérification de programmes concurrents par transformation de code et de spécifications”, Université d’Orléans, December 2016.

S. Conchon: reviewer of the HDR of X. Thirioux, “Verifying Embedded Systems”, Institut National Polytechnique de Toulouse, September 2016.

S. Conchon : examiner of the PhD of L. Cabaret, “Algorithmes d’étiquetage en composantes connexes efficaces pour architectures hautes performances”, September 2016.

10.3. Popularization

- A. Charguéraud is one of the three organizers of the *Concours Castor informatique* <http://castor-informatique.fr/>. The purpose of the Concours Castor is to introduce pupils (from *CM1* to *Terminale*) to computer sciences. 475,000 teenagers played with the interactive exercises in November 2016.
- S. Boldo is a speaker for a MOOC for computer science teachers. She was also invited to Poitiers in November 2016 to discuss with teachers and present this MOOC.
- S. Boldo was invited to a panel about teaching computer science before university in Besançon in June 2016 during the GDR GPL days.
- During the “Fête de la science” on October 14th to 16th, S. Boldo gave several talks about computer arithmetic to teenagers and F. Faissole run a stand about an introduction to programming with robots.
- S. Boldo and F. Voisin did an introduction to computer science with an activity on computer hardware as a 1-hour extracurricular activity in schools for pupils in *CM1-CM2* on October 4th.
- S. Boldo gave a talk during a girls & maths weekend on November 22nd. See <http://www.animath.fr/spip.php?article2897&lang=fr>.

COMMANDS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events selection

10.1.1.1. Member of the conference program committees

- F. Bonnans, 14th EUROPT Workshop on Advances in Continuous Optimization, Poznań, July 3-6, 2016.

10.1.2. Journal

10.1.2.1. Member of the editorial boards

- F. Bonnans: 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”.

10.1.2.2. Reviewer - Reviewing activities

Reviews for major journals in the field such as Applied Mathematics and Optimization, Automatica, J. Diff. Equations, J. of Optimization Theory and Applications the SIAM J. Optimization, SIAM J. Control and Optimization, Inverse problems, Journal of Numerical Mathematics, Operations Research, Optimization, Process Control, Math. Reviews.

10.1.3. Invited talks

- A. Kröner: Seminars in U. Konstanz, U. Hamburg, 2016.
- Minisymposium Numerical methods for time-dependent transportation and optimal control problems. Computational Methods in Applied Mathematics (CMAM), Jyväskylä, Finland, July 31-Aug. 6, 2016;
- Minisymposium 'Optimal Control - Theory and Applications', Emerging Trends in Applied Mathematics and Mechanics, Perpignan, May 30-June 3, 2016;
- Minisymposium 'Numerical aspects of controllability of PDEs and inverse problems', CANUM (Congrès d'Analyse Numérique), Obernai, May 9-13, 2016;
- A. Kröner: Workshop on *Numerical methods for Hamilton-Jacobi equations in optimal control and related fields*, Linz, Austria, Nov., 2016;

10.1.4. Leadership within the scientific community

- F. Bonnans: French representative to the IFIP-TC5 committee (International Federation of Information Processing; TC7 devoted to System Modeling and Optimization).
- F. Bonnans: member of the PGM board and Steering Committee (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).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master :

F. Bonnans: *Numerical analysis of partial differential equations arising in finance and stochastic control*, 36h, 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.

A. Kröner : *Optimal control of partial differential equations*, 20h, M2, Optimization master (U. Paris-Saclay), France.

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

10.2.2. Supervision

- PhD : Benjamin Heymann, Dynamic optimization with uncertainty; application to energy production. Polytechnique fellowship, defense October 2016, F. Bonnans and A. Jofre.
- 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 : Arthur Le Rhun, Optimal and robust control of hybrid vehicles (IFPEN fellowship), started Sept. 2016, F. Bonnans and P. Martinon.

10.2.3. Juries

- HDR Juries: F. Silva (Limoges), A. Rondepierre (Toulouse, rapporteur).

10.3. Popularization

- J.F. Bonnans: *Comment optimiser la gestion d'un micro-réseau électrique intelligent ?* Cahier de l'Institut Louis Bachelier N. 23 (2016), p. 12-13.

DEFI Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- G. Allaire is scientific chair and one of the main organizers of the CEA/GAMNI seminar on computational fluid mechanics, IHP Paris (January 2016).

10.1.1.2. Member of the Organizing Committees

- L. Chesnel co-organized with Xavier Claeys and Sonia Fliss the workshop “Waves in periodic media and metamaterials” in Cargese <http://uma.ensta-paristech.fr/conf/metamath/Metamath/Workshop.html>
- L. Chesnel co-organize the seminar of the Centre de Mathématiques Appliquées of École Polytechnique.
- G. Allaire co-organized the PGMO conference (8-9 November 2016)
- J.R. Li is member of Organizing Committee of SIAM Conference on Computational Science and Engineering, 2017
- J.R. Li is organizer of Ecole d’ete d’excellence for Chinese Master’s students funded by French Embassy in China, 2017.
- H. Haddar Co-organized the “International Conference on Computational Mathematics and Inverse Problems”, Michgan, 15-19 August 2016

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- J.R. Li is member of the SIAM Committee on Programs and Conferences 2017-2019
- H. Haddar is memeber of the scientific committee of the conference series TAMTAM and Waves

10.1.3. Journal

10.1.3.1. 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 the editorial advisory board of Inverse Problems
 - Associate Editor of the SIAM Journal on Scientific Computing

10.1.3.2. Reviewer - Reviewing Activities

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

10.1.4. Invited Talks

- G. Allaire
 - Congrès LEM2I à Hammamet, Tunisie (avril 2016).
 - Workshop "Variational Models of Fracture" à Calgary, Canada (mai 2016).
 - Congrès ECCOMAS à Heraklion, Crête (juin 2016).
 - European forum on additive manufacturing, Chatenay Malabry (juin 2016).
- H. Haddar
 - "ATAVI International Conference on Acoustics and Vibration ICAV'2016" from 21 to 23 March 2016 in Hammamet - Tunisia
 - Journées des Mathématiciens Tunisiens à l'Etranger 20-21 juillet 2016 Cité des Sciences de Tunis
 - Oberwolfach Workshop Theory and Numerics of Inverse Scattering Problems, 18 Sep - 24 Sep 2016.

10.2. Teaching - Supervision - Juries**10.2.1. Teaching**

- Licence : Grégoire Allaire, Approximation Numérique et Optimisation, for students in the second year of Ecole Polytechnique curriculum: 8 lessons of 1h30.
- Licence : Houssem Haddar, Approximation Numérique et Optimisation, for students in the second year of Ecole Polytechnique curriculum: 8 TDs of 4h.
- Licence : Houssem 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
- 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 : Houssem Haddar, Inverse problems, for Master (M2) students of Ecole Polytechnique and Paris 6 University, 1/2 of 9 lessons of 2h.
- Master: Lucas Chesnel, "The finite element method", 6 equivalent TD hours, M1, Ensta ParisTech, Palaiseau, France

10.2.2. Supervision

- Ph.D. : G. Fournet, Inclusion of blood flow in micro-vessels in a new dMRI signal model, October 2016, J.-R. Li and L. Ciobanu
- Ph.D.: S. Schiavi, Homogenized models for Diffusion MRI, December 2016, H. Haddar and J.-R. Li
- PhD : M. Giacomini, Shape optimization and Applications to aeronautics, December 2016, O. Pantz and K. Trabelsi
- PhD : A. Maury, shape optimization for non-linear structures, December 2016, G. Allaire and F. Jouve
- PhD : C. Patricot, coupling algorithms in neutronic/thermal-hydraulic/mechanics for numerical simulation of nuclear reactors, March 2016, G. Allaire and E. Hourcade

- PhD in progress : J.-L. Vié, optimization algorithms for topology design of structures, December 2016, G. Allaire and E. Cancès
- Ph.D. in progress: M. Lakhal, 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: 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. 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 :P. Geoffroy on topology optimization by the homogenization method in the context of additive manufacturing (Safran Tech, to be defended in 2019), G. Allaire.
- PhD in progress : K. Nepal, Transmission eigenvalues and non destructive testing of concrete like materials , 2016, L. Chesnel H. Haddar and L. Audibert
- PhD in progress : M. Kchaou, Higher order homogenization tensors for DMRI modeling, 2016, H. Haddar, J.R Li and M. Moakher

DISCO Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

- Catherine Bonnet is together with Alexandre Chapoutot (ENSTA ParisTech) and Paolo Mason (L2S) the co-organizer of the Working Group Shy of Digicosme on the Plateau de Saclay.
- Catherine Bonnet was together with Alexandre Chapoutot and Laurent Fribourg (ENS Cachan) the co-organizer of the DigiCosme Spring School 2016 on Hybrid Systems, May 9-13, ENSTA ParisTech.
- Sorin Olaru was the Scientific organizer of the Workshop "Interpolation-based techniques for constrained control: from improved vertex control to robust model predictive control alternatives" at ECC 201

8.1.2. Scientific Events Selection

Frédéric Mazenc was Associate Editor for the conferences 2017 American Control Conference, Seattle, USA and the 55th IEEE Conference on Decision and Control, Las Vegas, USA, (2016).

Ali Zemouche was Associate Editor for the conferences 2017 American Control Conference, Seattle, USA, and the 55th IEEE Conference on Decision and Control, Las Vegas, USA, (2016).

8.1.2.1. Member of the Conference Program Committees

Catherine Bonnet was a member of the International Program Committee of the IFAC Conference on Time-Delay Systems - IFAC TDS2016.

Sorin Olaru was a member of the conference program committee: International Conference on System Theory, Control and Computing - ICSTCC 2016.

Guillaume Sandou was a member of the program committee of the 2016 IEEE Symposium on Computational Intelligence in Production and Logistics Systems, Athens, Greece.

Ali Zemouche was a member of the International Program Committee of the IFAC ACD16 Conference, Lille, November 2016.

Ali Zemouche is a member of the Technical Program Committee of the 2017 IEEE - ACC Conference, Seattle, May 2017.

8.1.2.2. Reviewer

The team reviewed many papers for international Conferences eg IEEE CDC 2016; IEEE ACC 2016, IFAC TDS 2016

8.1.3. Journal

8.1.3.1. 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.

Sorin Olaru is a Member of the editorial board of IMA Journal of Mathematical Control and Information

Ali Zemouche is Member of the European Journal of Control editorial board.

Ali Zemouche is Associate Editor for SIAM Journal on Control and Optimization.

8.1.3.2. Reviewer - Reviewing Activities

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

8.1.4. Invited Talks

Frédéric Mazenc was a speaker of 'The 5th International Symposium on Positive Systems'. September 14th-16th 2016, Università Campus Bio-Medico di Roma, Italy. Title of his talk: *Stability analysis of a differential-difference system through a linear Lyapunov functional design*.

Frédéric Mazenc was a plenary speaker of the workshop 'Stability and Control of Infinite-Dimensional Systems', 12-14 October 2016, Passau, Germany. Title of his talk: *New trajectory based approach for systems with delay: application to the reduction model technique*.

8.1.5. Leadership within the Scientific Community

Catherine Bonnet and Sorin Olaru are members of the IFAC Technical Committees Robust Control.

Catherine Bonnet is a member of the IFAC Technical Committees Distributed Parameter Systems and Non linear Control Systems. She is a member of the SIAG/CST (SIAM Activity group Control System Theory) steering committee.

For 'The 5th International Symposium on Positive Systems', September 14th-16th 2016, Università Campus Bio-Medico di Roma, Frédéric Mazenc organized an invited session entitled *Positive systems with delay*.

8.1.6. 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.

8.1.7. Research Administration

Catherine Bonnet is a Management Committee member of the COST action *Fractional-order systems; analysis, synthesis and their importance for future design*, member of the board of Directors of the consortium Cap'Maths, of the administration council of the association *Femmes et Mathématiques*, of the Inria Parity Committee (created in 2015) and of the *Cellule veille et prospective* of Inria.

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.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Guillaume Sandou, Signals and Systems, 87h, L3, CentraleSupélec
 Licence : Guillaume Sandou, Mathematics and programming, 18h, L3, CentraleSupélec
 Licence : Sorin Olaru, Numerical methods and Optimization, 24h, niveau M1, SUPELEC, France
 Licence : Sorin Olaru, Hybrid systems, 16h, M2, SUPELEC, France
 Licence : Sorin Olaru, Automatic Control, 8h, M1, SUPELEC, France
 Licence : Sorin Olaru, Signals and systems, 8h, L3, SUPELEC, France
 Licence : Sorin Olaru, Embedded systems, 8h, M1, Centrale Paris, France
 Master : Dina Irofti, Java programming, 40h, M2, Paris-Sud
 Master : Dina Irofti, Industrial computing, 16h, M1, Paris-Sud
 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
 F. Mazenc: March 2016. Teaching (in English) for the *International Graduate School on Control* of the EECI (Master level). 21 hours). Subject : introduction to the ordinary differential equations, Lyapunov design, control and observation of nonlinear dynamical systems.

8.2.2. Supervision

PhD in progress : Saeed Ahmed, Bilkent University, Stability analysis and control of switched systems with time-delay. Supervisor : Hitay Ozbay. Co-supervisor : Frédéric Mazenc.
 PhD in progress : Nadine Aoun, Modélisation de réseaux de chaleur et gestion avancée multi-échelles de la production, de la distribution et de la demande. Supervisor: Guillaume Sandou.
 PhD in progress : Caetano Cardeliqio, Stability and stabilization of (possibly fractional) systems with delays. French Supervisor : Catherine Bonnet, Brazilian Supervisor : André Fioravanti.
 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 : 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, soutenue le 6 décembre 2016
 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 : Mohamad Koteich, Modélisation et Observabilité des Machines Electriques en vue de la commande sans capteur mécanique. Supervisors: Gilles Duc et Guillaume Sandou, soutenue le 18 mai 2016.
 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 : Juliette Pochet, Analyse de performance et de résilience d'une ligne de type RER équipée d'un automatisme CBTC. Supervisor: Guillaume Sandou.

8.2.3. Juries

Catherine Bonnet was a reviewer of the PhD thesis of Marine Jacquier entitled "*Mathematical modeling of the hormonal regulation of food intake and body weight - Application to caloric restriction and leptin resistance*", University of Lyon 1, February 5th 2016.

Catherine Bonnet was a member of several recruiting committees: Junior Researcher competition in Inria Grenoble - Rhône-Alpes, Senior Researcher competition at Inria, Professor competition at University of Perpignan, Professor competition at CentraleSupélec.

Frédéric Mazenc was a reviewer of the PhD thesis of Youssef Bourfia, entitled "*Modélisation et Analyse de Modèles en Dynamique Cellulaire avec Applications à des Problèmes Liés aux Cancers*", (University of Cadi Ayyad de Marrakech and University of Pierre et Marie Curie, December 28, 2016).

Frédéric Mazenc was an examiner of the HDR of Ali Zemouche, entitled "*State Observer Design and Stabilization of Nonlinear Systems via LMIs*". Centre de Recherche en Automatique de Nancy, UMR 7039 CNRS - Université de Lorraine, December 01, 2016.

Sorin Olaru has been appointed as evaluator for V. Grelet's PhD thesis at University of Lyon. The thesis was defended on February 18th 2016.

Guillaume Sandou was a reviewer of the PhD thesis *Modélisation dynamique et gestion avancée de réseaux de chaleur*, Loic Giraud, Université Grenoble Alpes

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

- Roman Le Goff Latimier, "*Gestion et dimensionnement d'une flotte de véhicules électriques associée à une centrale photovoltaïque : co-optimisation stochastique et distribuée*", 26 septembre 2016.
- Sinziana Carloganu, "*Evaluation des produits d'effacements réalisés sur un ensemble de consommateurs d'électricité par identification d'un modèle global*", 8 décembre 2016.

Ali Zemouche was an examiner of two PhD theses under the supervision of Professor Hieu TRINH from Deakin University, Geelong, Australia:

- The PhD thesis of Minh Cuong Nguyen, entitled "*State Observer Design Methods for Lipschitz Time-Delay Systems*", Deakin University, Geelong, Australia, September 15, 2016.
- The PhD thesis of Ngoc Thanh Pham, entitled "*Robust Load Frequency Control of Interconnected Grids with Electric Vehicles*", Deakin University, Geelong, Australia, December 9, 2016.

GAMMA3 Project-Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Organisation

7.1.1.1. Member of the Organizing Committees

A. Loseille is a committee member of the International Meshing Roundtable.

7.1.2. Scientific Events Selection

7.1.2.1. Member of the Conference Program Committees

P. Laug has been a Member of the Conference Committee of The 13th ISGG Symposium on Numerical Grid Generation, hosted at The 20th IMACS World Congress, Xiamen, China, 10-14 Dec. 2016.

7.1.2.2. Reviewer

Team members have reviewed papers for the International Meshing Roundtable and MASCOT/ISGG.

7.1.3. Journal

7.1.3.1. Reviewer - Reviewing Activities

Team members have reviewed manuscripts submitted to International Journal for Numerical Methods in Engineering, Journal of Computational Physics, Computers and Structures, Engineering with Computers, MATCOM, SIAM Journal.

7.1.4. Scientific Expertise

P. Laug has been a Member of a Site Visit Committee for an Industrial Research Chair application at the NSERC/CRSNG (Natural Sciences and Engineering Research Council of Canada / Conseil de recherches en sciences naturelles et en génie du Canada), Université Laval, Quebec City, Nov. 2016.

7.2. Teaching - Supervision - Juries

HdR : Laurence Moreau, Méthodes de remaillage et d'optimisation pour la simulation numérique, mémoire d'Habilitation à diriger des Recherches, Université de Technologie de Troyes, 26 Mai 2015.

7.2.1. Juries

- F. Alauzet a été Président du jury d'HDR de G. Puigt (Université de Toulouse)
- P. L. George a été rapporteur du jury de thèse de G. Brèthes (Inria Sophia)
- A. Loseille a été examinateur pour la thèse d'A. Botella (Université de Lorraine)

GECO Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- Mario Sigalotti was member of the organizing committee of the *Workshop on switching dynamics & verification*, IHP, Paris, January 28-29, 2016.
- Ugo Boscain and Mario Sigalotti were member of the organizing committee of the *Workshop on quantum dynamics & control*, IHP, Paris, May 23-24, 2016.

