Activity Report 2016

Section Dissemination

ALPAGE 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 or Reviewer

- Marie Candito was a reviewer or member of the program committee for the following events: NAACL 2016, CONLL 2016, RECITAL 2016, COLING 2016
- Benoît Crabbé was a reviewer or member of the program committee for the following events: NAACL 2016, ACL 2016, COLING 2016, EMNLP 2016, CONLL 2016.
- Maximin Coavoux was a sub-reviewer or member of the program committee for the following events: ACL 2016, EMNLP 2016.
- Héctor Martínez Alonso was a reviewer or member of the program committee for the following events: ACL 2016, COLING 2016, CONLL 2016, EMNLP 2016, EACL 2017, NAACL 2016 , MWE 2016 and WNUT 2016.
- Laurent Romary was a member of the program committee for the following events: CMLC-4, Digital Humanities and Iconography, The case of alpine mural painting, Datech 2016, CILA 2016, TOTh (Terminology & Ontology: Theories and applications), LDL-2016, LG-LP 2016, ISA-12
- Benoît Sagot was a member of the program committe for the following events: NAACL 2016, EACL 2017, EMNLP 2016, ACL 2016
- Djamé Seddah was a reviewer or member of the program committee for the following events: ACL 2016, COLING 2016, EMNLP 2016, CONLL 2016, TLT 2016, LAW 2016, TALN 2016 and others workshops.
- Éric Villemonte de La Clergerie was a reviewer or member of the program committee for the following events: COLING'16 (tracks Parsing, and "Resources, Software and Tools"), LREC'16, NAACL'16, DiscoNLP'16, Toth'16

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- Laurent Romary is co-editor of the overlay Journal of Data Mining and Digital Humanities and for the DH Commons journal
- Laurent Romary is member of the advisory board of the Journal of the Text Encoding Initiative (jTEI)

9.1.2.2. Reviewer - Reviewing Activities

- Héctor Martínez Alonso was a reviewer for the Artificial Intelligence journal
- Laurent Romary was a reviewer for the jTEI journal
- Benoît Sagot was a reviewer for the following journals: Journal of Language Modelling, Language Resources and Evaluation, Northern European Journal of Language
- Djamé Seddah was a reviewer for the following journals: Asian Languages and Information Processing, Language Ressources and Evaluation

9.1.3. Invited Talks

- Marie Candito gave a talk on 24/03/2016 at the "3ème journée TAL et IA ", Paris
- Marie Candito gave a talk on 27/10/2016 at the DIGICOSME Labex, LIMSI, Orsay

- Héctor Martínez Alonso gave an invited talk on 05/04/2016 at PARSEME/ENeL workshop on MWE e-lexicons, Skopje (Republic of Macedonia)

- Héctor Martínez Alonso gave an invited talk on 01/06/2016 at Darmstadt Technical University (Germany).

- Marie Puren gave an invited talk on 26/10/2016 for theDARIAH's Humanities At Scale Winter School at Charles University in Prague.

- Marie Puren gave an invited talk on 22/11/2016 during the colloquim "DHNord" at the "Maison Européenne des Sciences de l'Homme et de la Société" in Lille.

- Charles Riondet gave an invited talk on 26/10/2016 at the DARIAH's Humanities at Scale Winter School, Charles University, in Prag (Czech Republic)

- Laurent Romary gave a speech at Ready to Reach Out, Conference on Digitization of Cultural Heritage (NL EU presidency) "Data and Dissertations", Amsterdam, The Netherlands on 29/06/2016

- Laurent Romary gave a keynote at ETD 2016 "Data and Dissertations", Lille, France on 11/07/2016 [50]

- Laurent Romary gave a keynote at Language Technologies and & Digital Humanities 2016 on 30/09/2016 in Ljubljana, Slovenia [51]

- Benoît Sagot was an invited panelist during the AnaMorphoSys conference on 20-22/06/2016 in Lyon

- Benoît Sagot gave an invited talk at the EPHE workshop on Digital Humanities on 12/10/2016 in Paris

- Djamé Seddah gave a keynote talk at the workshop "Data Driven Approach to Networks and Language" (Lyon)

- Djamé Seddah gave a keynote talk at the workshop "Challenges for Data-driven Natural Language Analysis beyond Standard Data (Lyon)

- Djamé Seddah gave a invited talk in Dusseldorf (Formal Linguistic Departement) on deep syntax based graph-parsing

- Djamé Seddah gave a invited talk in Lyon (ENS seminar series) on morpho-syntactic analysis in challenging environments

- Djamé Seddah gave a invited talk at the 1st NLP Paris Meetup on graph parsing for French

- Éric Villemonte de La Clergerie gave an invited talk at the meeting on "Information, Me´dias et Informatique" (IRISA Rennes, 15/03/2016)

- Éric Villemonte de La Clergerie gave an invited tutorial at the COST Parseme meeting (Dubrovnik, 27/09/2016)

- Éric Villemonte de La Clergerie gave an invited talk at the AIM-WEST & PARSEME-FR Workshop (IMAG Grenoble, 4/10/2016)

- Éric Villemonte de La Clergerie gave an invited talk at the NLP meetup (Paris, 23/11/2016)

9.1.4. Leadership within the Scientific Community

9.1.4.1. Involvement in international initiatives

- Alpage is involved in the ISO subcommittee TC 37/SC 4 on "Language Resource Management". Éric Villemonte de La Clergerie has participated in various ISO meetings as an expert, in particular on morpho-syntactic annotations (MAF), feature structures (FSR & new FSD), and syntactic annotations (SynAF) [55]. Within the same subcommittee, Laurent Romary is the convenor of the working group on lexical resources (WG4).

- Laurent Romary is chairman of ISO committee TC 37 "Terminology and other language and content resources"

- Laurent Romary chairs the Board of Directors of the European Research Infrastructure Consortium DARIAH established by the European Commission to coordinate Digital Humanities infrastructure activities in Europe.
- Laurent Romary is member of the TEI Archiving, Publishing, and Access Service (TAPAS) project advisory board
- Laurent Romary is member of the International Advisory board of the Belgrade Center for Digital Humanities

9.1.4.2. Involvement in national initiatives

- Alpage has many responsabilities wihtin the LabEx EFL. Until February 2015, Benoît Sagot is deputy head of this research strand; Marie Candito is deputy head of the research strand on computational semantics; Benoît Crabbé is deputy head of the research strand on experimental grammar; all three are therefore deputy members of the Scientific and Governing Boards of the LabEx; Laurence Danlos is a member of the Scientific Board of the LabEx EFL, representing Alpage;
- Laurent Romary is the leader of the scientific committe of the EquipEx Ortolang, of which Benoît Sagot is also a member.
- Laurent Romary is chairman of the scientific council of ABES (Agence Bibliographique de l'Enseignement Supérieur)
- Laurent Romary is also member of several scientific committee or advisory board: Labex 'Les passes dans le présent' (PasP), OpenAIRE 2020, OpenEdition (UMS Cleo)
- Laurent Romary is the Inria scientific advisor for Scientific and Technical Information, in charge in particular of the Open Access strategy.

9.1.4.3. Other activities for the scientific community

- Laurence Danlos is member of the Permanent Committee of the TALN conference (CPerm) organised by ATALA.

9.1.5. Scientific Expertise

- Marie Candito was member of the committee for the "prix de thèse ATALA"
- Benoît Crabbé was reviewer for a ERC starting grant
- Laurent Romary was project reviewer for Fonds National Suisse, Switzerland
- Laurent Romary was project reviewer for the Canada Foundation for Innovation, Canada
- Laurent Romary was project reviewer for LabEx PATRIMA, Switzerland
- Laurent Romary has advised the European Patent Office for the specification of their model for representing the non patent literature, based on the TEI (Text Encoding Initiative) guidelines.
- Laurent Romary has been a referee for the selection of a professor at the University of Cologne, Germany
- Laurent Romary has part of the selection committee for a professorship at the Université de Lorraine, France
- Benoît Sagot was project reviewer for the ANR
- Benoît Sagot was an elected board member of the French NLP society (ATALA) until July 2016
- Benoît Sagot was a member of the HCERES evaluation committee for the UMR ATILF (december 2016)
- Djamé Seddah was a reviewer for the Luxemrbourg research funding agency.
- Djamé Seddah was an external reviewer for a Machine Learning PhD thesis (University of Barcelona, sup: Xavier Carreras)

- Éric Villemonte de La Clergerie has participated to several AFNOR meetings in relation with ISO TC37SC4 "Language Resource Management". He was also a member of the French delegation at the annual ISO TC37 meeting (Copenhagen, June 2016)
- Éric Villemonte de La Clergerie was one of the animators of the working group of the GFII on Knowledge Technologies, and was also involved in the discussions of the GFII about the "regulation of algorithms"

9.1.6. Research Administration

9.1.6.1. University duties

- Lucie Barque was until june 2016 deputy director of the Linguistic department at Université Paris Nord
- Marie Candito is deputy director of the UFR of Linguistics.
- Maximin Coavoux is a student member of the Administrative board of the UFR of Linguistics of University Paris Diderot.
- Benoît Crabbé is a member of the Administrative board of the UFR of Linguistics of University Paris Diderot.
- Laurence Danlos is the chair of the Scientific Committee of the Linguistics UFR of University Paris Diderot.
- Laurence Danlos is the deputy chair of the Doctoral School for Linguistic Sciences (École Doctorale de Sciences du Langage).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Lucie Barque, Phonétique, 22,5 heures en équivalent TD, niveau L2, Université Paris 13, France

Licence: Lucie Barque, Dictionnaires électroniques, 22,5 heures en équivalent TD, niveau L2, Université Paris 13, France

Licence: Lucie Barque, Corpus électroniques, 22,5 heures en équivalent TD, niveau L2, Université Paris 13, France

Licence: Lucie Barque, Syntaxe et sémantique, 22,5 heures en équivalent TD, niveau L3, Université Paris 13, France

Licence: Lucie Barque, Pragmatique et Énonciation, 11 heures en équivalent TD, niveau L3, Université Paris 13, France

Licence: Timothée Bernard, TD d'Algorithmique, 24 heures en équivalent TD, niveau L3, Université Paris 7 Diderot, France

Licence: Marie Candito, Linguistique de corpus, 28 heures en équivalent TD, niveau L3, Université Paris Diderot, France

Licence: Marie Candito, Probabilités et statistiques pour le TAL, 28 heures en équivalent TD, niveau L3, Université Paris Diderot, France

Licence: Maximin Coavoux, Programmation 2, 28 heures en équivalent TD, niveau L3, Université Paris Diderot, France

Licence: Benoît Crabbé, Introduction à la programmation, 24 heures en équivalent TD, niveau L3, Université Paris Diderot, France.

Licence: Laurence Danlos, Introduction au TAL, 32 heures en équivalent TD, niveau L3, Université Paris-Diderot, France

Master: Lucie Barque, Ressources lexicales pour le TAL, 24 heures en équivalent TD, niveau M2, Université Paris 13, France

Master: Lucie Barque, La langue et son enseignement, 18 heures en équivalent TD, niveau M1, Université Paris 13, France

Master: Lucie Barque, Problématiques de la néologie, 36 heures en équivalent TD, niveau M2, Université Paris 13, France

Master: Timothée Bernard, Phonétique (TD), 12 heures en équivalent TD, niveau M1, Université Paris Diderot, France

Master: Timothée Bernard, Langages formels (TD), 24 heures en équivalent TD, niveau M1, Université Paris Diderot, France

Master: Marie Candito, Analyse sémantique automatique du langage naturel, 14 heures en équivalent TD, niveau M2, Université Paris Diderot, France

Master: Marie Candito, Traduction automatique, 51 heures en équivalent TD, niveau M1, Université Paris Diderot, France

Master: Marie Candito, Apprentissage automatique pour le TAL, 60 heures en équivalent TD, niveau M1, Université Paris Diderot, France

Master: Maximin Coavoux, Approches probabilistes du TAL (TD), 24 heures en équivalent TD, niveau M1, Université Paris Diderot, France

Master: Benoît Crabbé, Linguistique empirique et expérimentale, 24 heures en équivalent TD, niveau M2, Université Paris Diderot, France.

Master: Laurence Danlos, Discours: Analyse et génération de textes, 32 heures en équivalent TD, niveau M2, Université Paris-Diderot, France

Master: Laurent Romary, Basic encoding and annotation of textual sources in TEI, 24 hours, Master of Library and Information Science, Fach Hochschule Potsdam, Germany

Continuous training: Laurent Romary, Codage de document scientifique en XML TEI, 16 hours, INIST-CNRS, France

9.2.2. Supervision

PhD in progress: Timothée Bernard, "Analyse discursive et factualité", started in September 2015, supervised by Laurence Danlos (superviser) and Philippe de Groote (co-superviser)

PhD in progress: Raphael Salmon, "Implémentation d'un système de génération à base de contraintes", Université Paris-Diderot, started in October 2013, supervised by Laurence Danlos (superviser) and Alain Kaeser (tutor in the company Yseop)

PhD in progress: Marianne Djemaa, "Création semi-automatique d'un FrameNet du français", started in October 2012, supervised by Marie Candito

PhD: Corentin Ribeyre, "Vers la syntaxe profonde pour l'interface syntaxe-sémantique", started in November 2012, supervised by Laurence Danlos (superviser), Djamé Seddah (co-superviser) and Éric Villemonte de La Clergerie (co-superviser), defended on January 27, 2016

PhD in progress: Maximin Coavoux, "Représentations continues pour l'analyse syntaxique et sémantique automatique", started in September 2015, supervised by Benoît Crabbé.

PhD in progress: Loïc Grobol, "Reconnaissance automatique de chaînes de coréférences en français par combinaison d'apprentissage automatique et de connaissances linguistiques", started in October 2016, supervised by Isabelle Tellier (supervisor), Marco Dinarelli (co-supervisor), and Éric Villemonte de La Clergerie (co-supervisor)

PhD in progress: Axel Herold, "Automatic identification and modeling of etymons in retro-digitized dictionaries", started in November 2016, supervised by Laurent Romary

PhD in progress: Jack T. Bowers, "Technology, description and theory in language documentation: creating a comprehensive body of multi-media resources for Mixtepec-Mixtec using standards, ontology and Cognitive Linguistics", started in November 2016, supervised by Laurent Romary

PhD in progress: Mohamed Khemakhem, "Structuration automatique de dictionnaires à partir de modèles lexicaux standardisés", started in September 2016, supervised by Laurent Romary

9.2.3. *Juries*

Laurence Danlos was an examinator in the PhD defense committee of Aleksandre Maskharashvili. Title: Discourse Modeling with Abstract Categorial Grammars. University: Université de Lorraine. PhD supervisor: P. de Groote, Sylvain Pogodalla. Defense date: 1st December 2016.

Laurent Romary was a reviewer (*rapporteur*) in the PhD defense committee of Sirine Boukedi Troudi. Title: Outils d'analyse des structures non-têtes. University: Université de Sfax. PhD supervisor: Kais Haddar. Defense date: 11 May 2016.

Laurent Romary was a reviewer (*rapporteur*) in the PhD defense committee of Daouda Sawadogo. Title: Architectures logicielles et mécanismes pour la gestion adaptative et consolidée de ressources numériques dans une application interactive scénarisée. University: Université de La Rochelle. PhD supervisor: Pascal Estraillier and Ronan Champagnat. Defense date: 28 June 2016.

Djamé Seddah and Éric Villemonte de La Clergerie was a member in the PhD defense committee of Corentin Ribeyre as co-supervisor, together with Laurence Danlos (as PhD director). Title: Méthodes d'Analyse Supervisée pour l'Interface Syntaxe-Sémantique. University: Université Paris-Diderot.Defense date: 27 January 2016.

Éric Villemonte de La Clergerie was a member in the PhD defense committee of Julie Belião. Title: How prosody and syntax are mapping: A study of synchronization and congruence. University: Université Paris Ouest. Defense date: 5 December 2016

9.3. Popularization

- Interview of Laurent Romary on new scientific publication models for APS news, American Physical Society (http://www.aps.org/publications/apsnews/201602/arxiv.cfm).

- Laurent Romary and Marie Puren have given an interview on 24/11/2016 on the European project Parthenos for the Inria website (https://www.inria.fr/centre/paris/actualites/epi-alpage-historiens-et-informaticiens-reunis-dans-le-projet-europeen-parthenos).

- Timothée Bernard has welcomed two high school students at Alpage during 4 days, in the framework of the "Science Académie" of the "Paris-Montagne" association.

<p align="center" style="color:red">ALPINES Project-Team</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- SIAM Conference on Parallel Processing and Scientific Computing 2016 http://www.siam.org/meetings/pp16/, Paris. Co-chairs L. Grigori and R. Vuduc. The team Alpines as well as other members of Inria Paris and UPMC, were in charge of the local organization of this conference. There were a record number of 500 participants, 88 minisymposia sessions and 44 contributed talks.
- Frederic Hecht: Organizing the 8th FreeFem++ days (December 2016, Paris)

10.1.1.2. Member of the Organizing Committees

- Laura Grigori: Member of Program Committee of IEEE International Parallel and Distributed Processing Symposium, IPDPS 2016.
- Laura Grigori: Member of Program Committee of HiPC 2016, IEEE Int'l Conference on High Performance Computing.
- Laura Grigori: Member of Program Committee of IEEE Cluster 2016.
- Laura Grigori: Member of Organizing Committee of 5th SIAM Workshop on Combinatorial Scientific Computing (CSC) 2016.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

10.1.2.1.1. Laura Grigori

- March 2014 – current. Member of the editorial board for the SIAM book series Software, Environments and Tools. See http://bookstore.siam.org/software-environments-and-tools/.
- June 2013 – current. Area editor for Parallel Computing Journal, Elsevier
- January 2016 – current. Associate Editor, SIAM Journal on Scientific Computing.
- January 2016 – current. Editorial board, Numerical linear algebra with applications Journal, Wiley.

10.1.2.1.2. Frédéric Nataf

- 2014 – current. Associate Editor, Journal of Numerical Mathematics, de Gruyter.

10.1.3. Invited Talks

- Laura Grigori: Invited plenary speaker, Fifth IMA Conference on Numerical Linear Algebra and Optimization, Birmingham, (http://www.ima.org.uk/conferences/conferences_calendar/5th_ima_conference_on_numerical_linear_algebra_and_optimisation.cfm.html, September 7-9, 2016.
- Frederic Hecht: tutorial with FreeFem++, CEMRACS 2016 CIRM, Luminy, Marseille, july 18-22, 2016.
- Frederic Hecht: Graduate Course: An introduction to scientific computing using free software FreeFem++ , The Fields Institute for Research in Mathematical Sciences , Toronto, Canada , 7-17 March . 2016.
- Frederic Nataf: tutorial on Domain Decomposition Methods, CEMRACS 2016 CIRM, Luminy, Marseille, july 18-22, 2016.

- Frederic Nataf: Invited plenary speaker, Franco-Scottish Seminar 2016: Linear Algebra and Parallel Computing at the Heart of Scientific Computing. 21 September 2016.

10.1.4. Leadership within the Scientific Community

- Laura Grigori: Chair of the SIAM SIAG on Supercomputing (SIAM special interest group on supercomputing), January 2016 - December 2017. Nominated by a Committee and elected by the members of this SIAG.
- Laura Grigori: Member of the PRACE (Partnership for Advanced Computing in Europe, http://www.prace-ri.eu/) Scientific Steering Committee, September 2016 - current.
- Laura Grigori: Steering committee member, Challenge 7: Information and communication society, ANR (Comité de Pilotage , Défi 7), since November 2016.

10.1.5. Scientific Expertise

- Laura Grigori: November 2015 - current, expert to the Scientific Commission of IFPEN (French Petroleum Institute). Evaluation of research programs, PhD theses, work representing a total of 5 days per year.
- Xavier Claeys: Member of the hiring committee for the position of maître de conférence 26 MCF 4346 at Université Claude Bernard Lyon 1, Spring 2016

10.1.6. Research Administration

10.1.6.1. Xavier Claeys

- Correspondent of the Association pour les Mathématiques en Interactions avec les Entreprises et la Société (AMIES) for Laboratoire Jacques-Louis Lions

10.1.6.2. Laura Grigori

- Member of the Director Committee (Comité Directeur) of GIS Geosciences franciliennes, since November 2015.
- Member (nominated by Inria) of the Scientific Committee of the Mathematics Department of UPMC

10.1.6.3. Frédéric Hecht

- Assistant Director of Fédération de Recherche en Mathématiques de Paris Centre, Fédération de Recherche en Mathématiques de Paris Centre, Since 2010

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

10.2.1.1. Xavier Claeys

- Academic year 2015-2016, total number of course hours: 192 hrs
    - Licence 1: Calculus, 12hrs, UPMC
    - Licence 2: Orientation and Professional Insertion, 40 hrs, UPMC
    - Master 1: Basic computing, 72 hrs of practical works in C++, UPMC
    - Master 1: Scientific computing, 44 hrs of lectures, UPMC
    - Master 2: Solving PDEs by using finite element methods, 18 hrs of practical works in C++, UPMC

10.2.1.2. Laura Grigori

- Spring 2016, UC Berkeley: Co-teaching a class with J. Demmel on Communication Avoiding Algorithms https://who.rocq.inria.fr/Laura.Grigori/TeachingDocs/CS-294_Spr2016/CS-294_CA_Spr2016.html. The class is available for mathematics students as a *Hot Topics Course in Mathematics*, and for Computer Science students as a *Special Topics* class. It was mainly designed for graduate students.

- 4-hour lecture at the XVII Jacques-Louis Lions Spanish-French School on Numerical Simulation in Physics and Engineering, June 2016, Gijon, Spain.

10.2.1.3. Frédéric Hecht

- Academic year 2015-2016, total number of course hours: 192 hrs
  - Master 1: Initiation au C++, 24hrs, M1, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Des EDP à leur résolution par la méthode des éléments finis (MEF), 24hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Numerical methods for fluid mechanics, 10hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Calcul scientifique 3 / projet industriel FreeFem++, 28hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Ingénierie 1 / Logiciel pour la simulation (FreeFem++), 21hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Ingénierie 2 / Projet collaboratif, 21hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
- CEMRACS 2016 : Calcul scientifique à haute performance, 3h course on Tutorial with FreeFem++. The slides are available on F. Hecht website, and videos can be found here https://www.youtube.com/watch?v=NQy2kZQGBbg.

10.2.1.4. Frédéric Nataf

- CEMRACS 2016 : Calcul scientifique à haute performance, 3h course on Domain decomposition methods The slides are available on F. Nataf's website, videos can be found here https://www.youtube.com/watch?time_continue=10672&v=t-rgIFcN6w4.
- Spring 2016: Course on *Domain Decomposition Methods*, Master 2nd year Mathematics & Applications, University Pierre and Marie Curie
- Winter 2016: Course on *Domain Decomposition Methods*, Master 2nd year, Mathematics & Applications, ENSTA and UVSQ

10.2.2. Supervision

- PhD in progress: Alan Ayala, since October 2015 (funded by NLAFET H2020 project), co-advisors Xavier Claeys and Laura Grigori.
- PhD in progress : Sebastien Cayrols, since October 2013 (funded by Maison de la simulation), adivsor Laura Grigori.
- PhD in progress: Hussam Al Daas, since February 2015 (funded by contract with Total), advisor Laura Grigori.
- PhD in progress: Olivier Tissot, since October 2015 (funded by NLAFET H2020 project), advisor Laura Grigori.
- PhD in progress: Pierre Marchand, since October 2016 (funded by ANR NonLocalDD project), advisors Xavier Claeys et Frédéric Nataf.
- PhD in progress: Zakariae Jorti, since February 2016 (funded by IFPen), advisor Laura Grigori.
- PhD : Ryadh Haferssas, defended december 2016 (funded by Ecole Doctorale, UPMC), advisor F. Nataf
- PhD : Mireille El-HAddad, defended december 2016(t UPMC), advisors F. Hecht and T. Sayah.
- HDR: X. CLAEYS, Boundary integral equations of time harmonic wave scattering at complex structures, Accreditation to supervise research, (UPMC Paris 6), February 2016.

10.3. Popularization

- 2 Conferences on being a mathematicien: **Applied Mathematics, Research...**, in the high school Viollet le Duc - Villiers-Saint-Frédéric, France for 200 high school students in 11th and 12th grade, april 2016.
- Part of the teaching duty of Xavier Claeys (around 70 hours total) has been dedicated to "orientation and insertion professionnelle". This has consisted in familiarizing young students (2nd year bachelor) with potential curricula, professionnal activities and networks related to mathematics.

ANGE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

B. Di Martino, C. Guichard, A. Mangeney, Y. Penel and J. Sainte-Marie organised the workshop "Complex rheology for granular flows: challenges and deadlocks" that took place at IPGP on October 14th and that gathered 25 researchers.

M. Parisot organise's the Working group (GdT) of the Ange team.

Moreover, L. Boittin co-organise's the Junior Seminar at Inria–Paris.

10.1.2. Journal

10.1.2.1. Reviewer - Reviewing Activities

Member	Journal
E. Audusse	Advanced Water Resources, ESAIM:ProcS., SMAI Journal of Computational Mathematics
E. Godlewski	Computers and Fluids
C. Guichard	Numerische Mathematik, Mathematics and Computers in Simulation, Annali di Matematica Pura ed Applicata
B. Haspot	Analysis of PDE, JDE, JMAA, M3AS, ARMA, Siam Analysis, Mathematische Annalen, CMS, JFA, Acta Applicandae Mathematicae
A. Mangeney	J. Fluid Mech., J. Geophys. Res., Numeric. Analyt. Methods Geomech., Earth Surf. Processes and Landforms
M. Parisot	Continuum Mechanics and Thermodynamics, Hydrological Processes
Y. Penel	Hydrological Processes
J. Salomon	SIAM Journal on Numerical Analysis, M2AN, SIAM Journal of Scientific Computing
J. Sainte-Marie	M2AN, Nonlinearity, IJNMF, Applied mathematical modellling, Journal of Hydraulic Research, Computers and Fluids, European Journal of Applied Math, Numerische Mathematik

10.1.3. Invited Talks

Conference	Location	Month	Members involved
European Geosciences Union	Vienna (Austria)	April	A. Mangeney
Peril flood	Paris	May	M. Parisot
CANUM	Obernai	May	D. Kazerani
ECMI	Santiago de Compostela (Spain)	June	C. Guichard
CECAM	Lyon	June	A. Mangeney
Martian gullies and Earth analogues	London (UK)	June	A. Mangeney
Scientific computing and modelling	Amiens	June	J. Sainte-Marie
Asymptotic Behavior of systems of PDE	Lille	June	D. Kazerani
AIMS	Orlando (US)	July	N. Aissiouene
EGU FORM-OSE training school	Azores (Spain)	July	A. Mangeney
HYP	Aachen (Germany)	August	Y. Penel
Modelling of coastal hydrodynamics	Vannes	September	E. Audusse, J. Sainte-Marie
GDR Renewable marine energies	Nantes	October	J. Salomon
GDR Transnat	Roscoff	November	E. Audusse
Liquid-vapor interfaces in fluid flows	Paris	December	D. Kazerani

Seminars	Date	Member
IMUS (Sevilla, Spain)	February	Y. Penel
EDANYA (Málaga, Spain)	April	N. Aissiouene
Paris (LJLL)	May	M. Parisot
GIS HED[2]	June	D. Kazerani
Luminy (CEMRACS)	August	E. Audusse
Lille	September	M. Parisot

10.1.4. Leadership within the Scientific Community

Organisation	People	Duty
AMIES	E. Godlewski	Member of board
CFEM	E. Godlewski	Director
Comité d'Orientation Pour les Risques Naturels Majeurs du Ministère de l'Environnement	A. Mangeney	Member
EGRIN	E. Audusse	Correspondent (Paris 13)
	B. di Martino	Correspondent (Corse)
	N. Goutal	Correspondent (EDF)
	C. Guichard	Correspondent (UPMC)
	A. Mangeney	Member of board
	M. Parisot	Correspondent (ANGE)
	J. Sainte-Marie	Scientific head
HCERES	A. Mangeney	Expert
LJLL	E. Godlewski	Deputy director
Research commission of UPMC	D. Kazerani	Member
SMAI	Y. Penel	Member of board

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master's degree (M2) E. Godlewski and J. Sainte-Marie, Hyperbolic models for complex flows and energy applications, 25 hours (lectures), Univ. Pierre et Marie Curie Paris 6

Master's degree (M2) E. Godlewski, Numerical methods for nonstationary PDEs, 18 hours (example and programming classes), Univ. Pierre et Marie Curie Paris 6

Master's degree (M2) C. Guichard, Numerical methods for nonstationary PDEs, 6 hours (programming classes), Univ. Pierre et Marie Curie Paris 6

Master's degree (M2) H. Martin and J. Sainte-Marie, Numerical methods in fluid mechanics, 52 hours (lectures and programming classes), Univ. Paris Diderot Paris 7, IPGP

Master's degree (M2) B. Haspot, Linear partial differential equations, 15 hours (lectures), Univ. Paris Dauphine

Master's degree (M2) B. Di Martino, Mathematical modelling, 21 hours (lectures, example and programming classes), Univ. Corse

Master's degree (M2) J. Salomon, Scientific computing and numerical analysis, 30 hours (lectures, example and programming classes), Univ. Paris Dauphine

Engineering school (2nd year) E. Audusse, Hyperbolic systems, 30 hours (lectures and example classes), Univ. Paris 13

Engineering school (2nd year) E. Audusse, Finite difference method for PDEs, 30 hours (lectures and programming classes), Univ. Paris 13

Master's degree (M1) C. Guichard, Basis of numerical methods, 68 hours (programming classes), Univ. Pierre et Marie Curie Paris 6

Master's degree (M1) H. Martin and J. Sainte-Marie, Models in geosciences, 40 hours (lectures and programming classes), Univ. Paris Diderot Paris 7, IPGP

Master's degree (M1) B. Di Martino, Numerical methods, 27 hours (lectures and programming classes), Univ. Corse

Master's degree (M1) B. Di Martino, Mathematics, 33 hours (lectures, example and programming classes), Univ. Corse

Master's degree (M1) B. Haspot, Functional analysis, 85 hours (lectures and example classes), Univ. Paris Dauphine

Master's degree (M1) E. Godlewski, Numerical methods, 24 hours (lectures), Univ. Pierre et Marie Curie Paris 6

Engineering school (1st year) E. Audusse, Numerical analysis for differential equations, 30 hours (example classes), Univ. Paris 13

Bachelor's degree (L3) C. Guichard, Numerical linear algebra, 76.5 hours (example and programming classes), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L3) M. Parisot, Hilbert analysis, 30 hours (lectures and example classes), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L3) B. Di Martino, Numerical methods, 18 hours (lectures and programming classes), Univ. Corse

Bachelor's degree (L2) E. Audusse, Scientific computing, 36 hours (lectures), Univ. Paris 13

Bachelor's degree (L2) Y. Penel, Integration in 2 and 3 dimensions, 12 hours (lectures), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L1) F. Wahl, Linear algebra, 54 hours (example classes), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L1) F. Wahl, Analysis and algebra for sciences, 38.5 hours (example classes), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L1] E. Nayir, Mathematics, 72 hours (example classes), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L1) E. Godlewski and E. Nayir, Linear algebra, 48 hours (lectures and example classes), Univ. Pierre et Marie Curie Paris 6

Bachelor's degree (L1) L. Boittin, Calculus, 28 hours (example classes), Univ. Pierre et Marie Curie Paris 6

Some members are responsible of educational pathways:

- E. Audusse is the deputy director of the "Applied Mathematics and Scientific Computing" program of the SupGalilee engineering school.
- E. Godlewski is the head of the "Mathematics for Industry" M.Sc. program of Univ. Pierre et Marie Curie Paris 6.
- C. Guichard is the associated head of the "Mathematics and Programming" B. program of Univ. Pierre et Marie Curie Paris 6.
- A. Mangeney is the head of the "Telluric Natural Hazards" M. Sc. specialty of IPGP.

10.2.2. Supervision

PostDoc in progress El Hadji Kone, *Numerical modelling of shallow two-phase flows*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney, from 2016

PostDoc in progress Pierre-Olivier Lamarre, *Optimization of the hydrodynamic regime in a raceway and lagrangian trajectories of algae*, supervised by J. Sainte-Marie and N. Aïssiouene (in collaboration with O. Bernard, BIOCORE)

PhD Nora Aïssiouene, *Derivation and analysis of a non-hydrostatic Shallow water type model*, Univ. Pierre et Marie Curie Paris 6 (Inria grant), supervised by E. Godlewski and J. Sainte-Marie, defended on Dec. 16

PhD Dena Kazerani, *Simulation et modélisation de problèmes à frontière libre*, Univ. Pierre et Marie Curie Paris 6, supervised by N. Seguin (in collaboration with P. Frey and C. Audiard), defended on Nov. 16

PhD Clément Mifsud, *Analyse et approximation des systèmes de Friedrichs : application à la modélisation de l'élastoplasticité*, Univ. Pierre et Marie Curie Paris 6, supervised by N. Seguin (in collaboration with J.-F. Babadjian and B. Després), defended on Nov. 16

PhD Amandine Sergeant-Boy, *Detection and characterisation of seismic sources generated by glaciers: numerical modelling and analysis of seismic waves*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney (in collaboration with J.-P. Montagner, E. Stutzmann and O. Castelnau), defended on Nov. 16

PhD in progress Léa Boittin, *Modelling, analysis and efficient numerical resolution for erosion processes*, Univ. Pierre et Marie Curie Paris 6 (Inria grant), supervised by E. Audusse, M. Parisot and J. Sainte-Marie, from Jan. 16

PhD in progress Vincent Bachelet, *Granular flows and generated acoustic waves: a laboratory investigation*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney (in collaboration with J. De Rosny and R. Toussaint), from 2015

PhD in progress Do Minh Hieu, *Analyse mathématique et schémas volumes finis pour la simulation des écoulements quasi-géostrophiques à bas nombre de Froude*, Univ. Paris 13, supervised by E. Audusse and Y. Penel (in collaboration with S. Dellacherie and P. Omnes), from 2014

PhD in progress Virginie Durand, *Spatio-temporal measurement, analysis and simulation of gravitational flows and seismic signals*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney, from 2016

PhD in progress Julian Kühnert, *Simulation of high frequency seismic waves*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney, from 2016

PhD in progress Hugo Martin, *Simulation of the coupling between seismic waves and granular flows*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney (in collaboration with Y. Maday), from 2016

PhD in progress Hélène Miallot, *Numerical modelling of landquakes*, Institut de Physique du Globe (Univ. Paris 7), supervised by A. Mangeney (in collaboration with Y. Capdeville), from 2015

PhD in progress Ethem Nayir, *Approximation multi-vitesse des équations de Navier-Stokes hydrostatiques: Analyse mathématique et simulations numériques*, Univ. Pierre et Marie Curie Paris 6, supervised by E. Audusse, Y. Penel and J. Sainte-Marie, from 2014

PhD in progress Nourelhouda Omrane, *Mathematical analysis and control of free-surface flows in variable domains*, Univ. Corse, supervised by B. Di Martino, from 2016

PhD in progress Pierrick Quémar, *3D numerical simulations of environmental hydrolics: application to Telemac*, Univ. Paris 13, supervised by E. Audusse and N. Goutal (in collaboration with A. Decoene, O. Lafitte, A. Leroy and C. Tuân Phan), from 2016

PhD in progress Sebastian Reyes-Riffo, *Mathematical methods for recovering marine energies*, Univ. Paris Dauphine, supervised by J. Salomon, from 2016

PhD in progress Fabien Wahl, *Modelling and analysis of interactions between free surface flows and floating objects*, Univ. Pierre et Marie Curie Paris 6, supervised by C. Guichard, E. Godlewski, M. Parisot and J. Sainte-Marie, from 2015

M2 internship Marie Zehgdoudi, *Étude des flux de lave émis au Piton de la Fournaise à partir d'enregistrements sismiques*, IPGP, supervised by A. Mangeney, Summer 2016

L3 internship Albin Grataloup, *Perturbation theory applied to the shallow water equations*, Ecole Normale Supérieure de Lyon, supervised by E. Audusse and Y. Penel, Summer 2016

We also mention that N. Goutal and M. Parisot supervised a student during the 2016 session of CEMRACS during the summer.

10.2.3. *Juries*

Feb., PhD A. Mangeney (president): Antoine Frère (CEA, *Modélisation des tsunamis génér{es par écoulement gravitaire : application dans le golfe de Gascogne*)

Feb., PhD A. Mangeney (referee): Véronique Dansereau (Univ. Grenoble, *A Maxwell-Elasto-Brittle model for the drift of ice*)

July, PhD E. Godlewski: Khalil Haddaoui (Univ. Pierre et Marie Curie Paris 6, *Méthodes numériques de haute précision et calcul scientifique pour le couplage de modèles hyperboliques*)

Sept., PhD E. Godlewski (referee): Asma Toumi (Univ. Toulouse, *Méthode numérique asynchrone pour la modélisation de phénomènes multi-échelles*)

Oct., PhD E. Godlewski (referee): Hippolyte Lochon (Univ. Marseille, *Modélisation et simulation d'écoulements transitoires eau-vapeur en approche bi-fluide*)

Oct., PhD B. Di Martino (referee): Ralph Lteif (Univ. Chambéry, *Modélisation et analyse mathématique de modèles en océanographie*)

Nov., PhD J. Sainte-Marie (referee): Amina Nouhou-Bako (Univ. Orléans, *Modélisation numérique de l'érosion diffuse des sols. Interaction gouttes-ruissellement*)

Nov., PhD E. Godlewski and J. Sainte-Marie: Dena Kazerani (Univ. Pierre et Marie Curie Paris 6, *Études mathématiques de fluides à frontières libres en dynamique incompressible*)

Nov., PhD A. Mangeney: Amandine Sergeant-Boy (Univ. Paris 7, *Detection and characterisation of seismic sources generated by glaciers: numerical modelling and analysis of seismic waves*)

Nov., PhD A. Mangeney: Sébastien Lherminier (Univ. Lyon 1, *Dynamique des avalanches invariantes d'échelle*)

Dec., PhD E. Godlewski, A. Mangeney and J. Sainte-Marie: Nora Aïssiouene (Univ. Pierre et Marie Curie Paris 6, *A numerical method for a dispersive shallow water system*)

Dec., HdR J. Sainte-Marie: Carine Lucas (Univ. Orléans, *Analyse mathématique et numérique de quelques modèles d'érosion*)

M. Parisot participated to the intermediate evaluation of Cécile Taing's PhD thesis (Univ. Pierre et Marie Curie Paris 6). A. Mangeney was a member of the jury evaluating M2 internships at IPGP.