9.1.2. Journal

9.1.2.1. 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

9.1.3. Invited Talks

- Mario Sigalotti gave an invited talk at the “ExQM Miniworkshop: Mathematics of Quantum Control”, Munich, Germany, February 2016.
- Ugo Boscain gave an invited talk at the conference “Geometric Analysis in Control and Vision Theory”, Voss, Norway, May 2016.
- Ugo Boscain gave an invited talk at the seminar of the *Département de Mathématiques d’Orsay*, May 2016.
- Ugo Boscain gave an invited talk at the conference “Recent Trends in Differential equations”, Aveiro, Portugal, June 2016.
- Mario Sigalotti gave an invited talk at the *Séminaire de géométrie sous-riemannienne*, IHP, Paris, June 2016.
- Ugo Boscain gave the opening talk at the conference “Geometry, PDE’s and Lie Groups in Image Analysis”, Eindhoven, The Netherlands, August 2016.
- Mario Sigalotti gave an invited talk at the seminar of the *Dipartimento di Matematica - Università degli Studi di Trento*, Italy, September 2016.
- Ugo Boscain gave an invited talk at the conference “Nouvelles directions en analyse semiclassique”, Chalès, France, December 2016.

9.1.4. Research Administration

- Mario Sigalotti is member of the IFAC technical committee “Distributed Parameter Systems”.
- Mario Sigalotti is member of the steering committee of the *Institut pour le Contrôle et la Décision* of the Idex Paris-Saclay.

9.2. Teaching - Supervision - Juries

9.2.1. Supervision

- PhD (concluded): Guiherme Mazanti, “Stabilité et taux de convergence pour les systèmes à excitation persistante” [1], supervisors: Yacine Chitour, Mario Sigalotti. Discussed on September 2016.
- PhD in progress: Ludovic Sacchelli, “Sub-Riemannian geometry, hypoelliptic operators, geometry of vision”, started in September 2015, supervisors: Ugo Boscain, Mario Sigalotti.
- PhD in progress: Nicolas Augier, “Contrôle adiabatique des systèmes quantiques”, started in September 2016, supervisors: Ugo Boscain, Mario Sigalotti.
- PhD in progress: Mathieu Kohli, “Volume and curvature in sub-Riemannian geometry”, started in September 2016, supervisors: Davide Barilari, Ugo Boscain.
- PhD in progress: Jakub Orłowski, “Modeling and steering brain oscillations based on in vivo optogenetics data”, started in September 2016, supervisors: Antoine Chaillet, Alain Destexhe, and Mario Sigalotti.

9.2.2. Juries

- Ugo Boscain was member of the commission for the PhD defense of Valentina Franceschi, Padue, March 2016.
- Mario Sigalotti was member of the commission for the PhD defense of Francesco Boarotto, SISSA, Trieste, September 2016.
- Ugo Boscain was reviewer and member of the commission for the PhD defense of Jérémy Rouot, Nice, November 2016.

9.3. Popularization

Ugo Boscain gave a concert-seminar at the event “Musique & Mathématiques 2016”, Besançon, November 2016.

POEMS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. 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.

10.1.2. Scientific events organisation and selection

- E. Bécache, A. S. Bonnet-Ben Dhia, M. Bonnet, S. Fliss, C. Hazard, P. Joly and E. Lunéville are members of the scientific committee for the 13rd international conference on mathematical and numerical aspects of wave propagation (WAVES 2017), which will take place in Minneapolis in May 2017.
- A. S. Bonnet-Ben Dhia has been a member of the organizing committee of the workshop *NEW TRENDS IN THEORETICAL AND NUMERICAL ANALYSIS OF WAVEGUIDES* (40 participants) which has been held in Porquerolles in May 2016.
- S. Fliss has been a member of the organizing committee of the workshop *METAMATH* (40 participants) which has been held in Cargèse in November 2016.
- A. S. Bonnet-Ben Dhia has been a member of the organizing committee of the workshop on *Mathematical and Numerical Modeling in Optics* (70 participants) which has been held in Minneapolis in December 2016.

10.1.3. Journal

- A. S. Bonnet-Ben Dhia is associate editor of SINUM (SIAM Journal of Numerical Analysis) and SIAP (SIAM Journal of Applied Mathematics).
- 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.

10.2. Teaching - Supervision

10.2.1. 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)
- *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 Paris-Tech (1st year)
- *Inverse problems: mathematical analysis and numerical algorithms*, (Master AN& EDP, Paris 6 and Ecole Polytechnique)

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

- *Advanced Finite Element Methods*, ENSTA ParisTech (2nd year)
- *Parallel Scientific Computing*, ENSTA ParisTech (3rd year), and Master "Analysis, Modelling, Simulation" (M2)
- *Mathematical Models and their Discretisation in Electromagnetism*, ENSTA ParisTech (3rd year), and Master "Analysis, Modelling, Simulation" (M2)
- Deputy Head of the Master's Program Analysis, Modelling, Simulation, Paris-Saclay University

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 Paris-Tech (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)
- *Propagation des ondes dans les milieux périodiques*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)

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).
- *Programmation scientifique et 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 Paris-Tech (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)

Axel Modave

- *Scientific parallel computing*, ENSTA ParisTech (3rd year) and Master "Modeling and Simulation" (M2)

10.2.2. Supervision

PhD: Marc Bakry, "Estimateurs a posteriori pour la résolution des problèmes de diffraction par équations intégrales", October 2016, Patrick Ciarlet and Sébastien Pernet.

PhD: Geoffrey Beck, "Modélisation de la propagation d'ondes électromagnétiques dans des câbles co-axiaux", March 2016, Patrick Joly et Sébastien Impériale

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

PhD: Rémi Cornaggia, "Asymptotique petit-défaut de fonctions-coût et son application en identification: justifications théorique et expérimentale, extensions", September 2016, Marc Bonnet and Bojan Guzina

PhD: Elizaveta Vasilevskaia, "Modes localisés dans les guides d'onde quantiques", July 2016, Patrick Joly

PhD: Valentin Vinales, "Analyse asymptotique des équations de Maxwell en présence de métamatériaux", September 2016, Sonia Fliss and Patrick Joly

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 : 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: Antoine Bera, "Conception de perturbations invisibles pour les ondes électromagnétiques ou acoustiques", October 2016, Anne-Sophie Bonnet-Ben Dhia and Lucas Chesnel

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 :Sandrine Paolantoni, "Analyse spectrale et simulation numérique de la diffraction électromagnétique par des métamatériaux", October 2016, Christophe Hazard and Boris Gralak

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 Recoquillay, "Identification de défauts dans un guide d'ondes en régime temporel", October 2014, Laurent Bourgeois

PhD in progress : Yohanes Tjandrawidjaja, "Modélisation de la propagation d'ondes guidées et de leur interaction avec des défauts localisés dans une plaque élastique anisotrope pour des applications en SHM", October 2016, Anne-Sophie Bonnet-Ben Dhia and Sonia Fliss

SELECT Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Sylvain Arlot:

- Sylvain Arlot organized a workshop at IHES on statistics and learning in the Paris-Saclay area.
- Sylvain Arlot co-organized (with Francis Bach, Inria Paris, and Alain Celisse, Univ. Lille 1) a 2-day workshop at IHES about computational and statistical trade-offs in learning.

Jean-Michel Poggi:

- Organization Special Invited Session entitled “Advances in Random Forests”, 22nd International Conference on Computational Statistics, Oviedo, Spain, 23-26 August 2016.

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 the workshop took place in Paris.

Sylvain Arlot co-organized the 1st Junior Conference on Data Science and Engineering at Paris-Saclay (at LAL, Orsay).

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Jean-Michel Poggi was:

- President of the Scientific Programme Committee, ENBIS 2017, Naples, 10-14 June 2017

9.1.2.2. Member of the Conference Program Committees

Jean-Michel Poggi was:

- Member of the Scientific Committee of CESS 2016, Conference of European Statistics Stakeholders, Hungarian Academy of Sciences, Budapest, 20-21 October 2016
- Member of SPC ENBIS-2016, Sheffield, UK, 11-15 September 2016
- Member of the Scientific committee of the journées MAS 2016, Grenoble
- Member of SPC COMPSTAT 2016, 22nd International Conference on Computational Statistics, Oviedo, Spain, 23-26 August 2016.

9.1.3. Journal

9.1.3.1. 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*.

9.1.3.2. Reviewer - Reviewing Activities

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

9.1.4. Invited Talks

The members of the team have given many invited talks on their research in the course of 2016.

9.1.5. 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)

9.1.6. Scientific Expertise

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

9.1.7. Research Administration

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

Sylvain Arlot coordinates (jointly with Marc Schoenauer, Inria Saclay) the math-STIC program of the Labex Mathématique Hadamard.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

SELECT members teach various courses at several different universities, and in particular the Master 2 “Mathématique de l’aléatoire” of Université Paris-Saclay.

9.2.2. Supervision

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 Bréchet, 2015, Pascal Massart

PhD in progress: Eddie Aamari, 2015, Pascal Massart and Frédéric Chazal

PhD in progress: Damien Garreau, 2016, Sylvain Arlot and Gérard Biau

PhD in progress: Guillaume Maillard, 2016, Sylvain Arlot and Matthieu Lerasle

PhD in progress: Jeanne Nguyen, 2015, Claire Lacour

PhD in progress: Benjamin Goehry, 2015, Pascal Massart and Jean-Michel Poggi

9.2.3. Juries

- Ph.D. Jérémy Bensadon: Sylvain Arlot (president)
- Ph.D. Gwenaëlle Mabon: Sylvain Arlot (member)
- Ph.D. Mokhtar Alaya: Sylvain Arlot (president)
- Ph.D. Marie-Liesse Cauwet: Sylvain Arlot (member)

TAO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Isabelle Guyon, Program Chair of NIPS 2016

10.1.1.2. Member of the Organizing Committees

- Anne Auger, co-organizer of the GECCO workshop on Black Box Optimization Benchmarking.
- Cécile Germain, Scientific Committee, DataScience@HEP 2016
- Nikolaus Hansen, co-organizer of the GECCO workshop on Black Box Optimization Benchmarking.
- Marc Schoenauer, Steering Committee, Parallel Problem Solving from Nature (PPSN); Steering Committee, Learning and Intelligent Optimization (LION).
- Michele Sebag, President of Steering Committee, Eur. Conf. on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD).
- Isabelle Guyon, co-organizer of two NIPS workshops (Challenges in Machine Learning and Spatio-temporal time series), co-organizer of AutoML workshop at ICML, co-organizer of LAP challenge workshops (ECCV, ICPR).
- Paola Tubaro, co-organizer of the Second European Social Networks (EUSN) Conference.

10.1.1.3. Member of 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.

10.1.1.4. Reviewer

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

10.1.2. Journal

10.1.2.1. 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.
- Isabelle Guyon, action editor, *Journal of Machine Learning Research (JMLR)*.
- Isabelle Guyon, series editor, *Microtome book series Challenges in Machine Learning (CiML)*.
- 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)*.
- Paola Tubaro, member of Associate Editorial Board, *Sociology*, Sage; member of Editorial Board, *Revue Française de Sociologie*, Presses de Sciences Po.

10.1.2.2. Reviewer - Reviewing Activities

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

10.1.3. Invited Talks

- Isabelle Guyon. 17 Oct. ENS SMILE seminars. Network Reconstruction: the Contribution of Challenges in Machine Learning.
- Michele Sebag, 21 Jan., Deep Learning, IHP
- Michele Sebag, 24 Mar., Nutrition personnalisée et alimentation sur mesure, AgroParisTech.
- Michele Sebag, 12 Oct., Deep Learning and Artificial Intelligence, Franco-Japanese Symposium. Tokyo
- Paola Tubaro. 8 Mar. University of Insubria (Italy) economics department seminar. Investigating peer effects and performance similarity in organizational networks: a longitudinal study.
- Paola Tubaro. 15 Mar. EHESS seminar. Sociabilité et soutien social dans les communautés en ligne autour des troubles de l'alimentation.
- Paola Tubaro. 2 Nov. UQAM (Montréal), Seminar of the health communication research center (ComSante). Le phénomène 'pro ana' : Troubles alimentaires et réseaux sociaux.
- Paola Tubaro. 8 Nov. Université Laval (Québec), Seminar of the CELAT research center. Le phénomène 'pro ana' : Troubles alimentaires et réseaux sociaux.

10.1.4. Leadership within the scientific community

- Isabelle Guyon, President and co-founder of ChaLearn, a non-for-profit organization dedicated to the organization of challenge. <http://chalearn.org>
- 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*.
- Michèle Sebag, elected Chair of Steering Committee, ECML-PKDD; head of the Research Committee of Labex Digicosme.
- Paola Tubaro, convenor of the Social Network Analysis Group of British Sociological Association.

10.1.5. 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
- Michele Sebag, member of hiring jury for U. Nancy
- Paola Tubaro, evaluator for ANR, SNSF (Swiss National Science Foundation), and National Science Center (Poland).

10.1.6. Research administration

- Philippe Caillou, elected member of the Scientific Council and Academic Council.
- Cécile Germain, elected member of the U-PSUD Scientific Council and of its board. University officer for scientific computing. Deputy head of the computer science department, in charge of research, member of the Board of the Lidex *Center for Data Science*.
- Marc Schoenauer, *Délégué Scientifique* (aka VP-Research) for the Inria Saclay Île-de-France branch until June 2016; co-chair (with Sylvain Arlot) of the *Maths-STIC* program of the Labex of Mathematics Hadamard (LMH).
- Michele Sebag, deputy director of LRI, CNRS UMR 8623; elected member of the Research Council of Univ. Paris-Saclay; member of the STIC department council; member of the Board of the Lidexes *Institut de la Société Numérique* and *Center for Data Science*.

- Paola Tubaro, member of the steering team, MSH Paris-Saclay, axis 1 "Power of algorithms".

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, 60h, L2, Univ. Paris-Sud.

Licence : Aurélien Decelle, Machine Learning and Artificial Life, 55h, L2, Univ. Paris-Sud.

Licence : Aurélien Decelle, Computer Architecture, 41h, L3, Univ. Paris-Sud.

Licence and Polytech : Cécile Germain, Computer Architecture

Licence : Isabelle Guyon, Project: Creation of mini-challenges, M2, Univ. Paris-Sud.

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

Master : Guillaume Charpiat et Gaétan Marceau, Advanced Machine Learning, 34h, M2 Recherche, Centrale-Supélec.

Master : Aurélien Decelle, Machine Learning, 27h, M1, Univ. Paris-Sud.

Master : Aurélien Decelle, Information theory, 39h, M1, Univ. Paris-Sud.

Master : Cécile Germain, Parallel Programming

Master : Isabelle Guyon, Project: Resolution of mini-challenges (created by M2 students), L2, Univ. Paris-Sud.

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.

Master : Paola Tubaro, Sociology of social networks, 24h, M2, EHESS/ENS/ENSAE.

Master : Paola Tubaro, Digital platforms, online socialization and new economic models, 6h, M2, Arts et Métiers ParisTech (ENSAM).

Doctorate: Paola Tubaro, Research Methods, 9h, University of Insubria, Italy.

10.2.2. Supervision

PhD: Jérémy BENSADON, *Applications of Information Theory to Statistical Learning*, Univ. Paris-Saclay, 02/02/2016, Yann Ollivier.

PhD: Marie-Liesse CAUWET, *Artificial intelligence with uncertainties, application to power systems*, Univ. Paris-Saclay, 30/9/2016, Olivier Teytaud.

PhD: Sandra ASTETE-MORALES, *Noisy optimization, with applications to power systems*, Univ. Paris-Saclay, 5/10/2016, Olivier Teytaud.

PhD: Robin ALLESIARDIO, *Multi-armed Bandits on non Stationary Data Streams*, Univ. Paris-Saclay, 19/10/2016, Raphaël Féraud (Orange Labs) and Michèle Sebag.

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

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

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

PhD in progress : Benjamin DONNOT, *Optimisation et méthodes d'apprentissage pour une conduite robuste et efficace du réseau électrique par anticipation sur base de paradigmes topologiques.*, 1/09/2015, Isabelle Guyon and Marc Schoenauer

PhD in progress : Guillaume DOQUET, *ML Algorithm Selection and Domain Adaptation*, 1/09/2015, Michele Sebag

PhD in progress: Victor ESTRADE *Robust domain-adversarial learning, with applications to High Energy Physics*, 01/10/2016, Cécile Germain and Isabelle Guyon.

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 : Hoang M. LUONG, *Squaring the Circle in Modelling Corporate Governance, Market Structure and Innovation: A Tobin's Q Approach to R&D Investment when Network Effects Are Present*, 01/09/2014, (with M. Ugur and S. Gorgoni, at the University of Greenwich, London, UK).

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: 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 : Anna PIAZZA, *Inter-Organisational Relationships and Organisational Performance: Network Analysis Applications to a Health Care System*, 01/09/2014, Paola Tubaro (with F. Pallotti and A. Lomi, at the University of Greenwich, London, UK).

PhD in progress: Adrian POL *Machine Learning Anomaly Detection, with application to CMS Data Quality Monitoring*, 01/10/2016, 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.

PhD in progress : Yasaman SARABI, *Network Analysis of Private Water Companies, Challenges Collaboration and Competition*, 15/03/2012, Paola Tubaro (at the University of Greenwich, London, UK).

PhD in progress: Thomas SCHMITT, *A Collaborative Filtering Approach to Matching Job Openings and Job Seekers*, 1/11/2014, Philippe Caillou and Michèle Sebag and Jean-Pierre Nadal (EHESS)

PhD in progress : Lisheng SUN, *Apprentissage Automatique: Vers une analyse de données automatisé*, 1/10/2016, Isabelle Guyon and Michèle Sebag

PhD in progress : Corentin TALLEC, *Reinforcement Learning and Recurrent Neural Networks: dynamical approaches*, 1/10/2016, Yann Ollivier

PhD in progress : Pierre WOLINSKI, *Learning the Architecture of Neural Networks*, 1/9/2016, Guillaume Charpiat and Yann Ollivier

10.2.3. Juries

Marc Schoenauer, PhD jury of Jonathan GUERRA (ISAE, Toulouse), External reviewer of HDR of David Gianazza (IRIT, Toulouse).

Cyril Furtlehner, PhD jury of Christophe Schülke (Université Paris Diderot).

Isabelle Guyon, PhD jury of Mathieu Bouyrie (AgroPariTech), November 29, 2016. Restauration d'images de noyaux cellulaires en microscopie 3D par l'introduction de connaissance a priori.

Guillaume Charpiat, PhD jury of Thomas Bonis (Inria Saclay); jury for the SIF best PhD prize (Gilles Kahn).

Nikolaus Hansen, PhD jury of Oswin Krause (University of Copenhagen), January 8, 2016. External reviewer.

Michele Sebag, HdR jury of Matthieu Geist (U. Lille); PhD Jury Jiaxin Kou (Royal Holloway, London); PhD Phong N'guyen (U. Geneve).

10.3. Popularization

- **Yann Ollivier** coordinated, with IHP, numerous activities for the centenary of Claude Shannon, including a public exhibition at the Musée des Arts et Métiers, a cycle of public conferences, a contest for teachers on the best IT class project, and a workshop on the current state of information theory.
- **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).
- **Aurélien Decelle**, participation to "la fête de la science" animating a presentation of arduino to high school students and families at Inria Turing.
- **Paola Tubaro**, invited talk on "Online social networks and eating disorders", ACT eating disorders association, Nîmes, 5 Feb.; invited talk on "Are we all digital laborers?", Autonomy salon of urban mobility, Paris, 8 Oct.; public interview, "L'économie peut-elle être collaborative? Rencontre avec la sociologue et chercheuse Paola Tubaro", Montréal, 2 Nov.; panelist at the round table "Big data, que fait-on de nos données?", organized at Museum of civilization, Québec, 3 Nov.; co-animator, workshop on big data in the "International science and society forum" for high school students, Québec, 4-6 Nov.; panelist at the round table "L'économie peut-elle être vraiment collaborative ET sociale et solidaire?", Ministry of the Economy, Paris, 13 Dec.
- **Paola Tubaro**, training on the digital society and its effects on labor and the economy, for union leaders (CGT, 27 Apr., CFDT, 23 Jun).
- **Paola Tubaro**, radio interviews and panels: Radio France Inter, Radio France Culture, ICI Radio Canada, Aligre.fm. Book reviews and mentions in the media: Le Monde, Rue89/L'Obs, Mashable/France24, Slate.fr, Journal International de Médecine, The Conversation.
- **io.datascience** notable presentations at: CNRS-Inria day *data4ist : exploration et analyse des sources de données pour la recherche et ses environnements* (May 2016) ; Futur en Seine 2016 (Juin 2016) ; DGESIP/MiPNES seminar *Normes et échanges de données : où en est-on ?* (September 2016).

TROPICAL Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- S. Gaubert co-organized, jointly with D. Grigoriev (CNRS, Lille), M. Joswig (TU Berlin) and T. Theobald (Frankfurt), a Dagstuhl workshop, on “Effectivity in tropical mathematics, and beyond”.

10.1.1.2. Member of the Organizing Committees

- M. Akian co-organized a workshop on hybrid systems, IHP, 2016.
- S. Gaubert co-organizes the “Séminaire Parisien d’Optimisation”.
- S. Gaubert, co-organized with S. Charousset (EDF) the PGMO days at EDF labs Paris-Saclay.
- X. Allamigeon co-organized two invited sessions on semidefinite programming and tropical methods at the conference PGMO Days.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- S. Gaubert, president of the scientific committee of SMAI-MODE 2016 (Toulouse, March 2016).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- S. Gaubert is member of the editorial committee of the collection Mathématiques et Applications, SMAI and Springer.
- S. Gaubert is associate editor of Linear and Multilinear Algebra.
- S. Gaubert is associate editor of RAIRO Operations research.

10.1.4. Invited Talks

- M. Akian, Keynote lecture at ETAMM 2016.
- S. Gaubert, invited lecture at the 2016 Conference on Applied Mathematics, Hong Kong University.

10.1.5. Leadership within the Scientific Community

- S. Gaubert coordinates the Gaspard Monge Programme for Optimization and Operations Research (PGMO), a corporate sponsorship of EDF operated by Fondation Mathématique Jacques Hadamard at Paris-Saclay. The goal of the program is to help to develop the research community in these fields, connecting academic and industrial researchers. It includes a research initiative on energy, led by S. Charousset from EDF (IROE, funding focused projects on the optimization of energy), and a subprogram dedicated to basic research (PRMO, funding smaller size projects). Projects are selected after an open call, instructed by the scientific committee of PGMO. The program organizes advanced invited lectures for PhD students and researchers (in 2016, lectures by Yuri Nesterov from Louvain and Jean-Bernard Lasserre from LAAS), a regular seminar, and an annual conference (PGMO days, 250 participants in 2016). The program is currently being renewed, with an opening to new industrial partners interested by optimization. See <https://www.fondation-hadamard.fr/PGMO> for more information on PGMO.

10.1.6. Research Administration

- M. Akian :
 - Member of the “comité de liaison SMAI-MODE” since June 2015.
- S. Gaubert :
 - Coordinator of PGMO (Gaspard Monge Program for Optimization and Operations Research, a corporate sponsorship of EDF operated by FMJH).
 - Member of the scientific council of CMAP.
- X. Allamigeon:
 - Member of the scientific committee of Inria Saclay – Ile-de-France.
 - Member of the laboratory council of CMAP.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- M. Akian
 - Course “Markov decision processes: dynamic programming and applications” joint between (3rd year of) ENSTA and M2 “Mathématiques et Applications”, U. Paris Saclay, “Optimization”, and shared with Jean-Philippe Chancelier (ENPC), 15 hours each.
- 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 L3.
- S. Gaubert
 - Course “Systèmes à Événements Discrets”, option MAREVA, ENSMP.
 - Course “Algèbre max-plus pour le contrôle optimal et les jeux” of “Parcours Optimisation, Jeux et Dynamique” (ODJ) of M2 “Mathématiques et Applications” of Paris 6 University and École Polytechnique.
 - Lecture of Operations Research, third year of École Polytechnique. The lectures notes were published this year as a book [46].
- A. Hochart
 - Cours de niveau L1 et L2 à l’Univ. Paris Diderot (Paris VII), dans le cadre d’un monitorat (34h).
- M. Skomra
 - Petite classe du cours de tronc commun de 1ere année "Introduction à l’optimisation" de l’École des ponts (ENPC), niveau L1.
- 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. Supervision

- PhD: Antoine Hochart, registered at École Polytechnique, since October 2013, thesis supervisor: Stéphane Gaubert, cosupervision: Marianne Akian, defended on 14 Nov 2016.
- PhD in progress : Eric Fodjo, registered at École Polytechnique, since October 2013, thesis supervisor: Marianne Akian.
- PhD in progress : Nikolas Stott, registered at École Polytechnique, since October 2014, thesis supervisor: Stéphane Gaubert, cosupervision: Xavier Allamigeon, Éric Goubault, Sylvie Putot.
- PhD in progress : Vianney Boeuf, registered at École Polytechnique, since October 2014, thesis supervisor: Stéphane Gaubert, cosupervision: Stéphane Raclot (BSPP), Marianne Akian, Xavier Allamigeon.
- PhD in progress : Mateusz Skomra, registered at Univ. Paris Saclay since October 2015, thesis supervisor: Stéphane Gaubert, cosupervision: Xavier Allamigeon.
- PhD in progress : Jean-Bernard Eytard, registered at Univ. Paris Saclay since October 2015, thesis supervisor: Stéphane Gaubert, cosupervision: Marianne Akian, Mustapha Bouhtou.
- PhD in progress: Paulin Jacquot, registered at Univ. Paris Saclay since November 2016, thesis supervisor: Stéphane Gaubert, cosupervision: Nadia Oujdane, Olivier Beaudé (EDF).

10.2.3. Juries

- M. Akian
 - Vice-president of the jury of the 2016 competition for CR2 positions of Inria Saclay–Île-de-France.
 - Member of the jury selecting the 2016 PGMO PhD price.
 - Jury of the PhD thesis of A. Hochart (X, Palaiseau, November 2016).
- S. Gaubert
 - Member of hiring committee (Professor position) at Paris 6 University.
 - Member of hiring committee (Assistant Professor position) at Limoges University.
 - Jury of the HdR of A. Auger (Saclay, 2016).
 - Jury of the HdR of B. Scherrer (Nancy, reviewer, 2016).
 - Jury of the PhD thesis of C. Jozs (Paris 6, reviewer, 2016).
 - Jury of the PhD thesis of A. Parmentier (ENPC, reviewer, 2016).
 - Jury of the PhD thesis of A. Hochart (X, Palaiseau, 2016).

10.3. Popularization

- J.P. Quadrat :
 - Webmaster of the site <http://www.maxplus.org>, dedicated to max-plus algebra.

10.4. Conferences, Seminars

- M. Akian
 - Conference “Emerging Trends in Applied Mathematics and Mechanics” (ETAMM), Perpignan, May 30 - June 3, 2016, Title of the talk: “Majorization inequalities for valuations of eigenvalues using tropical algebra”.
 - MTNS 2016 (22nd International Symposium on Mathematical Theory of Networks and Systems), Minneapolis, July 12-15, 2016, Title of the talk: “Solving Hamilton-Jacobi-Bellman equations by combining a max-plus linear approximation and a probabilistic numerical method”.

- Workshop “Numerical methods for Hamilton-Jacobi equations in optimal control and related fields” at the Radon Institute, Austrian Academy of Sciences, Linz, Austria, Nov. 21 - Nov. 25, 2016. Title of the talk: “Solving Hamilton-Jacobi-Bellman equations by combining a max-plus linear approximation and a probabilistic numerical method”.
- Dagstuhl Seminar “Algorithms and Effectivity in Tropical Mathematics and Beyond”, Nov. 28 - Dec. 02, 2016. Title of the talk: “Majorization inequalities for valuations of eigenvalues using tropical algebra”.
- X. Allamigeon
 - Journée Equipe McTAO, Inria Sophia Antipolis, January 18, 2016. Title of the talk: “Long and winding central paths”.
 - Conference “Emerging Trends in Applied Mathematics and Mechanics” (ETAMM), Perpignan, May 30 - June 3, 2016. Title of the talk: “Long and winding central paths”.
 - Groupe de travail combinatoire du Plateau de Saclay, June 8, 2016. Title of the talk: “Long and winding central paths”.
 - Dagstuhl Seminar “Algorithms and Effectivity in Tropical Mathematics and Beyond”, Nov. 28 - Dec. 02, 2016. Title of the talk: “Log-barrier interior-point methods are not strongly polynomial”.
 - Séminaire Parisien d’Optimisation, Paris, December 12, 2016. Title of the talk: “Log-barrier interior-point methods are not strongly polynomial”.
- V. Boeuf
 - Congrès annuel de la société Française de Recherche Opérationnelle et d’Aide à la Décision (ROADEF), Compiègne, February 10-12, 2016. Title of the talk: “Évaluation de performance en réception d’appels d’urgence : débits asymptotiques dans un réseau de Pétri avec priorités.”.
 - Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS), Taormina, October 25-28, 2016. Title of the talk: “Stationary solutions of discrete and continuous Petri nets with priorities”.
- J.B. Eytard
 - PGM Days, Nov. 8-9, 2016, Palaiseau. Title of the talk: “Price incentives in mobile networks: a tropical approach”.
- E. Fodjo
 - 9th European Summer School in Financial Mathematics, Aug. 29- Sep. 2, 2016, St Petersburg, Russia. Title of the talk: “A probabilistic max-plus numerical method for solving stochastic control problems”.
 - SIAM Conference on Financial Mathematics & Engineering, Nov. 17-19, 2016, Austin, Texas, USA. Title of the talk: “A probabilistic max-plus numerical method for solving stochastic control problems”.
 - 55th Conference on Decision and Control (CDC 2016), Dec. 12-14, 2016, Las Vegas, USA. Title of the talk: “A probabilistic max-plus numerical method for solving stochastic control problems”.
- S. Gaubert
 - International Conference on Tensors, Matrices and their Applications, Chern Institute of Mathematics, Nankai University, Tianjin, 20-24 May 2016. Title of the talk: “Ergodicity conditions in non-linear Perron-Frobenius theory and application to nonnegative tensors”.
 - SIAM Conference on Discrete Mathematics, Atlanta, June 6-10, 2016. Title of the talk: “Stochastic mean payoff games are tropical semidefinite programs”.

- Workshop: Advances in Convex Analysis and Optimization Erice July 6-11, 2016. Title of the talk: “Zero-sum games, non-archimedean convexity and sinuous central paths”.
- 2016 Conference on Applied Mathematics, The University of Hong Kong Aug 23-26, 2016. Title of the talk: “Zero-sum games, non-archimedean convexity and sinuous central paths”.
- Seminar of the algebraic geometry group at the University of Hong Kong, Aug 24, 2016. Title of the talk. “Tropical spectrahedra”.
- Dagstuhl Seminar “Algorithms and Effectivity in Tropical Mathematics and Beyond”, Nov. 28 - Dec. 02, 2016. Title of the talk “The equivalence between zero-sum games and tropical convexity”.
- A. Hochart
 - Game Theory PhD Seminar, Paris, February 1, 2016. Title of the talk: “Ergodic problems for zero-sum stochastic games”.
 - Conference SMAI-MODE, Toulouse, March 23-27, 2016. Title of the talk: “Une approche opérateur accréatif pour les jeux stochastiques avec critère ergodique”.
 - MTNS 2016 (22nd International Symposium on Mathematical Theory of Networks and Systems), Minneapolis, July 12-15, 2016, Title of the talk: “An Accretive Operator Approach to Ergodic Problems for Zero-Sum Games”.
- M. MacCaig
 - Birmingham Young Mathematicians Conference 2016. Title: “Tropical algebra: Optimisation, tropical polytopes and integer points”.
 - Student tropical algebraic geometry seminar (STAGS 2016), Yale. Title: “Calculating the volume of tropical polytopes is hard”.
 - ILAS 20th annual meeting, K.U.Leuven, July 11, 2016. Title: “Scaling to integer matrices in max-algebra”.
 - Dagstuhl Seminar on Algorithms and Effectivity in Tropical Mathematics.
- A. Niv
 - Conference “Recent advances in linear algebra and graph-theory”, U.T.Chattanooga, March 5-6, 2016. Title of the talk: “Introduction to tropical total positivity”.
 - Seminar at Afeka Academic College of Engineering, Tel-Aviv, May 8, 2016. Title of the talk: “Assignment problems via tropical matrices”.
 - Tropical symposium, ILAS 20th annual meeting, K.U.Leuven, July 11, 2016. Title of the talk: “Total non-negativity via valuations in tropical algebra”.
- M. Skomra
 - Conference SMAI-MODE, Toulouse, March 23–25, 2016. Title of the talk: “Les spectrahèdres tropicaux et leur relation aux jeux stochastiques”.
 - Conference “Emerging Trends in Applied Mathematics and Mechanics” (ETAMM), Perpignan, May 30 - June 3, 2016. Title of the talk: “Nonarchimedean semidefinite programming and stochastic games”.
 - Séminaire des doctorants du CMAP, Palaiseau, June 10, 2016. Title of the talk: “Une relation entre la programmation semi-définie paramétrique et les jeux stochastiques”.
 - Conference of the International Linear Algebra Society (ILAS), Leuven, July 11-16, 2016. Title of the talk: “Nonarchimedean semidefinite programming and stochastic games”.
 - International Symposium on Symbolic and Algebraic Computation (ISSAC), Waterloo, Ontario, Canada, July 19-22, 2016. Title of the talk: “Solving Generic Nonarchimedean Semidefinite Programs using Stochastic Game Algorithms”.

- Conference PGMO Days, EDF Labs Paris-Saclay, November 8-9, 2016. Title of the talk: “Solving Generic Nonarchimedean Semidefinite Programs using Stochastic Game Algorithms”.
- Dagstuhl Seminar “Algorithms and Effectivity in Tropical Mathematics and Beyond”, Nov. 28 - Dec. 02, 2016. Title of the talk: “Tropical spectrahedra and stochastic mean payoff games”.
- C. Walsh
 - Conference “New Methods in Finsler Geometry”, Leipzig, July 5-9, 2016. Title of the talk: “Studying isometry groups using the horofunction boundary”.

AMIB Project-Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Selection

7.1.1.1. Member of the Conference Program Committees

- Yann Ponty: RECOMB'17, BICOB'17, SeqBio'16, ECCB'16, BioVis'16, ISMB'16, and BICOB'16

7.1.1.2. Reviewer

For international conferences:

- Yann Ponty: MFCS'16

7.1.2. Journal

7.1.2.1. Member of the Editorial Boards

M. Régnier is an editor of PeerJ Computer Science.

7.1.2.2. 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...

7.1.3. Invited Talks

Mireille Regnier was an invited speaker of the *Advanced Algorithms on Strings* workshop in the honor of Alberto Apostolico.

Yann Ponty gave invited talks at the *Journées Combinatoires Franco-Vançouvéroises* (Vancouver, Canada), the college of life sciences (Wuhan University, China), and multiple seminars (C3BI@Pasteur, LIGM, LAMSADE, 2x Bioinfo@LIX/LRI...)

7.1.4. Leadership within the Scientific Community

Yann Ponty is the scientific animator of the *macromolecular structure and interactions axis* of the CNRS *Molecular Bioinformatics* workgroup (GdR BIM).

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

7.1.5. Scientific Expertise

Yann Ponty acted as an external expert for the French *Agence Nationale de la Recherche* (ANR, JCJC program), and for the Canadian *Sciences and Engineering Research Council* (NSERC/CRSNG, Discovery grant program);

Yann Ponty acted as an external reviewer for the evaluation of the assistant professor position of Jing Qin at University of Southern Denmark, towards her promotion as an associate professor;

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

7.1.6. Research Administration

Since 2016, M. Regnier acts as the head of LIX (CNRS/Ecole Polytechnique);

Until Sept. 2016, Yann Ponty was an elected member of the *comité national du CNRS*, and took 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);

Yann Ponty is an elected member of the *conseil de laboratoire* of LIX.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

We have and we will go on having trained a group of good multi-disciplinary students both at the Master and PhD level. Being part of this community as a serious training group is obviously an asset. Our project is also very much involved in two major student programs in France: the Master AMI2B at Paris-Saclay (previously BIBS (Bioinformatique et Biostatistique) at Université Paris-Sud/École Polytechnique) and the parcours d'Approfondissement en Bioinformatique at École Polytechnique.

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

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

7.2.2. Supervision

HDR

L. Mouchard *Contributions algorithmiques à l'analyse des séquences génomiques* : J.-M. Steyaert

PhD

Vladimir Reinharz, *Algorithmic properties of evolved structured RNAs*, McGill University (Montréal, Canada), July 2016, supervised by J. Waldispühl (CS Dept, McGill Univ.) and Yann Ponty

PhD in progress

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

Wei Wang, *Homology based approaches for predicting 3D structure of RNA molecules*, Univ. Paris XI, Encadrant(els): Alain Denise and Yann Ponty;

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

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. Waldispühl (U. McGill, Canada);

Jorgelindo Moreira da Veiga, *Caractérisation dynamique et optimisation des flux métaboliques*, Ecole Polytechnique, Encadrants: L. Schwartz (AP-HP)Sabine Peres (U. Paris-Sud)

7.2.3. Juries

HDR

S. Bérard *Histoires évolutives et autres comptes* : M. Régnier

M. Magnin *Contributions à l'élaboration de connaissances qualitatives en bio-informatique* : M. Régnier

PhD

Manuel Lafond, *Comparative Genomics*, Université de Montréal, Canada, August 2016

Karen Druart, *Computational Structural Biology*, Ecole Polytechnique, December 2016

7.3. Popularization

Afaf Saaidi participated to the *Ma thèse en trois minute* contest, and won the best poster award at the *Journées de l'école doctoral Interfaces* of Paris Saclay University.