10.3. Popularization

March E. Audusse intervened in a middle school on the occasion of the French week of Maths. J. Salomon went to a high school at Limay.

May N. Aïssiouene, E. Audusse, E. Godlewski (organiser), Y. Penel and F. Wahl ran a stand on the occasion of the "salon de la culture et des jeux mathématiques".

July M. Parisot gave a vulgarisation talk at Inria ("demi-heure de la science").

October E. Audusse intervened in a high school on the occasion of Savantes Banlieues.

November E. Nayir, Y. Penel and F. Wahl ran a stand during the ONISEP exhibition.

December E. Godlewski managed a group of middle school students at the Jacques-Louis Lions lab.

December F. Wahl helped the organisation at the "Math. Employment" show.

A. Sergeant-Boy, A. Mangeney, E. Stutzmann, J.-P. Montagner, F. Walter, L. Moretti, and O. Castelnau wrote an article entitled "La sismologie pour ausculter les pertes des glaciers des calottes polaires, lors du vêlage d'icebergs" in the CNRS–INSU newspaper (Apr.).

A. Mangeney is coaching high-school students from disadvantaged areas to manage scientific projects.

ANTIQUE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Jérôme Feret is a member of the editorial board of the Frontiers in Genetics journal and the Open Journal of Modeling and Simulation.

9.1.1.2. Member of the Organizing Committees

Jérôme Feret organized the 40th of Abstract Interpretation at POPL2017 January 21, 2017, Paris, France (co-organizer).

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Xavier Rival was chair of Static Analysis Symposium SAS 2016, Edinburgh.

Jérôme Feret co-chaired the fifteenth Conference on Computational Methods in Systems Biology - CMSB 2017, September 27–29, 2017, Darmstadt, Germany.

9.1.2.2. Member of the Conference Program Committees

Vincent Danos served on the PC of Computational Methods in Systems Biology, CMSB'16, Cambridge and Complexis'17.

Xavier Rival served on the PC of the 26th European Symposium on Programming (ESOP 2017).

Cezara Drăgoi served on the PC of

- 28th International Conference on Computer-Aided Verification (ERC), CAV 2016,
- 37th INTERNATIONAL CONFERENCE ON APPLICATIONS AND THEORY OF PETRI NETS AND CONCURRENCY, ACSD 2016,
- 23rd International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2017,
- 18th International Conference on Verification, Model Checking, and Abstract Interpretation, VM-CAI 2017,
- ACM SIGPLAN Symposium on Programming Language Design & Implementation, PLDI 2017.

Jérôme Feret served on the PC of

- the 8th International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies - BIOTECHNO 2016,
- the 26th International Symposium on Logic-Based Program Synthesis and transformation - LOPSTR 2016,
- the 23rd Static Analysis Symposium Sept 8-10 2016, Edinburgh,
- 7th International Workshop on Static Analysis and Systems Biology - SASB 2016,
- 14th International Conference on Computational Methods in Systems Biology - CMSB 2016 Sept 21-23 2016, Cambridge, UK,
- Fourth International Conference on Tools and Methods for Program Analysis - TMPA 2017 March 3–4, 2017, Moscow, Russia, JOBIM 2017 July 2-6 2017, Lille, France.

9.1.2.3. Reviewer

Vincent Danos was a reviewer for the 19th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS) 2017, the 26th European Symposium on Programming (ESOP 2017) 2017, LMCS, MSCS.

Cezara Drăgoi was a reviewer for 19th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS) 2017, the 27th International Conference on Concurrency Theory CON-CUR 2016, and the 26th European Symposium on Programming (ESOP 2017) 2017.

Xavier Rival was a reviewer for 23rd International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2017 and ACM SIGPLAN Symposium on Programming Language Design & Implementation, PLDI 2017.

Jérôme Feret was a reviewer for the 17th International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI 2016, the 27th International Conference on Concurrency Theory CON-CUR 2016, the 43rd International Colloquium on Automata, Languages and Programming 2016, the 31st ACM/IEEE Symposium on Logic in Computer Science, LICS 2016.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Jérôme Feret is a member of the editorial board of the Frontiers in Genetics journal and the Open Journal of Modeling and Simulation .

9.1.3.2. Reviewer - Reviewing Activities

Xavier Rival was a reviewer for ACM Transactions on Programming Languages and Systems TOPLAS.

Jerome Feret was a reviewer for Theoretical Computer Science 2016.

9.1.4. Invited Talks

Jérôme Feret gave "An overview of the Astrée/AstréeA analyzer. " at Journées scientifiques Inria Rennes, 20-22 june 2016 and at the workshop « Verified Trustworthy Software Systems » Imperial College, 6-7 April 2016.

Vincent Danos talked about 'Residence: Simons Institute Program Logical Structures and Computations" at CONCUR 2016, Quebec, Aug 25-2 and at Berkeley, Aug 17-Dec 16. He also gave invited talks at SysMod SIG 2016, ISMB, Orlando, Jul 9, Xenobiology 2, XB2, May 24-26, Berlin, IPM Formal Methods Day, Teheran, Jan 10.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence :

- Xavier Rival, "Semantics and Application to Verification",20h, Undergraduate course (L3), at Ecole Normale Supérieure
- Xavier Rival, "Introduction to Static Analysis", 8h, Course at Ecole des Mines de Paris, L3
- Cezara Drăgoi, "Programation concurrente et distribuée", Ecole Polytechnique, L2
- Cezara Drăgoi, "Les principes des langages de programmation", Ecole Polytechnique, L1
- Jérôme Feret, and Cezara Drăgoi, Mathematics, 40h, L1, FDV Bachelor program (Frontiers in Life Sciences (FdV)), Université Paris-Descartes, France.

Master :

- Vincent, Disruptive technologies and public policies, MSc Public affairs, Sciences Po, France.

- Xavier Rival, Protocol Safety and Verification, Master Course (M2) in the Advanced Communication Networks Master (12h hours), at Polytechnique and Ecole Nationale Supérieure des Telecoms

- Xavier Rival, "Verification" Lab Course at Ecole Polytechnique (M1, 20h)

- Vindent Danos and Jérôme Feret (with Jean Krivine), Computational Biology, 24h, M1. Interdisciplinary Approaches to Life Science (AIV), Master Program, Université Paris-Descartes, France.

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

Doctorat : Jérôme Feret, "Interprétation abstraite de modèles de voies de signalisation intracellulaire ", Lectures (3 hours) in the summer school "Modélisation Formelle de Réseaux de Régulation Biologique", Porquerolles, June 2016 France.

9.2.2. *Juries*

Jérôme Feret was a member of the recruitment committee for an assistant professor in Paris-Diderot University 2016.

Vincent Danos was examiner and reviewer for the HDR of Sylvain Soliman (Ecole Polytechnique, 7th of December 2016).

AOSTE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Eric Madelaine is General Chair of the 11th International Symposium on Theoretical Aspects of Software Engineering (TASE'17), and Steering Committee Chair of the International Symposium on Formal Aspects of Components Systems (FACS 2017)

Liliana Cucu-Grosjen and Rob Davis are Steering Committee members of 3 conferences (RTSS, RTAS and RTNS) and 2 workshops (RTSOPS and WMC)

Julien Deantoni was chair of the 4th GEMOC workshop, held in conjunction with the 19th ACM/IEEE International Conference on Model Driven Engineering Languages and Systems

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Robert de Simone will be PC Chair for the forthcoming EMSoft 2017 conference edition.
Frédéric Mallet will be PC Chair for the forthcoming TASE 2017 conference edition.

9.1.2.2. Member of the Conference Program Committees

Robert de Simone: EmSoft 2016, FDL 2016.
Dumitru Potop-Butucaru: RTNS 2016, ACSD 2016
Yves Sorel: DASIP 2016, EMSOFT 2016
Julien Deantoni: MODELS 2016, CAL 2016, GEMOC 2016, EXE 2016 DSD 2016, MOMO 2016.
Liliana Cucu-Grosjean: RTAS2016, SIES 2016, RTNS2016
Fredéric Mallet: DATE 2016, DSD 2016, ERTS 2016, ICTERI 2016.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Yves Sorel: DASIP 2016, EMSOFT 2016

9.1.4. Invited Talks

Robert de Simone was invited Keynote Speaker at the international conference MeMoCode 2016 in Kanpur (India)

9.1.5. Leadership within the Scientific Community

Eric Madelaine and Frédéric Mallet are Council Members of the International Joint Laboratory of Trustworthy Software, Ministery of Education, China.

9.1.6. Scientific Expertise

Yves Sorel: Steering Committees of System Design and Development Tools Group of Systematic Paris-Region Cluster, and of Technologies and Tools Program of SystemX Institute for Technological Research (IRT)

9.1.7. Research Administration

Robert de Simone is Scientific Correspondant for the Inria/Safran collaboration programme, and (starting 2017) Deputy Director of the EDSTIC Doctoral School of Université Côte d'Azur.
Liliana Cucu-Grosjean is elected member of Inria Evaluation Commission.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Robert de Simone, Models of Computation for Networks-on-Chips (MoCs for NoCs), 36h, M2 Internationbal, UNS.

Master: Robert de Simone, Functional and Temporal Correctness, 36h, M1 Internationbal, UNS.

Master: Yves Sorel, Optimization of distributed real-time embedded systems, 36H, M2, University of Paris Sud

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

Master : Julien Deantoni, Systèmes embarqués et Ambient, 10h, M2, Polytech'Nice, France.

Master : Julien Deantoni, Langage C++, 88h, M1,Polytech'Nice, France.

Master : Julien Deantoni, Finite State Machines, 24h, M1,Polytech'Nice, France.

Master : Julien Deantoni, Internship Management, 20h, M2, Polytech'Nice, France.

Master: Dumitru Potop Butucaru, Une approche synchrone des systèmes embarqués temps réel,12h, M1, EPITA Paris

Master: Dumitru Potop Butucaru and Thomas Carle, L'approche synchrone de la construction des systèmes embarqués temps réel, 12h, M2, Polytech Paris UPMC.

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

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

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

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

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

Licence: Frédéric Mallet, Conception Orientée Objet, 45h, L3, UNS.

Licence: Frédéric Mallet, Programmation Orientée Objet, 45h, L3, UNS.

Master: Frédéric Mallet, Programmation Avancée et Design Patterns, 45h, M1, UNS.

Master: Frédéric Mallet, Vérification temporelle et fonctionnelle, 24h, M1, UNS.

Master: Frédéric Mallet, Model-Driven Engineering, 24h, M1, UNS.

Master: Liliana Cucu, Distributed Databases and Statistics in Computer Science, 64h, U. Dunarea de Jos, Romania (Invited Professor)

Master: Dumitru Potop Butucaru, Une approche synchrone des systèmes embarqués temps réel,12h, M1, EPITA Paris

9.2.2. Supervision

PhD: Matias Vara-Larsen, *Toward a formal and hierarchical timed model for concurrent heterogeneous model*, UNS, defended April 2016, supervised by Frédéric Mallet, co-supervised by Julien Deantoni.

PhD in progress: Ameni Khecharem, *High-Level modeling of hierarchical power management policies in SoCs*, UNS, defended May 2016, supervised by Robert de Simone.

PhD in progress: Emilien Kofman, *Conception Haut Niveau Low Power d'objets mobiles communicants*, UNS, started Oct 2013, supervised by Robert de Simone, co-supervised by François Verdier (UMR CNRS/UNS LEAT).

PhD in progress: Amin Oueslati, *Modélisation conjointe d'applications et d'architectures parallèles embarqués en pratique*, UNS, started Jan 2014, supervised by Robert de Simone

PhD in progress: Yuanrui Zhang, ECNU-SEI/China, started Sep 2015, co-supervised by Frederic Mallet (joint supervision with Pr. Chen Yixiang(ECNU).

PhD in prgress: Hui (Vincent) Zhao, UNS, started February 2016, supervised by Frédéric Mallet, co-supervised by Ludovic Apvrille (Telecom ParisTech)

PhD in progress: Dongdong An, ECNU-SEI/China, started November 2016, co-supervised by R. de Simone, supervised by Jing Liu (ECNU).

PhD in progress: Cristian Maxim, *End to end constraints using probabilistic approaches*, UPMC, started on March 2014, supervised by Liliana Cucu

PhD in progress: Walid Talaboulma, *Probabilistic timing analysis in presence of dependences*, UPMC, started on November 2015, co-supervised by Liliana Cucu and Adriana Gogonel

PhD in progress: Salah Edinne Saidi, *Distributed real-time scheduling for the co-simulation of several control models*, University of UMPC-Paris-Sorbonne, started December 2014, co-supervised by Nicolas Pernet (IFPEN) and Yves Sorel.

PhD in progress: Keryan Didier, *Formal certification of real-time implementations*, Université Pierre et Marie Curie/EDITE, started November 2015, supervised by Dumitru Potop Butucaru.

PhD: Oleksandra Kulankhina, *A framework for rigorous development of distributed components: formalisation and tools*, UNS, defended October 2016, supervised by Eric Madelaine, co-supervised by Ludovic Henrio (UMR CNRS/UNS I3S).

PhD in progress: Salah Edinne Saidi, *Distributed real-time scheduling for the co-simulation of several control models*, University of UMPC-Paris-Sorbonne, started December 2014, co-supervised by Nicolas Pernet (IFPEN) and Yves Sorel.

PhD in progress: Keryan Didier, *Formal certification of real-time implementations*, Université Pierre et Marie Curie/EDITE, started November 2015, supervised by Dumitru Potop Butucaru.

PhD: Oleksandra Kulankhina, *A framework for rigorous development of distributed components: formalisation and tools*, UNS, defended October 2016, supervised by Eric Madelaine, co-supervised by Ludovic Henrio (UMR CNRS/UNS I3S).

PhD: Vincent Kherbache, *Ordonnancement des migrations à chaud de machines virtuelles*, UNS, defended December 2016, supervised by Eric Madelaine, co-supervised by Fabien Hermenier (UMR CNRS/UNS I3S).

9.2.3. *Juries*

Robert de Simone: reviewer for the HDR of Xavier Thirioux (ENSIIEHT, Sept. 2016)

Dumitru Potop Butucaru: PhD reviewer for Pierre Guillou - Ecole des Mines de Paris. Nov. 2016

Julien Deantoni: PhD reviewer for Florent Latombe (ENSIIEHT)

Liliana Cucu-Grosjean: PhD reviewer for Guillaume Phavorin (ENSMA Poitiers, September 2016)

Liliana Cucu-Grosjean: PhD jury member for Abhilash Thekkilakattil (University of Ma¨lardalen, May 2016)

9.3. Popularization

Liliana Cucu-Grosjean has supervised the video production of a popularization video regarding the outcomes of the PROXIMA project. The video has been made available on Inria channels and all PROXIMA partners.

ARAMIS 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

O. Colliot was a member of program committee of the Workshop on Patch-based Techniques in Medical Imaging (Patch-MI) held in conjunction with the MICCAI conference.

S. Durrleman was on the advisory panel of MICCAI Workshop on Spectral and Shape Analysis in Medical Imaging (SESAMI)

F. De Vico Fallani was member of the program committee of the Satellite on Brain networks, International Conference on Network Science (NetSci), Seoul, South Korea, 2016

F. De Vico Fallani was member of the program committee of5th International Workshop on Complex Networks and their Applications, Milan, Italy, 2016

10.1.1.2. Reviewer

O. Colliot acted as a reviewer for the annual meeting of the Organization for Human Brain Mapping (OHBM).

S. Durrleman acted as a reviewer for Computer Vision and Pattern Recognition (CVPR), International Conference on Computer Vision (ICCV), and Workshop on Biomedical Image Registration (WBIR).

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

O. Colliot is a member of the Editorial Board of Medical Image Analysis (Elsevier).

S. Durrleman is associate editor of IEEE Transactions on Medical Imaging (TMI)

10.1.2.2. Reviewer - Reviewing Activities

O. Colliot acted as a reviewer for NeuroImage, NeuroImage: Clinical, IEEE Trans Medical Imaging, Medical Image Analysis and Neurobiology of Aging.

S. Durrleman acted as a reviewer for NeuroImage, IEEE Trans Medical Imaging, Medical Image Analysis, Frontiers in Neuroimaging, International Journal of Computer Assisted Radiology and Surgery (IJCARS), Advances in Data Analysis and Classification, among others.

A. Bertrand acted as a reviewer for Neurobiology og Aging, Frontiers in Neuroscience, American Journal of Neuroradiology, Journal of Neuroradiology.

F. De Vico Fallani acted as a reviewer for Brain, Cerebral Cortex, IEEE TBME/TNRSE, Human Brain Mapping, Neuroimage, Plos Computational Biology, J Neurosci Meth, Sci Rep, Brain Connectivity.

10.1.3. Invited Talks

S. Durrleman gave an invited lecture at the International Colloquium "Evolution du cerveau et des capacités cognitives des Hominidés fossiles depuis Sahelanthropus tchadensis, il y a sept millions d'années jusqu'à l'Homme moderne" in Tautavel.

F. De Vico Fallani gave an invited talk at the Workshop on Complex networks, Lipari, Italy, 2016

F. De Vico Fallani gave an invited talk Meeting on Dynamics and synchronization on complex networks, Tarragona, Spain, 2016

F. De Vico Fallani gave an invited talk Workshop on Dynamic networks, Institut Systèmes Complexes, Toulouse, France, 2016

F. De Vico Fallani gave an invited talk Satellite on Brain networks, International Conference on Network Science (NetSci), Seoul, South Korea, 2016

10.1.4. Scientific Expertise

S. Durrleman has served in the "Commission de développement technologique" (CDT) of the Inria Paris center.

S. Durrleman has led a working group on neuroinformatics at the ICM (Brain and Spine Institute).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Olivier Colliot coordinates the module "Méthodes d'imagerie médicale" of the Master 2 in Computer Science of Université Pierre et Marie Curie.

Master: Olivier Colliot, Master in Computer Science, 4.5 hours (eqTD), Université Pierre et Marie Curie

Master: Stanley Durrleman, Master in Computer Science, 9 hours (eqTD), Université Pierre et Marie Curie

Master: Marie Chupin, Master in Computer Science, 3 hours (eqTD), Université Pierre et Marie Curie

Master: Fabrizio De Vico Fallani, Master in "Méthodologies et applications en imagerie médicale", 3 hours (eqTD), Université Pierre et Marie Curie

Master: Damien Galanaud, Master in Medical Physics, 4 hours, Université Paris-Sud

Engineering school: Olivier Colliot, 3 hours (eqTD), Mines ParisTech

Medical school: Didier Dormont is the Director of the University Diploma (DIU) "Diagnostic and Therapeutic Neuroradiology", Université Pierre et Marie Curie

Medical school: Anne Bertrand gives lectures in Neuroimaging of degenerative diseases and normal aging for residents in Radiology and Neurology, for Radiology technicians, for License students in Orthophony, and in various "University Diploma" medical programs (Neurogeriatrics, Neuroradiology, Alzheimer's Disease and related disorders, Neurovascular Imaging, Emergency-Stroke, Neuroresuscitation), for a total of 50 hours a year.

Medical school: Didier Dormont, Courses for Medical Students, Université Pierre et Marie Curie

Medical school: Dominique Hasboun, Courses for Medical Students, Université Pierre et Marie Curie

Medical school: Damien Galanaud, Courses for Medical Students, Université Pierre et Marie Curie

Medical school: Anne Bertrand, Courses for Medical Students, Université Pierre et Marie Curie

Medical school: Didier Dormont organizes and participates in the practical teaching of Neuroradiology for Medical Students in the Department of Diagnostic Neuroradiology of Pitié Salpêtrière University Hospital

Medical school: Didier Dormont organizes and participates in the practical teaching of Neuroradiology for Radiology Specializing Residents in the Department of Diagnostic Neuroradiology of Pitié Salpêtrière University Hospital

Medical school: Didier Dormont, Courses to the university diplomas (DU) : "Maladie d'Alzheimer", and "Imagerie Vasculaire non Invasive"

Medical school: Damien Galanaud, courses to the University Diploma (DIU) "Diagnostic and Therapeutic Neuroradiology", Université Pierre et Marie Curie

Paramedical studies: Dominique Hasboun, Psychomotricity, 50 hours, Université Pierre et Marie Curie

10.2.2. Supervision

PhD in progress : Catalina Obando-Forero, "Graph models of cortical plasticity in temporal brain networks", Inria, started in 2015, advisor: Fabrizio De Vico Fallani

PhD in progress : Jeremy Guillon, "Méthode d'analyse multimodale de connectivités neuronales basée sur la théorie des réseaux complexes multicouches", EDITE Université Pierre et Marie Curie, started in 2015, advisors: Fabrizio De Vico Fallani and Mario Chavez

PhD Cifre in progress : Fanny Grosselin, "Fouille des données EEG et suivi longitudinal grande échelle pour le diagnostic et la prédiction du niveau de stress chez l'homme", EDITE Université Pierre et Marie Curie, started in 2016, advisors: Fabrizio De Vico Fallani and Mario Chavez,

PhD in progress : Junhao Wen, "Cortical morphometry for discovering new biomarkers of neurodegenerative diseases", Université Pierre et Marie Curie, Started in 2015, advisors: Olivier Colliot and Stanley Durrleman

PhD in progress : Jorge Samper-Gonzalez, "Learning from heterogeneous data for prediction of Alzheimer's disease", Université Pierre et Marie Curie, Started in 2015, advisors: Olivier Colliot and Theodoros Evgeniou

PhD in progress : Alexandre Routier, "Multimodal neuroimaging for characterization of primary progressive aphasias", Université Pierre et Marie Curie, Started in 2015, advisors: Marc Teichmann, Olivier Colliot and Marie-Odile Habert

PhD in progress: Jean-Baptiste Schiratti, "Méthodes et algorithmes pour l'analyse statistique de données anatomiques longitudinales – application à la caractérisation des phases pré-symptomatiques des maladies neurodégénératives", Ecole Polytechnique, Started in 2013, advisors: S. Allassonnière and S. Durrleman

PhD in progress: Barbara Gris, "Approche modulaire des méthodes de grandes déformations pour l'appariement de formes", Ecole Normale Supérieure de Cachan, Started 2013, advisors: A. Trouvé and S. Durrleman

PhD in progress: Pascal Lu, "Machine learning from multimodal genetic and neuroimaging data for personalized medicine", Université Pierre et Marie Curie, Started 2016, advisor: O. Colliot

PhD in progress: Wen Wei, "Learning brain alterations in multiple sclerosis from multimodal neuroimaging data", Université de Nice Sophia-Antipolis, Started 2016, advisors: N. Ayache, O. Colliot and S. Durrleman

PhD in progress: Alexandre Bône, "Learning methods for the spatiotemporal analysis of longitudinal image data : application to the diagnosis, prognosis and monitoring of Alzheimer's disease", started 2016, advisors: O. Colliot and S. Durrleman

PhD in progress: Manon Ansart, "Automatic recommendation systems built on the statistical exploitation of longitudinal medical data sets", started 2016, advisors: D. Dormont and S. Durrleman

PhD in progress: Maxime Louis, "Learning spatiotemporal trajectories of iconic-geometric data sets", started 2016, advisors: S. Durrleman

PhD in progress: Igor Koval, "Construction of disease progression models from multimodal longitudinal data", started 2016, advisors: S. Allassonnière and S. Durrleman

PhD in progress: Lou Albessard, "Etude de la co-variation morphologique entre le crâne et le cerveau dans le genre Homo", started 2015, advisors: D. Grimaud-Hervé and S. Durrleman

Master 2: Alexandre Morin, Master in Neuroscience, Université Pierre et Marie Curie, Oct 2015-Aug 2016, advisor: Olivier Colliot

Master 2: Thomas Jacquemont, Master in Neuroscience, Université Pierre et Marie Curie, Oct 2015-Aug 2016, advisor: Olivier Colliot

Master 2: Martina Sundqvist, Master in Cognitive Science, Ecole Normale Supérieure, Oct 2015-Aug 2016, advisors: Olivier Colliot and Marc Teichmann

Master 2: Enrico Valenti, Master in Psychiatry, Université Sapienza, Rome, Italy, Sep 2016-Dec 2016, advisor: Fabrizio De Vico Fallani

Master 2: Carlos Tor Diez, Master in BioMedical Engineering, ParisTech Universite Paris Descartes, Mar-Sept 2016, advisor: Marie Chupin

Internship: Ayoub Louati, Tunisia Polytechnic School, Mar-Sept 2016, advisor: Marie Chupin

10.2.3. *Juries*

Fabrizio De Vico Fallani participated, as referee, to the PhD committee of Aziz Adebimpe (Université Picardie), 2016 (supervisors: Fabrice Wallois and Ardalan Aarabi).

Mario Chavez participated, as referee, to the PhD committee of Aziz Adebimpe (Université Picardie), 2016 (supervisors: Fabrice Wallois and Ardalan Aarabi).

Olivier Colliot participated, as referee, to the PhD committee of Mehdi Hadj-Hamou (Inria Sophia), 2016 (supervisors: Xavier Pennec and Nicholas Ayache).

Olivier Colliot participated, as examiner, to the PhD committee of Bishesh Kanal (Inria Sophia), 2016 (supervisors: Xavier Pennec and Nicholas Ayache).

Olivier Colliot participated, as examiner, to the PhD committee of Baptiste Morel (Telecom Paris-Tech), 2016 (supervisors: Isabelle Bloch and Catherine Adamsbaum).

Olivier Colliot participated, as examiner, to the PhD committee of Romain Colle (Université Paris-Sud), 2016 (supervisor: Emmanuelle Corruble).

10.3. Popularization

With the precious help of the communication department of the Inria Paris Center, ARAMIS prepared and presented games on brain data analysis, presented at the "Salon Culture et Jeux Mathématiques" and at the "Fête de la Science".

<p style="text-align:center">**CASCADE Project-Team**</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Events and Activities

- a regular seminar is organized: http://www.di.ens.fr/CryptoSeminaire.html
- quarterly Paris Crypto Days (https://pariscryptoday.github.io) supported by CryptoCloud and aS-CEND
- working group on lattices (http://perso.ens-lyon.fr/damien.stehle/LATTICE_MEETINGS.html), joint with ENS Lyon
- BibTeX database of papers related to Cryptography, open and widely used by the community (https://cryptobib.di.ens.fr)

8.1.1.2. Steering Committees of International Conferences

- steering committee of CANS: David Pointcheval
- steering committee of PKC: David Pointcheval
- steering committee of LATINCRYPT: Michel Abdalla (chair)
- steering committee of PAIRING: Michel Abdalla

8.1.1.3. Other Steering Committees

- steering committee of the Coding and Cryptography working group (GT-C2 - https://crypto.di.ens.fr/c2:main) of the *Groupe de Recherche Informatique Mathématique* (GDR-IM): Damien Vergnaud is the Head of this steering committee

8.1.1.4. Board of International Organisations

- Board of the *International Association for Cryptologic Research* (IACR): Michel Abdalla (2013 – 2018), David Pointcheval (2008–2016)

8.1.2. Scientific Events Selection

8.1.2.1. Program Committee Chair

- Africacrypt '16 – 13-15 April (Fes, Morocco): David Pointcheval

8.1.2.2. Program Committee Member

- Financial Crypto '16 – 22–26 February (Barbados): Damien Vergnaud
- PKC '16 – 6-9 March (Taiwan): David Pointcheval
- Africacrypt '16 – 13-15 April (Fes, Morocco): Georg Fuchsbauer
- Eurocrypt '16 – 8-12 May (Vienna, Austria): Michel Abdalla and Georg Fuchsbauer
- AsiaPKC 2016 – 30 May 30 - 03 June (Xi'an, China): Damien Vergnaud
- Crypto '16 – 14-18 August (Santa Barbara, California, USA): David Pointcheval
- ACM CCS '16 – 24-28 October (Vienna, Austria): Hoeteck Wee
- ProvSec '16 – 10-12 November (Nanjing, China): Georg Fuchsbauer
- CANS '16 – 14-16 November (Milan, Italy): Georg Fuchsbauer
- Asiacrypt '16 – 4-8 December (Hanoi, Vietnam): Georg Fuchsbauer

8.1.3. Editorial Boards of Journals

Editor-in-Chief

- of the *International Journal of Applied Cryptography (IJACT)* – Inderscience Publishers: David Pointcheval

Associate Editor

- of *IET Information Security*: Michel Abdalla
- of *ETRI Journal*: Michel Abdalla
- of *Applicable Algebra in Engineering, Communication and Computing*: David Pointcheval

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Master: David Pointcheval, Jacques Stern, Damien Vergnaud, Introduction to Cryptology, M1, ENS
- Master: Michel Abdalla, David Pointcheval, Cryptography, M2, MPRI
- Master: Damien Vergnaud, Advanced Algebra and Applications to Cryptography, Ecole Centrale Paris
- Master: David Pointcheval, Cryptography, M2, ESIEA
- IACR-SEAMS School on "Cryptography: Foundations and New Directions": David Pointcheval

8.2.2. Defenses

- PhD: Adrian Thillard, Counter-measures against side-channel attacks and secure multi-party computation, ENS, December 12th, 2016 (Supervisor: Damien Vergnaud)
- PhD: Alain Passelègue, Algebraic Frameworks for Pseudorandom Functions, ENS, December 9th, 2016 (Supervisor: Michel Abdalla)
- PhD: Mario Cornejo, Security for the cloud, ENS, November 17th, 2016 (Supervisor: Michel Abdalla)
- HdR: Hoeteck Wee, Advances in Functional Encryption, ENS, July 1st, 2016
- PhD: Fabrice Ben Hamouda, Diverse Modules and Zero-Knowledge, ENS, July 1st, 2016 (Supervisors: Michel Abdalla & David Pointcheval)

8.2.3. Supervision

- PhD in progress: Raphael Bost, Symmetric Searchable Encryption, from 2014, David Pointcheval (with Pierre-Alain Fouque, at Rennes)
- PhD in progress: Florian Bourse, Encryption Schemes for the Cloud, from 2014, Michel Abdalla & David Pointcheval
- PhD in progress: Geoffroy Couteau, Efficient secure two-party computation for the Cloud, from 2014, David Pointcheval & Hoeteck Wee
- PhD in progress: Rafael Del Pino, Lattice-Based Cryptography – Complexity and Ideal-Lattices, from 2014, Vadim Lyubashevsky
- PhD in progress: Pierrick Meaux, Lattice-Based Cryptography – Advanced Features, from 2014, Vadim Lyubashevsky
- PhD in progress: Thierry Mefenza Nountu, Number-Theoretic Study of Pseudorandom Cryptographic Primitives, from 2014, Damien Vergnaud
- PhD in progress: Aurélien Dupin, Multi-Party Computations, from 2015, David Pointcheval (with Christophe Bidan, at Rennes)
- PhD in progress: Pierre-Alain Dupont, Secure Communications, from 2015, David Pointcheval
- PhD in progress: Romain Gay, Functional Encryption, from 2015, Michel Abdalla & Hoeteck Wee

- PhD in progress: Dahmun Gourdazi, Secure and Fast Cryptographic Implementation for Embedded Devices, from 2015, Damien Vergnaud

- PhD in progress: Louiza Khati, Disk Encryption Modes, from 2015, Damien Vergnaud

- PhD in progress: Michele Minelli, Increased efficiency and functionality through lattice-based cryptography, from 2015, Michel Abdalla & Hoeteck Wee

- PhD in progress: Anca Nitulescu, Verifiable Outsourced Computations, from 2015, David Pointcheval

- PhD in progress: Razvan Rosie, Practical Functional Encryption Schemes For the Cloud, from 2015, Michel Abdalla & Hoeteck Wee

- PhD in progress: Quentin Santos, Advanced Cryptography from a Blockchain, from 2015, David Pointcheval

- PhD in progress: Jérémy Chotard, Attribute-Based Encryption, from 2016, David Pointcheval (with Duong Hieu Phan, at Limoges)

- PhD in progress: Michele Orrù, Functional Encryption, from 2016, Hoeteck Wee & Georg Fuchsbauer

8.2.4. Juries

- PhD Adrian Thillard. *Countermeasures to side-channel attacks and secure multi-party computation* – ENS – France, December 12th, 2016: Damien Vergnaud (supervisor)

- PhD Alain Passelègue. *Algebraic Frameworks for Pseudorandom Functions* – ENS – France, December 9th, 2016: Michel Abdalla (supervisor)

- PhD Mario Cornejo. *Security for the cloud* – ENS – France, November 17th, 2016: Michel Abdalla (supervisor), David Pointcheval

- PhD Christian Janson. *On the Verification of Computation and Data Retrievability* – Royal Holloway University of London – UK, October 11th, 2016: Michel Abdalla

- PhD Brice Minaud. *Analyse de primitives cryptographiques récentes* – Université Rennes I – France, October 7th, 2016: David Pointcheval

- PhD Houda Ferradi. *Integrity, Authentication and Confidentiality in Public-Key Cryptography* – ENS – France, September 22nd, 2016: Michel Abdalla

- HdR Hoeteck Wee. *Advances in Functional Encryption* – ENS – France, July 1st, 2016: Michel Abdalla, David Pointcheval

- PhD Fabrice Ben Hamouda. *Diverse Modules and Zero-Knowledge* – ENS – France, July 1st, 2016: Michel Abdalla & David Pointcheval (supervisors)

- PhD Alberto Battistello. *On the security of embedded systems against physical attacks* – UVSQ – France, June 29th, 2016: David Pointcheval

- PhD Antoine Delignat-Lavaud. *On the Security of Authentication Protocol for the Web* – ENS – France, March 14th, 2016: David Pointcheval

- PhD Rémy Chrétien. *Automated analysis of equivalence properties for cryptographic protocols* – ENS Cachan – January 11th, 2016: David Pointcheval

<h1 style="color:red; text-align:center">CLIME Project-Team</h1>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Selection

10.1.1.1. Reviewer

- Isabelle Herlin: International Conference on Computer Vision and Pattern Recognition (CVPR), International Conference on Computer Vision (ECCV), Asian Conference on Comuter Vision (ACCV), International Conference on Image Processing (ICIP).

10.1.2. Journal

10.1.2.1. Reviewer - Reviewing Activities

- Julien Brajard: IEEE Transactions on Geoscience and Remote Sensing (TGRS).
- Isabelle Herlin: IEEE Transactions on Geoscience and Remote Sensing (TGRS), IEEE Geoscience and Remote Sensing Letters, Mathematical Methods in Applied Sciences.

10.1.3. Invited Talks

- Vivien Mallet: Processing environmental simulations and observations for smart cities; Perspectives and New Challenges in Data Science, École des Ponts ParisTech; February 2016.
- Vivien Mallet: Assimilation de données et prévision d'ensemble appliquées à la qualité de l'air; CEA seminar; June 2016.

10.1.4. Scientific Expertise

- Isabelle Herlin is a member of the Scientific Council of ANDRA (French national radioactive waste management agency)
- Isabelle Herlin is a member of the Scientific Council of CSFRS (High Council for Strategic Education and Research in France).
- Isabelle Herlin and Vivien Mallet reviewed several research proposals, especially for ANR (France).

10.1.5. Research Administration

- Isabelle Herlin is a member of the program committee of DIGITEO, French research cluster in science and technology of information.
- Isabelle Herlin is a member of the Evaluation Committee at Inria.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master OACOS/WAPE: Marc Bocquet, Vivien Mallet, Jean-Matthieu Haussaire; Introduction to Data Assimilation for Geophysics; 12 hours; M2; UPMC, X, ENS, ENSTA ParisTech, École des Ponts ParisTech; France.

Master SGE and 3rd-year class at École des Ponts ParisTech: Vivien Mallet; Air quality modeling; 4.5 hours; M2; Universities Paris Diderot- Paris 7, Paris 12 and École des Ponts ParisTech, France.

Training: Vivien Mallet; Uncertainty Quantification: Ensembles and Data Assimilation – Application to Climate and Geosciences; 5.25 hours; CERFACS; France.

Training: Vivien Mallet; Introduction to data assimilation: Kalman filters and ensembles; 4.5 hours; CEMRACS (summer school).

10.2.2. Supervision

- PhD in progress : Pacôme Eberhart, "Génération automatique de codes performants et fiables pour l'assimilation de données", September 2013, Fabienne Jezequel, Pierre Fortin and Julien Brajard

- PhD in progress : Jean Thorey, "Prévision d'ensemble du rayonnement solaire pour la production photovoltaïque du parc EDF", November 2013, Vivien Mallet.

- PhD in progress: Ruiwei Chen, "Quantification d'incertitude en simulation des émissions du trafic routier", November 2014, Vivien Mallet.

- PhD in progress: Raphaël Ventura, "Simulation numérique de la ville par couplage entre la modélisation et l'observation", September 2014, Vivien Mallet.

- PhD in progress: Ngoc Bao Tran Le, "Quantification d'incertitude par réduction de modèle de dispersion atmosphérique", November 2016, Vivien Mallet.

10.2.3. Juries

- Vivien Mallet for the PhD defense of Michaël Zamo, "Statistical Post-processing of Deterministic and Ensemble Windspeed Forecasts on a Grid", December 2016, Météo France.

10.3. Popularization

Vivien Mallet and Raphaël Ventura, together with Cong Kinh Nguyen (MiMove), Pierre-Guillaume Raverdy (SED), Fadwa Rebhi (MiMove), Fabienne Giboudeaux (Paris city), Awa Ndiaye (Paris city), Gilles Plattner (Particitae) and Laure Turcati (Particitae), took part to collaborative measuring of noise pollution with volunteers from the general public. Using the mobile application Ambiciti, the volunteers carried out a journey in a city district in order to measure noise pollution with their smartphones, and therefore help to map noise pollution in the area. At the end of the journeys, the observations were merged with an existing noise map so as to produce an improved map. Discussion about the strengths and limitations of mobile observation were engaged, and the activity helped to inform about noise pollution. This was carried out in Paris at the opening of the "Canopée des Halles", at Futur en Seine festival and during the "journée sans voiture".