GALEN Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- Pesquet, Jean-Christophe (co-organizer): Special session on Advanced Optimization Methods for Online Signal Processing at the European Signal Processing Conference (EUSIPCO) 2016

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

- Kokkinos, Iasonas: European Conference on Computer Vision (ECCV) 2016, Asian Conference on Computer Vision (ACCV), IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

9.1.2.2. Member of the Conference Program Committees

- Pesquet, Jean-Christophe: European Signal Processing Conference (EUSIPCO), IEEE International Conference on Image Processing (ICIP)

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), Medical Image Computing and Computer Assisted Intervention (MICCAI), Neural Information Processing Systems (NIPS) and International Conference on Learning Representations (ICLR), IEEE International Conference and Acoustics Speech and Signal Processing (ICASSP), IEEE International Conference on Image Processing (ICIP), IEEE Statistical Signal Processing workshop (SSP), European Signal Processing Conference.

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), Special Issue on Deep Learning for Computer Vision (guest editor)
- Zacharaki, Evangelia: Medical Physics (guest editor), International Journal of Radiology, Dataset Papers in Science (Radiology)

9.1.3.2. Reviewer - Reviewing Activities

- Pesquet, Jean-Christophe: IEEE Trans. on Signal Processing, IEEE Trans. on Image Processing, IEEE Trans. on Information Theory (IEEE-TI), Signal Processing, SIAM Journal on Optimization, SIAM Journal on Imaging Sciences, Journal of Mathematical Imaging and Vision, Journal of Optimization Theory and Applications
- Kokkinos, Iasonas: International Journal of Computer Vision, IEEE Trans. on Pattern Analysis and Machine Intelligence, Computer Vision and Image Understanding (CVIU)
- Chouzenoux, Emilie: IEEE Trans. on Image Processing, IEEE Trans. Image Processing, Journal of Mathematical Imaging and Vision (JMIV), Journal of Optimization Theory and Applications, Journal of Global Optimization
- Zacharaki, Evangelia: IEEE Trans. on Medical Imaging (T-MI), Medical Image Analysis (MedIA), Trans. on Biomedical Engineering, Neuroimage, Artificial Intelligence in Medicine, Expert Systems with Applications

- Ferrante, Enzo: IEEE Trans. on Medical Imaging (T-MI), Medical Image Analysis (MedIA), Computerized Medical Imaging and Graphics (CMIG)

9.1.4. Invited Talks

- Pesquet, Jean-Christophe: Modena (Optimization Techniques for Inverse Problems workshop), Mathematics Faculty of Wien University, Polytechnic University of Warsaw.
- Kokkinos, Iasonas: Local features workshop held in conjunction with ECCV, October 2016 (keynote speech), Astronomical Data Analysis Summer School, Chania, Greece, May 2016 (keynote speech), September 2016, Qualcomm-UvA Deep Vision Seminar
Perceptual Organization in Computer Vision Workshop (CVPR), Jun 2016, Facebook Artificial Intelligence Research (FAIR) Paris, May 2016, ETH, May 2016, Oxford University, March 2016, University College London, March 2016, Center for Machine Perception, Prague, March 2016, Simon Fraser University, February 2016.
- Chouzenoux, Emilie: Séminaire Parisien des Mathématiques Appliquées à l'Imagerie, IHP, Paris, November 2016, Cavaliere workshop on Optimization and Optimal Transport for Imaging, Inria Paris, October 2016.
- Zacharaki, Evangelia: LIGM, Université Paris Est, November 2016

9.2. Teaching - Supervision - Juries

Masters

Kokkinos, Iasonas

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

Zacharaki, Evangelia

- Master: Foundations in Machine Learning, 36, M2 DataScience, Centrale-Supélec, FR

Corbineau, Marie-Caroline and Pesquet, Jean-Christophe

- Master: Advanced course on Optimization, 30h, M1, CentraleSupélec, FR

Chouzenoux Emilie and Pesquet, Jean-Christophe

- Master: Foundations of Distributed and Large Scale Computing, 24h, M2 Data-Science, CentraleSupélec, FR

9.2.1. Supervision

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

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 (extended), Nikos Paragios

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

PhD in progress : Vivien Fecamp, Linear-Deformable Multi-Modal Deformable Image Fusion, 2012-2015 (extended), 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

PhD in progress : Marie-Caroline Corbineau, Fast online optimization algorithms for machine learning and medical imaging, 2016-2019, supervised by Emilie Chouzenoux and J.-C. Pesquet

PhD in progress : Loubna El Gueddari, Parallel proximal algorithms for compressed sensing MRI reconstruction - Applications to ultra-high magnetic field imaging, 2016-2019, supervised by Emilie Chouzenoux and J.-C. Pesquet

PhD in progress : Azar Louzi, Fast online optimization algorithms for machine learning and computer vision, 2016-2019, supervised by Emilie Chouzenoux and J.-C. Pesquet

9.2.2. Juries

The faculty members of the team (N. Paragios, J.-C. Pesquet, I. Kokkinos, E. Chouzenoux) participated in several PhD Thesis Committees, HDR Committees and served as Grant Reviewers.

LIFEWARE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Selection

9.1.1.1. Member of the Conference Program Committees

- Grégory Batt was member of the program committees of:
 - **FOSBE'16** 6th IFAC Conference on Foundations of Systems Biology in Engineering, Laboratory for Systems Theory and Automatic Control, Otto von Guericke University, Magdeburg, Germany, 9th - 12th October 2016.
 - **CMSB'16** 14th International Conference on Computational Methods in Systems Biology, Computer Laboratory, University of Cambridge, UK, 21st - 23rd September 2016.
 - **HSB'16** 5th international workshop on Hybrid Systems Biology, Grenoble, October 20-21, 2016.
- François Fages was member of the program committees of:
 - **CIE'16** Computability in Europe, Paris, 2016.
 - **CMSB'16** 14th International Conference on Computational Methods in Systems Biology, Computer Laboratory, University of Cambridge, UK, 21st - 23rd September 2016.
 - **CP'16** 22nd International Conference on Principles and Practice of Constraint Programming, Toulouse, France, September 5-9, 2016.
 - **HSB'16** 5th international workshop on Hybrid Systems Biology, Grenoble, October 20-21, 2016.
 - **IJCAI'16** 25th International Joint Conference on Artificial Intelligence, New York, 2016.
 - **SASB'16** The Seventh International Workshop on Static Analysis and Systems Biology, September 8–10, 2016, Edinburgh, UK
 - **WCB'16** 12th International Workshop on Constraint-Based Methods for Bioinformatics, Toulouse, 2016.
- Sylvain Soliman was member of the program committees of:
 - **CP'16** 22nd International Conference on Principles and Practice of Constraint Programming, Toulouse, France, September 5-9, 2016.
 - **WCB'16** 12th International Workshop on Constraint-Based Methods for Bioinformatics, Toulouse, 2016.
- Sucheendra K. Palaniappan was member of the program committee of Formal Methods for Biological and Biomedical Systems (FMBBS 2016), Shenzhen, China, December 2016.

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

François Fages is member of

- the Editorial Board of the Computer Science area of the Royal Society Open Science journal since 2014,
- the Editorial Board of the journal RAIRO OR Operations Research since 2004.

9.1.2.2. Reviewer - Reviewing Activities

Beyond their Editorial Board and Program Committee duties,

- Grégory Batt reviewed an article for *ACS Synthetic Biology*
- François Fages reviewed articles for *BMC Systems Biology*, *Fundamenta Informaticae*, *BioSystems*, *PLOS-One* and *Computers and Industrial Engineering*.
- Sylvain Soliman reviewed articles for *BMC Systems Biology*, *BioSystems* and *AMS Math Reviews*.

9.1.3. Invited Talks

- François Fages gave invited talks at
 - Workshop on Symbolic Computation for Biological Systems, “Biochemical Programs and Mixed Analog-Digital Algorithms in the Cell”, Univ. Bonn, 22 November 2016
 - Bilille scientific day on Systems Biology, “Biochemical Programs and Mixed Analog-Digital Algorithms in the Cell”, Univ. Lille, 15 November 2016,
 - Colloque de Cérisy, Sciences de la vie, science de l’information, “Biochemical Programs and Mixed Analog-Digital Algorithms in the Cell”, 20 September 2016,
 - Workshop on Formal Verification of Real-Time Systems, “Continuous Valuations of Temporal Logic Specifications with applications to Parameter Optimization and Robustness Measures”, ENSTA Brest, 28 June 2016,
 - Workshop on Verification of Biological Systems, “Hybrid Analog/Digital Computation with Biochemical Reaction Systems”, ENS Cachan, 17 May 2016,
 - International Workshop on Entropy and Information, “Digital/Analog Computation in the Cell”, Univ Paris-Diderot, 9 May 2016.
 - GT TheorBio, “Computational Systems Biology and Optimization”, Orsay, 9 Février 2016.
- Grégory Batt gave invited talks at
 - Seminar at Systems Biology group, Clinical Pharmacology, Roche Pharma Research, on “Multi-scale modeling of TRAIL-induced apoptosis”, March 2016, Basel
 - Seminar at Control Theory and Systems Biology Lab, Department of Biosystems Science and Engineering, ETHZ, on “Multi-scale modeling of TRAIL-induced apoptosis”, March 2016, Basel
 - Journées Inria Cancer, Modeling dynamics of cell-to-cell variability in TRAIL-induced apoptosis explains fractional killing and predicts reversible resistance, March 2016, Paris
 - Third International Workshop on Synthesis of Complex Parameters, “What population reveals about individual cell identity: Single-cell parameter estimation of models of gene expression in yeast”, April 2016, Eindhoven
 - Open University: systèmes hybrides et systèmes biologiques, “Predicting long-term effects of apoptosis-inducing drug treatments”, May 2016, ENS Cachan, France
 - Journées scientifiques Inria, “What population reveals about individual cell identity: Single-cell parameter estimation of models of gene expression in yeast”, June 2016, Rennes
 - Second Conference of the French Research Group on Synthetic Biology, “Balancing a genetic toggle switch by real-time control or periodic stimulations”, June 2016, Bordeaux
 - Second Conference of the French Research Group on Symbolic Systems Biology, “Multi-scale modeling of TRAIL-induced apoptosis”, July 2016, Lyon
 - Pasteur Quantitative Biology Symposium, “Balancing a genetic toggle switch by real-time control or periodic stimulations”, Oct 2016, Paris

- Bilille scientific day on Systems Biology, “Balancing a genetic toggle switch by real-time control or periodic stimulations”, Nov 2016, Lille
- Jakob Ruess gave invited talks at
 - Dracula seminar, “Towards real-time in vivo mathematical biology at the level of single cells”, Nov 2016, Lyon

9.1.4. Leadership within the Scientific Community

- Grégory Batt is a member of
 - the IEEE/CSS Technical Committee on Systems Biology,
 - the scientific board of the GDR de Biologie de Synthèse et des Systèmes
 - the GDR de Bioinformatique Moléculaire, in charge of the axis on Biological network modelling, systems biology and synthetic biology
 - co-animator of the French working group on Symbolic Systems Biology GT BIOSS
- François Fages is a member of
 - the Steering Committee of the **International Conference on Computational Methods for Systems Biology** since 2008,
 - the Scientific Council of the *Doctorate School “Frontières Du Vivant”* at *Center for Research and Interdisciplinarity*, Universities Paris Descartes and Paris Diderot, since 2010,
 - The Scientific Committee of the Summer School **Ecole Thématique Modélisation Formelle des Réseaux de Régulation Biologique** since 2010.

9.1.5. Scientific Expertise

François Fages

- is a member of the jury for the *Prix de thèse Gilles Kahn* of the *Société Informatique de France*, since 2015,
- reviewed one research project for the **Israel Science Foundation**.

Grégory Batt has been a member of the selection committee for Junior research scientists (CR2) at Inria Rennes - Bretagne Atlantique in 2016.

9.1.6. Research Administration

François Fages is member of the “Bureau du Comité des Projets” of Inria Saclay-IdF.

Sylvain Soliman is member of

- the “Commission Scientifique” of Inria Saclay-IdF
- and of the AAP Digiteo/Digicosme Ph.D. grant jury.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Grégory Batt (coordinator and teacher: 48h) and Jakob Ruess (24h), *Computational Biology*, M1, Master Approches Interdisciplinaires du Vivant (AIV).

Master: Grégory Batt (6h) and Denis Thieffry (coordinator), *Dynamical Modelling of Cellular Regulatory Networks*, M2, Interdisciplinary Master in Life Science at the Ecole Normale Supérieure, Paris.

Master/PhD: Grégory Batt (co-coordinator 80h, teacher 8h) and Jakob Ruess (8h), *Modeling and engineering of biological systems*, M2/PhD, Institut de Technologie et d’Innovation of Paris Sciences et Lettres (PSL-ITI), Paris.

Master: Chiara Fracassi (48h), *Experimental Methods in Biophysics*, M1, Master Approches Interdisciplinaires du Vivant (AIV).

Master: François Fages (coordinator module 48h, teaching 12h), Grégory Batt (12h), and Denis Thieffry (12h), C2-19 *Computational Methods for Systemic and Synthetic Biology*, Master Parisien de Recherche en Informatique (MPRI), Paris.

Doctorate: François Fages (6h), *Méthodes formelles pour la biologie des systèmes*, **Ecole Thématique Modélisation Formelle des Réseaux de Régulation Biologique**, Ile de Porquerolles, 6-10 June 2016

Master: Chiara Fracassi, *Dynamics of Living Systems*, 24h, M1, Master Approches Interdisciplinaires du Vivant (AIV).

Master: Thierry Martinez, *Développement logiciel*, 17h, M1, Ecole des Ponts et Chaussée, Champs-sur-Marne.

Master: Sylvain Soliman, C2-35-1 *Constraint Programming*, coordinator and teaching 24h, M2, Master Parisien de Recherche en Informatique (MPRI), Paris.

Master: Pauline Traynard, *Introduction to Linux and Programming with Python and R*, M1, M2, 30h, master IMAiS du département de biologie de l'ENS,

9.2.2. Supervision

PhD : Pauline Traynard, *Model Building by Temporal Logic Constraint Solving: Investigation of the Coupling between the Cell Cycle and the Circadian Clock*, Université Paris Diderot, Paris (Oct 2012), Dir. François Fages and Denis Thieffry (ENS), 10 May 2016.

PhD : François Bertaux. *Cell-based multi-scale modeling for systems and synthetic biology: from stochastic gene expression in single cells to spatially organized cell populations*. Université Paris - Diderot, Dir. Dirk Drasdo (EPI MAMBA) and Grégory Batt, 15 May 2016.

PhD : Jean-Baptiste Lugagne, Université Paris Diderot, Paris (Oct 2012), Dir. Grégory Batt and Pascal Hersen (CNRS, MSC), 13 Dec 2016.

PhD in progress: Jonas Sénizergues, Université Paris Diderot, Paris (Oct 2015, until August 2016), Dir. François Fages and Sylvain Soliman.

PhD in progress (Sept 2016-): Virgile Andréani, Ecole Polytechnique, Paris , Dir. Grégory Batt and Lingchong You (Duke U.).

PhD in progress (Dec 2016-): Jean-Baptiste Caron, relais thèse Inria, Dir. Grégory Batt.

9.2.3. Juries

- HDR: Morgan Magnin, “Contributions à l’élaboration de connaissances qualitatives en bio-informatique”, Ecole Centrale de Nantes, *François Fages, Reviewer*, 28 avril 2016.
- Ph.D.: Simona Catozzi, “Retroactivity in Signal Transduction”, Univ. Nice Sophia-Antipolis, *François Fages, Examiner*, 15 Dec. 2016.
- Ph.D.: Alexandre Temperville, “Bases creuses en algèbre linéaire exacte et simplification algorithmique de modèles biologiques”, Université de Lille, *François Fages, Reviewer*, 11 juillet 2016.
- Ph.D.: Ignacio Salas, “Packing Curved Objects with Interval Methods”, Ecole des Mines de Nantes, *François Fages, Reviewer, Chairman of the Jury*, 29 avril 2016.
- Ph.D.: Louis Fippo Fitime, “Modélisation hybride, Analyse et Vérification Quantitative des grands réseaux de régulation biologique”, École Centrale de Nantes, *Sylvain Soliman, Examiner*, November 28, 2016.
- Ph.D.: Adel Mezine, “Conduite d’expériences par apprentissage actif pour l’identification de systèmes dynamiques biologiques”, Paris-Saclay University, *Grégory Batt, Reviewer*, October 11, 2016.

9.3. Popularization

François Fages

- wrote a book chapter “AI and Biological Modeling” [17], for an encyclopedic book entitled “A guided tour to Artificial Intelligence Research” to appear next year,
- participated in the **Colloque de Cérisy** “Sciences du vivant, sciences de l’information”, 20 Septembre 2016, with a conference and an article [18] to appear in a book next year,
- wrote an article for ERCIM news [16],
- and received a schoolgirl for one afternoon in our research team.

M3DISIM Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the organizing committees

Philippe Moireau

P. Moireau, Member of the CEMRACS-2016 organizing committee

M. Genet, Member of the GIENS-2017 organizing committee

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Editorial Boards

D. Chapelle, Member of the editorial board of journal *Computers & Structures*

D. Chapelle, Member of the editorial board of journal *ESAIM: M2AN*

9.1.2.2. Reviewer - Reviewing Activities

J.-M. Allain, Reviewer for “Journal of the Royal Society Interface”, “Physica D” and “Journal of the Mechanical Behavior of Biomedical Materials”.

R. Chabiniok, reviewer for “Journal of Biomechanical Engineering and Computational” and “Mathematical Methods in Medicine”.

M. Genet, reviewer for “Journal of Elasticity”.

S. Imperiale, reviewer for “Journal of Computational Physics” and “Journal of Differential Equations”.

9.1.3. Invited Talks

J.-M. Allain, “Caractérisation in vitro de tissus mous à l’échelle microscopique”, Colloque Mecamat, Aussois.

J.-M. Allain, “Multiscale characterization of skin biomechanics”, Workshop constitutive behaviour of soft tissue, Manchester, UK.

R. Chabiniok, “Biophysical modeling of cardiac function for clinical applications” at University Southwestern, Dallas, Texas (Seminar series of Biomedical Engineering Department, and at regular clinical echocardiography meeting of Dept. of Pediatrics, UT Southwestern Medical Center).

D. Chapelle, seminar at CEMRACS-16.

M. Genet, “Modélisation et simulation en biomécanique cardiaque”, Département de Génie Mécanique, École Normale Supérieure de Cachan.

9.1.4. Leadership within the Scientific Community

J.-M. Allain, Member of Society of Experimental Mechanics and of Biophysical Society

J.-M. Allain, Member of the Academic Council of Université Paris-Saclay, France

D. Chapelle, Member of the board of directors of the VPH Institute

9.1.5. Research Administration

J.-M. Allain, Responsibility of the teaching experimental center (mechanics), 32h, Ecole Polytechnique, France

J.-M. Allain, Scientific Advisory Board, chair BioMecAM, ENSAM, Paris, France

D. Chapelle, VP research of Inria Saclay-Ile-de-France

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Bachelor: J.-M. Allain, co-supervision of the new program for the Polytechnique Bachelor, 15h, Ecole Polytechnique, France

Bachelor: F. Caforio, “Math 255 – Differential calculus for physics (mathematical analysis in two and three dimensions)”, 42h, (L2), Université d’Orsay, France

Bachelor: M. Genet, “MEC431 – Modélisation et Simulation en Mécanique Industrielle”, 32h, (L3), École Polytechnique, France

Bachelor: M. Genet, “MEC431 – Mécanique des Milieux Continus”, 16h, (L3), École Polytechnique, France

Bachelor: S. Imperiale, “MA102 – Analyse pour les EDP”, 24h, (L3), ENSTA ParisTech, France

Bachelor: S. Imperiale, “MA104 – Analyse complexe”, 12h, (L3), ENSTA ParisTech, France

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

Master : J.-M. Allain, “Computational fluid dynamics”, 36h, (M1), Ecole Polytechnique, France

Master : J.-M. Allain, “Cellular Motility”, 32h, (M2), Ecole Polytechnique, France

Master: D. Chapelle, “Biomechanical Modeling of Active Tissues”, 23h, (M2), Université Paris-Saclay, France

Master : M. Genet, “MEC551 – Plasticité & Rupture”, 18h, (M1), École Polytechnique, France

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

Master: S. Imperiale, “Simnum – Programmation C++”, 18h, (M1), ENSTA ParisTech, France

Master: S. Imperiale, “MAP-Ann1 – La méthode des éléments finis”, 12h, (M1), ENSTA ParisTech, France

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

Master: P. Moireau, “MAP 431 – Analyse variationnelle des équations aux dérivées partielles”, (M1), Ecole Polytechnique, France

Master: P. Moireau, “Biomechanical Modeling of Active Tissues”, 12h, (M2), Université Paris-Saclay, France

Master: P. Moireau, “Méthodes et problèmes inverses en dynamique des populations”, 24h, (M2), UPMC, France

9.2.2. Supervision

HdR : Philippe Moireau, Observers for data assimilation – Applications to cardiac modeling, Université Paris-Saclay, November 28th

PhD : Bruno Burtschell, Mechanical modeling and numerical methods for poromechanics – Application to myocardium perfusion, Université Paris-Saclay, September 30th, supervisors: D. Chapelle and P. Moireau

PhD in progress : Aurora Armiento, Inverse problems and data assimilation methods applied to protein depolymerisation, started: Nov 2013, supervisors: M. Doumic and P. Moireau

PhD in progress : Federica Caforio, “Modélisation mathématique et numérique de la propagation d’ondes élastique dans le coeur”, started: Nov 2015, supervisors: D. Chapelle and S. Imperiale

PhD in progress : Florent Wijanto, Modélisation multi-échelle des fibres de collagènes, started: Sept 2015, supervisors: Jean-Marc Allain and Mathieu Carruel

PhD in progress : Arthur Le Gall, “Application of biomechanical heart modeling in hemodynamic monitoring of increased risk patients during anesthesia using clinical data”, started: Nov 2016, supervisors: Dominique Chapelle, Etienne Gayat, Radomir Chabiniok

PhD in progress : François Kimmig, “Multi-scale modeling of muscle contraction”, started: Sept 2016, supervisors: Dominique Chapelle, Matthieu Caruel

9.2.3. Juries

J.-M. Allain, Reviewer for Laure Laforgue’s PhD Thesis, LiPhy Grenoble.

P. Moireau, Reviewer for Stefano Pagani’s PhD Thesis, Politecnico di Milano.

9.3. Popularization

D. Chapelle, Debate on “Data sciences and personalized medicine” at Cité des Sciences (also on web-TV), Oct 9th

D. Chapelle, Roundtable in workshop “Mathématiques Oxygène du Numérique” (UPMC, Oct 21st)

PARIETAL Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- **Bertrand Thirion:** Organization for Human Brain Mapping.

9.1.1.2. Reviewer

- **Philippe Ciuciu:** IEEE ISBI (15 papers), IEEE ICASSP (10 papers), IEEE ICIP (5 papers), NIPS (4 papers), EUSIPCO (5 papers).
- **Bertrand Thirion:** IPMI, MICCAI, NIPS, ISBI, PRNI, AISTATS
- **Gaël Varoquaux:** IEEE ICASSP, MICCAI, NIPS, IPMI, ICML

9.1.2. Journal

9.1.2.1. 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

9.1.2.2. Reviewer - Reviewing Activities

- **Philippe Ciuciu:** Reviewer for Neuroimage, IEEE Signal Processing Letters, Signal Processing, IEEE Trans. Medical Imaging, Plos One, Plos Comput. Biology, Frontiers in Neuroscience.
- **Bertrand Thirion:** Human Brain Mapping, IEEE TMI, MedIA, NeuroImage, PNAS
- **Gaël Varoquaux:** NeuroImage, JSTSP, PNAS, HBM, PLOS Comp Bio, Gigascience
- **Olivier Grisel:** Journal of Machine Learning Research (software track).

9.1.3. Invited Talks

9.1.3.1. Bertrand Thirion

- February: invited talk at the *Imagerie du Vivant* National congress, entitled *Large-scale analyses in functional brain Imaging*.
- February: presentation at the Pasadena working group of the Digicosme Labex.
- April: invited presentation at European Neuroscience institute, Paris, entitled *Seeing it all: Convolutional network layers map the function of the human visual system*.
- April: presentation Functional connectomics, at DTU Copenhagen, entitled *from large-scale estimators to empirical validation*.
- May: Talk at Atlas workshop, Grenoble, entitled *Learning representations from functional brain imaging*.
- June: organizer of a table ronde at the *Futur en Seine* event entitled *Computational methods for neurosciences & medical imaging*.
- October: talk at MPI Psychiatry, Munich, entitled *Machine learning for neuroimaging: current challenges and solutions*.
- June: Talk at Neurostic workshop, Grenoble, entitled *Learning representations from functional brain imaging*.
- October: Invited talk by the ITMO Neuroscience, Bordeaux, entitled *Working with large data samples: the case of human brain imaging*.

9.1.3.2. Philippe Ciuciu

- 12/16: IEEE Lecture at University of British Columbia (Vancouver, Canada): *Sparkling: Novel non-Cartesian sampling schemes for accelerated 2D anatomical imaging at 7 Tesla*.
- 12/16: Pacific Parkinson's research center (Vancouver, Canada): *Impact of perceptual learning on resting-state brain dynamics in fMRI: A supervised classification study*.
- 09/16: GdR d'Analyse Multifractale (Avignon, France): *Convergence of neural activity to multifractal attractors in MEG predicts learning*.
- 08/16: invitation to the Special session entitled "Unraveling brain networks from functional neuroimaging data" at EUSIPCO'16 (Budapest, Hungary): *Impact of perceptual learning on resting-state fMRI connectivity: A supervised classification study*.
- 06/16: Journées scientifiques d'Inria (Rennes, France): *Compressive Sampling in MRI*.
- 06/16: Inria Sophia-Antipolis, équipe Athena. *New physically plausible compressive sampling schemes for MRI: First results at 7 Tesla*
- 05/16: University of Geneva (Campus BioTech, Geneva, Switzerland): *Convergence to asymptotic Multifractal dynamics in the brain predicts learning*.
- 02/16: Grenoble Institut of Neurosciences (Grenoble, France): *Physically plausible trajectories for Compressed Sensing in MRI*.
- 02/16: Workshop on 7 Tesla scanner at NeuroSpin (Gif-sur-Yvette, France) *Compressed sensing for high resolution MRI at 7 Tesla*.
- 01/16: Cosmostat lab, IRFU/CEA. *On the generation of compressed sampling schemes in MRI*.

9.1.3.3. Loïc Estève

- EuroScipy 2016: scikit-learn tutorial
- Budapest BI 2016 : scikit-learn tutorial and talk "Recent developments in scikit-learn and joblib"

9.1.3.4. Olivier Grisel

- PyData Berlin and PyData Paris 2016: *"Predictive modeling with Python, trends and tools"*
- invited talk on *Some recent developments in Deep Learning research* at Strata London 2016.

9.1.3.5. Gaël Varoquaux

- Paris Open Source summit 2016: scikit-learn, the vision and the community
- EuroScipy 2016 (Erlangen): keynote: "On writing code the science"
- Open Data Science Conference 2017 (London): keynote: "The code of data science"
- EuroPython 2016 (Bilbao): keynote "Scientists meet web dev: how Python became the language of data"
- PiterPy 2016 (St Petersburg): keynote: "Python for data"
- Facebook AI Research: some statistical learning problems in brain imaging
- GDR ISIS Imagerie medicale: prediction de pathologies psychiatriques à partir d'imagerie fonctionnelle de repos
- Brain network analysis workshop, MICCAI 2016 (Athens): keynote
- Journée Graphes et neuroscience à Marseille: Machine learning on brain graphs
- Séminaire débat sur le Big data en Neuroscience, Lyon
- Seminar Max Planck Institute Leipzig: data mining for neuroimaging
- Seminar Telecom ParisTech: randomized methods for high-dimensional statistical learning
- Séminaire d'équipe Asclepios: Quelques problèmes d'apprentissage sur des images cérébrales

9.1.4. Leadership within the Scientific Community

- Gaël Varoquaux: Chair of the steering committee, IEEE PRNI
- Bertrand Thirion: member of the *Committee on Best Practices in Data Analysis and Sharing* for the OHBM community.

9.1.5. Scientific Expertise

- Philippe Ciuciu: ANR JC, NSERC au Canada, FWO
- Bertrand Thirion: ANR, NWO, NSF
- Gaël Varoquaux: Membre de la Commission Expertises Scientifiques, (CE23) ANR
- Olivier Grisel did 3 days of consulting with the CTO of the Therapixel startup to share expertise on the use of Deep Learning for the predictive analysis of 3D imaging data.

9.1.6. Research Administration

9.1.6.1. Philippe Ciuciu

- 03/16: Involvement in the CEA visiting committee on High Performance Computing.
- 05/16: Member of a Comité de sélection for hiring an Assistant Professor in Paris-Saclay University (Section 61 of CNU).
- 06/16: Member of the Inria scientific commission in charge of ranking PhD and post-doctoral applicants as well as delegations of Assistant Professors to Inria.

9.1.6.2. Bertrand Thirion

- Leader of the Datasense axis of the Digicosme Labex
- Member of the STIC department committee Paris-Saclay University and of the bureau thereof.
- DSA Saclay.

9.1.6.3. Gaël Varoquaux

- Member of "Comité de suivi doctoral", Inria Saclay
- Member of "Comité cluster", Inria Saclay
- Member of "Commission de Développement Technologique", Inria Saclay
- Member of the directorate of the Paris-Saclay CDS (Center for Data Science)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

9.2.1.1. Bertrand Thirion

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

9.2.1.2. Philippe Ciuciu

Master 2 : "Functional MRI: From data acquisition to analysis", 3h, Univ. Paris V René Descartes & Télécom-Paristech, Master of Biomedical Engineering

Master 2 : "fMRI data analysis", 3h, Univ. Paris-Saclay, Master of medical Physics

9.2.1.3. Gaël Varoquaux

Master 2 : "Brain functional connectivity analysis", 7h, Univ. Paris V René Descartes & Télécom-Paristech, Master of Biomedical Engineering

Master 2 : "Machine learning with scikit-learn", 2h, ENSAE

Master 2 : "Advanced Machine learning with scikit-learn", 3h, Centrale Paris, MSc in data sciences & business analytics

Ecole d'été multidisciplinaire analyse de données, Rennes, 1h

OHBM 2016: course on machine learning for cognitive neuroimaging 30mn

PRNI 2016: nilearn for machine learning on brain images, 8h

Max Planck Institute Leipzig: nilearn for machine learning on brain images, 8h

9.2.2. Supervision

9.2.2.1. Bertrand Thirion

PhD in progress: Elvis Dohmatob,

PhD in progress: Arthur Mensch,

PhD in progress: Andrés Hoyos Idrobo

9.2.2.2. Philippe Ciuciu

PhD defended: Aina Frau-Pascual, “Statistical models for the analysis of BOLD and ASL Magnetic Resonance modalities to study brain function and disease”, University of Grenoble-Alpes (doctoral school: Mathématiques, Sciences et Technologies de l’Information, Informatique), defense: 19/12/2016, Advisors: Florence Forbes (Dir), Philippe Ciuciu (Co-Dir)

PhD in progress: Carole Lazarus, “Physically plausible compressed sensing for high resolution MRI at 7 Tesla in Humans” starting date: October 2015 (Univ. Paris-Saclay, doctoral school: EOBÉ). Advisors: Philippe Ciuciu (Dir), Alexandre Vignaud (Co-Dir)

PhD in progress: Loubna El Gueddari, “Parallel proximal algorithms for compressed sensing MRI reconstruction. Applications in ultra-high magnetic field imaging”, starting date: October 2016 (Univ. Paris-Saclay, doctoral school: EOBÉ). Advisors: Philippe Ciuciu (Dir) and Jean-Christophe Pesquet (Co-Dir, Prof. at Centrale-Supélec)

9.2.2.3. Gaël Varoquaux

PhD defended: Alexandre Abraham

PhD in progress: Elvis Dohmatob,

PhD in progress: Arthur Mensch,

PhD in progress: Andrés Hoyos Idrobo

9.2.3. Juries

9.2.3.1. Bertrand Thirion

- 04/29: Reviewer of Niklas Kasenburg PhD Thesis , Univ. Copenhagen, Denmark.
- 01/12: Examiner of Simona Schiavi PhD Thesis, Univ. Paris Saclay.
- 14/12: Reviewer of Olivier Marre habilitation, Paris.
- 15/12: Reviewer of Maite Termenon PhD thesis, Univ. Grenoble.

9.2.3.2. Philippe Ciuciu

- 04/16: Reviewer of Aiping Liu’s PhD thesis (ECCS Dpt, Univ. British Columbia, Vancouver Canada) entitled “*Brain Connectivity Network Modeling using fMRI signals*”
- 05/16: Reviewer of Andrea Laruelo-Fernandez’s PhD thesis (INP Toulouse-IRIT- ENSEEIHT) entitled “*Integration of magnetic resonance spectroscopic imaging into the radiotherapy treatment planning*”
- 09/16: Examiner of Mohanad Albughdadi’s PhD thesis (INP Toulouse-IRIT- ENSEEIHT) entitled “*Bayesian joint detection-estimation in functional MRI with automatic parcellation and functional constraints*”
- 10/16: Reviewer of Sébastien Combexelle’s PhD thesis (INP Toulouse-IRIT- ENSEEIHT) entitled “*Multifractal analysis for multivariate data with application to remote sensing*”.
- 10/16: Co-director of Aina Frau-Pascual’s PhD thesis (see above).

9.2.3.3. Gaël Varoquaux

- 06/16: Examiner of Alberto García Durán, PhD Thesis, UTC Compiègne.

9.3. Popularization

9.3.1. Gaël Varoquaux

- Unithé ou Café, Inria Saclay Ile de France
- Atelier IHEST Les mots du numérique - 17 novembre

9.3.2. Loïc Estève

Software Carpentry workshops:

- git course at UNIC in Gif-sur-Yvette March 29-30
- helper at "Scientific Programming with Python and Software Engineering Best Practices" workshop, April 28-29 at Télécom Paris
- git course at Proto 204, May 24-25

Mentor at Startup Weekend Artificial Intelligence, November 4-6.

9.3.3. Olivier Grisel

"La tête au carré" radio show on France Inter in January 2016 to share his expertise and opinion on the use and impacts of Big Data and predictive algorithms ⁰.

⁰<https://www.franceinter.fr/emissions/la-tete-au-carre/la-tete-au-carre-05-janvier-2016>

XPOP Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Julie Josse was chair of useR!2016, Stanford, CA, USA, July 2016. <http://user2016.org>.

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

Master : Julie Josse, Statistics with R, 48, M2, X-HEC

Master : Eric Moulines, Regression models, 36, M2, X-HEC

Engineering School : Eric Moulines, Statistics, 36, 2A, X

Engineering School : Eric Moulines, Markov Chains, 36, 3A, X

Engineering School : Erwan Le Pennec, Statistics, 36, 2A, X

Engineering School : Erwan Le Pennec, Statistical Learning, 36, 3A, X

Engineering School : Marc Lavielle, Time Series, 24, 3A, X

10.2.2. Supervision

PhD in progress : Nicolas Brosse, September 2016, Eric Moulines

PhD in progress : Geneviève Robin, September 2016, Julie Josse

PhD in progress : Belhal Karimi, October 2016, Marc Lavielle and Eric Moulines

PhD in progress : Marine Zulian, October 2016, Marc Lavielle

INFINE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- In 2016, Emmanuel Baccelli was general chair of the RIOT Summit.

9.1.1.2. Member of the Organizing Committees

- In 2016, Aline Viana was on the conference program committee for IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA-2017).
- In 2016, Emmanuel Baccelli was in the conference programm committee of the ACM Mobile-Health'16.

9.1.2. Scientific Events Selection

9.1.2.1. Reviewer

- In 2016, Cédric Adjih was reviewer for WINCOM'16, and Globecom 2016.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- In 2016, Aline Viana was Associate Editor of ACM Computer Communication Review (ACM CCR) and Editorial Board member of "Wireless Communications and Mobile Computing Open Access Journal" of John Wiley&Sons and Hindawi.

9.1.3.2. Reviewer - Reviewing Activities

- In 2016, Aline Viana was reviewer for IEEE Transaction on Mobile Computing (TMC), Elsevier Pervasive and Mobile Computing, Elsevier AdHoc Networks, Elsevier Computer Networks.
- In 2016, Emmanuel Baccelli was member of the IETF Routing Directorate, and as such was reviewing RFCs in the making.

9.1.4. Invited Talks

- In 2016, Emmanuel Baccelli gave a number of invited talks on the topic of RIOT, including at the IoT Meetup (April 2016 in Athens, Greece), at the RIOT Summit (July 2016 in Berlin, Germany), at TelecomParisTech for ICSSEA'16 (June 2016, Paris, France), at EclipseCon'16 (October 2016 in Ludwigsburg, Germany), at Fraunhofer FOKUS for ASQF Day (December 2016 in Berlin, Germany)
- In 2016, Cédric Adjih gave a talk on RIOT at IFSSTAR (November 2016 in paris, France).
- In 2016, we also gave several invited talks at: Stochastic Networks Conference, UCSD; CIRM workshop on random matrices; Institut Henri Poincaré's "Nexus" of Information and Computation Theories; EPFL workshop for birthdays of Shannon, Urbanke and Telatar (see: <http://www.etr50.com/invited-speakers/>) ; LINCS scientific advisory board.