<div align="center">

DYOGENE Project-Team

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10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Bartlomiej Blaszczyszyn: 5th Stochastic Models Conference in Będlewo, Poland; http://www.math.uni.wroc.pl/~lorek/bedlewo2016/index.php
- Ana Busic: Workshop on the stochastic optimization and games with applications to energy and networks; http://gdrro.lip6.fr/?q=node/147

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Bartlomiej Blaszczyszyn: WiOpt/Spaswin 2016.
- Anne Bouillard: Valuetools 2016 conference.
- Ana Busic: QEST 2016, IEEE SmartGridComm 2016,
- Jocelyne Elias: GSNC 2016, Globecom 2016 SAC CN, IEEE WCNC 2016, WD 2016, IEEE ICCVE 2016.
- Marc Lelarge: AISTATS 2017, NIPS 2016, Workshop on Algorithms and Models for the Web Graph 2016, ACM SIGMETRICS 2017, 2016, ACM Mobihoc 2017, 2016, IEEE INFOCOM 2017, 2016, ICALP 2016.

10.1.2.2. Reviewer

- Dalia-Georgiana Herculea: IEEE VTC , IEEE ICT.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Marc Lelarge: IEEE Transactions on Network Science and Engineering, Bernoulli Journal, Queueing Systems.

10.1.3.2. Reviewer - Reviewing Activities

- Bartlomiej Blaszczyszyn: Ann. Appl. Probab., IEEE TNSE, TWC, WCL.
- Dalia-Georgiana Herculea: IEEE Access, Wiley Transactions on Emerging Telecommunications Technologies.

10.1.4. Invited Talks

- Bartlomiej Blaszczyszyn: Workshop on Continuum Percolation in Lille http://math.univ-lille1.fr/~heinrich/Contperc2016/ , 1st Symposium on Spatial Networks in Oxford http://www.eng.ox.ac.uk/sen/events.html, Workshop on Probabilistic Methods in Telecommunication WIAS Berlin https://www.wias-berlin.de/workshops/PMT16/.
- Anne Bouillard: ASMTA conference.
- Ana Busic: Institute for Mathematics and its Applications, Univ. of Minnesota, Indo-UK workshop on Energy Management, ICMS Edinburgh,Workshop EDF Lab', Simons Institute Berkeley, Faculty of Electrical Engineering and Computing, University of Zagreb,
- Dalia-Georgiana Herculea: Institute of Stochastics, University of Ulm, LINCS Internal Workshop.

10.1.5. Leadership within the Scientific Community

- Ana Busic is co-responsable of the research group COSMOS (Stochastic optimization and control, modeling and simulation) of the GDR-RO; http://gdrro.lip6.fr/?q=node/78.

- Dalia-Georgiana Herculea: Representation of Phd students in the Board of Laboratory of Information, Networking and Communication Sciences (LINCS).

10.1.6. Scientific Expertise

- Bartlomiej Blaszczyszyn: ANR France, ISF Israel, NSC Poland, ERC Europe.

10.1.7. Research Administration

- A. Busic: Co-president of CES (Commission des Emplois Scientifiques) of Inria Paris, Member of the hiring committee for CR2 research positions at Inria Paris, Member of CDT (Commission de développement technologique) of Inria Paris.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Anne Bouillard (Cours) et Rémi Varloot (TD) **Structures et algorithmes aléatoires** 80heqTD, L3, ENS, France.

Licence: Anne Bouillard (Cours) **Théorie de l'information et du codage** 24 heqTD, L3, ENS, France.

Licence: Anne Bouillard (Cours) **Algorithmique et programmation** 21 heqTD, L3, ENS, France.

Master: Bartlomiej Blaszczyszyn (Cours) **Processus ponctuels, graphes aléatoires et géeométrie stochastique** 39heqTD, M2 Probabilités et Modèles Aléatoires, UPMC, France

Master: Anne Bouillard (Cours + TD) **Fondements de la modélisation des réseaux** 18heqTD, M2, MPRI, France

Master: Ana Busic and Marc Lelarge (Cours) et Rémi Varloot (TD) **Modéles et algorithmes de réseaux**, 50 heqTD, M1, ENS, Paris, France.

Master: Ana Busic (Cours) **Simulation**, 13.5 heqTD, M2 AMIS UVSQ, France.

Master: Marc Lelarge (TD) **Networks: distributed control and emerging phenomena** (cours given by Laurent Massoulié) M2, Ecole Polytechnique, France.

Master: Marc Lelarge (TD) **Aléatoire** (cours given by Sylvie Mél'eard) M2, Ecole Polytechnique, France.

10.2.2. Supervision

PhD: Kumar Gaurav, On some diffusion and spanning problems in configuration model [3], defended in November 2016, supervised by B. Blaszczyszyn

PhD in progress: Léeo Miolane, supervised by Marc Lelarge

PhD in progress: Dalia-Georgiana Herculea, co-advised by B. Blaszczyszyn, E. Altman and Ph. Jacquet

PhD in progress: Lennart Gulikers, supervised by Marc Lelarge with Laurent Massoulié

PhD in progress: Md Umar Hashmi, Decentralized control for renewable integration in smartgrids, from December 2015, co-advised by A. Busic and M. Lelarge

PhD in progress: Alexandre Hollocou: supervised by Marc Lelarge with Thomas Bonald

PhD in progress: Christelle Rovetta, Applications of perfect sampling to queuing networks and random generation of combinatorial objects, from December 2013, co-advised by Anne Bouillard and Ana Busic

PhD in progress: Sébastien Samain, Monte Carlo methods for performance evaluation and reinforcement learning, from November 2016, supervised by A. Busic

PhD in progress: Rémi Varloot, supervised by Marc Lelarge with Laurent Massoulié

PostDoc: Arpan Mukhopadhyay, supervised by Marc Lelarge with Nidhi Hegde

PostDoc: Virag Shah: supervised by Marc Lelarge with Laurent Massoulié and Milan Vojnovic

10.2.3. Juries

- Anne Bouillard: reviewer of the PhD thesis of Mickael Back (University of Kaiserslautern).

- Ana Busic: PhD jury of Alexandra Ugolnikova, LIPN (Université Paris Nord), Rim Kaddah (Télécom ParisTech).

- Bartlomiej Blaszczyszyn: reviewer of the PhD thesis of Jihong YU LRI (Université Paris-Sud).

- Marc Lelarge: reviewer for the PhD thesis of Kevin Scaman (ENS Cachan) and Van Hao Can (Université Aix-Marseille).

10.3. Popularization

- Anne Bouillard: invited speaker at "Girls can code" 2016 session (Training session for female junior and senior highschool students).

<div align="center">**EVA Project-Team**</div>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Event Organization

10.1.1.1. General Chair, Scientific Chair

- **Pascale Minet**
    1. co-chair with Leila Saidane of PEMWN 2016, organized in Paris (at the CNAM), France, November 2016.
- **Thomas Watteyne**
    1. Co-chair with Fabrice Theoleyre and Antoine Gallais of a special session on "Industrial Internet of Things: Constraints, Guarantees, and Resiliency" at the 23rd IEEE International Conference on Telecommunications (ICT), Thessaloniki, Greece, 16-18 May 2016.
    2. Technical Program Committee Chair and Local Chair, EAI Conference on Interoperability in IoT (InterIoT), Paris, France, October 2016.
    3. Demo Chair, IEEE International Conference on Sensing, Communication and Networking (SECON), London, UK, 27-30 June 2016.
    4. General Chair, Second ETSI 6TiSCH plugtests, Paris, France, 2-4 February 2016.
- Nadjib Achir
    1. track chair of the Internet of Things (IoT) track of the Selected Areas in Communications Symposium of IEEE Global Telecommunications Conference 2014
- Selma Boumerdassi
    1. chair of the International Workshop on Energy Management for Sustainable Internet-of-Things and Cloud Computing (EMSICC 2016), August 2016.
    2. chair of the International Conference on Mobile, Secure and Programmable Networking (MSPN 2016), June 2016.

10.1.1.2. Member of the Organizing Committee

- **Pascale Minet**
    1. chaired the session entitled "Wireless Sensor networks II" at the IEEE MASS 2016 conference held in Brasilia in October 2016.
- **Paul Muhlethaler**
    1. have invited two presenters Laurent Georges (ESIEE) and Nadjib Ait Saadi (Paris XII) at EVA-MIMOVE-RITs seminar. Laurent Georges presented his work on software radio and Nadjib Ait Saadi on virtualisation and communication in data centers.
- **Thomas Watteyne**
    1. Demo Chair, IEEE International Conference on Sensing, Communication and Networking (SECON), London, UK, 27-30 June 2016.
- Christine Anocq
    1. member of the organizing committee of the international conference PEMWN 2016

10.1.2. Scientific Events Selection

The list of conferences Inria-EVA researcher participated in as Technical Program Committee (TPC) members:

- **Nadjib Achir**
    1. TPC Member IEEE Global Telecommunications Conference, GLOBECOM 2016.
    2. TPC Member IEEE International Conference on Communications, ICC 2016.
    3. TPC Member Personal, Indoor and Mobile Radio Communications, PIMRC 2016.
    4. TPC Member IEEE Wireless Communications and Networking Conference, WCNC 2016.
    5. TPC Member IEEE Consumer Communications & Networking Conference, CCNC 2016.
    6. TPC Member Global Information Infrastructure and Networking Symposium, GIIS 2016.
    7. TPC Member International Conference On Network of the Future, NoF 2016.
    8. TPC Member of the fourth International conference on Performance Evaluation and Modeling in Wireless Networks, PEMWN 2016.

- **Selma Boumerdassi**
    1. TPC Member IEEE Global Telecommunications Conference, GLOBECOM 2016
    2. TPC Member IEEE International Conference on Communications, ICC 2016
    3. TPC Member International Conference on Open and Big Data, OBD, 2016
    4. TPC Member International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, PEMWN, 2016
    5. TPC Member International Conference on Platform Technology and Service, PlatCon, 2016

- **Pascale Minet**
    1. CSCN 2016, IEEE Conference on Standards for Communications and Networking, October 2016.
    2. CCNC 2016, 13th Annual IEEE Consumer Communications and Networking Conference, January 2016.
    3. DCNET 2016, 7th International Conference on Data Communication Networking, July 2016.
    4. PEMWN 2016, 5th International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, November 2016.
    5. PECCS 2016, 6th International conference on Pervasive and Embedded Computing and Communication Systems, July 2016.
    6. RTNS 2016, 24th International Conference on Real-Time and Network Systems, November 2016.
    7. Wireless Days, IFIP international conference, March 2016.
    8. WiSEE 2016, IEEE International Conference on Wireless for Space and Extreme Environments, September 2016.

- **Paul Muhlethaler**
    1. 3rd International Workshop on Energy Management for Sustainable Internet-of-Things and Cloud Computing (EMSICC 2016) 24 August 2016 Vienna.
    2. Technical Committee of the International Conference on Mobile, Secure and Programmable Networking MSPN' 2016, June 1 - 3 2016, Paris, France.
    3. Steering Committee Member of MobileHealth 2016, 6th EAI International Conference on Wireless Mobile Communication and Healthcare, November 14–16, 2016, Milan, Italia
    4. Technical Committee of the fourth International conference on Performance Evaluation and Modeling in Wireless Networks, PEMWN 2016, 22-24 November 2016, Paris, France.

- **Thomas Watteyne**

1. TPC Member IFIP/IEEE International Symposium on Integrated Network Management, workshop on Future Networks for Secure Smart Cities (FNSSC), 2017.
2. TPC Member IEEE International Conference on Communications (ICC), Selected Areas in Communications (SAC), 2015, 2016, 2017.
3. TPC Member IEEE International Conference on Telecommunications (ICT), Thessaloniki, Greece, 16-18 May 2016.
4. TPC Member IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), 2008, 2009, 2013, 2016.
5. TPC Member International Conference on Embedded Wireless Systems and Networks (EWSN), 2016.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- **Nadjib Achir**
    1. guest editor of the special issue "Planning and Deployment of Wireless Sensor Networks", of the International Journal of Distributed Sensor Networks.

- **Thomas Watteyne**
    1. Editor, EAI Transactions on Internet of Things since 2015.
    2. Editor, IEEE Internet of Things (IoT) Journal 2014-2016.

10.1.3.2. Reviewer - Reviewing Activities

- **Nadjib Achir**
    1. Sensor Networks (MDPI)
    2. Wireless Communications and Mobile Computing (Wiley)
    3. Internet of Things Journal (IEEE)
    4. Ad Hoc Networks Journal (Elsevier)

- **Selma Boumerdassi**
    1. The Journal of Human-centric Computing and Information Sciences (Springer).

- **Pascale Minet**
    1. Annals of Telecommunications,
    2. Ad Hoc Networks,
    3. International Journal of Distributed Sensor Networks,
    4. International Journal of Networked and Distributed Computing,
    5. Journal of Sensor and Actuator Networks,
    6. Computer Communications Journal,
    7. Sensors Journal.

- **Paul Muhlethaler**
    1. Annals of telecommunications
    2. Ad Hoc Networks,
    3. Journal of Distributed Sensor Networks,
    4. Journal of Networked and Distributed Computing,
    5. IEEE Transactions on Wireless Communications
    6. IEEE Transactions on Vehicular Technology
    7. IEEE Transactions on Information Theory
    8. International Journal of Distributed Sensor Networks. Hindawi.

10.1.4. Invited Talks and Panels

- **Thomas Watteyne**: SmartMesh IP: a ready-to-use IoT Solution. Inria-Chile, 2 December 2016.
- **Thomas Watteyne**: From Smart Dust to 6TiSCH: Academic and Commercial Background on TSCH Technology, Sensor Platform for HEalthcare in a Residential Environment (SPHERE) seminar, University of Bristol, Bristol, UK, 6 October 2016.
- **Thomas Watteyne** was panelist on "A Not So Politically Correct Reality Check about the IoT", ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Paderborn, Germany, 5-8 July 2016.
- **Thomas Watteyne**: A Not So Politically Correct Reality Check about the IoT. ACM MobiHoc, Paderborn, Germany, 6 July 2016.
- **Thomas Watteyne** was panelist on "IoT & quantified self" at the open Inria conference on "Digital Sciences and Technologies for Health", Futur en Seine Festival, Paris, France, 10 June 2016.
- **Thomas Watteyne**: HeadsUp! Long-Term Real-Time Patient Position Monitoring. International Conference on Digital Sciences and Technologies for Health, Futur en Seine Festival, Paris, France, 10 June 2016.
- **Thomas Watteyne** was panelist on "IoT & Smart City" at the Inria@Silicon Valley annual workshop (BIS), Paris, France, 9 June 2016.
- **Thomas Watteyne**: PEACH: Predicting Frost Events in Peach Orchards Using IoT Technology, Inria@Silicon Valley annual workshop (BIS), "IoT & Smart City" panel, Paris, France, 9 June 2016.
- **Thomas Watteyne**: Overview (Industrial) IoT Standardization Efforts at IETF. ITU Meeting, Geneva, Switzerland, 10 May 2016.
- **Thomas Watteyne**: Having fun with Industrial IoT, University of Southern California, Los Angeles, CA, USA, 1 April 2016.
- **Thomas Watteyne**: Not-so-Politically Correct Food for Thought on NGIoT, US-Europe Invited Workshop on Next-Generation IoT (NGIOT), Los Angeles, CA, USA, 31 March 2016.
- **Thomas Watteyne**: Industrial IoT Standards and not-to-industrial applications, GDR SOC-SIP/RSD, Paris, France, 30 March 2016.

10.1.5. Leadership within the Scientific Community

- **Thomas Watteyne** is co-chair of IETF 6TiSCH standardization working group.
- **Thomas Watteyne** is Senior member of the IEEE since 2015.

10.1.6. Scientific Expertise

- **Paul Muhlethaler** is a reviewer for the European Commission. He regularly reviews project; this year he was at the last review meeting of E3Network a project dedicated to high-speed radio links in the E-band.
- **Thomas Watteyne** and Tengfei Chang consulted for ETSI as part of the "panel of experts" to prepare the Test Description and Golden Image for the ETSI 6TiSCH 3 plugtests, held on 15-16 July 2016 in Berlin, Germany.
- **Thomas Watteyne** and Tengfei Chang consulted for ETSI as part of the "panel of experts" to prepare the Test Description and Golden Image for the ETSI 6TiSCH 2 plugtests, held on 2-4 February 2016 in Paris, France.

10.1.7. Research Administration

- **Pascale Minet** was member of the evaluation committee in charge of recruiting an Assistant Professor at the University of Auvergne, Clermont-Ferrand in April and May 2016.
- **Pascale Minet** was a member of the EDITE Doctoral School's Grant Allocation Committee (June 2016).

- **Thomas Watteyne** is member of the Inria-Paris "Comite de Centre" since 2016, where we work on making sure Inria-Paris will always remain one of the greatest places to work at!

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

License:

- **Thomas Watteyne** taught a 2-h course on industrial IoT at University of Southern California (USC), USA, 1 April 2016.

Master:

- **Thomas Watteyne** and Keoma Brun-Laguna taught a 4-day course on IoT, with associated hands-on labs. ENSTA ParisTech. Together with Dominique Barthel, 12-15 December 2016.
- **Thomas Watteyne** taught a 1/2-day crash course on the Industrial IoT, ParisTech, 5 October 2016.

10.2.2. Supervision

PhD:

- Mohamed Hadded, "Design and Optimizaion of Access Control Protocols in Vehicular Ad Hoc Networks (VANETs)", EDITE - Télécom Sud-Paris, November 2016, **Paul Muhlethaler** adviser, Anis Laouiti, co-adviser.

PhD in progress:

- Nesrine Ben Hassine "Learning algorithms for network resource management", UVSQ, Sept 2017 (expected), **Pascale Minet** adviser, co-adviser Dana Marinca.
- Younes Bouchaala "Handling Safety Messages in Vehicular Ad Hoc Networks (VANETs)", UVSQ, Sept 2017 (expected), **Paul Muhlethaler** adviser.
- Keoma Brun-Laguna "Limits of Time Synchronized Channel Hopping" *(tentative title)*, EDITE - UPMC, Dec 2018 (expected), **Thomas Watteyne** adviser.
- Jonathan Muñoz "km-scale Industrial Networks" *(tentative title)*, EDITE - UPMC, Oct 2018 (expected), **Thomas Watteyne** adviser.

10.2.3. Juries

HdR:

- Gerard Chalhoub, "Enhanced communications in data collection multihop wireless sensor networks", University of Auvergne, June 2016, **Pascale Minet** examinator.

PhD:

- Guillaume Gaillard, "Opérer les réseaux de l'Internet des Objets", University of Lyon - INSA. Viva on 19 December 2016. **Pascale Minet** reviewer.
- Mohamed Hadded "Design and Optimization of Access Control Protocols in Vehicular Ad Hoc Networks (VANETs)" Thèse de Telecom Sud Paris. Viva on 30 Novembre 2016. Anis Laouiti examiner, **Paul Muhlethaler** examiner.
- Naourez Mejri, "Vers une ville intelligente au service du citoyen mobile: découverte de l'infrastructure d'accès et gestion intelligente de parkings", University of La Manouba, ENSI, Tunis. Viva in November 2016. **Pascale Minet** examiner, **Paul Muhlethaler** reviewer.
- Nour Brinis Khay, "Stratégies de collecte de données dans les réseaux de capteurs", University of La Manouba, ENSI, Tunis. Viva in November 2016. **Pascale Minet** examiner.

- Alexandre Ragaleux, "Mécanismes D'Accès Multiple dans les Réseaux Sans Fil Large Bande", Université Pierre et Marie Curie. Viva on 22 September 2016. **Nadjib Achir** reviewer.

- Remy Leone "Intelligent Gateway for Low-Power Wireless Networks" ("Passerelle intelligente pour réseaux de capteurs sans fil contraints" in French), Telecom ParisTech, France, under the supervision of Jean Louis Rougier and Vania Conan. Viva on 24 June 2016. **Thomas Watteyne** examiner.

- Kevin Roussel, "Évaluation et amélioration des plates-formes logicielles pour réseaux de capteurs sans-fil, pour optimiser la qualité de service et l'énergie", Inria Nancy/ Université de Lorraine, France, under the supervision of Ye-Qiong Song and Olivier Zendra. Viva on 3 June 2016. **Thomas Watteyne** examiner.

- Samira Chouikhi "Tolérance aux pannes dans un réseau de capteurs sans fil multi-canal " University of Paris East Marne-La-Vallée. Viva in June 2016. **Pascale Minet** examiner, **Paul Muhlethaler** reviewer.

- Jin Cui, "Data aggregation in wireless sensor networks", University of Lyon - INSA. Viva in June 2016. **Pascale Minet** reviewer.

- Mohamed Nidhal Mejri "Securing vehicular networks against denial of service attacks", Université Paris 13. Viva on 19 May 2016. **Paul Muhlethaler** president, **Nadjib Achir** examiner.

- Chiraz Houaida, "Vers des mécanismes de routage robustes et optimisés dans un réseau sans-fil métropolitain et collaboratif", University of Toulouse. Viva in May 2016. **Pascale Minet** reviewer.

- Antonio O. Gonga, "Mobility and Multi-channel Communications in Low-power Wireless Networks", KTH Electrical Engineering, under the supervision of Prof. Mikael Johansson. Viva on 14 January 2016. **Thomas Watteyne** examiner.

10.3. Popularization

10.3.1. Demos

Inria-EVA is working with the Inria-Paris management team to install a permanent demo on the Inria-Paris premises in Q1 2017. Pieces of the same demo have been presented to all people and teams visiting the lab. For example, the high school students from the Lycee Louis-Le-Grand on 1 June 2016.

10.3.2. Videos

The following videos were prepared with the audio/video team of Inria.

1. Interview of **Thomas Watteyne** during the "Nouveaux Arrivants" workshop. To be published.

2. "Save The Peaches" details the Smart Agriculture deployment. Featuring **Thomas Watteyne** and Keoma Brun-Laguna.
   - English version: https://www.youtube.com/watch?v=_qGSH8l0Vkk
   - French version: https://www.youtube.com/watch?v=cZvGw7DyIzI

10.3.3. In the News

1. **Thomas Watteyne** featured in "Experto en IoT realiza webinar con Inria Chile". Inria-Chile newsletter, December 2017.

2. Interview of **Thomas Watteyne**: "In Argentina alone, connected agriculture could have saved 10,000 jobs in one year", Inria Homepage, November 2016.

3. Interview of **Thomas Watteyne** in "La Gazette", the Inria-Paris newsletter, on Smart Agriculture, October 2016.

4. **Thomas Watteyne** featured in "Outcome Report from the US-Europe Invited Workshop on Next-Generation Internet of Things @USC", Inria-SiliconValley Newsletter, 26 July 2016.

5. Keoma Brun-Laguna presented the PEACH project during the annual Math exhibition in Paris, on 28 May 2016.

6. **Thomas Watteyne** featured in "Inria deploys a wireless sensor network in Argentina to save peaches", Inria-Paris homepage, 22 April 2016.

7. **Thomas Watteyne** featured in "Great fun at the OpenWSN & OpenMote tutorial at IEEE GLOBECOM in San Diego!", Inria-SiliconValley Newsletter, 17 March 2016.

8. **Thomas Watteyne** featured in "6TiSCH cherche à concilier protocole IPv6, réseau radio maillé et performance industrielle", L'embarque, 8 February 2016.

10.3.4. Web Presence & Social Media

- The Inria-EVA team maintains the following websites:
  - https://team.inria.fr/eva/
  - http://www.savethepeaches.com/
  - http://www.snowhow.io/
  - http://www.solsystem.io/
  - http://www.headsup.tech/
- The Inria-EVA team maintains the Twitter accounts:
  - EVA (https://twitter.com/InriaEVA), 180 tweets
  - OpenWSN (https://twitter.com/openWSN), 88 tweets
  - savethepeaches (https://twitter.com/peachesthesave), 73 tweets
  - HeadsUp! (https://twitter.com/heads_up_tech), 28 tweets
  - REALMS team (https://twitter.com/realms_team), 28 tweets
  - SOLsystem (https://twitter.com/S0Lsystem), 16 tweets
  - snowhow (https://twitter.com/snowhow_io), 14 tweets

GALLIUM Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Michel Mauny is a member of the steering committee of the OCaml workshop.

Didier Rémy was a member of the steering committee of the OCaml workshop until September 2017. He is a member of the steering committee of the ML Family workshop.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Xavier Leroy was a member of the program committees of the Compiler Construction conference (CC 2016), of the conference on Interactive Theorem Proving (ITP 2016), and on the external review committee of the symposium on Principles of Programming Languages (POPL 2017).

François Pottier was a member of the program committees of the conferences Journées Francophones des Langages Applicatifs (JFLA 2017) and Compiler Construction (CC 2017).

10.1.2.2. Reviewer

In 2016, the members of Gallium reviewed at least 30 conference submissions.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Xavier Leroy is area editor (programming languages) for the Journal of the ACM. He is on the editorial board for the Research Highlights column of Communications of the ACM. He is a member of the editorial board of the Journal of Automated Reasoning.

François Pottier is an editor for the Journal of Functional Programming.

10.1.4. Invited Talks

Xavier Leroy was an invited speaker at the ICALP conference (Rome, July 2016).

10.1.5. Research Administration

Xavier Leroy is *délégué scientifique adjoint* of Inria Paris and appointed member of Inria's *Commission d'Évaluation*. He participated in the following Inria hiring and promotion committees: *jury d'admissibilité DR2*, *promotions CR1*, and *promotions DR1*.

Xavier Leroy was a member of the hiring committee for a professor position at Université de Lorraine.

Xavier Leroy was a member of the HCERES evaluation panel for the LORIA laboratory.

François Pottier is a member of the *Commission de Développement Technologique* and (as of January 2016) chairs the *Comité de Suivi Doctoral* of Inria Paris.

Didier Rémy is *Deputy Scientific Director* (ADS) in change of *Algorithmics, Programming, Software and Architecture*.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Xavier Leroy and Didier Rémy, "Functional programming languages", 15+18h, M2 (MPRI), Université Paris Diderot, France.

Master: Luc Maranget, "Semantics, languages and algorithms for multi-core programming", 13.5h, M2 (MPRI), Université Paris Diderot, France.

Master: "Principles of Programming Languages", 32h, M1, ENSTA-ParisTech, France.

Licence: François Pottier, "Programmation avancée" (INF441), 20h, L3, École Polytechnique, France.

Master: François Pottier, "Compilation" (INF564), 20h, M1, École Polytechnique, France.

Licence: Michael Rainey and Umut Acar, "Theory and practice of parallel computing" (part of a longer course entitled 15-210, "Parallel and Sequential Data Structures and Algorithms"), 9h, L3, Carnegie Mellon University, USA.

Michel Mauny has been a Professor at ENSTA-ParisTech from August 1st, 2005 to July 31st, 2016. While at ENSTA-ParisTech, Michel Mauny was in charge of the specialization "Architecture and Security of Information Systems" (MSc. 2nd year).

François Pottier has been a Professeur Chargé de Cours at École Polytechnique from September 1st, 2004 to August 31st, 2016.

Didier Rémy is Inria's delegate in the pedagogical team of the MPRI.

Fabrice Le Fessant has been involved in the second edition of the OCaml MOOC on the FUN platform, in coordination with the OCamlPro team in charge of the development of the exercise platform [33].

10.2.2. Supervision

M2 (Master Pro): Jacques-Pascal Deplaix, Epitech, supervised by François Pottier.

M2 (MPRI): Ambroise Lafont, École Polytechnique, supervised by Xavier Leroy.

PhD: Pierre Halmagrand, "Automated Deduction and Proof Certification for the B Method" [45], Conservatoire National des Arts et Métiers, defended December 10, 2016, supervised by David Delahaye, Damien Doligez and Olivier Hermant.

PhD: Jacques-Henri Jourdan, "Verasco: a formally verified C static analyzer" [11], Université Paris Diderot, defended May 2016, supervised by Xavier Leroy.

PhD: Gabriel Scherer, "Which types have a unique inhabitant?" [12], Université Paris Diderot, defended March 2016, supervised by Didier Rémy.

PhD in progress: Vitalii Aksenov, "Parallel Dynamic Algorithms", Université Paris Diderot, since September 2015, supervised by Umut Acar (co-advised with Anatoly Shalyto, ITMO University of Saint Petersburg, Russia).

PhD in progress: Thomas Blanc (ENSTA-ParisTech & OCamlPro), "Analyses de programmes complets, application à OCaml", Université Paris-Saclay, since February 2014, supervised by Michel Mauny and Pierre Chambart (OCamlPro).

PhD in progress: Pierrick Couderc (ENSTA-ParisTech & OCamlPro), "Typage modulaire du langage intermédiaire du compilateur OCaml," Université Paris-Saclay, since December 2014, supervised by Michel Mauny, Grégoire Henry (OCamlPro) and Fabrice Le Fessant.

PhD in progress: Albin Coquereau (ENSTA-ParisTech), "Amélioration de performances pour le solveur SMT Alt-Ergo: conception d'outils d'analyse, optimisations et structures de données efficaces pour OCaml," Université Paris-Saclay, since October 2015, supervised by Michel Mauny, Sylvain Conchon (LRI, Université Paris-Sud) and Fabrice Le Fessant.

PhD in progress: Armaël Guéneau, "Towards Machine-Checked Time Complexity Analyses", Université Paris Diderot, since September 2016, supervised by Arthur Charguéraud and François Pottier.

PhD in progress: Thomas Williams, "Putting Ornaments into practice", Université Paris Diderot, since September 2014, supervised by Didier Rémy.

10.2.3. Juries

François Pottier was a reviewer for the Ph.D. thesis of Benoît Vaugon, Université Paris-Saclay, March 2016. He was a reviewer for the Habilitation of Damien Pous, ENS Lyon, September 2016. He was a member of the jury for the Ph.D. thesis of Léon Gondelman, Université Paris-Saclay, December 2016.

Xavier Leroy was on the Ph.D. committee of Pierre Wilke, Université Rennes 1, November 2016.

Didier Rémy was chair of the Ph.D. committee of Raphaël Cauderlier, Conservatoire National des Arts et Métiers (CNAM), October 2016.

10.3. Popularization

Xavier Leroy gave a popularization talk on formal methods at the plenary days of Inria's DGD-T (may 2016) and another on critical avionics software for first-year students at École Polytechnique (june 2016).

GANG Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Pierre Fraigniaud has organized the 1st conference on Highlights of Algorithms (HALG 2016), Paris, June 2016. This conference has gathered more than 200 participants to attend talks presenting the most significant results on algorithms produced in the academic year 2015-2016. The 2nd issue of this conference, Highlights of Algorithms 2017, will take place in Berlin.
http://highlightsofalgorithms.org

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

- Carole Delporte was PC Co-chair of NETYS 2016 — the 4th International Conference on Networked Systems, Morocco, May 18-20, 2016.
- Pierre Fraigniaud is PC chair for the Track Algorithms of the 31st IEEE International Parallel & Distributed Processing Symposium (IPDPS), to be held in Orlando, Florida, USA, May 29 - June 2, 2017. http://www.ipdps.org

9.1.2.2. Member of Conference Program Committees

- Hugues Fauconnier: NETYS 2016, PODC 2016.
- Carole Delporte: ICDCN 2016, ICDCS 2016, DISC 2016, OPODIS 2016.
- Adrian Kosowski: PODC 2016, ALGOSENSORS 2016, ICALP 2017.
- Pierre Fraigniaud: WWW 2016, ESA 2016, IPDPS 2016, OPODIS 2016, SIROCCO 2016, ALGO-SENSORS 2016, FUN 2016, WWW 2017, SPAA 2017, DISC 2017.
- Amos Korman: ICALP 2017

9.1.3. Journal

9.1.3.1. Member of Editorial Boards

- Pierre Fraigniaud is a member of the Editorial Board of Distributed Computing (DC).
- Pierre Fraigniaud is a member of the Editorial Board of Theory of Computing Systems (TOCS).
- Pierre Fraigniaud is a member of the Editorial Board of Fundamenta Informaticae (FI).

9.1.4. Invited Talks

Adrian Kosowski: SIROCCO 2016

9.1.5. Scientific Expertise

Pierre Fraigniaud is member of the evaluation committee for the ERC Starting Grants (Panel 6).

9.1.6. Research Administration

Pierre Fraigniaud is director of the Institute de Recherche en Informatique Fondamentale (IRIF).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Carole Delporte and Hugues Fauconnier, Algorithmique distribuée avec mémoire partagée, 6h, M2, Université Paris Diderot

Master: Hugues Fauconnier, Cours programmation répartie, 33h, M2, Univ. Paris Diderot

Master: Carole Delporte, Cours et TP Protocoles des services internet, 44h, M2, Univ. Paris Diderot

Master: Carole Delporte, Cours Algorithme réparti, 33h, M2, Univ. Paris Diderot

Master: Carole Delporte and Hugues Fauconnier, Protocoles Réseaux, 72h, M1, Université Paris Diderot

Licence: Carole Delporte and Hugues Fauconnier, Sécurité informatique, 36h, L3, Univ. Paris Diderot

Licence: Hugues Fauconnier, Programmation objet et interfaces graphiques, 48h, L2-L3, EIDD

Licence: Boufkhad Yacine, Algorithmique et Informatique, 132h, L1, IUT de l'Université Paris Diderot

Licence: Boufkhad Yacine, Programmation Orientée Objet, 60h, L2, IUT de l'Université Paris Diderot

Licence: Boufkhad Yacine, Traitement de données, 16h, L2, IUT de l'Université Paris Diderot

Master: Pierre Fraigniaud, Algorithmique avancée, 24h, Ecole Centrale Supélec Paris, M2

Master: Pierre Fraigniaud, Algorithmique parallèle et distribuée, 24h, Ecole Centrale Supélec Paris, M2

Master: Adrian Kosowski, Randomization in Computer Science: Games, Networks, Epidemic and Evolutionary Algorithms, 18h, M1, École Polytechnique

Licence: Adrian Kosowski, Design and Analysis of Algorithms, 32h, L3, École Polytechnique

Master: Pierre Fraigniaud and Adrian Kosowski, Algorithmique distribuée pour les réseaux, 24h, M2, Master Parisien de Recherche en Informatique (MPRI)

Master: Fabien de Montgolfier and Michel Habib, Grand Réseaux d'Interaction, 44h, M2, Univ Paris Diderot

Licence: Fabien de Montgolfier, Protocoles Réseau (TP/TD), 24h, M1, Univ Paris Diderot

Licence: Fabien de Montgolfier, Programmation avancée (cours/TD/projet, bio-informatique), 52h, L3, Univ. Paris Diderot

Master: Fabien de Montgolfier, Algorithmique avancée (bio-informatique), 26h, M1, Univ Paris Diderot

Licence: Fabien de Montgolfier, Algorithmique (TD), 26h, L3, Ecole d'Ingénieurs Denis Diderot

Master : Laurent Viennot, Graph Mining, 3h, M2 MPRI, Univ. Paris Diderot

Licence: Michel Habib, Algorithmique, 45h, L, ENS Cachan

Master: Michel Habib, Algorithmique avancée, 24h, M1, Univ. Paris Diderot

Master: Michel Habib, Mobilité, 33h, M2, Univ. Paris Diderot

Master: Michel Habib, Méthodes et algorithmes pour l'accès à l'information numérique, 16h, M2, Univ. Paris Diderot

Master: Michel Habib, Algorithmique de graphes, 12h, M2, Univ. Paris Diderot

Licence: Pierre Charbit, Introduction a la Programmation, 30h, L1, Université Paris Diderot, France

Licence: Pierre Charbit, Automates finis, 52h, L2, Université Paris Diderot, France

Licence: Pierre Charbit, Types de Données et Objet, 52h, L1, Université Paris Diderot, France

Master: Pierre Charbit, Programmation, 60h, M2Pro PISE, Université Paris Diderot, France

Master: Pierre Charbit, Algorithmique de Graphes, 12h, M2 MPRI, Université Paris Diderot, France

9.2.2. Supervision

PhD: Leonardo Linguaglossa (co-advised by Laurent Viennot, Fabien Mathieu and Diego Perino, both from Nokia Bell Labs) was a PhD hired by Inria through the ADR CCN contract. He obained his PhD last September [1] at Paris Diderot University.

PhD in progress: Simon Collet (co-advised by Amos Korman and Pierre Fraigniaud). Title of thesis is: "Algorithmic Game Theory Applied to Biology". Started September 2015.

PhD in progress: Lucas Boczkowski (co-advised by Amos Korman and Iordanis Kerenidis). Title of thesis is: "Computing with Limited Resources in Uncertain Environments". Started September 2015.

PhD in progress: Brieuc Guinard (advised by Amos Korman). Title of thesis is: "Algorithmic Aspects of Random Biological Processes". Started October 2016.

PhD in progress: Laurent Feuilloley (advised by Pierre Fraigniaud). Title of thesis is: "Synchronous Distributed Computing". Started September 2015.

PhD in progress: Mengchuan Zou (co-advised by Adrian Kosowski and Michel Habib). Title of thesis is: "Local and Adaptive Algorithms for Optimization Problems in Large Networks". Started October 2016.

PhD in progress: Finn Volkel (advised by Michel Habib). Title of Thesis: "Convexity in graphs", started september 2016.

PhD in progress: Léo Planche (co-advised by Étienne Birmelé and Fabien de Montgolfier). Title if thesis is : "Classification de collections de graphes". Started October 2015.

PhD in progress: Alkida Balliu and Dennis Olivetti (PhD students from L'Aquilla University and Gran Sasso Science Institute) are supervised by Pierre Fraigniaud.

PhD in progress: Lucas Hosseini (co-advised by Pierre Charbit, Patrice Ossona de Mendez and Jaroslav Nešetřil since Sept. 2014. Title : Limits of Structures.

9.2.3. Juries

Laurent Viennot was president of the jury in the PhD defense of Claudio Imbrenda on "Analysing Traffic Cacheability in the Access Network at Line Rate" at Telecom ParisTech (November 2016).

Michel Habib was reviewer for the PhD thesis of Matteo Seminaroti, "Combinatorial Algorithms for the seriation problem", Tilburg University, Holland, december 2016.

Laurent Viennot was reviewer for the PhD thesis of Guillaume Ducoffe on "Propriéteś metriques des grands graphes" at Côte d'Azur Univ. (December 2016).

Laurent Viennot was co-advisor for the PhD thesis of Leonardo Linguaglossa on "Two challenges of Software Networking: Name-based Forwarding and Table Verification" at Paris Diderot Univ. (September 2016).

Carole Delporte was reviewer for the PhD thesis of Claire Capdevielle on "Étude de la complexité des implémentations d'objets concurrents et sans attente, abandonnables ou solo-rapides" at Bordeaux Univ (November 2016).

9.3. Popularization

- Laurent Viennot is "commissaire d'exposition" for the permanent exposition on "Informatique et sciences du numérique" at Palais de la déécouverte in Paris (opening in October 2017).

- An article centered around the eLife 2016 paper "A locally-blazed ant trail achieves efficient collective navigation despite limited information" [14], whose co-authors include Amos Korman (co-corresponding author), Lucas Boczkowski, and Adrian Kosowski, appeared on the Israeli daily newspaper "Haaretz", Dec 2016.

- The team has made contributions to the Encyclopedia of Algorithms [44], [41].

MAMBA Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Pierre-Alexandre Bliman: Chairman of the Conference on Mathematical Modeling and Control of Communicable Diseases, Fundação Getulio Vargas, Rio de Janeiro (RJ), Brazil, January 11-15, 2016
Marie Doumic: Chair at the Summer School PDE and Probability for Life Sciences, CIRM, Luminy, July 4-8, 2016.

9.1.1.2. Member of the Organising Committees

Luis Almeida, Benoît Perthame and Nicolas Vauchelet: Co-organisers of the "Second meeting on mathematical modeling and control in epidemic spread", Laboratoire Jacques-Louis Lions, UPMC, Paris, May 23, 2016
Jean Clairambault: co-organiser of the mini-symposium "Heterogeneity, evolution and drug resistance in cancer", ECMTB, Nottingham, England, July 12, 2016
Marie Doumic: co-organiser of the workshop on "Models in Cancer Therapy", WPI, Vienna, 1-2 july, 2016; mini-symposium organisation at the ECMTB, Nottingham, England, July 2016; mini-course and chair at CIMPA school in Moka, Mauritius, December 2016
Dirk Drasdo: co-coordinator of the modelling workpackage in ANR RHU project iLITE (coordinator: Jean-Charles Duclos-Vallée, Paul Brousse Hospital, Villejuif)
Dirk Drasdo: member of the scientific leadership team of the Liver Systems Medicine grant composed of three subprojects and three junior research groups, each subproject composed of about 10 PIs

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Pierre-Alexandre Bliman: Program chairman of the 1st meeting of the STIC AmSud project MOSTICAW, Asunción, Paraguay, October 5–9 2016

9.1.2.2. Member of the Conference Program Committees

Pierre-Alexandre Bliman: Member of the Conference Editorial Board of European Control Association (EUCA), actuating for 15th European Control Conference, Aalborg, Denmark, June-July 2016

9.1.2.3. Reviewer

Pierre-Alexandre Bliman: Reviewer for the 55th IEEE Conference on Decision and Control, Las Vegas, USA, December 2016.
Dirk Drasdo: member of the reviewing committee for foundation of "Einstein Center for Regeneration in Compromised Patients Medicine", Berlin, April 2016

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Dirk Drasdo is member of the boards of *TheScientificWorldJOURNAL* and *Royal Society open science* (UK) and was guest editor for *PloS Comput. Biol.* (2016)
Benoît Perthame is member of the boards of *Communications in PDEs, M3AS, NoDEA, Mathematical Medicine and Biology*

9.1.3.2. Reviewer - Reviewing Activities

Pierre-Alexandre Bliman: Reviewer for the journals *Automatica, IET Control Theory & Applications, Memórias do Instituto Oswaldo Cruz*

Jean Clairambault: Reviewer for the journals *Evolutionary Applications, Bulletin of Mathematical Biology, Mathematical Modelling of Natural Phenomena, Journal of Inorganic and Organometallic Polymers and Materials, Journal of Theoretical Biology, British Journal of Cancer, PLoS Computational Biology, BMC Cancer*

Marie Doumic: Reviewer for the journals *Inverse Problems, Analytical Biochemistry, European Journal of Applied Mathematics, Bull. of Math. Biology, Comm. in Math. Sciences*

Dirk Drasdo: Reviewer for *Nature, Scientific Reports* and other journals

Nicolas Vauchelet: Reviewer for Transaction AMS, SIAM J. Numer. Anal., M3AS, J. Optim. Theory Appl., Math. Reviews

9.1.4. Invited Talks and Courses

Luis Almeida: EMS (European Mathematical Society) Diderot Mathematical Forum, Paris, March 15, 2016

Luis Almeida: IWorkshop "Models in cancer therapy", WPI, Vienna, Austria, July 1-2, 2016

Luis Almeida: Master course on Reaction-Diffusion Equations Arising in the Mathematical Modelling of Population Dynamics, Univ. Verona, October 2016

Pierre-Alexandre Bliman: Keynote speaker at the International conference on Digital Sciences and Technologies for Health, Paris, France, June 10, 2016

Pierre-Alexandre Bliman: Seminars at UMR ESPACE-DEV, Université de Guyane, Cayenne, France, December 2016

Pierre-Alexandre Bliman: Seminars at Laboratoire de Mathématiques et Dynamique de Populations, Université Cadi Ayyad, Marrakesh, Morocco, December 2016

Jean Clairambault: 2h course at the Winter School and Workshop "Nonlocal aspects in mathematical biology", Bedlewo, Poland, January 27, 2016

Jean Clairambault: French-Serbian Novi Sad Oncology Congress, Novi Sad, Serbia, March 18-19, 2016

Jean Clairambault: Journées du département ONCO, Nantes, May 3-4, 2016

Jean Clairambault: Workshop "Le cancer en équations", Rabat, Morocco, May 5-6, 2016

Jean Clairambault: First Waterloo University - Sorbonne Universités Seminar, Waterloo, Ontario, Canada, May 9-11, 2016

Jean Clairambault: 3h course at the BIOMAT Summer school "Cell dynamics and polymerization", Granada, Spain, June 1-3, 2016

Jean Clairambault: 4.5h course at the CIMPA Summer school "Mathematical modeling in Biology and Medicine", Santiago de Cuba, June 14-15-16, 2016

Jean Clairambault: Workshop "Models in cancer therapy", WPI, Vienna, Austria, July 1-2, 2016

Jean Clairambault: International conference "Mathematical models in biology and medicine", Moscow, October 31-November 3, 2016

Jean Clairambault: 4h course at the Winter school "Mathematical Models of Tumour and Disease", Jiaotong University, Shanghai, December 5-6-7-8, 2016

Jean Clairambault: Workshop on mathematical biology, Jiaotong University, Shanghai, December 10, 2016

Jean Clairambault: Workshop on Mathematical Modelling and Computation in Medicine/Biology, Tsinghua International Mathematics Forum (TSIMF), Sanya, Hainan, China, December 12-16, 2016

Marie Doumic: Plenary Speaker at the Diderot Mathematical Forum, March 15; seminar at the Polish Academy of Sciences (Warsaw), March 2016

Marie Doumic: 3h course at the BioMat2016 Conference in Granada, Spain, 1-3 June 2016; seminar in Orsay, June 16, 2016

Marie Doumic: Workshop on fragmentation processes, November 17, Villetaneuse; workshop on "Recent contributions of women in PDEs", Vienna, November 28-30, 2016

Marie Doumic: 4.5h course at the CIMPA Winter school, Moka, Mauritius, December 4-16, 2016

Dirk Drasdo: Workshop OPENTOX Basel, March 2016

Dirk Drasdo: Workshop Biomath/Bioinfo/BioStat of Cancer, Lyon, June 2016

Dirk Drasdo: CMBBE (14th international Symposium on Computational Methods in Biomechanics and Biomedical Engineering), Tel Aviv, September 2016

Benoît Perthame: Seminar, University of Chicago, January 2016

Benoît Perthame: Distinguished lecture, Hong Kong Polytechnic University, February 2016

Benoît Perthame: Seminar, Basel, Switzerland, March 2016

Benoît Perthame: Seminar, Padova, April 2016

Benoît Perthame: Course in mathematical biology, Edmonton, Alberta, Canada, May 2016

Benoît Perthame: Course on "Kinetic equations for cell motility", Porto Ercole, Italy, June 2016

Benoît Perthame: Conference in honour of Peter Markowich's 60th birthday, Beijing, July 2016

Benoît Perthame: Conference on "Kinetics and quantum dynamics", Shanghai, July 2016

Benoît Perthame: Course on "Adaptive evolution", Valparaiso, September 27-30, 2016

Benoît Perthame: Conference on "SCL with rough fluxes", Mittag-Leffler Institute, Stockholm, September 12-15, 2016

Benoît Perthame: Seminar, ETH Zürich, October 18-19, 2016

Benoît Perthame: Conference in honour of Peter Markowich's 60th birthday, KAUST, Saudi Arabia, October 31-November 3, 2016

Benoît Perthame: Conference on "Networks and collective behaviours", Seoul, November 7-10, 2016

Benoît Perthame: Courses, Analysis school, Cotonou, Benin, December 5-9, 2016

Camille Pouchol: Winter School and Workshop "Nonlocal aspects in mathematical biology", Bedlewo, Poland, January 27, 2016

Camille Pouchol: International conference "Mathematical models in biology and medicine", Moscow, October 31-November 3, 2016

Nicolas Vauchelet: 4h course at Imperial College, London, October 2016, UK

Nicolas Vauchelet: 3h course at the CIMPA Summer school "Mathematical modeling in Biology and Medicine", Santiago de Cuba, June 2016, Cuba

Nicolas Vauchelet: INdAM Workshop "Interactions between Analysis and Innovative Algorithmics", Rome, May 2016, Italy

9.1.5. *Scientific Expertise*

Pierre-Alexandre Bliman: Member of the Scientific committee of the ANR program "Environnement, pathogènes et maladies émergentes ou ré-émergentes - One health"

Pierre-Alexandre Bliman: Expert for the Belgium agency FNRS, for the Dutch agency NWO

Pierre-Alexandre Bliman: Reviewer for the European PhD Award on Control for Complex and Heterogeneous Systems

Pierre-Alexandre Bliman: Member of the National network of specialists of Zika and related diseases (Rede Nacional de Especialistas em Zika e doenças correlatas, RENEZIKA), Health Ministry of Brazil

Pierre-Alexandre Bliman: Member of the Brazilian National Institute for Science and Technology (INCT)

Jean Clairambault: Expert for Belgian FNRS, for the Moffitt Center (Tampa, FL), for the University of Yaoundé (Cameroon), for the BBSRC (UK), for the ERC (Consolidator Grant 2016), for the Royal Society of Edinburgh

Dirk Drasdo: Member of the program committee for SBMC 2016 (Conference on Systems Biology of Mammalian Cells) in Munich

9.1.6. *Research Administration*

Luis Almeida: Member of the bureau of CID 51 of the Comité National de la Recherche Scientifique

Luis Ameida: in charge of the Major MathBio of the speciality "Mathematics of modelling", M2 level, UPMC

Jean Clairambault: member of the bureau of the IPV (Interfaces pour le Vivant) doctoral funding programme of UPMC, representative of ED 386 (since 2014)

Jean Clairambault: member of the expert group of ITMO Cancer, representative of Inria (since 2008)

Marie Doumic: member of the selection committee for an assistant professor position in Grenoble

9.2. Teaching - Supervision - Juries

9.2.1. *Teaching*

Pierre-Alexandre Bliman: *Análise*, Escola de Matemática Aplicada, Fundação Getulio Vargas, Rio de Janeiro, Brazil (60 h)
Pierre-Alexandre Bliman: *Introdução à Teoria do controle*, Escola de Matemática Aplicada, Fundação Getulio Vargas, Rio de Janeiro, Brazil (60 h)
Marie Doumic: Master course on inverse problems and applications in population dynamics (24 h)
Dirk Drasdo: Master M2, Mathematical biology, on "Agent-based models of tissue organization", from January 2016 to April 2016 at Paris VI (Mathematics department, in 10 units per semester, total 24h)

9.2.2. *Supervision*

9.2.2.1. PhD defences in 2016

- PhD defence: François Bertaux, " Cell-based multi-scale modeling for systems and synthetic biology: from stochastic gene expression in single cells to spatially organized cell populations" [1], UPMC, June 2016, supervision by G. Batt (Lifeware, Inria Saclay) and D. Drasdo

- PhD defence: Youssef Bourfia, "Modélisation et Analyse de Modèles en Dynamique Cellulaire avec Applications à des Problèmes Liés aux Cancers" [2], Cadi Ayyad University, Marrakesh, December 28, 2016, supervision by M. Adimy (Lyon), J. Clairambault and H. Hbid (Marrakesh)

- PhD defence: Géraldine Cellière: "Multi-scale modeling of drug and detox-metabolism in liver" [3], Ecole du Vivant, Univ. Paris-Diderot, July 2016, supervision by D. Drasdo

- PhD defence: Casimir Emako, "Study of two-species chemotaxis model" [4], March 17, 2016, supervision by L. Almeida and N. Vauchelet

- PhD defence: Sarah Eugène, "Stochastic modelling in molecular biology: a probabilistic analysis of protein polymerisation and telomere shortening" [5], September 30, 2016, supervision by M. Doumic and Ph. Robert (Inria Paris, RAP team)

9.2.2.2. Ongoing PhD theses

- PhD in progress: Aurora Armiento, "Inverse problems for aggregation kinetics", UPMC, begun September 2013, supervision by M. Doumic and Ph. Moireau (Inria Saclay, M3DISIM team)

- PhD in progress: Noémie Boissier (since November 2013), supervision by D. Drasdo and I. Vignon-Clementel

- PhD in progress: Walid Djema, "Analysis of an AML model enabling evaluation of polychemotherapies delivered in the case of AML which have a high level of Flt-3 duplication (Flt-3-ITD)", supervision by C. Bonnet (DISCO, Saclay), J. Clairambault, and F. Mazenc (DISCO, Saclay)

- PhD in progress: Adrian Friebel, "Software of image processing and analysis of liver tissue at histological scales.", supervision by D. Drasdo and S. Hoehme

- PhD in progress: Ghassen Haddad, "Optimisation of cancer treatments: application to bladder cancer", UPMC in co-tutela with ENIT Tunis, begun October 2015, supervision by J. Clairambault and S. Ben Miled (Tunis)

- PhD in progress: Shalla Hanson, "Modelling evolution of interactions between cancer and immune cells in solid tumours", UPMC in co-tutela with Duke University, begun October 2015, supervision by J. Clairambault and M. Reed (Duke)

- PhD in progress: Hugo Martin, "New structured population models for bacterial growth", begun October 2016, supervision by M. Doumic in co-tutela with Pierre Gabriel (Versailles)

- PhD in progress: Mathieu Mézache, begun October 2016, , "Oscillatory dynamics in protein aggregation", supervision by M. Doumic in co-tutela with Human Rezaei (INRA)

- PhD in progress: Johannes Neitsch, "Growth and regeneration modeling based on an agent-based model with deformable cells", (since June 2011) supervision by D. Drasdo and P. Van Liedekerke

- PhD in progress: Pastor Pérez-Estigarribia, Universidad Nacional de Asunción, Paraguay, supervision by C. Schaerer and P.-A. Bliman
- PhD in progress: Camille Pouchol, "Modelling interactions between tumour cells and adipocytes in breast cancer", UPMC, begun September 2015, supervision by J. Clairambault, M. Sabbah, and E. Trélat
- PhD in progress: Antonin Prunet, UPMC, begun October 2014, supervision by L. Almeida and M. Sabbah
- PhD in progress: Andrada Quillas Maran, "Modelling early leukaemogenesis", UPMC, begun March 2014, supervision by J. Clairambault, F. Delhommeau and B. Perthame
- PhD in progress: Martin Strugarek, "Structured population dynamics for transmissible diseases", UPMC, begun October 2015, supervision by N. Vauchelet and B. Perthame
- PhD in progress: Cécile Taing, UPMC, begun October 2014, supervision by A. Lorz and B. Perthame

9.2.2.3. Graduate thesis defences in 2016

- Graduate thesis defence: Bettina D'Avila Barros, Escola de Matemática Aplicada, Fundação Getulio Vargas, Brazil, advisor P.-A. Bliman
- Graduate thesis (ENSAE 2nd year internship) defence: Hicham Janati [46], Malakoff, France, December 2016, supervision by J. Clairambault and M. Doumic
- Graduate thesis defence: Tales Amazonas Rands, Escola de Matemática Aplicada, Fundação Getulio Vargas, Brazil, advisor P.-A. Bliman

9.2.3. Juries

- Luis Almeida: Casimir Emako, UPMC 17/03/2016
- Luis Almeida (reviewer): Perrine Berment, Univ. Bordeaux 06/07/2016
- Luis Almeida: Thibault Liard, UPMC 04/11/2016
- Pierre-Alexandre Bliman: Hafiz Ahmed, Université de Lille, 22/09/2016
- Pierre-Alexandre Bliman: Youssef Bourfia, Université Cadi Ayyad, Maroc & UPMC, 28/12/2016
- Jean Clairambault (reviewer): Douglas Friesen, University of Edmonton, remote defence committee member, 23/02/2016
- Jean Clairambault: Tiphaine Obara, Nancy, 07/10/2016
- Jean Clairambault: Youssef Bourfia, Université Cadi Ayyad, Maroc & UPMC, 28/12/2016
- Marie Doumic (reviewer): Etienne Baratchart, Université de Bordeaux, 2016
- Marie Doumic: Casimir Emako, UPMC, 2016
- Marie Doumic: Sarah Eugène, UPMC, 2016
- Dirk Drasdo: François Bertaux, UPMC, 2016
- Dirk Drasdo: Geraldine Cellière, Ecole du Vivant, Univ. Paris-Diderot, 2016
- Benoît Perthame (reviewer): Thierry Pichard, Université de Bordeaux
- Benoît Perthame: Vincent Renault, UPMC
- Benoît Perthame: Julien Chevalier, Université de Nice-Sophia Antipolis
- Benoît Perthame: Thibault Balois, LPS-ENS
- Nicolas Vauchelet: Casimir Emako, UPMC, March 2016
- Nicolas Vauchelet: Pierre-Louis Colin, Université Lille 1, June 2016

9.3. Popularisation

Marie Doumic: Invited talk in the "Science et société" dissemination conference (http://www.iecl.univ-lorraine.fr/Cycle-Conferences-Sciences-et-Societe/lanceur.php?action=accueil) in Nancy, May 26, 2016
Nicolas Vauchelet : talks for Animath (http://www.animath.fr/) in two high schools : Lycée Racine and Lycée Notre-Dame de Bourg-la-Reine, March 2016

<p style="text-align:center">**MATHERIALS Project-Team**</p>

9. Dissemination

9.1. Promoting Scientific Activities

E. Cancès

- is a member of the editorial boards of Mathematical Modelling and Numerical Analysis (2006-), SIAM Journal of Scientific Computing (2008-), Communications in Mathematical Sciences (2011-), and SIAM MMS (2012-),
- is a member of the executive committee of the CEA-EDF-Inria schools in applied mathematics and computer science.

He has organized or co-organized:

- a CECAM workshop on the mathematical and numerical analysis of electronic structure models, Roscoff, Jul. 8-12, 2016,
- the MMM 2016 conference (Multiscale Modelling of Materials), Dijon, Oct. 10-14, 2016,
- an IPAM workshop on collective variables in quantum mechanics, Los Angeles, Nov. 14-18, 2016.

L. Chamoin has organized the mini-symposium "Verification of reduced models in computational mechanics" within the ECCOMAS 2016 conference, Greece, June 2016.

V. Ehrlacher has co-organized with A. Cousin the semester on "Uncertainty Quantification" in the framework of the IHP thematic semester on "Monte-Carlo methods" organized by B. Bouchard, E. Gobet and B. Jourdain.

C. Le Bris is editor-in-chief of Applied Mathematics Research Express (2003-). He is a managing editor of Networks and Heterogeneous Media. He is a member of the editorial boards of Annales mathématiques du Québec (2013-), Archive for Rational Mechanics and Analysis (2004-), COCV (Control, Optimization and Calculus of Variations) (2003-), Mathematics in Action (2008-), Nonlinearity (2005-) and Journal de Mathématiques Pures et Appliquées (2009-).

He is a member of the editorial boards of the monograph series Mathématiques & Applications, Series, Springer (2008-), Modelling, Simulations and Applications, Series, Springer (2009-), Springer Monographs in Mathematics, Springer (2016-).

He is a member of

- the Cabinet of the High Commissioner for Atomic Energy,
- the "Comité d'experts" for the Fondation de Recherche pour l'Aéronautique et l'Espace,
- the "International Scientific Advisory Committee" of the Centre de Recherche Mathématique, Université de Montréal,
- the "Advisory Board" of the DFG Cluster of Excellence Engineering of Advanced Materials, Erlangen,
- the "International Scientific Advisory Board" of the DFG research center Matheon, Berlin,
- the "Conseil scientifique de la SMAI" (Scientific Council of the French Applied Maths Society),
- the International Mathematical Union Circle.

He has held a regular position of Visiting Professor at the University of Chicago.

F. Legoll

- is a member of the editorial board of SIAM MMS (2012-) and of ESAIM Proc (2012-),
- has co-organized the mini-symposium "Mathematical theory and computational techniques for multiscale materials modelling" within the MMM 2016 conference, Dijon, October 10-14, 2016 (with W. Curtin, C. Garcia-Cervera, J. Kermode, X. Li, A. Lozinski, M. Luskin and C. Ortner).

T. Lelièvre

- is editor-in-chief of ESAIM: Proceedings (with D. Chafai, P. Lafitte and C. Mouhot),

- is a member of the "Conseil d'Administration" of SMAI and Ecole des Ponts,

- has been a member of the ANR committee CES-40 "mathématiques et informatique",

- has co-organized the Journées EDP-Probas at Institut Henri Poincaré (with F. Malrieu),

- has co-organized the workshop "COmputational Statistics and MOlecular Simulation" in Paris, February 2-5th, 2016 (with A. Guyader and G. Stoltz),

- has co-organized the IHP conference on "Recent developments in numerical methods for model reduction", November 7-10th 2016. (with S. Perotto and G. Rozza),

- will co-organize the IPAM Long Program on "Complex High-Dimensional Energy Landscapes", September 11th - December 15th 2017 (with C. Clementi, G. Henkelman, R. Hennig, M. Luskin, N. Marom, P. Plechac and C. Schuette),

- will co-organize the ICTS program on "Large deviation theory in statistical physics: Recent advances and future challenges", August 14th - October 13th 2017 (with A. Ayyer, F. den Hollander, A. Dhar, J.P. Garrahan, C. Jarzynski, M. Krishnapur, S. Sabhapandit and H. Touchette).

G. Stoltz

- is a member of the scientific council of UNIT (Université Numérique Ingénierie et Technologie),

- will co-organize the IHP trimester "Stochastic Dynamics Out of Equilibrium", Spring 2017 (with G. Giacomin, S. Olla, E. Saada and H. Spohn).

9.2. Teaching - Supervision - Juries

The members of the project-team have taught the following courses:

- Licence: Outils mathématiques pour l'ingénieur, 15h, L3, École des Ponts (E. Cancès, V. Ehrlacher, M. Josien, F. Legoll, T. Lelièvre),

- Licence: Équations aux dérivées partielles et éléments finis, 15h, L3, École des Ponts (T. Hudson, F. Legoll, A. Levitt),

- Licence: Hydrodynamique numérique, 15h, L3, École des Ponts (S. Boyaval),

- Licence: Maths 1 et 2, 9h, L3, École des Mines (G. Stoltz),

- Licence: Mathématiques pour l'économie, 36h, L1, Dauphine (J. Roussel),

- Licence: Analyse et calcul scientifique, 30h, L3, Ecole des Ponts (T. Hudson, M. Josien, B. Nectoux, G. Stoltz),

- Master: Mécanique des milieux continus - partie solides, 14h, M1, ENS Cachan (L. Chamoin),

- Master: Ondes et chocs dans les structures, 8h, M1, ENS Cachan (L. Chamoin),

- Master: Mathématiques des modèles multiéchelles, 39h, M1, École des Ponts (F. Legoll),

- Master: Analyse et équations aux dérivées partielles, 36 h, M1, École des Ponts (T. Lelièvre),

- Master: Projet de département IMI, 12h, M1, École des Ponts (J. Roussel),

- Master: Projets de physique, 10h, M1, École des Ponts, France (A. Levitt, G. Stoltz),

- Master: Modélisation mathématique des vagues, 3h, École des Ponts (S. Boyaval),

- Master: Analyse de Fourier et applications, 16h, M1, École des Ponts (V. Ehrlacher, A. Levitt, G. Stoltz),

- Master: Approximation numérique et optimisation, 32h, École Polytechnique (E. Cancès, T. Lelièvre) ,

- Master: Analyse variationnelle des équations aux dérivées partielles, 32h, École Polytechnique (E. Cancès),

- Master: Contrôle des modèles et dualité, 24h, M2 Mathématiques et Applications, ENS Cachan (L. Chamoin),
- Master: Problèmes multi-échelles, 24h, M2 Mathématiques et Applications, Paris 6 (F. Legoll),
- Master: Méthodes variationnelles et théorie spectrale, 10h, M2 Mathématiques et Applications, Paris 6 (E. Cancès),
- Master: Méthodes numériques probabilistes, 24 h, M2 Mathématiques et Applications, Paris 6 (T. Lelièvre),
- Master: Introduction to computational statistical physics, 20h, M2 Mathématiques et Applications, Paris 6 (G. Stoltz).

The following PhD theses have been defended in the group at École des Ponts:
- Eddy Bernard, Université Paris-Est, defended on Nov. 25, 2016, supervised by G. Chambaud (Université Paris-Est) and E. Cancès,
- Jean-Léopold Vié, Université Paris-Est, École des Ponts and Ecole Polytechnique, defended on Dec. 16, 2016, supervised by G. Allaire (Polytechnique) and E. Cancès,
- Ahmed-Amine Homman, Multiscale methods for the simulation of shock and detonation waves, Université Paris-Est, École des Ponts and CEA/DAM, defended on June 16, 2016, supervised by G. Stoltz and J.-B. Maillet (CEA),
- François Madiot, Multiscale finite element methods for advection diffusion problems, Université Paris-Est, Ecole des Ponts ParisTech, defended on December 8, 2016, supervised by C. Le Bris and F. Legoll,
- Rémi Sainct, Study of instabilities in traffic models, defended on September 22, 2016, supervised by T. Lelièvre and X. Louis (IFSTTAR),

The following PhD theses are ongoing in the group at École des Ponts:
- Athmane Bakhta, Modélisation and simulation for photovoltaic applications, Université Paris-Est, École des Ponts, started October 1st, 2014, supervised by E. Cancès and T. Lelièvre, co-supervised by V. Ehrlacher,
- Amina Benaceur, Thèse CIFRE EDF, started January 1st, 2016, supervised by A. Ern, co-supervised by V. Ehrlacher, in collaboration with G. Blatman (EDF) and S. Meunier (EDF),
- Lingling Cao, Mathematical analysis of models of thermo-electronic transport, Université Paris-Est, École des Ponts, started November 1st, 2016, supervised by E. Cancès and G. Stoltz,
- Qiming Du, Mathematical analysis of splitting methods, École Doctorale Sciences Mathématiques de Paris Centre, started September 1st, 2016, supervised by A. Guyader (UPMC) and T. Lelièvre,
- Gérôme Faure, Multiscale methods for the simulation of shock and detonation waves, Université Paris-Est, École des Ponts and CEA/DAM, started November 1st 2014, supervised by G. Stoltz and J.-B. Maillet (CEA),
- Grégoire Ferré, Efficient sampling methods for nonequilibrium systems, Université Paris-Est, École des Ponts, started October 1st, 2016, supervised by G. Stoltz,
- Marc Josien, Multiscale approaches for materials science, started September 1st, 2015, supervised by C. Le Bris,
- Henri Louvin, Splitting methods and radioprotection, Ecole Doctorale PHENIICS, started September 1st, 2014, supervised by Check Diop (CEA) and T. Lelièvre,
- Boris Nectoux, Metastability and quasi stationary distribution, started November 1st, 2014, supervised by T. Lelièvre and E. Cancès,
- Julien Roussel, Variance reduction techniques for nonequilibrium systems, Université Paris-Est, École des Ponts, started September 1st, 2015, supervised by G. Stoltz,
- Pierre-Loik Rothé, Numerical methods for the estimation of fluctuations in multi-scale materials and related problems, started October 1st, 2016, supervised by F. Legoll,
- Laura Silva Lopes, Rare event simulation and applications to biological systems, started October 1st, 2016, supervised by J. Hénin (IBPC) and T. Lelièvre,
- Pierre Terrier, Reduced models for defect migration in metals, Université Paris-Est, École des Ponts and CEA Saclay, started September 1st, 2015, supervised by G. Stoltz and M. Athènes (CEA),

Project-team members have participated in the following PhD juries:

- S. Boyaval was in the jury for the PhD of Viljami Laurmaa ("An octree-based adaptive semi-Lagrangian free surface flow solver"), defended at EPFL in May 2016.
- S. Boyaval was in the jury for the PhD of Joubine Aghili ("Méthodes de discrétisation et de réduction de modèle pour des EDP à coefficients variables"), defended in Montpellier in December 2016.
- E. Cancès was a referee of the PhD of Maxime Morinière ("États résonants en théorie de perturbation à plusieurs corps"), defended in Grenoble in December 2016.
- V. Ehrlacher was in the jury for the PhD of Luca Nenna ("Numerical methods for Multi-Marginal Optimal Transport"), defended at Paris Dauphine in December 2016.
- V. Ehrlacher was in the jury for the PhD of Jean-Léopold Vié ("Second-order derivatives for shape optimization with a level-set method"), defended at CERMICS in December 2016.
- V. Ehrlacher was in the jury for the PhD of Faizan Nazar ("Electronic Structure of Defects in the Thomas-Fermi-von Weiszäcker Model"), defended at Warwick in December 2016.
- F. Legoll was in the jury for the PhD of Dena Kazerani ("Études mathématiques de fluides à frontières libres en dynamique incompressible"), defended at UPMC in November 2016.
- T. Lelièvre was a referee for the PhD of Tomasz Badowski on "Adaptive importance sampling via minimization of estimators of cross-entropy, mean square and inefficiency constants" defended at Freie Universität Berlin.
- T. Lelièvre was a referee for the PhD of Arthur Talpaert on "Direct Numerical Simulation of bubbles with Adaptive Mesh Refinement with distributed algorithms" defended at École Polytechnique.
- T. Lelièvre was in the jury for the PhD of Ahmed-Amine Homman ("Développement de schémas numériques d'intégration de méthodes multi-échelles"), defended at CERMICS in June 2016.
- T. Lelièvre was in the jury for the PhD of Gang Liu on "Rare event simulation by shaking transformation and Non-intrusive stratified resampling method for dynamic programming", defended at École Polytechnique in November 2016.

Project-team members have participated in the following habilitation juries:

- E. Cancès was a referee of Stéphane Redon's HdR, defended in Grenoble in May 2016.
- E. Cancès participated in the HdR jury of Nicolas Rougerie, defended in Grenoble in November 2016.
- T. Lelièvre was a referee of Pierre Etoré's HDR ("Quelques contributions à l'étude et à la simulation des diffusions asymétriques"), defended in Grenoble in December 2016.

9.3. Conference participation

Members of the project-team have delivered lectures in the following seminars, workshops and international conferences:

- S. Boyaval, Atelier Sillage et ondes de surface, Orsay, April 2016,
- S. Boyaval, Séminaire Modélisation mathématique et calcul scientifique, ENS Lyon and Institut Camille Jordan, May 2016,
- S. Boyaval, Workshop on Stochastic Partial Differential Equations, Pau, June 2016,
- S. Boyaval, Symposium on shallow-water flows at HYP 2016, Aachen, August 2016,
- S. Boyaval, Symposium on network models in PDEs at SIMAI 2016, Milan, September 2016,
- E. Cancès, seminar, Groupe de travail numérique, Laboratoire Jacques-Louis Lions, UPMC, January 2016,
- E. Cancès, workshop on computation of quantum systems in cold-matter physics and chemistry, Fields Institute, Toronto, February 2016,

- E. Cancès, Colloquium, University of Delaware, May 2016,
- E. Cancès, SIAM MS conference (invited lecture), May 2016,
- E. Cancès, KiNet workshop on mathematical and computational methods in quantum chemistry, Yale, New Haven, May 2016,
- E. Cancès, Solid Math workshop, Aalborg, May 2016,
- E. Cancès, KiNet workshop on quantum and kinetic transport, Jiatong University, Shanghai, June 2016,
- E. Cancès, workshop on coupled mathematical models for physical and nanoscale systems and their applications, Banff, Canada, August 2016,
- E. Cancès, Multiscale Modelling of Materials (MMM 2016) conference (invited lecture), Dijon, October 2016,
- L. Chamoin, Séminaire de l'équipe MISES, UPMC, Paris, April 2016,
- L. Chamoin, SIAM Conference on Uncertainty Quantification, Lausanne, April 2016,
- L. Chamoin, Workshop "New Challenges in Computational Mechanics", Cachan, May 2016,
- L. Chamoin, ECCOMAS conference, Hersonissos, Greece, June 2016,
- G. Di Gesù, IST Austria, Vienne, June 2016,
- G. Di Gesù, Eurandom YEP Workshop on Large Deviations for Interacting Particle Systems and Partial Differential Equations, Eindhoven, March 2016,
- V. Ehrlacher, Workshop on "Challenges in High-Dimensional Analysis and Computation", San Servolo, Italy, May 2016,
- V. Ehrlacher, Séminaire du CEREMADE, Université Paris-Dauphine, September 2016,
- V. Ehrlacher, Institute for Computational and Applied Mathematics seminar, University of Münster, Germany, October 2016,
- V. Ehrlacher, MATHCCES seminar, RWTH Aachen University, Germany, October 2016,
- V. Ehrlacher, EMI 2016 conference, Metz, France, October 2016,
- V. Ehrlacher, MMM 2016 conference, Dijon, France, October 2016,
- V. Ehrlacher, Workshop on "Recent developments in numerical methods for model reduction", Institut Henri Poincaré, France, November 2016,
- V. Ehrlacher, Séminaire "Problèmes spectraux en physique mathématique", December 2016,
- G. Ferré, seminar of the IPAM program 'Understanding Many Particle Systems with Machine Learning, Los Angeles, November 2016,
- G. Ferré, workshop 'Collective Variables in Quantum Mechanics', Los Angeles, November 2016,
- T. Hudson, 7th European Congress of Mathematics, Berlin, July 2016,
- T. Hudson, Applied Math Seminar, UNC Charlotte, May 2016,
- M. Josien, CANUM 2016, Obernai, France, May 2016,
- M. Josien, MMM 2016 conference, Dijon, France, October 2016,
- C. Le Bris, Edinburgh Mathematical Society Lecturer, Dundee, UK, March 18, 2016,
- C. Le Bris, Sissa workshop on Homogenization, SISSA, Trieste, June 6-10, 2016,
- C. Le Bris, PDE Seminar of the University of Chicago, February and November 2016,
- C. Le Bris, Seminar at the Applied Mathematics Department of the University of Washington at Seattle, October 2016,
- F. Legoll, EMI-PMC 2016 conference, Nashville, USA, May 2016,
- F. Legoll, ECCOMAS conference, Hersonissos, Greece, June 2016,
- F. Legoll, Weekly seminar of the LMS laboratory, Ecole Polytechnique, June 2016,

- F. Legoll, AIMS conference, Orlando, USA, July 2016,
- F. Legoll, WCCM conference, Seoul, South Korea, July 2016,
- F. Legoll, ECCM conference, Brussels, Belgium, Sept. 2016,
- F. Legoll, MMM 2016 conference, Dijon, France, October 2016,
- F. Legoll, Workshop on "Recent developments in numerical methods for model reduction", Paris, France, November 2016,
- F. Legoll, CASA weekly seminar, Eindhoven, the Netherlands, November 2016,
- F. Legoll, IFPEn weekly seminar, Paris, France, December 2016,
- T. Lelièvre, Plenary speaker at MCMSKI 2016, Lenzerheide, January 2016,
- T. Lelièvre, Séminaire Laboratoire Jacques-Louis Lions, February 2016,
- T. Lelièvre, Séminaire "Incertitudes" à EDF, March 2016,
- T. Lelièvre, Séminaire Institut de Biologie Physico-Chimique, March 2016,
- T. Lelièvre, Workshop "Particle methods for the management of risks", Paris, April 2016,
- T. Lelièvre, Séminaire équipe Inria ABS, April 2016,
- T. Lelièvre, SIAM Uncertainty Quantification, Lausanne, April 2016,
- T. Lelièvre, Workshop "Challenges in High-Dimensional Analysis and Computation", San Servolo, May 2016,
- T. Lelièvre, CANUM, May 2016,
- T. Lelièvre, Séminaire du laboratoire MICS, Centrale Supélec, June 2016,
- T. Lelièvre, Warwick Mathematics Colloquium, June 2016,
- T. Lelièvre, Workshop "Extreme events in the Earth and planetary sciences", Warwick, July 2016,
- T. Lelièvre, Faraday discussion "Reaction rate theory", Cambridge, September 2016,
- T. Lelièvre, Workshop MMM2016, October 2016,
- A. Levitt, Workshop on computation of quantum systems in cold-matter physics and chemistry, Toronto, Canada, February 2016,
- A. Levitt, Parallel Processing '16, Paris, April 2016,
- A. Levitt, Remise de prix Bull-Fourier 2015, Paris, April 2016,
- A. Levitt, GDR REST (rencontres de spectroscopie théorique) meeting, Roscoff, May 2016,
- A. Levitt, PASC 2016, Lausanne, May 2016,
- A. Levitt, 2016 ECMI Congress, Santiago de Compostela, May 2016,
- A. Levitt, Mathematical and numerical analysis of electronic structure models, Roscoff, July 2016,
- A. Levitt, Mathematics seminar, Aachen, March 2016,
- A. Levitt, Mathematical physics seminar, Texas A&M, November 2016,
- A. Levitt, Séminaire de mathématiques appliquées, Collège de France, December 2016,
- F. Madiot, CANUM 2016, Obernai, France, May 2016,
- P. Monmarché, Inria junior seminar, September 2016,
- B. Nectoux, groupe de travail "chimie quantique", Université Pierre et Marie Curie, January 2016,
- G. Stoltz, IPAM workshop "Collective Variables in Classical Mechanics", Los Angeles, October 2016,
- G. Stoltz, The 8th Multiscale Materials Modelling international conference, Dijon, November 2016,
- G. Stoltz, SIAM Conference on Mathematical Aspects of Materials Science 2016, Philadelphie, May 2016,
- P. Terrier, The 8th Multiscale Materials Modelling international conference, Dijon, November 2016.