9.1.5. Scientific Expertise

- In 2016, Cédric Adjih served as a expert reviewer for one ANR call for proposals.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- **Masters**
- Engineering school, third year students at Ecole Polytechnique: Laurent Massoulié taught a course on “Networks: distributed control and emerging phenomena”.
- Course for Corps des Mines: Emmanuel Baccelli gave a half day course on “Communication Protocols and Operating Systems for the Internet of Things” in the context of the formation PESTO.
- Engineering school, third year students at Telecom ParisTech: Aline Carneiro Viana taught an 1 hour lesson on “Wireless Network” course.
- Engineering school, third year students at Telecom SudParis: Aline Carneiro Viana taught an 6 hour lessons on “Wireless Network” course.

9.2.2. Supervision

- Laurent Massoulié currently advises 2 PhD students: Lennart Gulikers and Remi Varloot.
- Cedric Adjih currently advises Fatma Somaa, 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).
- Emmanuel Baccelli and Cédric Adjih are advising: Loïc Dauphin on “Robotics meets the Internet of Things”, (June 2016-).
- Aline Viana currently advises 2 PhD students: Roni Shigueta, on “Resource allocation in highly mobile wireless networks” (January 2012-2017). Guangshuo Chen, on “Understanding and predicting human demanded content and mobility” (September 2014-).
- PhD completed: Felipe Domingos on “identifying social attributes in VANETs” (January 2013-June 2016). Advisor: Aline Carneiro Viana.
- PhD completed: Oliver Hahm, “Enabling Energy Efficient Smart Object Networking at Internet-Scale”, 2012-2016. Advisor: Emmanuel Baccelli.

9.2.3. Juries

- Laurent Massoulié was on the PhD jury as reviewer for the PhD theses of Anna Benhamou and Alaa Saade, and he presided the PhD thesis committee of Kevin Scaman.
- Aline Viana was on the PhD jury as reviewer of Wenjing Shuai, “Management of electric vehicle systems with self-interested actors” Telecom Bretagne, September 2016.
- Aline Viana was on the PhD jury as examiner of Mouna Rekik, “Protocols for Smart Grids”, Université de Lille, France July 2016.
- Aline Viana was on the Master jury of Fausto Silva Moraes “Explorando Interações em Redes Sociais Online, Comunicação D2D e Estratégias de Cache para Uso Eficiente de Recursos em Redes Celulares”, Brazil November 2016.
- Emmanuel Baccelli was on the PhD jury of Francisco Acosta, “Self-adaptation for Internet of Things applications”, Université de Rennes 1, Dec. 2016.
- Emmanuel Baccelli was on the PhD jury of Kevin Roussel, “Évaluation et amélioration des plateformes logicielles pour réseaux de capteurs sans-fil, pour optimiser la qualité de service et l’énergie.” Université de Lorraine, June 2016.

9.3. Popularization

- Publication of “RIOT, le Systeme d’Exploitation pour l’Internet des Objets” in the magazine Open Silicium, Mars 2016. Co-authors: Alexandre Abadie, Cedric Adjih, Emmanuel Baccelli, Francisco Acosta, Hauke Petersen.
- Francisco Padilla and Loïc Dauphin participated to the “Fête de la Science 2016”.

AVIZ Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- Jean-Daniel Fekete co-organizing the LIVVIL 2016 workshop on “Logging Visualization and Visualizing Logs” at IEEE VIS.
- Jean-Daniel Fekete served on the best paper committee for EuroVis 2016
- Pierre Dragicevic was Doctoral Colloquium co-chair at IEEE VIS 2016.
- Petra Isenberg co-organized the Beliv 2016 workshop on “Beyond Time and Error: Novel Evaluation Techniques for Visualization” at IEEE VIS.
- Petra Isenberg served as Posters co-chair for VIS 2016
- Petra Isenberg served on the best short-paper committee for EuroVis 2016
- Tobias Isenberg was posters co-chair for EuroVis 2016.
- Tobias Isenberg was visualization area co-chair for ISVC 2016.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Jean-Daniel Fekete was a member of the program committees for Graph Drawing 2016
- Jean-Daniel Fekete was a member of the program committees for EuroVis 2016
- Jean-Daniel Fekete was a member of the program committees for ACM AVI 2016
- Pierre Dragicevic was a member of the program committee for VIS 2016.
- Pierre Dragicevic was a member of the program committee for CHI 2017.
- Petra Isenberg was a member of the program committee for CHI 2016.
- Petra Isenberg was a member of the program committee for Beliv 2016.
- Petra Isenberg was a member of the program committee for EuroVA 2016.
- Petra Isenberg was a member of the program committee for InfoVis 2016.
- Tobias Isenberg was a member of the program committee for IEEE SciVis 2016.
- Tobias Isenberg was a member of the program committee for IEEE VISAP 2016.
- Tobias Isenberg was a member of the program committee for Expressive 2016.
- Tobias Isenberg was a member of the program committee for IEEE 3DUI 2016.
- Pascal Goffin was a member of the program committee for 9. Forum Medientechnik 2016.

9.1.2.2. Reviewer

- Jean-Daniel Fekete: VIS, CHI
- Pierre Dragicevic: VIS, UIST, IHM
- Petra Isenberg: EuroVA, EuroVis, InfoVis, Nordic Forum for Human-Computer Interaction Research (NordiCHI), UIST Beliv (Workshop), DFG (Funding Agency)
- Tobias Isenberg: 3DUI, CHI, EuroVis, Expressive, ISS, PacificVis, SciVis, VISAP
- Christoph Kinkeldey: CHI
- Lonni Besancon: CHI EA, ISMI, SUI, CHI

- Mathieu Le Goc: CHI

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Tobias Isenberg is associate editor of Elsevier Computers & Graphics.
- Petra Isenberg and Tobias Isenberg were guest editors of a special issue of Sage Publishing's Information Visualization on visualization evaluation.

9.1.3.2. Reviewer - Reviewing Activities

- Petra Isenberg: Big Data Journal, CG&A, Journal of Graph Algorithms and Applications (JGAA), Information Visualization Journal (IVS), TVCG
- Tobias Isenberg: C&G, IV, TVCG
- Christoph Kinkeldey: JoEP (Journal of Economic Psychology), IJGI (ISPRS International Journal of Geo-Information), CP (Cartographic Perspectives), CaGIS (Cartography and Geographic Information Science)

9.1.4. Invited Talks

- Jean-Daniel Fekete: Bilan du programme ANR Kinsources, Paris, "Visualisation de réseaux dynamiques", July 8th, 2016
- Jean-Daniel Fekete: 2nd European Conference on Social Networks (EUSN), Paris, "Challenges in Social Network Visualization: Bigger, Dynamic, Multivariate.", June 16th, 2016
- Jean-Daniel Fekete: School in Geomatics (GIS), Lyon, "DataVis and InfoVis", May 31th, 2016.
- Jean-Daniel Fekete: Invited Talk, Aarhus University, "ProgressiVis: a New Workflow Model for Scalability in Information Visualization", Apr 20, 2016
- Jean-Daniel Fekete: Invited Talk, Inria Lille, "ProgressiVis: a New Workflow Model for Scalability in Information Visualization", Apr 15, 2016
- Pierre Dragicevic: "Bad Stats are Miscommunicated Stats". Invited talk at RWTH Aachen, 5 Feb 2016.
- Pierre Dragicevic: "Statistical Dances: Why No Statistical Analysis is Reliable and What To Do About It". Keynote talk at the BioVis 2016 symposium, 23 Oct 2016.
- Tobias Isenberg: "Tactile Navigation and Selection for 3D Data Exploration". University of Granada, Spain, May 25, 2016.
- Christoph Kinkeldey: "Challenges in Visually-Supported Reasoning with Uncertainty". VIA group, Telecom ParisTech, 23 June 2016.

9.1.5. Leadership within the Scientific Community

- Jean-Daniel Fekete is the chair of the Steering Community of the IEEE Information Visualization conference.
- Jean-Daniel Fekete is a member of the Visualization Steering Committee for the IEEE VIS conference
- Jean-Daniel Fekete is a member of the Steering Community of the EuroVis conference.
- Jean-Daniel Fekete is a member of the publication board of Eurographics.
- 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.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- “Visual Analytics” taught by Jean-Daniel Fekete at Ecole Centrale Paris, France
- “Block Course Visual Analytics” taught by Petra Isenberg at the University of Dresden, Germany
- “Visual Analytics” taught by Petra Isenberg at Ecole Centrale Paris, France
- “Introduction to Human-Computer Interaction” taught by Petra Isenberg at Ecole Centrale Paris, France
- “Information Visualization” co-taught by Petra Isenberg at Université Paris Sud
- “Non-Photorealistic Rendering” taught by Tobias Isenberg at the University of Granada, Spain
- “Introduction to Computer Graphics” taught by Tobias Isenberg at Polytech Paris-Sud
- “Photorealistic Rendering” taught by Tobias Isenberg at Polytech Paris-Sud and Université Paris-Saclay

9.2.2. Supervision

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

PhD: Mathieu Le Goc, Supporting Versatility in Tangible User Interfaces Using Collections of Small Actuated Objects, Université Paris-Sud, Defense date 15 Dec 2016, Pierre Dragicevic and Jean-Daniel Fekete

PhD: Pascal Goffin, From Individual to Collaborative Work, Université Paris-Sud, defended October 2016, Petra Isenberg and Jean-Daniel Fekete

PhD: Lonni Besançon, An Interaction Continuum for Scientific Visualization, Université Paris-Sud, 2014, Tobias Isenberg

9.2.3. Juries

- Jean-Daniel Fekete: Julien Tierny, HdR (Tenure) "Contributions à l'Analyse Topologique de Données pour la Visualisation Scientifique" , LIP6, Paris, Apr 29, 2016.
- Jean-Daniel Fekete: Matthias Nielsen, "Interactive Visual Analytics of Big Data A Web-Based Approach", Aarhus, Denmark, Apr 20, 2016
- Jean-Daniel Fekete: Mi-term PhD evaluation committee of Lobo María-Jesús, Saclay, May 2016.
- Jean-Daniel Fekete: Hiring Committee, Univ. Toulouse 1, France
- Pierre Dragicevic: Commission Scientifique Inria Saclay
- Pierre Dragicevic: PhD committee of Chat Wacharamanatham: Input Accuracy for Touch Surfaces. RWTH Aachen University, defended 5 February 2016.
- Pierre Dragicevic: Mi-term PhD evaluation committee of Nolwenn Maudet. 8 Sep 2016.
- Pierre Dragicevic: Mi-term PhD evaluation committee of Rafael Morales. 26 May 2016.
- Pierre Dragicevic: Post-doctoral assessment committee, project “Shareable Dynamic Media in Design and Knowledge Work”, Aarhus University. Nov 2016.
- Petra Isenberg: Jury CR2 Inria Saclay

9.3. Popularization

- Pierre Dragicevic and Yvonne Jansen: the [Curated List of Physical Visualizations](#) is continuously being updated.
- Elsa Ferreira’s interview with Mathieu Le Goc, [Zooids: mais qui sont ces robots mignons?](#), Makery Magazine, 26 Nov 2016.
- Stéphanie Dupont’s interview with Mathieu Le Goc, Jean-Daniel Fekete and Pierre Dragicevic: [Nouvelle interface homme-machine: des mini robots pour l’affichage et l’interaction](#). 26 Oct 2016.
- Petra Isenberg, Tobias Isenberg, and collaborators published an open dataset of IEEE VIS publications at <http://vispubdata.org>
- Petra Isenberg, Tobias Isenberg, and collaborators published an online tool to explore keywords of the IEEE Visualization conference at <http://keyvis.org>
- Pascal Goffin: “Enrichir le mot écrit – Intégrer texte et données avec les Word-Scale Visualizations (visualisations mots)”. EnsadLab/Spatial Media/Hist3D Colloquium: Les images du numérique. Histoires et futurs des images produites par ordinateur. Paris, France, 21 Mar 2016.
- Mathieu Le Goc and Zooids co-authors: [Material for Zooids](#).

CEDAR Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Selection

9.1.1.1. Chair of Conference Program Committees

Y. Diao has been the Program Committee Chair of the ACM Symposium on Cloud Computing (SoCC) 2016, Chair of the ACM Symposium on Cloud Computing, October 2016 and Chair of the Inaugural Paris Big Data Summit, March 2016.

I. Manolescu has been the Program Committee Chair of the International Conference on Scientific and Statistical Database Management (SSDBM) 2016, and the Vision Papers track chair in the Extending Database Technologies (EDBT) conference 2016.

9.1.1.2. Member of the Conference Program Committees

- I. Manolescu has been a member of program committee of the IEEE Conference on Data Engineering (ICDE) 2016, of the Workshop on Data Engineering for the Semantic Web (DESWeb, in conjunction with ICDE) 2016 and of the Workshop on Semantic Big Data (SBD) 2016 in conjunction with the ACM SIGMOD conference.
- M. Thomazo has been member of the PC of ICCS' 16, IJCAI' 16 and PRIMA' 16.

9.1.1.3. Reviewer

- M. Thomazo has reviewed for RR' 16, VLDB' 16 and ICDT' 17.

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- Y. Diao is Editor-in-Chief of the ACM SIGMOD Record, Associate Editor of ACM Transactions on Databases (TODS) and Editor of the Proceedings of Very Large Databases (PVLDB), 2016
- I. Manolescu has been an Associate Editor for the ACM Transactions of the Web (TWeb) and a member of the editorial board of PVLDB 2016.

9.1.2.2. Reviewer - Reviewing Activities

- Y. Diao has reviewed for the EDBT vision track
- I. Manolescu has reviewed for the ACM Transactions on Database Systems (TODS).
- M. Thomazo has reviewed for the Journal of Web Semantics.

9.1.3. Invited Talks

- I. Manolescu has given an invited talk "Estocada: Flexible Hybrid Stores" at the INESC institute in Portugal.
- I. Manolescu has given an invited talk "CliqueSquare: Flat Plans for Massively Parallel RDF Queries" at the Aalborg University, in Denmark.
- M. Thomazo has presented FactMinder, a tool developed in the prequel of Cedar, to a panel of computer scientists and journalists at the Tech&Check event organized by Duke University

9.1.4. Leadership within the Scientific Community

I. Manolescu has been a coordinator of Task 1 (Scalable and Secure Data Processing) of the DataSense axis of the DigiCosme Labex (*Laboratoire d'Excellence*). I. Manolescu has been a member of the ACM SIGMOD Jim Gray PhD Award Committee, of the IEEE TCDE Awards Committee. She has also been a member of the EDBT (Extending Database Technology) Association and of the Steering Committee of BDA (*Bases de Données Avancées*). I. Manolescu has joined the Board of Trustees of the Proceedings of VLDB (PVLDB) Endowment in 2016.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Master: Y. Diao has taught the course “Systems for Big Data Analytics” in the Data Science Master Program of Université Paris Saclay
- Master: I. Manolescu, Architectures for Massive Data Management, 30h, M2, Université Paris-Saclay, France.
- Master: I. Manolescu, Database Management Systems, 52h, M1, École Polytechnique, France.
- Doctorat: I. Manolescu, Scalable Tools for Linked Data Analytics, 20h, Aalborg University, Denmark.
- Master: M. Thomazo, Database Management Systems, 20h, M1, École Polytechnique, France
- Master: M. Thomazo, Introduction to Big Data Systems, 40h, M2, Université Paris-Saclay, France

9.2.2. Supervision

Raphael Bonaque: “Structured, Social and Semantic Search”, Université Paris Saclay, September 30, 2016, Bogdan Cautiș, François Goasdoué, and Ioana Manolescu.

Damian Bursztyn: “Scalable Techniques for Web Data Management”, December 15, 2016, François Goasdoué and Ioana Manolescu.

Tien Duc Cao: “Extraction et interconnexion de connaissances appliquée aux données journalistiques”, since October 2016, Ioana Manolescu and Xavier Tannier (LIMSI/CNRS and Université de Paris Sud)

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

Enhui Huang: Interactive Data Exploration at Scale, since October 2016, Y. Diao.

Y. Diao has as well supervised 5-10 students each semester for the 3A research project and been mentor and chair of the defense of 17 student summer internship projects.

9.2.3. Juries

I. Manolescu has been a member of the PhD committee of Raphaël Bonaque and Damian Bursztyn, and a referee and jury member for the PhD of Gonçalo Simões at INESC-ID, Portugal.

9.3. Popularization

- M. Thomazo has presented a game based on RDF graphs and social networks as part of Fête de la Science in Inria Saclay, in October.
- The ANR ContentCheck project on **content management techniques for journalistic fact-checking** has attracted news attention in a series of general-audience articles published by Ouest France, Le Devoir (Canada), Rue89, Le Monde, Inria and CNRS, among others:
 - <http://www.ouest-france.fr/leditiondusoir/data/569/reader/reader.html#!preferred/1/package/569/pub/570/page/8>
 - <http://www.ledevoir.com/politique/canada/450937/sur-la-piste-du-mensonge>
 - <http://rue89.nouvelobs.com/2015/10/26/algorithmes-antimensonge-fin-bobards-politique-261827>
 - <http://data.blog.lemonde.fr/2015/10/23/le-fact-checking-peut-il-sautomatiser/>
 - <http://www.inria.fr/centre/saclay/actualites/un-logiciel-de-fact-checking-pour-comprendre-le-monde-qui-nous-entoure>
 - <https://lejournal.cnrs.fr/articles/un-logiciel-qui-decrypte-la-politique>

The project has also lead to an interview by Science Po students studying in the Communication Master of the school, around automated fact-checking topics: <https://inciviveritas.wordpress.com/menu-page/lautomatisation-du-fact-checking/>.

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 co-organized the workshop "Data, responsibly" at Dagstuhl on ethics in massive data analysis.

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

Serge Abiteboul: Data engineering (ICDE'2016); In 2016, Serge Abiteboul also participated in Awards committees for the French Academy of Sciences and Inria.

Victor Vianu: FOIKS'16.

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: Associate Editor of ACM TOCL, Editor of the Database Theory column in SIGACT News.

9.1.4. Invited talks

Victor Vianu gave invited talks at the Dagstuhl Workshop on Foundations of Data Management, April 2016; POLARIS Colloquium, Univ. of Lille, June 2016; and Ecole Polytechnique, Saclay, July 2016.