Members of the project-team have delivered the following series of lectures:

- E. Cancès, Optical and electronic excitations in molecules and solids, 3h, Physics department, Harvard University, April 2016,
- E. Cancès, First-principle molecular simulation, 4h, French-Spanish Jacques-Louis Lions Summer School, Gijon, June 2016,
- E. Cancès, Density Functional Theory: models and numerical methods, 4h, KiNet summer school, Santa Barbara, June 2016,
- E. Cancès, Mathematical representations of quantum states, 2h, IPAM tutorial, Los Angeles, September 2016,
- E. Cancès, Mathematical techniques for quantum chemistry, 3h, Modern wavefunction methods in electronic structure theory, Gelsenkirchen, October 2016,
- V. Ehrlacher, Lecture on "Theoretical results on the Progressive Generalized Decomposition algorithm", 2h, cours GdR AMORE, IHP, December 2016,
- C. Le Bris, Series of 6 one-hour lectures on Nonperiodic multiscale problems, Winter school on Calculus of Variations in Physics and Materials Science, Würzburg, Germany, 14 -19 February 2016,
- C. Le Bris, Series of 4 one-hour lectures on Stochastic homogenization, INI Workshop on "From the Grain to the Continuum: Two Phase Dynamics of a Partially Molten, Polycrystalline Aggregate", Cambridge, UK, 14 -15 March 2016,
- T. Lelièvre, Lectures on "Numerical methods in molecular dynamics" (4h30), Winterschool Universität Basel, Engelberg, February 2016,
- T. Lelièvre, Lectures on "Model reduction techniques for stochastic dynamics" (4h), Ecole GDR EGRIN, May 2016,
- T. Lelièvre, Lectures on "Stochastic differential equations in large dimension and numerical methods" (4h), RICAM Winterschool, Linz, December 2016,
- G. Stoltz, "A mathematical introduction to steady-state nonequilibrium systems", Spring school on Molecular Dynamics, Bad Belzig, April 2016.

Members of the project-team have presented posters in the following seminars, workshops and international conferences:

- A. Levitt, COSMOS workshop, Paris, February 2016,
- J. Roussel, NESC, Sheffield, July 2016.

Members of the project-team have participated (without giving talks nor presenting posters) in the following seminars, workshops and international conferences:

- T, Hudson, SIAM Conference on Mathematical Aspects of Materials Science 2016, Philadelphie, May 2016,
- M. Josien, Winterschool on Stochastic Homogenization, Augsburg, Germany, February 2016,
- A. Levitt, IPAM semester "Understanding many-particle systems with machine learning", Los Angeles, September and November 2016,
- P.-L. Rothé, Workshop on "Recent developments in numerical methods for model reduction", Paris, France, November 2016,
- J. Roussel, MCMSki Conference, Lenzerheide, January 2016,
- J. Roussel, COSMOS Workshop, Paris, February 2016,
- J. Roussel, CEMRACS, CIRM, Marseille, July 2016,
- J. Roussel, IPAM Tutorial, Los Angeles, September 2016,
- P. Terrier, Summer school PISACMS, Paris, September 2016.

9.4. Popularization

- É. Cancès has delivered a conference in Nancy in November 2016, in the framework of the series of lectures "Sciences et société".
- A. Levitt participated in the "Young doctors" session of the Salon Culture & Jeux Mathématiques in May 2016.

<p style="text-align:center; color:red;">**MATHRISK Project-Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

- B. Jourdain (with B. Bouchard and E. Gobet): organization of the 2015-2016 thematic semester on Monte Carlo methods financed by the Institute Louis Bachelier, and the closing conference.
- A. Alfonsi: Co-organizer of the working group seminar of MathRisk "Méthodes stochastiques et finance". http://cermics.enpc.fr/~alfonsi/GTMSF.html
- A.Sulem : Co-organiser of the joint working group seminar MathRisk/LPMA, University Paris-Diderot :"Mathematical finance and numerical probability".

10.1.1.1. Member of the Organizing Committees

J. Lelong:

- journées MAS 2016, Grenoble.
- CEMRACS 2017
- Les Journées de Probabilités 2017
- session organizer at CANUM 2016
- Session organizer at "The International Conference on Monte Carlo techniques", 2016, Paris

10.1.2. Scientific Events Selection

10.1.2.1. Reviewer

A. Sulem is Reviewer for *Mathematical Reviews*

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- R. Elie

  Associate editor of *SIAM Journal on Financial Mathematics (SIFIN)* (since November 2014)
- D. Lamberton

  Associate editor of
  - Mathematical Finance,
  - Associate editor of ESAIM Probability & Statistics
- A. Sulem

  Associate editor of
  - 2011- Present: *Journal of Mathematical Analysis and Applications (JMAA)*
  - 2009- Present: *International Journal of Stochastic Analysis (IJSA)*
  - 2008- Present: *SIAM Journal on Financial Mathematics (SIFIN)*

10.1.3.2. Reviewer - Reviewing Activities

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

10.1.4. Invited Talks

- A. Alfonsi
    - January 15th 2016: "Wishart processes: MLE estimation and interest rate modelling", North British Probability seminar, Edinburgh.
    - February 5th 2016: "Dynamic optimal execution in a mixed-market-impact Hawkes price model", Frontiers in Stochastic Modeling for Finance, Padua, Italy
    - October 7th 2016: "Maximum Likelihood Estimation for Wishart processes" WORKSHOP USPC-NUS Models and numerical methods for financial risk management, Paris Diderot.
    - November 17th 2016: "Extension and calibration of a Hawkes-based optimal execution model", SIAM Conference on Financial Mathematics & Engineering, Austin.
    - December 9th 2016: "Optimal Execution in a Hawkes Price Model and Calibration", Market Microstructure Confronting many viewpoints #4, Paris.

- B. Jourdain
    - Seminar of the chair"financial risks", June 3rd 2016 : Strong convergence properties of the Ninomiya-Victoir scheme and applications to multilevel Monte Carlo
    - Seminar Mathrisk P7, September 22th 2016 : Existence for a calibrated regime-switching local volatility model

- C. Labart
    - Frontiers in stochastic modelling for finance, Padua and Venice, Italy, February 2016.
    - Closing International Conference of Thematic cycle on Monte-Carlo techniques, Paris, July 2016.

- J. Lelong
    - CANUM 2016
    - Seminar on Insurance Mathematics and Stochastic Finance at ETH Zurich, May 2016.
    - Journées MAS 2016.
    - Closing International Conference of Thematic cycle on Monte-Carlo techniques, Paris, July 2016
    - Frontiers in stochastic modelling for finance, Padua and Venice, Italy, February 2016

- A. Sulem
    - Stochastic analysis, control and games with applications to financial economics, University of Leeds, November 2016.
    - National University of Singapore/ Université Paris-Diderot workshop on quantitative finance, October 2016, Paris.
    - Abel Symposium 2016 "Computation and Combinatorics in Dynamics, Stochastics and Control", August 2016, Barony Rosendal, Norway. http://hans.munthe-kaas.no/AbelSymp2016/
    - Simulation of Stochastic graphs and applications, closing conference on " Monte-Carlo techniques", Paris, July 2016
    - Conference "Frontiers in Stochastic Modelling for Finance", Padua and Venice, Italy, February, 2016. https://www.maths.univ-evry.fr/conferences/padova2016/index_ws.htm
    - "Actuarial and Financial Mathematics Conference" (Plenary talk) , February 2016, Brussels, Belgium.
    http://www.afmathconf.ugent.be

- A. Zanette

    "Hybrid tree-finite difference methods for the Heston, Bates and Heston Hull-White models". SIMAI Politecnico di Milano 2016.

10.1.5. Research Administration

- A. Sulem : Member of the Committee for technology development, Inria Paris
- B. Jourdain : Head of the doctoral school MSTIC, university Paris-Est

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Undergraduate programs

A. Alfonsi: 'Probabilités", first year course at the Ecole des Ponts.

B. Jourdain :

- course "Mathematical finance", 2nd year ENPC

- course "Introduction to probability theory", 1st year, Ecole Polytechnique

B. Jourdain, B. Lapeyre course "Monte-Carlo methods", 3rd year ENPC and Master Recherche Mathématiques et Application, Université Paris-Est Marne-la-Vallée

Graduate programs

A. Alfonsi:

- "Traitement des données de marché : aspects statistiques et calibration", lecture for the Master at UPEMLV.

- "Mesures de risque", Master course of UPEMLV and Paris VI.

- Professeur chargé de cours at Ecole Polytechnique

J.-F. Delmas, B.Jourdain course "Jump processes with applications to energy markets", 3rd year ENPC and Master Recherche Mathématiques et Application, Université Paris-Est Marne-la-Vallée

B.Jourdain

- course "Stochastic numerical methods", 3rd year, Ecole Polytechnique

- projects in finance and numerical methods, 3rd year, Ecole Polytechnique

A. Sulem

- "Finite difference for PDEs in Finance", Master 2 MASEF, Université Paris IX-Dauphine, Département Mathématiques et Informatique de la Décision et des Organisations (MIDO), 18h.

- Master of Mathematics, University of Luxembourg, 22 h lectures and responsible of the module "Numerical Methods in Finance".

Doctoral programs

A. Sulem: International summer school in mathematical finance, University of Alberta in Edmonton, Canada "Informational and Imperfect Financial Markets", https://www.pims.math.ca/scientific-event/160625-pssmf (5 lectures)

10.2.2. Supervision

- PhD :

  Anis Al Gerbi : "Ninomiya-Victoir scheme: strong convergence, asymptotics for the normalized error and multilevel Monte Carlo methods", Université Paris-Est supervised by B. Jourdain and E. Clément, defended on October 10 2016

- PhD in progress :

  Rui Chen (Fondation Sciences Mathématiques de Paris grant), "Stochastic Control of mean field systems and applications to systemic risk, from September 2014, Université Paris-Dauphine, Superviser: A. Sulem

Marouen Iben Taarit , " On CVA and XVA computations ", CIFRE Natixis/ENPC, Adviser: Bernard Lapeyre

Giulia Terenzi , "American options in complex financial models", Université Paris-Est Marne-la-Vallée, Supervisors: Damien Lamberton and Lucia Caramellino, from University Tor Vergata, Rome

Alexandre Zhou (started November 2015) "Analysis of stochastic particle methods applied to finance", supervised by B.Jourdain

10.2.3. Juries

- B. Jourdain

  - PhD of Khaled Salhi, defended on December 5, University of Lorraine

  - Reviewer for the PhD of Anthony Le Cavil, defended on December 9, University Paris-Saclay

- A. Sulem

  PhD Richàrd Fischer, *Modélisation de la dépendance pour des statistiques d'ordre et estimation non-paramétrique*, (Modelling the dependence of order statistics and nonparametric estimation), (Jury chair), defended on September 30 2016, Ecole des Ponts.

<p style="text-align:center">**MIMOVE Team**</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Valérie Issarny is co-chair of the BIS'16 workshop, which is the yearly workshop organized by Inria@SiliconValley to present the state of scientific collaborations and to work on proposals for future ambitious joint projects.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

- Valérie Issarny is PC co-chair of ICSE-SEIS'2018 - The Software Engineering in Society Track of the ICSE'18 conference.

9.1.2.2. Member of the Conference Program Committees

- Valérie Issarny is PC member of the following International Conferences: COORDINATION'2016, FASE'2016 & 2017 & 2018, ICDCS'2016, ICSE-SEIS'2016 & 2017, ICSE'2018, InterIoT'2016, ISEC'2017, Middleware'2016, MOBILESoft'2017, SEAMS'17, EUROSYS'2017.
- Nikolaos Georgantas is PC member of the following international conferences: SOSE'16&'17, WETICE'16&'17, SAC'16 &'17, AmI'17, ICSE'17 Poster Track, ANT'16.
- Nikolaos Georgantas is PC member of the following international workshops: MRT'16, SERENE'16, ARM'16, IoT-ASAP'17.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Nikolaos Georgantas is associate editor of the International Journal of Ambient Computing and Intelligence (IJACI);
- Valérie Issarny is associate editor of the Springer JISA Journal of Internet Services and Applications.

9.1.4. Invited Talks

- Valérie Issarny, *Monitoring Urban Pollution using Mobile Crowd Sensing: The SoundCity Use Case*, Keynote at - UIC - The 13th International Conference on Ubiquitous Intelligence and Computing, July 19, 2016; Toulouse, France.
- Valérie Issarny, *Revisiting Service-oriented Architecture for the IoT: A Middleware Perspective*, Keynote at - ICSOC - The 14th International Conference on Service-Oriented Computing, October 12, 2016; Banff, Alberta, Canada.

9.1.5. Scientific Expertise

- Valérie Issarny is elected member of the *Commission d'Evaluation Inria*;
- Nikolaos Georgantas is member of the Inria PhD scholarship, Inria postdoc scholarship and Inria professor leave *(Délégation)* scholarship selection committees at Inria Paris.

9.1.6. Research Administration

- Valérie Issarny is scientific coordinator of Inria@Silicon Valley and CityLab@Inria;
- Nikolaos Georgantas is member of the PhD monitoring committee at Inria Paris.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

E-learning

Valérie Issarny, MOOC *Villes intelligentes : défis technologiques et sociétaux*

https://www.fun-mooc.fr/courses/inria/41009/session01/about

Class teaching

Master: Rachit Agarwal, "Urban data democratization and its application to access urban concepts" as part of "Gestion de données ambiantes et Internet des objets", 9 hours (équivalent TD), niveau M2, University of Versailles Saint-Quentin en Yvelines, France.

9.2.2. Supervision

In 2016, the following PhD thesis was successfully defended:

Emil Andriescu, *Dynamic Data Adaptation for the Synthesis and Deployment of Protocol Mediators*, defended in February 2016, UPMC-EDITE, CIFRE Inria-Ambientic, advised by Valérie Issarny and Roberto Speicys-Cardoso (Ambientic).

Additionally, the following PhD theses are currently in progress at the MiMove team:

Georgios Bouloukakis, *Enabling Emergent Mobile Systems in the IoT: from Middleware-layer Communication Interoperability to Associated QoS Analysis*, started October 2013, UPMC-EDITE, advised by Nikolaos Georgantas and Valérie Issarny.

Radha Pallavali, *Dynamic adaptation of middleware-layer protocols for emergent mobile systems*, started November 2016, UPMC-EDITE, advised by Nikolaos Georgantas and Valérie Issarny.

Also, Valérie Issarny is co-advising with Ansgar Radermacher from CEA-LISE, the PhD thesis of Amel Belaggoun on *Adaptabilité et reconfiguration des systèmes temps-réel embarquées*; this is a PhD from UPMC-EDITE with the research being undertaken at CEA-LISE.

9.2.3. Juries

Nikolaos Georgantas was examiner for the PhD thesis of Fatiha Houacine, *Architecture Orientée Service pour le Mobile Cloud Computing*, defended in November 2016, Conservatoire National des Arts et Métiers, France, advised by Ass. Prof. Samia Bouzefrane.

<h1 style="color:red; text-align:center">MOKAPLAN Project-Team</h1>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

V. Duval and F-X. Vialard have organized the CAVALIERI workshop which was held in the Inria Paris research center (October, 11th and 12th).

The team has organized the "Journées MokaTAO" together with the McTAO team on October 3rd and 4th. G. Peyré co-organized the SIGMA 2016 conference at the CIRM in Nov. 2016.

J-D. Benamou has co-organized Computational Optimal Transportation Workshop at CRM montreal (July 18-22).

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

Guillaume Carlier is in the board of Journal de l'école Polytechnique, Applied Mathematics and optimization (since 2016) and Mathematics and financial economics, with Filippo Santambrogio and Thierry Champion he co-edited a special issues of RICAM Series devoted to optimal transport. G. Peyré is editor for SIAM Journal of Imaging Sciences and Springer Journal of Mathematical Imaging and Vision. He co-edited a special issues of RICAM Series devoted to inverse problems.

10.1.2.2. Reviewer - Reviewing Activities

The members of the team are frequently reviewing papers in SIIMS (SIAM Journal on Imaging Sciences), JMAA (Journal of Mathematical Analysis and Applications), IPol (Image Processing Online), JVCI (Journal of Visual Communication and Image Representation), COCV, M2AN ... Discrete and computational geometry, Journal of the London Math Society, JOTA, JCP, "Information and Inference: A Journal of the IMA", JMIV, Optimization Letters, PAMI, SIAM optimization and control, IPMI and MICCAI (leading conferences in medical imaging).

10.1.3. Invited Talks

V. Duval was invited to give talks at: the Oberwolfach workshop on Mathematical Imaging and Surface processing (January 2016), the Séminaire Parisien de Statistique (SEMSTAT, March 2016), the McGill-Mokalien Workshop on Numerical Optimal transport (July 2016) and the Demi-heure de Science at Inria Paris (October 2016).

G. Carlier gave seminars in Grenoble, Liège, Bielefeld and NYU, was plenary speaker at Smai-Mode conference (Toulouse), gave talks at the workshop Nonlinear problems from materials science and shape optimization (Pisa), workshop computational optimal transport (Montreal), workshop New Developments in Econometrics and Time Series (Madrid), MAFE Meeting (Bielefeld) and OTT16 (Pisa).

G. Peyré was plenary speaker at : Oxford Summer School on inverse problems (Jul 2016) ; Optimization without Border, (les Houches, Feb 2016) ; UCL workshop on sparse signal processing (Sep. 2016) ; workshop computational optimal transport (Montreal, Jul 2016) ; OTT16 (Pisa, Dec 2016).

J-D. Benamou talked at the Calculus of Variation Seminar in U. Paris Diderot (Nov.), he was invited speaker at OTT16 (Pisa, Dec 2016).

F-X. Vialard gave talks in séminaire de mathématiques appliquées, Cermics, ENPC, janvier; Geometric analysis theory in vision and control conference, Voss - Bergen, May; SIAM Imaging Science, Large Scale Inverse Problems in Medical Imaging, Albuquerque, May; Mathematics of Shapes and Applications, Singapore, July; Geometric Measure Theory: Analysis and non-smooth objects, CIMI analysis semester, Toulouse, September; MokaTAO meeting, Inria Paris, October; séminaire calcul des variations, Orsay, October; Journée transport optimal, équation de Monge-Ampère et applications, IHES, December.

10.1.4. Leadership within the Scientific Community

G. Peyré is in the scientific boards of Fondation Sciences Mathématiques de Paris (since 2013) ; Chaire CFM-ENS on Data Sciences (since 2016) ; Chaire Havas-Dauphine END (since 2013); Ceremade Paris-Dauphine (2013-2016)

10.1.5. Research Administration

J-D. Benamou is an elected member of the "Conseil Académique" of the PSL COMUE.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : V. Duval, Analyse fonctionnelle, 27h équivalent TD, niveau L3, INSA Rouen-Normandie

Master : G. Peyré, Master 2 MVA on imaging and machine learning (Cachan) $30h$.

Licence : F-X. Vialard, Algèbre linéaire 2, Université Paris-Dauphine, $30h$.

10.2.2. Supervision

Internship : Gwendoline de Bie did her master internship (2nd year at ENSAE Paris-Tech) with G. Carlier on *Entropic regularization for multivariate quantile regresssion*,

Internship : Christine Durok *Une méthode itérative pour le probléme inverse du réflecteur discret* J-D. Benamou Q. Mérigot

PhD in progress: Julien André, CIFRE PhD thesis with with the company OPTIS Grenoble-INP (co-supervision D. Attali, B. Thibert, Q. Mérigot)

PhD in progress : Jocelyn Meyron, *Extension of semi-discrete Optimal transport to other costs*, lED de Grenoble, Q. Mérigot, D. Attali and B. Thibert.

PhD in progress : Miao Yu, *Optimal Transport distances and Geophyscial imaging* J-D. Benamou (co-direction J.-P. Vilotte, IPGP).

PhD in progress : Paul Catala, *Low-rank approaches for off-the-grid superresolution*, October 2016, G. Peyré and V. Duval.

PhD in progress : Lenaic Chizat, *Unbalanced Optimal Transport* , october 2014, F-X. Vialard and G. Peyré.

PhD in progress : Aude Genevay, *Optimal Transport for Machine Learning* , october 2015, J-D. Benamou and G. Peyré.

PhD in progress : Quentin Denoyelle, *Off-the-grid super-resolution: theory, algorithms and applications in fluorescence imaging*, October 2014, G. Peyré and V. Duval.

Postdoc completed: Dario Prandi, sub-Riemannian model for imaging, Oct. 2015 – Aug. 2016, G. Peyré and J-M Mirebeau

Postdoc completed: Thomas Gallouèt, Fluid model and optimal transport, Oct. 2015 – Aug. 2016, Q. Mérigot and Yann Brenier.

Postdoc in progress: Roman Andreev, Numerical Methods for Mean Field Games , Mai 2015, Yves Achdou and J-D. Benamou.

PhD completed: Luca Nenna, Numerical Methods for Multi-Marginal Optimal Transportation, October 2013-December 2016, J-D. Benamou and G. Carlier.

PhD completed: Maxime Laborde, Systemes de particules en interaction, approche par flot de gradient dans l'espace de Wasserstein, september 2013-December 2016, G. Carlier.

PhD in progress: Jonathan Vacher, Machine learning approaches for neurosciences of the visual brain, October 2013-Jan 2017, G. Peyré and C. Monier.

Postdoc completed: Bernhard Schmitzer, fast algorithms for optimal transport, Oct. 2014-August 2016, G. Peyré.

Postdoc completed: Clarice Poon, *Support recovery using total variation and others sparse priors*, September 2015-August 2016, G. Peyré and V. Duval.

10.2.3. *Juries*

Vincent Duval was in the PhD comittee of Romain Hug (Grenoble, December, 9).

J-D. Benamou and G. Carlier were in the PhD comittee of Mathieu Laurière (Paris-Diderot, November 21), G. Carlier was on the Ph.D comittee of Guo (Ecole Polytechnique) and the HDR of Silva (Limoges, referee) and Lamboley (Dauphine, coordinateur). G. Peyré was in the PhD comittees of: Mitra Fatemi (EPFL, Feb. 2016), Morgane Henry (Grenoble, Mars 2016), Antoine Bonnefoy (Marseille, Mars 2016), Sébastien Combrexelle (Toulouse, Oct. 2016), Augustin Cosse (UCL, Aout 2016), Irène Kaltenmark (ENS Cachan, Oct. 2016), Olivia Miraucourt (Reims, Oct. 2016), Fred Maurice Ngole (CEA, Oct. 2016), Lara Raad (ENS Cachan, Oct. 2016), Emmanuel Soubies (Nice, Oct. 2016), Luc Le Magoarou (Rennes, Dec. 2016), Chen Da (Paris, Dec. 2016).

10.3. Popularization

G. Peyré wrote the large audience articles : "Claude Shannon et la compression de données" on Image des Mathematiques [0] ; "Parcimonie, problemes inverse et échantillonnage compressé" in La Gazette des Mathematiciens (SMF). G. Peyré organized the conference in the honnor of Claude Shannon in CIRM [0].

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[0]http://images.math.cnrs.fr/Claude-Shannon-et-la-compression-des-donnees
[0]http://www.fr-cirm-math.fr/hommage-claude-shannon.html

<div align="center">

MUSE Team

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8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Chair of Conference Program Committees

- R. Teixeira, Co-chair of the program committee of ACM IMC 2017,

- R. Teixeira, Co-chair of the program committee of ACM/ISOC ANRW 2017,

- V. Christophides, Tutorial co-chair of the 22nd IEEE Symposium on Computers and Communications (ISCC17) 03 - 06 July 2017, Heraklion, Crete, Greece (http://www.ics.forth.gr/iscc2017/)

- V. Christophides, Area Chair for "Semi-structured, Web, and Linked Data Management" in the 18th International Conference on Data Engineering (ICDE'16), May 16-20, 2016, Helsinki, Finland (http://icde2016.fi)

- V. Christophides, Workshop co-chair of the 1st International Workshop on Big Geo Data Quality and Privacy (BIGQP) with D. Kotzinos, C. Nikolaou, and Y. Theodoridis, March 21, 2017, Venice, Italy (http://www-etis.ensea.fr/BigGeoQ-UP/BIGQP2017/).

- V. Christophides, Workshop co-chair of the 2nd International Workshop on Preservation of Evolving Big Data, co-located with EDBT 2016 with G. Papastefanatos and S. Viglas March 15, 2016 Bordeaux, France (http://www.diachron-fp7.eu/2nd-diachron-workshop.html)

8.1.1.2. Member of the Conference Program Committees

- V. Christophides, PC member of the 2nd IFIP/IEEE International Workshop on Analytics for Network and Service Management (AnNet17) May 8, 2017 in Lisbon, Portugal.

- R. Teixeira, PC Member of 2016 Internet Measurement Conference (IMC) November 14-16, 2016 Santa Monica, California, USA.

- V. Christophides, PC member of the 1st International Workshop on Keyword-based Access and Ranking at Scale (KARS), collocated with EDBT2017, Venice, Italy.

- V. Christophides, PC member of the 25th ACM International Conference on Information and Knowledge Management (CIKM16), 24-28 October, Indianapolis, USA.

8.1.2. Invited Talks

- V. Christophides, "Web-scale Blocking, Iterative and Progressive Entity Resolution", ICDE 2017 Tutorial, with K. Stefanidis, and V. Efthymiou, April 19-22, 2017 in San Diego, California, USA.

- R. Teixeira, "HostView: Measuring Internet quality of experience on end-hosts", Dagsthul Seminar 16012, January 4 – 7, 2016.

- R. Teixeira, "The Challenges of Measuring Internet Quality of Experience", Invited Keynote at the Internet-QoE workshop co-located with SIGCOMM'16.

- R. Teixeira, "Residential Internet Performance: A view from the Gateway", Invited talk at the 1st Stakeholder Consultation Workshop on Mapping of Broadband Services in Europe (SMART 2014/0016).

- T. Friedman, A.-K. Pietilainen, R. Teixeira, "Internet Measurements: A Hands-on Introduction", Invited Tutorial at the ACM SIGCOMM 2016, Florianapolis, Brazil, August 22-26 2016.

- V. Christophides, "Resolving Entities in the Web of Data: Concepts, Algorithms and Systems", Invited Tutorial at the International Summer School on Web Science and Technology (WebST 2016) Bilbao, Spain, 18-22 July 2016, co-organized by Deusto and Rovira i Virgili University.

8.1.3. Leadership within the Scientific Community

- R. Teixeira, Vice-chair of ACM SIGCOMM (Since July 2013).
- R. Teixeira, Chair of the ACM SIGCOMM Industrial Liaison Board.
- R. Teixeira, Member of the steering committee of the ACM Internet Measurement Conference (Nov. 2009–Jun. 2016).
- V. Christophides, Member of the EDBT Association (since 2014).

8.1.4. Scientific Expertise

- Reviewer of H2020 and FP7 projects: CogNet, SUPERFLUIDITY, MONROE, MAMI.
- Technical advisory board of the project "Mapping of Broadband Services in Europe".

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: Renata Teixeira, "Methodology for research in networking", 10h eqTD, M2, UPMC, France.

Master: Timur Friedman, Renata Teixeira, "Network Metrology", 24h CM, M2, UPMC, France. Created this new master's level class.

Master: Vassilis Christophides, "Big Data Processing and Analytics", 25h M2, Ecole CentraleSupelec, France. Created this new master's level class in Spring 2016.

E-learning

Mooc: Timur Friedman, Renata Teixeira, "Network Metrology", preparation of a five-week Mooc (May 2016) in the platform FUN, supported by Inria.

8.2.2. Supervision

PhD: Giuseppe Scavo (December 2016), "Content Curation and Characterization in Communities of a Place", advisors: Z. Ben-Houidi and R. Teixeira

PhD: Sofia Kleisarchaki (November 2016): "Difference Analysis in Big Data: Exploration, Explanation, Evolution" advisors: S. Amer-Yahia and V. Christophides

PhD in progress:

- Maximiliam Bachl (Oct 2016-now), "Home network troubleshooting made easy feedback", advisor: R. Teixeira
- Sara el Aouad (May 2014-now): "Improving the quality of recommendation using semi-structured user feedback", advisors: C. Diot and R. Teixeira
- Diego da Hora (Feb 2014-now): "Crowdsourced Home Network Diagnosis", advisors: C. Diot and R. Teixeira
- Vassilis Efthimiou (Feb 2013-now): "Entity resolution in the Web of Data", advisor: V. Christophides

8.2.3. Juries

R. Teixeira: Member of Doctoral examining committee of Sheharbano Khattak (University of Cambridge, 2016),

R. Teixeira: Member of Doctoral examining committee of Zachary Scott Bischoff (Northwestern University, 2016).

V. Christophides: External evaluator of the Ph.D. Thesis of Maria Koutraki, University PARIS-SACLAY, September 2016

V. Christophides: Member of the appointment committee for the MCF 4234 position on Big Data at the University of Cergy-Pontoise, Mai 2016.

<p align="center" style="color:red">MUTANT Project-Team</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Selection

8.1.1.1. Member of the Conference Program Committees

Jean-Louis Giavitto has participated in the program committee of the 42st International Computer Music Conference (ICMC), the 10th IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2016), the Digital Entertainment Technologies and Arts(DETA) of GECCO-2016, the 15th International Conference on the Synthesis and Simulation of Living Systems (ALIFE XV) and the 2nd International Conference on Technologies for Music Notation and Representation (TENOR 2016).

Florent Jacquemard has been involved in the Program Committees of the 2d International Conference on Technologies for Music Notation and Representation (TENOR 2016), the 8th International Symposium on Symbolic Computation in Software (SCSS 2017), the National Conference *Journées d'Informatique Musicale* (JIM 2016), and the special issue of the journal Information and Computation for the 10th International Conference on Language and Automata Theory and Applications (LATA 2016).

8.1.1.2. Member of the Editorial Boards

Jean-Louis Giavitto is associate redactor (former redactor-in-chief) of TSI (Technique et Science Informatiques) published by Lavoisier. He has coorganized with Antoine Spicher (Univ. Paris Est), Stefan Dulman (Univ. Twente) and Mirko Viroli (Univ. of Milano) a special issue of *The Knowledge Engineering Review* on Spatial Computing published in november 2016.

8.1.1.3. Reviewer - Reviewing Activities

The members of the team contributed as reviewers for the journal Information and Computation, IEEE Transactions on Multimedia, IEEE Transactions on Audio and Speech Signal Processing, ACM Transactions on Intelligent Systems, Theoretical Computer Science, IEEE ICASSP, ICMC, SMC, Formal Methods, LATA and more...

8.1.2. Invited Talks

Jean-Louis Giavitto was invited to the seminar @SystemX at Saclay.

Florent Jacquemard gave an invited talk at the 5th International Workshop on Confluence (IWC 2016), hosted by Innsbruck University Center at Obergurgl, Austria [19].

8.1.3. Leadership within the Scientific Community

Jean-Louis Giavitto was a member of the Prix de thèse du GDR GPL as well as a member of the Faust Award 2016 (the Faust Open-Source Software Competition is intended to promote innovative high-quality free audio software developed with the Faust programming language, as well as development tools build around the Faust compiler itself).

8.1.4. Scientific Expertise

Jean-Louis Giavitto is in scientific board of the GDR GPL (Genie de la programmation et du logiciel). He is also a reviewer for FET projects for the UC.

8.2. Teaching - Supervision - Juries

8.2.1. Supervision

- PhD defended: José Echeveste, *Accorder le temps de la machine et celui du musicien*, started in October 2011, supervisor: Arshia Cont and Jean-Louis Giavitto.

- PhD defended (November 2016): Clément Poncelet, Formal methods for analyzing human-machine interaction in complex timed scenario. Started in October 2013, supervisor: Florent Jacquemard.

- PhD defended (December 2016): Philippe Cuvillier, Probabilistic Decoding of strongly-timed events in realtime, supervisor: Arshia Cont.

- PhD in progress: Julia Blondeau, *Espaces compositionnels et temps multiples : de la relation forme/matériauq (thèse en art)*, supervisor: Jean-Louis Giavitto, co-director Dominique Pradelle (Philosophy, Sorbonne), started October 2015.

- PhD in progress: Maxim Sirbu, Online Interaction via Machine Listening. Supervisors: Arshia Cont (MuTant) and Mathieu Lagrange (IrCyNN), started October 2015.

- PhD in progress: Pierre Donat-Bouillud, Modeling, analysis and execution of cyber-temporal systems. Supervisor: Florent Jacquemard, co-director: Jean-Louis Giavitto, started October 2016.

8.2.2. Juries

Jean-Louis Giavitto was Chairman of the jury of Clément Poncelet. He was reviewer of the PhD thesis of Jaime Arias (University of Bordeaux, Sémantique Formelle et Vérification Automatique de Scénarios Hiérarchiques Multimédia avec des Choix Interactifs), and examiner of the PhD of Mattia Bergomi (Università di Milano and UPMC, Dynamical and Topological Tools for (Modern) Music Analysis).

Florent Jacquemard was reviewer of the PhD thesis of Etienne Dubourg (University of Bordeaux, Contributions to the theory of tile languages). He is reviewer of the PhD thesis of Nicolas Guiomard-Kagan (Université de Picardie Jules Verne, *Traitement de la polyphonie pour l'analyse informatique de partitions musicales*). He has been examiner of the PhD of Emil-Mircea Andriescu (UPMC, MiMove, Dynamic Data Adaptation for the Synthesis and Deployment of Protocol Mediators) and examiner of the PhD of Carles Creus Ló´pez (UPC Barcelona, Tree Automata with Constraints and Tree Homomorphisms).

<p align="center">**MYCENAE Project-Team**</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Colloquium on Dynamical Systems and Applications, May 19th 2016

Thematic session co-organized by Jonathan Touboul and Khashayar Pakdaman within the framework of the CIRB

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

Jonathan Touboul was member of the program committee of ICMNS 2016 (International Conference on Mathematical Neuroscience, Juan-les-Pins)

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Jonathan Touboul participates in the editorial boards of *Plos One* and *Frontiers in neuronal circuits*

9.1.3.2. Reviewer - Reviewing Activities

Annals of Applied Probability, Journal of Statistical Physics, eLife, PloS Computational Biology, SIAM Journal on Applied Dynamical Systems, SIAM Journal on Discrete Mathematics, Bulletin of Mathematical Biology

9.1.4. Invited Talks

Invited plenary conference of Frédérique Clément at ICAR2016 http://www.icar2016.org 18th International Congress on Animal Reproduction (over 900 attendees). Multiscale mathematical modeling of the hypothalamo-pituitary-gonadal axis. Tours (France) June 26-30th 2016.

9.1.5. Scientific Expertise

Frédérique Clément belongs to the expert board of the BCDE (Cell Biology, Development and Evolution) ITMO (Multi OrganizationThematic Institute) of the French National Alliance for Life and Health Sciences Aviesan.

Jonathan Touboul has been reviewer for the ANR and European Research Council in 2016.

9.2. Teaching - Supervision - Juries

9.2.1. Supervision

PhD in progress : Richard Bailleul. Modeling of the developmental mechanisms underlying the formation of color and appendage patterns in birds, since September 2015. Université Pierre & Marie Curie (ED515), supervisors: Benoît Perthame, Marie Manceau and Jonathan Touboul (funded by the ERC starting grant of Marie Manceau)

PhD in progress: Yi Cui. Role of Pax6 in neurodevelopment: experiments and models, since September 2014, Université Pierre & Marie Curie (ED158), supervisors: Jonathan Touboul, Alain Prochiantz and Alessandra Pierani

PhD in progress: Frédérique Robin. Multiscale modeling of the morphodynamics in ovarian follicles, since October 2016, Université Pierre & Marie Curie (ED386), supervisors: Frédérique Clément and Romain Yvinec (INRA)

PhD: Tanguy Cabana. Limits of randomly connected networks and their dynamics. Defended on December14th 2016, Université Pierre & Marie Curie (ED386), supervisors: Raphaël Krikorian, Jonathan Touboul

PhD: Elif Köksal Ersöz. A mathematical study on coupled multiple timescale systems, synchronization of populations of endocrine neurons. Defended on December 13th, Université Pierre & Marie Curie (ED386), supervisors: Frédérique Clément and Jean-Pierre Françoise, with the involvement of Mathieu Desroches

PhD: Lucile Megret, Explosion of limit cycles : qualitative analysis, numerical simulations and models. Defended on November 25th, Université Pierre & Marie Curie (ED386), supervisors: Jean-Pierre Françoise and Frédérique Clément, with the involvement of Mathieu Desroches

HDR: Alexandre Vidal. From qualitative analysis of complex dynamics to parameter estimation in neuronal models. Université d'Évry-Val-d'Essonne – Université Paris-Saclay, December 14th 2016

9.2.2. *Juries*

Jonathan Touboul participated in the PhD committee of Takafumi Arakaki (ED3C, supervisors: D. Hansel and A. Leblois), in the selection committee for the hiring of a professor at Technische Universitat Berlin, as well as in the Bernstein Award for Computational Neuroscience committee.

9.3. Popularization

Jonathan Touboul has given a presentation in the framework of the "demi-heure de science" : Mathematical exploration of the brain activity (January 7th).

Frédérique Clément has given a 3h lecture on "Multiscale modeling of folliculogenesis in mammals" in the M2 master "Predictive & integrative animal biology" (PRIAM) of Université Paris-Saclay.

PARKAS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Albert Cohen is the General Chair of PLDI 2017

9.1.1.2. Member of the Conference Program Committees

- Timothy Bourke was a member of the PC of EMSOFT 2016.
- Francesco Zappa Nardelli was a member of the PC of POPL 2017.
- Francesco Zappa Nardelli will be a member of the PC of ECOOP 2017.
- Albert Cohen was a PC member of ASPLOS, PACT, PPoPP, CGO, PLDI.

9.1.1.3. Reviewer

- Timothy Bourke was a reviewer for FM 2016 (Int. Symposium on Formal Methods).

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- Albert Cohen is an Associate Editor of ACM TACO.

9.1.2.2. Reviewer - Reviewing Activities

- Timothy Bourke was a reviewer for IEEE Embedded Systems Letters, ACM Transactions on Embedded Computing Systems, and IEEE Transactions on Software Engineering.

9.1.3. Invited Talks

- April, T. Bourke presented "Towards the verified compilation of Lustre" in the Gallium seminar series in Paris, France.
- December, T. Bourke presented "Verifying a Lustre Compiler (Part 1)" at the SYNCHRON workshop in Bamberg, Germany.
- November, F. Zappa Nardelli presented "Shared Memory Concurrency and Compiler Optimisations" at IMDEA, Madrid, Spain.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: F. Zappa Nardelli: "A Programmer's introduction to Computer Architectures and Operating Systems" (M1), 45h, École Polytechnique, France

Master: A. Cohen & F. Zappa Nardelli, "Semantics, languages and algorithms for multicore programming", Lecture, 9h+12h, M2, MPRI: Ecole normale supérieure and Université Paris Diderot, France

Licence: F. Zappa Nardelli: "Conception et analyse d'algorithmes" (L3), PCs, 32h, Ecole Polytechnique, France

Master : M. Pouzet & T. Bourke: "Synchronous Systems" (M2), Lectures and TDs, MPRI, France

Master: T. Bourke participated in reviewing the M1 internships of students at the ENS, France.

Licence : M. Pouzet & T. Bourke: "Operating Systems" (L3), Lectures and TDs, ENS, France.

Licence : T. Bourke, "Digital Systems" (L3), Lectures and TDs, ENS, France

Marc Pouzet is Director of Studies for the CS department, at ENS.

9.2.2. Supervision

PhD in progress : Ulyssse Beaugnon, 2nd year, supervised by A. Cohen and M. Pouzet.

PhD in progress : Chandan Reddy, 2nd year, supervised by A. Cohen.

PhD in progress : Jie Zhao, 2nd year, supervised by A. Cohen.

PhD in progress : Guillaume Baudart, 3rd year, supervised by T. Bourke and M. Pouzet. This thesis will be defended in March.

PhD in progress : Lélio Brun, 1st year, supervised by T. Bourke and M. Pouzet.

PhD in progress : Robin Morisset, 3rd year, supervised by F. Zappa Nardelli. This thesis will be defended in April 2017.

9.2.3. Juries

Francesco Zappa Nardelli was an external reviewer of the PhD thesis of Carl Leonardsson, Uppsala University, Sweden.

Francesco Zappa Nardelli was a jury member of the PhD thesis of Nhat Minh Lê, ENS, Paris, France.

Timothy Bourke was an external reviewer of the masters thesis of Shruti Saini, The University of the South Pacific.

PI.R2 Project-Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Organisation

7.1.1.1. Member of the Organizing Committees

Yann Régis-Gianas is multimedia chair of the organizing committee of POPL 2017 that will be held in Paris in January 2017.

Yves Guiraud, Philippe Malbos and Samuel Mimram have organised the second edition of the Higher-Dimensional Rewriting and Applications (HDRA) workshop of the Formal Structures for Computation and Deduction conference (FSCD), held in Porto in June 2016. They plan to organise the third edition of HDRA, still with FSCD, in September 2017 in Oxford.

Yves Guiraud and Alexis Saurin, with Christine Tasson (IRIF), have organised the annual meeting of the Géocal and LAC working groups of the GDR Informatique Mathématique in Paris, in November 2016.

Yves Guiraud and Samuel Mimram, with Dimitri Ara (Univ. Aix-Marseille) are currently organising the Categories in Homotopy and Rewriting one-week conference, that will be held at the CIRM, in Marseille, in September 2017.

7.1.2. Scientific Events Selection

7.1.2.1. Member of the Conference Program Committees

Matthieu Sozeau was member of the program committees of FSCD'16, ITP'16 and CoqPL'16.

7.1.2.2. Member of the Conference Steering Committees

Hugo Herbelin is a member of the steering committee of the conference *Formal Structures for Computation and Deduction* (FSCD).

Pierre-Louis Curien is member of the steering committee of the international workshop Games for Logic and Programming Languages (GaLop).

Matthieu Sozeau is member of the steering committee of the Dependently Typed Programming international workshop (DTP).

7.1.3. Journal

7.1.3.1. Member of the Editorial Boards

Pierre-Louis Curien is editor in chief of the Cambridge University Press journal Mathematical Structures in Computer Science (since January 2016).

7.1.3.2. Reviewer - Reviewing Activities

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

7.1.4. Invited Talks

Pierre-Louis Curien and Samuel Mimram gave invited talks at the annual meeting of the Géocal and LAC working groups of the GDR Informatique Mathématique (Paris, November).

Pierre-Louis Curien gave an invited talk at the annual meeting of the international ANR project Pace (between Univ. of Bologna, ENS Lyon and Shanghai Jiaotong University) on "Categorified cyclic operads" (Shanghai, November).

Hugo Herbelin gave an invited talk on "Proving with side-effects" at the Days in Logic meeting in Lisbon, Portugal.

Jean-Jacques Lévy gave an invited talk about "Strongly connected components in graphs, Formal proof of Tarjan 1972 algorithm" at the LTP (Langages, Types et Preuves) day, Saclay [38].

Matthieu Sozeau gave invited talks at the DeepSpec kickoff meeting in Princeton, NJ, USA, June 8th 2016, on "Coq 8.6" (together with Maxime Dénès), at the International Conference on Mathematical Software in Berlin, Germany, July 14th 2016, on "Coq for HoTT", at the Categorical Logic and Univalent Foundations workshop, Leeds, UK, July 28th 2016, on "Forcing Translations in Type Theory", and at the Coq Workshop in Nancy, France, August 26th 2016, on "Coq 8.6".

7.1.5. *Scientific Expertise*

Pierre-Louis Curien has been member of the "Comité de Sélection" for a professor position in discrete mathematics at the University Paul Sabatier in Toulouse.

Yann Régis-Gianas and Hugo Herbelin have been members of the "Comité de Sélection" for an assistant professor position at CNAM in Paris.

Yann Régis-Gianas has been member of the "Comité de Sélection" for an assistant professor position at IRIF in Paris.

Hugo Herbelin has been member of the "Comité de Sélection" for a starting researcher position at Inria Saclay.

7.1.6. *Scientific expertise*

Pierre-Louis Curien is a member of the Scientific Committee of the CIRM (since June 2013).

7.1.7. *Research Administration*

Pierre-Louis Curien, Hugo Herbelin and Yves Guiraud are members of the scientific council of the Computer Science deparment of University Paris 7.

Yves Guiraud is the head of the Preuves, Programmes et Systèmes (PPS) team of the IRIF laboratory (since April 2016), and a member of the IRIF council (since January 2016).

7.1.8. *Presentation of papers*

Étienne Miquey gave a talk on a computational reduction of dependent choice in classical logic to system F at TYPES'16 (Novi Sad, Serbia, May 2016).

Étienne Miquey gave a talk on realizability games for the specification problem during the workshop Realizability in Uruguay 2016 (Piriápolis, Uruguay, July 2016).

Cyrille Chenavier gave a talk at the workshop IWC, Obergurgl, Austria (September 2016).

Cyrille Chenavier, Maxime Lucas and Jovana Obradović gave talks at the workshop Categories, Homotopy and Rewriting (Toulouse, January) and at the workshop HDRA (Porto, June).

Jovana Obradović presented her works on cyclic operads at the Types Conference 2016 (Novi Sad, Serbia, May 2016) and at the Conference Logic and Applications 2016 (Dubrovnik, Croatia, September).

Hugo Herbelin gave a talk on proving Gödel's completeness theorem with side-effects at the Mathematics for Computation workshop in Niederalteich, Germany, May 2016.

7.1.9. *Talks in seminars*

Pierre-Louis Curien gave a talk at the Séminaire de Topologie of the University of Angers on the semantics of dependent types (January).

Yves Guiraud gave a talk in the Séminaire de Combinatoire of the University Paris 7 on an introduction to Squier's theory (November).

Hugo Herbelin gave a talk on a proof-as-program interpretation of the classical axiom of dependent choice at the Séminaire "Logique et Interactions" of the "Logique de la Programmation" team of the "Institut de Mathématiques de Marseille" (University Aix-Marseille, February).

Yann Régis-Gianas gave a talk about control operators in the history of programming at the Séminaire "Code Sources" organized by Baptiste Mélès.

Yann Régis-Gianas gave a talk about the writing style in programming at the conference "Current issues in the philosophy of practice of mathematics and informatics" (University of Toulouse, April).

Thibaut Girka gave a talk about difference languages at the Gallium seminar (Paris, September 2016) and at the TLP group of the GDR GPL (Saclay, November 2016).

Yann Régis-Gianas gave a talk about difference languages at the LIMA laboratory (Nantes, October 2016) and at the Semantic Working Group of IRIF (Paris, December 2016).

Matthieu Sozeau gave a talk about Equations: a function definition toolbox for Coq at Dagstuhl in March 2016.

Cyrille Chenavier gave a talk about confluence algebras at the Algebra working group of the LMPA, Calais, in February 2016.

Jovana Obradović gave a talk about categorified cyclic operads at the Proof Theory Seminar of the Mathematical Institute of the Serbian Academy of Sciences and Arts (Belgrade, December 2016).

7.1.10. Attendance to conferences, workshops, schools,...

Pierre-Louis Curien attended the conferences Types 2016 in Novi Sad (Serbia, May) and Logic and Applications in Dubrovnik (Croatia, September).

Cyrille Chenavier, Pierre-Louis Curien, Yves Guiraud, Maxime Lucas, Philippe Malbos, Samuel Mimram and Jovana Obradović attended the Category, Homotopy and Rewriting workshop in Toulouse (January 2016).

Cyrille Chenavier, Maxime Lucas, Philippe Malbos and Samuel Mimram attended the HDRA workshop in Lisbon (June 2016).

Hugo Herbelin attended the Days in Logic meeting in Lisbon (Portugal, January), the Mathematics for Computation workshop in Niederaltaich (Germany, May), the conferences Types 2016 in Novi Sad (Serbia, May), the Coq coding sprint in Sophia-Antipolis (May-June), the DeepSpec kick-off meeting in Princeton (USA, June), the FSCD conference in Porto (Portugal, June), the Coq workshop and ITP 2016 (Nancy, August), as well as the Dagstuhl seminar on universality of proofs (October).

Jean-Jacques Lévy participated to CPP and POPL 2016 conferences, Saint Petersburgh, USA, January 18-22, and the Robin Milner Award reception, the Royal Society, London, November 24 (X. Leroy (research team Gallium) was awarded).

Matthieu Sozeau attended POPL 2016, ICMS 2016, ITP 2016, the Coq coding sprint, the DeepSpec kick-off meeting in Princeton as well as the Dagstuhl seminar on proofs of functional programs (March).

Théo Zimmermann attended the conference CICM 2016 in Białystok (Poland, July). He gave a talk there to present his PhD subject. He also attended the Coq coding sprint.

7.1.11. Groupe de travail Théorie des types et réalisabilité

This is one of the working groups of PPS, jointly organised by Hugo Herbelin and Matthieu Sozeau.

7.1.12. Groupe de travail Catégories supérieures, polygraphes et homotopie

Several members of the team participate actively in this weekly working group of PPS, organised by François Métayer (IRIF) since 2009.

7.2. Teaching - Supervision - Juries

7.2.1. *Teaching*

Master: Pierre-Louis Curien teaches in the course Models of programming languages: domains, categories, games of the MPRI (together with Thomas Ehrhard and Paul-André Melliès).

Master: Hugo Herbelin teaches the course on the proof-as-program correspondence for classical logic and beyond at the LMFI.

Master: Pierre Letouzey teaches two short courses to the LMFI Master 2 students : "Models of programming" and "Introduction to computed-aided formal proofs". These two courses come in addition to Pierre Letouzey's regular duty as teacher in the Computer Science department of Paris 7 (including a course on Compilation to M2-Pro students).

Master: Yann Régis-Gianas took part in the MPRI course entitled "Type systems": he gave a 12-hour course about generalised algebraic data types, higher-order Hoare logic and dependently typed programming.

Master: Matthieu Sozeau taught the MPRI course on Advanced uses of proof assistants (12 hours + a project), together with Assia Mahboubi (Inria SpecFun).

MOOC: In collaboration with Roberto Di Cosmo and Ralf Treinen, Yann Régis-Gianas has created a MOOC about the OCaml programming language. The first edition took place in 2015, the second edition in 2016.

7.2.2. *Supervision*

Internship: Yves Guiraud has supervised the M2 internship of Amina Bendjaafar.

Internship: Hugo Herbelin has supervised the L3 internship of Meven Bertrand.

Internship: Hugo Herbelin has supervised the pre-doctoral internship of Théo Zimmermann.

Internship: Yann Régis-Gianas has supervised the M1 internship of Paul Laforgue.

Internship: Yann Régis-Gianas has supervised the M1 internship of Sylvain Ribstein.

PhD (completed): Cyrille Chenavier, supervised by Yves Guiraud and Philippe Malbos, successfully defended in December 2016

PhD in progress: Guillaume Claret, Programmation avec effets en Coq, (started in September 2012), supervised by Hugo Herbelin and Yann Régis-Gianas, defense planned in February 2017.

PhD in progress: Amina Doumane, supervised by Alexis Saurin, David Baelde and Pierre-Louis Curien.

PhD in progress: Thibaut Girka, Differential semantics (started in January 2014), supervised by Roberto Di Cosmo and Yann Régis-Gianas.

PhD in progress: Maxime Lucas, supervised by Yves Guiraud and Pierre-Louis Curien.

Phd in progress: Cyprien Mangin, Dependent Pattern-Matching, induction-induction and higher inductive types, September 2015, supervised by Matthieu Sozeau and Bruno Barras.

PhD in progress: Étienne Miquey, Réalisabilité classique et effets de bords, September 2014, supervised by Hugo Herbelin and Alexandre Miquel.

PhD in progress: Jovana Obradović, Cyclic operads: syntactic, algebraic and categorified aspects, supervised by Pierre-Louis Curien.

PhD stopped: Gabriel Lewertowski, On forcing in type theory, supervised by Matthieu Sozeau and Nicolas Tabareau. Gabriel stopped his PhD in september 2016 and is now working at la Pitié Salpêtrière as an engineer.

PhD starting: Gaëtan Gilbert, Definitional Proof Irrelevance, supervised by Nicolas Tabareau and Matthieu Sozeau.

PhD starting: Théo Zimmermann, supervised by Hugo Herbelin.

7.2.3. *Juries*

Pierre-Louis Curien was referee for the habilitations of Emmanuel Haucourt (Paris 7, September) and Samuel Mimram (Paris 7, September). He was president of the jury of the thesis of Matteo Acclavio (Univ. de la Méditerranée, December).

Pierre-Louis Curien (president), Yves Guiraud and Philippe Malbos were members of the jury of the thesis of Cyrille Chenavier (Univ. Paris 7, December).

Hugo Herbelin was referee for the habilitation of Nicolas Tabareau (Nantes, November). He was a referee of the jury of the thesis of Jirka Maršík (LORIA, December).

Matthieu Sozeau was a member of the jury of the thesis of Kevin Quirin (EMN Nantes, December).

Yann Régis-Gianas is a member of the jury of the competitive examination for the entrance to the Écoles Normales Supérieures and the École Polytechnique.

7.3. Popularization

Yann Régis-Gianas co-organised the "Journée Francilienne de Programmation", a programming contest between undergraduate students of three universities of Paris (UPD, UPMC, UPS). Yann Régis-Gianas organised, and Étienne Miquey took part in the animation of the (computer science part of the) "Fête de la Science" event at the University Paris 7. Yann Régis-Gianas gave several presentations about "What is programming?" in primary and high schools of Paris and its region.

<p style="text-align:center;color:red;font-weight:bold">POLSYS Project-Team</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committees

Dongming Wang was involved in the organization of the following conferences

- Special Session on Software of Polynomial Systems at the 5th International Congress on Mathematical Software (ICMS 2016) (Berlin, Germany, July 11-14, 2016).

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

Emmanuel Prouff was member of the program committees of the following conferences

- Conference on Cryptographic Hardware and Embedded Systems 2016 (CHES 2016) (Santa Barbara, CA, USA, Aug. 17-19, 2016);
- Smart Card Research and Advanced Application Conference (CARDIS 2016) (Cannes, France, Nov. 7-9, 2016);
- International Workshop on Constructive Side-Channel Analysis and Secure Design (COSADE 2016) (Graz, Austria, Apr. 14-15);
- 23rd ACM Conference on Computer and Communications Security (ACM CCS 2016) (Vienna, Austria, Oct. 24-28).

Dongming Wang was member of the program committees of the following conferences

- 11th International Workshop on Automated Deduction in Geometry (ADG 2016) (Strasbourg, France, June 27-29, 2016);
- 7th International Symposium on Symbolic Computation in Software Science (SCSS 2016) (Tokyo, Japan, March 28-31, 2016).

Elias Tsigaridas was member of the program committees of the following conferences

- Computer Algebra in Scientific Computing (CASC 2016), Sept 2016 Bucharest, Romania.

9.1.3. Journal

9.1.3.1. Member of the editorial boards

Ludovic Perret is Member of the Editorial Board of Designs, Codes and Cryptography.

Emmanuel Prouff is member of the editorial board of Journal of Cryptographic Engineering.

Mohab Safey El Din is member of the editorial board of Journal of Symbolic Computation.

Dongming Wang has the following editorial activities:

- Editor-in-Chief and Managing Editor for the journal
  Mathematics in Computer Science (published by Birkhäuser/Springer, Basel).
- Executive Associate Editor-in-Chief for the journal

SCIENCE CHINA Information Sciences (published by Science China Press, Beijing and Springer, Berlin).

- Member of the Editorial Boards for the
  - Journal of Symbolic Computation (published by Academic Press/Elsevier, London),
  - Frontiers of Computer Science (published by Higher Education Press, Beijing and Springer, Berlin),
  - Texts and Monographs in Symbolic Computation (published by Springer, Wien New York),
- Member of the International Advisory Board for the Communications of JSSAC (Japan Society for Symbolic and Algebraic Computation) (published by JSSAC).

9.1.4. Invited talks

Emmanuel Prouff was invited speaker at

- EUROCRYPT 2016 (invited tutorial), Vienna, Austria, on Securing Cryptography Implementations in Embedded Systems.
- SPACE 2016 (invited speaker), Hyderabad, India on Breaking Cryptographic Implementations Using Deep Learning Techniques.

Mohab Safey El Din was invited speaker at

- the SMAI-MODE session on semi-algebraic optimization, Toulouse, March 2016, France.
- the AIM Workshop on Algebraic Vision which was held at the American Institute of Mathematics, San Jose, May 2016, USA.
- the NCSU seminar on Symbolic Computation, Raleigh, May 2016, USA.
- the PGMO session on Semi-Definite Programming, Palaiseau, October 2016, France.

Ludovic Perret was invited speaker at 17th World Conference on Information Security Applications (WISA 2016, August, Korea).

Elias Tsigaridas was invited speaker at

- the Department Seminar Series, of the Computer Science Department of the University of Liverpool, Apr 2016, UK.
- the Seminar of RICAM, University of Linz, Austria (Dec. 2016)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Jérémy Berthomieu had the following teaching activities:

Master : Modeling and problems numerical and symbolic solving through MAPLE and MATLAB software, 34 hours, M1, Université Pierre-et-Marie-Curie, France

Master : In charge of Basics of Algebraic Algorithms, 70 hours, M1, Université Pierre-et-Marie-Curie, France

Master : Introduction to Security, 20 hours, M1, Université Pierre-et-Marie-Curie, France

Master : Projects supervision, 8 hours, L2, Université Pierre-et-Marie-Curie, France

Licence : Introduction to Algorithmics, 49 hours, L3, Université Pierre-et-Marie-Curie, France

Licence : Representations and Numerical Methods, 41 hours, L2, Université Pierre-et-Marie-Curie, France

Licence : Projects supervision, 10 hours, L2, Université Pierre-et-Marie-Curie, France

Jean-Charles Faugère had the following teaching activities:

Master: Fundamental Algorithms in Real Algebraic Geometry, 13,5 hours, M2, ENS de Lyon, France

Master : Polynomial Systems solving, 12 hours, M2, MPRI

Ludovic Perret had the following teaching activities amounting to around 220 hours:

Master : Polynomial Systems solving, M2, MPRI

Master : In charge of Introduction to Security, M1, Université Pierre-et-Marie-Curie, France

Master : In charge of Complexity, M1, Université Pierre-et-Marie-Curie, France

Licence : Introduction to Algorithmic, L2, Université Pierre-et-Marie-Curie, France

Licence : In charge of the Computer Science – Applied Mathematics Program (PIMA) in Licence, L2, Université Pierre-et-Marie-Curie, France

Licence : Project supervision, L2, Université Pierre-et-Marie-Curie, France

Guénaël Renault had the following teaching activities:

Master : In charge of the Security, Reliability and Numerical Efficiency Program in Master, 45 hours, M1 and M2, Université Pierre-et-Marie-Curie, France

Master : In charge of Advanced and Applied Cryptology, 70 hours, M2, Université Pierre-et-Marie-Curie, France

Master : In charge of Security and Side-channels, 10 hours, M2, Université Pierre-et-Marie-Curie, France

Master : In charge of Threats and Attacks Modeling, 40 hours, M1, Université Pierre-et-Marie-Curie, France

Master : Pro/Research internships supervision, 40 hours, M2, Université Pierre-et-Marie-Curie, France

Master : Projects supervision, 20 hours, M1, Université Pierre-et-Marie-Curie, France

Licence : In charge of Introduction to Cryptology, 30 hours, L3, Université Pierre-et-Marie-Curie, France

Licence : Project supervision, 10 hours, L2, Université Pierre-et-Marie-Curie, France

Mohab Safey El Din had the following teaching activities:

Master : In charge of Modeling and problems numerical and symbolic solving through MAPLE and MATLAB software, 36 hours, M1, Université Pierre-et-Marie-Curie, France

Master : In charge of Introduction to polynomial system solving, 48 hours, M2, Université Pierre-et-Marie-Curie, France

Master: In charge of Fundamental Algorithms in Real Algebraic Geometry, 22,5 hours, M2, ENS de Lyon, France

Master : In charge of the Security, Reliability and Numerical Efficiency Program in Master, 12 hours, M1 and M2, Université Pierre-et-Marie-Curie, France

Master : Introduction to Security, 10 hours, M1, Université Pierre-et-Marie-Curie, France

Licence : Introduction to Cryptology, 20 hours, L3, Université Pierre-et-Marie-Curie, France

Licence : In charge of the Computer Science – Applied Mathematics Program (PIMA) in Licence, L2 and L3, Université Pierre-et-Marie-Curie, France

9.2.2. Supervision

PhD in progress : Ivan Bannwarth, Fast algorithms for studying real algebraic sets, started in Sept. 2014, Mohab Safey El Din

PhD in progress : Matías Bender, Algorithms for Sparse Gröbner basis and applications, started in Dec. 2015, Jean-Charles Faugère and Elias Tsigaridas

PhD in progress : Eleonora Cagli, Analysis and interest points research in the attacks by observation context, Emmanuel Prouff and Cécile Dumas

PhD in progress : Clayton Eduardo Lente da Silva, Planar discontinuous dynamical system, Universidade Estadual Paulista (São José do Rio Preto), started in Sep. 2013, Paulo Ricardo da Silva and Alain Jacquemard

HdR : Ludovic Perret, Université Pierre-et-Marie-Curie, defended in Dec. 2016

HdR : Guénaël Renault, Université Pierre-et-Marie-Curie, defended in Dec. 2016

PhD : Thársis Souza Silva, Relay Systems, Universidade Federal de Goiás, Goiânia, defended in May 2016, Ronaldo Alves Garcia and Alain Jacquemard

PhD : Adrian Thillard, Countermeasures to Side-Channel Attacks and Secure- Multi-Party Computation, ENS Paris, defended in Dec. 2016 Damien Vergnaud and Emmanuel Prouff

PhD : Thibaut Verron, Gröbner bases and structured polynomial systems, Université Pierre-et-Marie-Curie, defended in Sept. 2016, Jean-Charles Faugère and Mohab Safey El Din

PhD : Alexandre Wallet, The point decomposition problem in Jacobian varieties, Université Pierre-et-Marie-Curie, defended in Dec. 2016, Jean-Charles Faugère

9.2.3. Juries

Jean-Charles Faugère was examiner in the PhD committees of C. Chenavier, V. Neiger, T. Verron and A. Wallet and in the HDR committees of L. Perret and G. Renault.

Alain Jacquemard was examiner in the PhD committee of T.S. Silva.

Emmanuel Prouff was reviewer of the PhD theses of A. Battistello and D. Martin. He was examiner in the PhD committee of A. Battistello, D. Martin and A. Thillard and in the HDR committees of G. Renault.

Mohab Safey El Din was examiner in the PhD committees of T. Verron and A. Wallet and in the HDR committees of L. Perret and G. Renault.

9.3. Popularization

J.-C. Faugère and L. Perret wrote a paper "Le grand défi du post-quantique" for MISC (HS 13, April 2016).

PROSECCO Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Prosecco is organizing the 2nd IEEE European Symposium on Security and Privacy in Paris, | 26-28 April 2017. Catalin Hritcu is General Chair, Bruno Blanchet is Finance Chair, and Karthikeyan Bhargavan is Local arrangements Chair.
- Catalin Hritcu organized two Secure Compilation Meetings (SCM) at Inria Paris in (13 invited participants, 17–19 August 2016) and POPL (15 January 2017)

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Catalin Hritcu is PC member at POPL 2017
- Catalin Hritcu is PC member at POST 2017
- Catalin Hritcu was PC member at CSF 2016
- Catalin Hritcu was PC member at POST 2016
- Catalin Hritcu was PC member at ITP 2016
- Catalin Hritcu was PC member at cPP 2016
- Harry Halpin is PC member for ACM WWW 2017
- Harry Halpin was PC member for W3C Blockchains and the Web
- Karthikeyan Bhargavan is ERC member at POPL 2017
- Karthikeyan Bhargavan is PC member at IEEE S&P 2017
- Karthikeyan Bhargavan was PC member at IEEE S&P 2016
- Karthikeyan Bhargavan was PC member at ACM CCS 2016
- Karthikeyan Bhargavan was PC member at IEEE CSF 2016
- Karthikeyan Bhargavan was PC member at ACM PLAS 2016

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Associate Editor

- of the *International Journal of Applied Cryptography (IJACT)* – Inderscience Publishers: Bruno Blanchet

9.1.4. Invited Talks

- Karthikeyan Bhargavan gave an invited talk at EUROCRYPT 2016
- Karthikeyan Bhargavan gave an invited talk at the OAuth Workshop 2016
- Karthikeyan Bhargavan gave an invited talk at SSTIC 2016

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Master: Bruno Blanchet, Formal Methods, 9h equivalent TD, master M2 MIC, université Paris VII, France
- Master: Bruno Blanchet, Cryptographic protocols: formal and computational proofs, 31.5h equivalent TD, master M2 MPRI, université Paris VII, France
- Master: Karthikeyan Bhargavan, Cryptographic protocols: formal and computational proofs, 31.5h equivalent TD, master M2 MPRI, université Paris VII, France
- Master: Karthikeyan Bhargavan, Protocol Safety and Security, master ACN Telecom ParisTech et Ecole Polytechnique
- Undergraduate: Karthikeyan Bhargavan, INF421 and INF431: Programmation, Ecole Polytechnique
- Doctorat: Karthikeyan Bhargavan: Protecting TLS from legacy cryptography, l'École de printemps en codage et cryptographie, May 2016
- Master: Catalin Hritcu, Cryptographic protocols: formal and computational proofs, 31.5h equivalent TD, master M2 MPRI, université Paris VII, France
- Doctorat: Catalin Hritcu: F* course at Computer Aided Analysis of Cryptographic Protocols summer school, Bucharest, September 2016

9.2.2. Supervision

- PhD completed: Antoine Delignat-Lavaud
  On the Security of Authentication Protocols for the Web
  defended March 2016, supervised by Karthikeyan Bhargavan
- PhD in progress: Evmorfia-Iro Bartzia
  Machine-checked program verification for concrete cryptography,
  defence on February 15, 2017, supervised by Karthikeyan Bhargavan and Pierre-Yves Strub
- PhD in progress: Jean Karim Zinzindohoué
  Analyzing cryptographic protocols and their implementations,
  started September 2014, supervised by Karthikeyan Bhargavan
- PhD in progress: Nadim Kobeissi
  Analyzing cryptographic web applications,
  started February 2015, supervised by Karthikeyan Bhargavan
- PhD incomplete: Yannis Juglaret
  Micro-policies and Secure Compilation,
  started September 2015, interrupted September 2016, supervised by Catalin Hritcu

9.2.3. Juries

- Karthikeyan Bhargavan served on the PhD jury of Olivier Levillain
- Harry Halpin served on the PhD jury of Nikita Mazurov

9.3. Popularization

9.3.1. Seminars

- Karthikeyan Bhargavan: invited talks at SSTIC, EUROCRYPT, OAuth Workshop
- Bruno Blanchet: invited talks at John Mitchell's 60th birthday workshop, Stanford University, CA (May 2016), Facebook, Menlo Park, CA (May 2016), and at University of Oslo (Dec 2016).
- Catalin Hritcu: invited talks at CEA List, MSR Redmond, Inria Gallium, Secure Compilation Meeting, ERC, Inria Prosecco, MPI-SWS
- Harry Halpin: invited talks at NetFutures 2016 (April 2016), Trust in the Digital World (June 2016), Strategic Research Challenges in Privacy-Enhancing Technologies (July 2016), European Dialogue on Internet Governance (September 2016), Internet Governance Forum Tunis (October 2016), Keynote at International Workshop on Semantic Web, and Cryptodesign (November 2016).

<p align="center">**QUANTIC Project-Team**</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Journal

8.1.1.1. Member of the Editorial Boards

Mazyar Mirrahimi is an associate editor of System and Control Letters.

Mazyar Mirrahimi is a guest editor for the journal "Quantum Science and Technology" (Institute Of Physics, 2016), Special number on "Quantum coherent feedback and quantum reservoir engineering".

8.1.1.2. Reviewer - Reviewing Activities

Benjamin Huard served as a referee for Nature, Science, Physical Review Letters and other physics journals.

Zaki Leghtas served as a referee for Physical Review Letters and Physical Review X.

Mazyar Mirrahimi served as a referee for Nature and Physical Review Journals.

Pierre Rouchon has been a reviewer for several automatic control and dynamical systems journals and conferences.

Alain Sarlette has been a reviewer for several automatic control and dynamical systems journals and conferences.

8.1.2. Invited Talks

Benjamin Huard, Aug 2016 Formulating and Finding Higher-Order Interference Workshop, Perimeter Institute, Canada.

Benjamin Huard, Jun 2016 4th International Workshop on Frontiers in Quantum Optics and Quantum Information, Beijing Computational Research Center, Beijing, China.

Benjamin Huard, May 2016 Physics department seminar, Chalmers University, Sweden.

Benjamin Huard, May 2016 Statistical Mechanics of Quantum Dynamics, Mariehamn, Finland.

Benjamin Huard, May 2016 Workshop Non-equilibrium thermodynamic phenomena and problems of mesoscopic physics, Aalto University, Finland.

Benjamin Huard, Mar 2016 Mini-Colloque "Rencontre du Non Linéaire" 2016, Paris, France.

Benjamin Huard, Jan 2016 Conference SCALEQIT 2016, Delft, Netherlands.

Zaki Leghtas, Oct 2016, Karlsruhe Institute of Technology, Germany.

Mazyar Mirrahimi, Dec 2016, Yale University, USA.

Mazyar Mirrahimi, Dec 2016, Tutorial at Conference GDR Physique Mesoscopique, Aussois, France.

Mazyar Mirrahimi, Nov 2016, UC Berkeley, USA.

Mazyar Mirrahimi, Oct 2016, University of Pennsylvania, USA.

Mazyar Mirrahimi, June 2016, Journées Scientifiques Inria, Inria Rennes, France.

Mazyar Mirrahimi, July 2016, Tutorial in summer school "Stochastic Methods in Quantum Mechanics", Autrans, France.

Mazyar Mirrahimi, April 2016, "Quantum and Nano Control" workshop, Institute of Mathematics and its Applications of Minneapolis, USA.

Mazyar Mirrahimi, Feb 2016, Institut Néel, Grenoble, France.

Mazyar Mirrahimi, Jan 2016, Conference SCALEQIT 2016, Delft, Netherlands.

Pierre Rouchon, Dec 2016, IEEE Conference on Decision and Control, Las Vegas, USA.

Pierre Rouchon, April 2016, "Quantum and Nano Control" workshop, Institute of Mathematics and its Applications of Minneapolis, USA.

Pierre Rouchon, June 2016, Conference "Nonlinear Partial Differential Equations and Applications" in the honor of Jean-Michel Coron for his 60th birthday, IHP, Paris.

Alain Sarlette, May 2016, workshop on quantum dynamics and control, IHP, Paris.

Alain Sarlette, July 2016, summer school "Stochastic Methods in Quantum Mechanics", Autrans, France.

8.1.3. Scientific Expertise

Benjamin Huard was a member of the ANR CES30 committee in 2016.

Mazyar Mirrahimi is a member of the Technical Committee on "Distributed Parameter Systems" in IFAC (International Federation of Automatic Control).

Pierre Rouchon was "président du comité d'experts" for the HCERES evaluation in January 2016 of the "Laboratoire des Sciences du numériques de Nantes (LS2N)" .

Pierre Rouchon acts as panel member for the panel PE1-Mathematics in the ERC Advanced Grant 2016 evaluation.

Pierre Rouchon is a member of the "Conseil Scientifique du Conservatoire National des Arts et Metiers" since 2014.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Benjamin Huard has given a course (20 hours) entitled "Quantum fluctuations and measurement" in the Master ICFP (International Centre for Fundamental Physics) of ENS Paris, UPMC, Paris 7 and Orsay.

Benjamin Huard has coordinated an experimental project (40 hours) entitled "Measuring the quantum of conductance across an atom" at ENS Paris for Physics students in L3.

Zaki Leghtas taught a course on Quantum Mechanics at Paris Sciences et Lettres (40 hours).

Zaki Leghtas taught a course on Quantum Mechanics and Statistical Physics at Mines ParisTech (12 hours).

Zaki Leghtas taught a course on Complex Analysis at Mines ParisTech (10 hours).

Mazyar Mirrahimi and Pierre Rouchon have given a course (20 hours) entitled "UE : Analyse et contrôle de systèmes quantiques " in the "Master de sciences et technologies, mention mathématiques et applications, Université Pierre et Marie Curie".

Mazyar Mirrahimi has given a graduate-level course (15 hours) entitled "Quantum Control" at Yale University.

Mazyar Mirrahimi has given a 4-hour tutorial on "Quantum measurement and feedback" at the summer school "Stochastic Methods in Quantum Mechanics", Autrans, France.

Pierre Rouchon and Alain Sarlette gave a one week half-time course (15hours) on feedback control of quantum systems at the Elgersburg schools for Mathematical System Theory, 29/2/2016 - 4/3/2016, Germany.

Alain Sarlette has given a master course on "Probabilistic robotics" at Ghent University (30 hours).

8.2.2. Supervision

PhD in progress: Danijela Markovic, ENS. "Quantum information protocols with microwave quantum optics". Sept 2014. (advisors: Benjamin Huard and François Mallet).

PhD in progress: Nathanaël Cottet. ENS. "Quantum heat engines based on superconducting circuits". Sept 2015. (advisor: Benjamin Huard).

PhD in progress: Quentin Ficheux. ENS. "Thermodynamics of quantum information". Sept 2015. (advisors: Benjamin Huard and Zaki Leghtas).

PhD in progress: Raphael Lescanne. ENS. "Engineering Multi-Photon Dissipation In Superconducting Circuits For Quantum Error Correction". September 2016. (advisors: Zaki Leghtas and Benjamin Huard).

PhD in progress: Rémi Azouit. Mines Paristech. "Quantum circuits, Input/Output theory and adiabatic elimination". Sept 2014. (advisor: Pierre Rouchon).

PhD in progress: Gerardo Cardona. Mines ParisTech. "Beyond static gains in analog quantum feedback control". Nov 2016 (advisors: Pierre Rouchon and Alain Sarlette).

PhD in progress: Alain Sarlette is co-supervising 3 PhD students with his former institution UGent (Simon Apers, Zhifei Zhang, Arash Farnam). Simon Apers is working on (quantum) network algorithms accelerations and intends to address other quantum control questions.

PhD: Joachim Cohen. ENS. "Autonomous quantum error correction with superconducting circuits". Nov 2013 (advisor: Mazyar Mirrahimi), His defense is programmed for Feb 2017.

PhD in progress: Lucas Verney. ENS. "Robust quantum information processing with superconducting circuits". Sept 2016. (advisors: Zaki Leghtas and Mazyar Mirrahimi).

PhD: Noad Hamze El Badaoui. He has defended his PhD thesis on December 2, 2016. His thesis entitled "Dynamique et estimation paramétrique pour les gyroscopes laser à milieu amplificateur gazeux" was under the supervision of Philippe Martin and Pierre Rouchon.