Serge Abiteboul gave invited talks in international meetings at Int'l Symp. on DIStributed Computing in Paris, Didapro 6 in Namur, Dagstuhl Workshop on Foundations of Data Management, Dagstuhl workshop on Data, Responsibly, and Paris Open Source Summit.

9.1.5. Leadership within the scientific community

Serge Abiteboul is 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).

9.1.7. Research administration

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

Serge Abiteboul chaired the selection committee for the call for proposal Dune "Développement d'Universités Numériques Expérimentales"/

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Sylvain Schmitz, Formal Languages, 22.5h, L3, ENS Cachan, France

Master : Sylvain Schmitz, Tree Automata Techniques and Applications, 22.5h, M1, ENS Cachan, France

Master : Sylvain Schmitz, Formal Languages, 30h, M2, ENS Cachan, France

Master : Sylvain Schmitz, Logic, 26.3h, M2, ENS Cachan, France

Master : Sylvain Schmitz, Logical and Computational Structures for Linguistic Modeling, 18h, M2, ENS Cachan, France

Master2 : Serge Abiteboul, Web data management, 15h, MPRI

Master1 : Serge Abiteboul, Initiation to scientific research (lab), 15h

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 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

PhD in progress: Anthony Lick, Proof systems for data queries, 01/09/2016, David Baelde and Sylvain Schmitz

PhD in progress: Su Yang, Analytics in Personal information management systems, 01/09/2016, Serge Abiteboul et Pierre Senellart

9.2.3. Juries

Luc Segoufin was on the Ph.D committee of Florent Capelli, Université de Paris 7, in June 2016.

Sylvain Schmitz was on the Ph.D. committees of Silva Stella, Università degli studi di Torino, in January 2016, and of Michael Blondin, Université de Montréal, in June 2016.

Serge Abiteboul was on the Ph.D. committee of Damian Bursztyn, University of Paris-Saclay, in December 2016.

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. He organized a Workshop Initiation to Wikipedia in Poitiers

Serge Abiteboul is Scientific curator of the exhibit "Terra Data" at Cité des Sciences de La Villette, 2017. He is member of the editorial board of Les big data à découvert, directed Mokrane Bouzeghoub and Rémy Mosseri. He gave invited talks at La Pépinière 4.1 in Nancy, Rencontres du Numérique of ANR, Parole Publique, Sciences à Coeur at Sorbonne Univ., Espace Mendès France at Poitiers,

Serge Abiteboul is Chairman of the Executive Council of the Foundation Blaise Pascal for the promotion of Maths and Computer Science.

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

- IHM 2016, *Conférence Francophone d'Interaction Homme-Machine*, Doctoral Consortium Co-Chair: Michel Beaudouin-Lafon, Jury: Wendy Mackay

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- NIME 2016, *New Interfaces for Musical Expression*, Conference Workshop Chair: Joseph Malloch
- ACM/CHI 2016, *Music and HCI*, Conference Workshop Co-Organisers: Wendy Mackay, Joseph Malloch
- ACM/CHI 2016, *Human-Centred Machine Learning*, Conference Workshop Co-Organiser: Wendy Mackay
- ERC CREATIV Workshop *CREATIV*, Conference Workshop Organiser: Wendy Mackay
- MOCO 2016, *International Symposium on Movement and Computing*, Conference Steering Committee member: Sarah Fdili Alaoui

10.1.2.2. Member of the Conference Program Committees

- IEEE VR 2016, *Virtual Reality Conference*: Cédric Fleury
- GI 2016, *Graphics Interface Conference*: Cédric Fleury
- GRAPP 2016, *Conference on Computer Graphics Theory and Applications*: Cédric Fleury
- 3DCVE 2016, *IEEE VR Workshop on Collaborative Virtual Environments*: Cédric Fleury
- CHI 2017, *ACM CHI Conference on Human Factors in Computing Systems*: Michel Beaudouin-Lafon, Wendy Mackay
- CHI 2017, *ACM UIST User Interface Software and Technology*: Wendy Mackay
- MOCO 2016, *International Symposium on Movement and Computing*: Sarah Fdili Alaoui

10.1.2.3. Reviewer

- *IJHCS International Journal on Human-Computer Interaction*: Wendy Mackay
- ACM CSCW 2016 *ACM Conference on Computer-Supported Cooperative Work*: Wendy Mackay
- ACM CHI 2016 *ACM Conference on Human Factors in Computing Systems*: Marianela Cioffi Felice, Germán Leiva, Oleksandr Zinenko, Ignacio Avellino, Nolwenn Maudet, Joseph Malloch, Theophanis Tsandilas, Michel Beaudouin-Lafon, Wendy Mackay, Sarah Fdili Alaoui
- ACM UIST 2016 *ACM Symposium on User Interface Software and Technology*: Joseph Malloch, Theophanis Tsandilas, Nolwenn Maudet, Ignacio Avellino, Jessalyn Alvina, Cédric Fleury, Michel Beaudouin-Lafon, Wendy Mackay
- UBICOMP 2016, *ACM International Joint Conference on Pervasive and Ubiquitous Computing*: Theophanis Tsandilas
- SIGGRAPH Asia 2016: Theophanis Tsandilas
- ACM MobileHCI 2016, *ACM Conference on Human-Computer Interaction with Mobile Devices and Services*: Jessalyn Alvina

- IEEE 3DUI 2016, *Symposium on 3D User Interfaces*: Cédric Fleury
- IEEE Visualization: Michel Beaudouin-Lafon
- IHM 2016, *Conférence Francophone d'Interaction Homme-Machine*: Cédric Fleury
- WAMCA 2016, *Workshop on Applications for Multi-Core Architectures*: Oleksandr Zinenko
- IMPACT 2016, *International Workshop on Polyhedral Compilation Techniques*: Oleksandr Zinenko
- TEI 2016, *International Conference on Tangible, Embedded and Embodied Interactions*: Sarah Fdili Alaoui
- DIS 2016, *Designing Interactive Systems*: Sarah Fdili Alaoui

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-), Wendy Mackay (2016-)
- JIPS, *Journal d'Interaction Personne-Système*, AFIHM: Michel Beaudouin-Lafon (2009-)
- IHCS, *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

- Computers and Graphics: Theophanis Tsandilas
- TVCG, *Transactions on Visualization and Computer Graphics*, IEEE: Cédric Fleury
- UAIS, Universal Access in the Information Society: Michel Beaudouin-Lafon
- JAISE, Journal of Ambient Intelligence and Smart Environments: Michel Beaudouin-Lafon

10.1.4. Invited Talks

- Beyond Lab: Entre L'Homme et la Machine : Le Défi des Nouvelles Interfaces “*Interaction en Grand*”, 8 February 2016: Michel Beaudouin-Lafon
- Beyond Lab: Entre L'Homme et la Machine : Le Défi des Nouvelles Interfaces “*Apprentissage Incrémental de Gestes*”, 8 February 2016: Wendy Mackay
- Beyond Lab: Entre L'Homme et la Machine : Le Défi des Nouvelles Interfaces “*Movement Connoisseurship for User eXperience in Digital Art and HCP*”, 8 February 2016: Sarah Fdili Alaoui
- Beyond Lab: Entre L'Homme et la Machine : Le Défi des Nouvelles Interfaces “*Papier Interactif pour la Créativité*”, 8 February 2016: Theophanis Tsandilas
- FAST (Fusing Audio and Semantic Technologies for Intelligent Music Production and Consumption) Workshop Paris “*Creative Musical Expression with Human-Computer Partnerships*”, 15 February 2016: Wendy Mackay
- ENS Cachan Seminaire d'Informatique “*Co-Adaptive Instruments. Can we reinvent the graphical user interface*”, 2 March 2016: Wendy Mackay
- Café Techno – Inria Alumni & NUMA, “*Quelles interactions avec le monde numérique de demain ?*”, March 2016: Michel Beaudouin-Lafon
- Les Outils du Design, ENSCI, “*Instrumental Interaction*”, April 2016: Michel Beaudouin-Lafon

- École Thématique Maths-Info-HPC, Saint-Germain-au-Mont-d'Or, “*Polyhedral Code Transformations via Interactive Visualizations*”, 10 May 2016: Oleksandr Zinenko
- Journée d'étude Scénariser la danse par le numérique, Université de Strasbourg “*Étude du mouvement expressif dans les interactions incorporée pour la danse*”, 18 May 2016: Sarah Fdili Alaoui
- May Residency of the Moving Stories Project, Simon Fraser University “*Embodied Interaction for dance and tools for supporting choreography*”, 28 May 2016: Sarah Fdili Alaoui
- ERC CREATIV Workshop “*Creating Human-Computer Partnerships*”, 13 June 2016: Wendy Mackay
- ICCV International Conference on Computational Creativity 2016: ERC Comics Invited Address “*Creating CoAdaptive partnerships*”, 29 June 2016: Wendy Mackay
- ENS Paris, “*Polyhedral program transformations via interactive visualization*”, 1 June 2016: Oleksandr Zinenko
- ARC Raymond Hains, Ecole Européenne Supérieure Beaux Arts de Rennes, “*Construire et déconstruire les logiciels du design*”, 11 octobre 2016: Nolwenn Maudet
- Journée MENESR-EHESS: Coding and computer science in our schools: new ways of learning? “*Entre les enfants et les ordinateurs: Human Computer Interaction*”, 11 octobre 2016: Wendy Mackay
- CM Lab, Tokyo Tech, “*Designing Design Tools*”, 20 octobre 2016: Nolwenn Maudet
- Google Japan, Tokyo, Japan, “*Expressive Keyboards: Expressive Keyboards: Enriching Gesture-Typing on Mobile Devices*”, 20 October 2016: Jessalyn Alvina
- Rencontre Inria – Industrie Lille “*Interactions avec les objets ! et services numériques*”, 25 November 2016: Wendy Mackay
- TEDx Saclay, “*Dancing in digital*”, 30 November 2016: Sarah Fdili Alaoui
- Rencontres Lurs: “*Droit à l'Erreur*”, 25 August 2016: Wendy Mackay
- UniThé ou Café “*Créer des Partenariats Homme-Machine*”, 17 November 2016: Wendy Mackay
- Infomuse, Casa Paganini “*Embodied Interaction for dance and tools for supporting choreograph*”, 14 Decembre 2016: Sarah Fdili Alaoui

10.1.5. Scientific Expertise

- European Research Council, Panel member for Starting Grants: Michel Beaudouin-Lafon
- CNRS Mission pour l'Interdisciplinarité, Panel member for the call “*Sciences Sociales et Cognitives des Comportements Collectifs*”: Michel Beaudouin-Lafon
- ACM/CHI Best Paper Award Committee “*Best Paper Award Committee*”: Wendy Mackay
- ACM/SIGCHI “*Lifetime Service Award Committee*”: Wendy Mackay

10.1.6. Research Administration

- Computer Science Department, Université Paris-Saclay: Wendy Mackay (member of steering committee)
- CNRS, Conseil Scientifique de l'Institut INS2I: Michel Beaudouin-Lafon (member)
- Telecom ParisTech: Michel Beaudouin-Lafon (member of research committee)
- IRCAM: Michel Beaudouin-Lafon (member of scientific committee)
- “*Institut de la Société Numérique*”, IDEX Laboratory of Université Paris-Saclay: Michel Beaudouin-Lafon (member of steering committee)
- “*Conseil de Laboratoire*”, LRI: Wendy Mackay, Cédric Fleury (members)
- “*Conseil Scientifique*”, LRI: Michel Beaudouin-Lafon (member)
- “*Commission Locaux*”, LRI: Theophanis Tsandilas (member)

- CCSU, “Commission Consultative de Spécialistes de l’Université”, Computer Science department: Michel Beaudouin-Lafon, Wendy Mackay (members)
- COERLE “Comité Operationnel d’Evaluation des Risques Légaux et Ethiques”, Inria: Wendy Mackay
- CERNI “Comité d’Ethique pour les Recherches Non Interventionnelles”, Université Paris-Sud: Wendy Mackay
- “Commission de Développement Technologique”, Inria: Theophanis Tsanidlas (member), until April 2016

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Interaction & HCID Masters: Wendy Mackay, *Career Seminar* 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: Michel Beaudouin-Lafon, Wendy Mackay *Fundamentals of Situated Interaction*, 21 hrs, M1/M2, Univ. Paris-Sud
- Interaction & HCID Masters: Wendy Mackay, *Design of Interactive Systems*, 21 hrs, M1/M2, Univ. Paris-Sud
- Interaction & HCID Masters: Wendy Mackay, *Advanced Design of Interactive Systems*, 21 hrs, M1/M2, Univ. Paris-Sud
- Interaction & HCID Masters: Wendy Mackay, *Business Development Lab* 21 hrs, M1, Univ. Paris-Sud
- Interaction & HCID Masters: Michel Beaudouin-Lafon & Cédric Fleury, *Groupware and Collaborative Interaction*, 31.5 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*, 21 hrs, M1/M2, Univ. Paris-Sud
- Interaction & HCID Masters: Sarah Fdili Alaoui, *Gesture and Mobile Interaction*, 4 hrs, M1/M2, Univ. Paris-Sud
- HCID Masters: Wendy Mackay & Michel Beaudouin-Lafon, *Fundamentals of Situated Interaction*, 21 hrs, M2, Univ. Paris-Sud
- Interaction & HCID Masters: Sarah Fdili Alaoui, *Programmation des interfaces interactives avancées*, 15 hrs, L3, Univ. Paris-Sud
- Polytech 5th year Apprentices: Sarah Fdili Alaoui, *Informatique Graphique et visualisation*, 12 hrs, M2, Univ. Paris-Sud
- Polytech 5th year: Cédric Fleury, *Réalité Virtuelle et Interaction*, 48 hrs, M2, Univ. Paris-Sud
- Polytech 3st year: Cédric Fleury, *Interaction Homme-Machine*, 18 hrs, M1, Univ. Paris-Sud
- Polytech 3st year: Cédric Fleury, *Projet Java-Graphique-IHM*, 24 hrs, M1, Univ. Paris-Sud
- Polytech 1st year: Cédric Fleury, *Introduction à l’Informatique*, 71 hrs, L1, Univ. Paris-Sud
- M1 Informatique: Theophanis Tsandilas, *Évaluation des Interfaces*, 2 hrs, M1, Univ. Paris-Sud

10.2.2. Supervision

PhD students

- PhD: Oleksandr Zinenko, *Interactive Program Restructuring*, Université Paris-Saclay, 25 November 2016. Advisors: Stéphane Huot (Inria Lille) & Cédric Bastoul (Université de Strasbourg)

PhD: Ghita Jalal, *Supporting visual composition with reified interactive properties*, Université Paris-Saclay, 16 December 2016. Advisor: Wendy Mackay

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

PhD in progress: Stacy (Shu-Yuan) Hseuh, *Embodied design for Human-Computer Co-creation*, November 2015. Advisors: Wendy Mackay & Sarah Fdili Alaoui

PhD in progress: Philip Tchernavskij, *Towards Unified Principles of Interaction*, October 2016. Advisor: Michel Beaudouin-Lafon

Masters students

Brennan Jones, University of Calgary, “Physical and virtual avatars for telepresence and remote collaboration”: Ignacio Avellino, Cédric Fleury & Michel Beaudouin-Lafon

Francesco Vitale, Université Paris-Saclay, “Field study of operating systems upgrades”: Joanna McGrenere, Wendy Mackay

Dimitri Belopopsky, Université Paris-Saclay, “La Grande Vitrine des Choses”: Michel Beaudouin-Lafon, Wendy Mackay, Joseph Malloch

Sruthi Coimbatore Viswanathan, Université Paris-Saclay, “Touch Keyboard with Haptic Feedback”: Michel Beaudouin-Lafon

Iva Karabatic, Université Paris-Saclay, “Chord input on a digital whiteboard”: Wendy Mackay, Michel Beaudouin-Lafon

Diana Lipcanu, Université Paris-Saclay, “The Inteaction Musuem”: Wendy Mackay, Michel Beaudouin-Lafon

Isha Van Baar, Université Paris-Saclay, “The Inteaction Musuem”: Wendy Mackay, Michel Beaudouin-Lafon

Nam Giang, Université Paris-Saclay, “Interactive Video Preview Playlist”: Wendy Mackay, Carla Griggio

Midas Nouwens, Université Paris-Saclay, “Communication Appliances to Support Communication for Distributed Families”: Wendy Mackay, Carla Griggio

Pierre Mahe, IRCAM, “EMBRACe Expressive Movement Body fRAmework and Computing”: Sarah Fdili Alaoui

Niels Mourette, IRCAM, “The augmented body from within”: Sarah Fdili Alaoui

Shu-Yuan Hsueh, IRCAM & ENSCII, “Dynamic Guides for Embodied Interactiob”: Wendy Mackay, Sarah Fdili Alaoui

Philip Tchernavskij, University of Aarhus, “Information Substrates for Asymmetrical Collaboration”: Wendy Mackay, Michel Beaudouin-Lafon

10.2.3. Juries

Mathieu Le Goc, Inria Saclay, December 2016 (Advisor: Jean-Daniel Fekete): Michel Beaudouin-Lafon, President.

Alex Goguey, Inria Lille, October 2016 (Advisor: Géry Casiez): Michel Beaudouin-Lafon, reviewer.

Andéol Evain, IRISA, December 2016 (Advisor: Anatole Lécuyer): Michel Beaudouin-Lafon, reviewer.

Emiline Brulé, Télécom Paris, 6 June 2016 (Advisor: Annie Gentes): Wendy Mackay, reviewer.