PhD: Pierre Six. He has defended his PhD thesis on November 22, 2016. His thesis entitled "Estimation d'état et de paramètres pour les systèmes quantiques ouverts" was under the supervision of Pierre Rouchon.

8.2.3. *Juries*

Benjamin Huard was a member of the PhD defense committees of Katrina Sliwa (Yale University, USA), Antoine Tilloy (ENS Paris, France), Philip Krantz (Chalmers, Sweden), Kristinn Juliusson (CEA Saclay, France), Yehan Liu (Yale University, USA), Pierre Six (Mines ParisTech, France) and of the HdR committee of Caglar Girit (Collège de France, France).

Mazyar Mirrahimi was a member the PhD defense committees of Zhan Shi (Reviewer, University of New South Wales, Australia), Shakib Daryanoush (Reviewer, University of Griffith, Australia), Ying Fu (Reviewer, Université Paris Dauphine), Kristinn Juliusson (CEA Saclay, France).

Alain Sarlette was a member of the PhD defense committee of Bram Vervisch (Ghent University, Belgium).

8.3. Popularization

Mazyar Mirrahimi gave interviews for radios, newspapers, magazines and websites (France Culture, Le Monde, La Recherche, Silicon, Industrie and Technologies).

Pierre Rouchon was invited by the "Département de Mathématiques Appliquées de l'Ecole Polytechnique" to give a talk entilted "Dynamique et contrôle des systèmes: du classique au quantique' for the students of Ecole Polytechnique (April 21, 2016).

Alain Sarlette is answering questions about quantum control and quantum computing on the website "ik-heb-een-vraag.be" where Flemish layman can ask questions to scientific experts.

RAP Project-Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific events selection

7.1.1.1. Member of the editorial boards

- *Nicolas Broutin* is member of the steering committee of the international meeting on analysis of algorithms (AofA).
- *Philippe Robert* is Associate Editor of the Book Series "Mathématiques et Applications" edited by Springer Verlag and Associate Editor of the journal "Queueing Systems, Theory and Applications".

7.1.2. Conferences

- *Nicolas Broutin* has given lectures at annual meeting of the ALEA working group of the GDR-IM, the workshop GRAAL that took place at IHES, at the workshop organized in honor of Svante Janson's 60's birthday in Sweden, and the workshop on geometric networks at the Symposium on Computational Geometry that was held in Einhoven. He gave a plenary lecture at the conference on analysis of algorithms that was held in Strobl in June. He has also exposed his results at the probability seminar in Grenoble, the seminar of algorithmic and combinatorial geometry at IHP, and at the probability seminar of the NYU-ECNU Math institute in Shanghai.

  Nicolas Broutin has given the following lectures:
    – "Almost optimal sparsification of random geometric graphs" on Jan 30 at the Journées Présage at the Computer Science department of the University of Marne-la-Vallée,
    – "The scaling limit of inhomogeneous random graphs" on June 29 at the Paris-Bath workshop that took place at the IHP.
    – "Combinatorial structures and fixed-points arguments" on Nov 1 at NYU-ECNU Mathematics institute in Shanghai
    – "Random graphs and their scaling limits" on Nov 24 at the Hong Kong University of Science and Technology

  He has visited the mathematics department of Beijing Normal University (China), the computer science department of McGill University (Canada), the Mathematics Institute at the Hong-Kong University of Science and Technology, the NYU-ECNU institute for mathematical sciences at NYU Shanghai (China).

- *Renaud Dessalles* has given talks at the conference "Les probabilités de demain" (May 2016) and "Journées Modélisation Aléatoire et Statistique" (August 2016).
- *Christine Fricker* and GT have given talks at the Sigmetrics and MAMA workshop, Juan-les-Pins,14-18 /6/2016 and at the 2nd ECQT (European Conference on Queueing Theory) Toulouse, 18-20/7/2016.
- *Veronica Quintuna Rodriguez* gave a talk at the conference "17th International Network Strategy and Planning Symposium" in september (Montreal).
- *Philippe Robert* gave a talk at the department of mathematics of Brown University (April), at the stochastic networks conference in San Diego, and at the conference "Modern Problems in Theoretical and Applied Probability" in Novosibirsk in August.

7.1.3. Scientific expertise

- *Christine Fricker* is member of the jury of agrégation.

- *Philippe Robert* is member of the scientific council of EURANDOM.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Master : *Nicolas Broutin* Master Parisien de Recherche en Informatique (MPRI), in the course 2.15 on Analysis of Algorithms.

Master: *Nicolas Broutin* , Analysis of Algorithms, NYU Shanghai.

Master: *Philippe Robert* , Master, Probabilités et Applications, UPMC.

7.2.2. Juries

- *Philippe Robert* has been member of the jury of PhD defense of Sarah Eugène, Claudio Imbrenda and Tanguy Cabana.

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REGAL Project-Team

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9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Swan Dubois: Co-Chair of the first Workshop DGDC, collocated with DISC 2016

Franck Petit: General Chair of the 17th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2016), ed. LNCS, Lyon, France.

9.1.1.2. Member of the Organizing Committees

Swan Dubois: Member of the Organizing Committee and Publicity Chair of the 30th International Symposium on DIStributed Computing (DISC 2016)

9.1.2. Scientific Events Selection

9.1.2.1. Member of Steering Committee

- Marc Shapiro, Steering Committee of OPODIS 2013–2016.

9.1.2.2. Chair of Conference Program Committees

Pierre Sens: Chair of Distributed Systems and Networks track, 28th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2016), Los Angeles, USA.

9.1.2.3. Member of the Conference Program Committees

Luciana Arantes: IFIP International Conference on Distributed Applications and Interoperable Systems (DAIS 2016), International Workshop on Recent Advances in the Dependability Assessment of Complex System (Radiance 2016), IEEE International Symposium on Network Computing and Applications (NCA 2016), 28th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD 2016), 7th Latin-American Symposium on Dependable Computing (LADC 2016), 18th International Conferences on High Performance Computing and Communications (HPCC 2016), 11th International Conference on Green, Pervasive and Cloud Computing (GPC-2016), 35th International Conference of the Chilean Computer Science Society (SCCC 2016).

Swan Dubois: 30th International Symposium on DIStributed Computing (DISC 2016), 17th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2016), 18th*Workshop on Advances in Parallel and Distributed Computational Models* (APDCM 2016), 18eme Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (ALGO-TEL 2016)

Franck Petit: 18th*Workshop on Advances in Parallel and Distributed Computational Models* (APDCM 2016)

Pierre Sens: 27th International Symposium on Software Reliability Engineering (ISSRE 2016), 12th European Dependable Computing Conference (EDCC 2016) 30th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2016), IEEE International Symposium on Network Computing and Applications (NCA 2016).

Marc Shapiro: Int. Conf. on Architectural Support for Programming Languages and Systems (ASPLOS 2016), Int. Conf. on Principles of Distributed Systems (OPODIS 2016), Selection committee of Enterprise Research Challenge Contest (ERCC) at Int. Symp. on Stabilization, Safety, and Security of Dist. Sys. (SSS 2016), W. on Planet-Scale Distributed Systems (W-PSDS 2016).

9.1.2.4. Reviewer

Swan Dubois: 20th International Conference on Principles of Distributed Systems (OPODIS 2016), 4th International Conference on Networked Systems (NETYS 2016)

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Franck Petit: co-editor of the proceedings of the 18th International Symposium on Stabilization, Safety, and Security of Distributed Systems, LNCS 10083.

Pierre Sens: Associate editor of International Journal of High Performance Computing and Networking (IJHPCN)

9.1.3.2. Reviewer - Reviewing Activities

Swan Dubois: ACM Transactions on Storage (TOS), SIAM Journal on Computing (SICOMP)

9.1.4. Invited Talks

Pierre Sens. Resource Management in Large Scale Distributed Systems, Dec. 2016, University of Santiago

Marc Shapiro. KTH, Stockholm, Sweden, Nov. 2016. AntidoteDB: a Planet-Scale Available Transactional Database With Strong Semantics

Marc Shapiro. Paris-Descartes University, Nov. 2016. Just-Right Consistency

Nuno Preguiça. Invariant-Preserving Applications for Weakly-consistent Replicated Databases. OPODIS PC workshop, October 2016, Lugano, Switzerland.

Marc Shapiro. Consistency in 3D. OPODIS PC workshop, October 2016, Lugano, Switzerland.

Marc Shapiro. "Consistency in 3D" [17]. Invited talk at Int. Conf. on Concurrency Theory (CONCUR), Québec, Canada, Aug. 2016.

Marc Shapiro. "Just-Right Consistency: Static analysis for minimal synchronisation." Technical talk at Critéo, Paris, France, March 2016.

Marc Shapiro. Keynote Speach at Laboratoire d'Informatique de Grenoble. "Just-Right Consistency: Static analysis for minimal synchronisation." March 2016.

Marc Shapiro, "Reconciling performance and safety in the Antidote widely-geo-replicated database," invited talk at GDR RSD and ASF Winter School 2016, le Pleynet les Sept Laux, France, March 2016.

Marc Shapiro. Invited talk at Inria/EPFL Workshop "Consistency in three dimensions (It's the invariants, stupid)." Rennes, Jan. 2016.

9.1.5. Scientific Expertise

Franck Petit, 2016: Expertise for HCERES

9.1.6. Research Administration

Franck Petit, 2014-2018: Deputy Director of LIP6

Franck Petit, since 2012: Member of the Executive Committee of Labex SMART, Co-Chair (with P. Sens) of Track 4, Autonomic Distributed Environments for Mobility.

Franck Petit, 2016–2020: Coordinator, ANR project ESTATE.

Pierre Sens, since 2016: Member of Section 6 of the national committee for scientific research CoNRS

Pierre Sens, since 2012: Member of the Executive Committee of Labex SMART, Co-Chair (with F. Petit) of Track 4, Autonomic Distributed Environments for Mobility.

Pierre Sens, 2012–2016: Member of the scientific council of UPMC

Pierre Sens, since 2015, officer at scientific research vice presidency UPMC

Pierre Sens, since 2014: Member of Steering Committee of International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD).

Marc Shapiro, since 2009: Member of Scientific Advisory Board of the Center of Informatics and Information Technology (CITI), then Lab. for Informatics and Comp. Sc. (NOVA-LINCS) Universidade Nova de Lisboa, Portugal.

Marc Shapiro, since 2012: Member ERC (European Research Council) Consolidator Grants panel PE6.

Marc Shapiro, since 2013: member of the board of *Société Informatique de France*. Vice-Chair for Research since 2016.

Marc Shapiro, since 2016: Member of Advisory Board of IEEE Computer Society Special Technical Community on Operating Systems (STCOS).

Marc Shapiro, since 2014: Member of Steering Committee of Int. Conf. on Principles of Distributed Systems (OPODIS).

Marc Shapiro, 2016–2020: Coordinator, ANR project RainbowFS.

Marc Shapiro, 2013–2016: Coordinator, FP7 project SyncFree.

Julien Sopena, Member of "Directoire des formations et de l'insertion professionnelle" of UPMC Sorbonne Universités, France

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Julien Sopena is Member of "Directoire des formations et de l'insertion professionnelle" of UPMC Sorbonne Universités, France

Master: Julien Sopena is responsible of Computer Science Master's degree in Distributed systems and applications (in French, SAR), UPMC Sorbonne Universités, France

Master: Luciana Arantes, Swan Dubois, Sébastien Monnet, Franck Petit, Pierre Sens, Julien Sopena, Advanced distributed algorithms, M2, UPMC Sorbonne Universités, France

Master: Jonathan Lejeune, Designing Large-Scale Distributed Applications, M2, UPMC Sorbonne Universités, France

Master: Maxime Lorrillere, Julien Sopena, Linux Kernel Programming, M1, UPMC Sorbonne Universités, France

Master: Luciana Arantes, Sébastien Monnet, Pierre Sens, Julien Sopena, Operating systems kernel, M1, UPMC Sorbonne Universités, France

Master: Luciana Arantes, Swan Dubois, System distributed Programming, M1, UPMC Sorbonne Universités, France

Master: Luciana Arantes, Swan Dubois, Franck Petit, Distributed Algorithms, M1, UPMC Sorbonne Universités, France

Master: Sébastien Monnet, Julien Sopena, Client-server distributed systems, M1, UPMC Sorbonne Universités, France

Licence: Pierre Sens, Luciana Arantes, Julien Sopena, Principles of operating systems, L3, UPMC Sorbonne Universités, France

Licence: Swan Dubois, Initiation to operating systems, L3, UPMC Sorbonne Universités, France

Licence: Swan Dubois, Franck Petit, Advanced C Programming, L2, UPMC Sorbonne Universités, France

Licence: Swan Dubois, Sébastien Monnet, Introduction to operating systems, L2, UPMC Sorbonne Universités, France

Licence: Mesaac Makpangou, C Programming Language, 27 h, L2, UPMC Sorbonne Universités, France

Ingénieur 4ème année : Marc Shapiro, Introduction aux systèmes d'exploitation, 26 h, M1, Polytech UPMC Sorbonne Universités, France.

9.2.2. Supervision

PhD: Mohamed Hamza Kaaouachi, "Autonomic Distributed Environments for Mobility", UPMC/Chart-LUTIN (Labex SMART), Franck Petit, Swan Dubois, and Francois Jouen (Chart), 01/12/2016.

PhD: Maxime Lorrillere, "A kernel cooperative cache for virtualized environments", UPMC, Sébastien Monnet, Julien Sopena, Pierre Sens, 02/04/2016.

PhD: Mahsa Najafzadeh, UPMC, funded by Inria competitive grant (Cordi-S), since Nov. 2012, Marc Shapiro, 22 April 2016.

PhD in Progress: Joao Paulo de Araujo, "L'exécution efficace d'algorithmes distribués dans les réseaux véhiculaires", funded by CNPq (Brésil), since Nov.2015, Pierre Sens and Luciana Arantes.

PhD in progress : Antoine Blin, "Execution of real-time applications on a small multicore embedded system", since April 2012, Gilles Muller (Whisper) and Julien Sopena, CIFRE Renault

PhD in progress: Sébastien Bouchard, "Gathering with faulty robots", UPMC, since Oct. 2016, Swan Dubois, Franck Petit, Yoann Dieudonné (University of Picardy Jules Verne)

PhD in progress: Marjorie Bournat, "Exploration with robots in dynamic networks", UPMC, since Sep. 2015, Swan Dubois, Franck Petit, Yoann Dieudonné (University of Picardy Jules Verne)

PhD in progress: Damien Carver, "HACHE : HorizontAl Cache cHorEgraphy - Toward automatic resizing of shared I/O caches.", UPMC, CIFRE, since Jan. 2015, Sébastien Monnet, Pierre Sens, Julien Sopena, Dimitri Refauvelet (Magency).

PhD in Progress: Florent Coriat, "Géolocalisation et routage en situation de crise" since Sept 2014, UPMC, Anne Fladenmuller (NPA-LIP6) and Luciana Arantes.

PhD in progress: Rudyar Cortes,"Un Environnement à grande échelle pour le traitement de flots massifs de données," UPMC, funded by Chile government, since Sep. 2013, Olivier Marin, Luciana Arantes, Pierre Sens.

PhD in progress: Lyes Hamidouche, "Data replication and data sharing in mobile networks", UPMC, CIFRE, since Nov. 2014, Sébastien Monnet, Pierre Sens, Dimitri Refauvelet (Magency).

PhD in progress: Denis Jeanneau,"Problèmes d'accord et détecteurs de défaillances dans les réseaux dynamique," UPMC, funded by Labex Smart, since Oct. 2015, Luciana Arantes, Pierre Sens.

PhD in progress: Yoann Péron, "Development of an adaptive recommendation system", UPMC/Makazi, since May 2014, Franck Petit, Patrick Gallinari, Matthias Oehler (Makazi).

PhD in progress: Alejandro Z. Tomsic, UPMC, funded by SyncFree, since Feb. 2014, Marc Shapiro.

PhD in progress: Tao Thanh Vinh, UPMC, CIFRE, since Feb. 2014, Marc Shapiro, Vianney Rancurel (Scality).

PhD in progress: Gauthier Voron, "Big-Os : un OS pour les grands volumes de données,", UPMC, since Sep. 2014, Gaël Thomas, Pierre Sens.

9.2.3. PhD committees

Franck Petit was the reviewer of:

- Mohamed Khaled, PhD UPJV (Advisors: F. Levé and V. Villain)

Franck Petit was Chair of:

- Quentin Bramas, UPMC (Advisor: S. Tixeuil)
- Fadwa Boubekeur, UPMC (Advisor: L. Blin)

Pierre Sens was the reviewer of:

- S. Chiky, HDR ISEP, Paris
- P. Li, PhD Bordeaux (Advisors: R. Namyst, E. Brunnet)
- J. Olivares, PhD Rennes 1 (Advisor: A-M Kermarrec)
- J. Pastor, PhD ENM, Nantes (Advisors: A. Lebre, F. Desprez)
- C. Sauvagnat, PhD IRIT, Toulouse (Advisor: M. Kaaniche)

Pierre Sens was Chair of

- C. Concolato, HDR Telecom Paris
- T. Ecarot, PhD, Telecom SupParis, UPMC (Advisor: D. Zeghlache)

Marc Shapiro was on the following committees:

- Kirill Bogdanov (Advisors: Dejan Kostic, Jeff Maguire), licentiate thesis, KTH, Stockholm, Nov. 2016.
- Brice Nédélec (Advisors: Pascal Molli, Achour Mostefaoui), PhD thesis, Nantes, oct. 2016.

9.3. Popularization

Julien Sopena animated an activity during the Science Festival 2016 at UPMC

<p align="center" style="color:red">REO Project-Team</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Matteo Aletti
  - Co-organizer of the monthly Junior Seminar of Inria Paris.
- Laurent Boudin
  - Member of the organizing and scientific committees of the "Recent advances in kinetic equations and applications" workshop, June 2016, Paris
  - Member of the organizing committee of the 5th "Forum Emploi Maths", December 2016, Paris
- Jean-Frédéric Gerbeau
  - Local organizing Committee of the SIAM conference on Parallel Processing 2016. Paris, France.
- Sanjay Pant
  - Organizing committee member, 5th International Conference on Computational and Mathematical Biomedical Engineering (CMBE) 2017
- I. Vignon-Clementel
  - Organized a minisymposium at the COSINE conference, May 25th-26th, Bordeaux, France
  - Organized a minisymposium at the ECCOMAS congress, June 4th-9th, Crete, Greece
  - Programme committee member, Computational and Mathematical Biomedical Engineering Conference
  - Conference steering committee, International Conference on Engineering Frontiers in Pediatric and Congenital Heart Disease, 2015-present

10.1.2. Scientific Events Selection

10.1.2.1. Reviewer

- Jean-Frédéric Gerbeau
  - Member of the Scientific Program Committee of the Millennium Science Initiative, a program of the Ministry of Economy of Chile.
  - Expert for Horizon2020 FET OPEN RIA Call 2015/2.
- Irene Vignon-Clementel
  - Expert for "Appel à projets générique", ANR 2016.
- Marina Vidrascu
  - Expert for FONDECYT - Chile "Projects for Initiation in Research" 2016

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Jean-Frédéric Gerbeau

- – Editor-in-Chief of Mathematical Modelling and Numerical Analysis (M2AN), SMAI/EDP Sciences.
- – Series editor of "SEMA SIMAI Series", Springer.
- – Member of the editorial board of Journal Advances in Computational Mathematics (ACOM), Springer
- – Member of the editorial board of International Journal for Numerical Methods in Biomedical Engineering (IJNMBE), Wiley.
- – Member of the editorial board of Communications in Applied and Industrial Mathematics, SIMAI/De Gruyter.
- – Member of the editorial board of Journal for Modeling in Ophthalmology, Kugler.
- Marc Thiriet
  - – Member of the editorial board of Digital Medicine

10.1.4. Research Administration

- Laurent Boudin
  - – Expert evaluator for ANVUR (VQR 2011-2014), Italy
  - – Member of the Board of Mathematics Licence (EFU de Licence de mathématiques), UPMC
  - – Member of the think-tank for third-year programs in Mathematics at UPMC.
  - – Member of the IREM (Institutes for Research on Mathematics Teaching) Scientific Committee.
  - – Member of the SMAI (French Society for applied and industrial mathematics) Teaching Committee.
- Muriel Boulakia
  - – Supervisor of the teaching of mathematics at the engineer school Polytech Paris-UPMC
- Miguel Ángel Fernández Varela
  - – Co-president of the Scientific Positions Commission, Inria Paris
- Jean-Frédéric Gerbeau
  - – Service activity at Inria: Délégué Scientifique / Chairman of the project-teams' committee of Inria Paris research center; Member of the Inria Evaluation Committee.
  - – Service activity in other French institutions: member of the scientific committee of Labex NUMEV, Montpellier.
  - – Service activity abroad: member of the Reference Committee of the PhD program Mathematical Models and Methods in Engineering (Politecnico di Milano, Italy).
- Céline Grandmont
  - – Member of the Evaluation Committee Inria (2015–)
  - – Head of the HCERES evaluation Jury of Imath lab. Toulon Univ.
- Marc Thiriet
  - – Vice-President & Council Member of the International Society of Digital Medicine
- I. Vignon-Clementel
  - – Organizing the monthly seminar at Inria Paris on "modeling and scientific computing", now joint seminar "Rencontres Inria-LJLL en calcul scientifique" (until June 2016)
  - – Committee member for PhD students at Inria "Commission consultative des doctorants", since July 2016.
  - – Mediator between PhD students and their supervisors for Inria Paris-Rocquencourt

10.1.5. Conferences

- Matteo Aletti
    - Minisymposium talk, SIMAI2016, Sep 13-16, 2016 Milano, Italy
    - Minisymposium talk, ECCOMAS Congress 2016, Jun 5-10, 2016, Crete, Greece
    - Presentation at REVAMMAD (EU Marie Curie ITN) meeting, Jun 2016, Lincoln, UK
- Rodolfo Araya
    - Seminar, Laboratoire de Mathématiques de Besançon, Université de Franche-Comté, Besançon, May 26
    - Seminar, Groupe de Modélisation Mathématique, Mécanique et Numérique, Université de Caen Basse-Normandie, Jun 6
    - Minisymposium talk, The Mathematics of Finite Elements and Applications 2016 (MAFE-LAP 2016) conference, Jun 14-17, London, UK
- Chloé Audebert
    - Seminar, Journée interne du Laboratoire Jacques-Louis Lions, Nov 16, 2016, Paris, France.
    - Seminar, BioMécanique et BioIngénierie (BMBI), UTC, Nov 15, 2016, Compiègne, France.
    - Minisymposium talk,Word Congress on Computational Mechanics (WCCM), Jul 24-29, 2016, Seoul, Korea
    - Minisymposium talk, European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Jun 5-10, 2016, Crete Island, Greece
    - Open Brain in HPB Surgery, Club Innovation ACHBT, Jun 3-5, 2016, Carnac, France.
    - Congrès National d'Analyse Numérique (CANUM), May 9-13, 2016, Obernai, France
    - Talk, Saint-Antoine hospital, May 3, 2016, Paris, France
- Laurent Boudin
    - Seminar, Applied Mathematics, Department of Mathematics and Informatics, Univ. Novi Sad, Serbia, July 2016
- Muriel Boulakia
    - Workshop ANR IFSMACS, Toulouse, Nov 2016
    - Invited talk, Workshop Carleman estimates, unique continuation, University College of London, Nov 2016
    - Seminar LMAC, Compiègne, Oct 2016
    - Workshop Mathematics and Health, LJLL, UPMC, May 2016
    - Workshop ANR IFSMACS, Paris, Mar 2016
    - Seminar PDE, IECL, Nancy, Feb 2016
- Miguel Ángel Fernández Varela
    - Invited Speaker IWH Symposium on Simulation and Optimization of Extreme Fluids, Oct 2016, Heidelberg, Germany
    - Minisymposium talk, The Mathematics of Finite Elements and Applications 2016 (MAFE-LAP 2016) conference, Jun 14-17, London, UK
    - Invited Speaker, Workshop on geometrically unfitted finite element methods, Jan 6-8, 2016, London, UK
- Jean-Frédéric Gerbeau

- – Invited lecturer, CISM-ECCOMAS International Summer School (6 hours), June 2016, Udine, Italia.
- – Invited lecturer, "Numerical methods for PDEs", Institut Henri Poincaré (9 hours), Oct 2016, Paris, France.
- – Invited speaker, Workshop: Mathematical Modeling in Cardiovascular Healthcare, Oct 2016, Emory University, USA
- – Invited speaker, Workshop "Boundary layer and Fluid-Structure Interaction", Jan 2016, Bordeaux, France.
- – Invited speaker, 2d conference "Mathematical Modelling of Complex Systems", Dec 2016, Châtenay Malabry, France.
- – Seminar at Collège de France, Pierre-Louis Lions chair, May 2016, Paris, France.
- – Minisymposium talk, European Congress of Mathematics (ECM), July 2016, Berlin, Germany.
- – Minisymposium talk, World Congress of Computational Mechanics (WCCM), July 2016, Seoul, Korea.
- – Minisymposium talk, SIMAI conference, Sep 2016, Milan, Italy.

- Céline Grandmont
  - – Invited Speaker IWH Symposium on Simulation and Optimization of Extreme Fluids, Oct 2016, Heidelberg, Germany
  - – Seminar, Ecole Centrale, Apr 2016
  - – Invited Speaker, Journées Jeunes Edépistes, Mar 2016, Bordeaux
  - – Invited Speaker, Boundary Layers and Fluid-Structure Interactions, Jan 2016, Bordeaux

- Mikel Landajuela
  - – Seminar, Séminaire d'analyse numérique, Université de Genève, Mar 8, 2016, Geneva, Switzerland

- Damiano Lombardi
  - – Invited talk, ALGORITMY 2016, Mar 13-18, 2016, Podbaske, Slovakia
  - – Invited talk, SIMAI 2016, Sep 13-16, 2016, Milano, Italy
  - – Contributed talk, Workshop on Reduced Order Modeling, Nov 7-10, 2016, Institut Henri Poincaré, Paris

- Sanjay Pant
  - – Contributed talk, The 12th World Congress on Computational Mechanics (WCCM XII), Jul 2016, Seoul, Korea
  - – Contributed talk, 5th International Conference on Engineering Frontiers in Pediatric and Congenital Heart Disease, Jun 2016 , Orlando, Florida, USA
  - – Contributed talk, Computational modeling in healthcare: Making confident predictions in a world of error and uncertainty, Apr 2016, Glasgow, UK

- Nicolas Pozin
  - – Minisymposium talk, European Congress on Computational Methods in Applied Sciences and Engineering - ECCOMAS 2016, Jun 5-10, 2016, Creta, Greece

- Marc Thiriet
  - – Invited Speaker, 6th Annual Academic Congress of Chinese Society of Digital Medicine and1st International Conference on Digital Medicine & Medical 3D Printing, Jun 17-19, 2016, Nanjing, China

- – Minisymposium talk, 16th International Society for Therapeutic Ultrasound (ISTU), Mar 14-16, 2016, Tel-Aviv, Israel
- Alexandre This
    - – Seminar, Inria Paris Junior Seminar, Oct 18, 2016, Paris
- Eliott Tixier
    - – Minisymposium talk, SIAM Conference on Uncertainty Quantification, Apr 5-8, 2016, Lausanne, Switzerland
- Irene Vignon-Clementel
    - – Seminar, Paul Brousse Hospital, Nov 18th, Villejuif, France
    - – Seminar, DKFZ, Nov 15th, Heidelberg, Germany
    - – Invited talk, SimInhale workshop, Oct 17th-19th, Prague, Czech Republic
    - – Invited talk, GRIC Journées Françaises de Radiologie, Oct 13th, Paris, France
    - – Minisymposium talk, CMBBE conference, September 20th-22nd, Tel Aviv, Israel
    - – Seminar, Dassault Systems, July 20th, Velizy-Villacoublay, France
    - – Minisymposium talk, SIAM Conference on the Life Sciences, July 11th-14th, Boston, USA
    - – Presentation for the Chinese Academy of Science, June 29th, Paris, France
    - – Invited talk, Inria National Scientific Days, June 20th-22th, Rennes, France
    - – Invited talk, International Conference on Engineering Frontiers in Pediatric and Congenital Heart Disease, June 9th-10th, Orlando, USA
    - – Minisymposim Keynote, ECCOMAS congress, June 4th-9th, Crete, Greece
    - – Minisymposium talk, COSINE conference, May 25th-26th, Bordeaux, France
    - – Presentation, Demi-journée Math-Industrie, LJLL-UPMC, May 10th 2016, Paris, France
    - – Invited Keynote, Computational modelling in healthcare: Making confident predictions in a world of error and uncertainty (workshop), April 26th 2016, Glasgow, UK
    - – Minisymposium talk, UQ SIAM conference, EPFL, April 5th-8th, 2016, Lausanne, Switzerland
    - – Invited talk, workshop: towards a unified framework for benchmarking multicellular models and modelling/simulation software, Leipzig University, March 14th-16th, 2016, Leipzig, Germany
    - – Podium talk, The 8th International Bio-Fluids Symposium, February 12-14, 2016, CaltechTech, Pasadena, USA
    - – Seminar, Department of Mechanical Eng., UC at Berkeley, Feb. 10th, 2016, Berkeley, USA
    - – Seminar, HeartFlow company, Feb. 9th, 2016, Mountain View, USA

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence :
- Ludovic Boilevin-Kayl
    - – Calculus, 60h, L1, UPMC
- Laurent Boudin
    - – Introduction to series for signal theory, 18h, L2, UPMC

- – Shared studies supervision in mathematics licence for approximately 500 students, 48h, L2-L3, UPMC
- Muriel Boulakia
    - – Scilab, 35h, L2, UPMC
    - – Nonlinear systems and optimization, 35h, L3, Polytech'Paris
    - – Hilbertian analysis, 50h, L3, Polytech'Paris
    - – Oral tests in numerical analysis, 20h, L3, UPMC
- Miguel Ángel Fernández Varela
    - – Analysis and Scientific Computing, 30h, L3, ENPC
- Jean-Frédéric Gerbeau
    - – Numerical Analysis and Optimization, 32h, L3, Ecole Polytechnique.
- Céline Grandmont
    - – Ordinary differential equations, 24h, L3, UPMC
- Damiano Lombardi
    - – Numerical Methods, 48h, L3, Polytech'Paris
- Eliott Tixier
    - – Linear algebra, 60h, L2, Polytech'Paris
- Irene Vignon-Clementel
    - – Mathematics for biology, 54h, L1, Université de Versailles Saint Quentin
    - – Numerical simulations of blood flow, 1h30, as part of the undergraduate "continuum mechanics", AgroParisTech

Master :

- Laurent Boudin
    - – Basics for numerical methods, 36h, M1, UPMC
- Muriel Boulakia
    - – Preparatory course for teaching admission examination "Agrégation", 15h, M2, UPMC
- Miguel Ángel Fernández Varela
    - – Numerical methods for bio-fluids simulation, 9h, M2, Universidade de Vigo, Spain
- Irene Vignon-Clementel
    - – Modélisation hémodynamique & simulation numérique comme outil pour la chirurgie, 1h, M2, Université Paris Sud
- Jean-Frédéric Gerbeau
    - – Numerical methods in hemodynamics (20h), M2, UPMC / Univ Paris-Sud / Ecole Polytechnique.
    - – Seminar for M2 students of the master "Math SV" (1h), M2, Univ Paris-Sud, December, 2015
    - – Seminar for M2 students at Ecole des Mines (3h), Paris, February, 2015

10.2.2. Supervision

HdR : Irene Vignon-Clementel, *Blood and air flow multi-scale simulations based on real data*, defended on March 31, 2016

PhD in progress: Chloé Audebert, *Modeling of liver hemodynamics*, since October 2013. Supervisors: J.-F. Gerbeau & I. Vignon-Clementel.

PhD : Francesco Bonaldi, *Modélisation Mathématique et Numérique de Multi-Structures avec couplage Magnéto-Electro-Thermo-Elastique*, defended on July 6, 2016. Supervisors: F. Krasucki & M. Vidrascu

PhD : Mikel Landajuela, *Coupling schemes and unfitted mesh methods for fluid-structure interaction*, defended in March 29, 2016. Supervisor: M.A. Fernández Varela.

PhD in progress: Matteo Aletti, *Multiscale retinal vascular modeling*, since January 2014. Supervisors: J.-F. Gerbeau & D. Lombardi.

PhD in progress: Eliott Tixier, *Stem cells electrophysiology*, since September 2014. Supervisors: J-F. Gerbeau & D. Lombardi.

PhD in progress: Nicolas Pozin, *Multiscale lung ventilation modeling in health and disease*, since March 2014. Supervisors: C. Grandmont & I. Vignon-Clementel.

PhD in progress: Andrea Bondesan, *Kinetic and fluid models, numerical and asymptotic analysis*, since October 2015. Supervisors: L. Boudin, B. Grec & S. Martin.

PhD in progress: Ludovic Boilevin-Kayl, *Modeling of cardiac implantable devices*, since February 2016. Supervisors: J.-F. Gerbeau & M.A. Fernández Varela

PhD in progress: Alexandre This, *Fusion data/simulation for the assessment of mitral regurgitation*, since January 2016. Supervisor: J.-F. Gerbeau

PhD in progress: Chen-Yu Chiang, *Transport on biological systems and some applications*, since February 2016. Supervisor: M. Thiriet

10.2.3. Juries

- Laurent Boudin
    - PhD committee: Alexandra de Cecco, Université Paul Sabatier (referee), Anthony Preux, Université Paris-Saclay
- Muriel Boulakia
    - PhD committee: Andjela Davidovic, Inria Bordeaux Sud-Ouest; Ibtissem Ben Aïcha, Université d'Aix-Marseille
- Miguel Ángel Fernández Varela
    - PhD committee: Moctar Ndiaye, Université Paul Sabatier (president), Davide Baroli, Politecnico di Milano, Simone Brugiapaglia, Politecnico di Milano; Rocco M. Lancellotti, Politecnico di Milano (referee); Paolo Pacciarini, Politecnico di Milano
- Jean-Frédéric Gerbeau
    - PhD committees: Julien Sigüenza, Univ Montpellier (referee). Anna Tagliabue, Politecnico di Milano (referee).
    - Hiring committee: Inria Bordeaux (CR2); Inria Paris (CR2).
- Céline Grandmont
    - Hiring committee: Rennes Univ. (Professor position), Marseille Univ. (Professor position)
    - PhD committee: M. Ndiaye, Université Paul Sabatier (president), B. Polizzi, Univ. de Nice (referee), B. Burtschell, Ecole Polytechnique (referee), P. Jounieaux, UPMC (president)
    - Member of the «Agrégation» Jury in mathematics
- Marc Thiriet
    - PhD committee: M. Haddadi, Université Paris Est–Créteil (referee)
- Marina Vidrascu

- – PhD committee: F. Bonaldi, Université de Montpellier; M Hédi, Tunis El-Manar & UPMC; F. Cheick, Tunis El-Manar & UPMC
- Irene Vignon-Clementel
  - – PhD committee: Gabrielle Fournet, CEA & Université Paris-Saclay (referee)

10.3. Popularization

- Céline Grandmont
  - – Conference : "Filles et Maths : une équation lumineuse", 60 students secondary school level, Feb 2016
  - – Popularization paper with J.-F. Gerbeau : "Maths, médecine et entreprises : des collaborations gagnantes", brochure Maths Société Express, 2016
  - – Conference "Métier": Master 1 Maths students, UPMC, Nov 2016
- Irene Vignon-Clementel
  - – Telerama, Interview (Richard Senejoux), Mar 10, 2016
  - – Presentation, Inauguration of Inria Paris research center in presence of the Minister of Research and presidents of Universities, ANR, EPST, media, etc. Mar 10, 2016, Paris
  - – High school conference, Mar 14, 2016, Lycée St François d'Assise, Montigny le Bretonneux

<p style="text-align:center;color:red;font-weight:bold;">RITS Project-Team</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

Fawzi Nashashibi: member of the steering committee of VENITS 2016 (2nd International Workshop on Vehicular Networking and Intelligent Transportation Systems), Sep. 2016, Valencia, Spain

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

Guy Fayolle: scientific program committee member of *The IEEE Computer Society's MASCOTS 2016 (Modelling, Analysis and Simulation of Computer and Telecommunication Systems)*, September 21-23, Imperial College, London, UK.

Vicente Milanés: international program committee member of IEEE International Conference on Intelligent Transportation Systems (ITSC 2016).

Fawzi Nashashibi: international program committee member of IEEE Intelligent Vehicles Symposium (IV 2016).
Fawzi Nashashibi: IPC for the 2016 IEEE Intelligent Transportation Systems Conference (ITSC'2016), 8th Workshop on Planning, Perception and Navigation for Intelligent Vehicles, Nov. 2016, Rio de Janeiro.
Fawzi Nashashibi: member of the Technical Program Committee of the 14th Int. Conference on Control, Automation, Robotics and Vision, Nov. 2016, Phuket.
Fawzi Nashashibi: member of the Technical Program Committee of the 2016 International Conference on Computer Science and Artificial Intelligence, Aug. 2016, Guilin.

Oyunchimeg Shagdar: program committee member of the IEEE International Conference on Advanced Information Networking and Applications (AINA 2016).

Ahmed Soua: technical program committee member of IEEE International Conference on Communications and of International Workshop on Vehicular Adhoc Networks for Smart Cities (IWVSC 2016).

Anne Verroust-Blondet: technical program committee member of MMEDIA 2016.

9.1.2.2. Reviewer

Raoul de Charette: IEEE International Conference on Intelligent Transportation Systems (ITSC 2016).

Guy Fayolle: IEEE MASCOTS 2016 (Modelling, Analysis and Simulation of Computer and Telecommunication Systems) conference.

Jean-Marc Lasgouttes: IEEE MASCOTS 2016 (Modelling, Analysis and Simulation of Computer and Telecommunication Systems) conference.