10.3. Popularization

Organisation d’une Journée d’étude, 15 April 2016 @ ENSCI *La fabrique des outils, concevoir et pratiquer les logiciels de design*: Nolwenn Maudet

BeyondLab, 10 February 2016 *Meet-up sur les nouvelles interfaces*: Sarah Fdili Alaoui, Michel Beaudouin-Lafon, Wendy Mackay, and Theophanis Tsandilas

Inria Rencontres Industrielles 2016, “*Expressive Keyboards: Enriching Gesture-Typing on Mobile Devices*”, 25 November 2016: Jessalyn Alvina, Wendy Mackay

Inria Rencontres Industrielles 2016, “*StickyLines: Reifying Alignment and Distribution of Graphical Objects*”, 25 November 2016: Michel Beaudouin-Lafon, Wendy Mackay

ACM UIST Demonstration, “*Expressive Keyboards*”, Jessalyn Alvina

ACM UIST Demonstration, “*StickyLines*”, Marianela Ciolfi

ACM UIST Demonstration, “*Stretchis*”, Michael Wessely

ACM UIST Demonstration, “*UIST Video Playlist*”, Carla Griggio

ACM “*HCI Pioneers*”, Michel Beaudouin-Lafon, Wendy Mackay

ILDA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

- CHI 2017, 35th ACM SIGCHI Conference on Human Factors in Computing Systems: Caroline Appert (papers and notes co-chair)

10.1.2. Scientific events selection

10.1.2.1. Chair of conference program committees

- CHI 2017, 35th ACM SIGCHI Conference on Human Factors in Computing Systems: Emmanuel Pietriga (SC - subcommittee chair)

10.1.2.2. Member of the conference program committees

- CHI 2017, 35th ACM SIGCHI Conference on Human Factors in Computing Systems: Anastasia Bezerianos (AC - associate chairs)
- CHI 2016, 34th ACM SIGCHI Conference on Human Factors in Computing Systems: Anastasia Bezerianos, Emmanuel Pietriga (AC - associate chairs)
- UIST 2016, 29th ACM ACM User Interface Software and Technologies Symposium: Caroline Appert, Anastasia Bezerianos (AC - associate chairs)
- InfoVis 2016, IEEE Information Visualization Conference: Anastasia Bezerianos (AC - associate chair)
- EICS 2016, 8th ACM SIGCHI Symposium on Engineering Interactive Computing Systems: Emmanuel Pietriga
- VOILA @ ISWC 2016, Visualizations and User Interfaces for Ontologies and Linked Data, workshop co-located with ISWC 2016: Emmanuel Pietriga
- SSDBM 2016: 28th International Conference on Scientific and Statistical Database Management: Emmanuel Pietriga
- Immersive Analytics @ ISS 2016: Exploring Future Interaction and Visualization Technologies for Data Analytics, workshop co-located with ACM ISS 2016: Emmanuel Pietriga
- IHM 2016 – Conference of the Association Francophone d’Interaction Homme-Machine: Olivier Chapuis (AC - associate chair)

10.1.2.3. Reviewer

- ACM CHI 2016, Conference on Human Factors in Computing Systems: Olivier Chapuis, María-Jesús Lobo, Arnaud Prouzeau
- ACM UIST 2016, Symposium on User Interface Software and Technology: Olivier Chapuis, Emmanuel Pietriga
- EuroVis EG/VGTC 2016, Conference on Data Visualization: Caroline Appert
- ACM ISS 2016, International Conference on Interactive Surfaces and Spaces: Caroline Appert, Olivier Chapuis
- ACM MobileHCI 2016, International Conference on Human-Computer Interaction with Mobile Devices and Services: Caroline Appert
- ACM IUI 2017, International Conference on Intelligent User Interfaces: Caroline Appert

- IEEE VR 2016, Virtual Reality: Olivier Chapuis
- ACM EICS 2016, Symposium on Engineering Interactive Computing Systems: Olivier Chapuis

10.1.3. Journal

10.1.3.1. Member of the editorial boards

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

10.1.3.2. Reviewer - Reviewing activities

- ACM ToCHI, Transactions on Computer-Human Interaction: Olivier Chapuis
- IHCI, International Journal of Human-Computer Interaction: Olivier Chapuis, Emmanuel Pietriga
- IEEE TVCG, Transactions on Visualization and Computer Graphics: Anastasia Bezerianos

10.1.4. Invited talks

- Olivier Chapuis, L'équipement d'excellence Digiscope: un réseau de plateformes pour la visualisation interactive, CNRS Innovatives Big Data Forum, October 2016, Paris France.
- Anna Gogolou, Visualization and human-computer interaction methods: Challenges in Interactive Visual Exploration of Large Data Series, 2nd Interdisciplinary Time Series Workshop, December 2016, Paris France.
- Anastasia Bezerianos, Hands-on session on visualization and human-computer interaction methods: Designing interactive visualization techniques for large data series, 2nd Interdisciplinary Time Series Workshop, December 2016, Paris France.

10.1.5. Scientific expertise

- Evaluator for the Sponsored Program for Industrial Data Science (EDF & Thales) - Fondation Mathématique Jacques Hadamard/IRSDI: Emmanuel Pietriga

10.1.6. Research administration

- Executive committee of the Laboratoire de Recherche en Informatique (LRI): Olivier Chapuis
- President of Inria Saclay - Île de France's Commission for Technological Development (CDT): Emmanuel Pietriga

10.1.7. Learned societies

- Association Francophone d'Interaction Homme-Machine (AFIHM): Olivier Chapuis (board member, vice-president).

10.1.8. 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 PRCE/PRAG 1195 (english language), members: Anastasia Bezerianos.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Anastasia Bezerianos, Co-Head of EIT masters M1 & M2 HCID, Univ. Paris-Sud

Master: Anastasia Bezerianos, Co-Head of M2 Interaction, Univ. Paris-Sud, Université Paris-Saclay

Master: Anastasia Bezerianos, Programming of Interactive Systems – 21h CM, M1/M2 HCID + M2R Interaction, Univ. Paris-Sud

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

Master: Anastasia Bezerianos, Career Seminar, – 12h CM, M2 HCID + M2R Interaction, Univ. Paris-Sud

Master: Anastasia Bezerianos, Design Project in HCI, – 21h CM, M1 HCID, Univ. Paris-Sud

Master: Anastasia Bezerianos, HCI Project, – 21h CM, M2 HCID + M2 Interaction, Univ. Paris-Sud

Master: Anastasia Bezerianos, Introduction to Java – 18h CM, M1/M2 HCID + M2R Interaction, Univ. Paris-Sud

Master: Caroline Appert, Evaluation of Interactive Systems – Intro, 21h CM, M1/M2 HCID + M2R Interaction, Univ. Paris-Sud

Master: Caroline Appert, Evaluation of Interactive Systems – Advanced, 21h CM, M1/M2 HCID + M2R Interaction, Univ. Paris-Sud

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

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

Master: Arnaud Prouzeau, Programming of Interactive Systems: 27h, Univ. Paris-Sud.

Licence: Arnaud Prouzeau, Programmation Impérative en C++, 22.4h, Univ. Paris-Sud.

Licence: Arnaud Prouzeau, Programmation Impérative Avancée en C++, 16.5h, Univ. Paris-Sud.

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

Licence: Bruno Fruchard, Développement d’Applications Mobiles, 13h, Télécom Paristech.

Licence: Bruno Fruchard, Paradigmes de programmation, 24.5h, Télécom Paristech.

10.2.2. Supervision

PhD in progress : Anna Gogolou, Iterative and expressive querying for big data series, October 2016, Advisors: Anastasia Bezerianos, Themis Palpanas

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, since 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 : Hugo Romat, Nouvelles techniques de visualisation et de manipulation interactive de collections de documents et données hétérogènes, since June 2016, Advisors: Caroline Appert, Emmanuel Pietriga

PhD in progress : Evanthia Dimara, Merging Interactive Visualization and Automated Analysis for Group Decision-Making Involving Large Datasets, since 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, since October 2015, Advisors: Eric Lecolinet, Olivier Chapuis

Master: Dylan Lebout, Indirect vs Direct surface gestures for wall-sized displays, May - August 2016, Advisors: Caroline Appert, Olivier Chapuis

10.2.3. Juries

PhD: Rémy Dautriche, Université Grenoble-Alpes: Emmanuel Pietriga (rapporteur)

PhD: Pascal Goffin, Inria / Université Paris-Saclay: Emmanuel Pietriga (président du jury)

10.3. Popularization

- SPIE Newsroom: E. Pietriga, F. del Campo, A. Ibsen, R. Primet, C. Appert, O. Chapuis, M. Hempel, R. Muñoz, S. Eyheramendy Duerr, A. Jordan, H. Dole, Ultra-high-resolution walls for visualizing very large datasets, May 2016. <http://spie.org/newsroom/6505-ultra-high-resolution-walls-for-visualizing-very-large-datasets>

SMIS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Philippe Pucheral: Co-founder of the bi-annual French Summer School 'Masses de Données Distribuées' and co-organizer of this school in 2016

9.1.1.2. Member of the Organizing Committees

- Benjamin Nguyen: Steering committee of 'Atelier sur la Protection de la Vie Privée' (APVP) in 2016
- Nicolas Ancaux: co-organizer (with Fabrice Le Guel and Ulysse Roux) of the 'Journée de restitution d'ISN' in 2016

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Philippe Pucheral: DATA'16, DBKDA'16, BDA'16, EDBT'17
- Luc Bouganim: VLDB'17, EDBT'16, BDA'16 (Demo)
- Benjamin Nguyen: ECML/PKDD'16
- Nicolas Ancaux: SIGMOD'17, EDBT'16, DATA'16, ICT4AWE'16, BDA'16, RESSI'16
- Iulian Sandu Popa: IEEE MobileCloud'16, DATA'16, MobilWare'16, MCSMS'16

9.1.2.2. Reviewer

- Luc Bouganim: EDBT'17
- Iulian Sandu Popa: MDM'16
- Guillaume Scerri : SIGMOD'17, EDBT'17, STACS'17

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Nicolas Ancaux: Associate Editor of the VLDB Journal (since 2015)
- Benjamin Nguyen: Techniques et Sciences Informatiques (TSI) - Revue Française (Rédacteur adjoint, domaine Sécurité et Vie Privée depuis 2016-05)
- Luc Bouganim: Area Editor for PVLDB 2018

9.1.3.2. Reviewer - Reviewing Activities

- Iulian Sandu Popa: IEEE TKDE, ACM Transactions on Storage, International Journal of Digital Earth

9.1.4. Invited Talks

- Invited tutorial: N. Ancaux, L. Bouganim, Tutorial: Decentralized Personal Data Management, using secure devices, BDA summer school: "Masses de données distribuées", Uruguay, June 2016 [28].
- Invited talk: N. Ancaux, La valorisation de la donnée par l'utilisateur : approche technique. Centre français de droit comparé, Colloque 'Propriété(s) et données', Paris, 2016 <https://linc.cnil.fr/fr/le-centre-francais-de-droit-compare-organise-un-colloque-proprietes-et-donnees>

- Invited talk: L. Bouganim, Remy Pasquion, A Secure and Mobile Platform for Experimental Economy, Multidisciplinary Research Seminar at Telecom Paris Tech, Paris, June 2016.
- Invited talk: N. Anciaux, Contrôler ses données personnelles par la décentralisation. Journée Protection de la vie privée : Nouveaux instruments techniques et juridiques, CNRS, November 2016. http://www.univ-orleans.fr/lifo/evenements/CAPPRIS/?page_id=125
- Invited demonstration: L. Bouganim and R. Pasquion, Présentation d'une Plateforme de Questionnaires Respectueux de la Vie Privée, Sommet « Partenariat pour un Gouvernement ouvert », Agora numérique « Pour un Sénat ouvert », December, 8, 2016.
- Invited demonstrations: N. Anciaux, L. Bouganim and P. Tran Van, Partager et disposer de ses données en en gardant la maîtrise, trois démonstrations sur la base de PlugDB: Mobile Platform for Experimental Economy, Secure personal cloud (with Cozy Cloud), Personal Social-Medical Folder. Journée Protection de la vie privée : Nouveaux instruments techniques et juridiques, CNRS, November 2016. http://www.univ-orleans.fr/lifo/evenements/CAPPRIS/?page_id=125
- Invited talk: Iulian Sandu Popa, Distributed Architectures for Privacy-Aware Mobile Participatory Sensing, BIS'16 Workshop, June 2016 <https://project.inria.fr/siliconvalley/bis2016-day-2-full-day-working-session-on-smart-cities/>
- Invited talk: N. Anciaux, A new approach for secure personal cloud, CITI Talk, Lyon, May 2016 <http://www.citi-lab.fr/2016/05/17/citi-talk-a-new-approach-for-secure-personal-cloud-by-nicolas-anciaux-on-26th-may/>
- Panel: Nicolas Anciaux, Enjeux et opportunités des modèles ouverts en santé, Paris Open Source Summit, 2016. Trackleader : Olivier de Fresnoye. Panelists : Nicolas Anciaux (Inria), Mobin Yasini(MD, MPH, PhD, mHealth Quality R&D Director), Stéphane Gigandet (Open Food Facts), Clémentine Langlois (Fongwama) <http://empoweringopeninnovation.org/enjeux-et-opportunités-des-modeles-ouverts-en-sante/>

9.1.5. Scientific Expertise

- N. Anciaux, P. Pucheral : scientific expertise on behalf of DGCCRF (Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes) and of the European Council regarding the draft proposal of "Directive of the European Parliament and of the Council on certain aspects concerning contracts for the online and other distance sales of goods" regulating the payment of numeric goods and services by means of personal data
- Benjamin Nguyen: Natural Sciences and Engineering Research Council of Canada (NSERC), Research grants
- Benjamin Nguyen: Membre du comité d'éthique de TeraLab, du Groupe des Ecoles Nationales d'Economie et de Statistique (GENES) dont l'ENSAE.

9.1.6. Research Administration

- Philippe Pucheral: Member of the HDR committee of the STV doctoral school (UVSQ) since 2014
- Philippe Pucheral: Member of the steering committee of the ED STIC doctoral school of University Paris-Saclay, 'Data, Knowledge and Interactions' committee (about 250 PhD students) since 2014
- Philippe Pucheral: Representative of Inria in the 'Comité des Tutelles Formation' of Paris-Saclay University since 2016
- Philippe Pucheral: Member of the 'Commission de Sélection' of UVSQ and of the 'Commission des Appellations' of Télécom SudParis in 2016
- Luc Bouganim: Reviewer for the ANR programs (Evaluation committee CE23), 2016
- Luc Bouganim: Member of the 'Commission de Sélection' of the INSA CVL, 2016
- Nicolas Anciaux: Co-director of the 'Privacy and digital identity' WG at Digital Society Institute (DSI), until June 2016

- Nicolas Anciaux: Reviewer of the CHIST-ERA Call 2015 - SPTIoT
- Nicolas Anciaux: Member of the 'Commission de Sélection' of UVSQ, 2016
- Benjamin Nguyen: Director of LIFO (EA 4022) since July 2016
- Benjamin Nguyen: Responsible of CNRS privacy working group "Sécurité" since september 2016
- Benjamin Nguyen: Director of Digital Affairs (INSA CVL)
- Iulian Sandu Popa: Reviewer for the ANR programs (evaluation committee CE23), 2016
- Iulian Sandu Popa: Member of the 'Commission de Sélection' of the UVSQ, 2016

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : Philippe Pucheral, co-director of the DataScale master (UPSay), courses in M1 and M2 at UVSQ and at ENSIIE

Master: Nicolas Anciaux, Courses on database internal mechanisms and database security, 80, in Master1 and Master2 (AFTI, Orsay) and in engineering school (ENSTA ParisTech, Telecom Paristech)

Master : Luc Bouganim, Bases de données, 24, niveau M2, CFA AFTI/UVSQ, France

Master : Luc Bouganim, Systèmes d'information Privacy by Design, 54, niveau M2, ENSIIE, INSA CVL, France

Master : Luc Bouganim, Sécurité des bases de données, 10, niveau M2, Télécom ParisTech, France

Licence : Iulian Sandu Popa, Initiation aux bases de données (niveau L2), Bases de données (niveau L3), 96, UVSQ, France

Master : Iulian Sandu Popa, Bases de données relationnelles (niveau M1), Gestion des données spatiotemporelles (niveau M2), Sécurité des bases de données (niveau M2), 96, UVSQ, France

Master : Benjamin Nguyen, Databases, IA, Security, 192, INSA CVL, France

Licence : Guillaume Scerri, Fondements de l'informatique, 36, niveau L1, UVSQ, France

Licence : Guillaume Scerri, Initiation aux bases de données, 43.5, niveau L2, UVSQ, France

Master : Guillaume Scerri, Bases de données, 30, niveau M1, UVSQ France

E-learning

MOOC created in 2016: "Villes intelligentes : défis technologiques et sociétaux", coordinated by V. Issarny and N. Mitton. N. Anciaux, S.Grumbach, V. Issarny, N. Mitton, C. Morin, A. Pathak, H. Rivano. Start date 25 Jan. 2016. In 2016, more than 8000 students have registered to follow the courses. A new edition is planned for 2017. <https://www.fun-mooc.fr/courses/inria/41009/session01/about>

MOOC created in 2016: Bases de données relationnelles : comprendre pour maîtriser (Serge Abiteboul, Benjamin Nguyen, Philippe Rigaux) <https://www.fun-mooc.fr/courses/inria/41008/session01/about>

9.2.2. Supervision

PhD: Athanasia Katsouraki, Sharing and Usage Control of Personal Information, UVSQ, September 2016, Luc Bouganim and Benjamin Nguyen

PhD: Saliha Lallali, A Secure Search Engine for the Personal Cloud, UVSQ, January 2016, Nicolas Anciaux, Philippe Pucheral, and Iulian Sandu Popa

PhD: Dai Hai Ton That, Efficient Management and Secure Sharing of Mobility Traces, UVSQ, January 2016, Iulian Sandu Popa and Karine Zeitouni

PhD in progress : Paul Tran Van, Partage de documents sécurisé dans le Cloud Personnel, October 2014, Nicolas Anciaux and Philippe Pucheral

PhD in progress : Axel Michel, Secure Distributed Computations, October 2015, Benjamin Nguyen and Philippe Pucheral

PhD in progress : Julien Loudet, Personal Queries on Personal Clouds, July 2016, Luc Bouganim and Iulian Sandu Popa

PhD in progress : Riad Ladjel, Secure Distributed Computation for the Personal Cloud, October 2016, Nicolas Anciaux and Philippe Pucheral

9.2.3. Juries

Philippe Pucheral: member of the PhD jury of Mahsa Najafzadeh (Paris VI, 22/04/2016)

Benjamin Nguyen: reviewer of the PhD of Tarek SAYAH, Exposition sélective et problème de fuite d'inférence dans le Linked Data, Université Claude Bernard Lyon I, 2016/09/08

Benjamin Nguyen: reviewer of the PhD of Germain JOLLY, Evaluation of payment applications on smart cards, Université de Caen/ENSICAEN, 2016/07/08

Benjamin Nguyen: reviewer of the PhD of Julien LOLIVE, Entrelacement des mécanismes d'identification et de respect de la vie privée pour la protection des contenus externalisés, Télécom Bretagne, 2016/05/13

Benjamin Nguyen: president and reviewer of the PhD jury of Karina SOKOLOVA, Bridging the gap between Privacy by Design and mobile systems by patterns, Université Technologique de Troyes, 2016/04/27

9.3. Popularization

General public (large audience magazines, television, videos):

- "Santé connectée. Une médecine sans médecin ?", interview of N. Anciaux, La Recherche, N°510 Avril 2016. (<http://fliphtml5.com/ggwf/ynja> p.84)
- "PlugDB, coffre-fort numérique personnel", interview of P.Pucheral, Le Monde Science & Techno, November 28th, 2016.
- "Sur Internet, vos données personnelles valent de l'or", interview of P.Pucheral, Ça m'intéresse, November 2016.
- "Santé connectée, santé partagée", interview of P.Pucheral, Le Point, April 7th 2016.