Fawzi Nashashibi: International conference on Multidisciplinary in IT and Communication Science and Technologies 2016 (AIC-MITC), Transportation Research Board (TRB 2016), IEEE International Conference on Robotics and Automation (ICRA 2016), IEEE Intelligent Transportation Systems Conference (ITSC 2016), IEEE International Conference on Intelligent Robots and Systems (IROS 2016), International Conference on Advanced Robotics and Computer Vision (ICARCV 2016), Reconnaissance des Formes et Intelligence Artificielle (RFIA 2016).

Anne Verroust-Blondet: IEEE International Conference on Intelligent Transportation Systems (ITSC 2016).

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Guy Fayolle: associate editor of the journal *Markov Processes and Related Fields*

Vicente Milanés: editor-in-chief of Journal of Computer and Communications, associate Editor of Journal of Intelligent Transportation and Urban Planning.

Fawzi Nashashibi: associate editor of IEEE Transactions on Intelligent Vehicles, associate editor of the IEEE Transactions on Intelligent Transportation Systems, Editor of the Journal of Internet of Things (IoT) ISTE Editions (London).

Oyunchimeg Shagdar: associate editor of Wiley International Journal of Communication Systems.

9.1.3.2. Reviewer - Reviewing Activities

Raoul de Charette: *Journal of Computer and Communications*.

Guy Fayolle: *AAP, MPRF, PTRF, QUESTA, European Journal of Combinatorics, JSP, Physica A*.

Jean-Marc Lasgouttes: *Journal of Applied Probability, IEEE Transactions on Knowledge and Data Engineering*.

Pierre Merdrignac: *IEEE Trans. on Intelligent Transportation Systems*.

Fawzi Nashashibi: *IEEE Transactions on Intelligent Vehicles, IEEE Transactions on Intelligent Transportation Systems, IEEE Intelligent Transportation Systems Magazine*.

Ahmed Soua: *IEEE Communications Letters*.

Thomas Streubel: *IEEE Transactions on Intelligent Vehicles*.

Anne Verroust-Blondet: *Transactions on Pattern Analysis and Machine Intelligence*.

9.1.4. Invited Talks

Raoul de Charette: "Perception research for Autonomous Vehicles", Sino-European Workshop on Information and Technology, Beijin, October 10-11 2016.

Guy Fayolle: "Random walks in the quarter-plane: explicit criterions for the finiteness of the associated group in the genus 1 case", Int. Conf. on Random Walks in Cones with Big Jumps, Tours, December 14-16 2016.

Fawzi Nashashibi:

1. Plenary keynote at the B.I.G. Forum (Big data Initiative of Gyeonggi). Invitation by the Geyonggi Province and Seoul National University, Oct. 19-20, Pangyo, Korea.
2. Keynote speaker at the Plenary session of the International Conference on Advanced Robotics and Computer Vision (ICARCV'2016), Nov. 15, Phuket, Thailand.
3. Keynote at the French ASPROM Workshop "'De la connectée à la voiture autonome : technologies, enjeux et applications"', Feb. 10-11, Paris, France.
4. Keynote at the "'Algorithms for HRI Workshop 2016"', July 21, Paris, France.

Anne Verroust-Blondet: "Sketch-based 3D model retrieval", Whitehead Lectures in Cognition, Computation and Culture, Goldsmiths, University of London, 24 May 2016.

9.1.5. Scientific Expertise

Guy Fayolle is scientific advisor at the Robotics Laboratory of Mines ParisTech.

Jean-Marc Lasgouttes is member of the Conseil Académique of Université Paris-Saclay.

9.1.6. Research Administration

Jean-Marc Lasgouttes is a member of the Comité Technique Inria.

Guy Fayolle is a member of the working group IFIP WG 7.3.

Fawzi Nashashibi is a member of the international Automated Highway Board Committee of the TRB (AHB30). He is a member of the Board of Governors of the VEDECOM Institute representing Inria and of the Board of Governors of MOV'EO Competitiveness cluster representing Inria.

Anne Verroust-Blondet is the scientific correspondent of the European affairs and of the International relations of Inria Paris. She is member of the COST-GTRI committee at Inria.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Fawzi Nashashibi, "Programmation avancée", 84h, L1, Université Paris-8 Saint-Denis, France.

Master: Jean-Marc Lasgouttes, "Analyse de données", 54h, second year of Magistère de Finance (M1), University Paris 1 Panthéon Sorbonne, France.

Master: Fawzi Nashashibi, "Image synthesis and 3D Infographics", 12h, M2, INT Télécom Sud-Paris

Master: Fawzi Nashashibi, "Obstacle detection and Multisensor Fusion", 4h, M2, INSA de Rouen.

Master: Fawzi Nashashibi, "Perception and Image processing for Mobile Autonomous Systems", 12h, M2, University of Evry.

Master: Oyunchimeg Shagdar, "Nouvelles technologies de communication", 32h, M2, University Versailles Saint-Quentin, France.

Master : Pierre Merdrignac, Introduction au traitement d'image, 12h (M1), Université Versailles Saint-Quentin en Yvelines, France.

Master: David González Bautista and Anne Verroust-Blondet, "Le véhicule autonome. Présentation des recherches de l'équipe-projet RITS",1.5 h, 2nd year, Ecole des Ponts ParisTech, France, Sept. 2016.

Doctorat: Jean-Marc Lasgouttes, "Analyse de données fonctionnelles", 31.5h, Mastère Spécialisé "Expert en sciences des données", INSA-Rouen, France

9.2.2. Supervision

PhD: Mohammad Abualhoul, "Visible light and radio communication for cooperative autonomous driving: applied to vehicle convoy", Mines ParisTech, December 2016, supervisor: Fawzi Nashashibi, co-supervisor: Oyunchimeg Shagdar. (cf. [17])

PhD: Guillaume Trehard, "Gestion des intersections pour la conduite urbaine autonome", Mines ParisTech, February 2016, supervisor: Fawzi Nashashibi.(cf. [18]).

PhD in progress : Zayed Al-Sayed, "Système de localisation redondant en environnement extérieur ouvert pour véhicule urbain automatique", Télécom ParisTech, October 2014, supervisor: Anne Verroust-Blondet, co-supervisor: Guillaume Bresson.

PhD in progress : David González Bautista, "Contrôle coordonné et planification dynamique des trajectoires pour un système de transport cybernétique en milieu urbain instrumenté", Mines ParisTech, January 2014, supervisor: Fawzi Nashashibi.

PhD in progress : Pierre de Beaucorps, "Autonomous vehicle: behavior prediction and Interaction with road users", UPMC Paris, January 2016, supervisor: Anne Verroust-Blondet, co-supervisor: Fawzi Nashashibi.

PhD in progress : Fernando Garrido Carpio, "Optimal trajectory generation for autonomous vehicles in urban environments" , Mines ParisTech, November 2014, supervisor: Fawzi Nashashibi, co-supervisors: Vicente Milanés, Joshué Pérez.

PhD in progress : Carlos Flores, "Analysis and design of cooperative systems for trains of green cars", Mines ParisTech, December 2015, supervisor: Fawzi Nashashibi, co-supervisor: Vicente Milanés.

PhD in progress : Francisco Navas, "Plug&Play control for highly non-linear systems: Stability analysis of autonomous vehicles", Mines ParisTech, October 2015, supervisor: Fawzi Nashashibi, co-supervisor: Vicente Milanés.

PhD in progress : Dinh-Van Nguyen, "Wireless sensor networks for indoor mapping and accurate localization for low speed navigation in smart cities", Mines ParisTech, December 2015, supervisor: Fawzi Nashashibi, co-supervisor: Eric Castelli.

Starting PhD: Farouk Ghallabi, "Environment modeling and simultaneous localization of a mobile vehicle on motorways: a multi-sensor approach", Mines ParisTech, October 2016, supervisor: Fawzi Nashashibi.

9.2.3. *Juries*

Guy Fayolle was a jury member of the PhD thesis defense of Mohamed Hadded "Design and Optimization of Access Control Protocols in Vehicular Ad Hoc Networks (VANETs)", Télécom SudParis, 30 November 2016. Fawzi Nashashibi was a reviewer and examiner of the following PhD theses:

- Rémy Sohier – « Sensibilité artistique et création vidéoludique : Critique du jeu par le jeu et modèle ludographique ». Université Paris VIII Saint-Denis, 28 November 2016 – Reviewer

- Yiyuan Huang – « Méthode de création numérique et interactivité inconsciente entre philosophie de l'oeuvre et psychologie du participant. Ré-exploration de la peinture traditionnelle chinoise de manière numérique en utilisant l'installation artistique interactive ». Université de Paris VIII Saint-Denis, département Arts et Technologies de l'Image. 14 June 2016 – Reviewer

- Adela Sirbu – « Dynamic Machine Learning for Supervised and Unsupervised Classification". Thèse en co-tutelle de l'Université BABES-BOLYAI, CLUJ-NAPOCA et de l'Université de Normandie délivrée par INSA Rouen. 6 June 2016 – Reviewer

- Carlos Fernandez-Lopez – «Road Scene Interpretation For Autonomous Navigation Fusing Stereo Vision and Digital Maps». Université de Alcalà (Spain). 23 September 2016 – Examiner

Anne Verroust-Blondet was:

- the external examiner of the PhD Examining Committee of Prashant Aparajeya's PhD "Medialness-based shape invariant feature transformation", Goldsmidth, University of London (UK), 23 May 2016.

- a jury member of the PdD thesis defense of Arthur Truong "Analyse du contenu expressif des gestes corporels", Télécom SudParis, 21 September 2016.

9.3. Popularization

An article about YoGoKo (spinoff RITS) was published by bpifrance. *"YoGoKo joue la connectivité routière"*. Date: 09/02/2016.

"La Tribune" published an article about the Link&Go prototype developed by AKKA Technologies and Inria-Rits. *"Voiture autonome : la LINK & GO d'AKKA veut sortir des frontières"*, pp.72-73. Date: 29/06/2016. Journalist: Marie-Annick Depagneux.

Fawzi Nashashibi was interviewed in the "L'Auto-Journal" journal. Title: *"Les voitures autonomes sont là."*. Date : 21/01-03/02 16. OJD : 105052, pp.30-32. Journalist: Brice Perrin.

Fawzi Nashashibi was interviewed in the "Usine Nouvelle" journal. Title: *"À la recherche du véhicule vraiment autonome"*. Date: 14/04/2016. Also: *"Le véhicule autonome fait avancer la simulation"*, pp. 48-49. Journalist: Frédéric Parisot.

Fawzi Nashashibi was interviewed in the "webcar center" (http://www.webcarcenter.com). Title: *"Conduite autonome : les premières voitures sont là"*. Date: 10/02/2016. Journalist: Brice Perrin.

Fawzi Nashashibi was interviewed by "L'Automobile & L'Entreprise" (http://www.automobile-entreprise.com). Journalist: Séverine Fontaine.

Fawzi Nashashibi was interviewed by "Télérama" magazine. Title: *"IA : c'est vraiment demain?"*. Date : 23/04-29/04 16. OJD : 578680. Journalists: Olivier Tesquet / Richard Sénéjoux.

Fawzi Nashashibi was interviewed by "Innovation Review". Title: *"Voitures autonomes : quel est le rôle du « deep learning » ?"*. Journalist: Thibault Lescuyer.

Fawzi Nashashibi was interviewed by "Les Echos" newspaper. Title: *"Google Car, le robot qui a remis la voiture autonome dans la course"*. Date: 02-03 Sept. 2016, pp.10-11. Journalist: Jacques Henno.

Fawzi Nashashibi was interviewed by "Science & Vie Special Edition - High Tech -". Title: *"Voiture connectée : la révolution cachée"*, pp. 78-83. Date: N 43/2016.

Fawzi Nashashibi was interviewed by "Industrie & Technologies". Title: *"Pourquoi et comment les véhicules autonomes vont devoir coopérer"*. Date: 11/10/2016. Journalist: Juliette Raynal. (https://www.industrie-techno.com/pourquoi-et-comment-les-vehicules-autonomes-vont-devoir-cooperer.46065).

Fawzi Nashashibi participated to a radio program on France Culture, La méthode scientifique, *"Jusqu'où ira l'autonomie des voitures ?"*, September 28, 2016.

Fawzi Nashashibi participated to a round table on *"Transports et énergies du futur"* for the event *Science en direct*, organized at the Cité des sciences et de l'industrie, Paris, October 8, 2016.

RITS team members participated to the making of a short movie dedicated to Teletoon Channel. Title/Serie: *"Culture Décode"*. Date: 09/12/2016. Journalist: Benjamin Brun (Tralalère: http://www.tralalere.com/).

<p align="center">**SECRET Project-Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- DISC 2016, Workshop for early-career symmetric cryptographers funded by the COST Action IC1306, Bochum, Germany, March 23-24 2016. https://disc2016.compute.dtu.dk/, co-organizer: A. Canteaut.
- Research retreat (H2020 PQCRYPTO), September 21-22, 2016, Inria de Paris, organizer: N. Sendrier

10.1.1.2. Member of the Organizing Committees

- EuroS&P 2017: April 26-28, 2015, Paris (France): G. Leurent (poster chair)

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- FSE 2017: March 5-8, 2017, Tokyo, Japan: M. Naya-Plasencia (co-chair).

10.1.2.2. Member of the Conference Program Committees

- PQCrypto 2016: February 24-26, 2016, Fukuoka, Japan (N. Sendrier, J.P. Tillich)
- CT-RSA 2016: Feb. 29- March 4, 2016, San Francisco, USA (M. Naya Plasencia)
- FSE 2016: March 20-23, 2016, Bochum, Germany (A. Canteaut, G. Leurent)
- Eurocrypt 2016: May 8-12, 2016, Vienna, Austria (M. Naya Plasencia)
- Crypto 2016: August 14-18, 2016, Santa Barbara, USA (A. Canteaut)
- ACISP 2016: July 4-6, 2016, Melbourne, Australia (G. Leurent)
- Waifi 2016: July 13-15, 2016, Ghent, Belgium (A. Canteaut)
- YACC 2016: June 6-10, 2016, Porquerolles Island (A. Canteaut)
- SAC 2016: August 10-12, 2016, St. John's, NL, Canada (G. Leurent, M. Naya-Plasencia)
- Lightsec 2016: September 21-22, 2016, Cappadocia, Turkey (M. Naya-Plasencia)
- Redundancy 2016: September 26-29, 2016, St. Petersburg, Russia (P. Charpin)
- TQC 2016: September 27-29, 2016, Berlin, Germany (A. Chailloux);
- SETA 2016 (International Conference on SequEnces and Their Applications): October 9-14, 2016, Chengdu, China (P. Charpin).
- Asiacrypt 2016: December 4-8, 2016, Hanoi, Vietnam (A. Canteaut)
- Indocrypt 2016: December 11-14, 2016, Kolkata, India (G. Leurent)
- QIP 2017: January 16-20, 2017, Seattle, USA (A. Chailloux, A. Leverrier)
- Financial Crypto 2017: April 3-7, 2017, Sliema, Malta (G. Leurent)
- Fq13: June 4-9, 2017, Geata, Italy (A. Canteaut)
- Crypto 2017: August 20-24, 2017, Santa Barbara, CA, USA (G. Leurent)

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- *Designs, Codes and Cryptography*, associate editor: P. Charpin.
- *Finite Fields and Their Applications*, associate editors: A. Canteaut, P. Charpin.
- *Annals of telecommunications*, associate editor : J.-P. Tillich.
- *Applicable Algebra in Engineering, Communication and Computing*, associate editor: A. Canteaut.
- *IACR Transactions on Symmetric Cryptology*, associate editors: A. Canteaut and G. Leurent, co-editor-in-chief: M. Naya-Plasencia.

P. Charpin serves as a reviewer for *Mathematical Reviews*.

10.1.3.2. Editor for books or special issues

- Special issue in Coding and Cryptography, *Designs, Codes and Cryptography*, to appear, editors: P. Charpin, N. Sendrier and J-P. Tillich.
- *Contemporary Developments in Finite Fields and Applications*, 2016, World Scientific Publishing [62], co-editor: A. Canteaut.

10.1.4. Invited Talks

- G. Leurent *Breaking Symmetric Cryptosystems Using Quantum Period Finding*, TCCM-CACR 2016, Yinchuan, China, August 2016
- A. Leverrier, *Quantum Expander Codes*, Beyond i.i.d. in Information Theory, Barcelone, Spain, 18-22 June 2016

The members of the project-team have also been invited to give talks to some workshops or international seminars, including:

- A. Canteaut, *Another view of the division property* Dagstuhl seminar on symmetric cryptology, Dagstuhl, Germany, Jan. 10-14, 2016.
- A. Canteaut, *Stream Ciphers: A Practical Solution for Efficient Homomorphic-Ciphertext Compression*, CryptoAction Symposium 2016, Budapest, Hungary, April 6-8, 2016.
- A. Canteaut, *Algebraic Distinguishers against Symmetric Primitives*, Paris Crypto Day, France, June 30, 2016.
- A. Canteaut, *Comment concevoir un algorithme de chiffrement sûr et efficace : l'héritage de Shannon*, Shannon 100, workshop organized at the occasion of Shannon's 100th birthday, Institut Henri Poincaré, Paris October 26, 2016. The talk is available online at https://www.youtube.com/watch?v=BYlOO4MkVgU.
- A. Chailloux, *Cryptographie relativiste*, Coding, Cryptography and Algorithms (CCA), Paris, July 1, 2016.
- A. Chailloux, *Quantum Information Processing*, Journées Scientifiques Inria 2016, Rennes, France, June 2016.
- V. Lallemand, *Cryptanalysis of the FLIP Family of Stream Ciphers*, Paris Crypto Day, Sept. 6, 2016.
- G. Leurent, *Transcript Collision Attacks*, Dagstuhl seminar on symmetric cryptology, Dagstuhl, Germany, Jan. 10-14, 2016.
- A. Leverrier, *Distributing Secret Keys with Quantum Continuous Variables*, Recent Advances in Continuous-variable Quantum Information Theory, Barcelone, Spain, 16-8 April 2016
- M. Naya-Plasencia: *Pourquoi essaie-t-on de casser les fonctions cryptographiques ?*. Colloquium organised by the pre-GDR Sécurité Informatique: Colloque Sécurité informatique CNRS http://colloque-cybersecu.cnrs.fr/. Paris, France, Dec. 9, 2016.
- J.P. Tillich, *Attaining the capacity with Reed-Solomon codes through the $(U|U + V)$ construction and Koetter-Vardy soft decoding*, Journée Claude Shannon, Paris, July 1, 2016.

10.1.5. Leadership within the Scientific Community

- A. Canteaut serves as a chair of the steering committee of *Fast Software Encryption (FSE)*.
- N. Sendrier serves on the steering committee of *Post-quantum cryptography (PQCrypto)*.
- M. Naya Plasencia serves on the steering committee of the *Coding and Cryptography* group of GDR-IM https://crypto.di.ens.fr/c2:main;
- N. Sendrier is a member of the "Comité de pilotage" of the ANR (défi 9);
- Since 2014, JP. Tillich organizes a working group on code-based cryptography which meets on a monthly/bimonthly basis. It gathers people from the project-team, from the GRACE project-team (Inria Saclay), from the University of Limoges, from the University of Rennes and from the University of Rouen who all work on this topic.

10.1.6. Research Administration

- N. Sendrier has been a vice-chair of the "Commission d'Evaluation" at Inria until October 2016;
- A. Canteaut is a member of the "Comité de pilotage" of the Fondation Sciences Mathématiques de Paris;
- M. Naya-Plasencia is a member of *Inria Paris CES Committee* (Comité de suivi doctoral).
- M. Naya-Plasencia is a member of *Inria Paris Scientific Hiring Committee* (Assignement of PhD, post-doctoral and delegation Inria fundings).
- N. Sendrier served on the jury of PEDR CNRS INSII 2016.
- J.-P. Tillich is in charge of "Formation par la recherche" for the Paris Inria center;
- **Committees for the selection of professors, assistant professors and researchers**: Inria Paris Chargés de recherche (A. Canteaut), University Paris 8 assistant professor (A. Canteaut, M. Naya-Plasencia, JP Tillich), Inria Directeurs de recherche (N. Sendrier)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: A. Canteaut, *Introduction to Symmetric Cryptography*, 7 hours, M1, Telecom ParisTech, France;

Master: A. Canteaut, *Error-correcting codes and applications to cryptology*, 12 hours, M2, University Paris-Diderot (MPRI), France;

Master: A. Chailloux, *Quantum computing*, 6 hours, M2, University Paris-Diderot (MPRI), France;

Master: N. Sendrier, *Code-based cryptography*, 4.5 hours, M2, University Paris-Diderot (MPRI), France;

Master: N. Sendrier, Information theory, 32 hours, M1, University of Versailles-St Quentin (MINT), France;

Master: J.-P. Tillich, *Introduction to Information Theory*, 32 hours, M2, Ecole Polytechnique, France.

The members of the project-team also gave advanced lectures to summer schools for PhD students:

- *UbiCrypt Spring School on Symmetric Cryptography*, Bochum, Germany, March 2016: A. Canteaut (9 hours). Some of the lectures are available online.

  E-learning

  Mooc: I. Marquez-Corbella and N. Sendrier, *Code-based cryptography*, 5 weeks, FUN, Inria, undergraduate and Master's degree students in mathematics or computer science.

  Pedagogical resources: https://www.fun-mooc.fr/courses/inria/41006S02/session02/about

10.2.2. Supervision

PhD: Virginie Lallemand, *Cryptanalysis for symmetric cryptography*, University Pierre-et-Marie Curie, October 5, 2016, supervisors: M. Naya-Plasencia and A. Canteaut

PhD in progress: Julia Chaulet, *Study of public-key cryptosystems based on MDPC quasi-cyclic codes*, since February 2014, CIFRE convention with Thales, supervisor: N. Sendrier

PhD in progress: Kaushik Chakraborty, *Position-based Quantum Cryptography*, since October 2014, supervisors: A. Leverrier, J.P. Tillich

PhD in progress: Adrien Hauteville, *Rank-metric-based Cryptosystems*, since October 2014, supervisors: P. Gaborit (Univ. Limoges) and J.-P. Tillich

PhD in progress: Rodolfo Canto Torres, *Analysis of generic decoding algorithms for the Hamming metric and study of cryptosystems based on the rank metric*, since September 2015, supervisor: N. Sendrier

PhD in progress: Sébastien Duval, *Constructions for lightweight cryptography*, since October 2015, supervisor: A. Canteaut and G. Leurent

PhD in progress: Yann Rotella, *Finite fields and symmetric cryptography*, since October 2015, supervisor: A. Canteaut

PhD in progress: Xavier Bonnetain, *Cryptanalysis of symmetric primitives in the post-quantum world*, since September 2016, supervisor: M. Naya Plasencia and A. Canteaut

PhD in progress: Thomas Debris, *Quantum algorithms for decoding linear codes*, since September 2016, supervisor: J.-P. Tillich

PhD in progress: Antoine Grospellier, *LDPC codes: constructions and decoding*, since October 2016, supervisor: J.-P. Tillich

PhD in progress: Vivien Londe, *Study of quantum LDPC codes*, since September 2016, supervisors: G. Zémor and A. Leverrier

PhD in progress: Kevin Carrier, *Reconstruction of error-correcting codes*, since October 2016, supervisor: N. Sendrier

10.2.3. Juries

- Mohamed Nidhal Mejri, *Securing Vehicular Networks against Denial of Service attacks*, University Paris 13, May 19, 2016, committee: A. Canteaut;

- Tung Chou *Accelerating Pre- and Post-quantum Cryptography*, TU Eindhoven, The Netherlands, June 26, 2016, committee: N. Sendrier;

- Jean-Marie Le Bars, *Some studies about randomness in Computer Science*, HdR, University of Caen, June 29, 2016, committee: J.P. Tillich (reviewer);

- Tom Douce, *Realistic quantum information processing: from devices to computational models*, Université Paris Diderot, September 9, 2016, committee: A. Leverrier;

- Virginie Lallemand, *Cryptanalysis for symmetric cryptography*, University Pierre-et-Marie Curie, October 5, 2016, committee: M. Naya-Plasencia and A. Canteaut (supervisors)

- Brice Minaud, *Analysis of recent cryptographic primitives*,University of Rennes 1, October 7, 2016, committee: A. Canteaut;

- Pierre Karpmann, *Analysis of symmetric primitives*, University Paris-Saclay, October 18, 2016, committee: A. Canteaut (reviewer);

- Jean-Christophe De Neuville, *Contributions to post-quantum cryptography*, University of Limoges, December 1, 2016, committee: J.P. Tillich (reviewer).

- Zoé Amblard , *Quantum cryptography and applications to spatial communications*, University of Limoges, December 5, 2016, committee: J.P. Tillich (reviewer).

- Qian Guo, *Using coding techniques for attacking post-quantum cryptographic assumptions and systems*, Lund University, Sweden, December 13, 2016, committee: J.P. Tillich.

10.3. Popularization

- Nicolas Sendrier and Jean-Pierre Tillich, *Code-Based Cryptography: New Security Solutions Against a Quantum Adversary*, ERCIM News [67].

- Anne Canteaut gave a talk at the *dotSecurity 2016* conference for developers, at Théâtre des Variétés, Paris, April 2016 http://www.thedotpost.com/2016/05/anne-canteaut-the-struggle-for-secure-cryptography.

- Anne Canteaut gave a talk at *Séminaire général du département d'informatique de l'ENS* for Master students in computer science at ENS Paris, April 13, 2016 http://savoirs.ens.fr/expose.php?id=2516.

- André Chailloux gave a talk entitled *L'ordinateur quantique*, at Journées Art, Cerveau, Futur; Mouans-Sartoux, France, September 2016;

- Anne Canteaut gave a talk on cryptography at lycée Rodin, Paris, February 2, 2016.
- Sébastien Duval gave a talk on cryptography at lycée des 7 Mares, Maurepas, December 2, 2016
- Anne Canteaut has been involved in the AlKindi competition, which is a national competition on cryptanalysis for students in "Seconde" http://www.concours-alkindi.fr/.

  The best teams from Paris have been visiting the SECRET project-team in June 2016 https://www.youtube.com/watch?v=EVLHEOWAORc.
- Julia Chaulet participated to a general-public mediation about the use of mathematics in industry at "Salon Culture & Jeux Mathématiques", Paris, May 28, 2016.
- Yann Rotella hold a stand to explain cryptography at Futur en Seine, Carreau du Temple, Paris, June 12, 2016.

SERENA Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

A. Ern co-organized with D. Di Pietro and L. Formaggia the IHP Thematic Quarter on Numerical methods for PDEs from September 5th to December 16th, 2016.

M. Vohralík co-organized, together with I. Vignon-Clémentel from the project-team REO, the monthly *Scientific computing, modeling, and numerical analysis* seminar ("Rencontres Inria-LJLL en calcul scientifique"), see the web page https://project.inria.fr/rencontresljll/, until July, 2016. Since September, 2016, I. Smears co-organizes this seminar together with C. Grandmont from the project-team REO.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

A. Ern and M. Vohralík are members of the Scientific Committee of the ENUMATH 2017 conference (Voss, Norway).

M. Vohralík is a member of the Scientific Committee of the Finite Volumes for Complex Applications 8 conference (Lille, France).

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

A. Ern is a member of the editorial boards of SIAM Journal on Scientific Computing, ESAIM Mathematical Modelling and Numerical Analysis, IMA Journal of Numerical Analysis, Computational Methods in Applied Mathematics, and Journal de l'Ecole polytechnique, Mathématiques.

M. Vohralík is a member of the editorial boards of SIAM Journal on Numerical Analysis and of Acta Polytechnica.

9.1.3.2. Reviewer - Reviewing Activities

M. Kern was a reviewer for the journal Mathematics and Computers in Simulation, Electron. Trans. Numer. Anal., and Oil and Gas Science and Technology,

L. Monasse was a reviewer for J. Comput. Phys. and J. Comput. Particle Mech.

A. Ern and M. Vohralík served as reviewers for tens of papers in different journals.

9.1.4. Invited Talks

A. Ern, plenary speaker, ECCOMAS 2016, Crete.

A. Ern, plenary speaker, WONAPDE 2016, Concepción, Chile.

M. Kern, minisymposium speaker at the German Priority Programme, Software for Exascale Computing, Germany.

M. Vohralík, invited speaker, Adaptive algorithms for computational PDEs, Birmingham, Great Britain.

M. Vohralík, plenary speaker, WONAPDE 2016, Concepción, Chile.

M. Vohralík, plenary speaker, ALGORITMY 2016, Podbanske, Slovakia.

9.1.5. Leadership within the Scientific Community

M. Kern was a member of the nominating committee for the SIAM Activity Group on Geosciences.

M. Kern is a reviewer for the German Supercomputing Center JARA program.

M. Kern is a member of the Scientific Committee of Orap (ORganisation Associative du Parallélisme), of the Scientific Board of GDR Calcul and of the jury and executive board of Label C3I.

M. Vohralík is a member of the steering committee of GIS Géosciences franciliennes.

9.1.6. Research Administration

F. Clément is a member of the *Comité local d'hygiène, de sécurité et des conditions de travail* of the Inria Research Center of Paris.

F. Clément is the *correspondant Inria-entreprise* of the Inria Research Center of Paris for AMIES.

M. Kern is Deputy Director of Maison de la Simulation, a joint project between CEA, CNRS, Inria, Université de Paris 11, and Université de Versailles, focused on applications of high end computing.

M. Kern is a member of the *Comité de site* of the Inria center of Paris.

G. Pichot is a member of the *Comité local d'hygiène, de sécurité et des conditions de travail* of the Inria center of Paris.

G. Pichot is member of the Conseil de département MAM of Polytech Lyon.

G. Pichot is member of the Commission de developpement technologique (CDT) of the Inria center of Paris.

G. Pichot is a member of the CES commission of the Inria center of Paris.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

A. Ern, Analyse numérique et optimisation, 78h, L3, Ecole Polytechnique (professeur chargé de cours), France.

A. Ern, Méthodes de Galerkine Discontinu, 20h, M2 Mathématiques de la modélisation, Paris 6, France.

M. Kern, Modélisation et simulation des écoulements de fluides dans la géosphère (with E. Mouche, CEA), 30h, M2 Mathématiques et Applications (parcours Analyse, Modélisation et Simulation), Université Paris Saclay, France.

M. Kern, Eléments finis (avec D. Ryckelynck), 30h, 2nd year students, Ecole Mines-ParisTech, France.

M. Kern, Problèmes inverses, 24 h, 2nd year students, Ecole Mines-ParisTech, France.

M. Kern, Analyse numérique avancée, 20h, 3rd year students, MACS, Université Paris Nord, France.

L. Monasse, Analyse et Calcul Scientifique, 30h, L3, ENPC, France.

M. Vohralík, A posteriori error estimates for efficiency and error control in numerical simulations, 36h, M2, Charles University in Prague, Czech Republic.

M. Vohralík, A posteriori error estimates and adaptive error components balancing in numerical simulations, summer school "IHP quarter on Numerical Methods for PDEs", Cargèse, Corsica & Paris, France, 15h.

9.2.2. Supervision

PhD: N. Birgle, *Underground flow, numerical methods and high performance computing*, University Paris VI, defended on March 24th, 2016, advisor J. Jaffré, co-advisor J. E. Roberts.

PhD: F. Cheikh, *Identification of fractures in a porous medium by a method of indicators*, University Paris VI and University of Tunis El Manar, defended on October 12th, 2016, advisors J. E. Roberts and H. Ben Ameur, co-advisors V. Martin and F. Clément.

PhD: M. H. Riahi, *Identification of hydrogeological parameters in a porous medium*, University Paris VI and University of Tunis El Manar, defended on October 12th, 2016, advisors J. Jaffré and H. Ben Ameur.

PhD in progress: S. Ali Hassan, *A posteriori error estimates and stopping criteria for domain decomposition solvers with local time stepping*, University Paris VI, November 2013, advisor M. Vohralík, co-advisors C. Japhet and M. Kern.

PhD in progress: J. Dabaghi, *Adaptive modeling via complementarity of phase appearance and disappearance in fractured and porous media*, University Paris VI, November 2015, advisor M. Vohralík, co-advisor V. Martin.

PhD in progress: P. Daniel, *Adaptive multilevel solvers with a posteriori error control for porous media flows* University Paris VI, October 2015, advisor M. Vohralík, co-advisor A. Ern.

PhD students at ENPC are listed in Section 1.

9.2.3. *Juries*

A. Ern, external examiner of the PhD of Z. Dong, University of Leicester, November 24, 2016.

A. Ern, chair of jury of the PhD of M. Giacomini, Ecole Polytechnique, December 9, 2016.

M. Kern, jury member for the PhD of V. Groza, Identification de paramètres et analyses de sensibilité pour un modèle d'usinage par jet d'eau abrasif, Université de Nice, November 9, 2016.

M. Kern, jury member for the PhD of M. Massaro, Méthodes numériques pour les plasmas sur architectures multicoeurs, Université de Strasbourg, December 16, 2016.

M. Kern, jury member for the Habilitation of Y. Mesri, Méthodes numériques massivement parallèles à base de maillages non structurés adaptatifs et anisotropes pour la mécanique numérique, Université de Nice, December 19, 2016.

G. Pichot, jury member of the PhD of A. Botella, Unstructured volumetric meshing of geological models for physical phenomenon simulations, University of Lorraine, April, 1st, 2016.

G. Pichot, jury member of the PhD of A. Dartois, Study of the macro-dispersion of inert particles in highly heterogeneous 3D porous media, University of Poitiers, December, 14, 2016.

M. Vohralík, reviewer and jury member of the PhD of R. Tittarelli, University Lille 1, September 27, 2016.

M. Vohralík, chair of jury of the PhD of M. Groza, Université de Nice, November 10, 2016.

9.3. Popularization

F. Clément was member of the Organizing Committee of the *17e Salon Culture & Jeux Mathématiques*, held in Paris, 26–29 May, 2016. He was member of the Editorial Board of the *Maths Société Express* booklet distributed during the exhibition. He was also coordinator of the Maths-Enterprises booth for AMIES.

F. Clément realized, with the Communication Department of the Inria Research Center of Paris, an exhibition illustrating the results of the *Etude de l'impact socio-économique des mathématiques en France* sponsored by AMIES, FSMP, and FMJH.

F. Clément coordinated an article about AMIES in the magazine PLOT published by the *Association des Professeurs de Mathématiques de l'Enseignement Public*.

Major publications by the team in recent years: [1], [2], [3], [4], [5], [6], [7], [8], [9], [10].

SIERRA Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

Alexandre d'Aspremont: Workshop preparation for les Houches in Feb. 2016: "Optimization without borders", to celebrate Y. Nesterov's 60th birthday.

Francis Bach: organization of a workshop at IHES (with S. Arlot and A. Celisse), March 2016.

Francis Bach: co-organization of two NIPS workshops.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

Francis Bach: Area chair for ICML 2016

Simon Lacoste-Julien: Area chair for ICML 2016

Simon Lacoste-Julien: Area chair for NIPS 2016

9.1.3. Journal

9.1.3.1. Member of Editorial Boards

Alexandre d'Aspremont: Associate Editor, SIAM Journal on Optimization (2013-...).

F. Bach: Action Editor, Journal of Machine Learning Research.

F. Bach: Information and Inference, Associate Editor.

F. Bach: SIAM Journal on Imaging Sciences, Associate Editor.

F. Bach: Electronic Journal of Statistics, Associate Editor.

9.1.4. Invited Talks

Alexandre d'Aspremont: Regularized Nonlinear Acceleration, BIRS workshop, Oaxaca, October 2016.

Alexandre d'Aspremont: Optimal Affine Invariant Smooth Minimization Algorithms, Institut des hautes études scientifiques, June 2016.

Alexandre d'Aspremont: Optimal Affine Invariant Smooth Minimization Algorithms, Nexus of Information and Computation Theories, Institut Henri Poincaré, March 2016.

Alexandre d'Aspremont: Optimal Affine Invariant Smooth Minimization Algorithms, Workshop on Algorithms and Dynamics for Games and Optimization, Santiago Chile, January 2016.

Francis Bach: Winter School on Signal processing, Bonn, January 2016.

Francis Bach: "Optimization without borders", Les Houches, February 2016.

Francis Bach: Oberwolfach, March 2016.

Francis Bach: Dali meeting, Sestri Levante, Italy, March 2016.

Francis Bach: ETH Computer Science Colloquium, April 2016.

Francis Bach: Workshop San Servolo, May 2016.

Francis Bach: Machine Learning summer school Cadiz, May 2016.

Francis Bach: Summer school, Bangalore, July 2016.

Francis Bach: ICCOPT conference, plenary speaker, August 2016.

Francis Bach: Workshop, Haifa, Septembre 2016.

Francis Bach: Statistics Seminar, Cambridge, October 2016.

Francis Bach: BIRS Oaxaca, October 2016.

Francis Bach: NIPS workshops (three presentations), December 2016.

Damien Garreau: "Consistent multiple change-point detection with kernels", Group meeting of Geometrica Inria project team, Saclay (February 18, 2016).

Damien Garreau: "Consistent multiple change-point detection with kernels", Inria Junior Seminar, Paris (March 15, 2016).

Damien Garreau: "Consistent multiple change-point detection with kernels", Colloque final de l'ANR Calibration, Nice (April 7, 2016).

Damien Garreau: "Consistent multiple change-point detection with kernels", Colloque Jeunes probabilistes et Statisticiens, Les Houches (April 18, 2016).

Pascal Germain: "A Representation Learning Approach for Domain Adaptation", Tao Seminars, Université Paris-Sud, Paris, France, March 2016.

Pascal Germain: "A Representation Learning Approach for Domain Adaptation", Data Intelligence Group Seminars, Université Jean-Monnet, Saint-Étienne, France, March 2016.

Pascal Germain: "Variations on the PAC-Bayesian Bound", Bayes in Paris Seminar at ENSAE, Paris, France, June 2016.

Pascal Germain: "Variations on the PAC-Bayesian Bound", Séminaires du département d'informatique et de génie logiciel, Université Laval, Quebec, Canada, July 2016.

Simon Lacoste-Julien: "On the Global Linear Convergence of Frank-Wolfe Optimization Variants", invited talk in the Conic and Polynomial Optimization cluster at ICCOPT 2016, Tokyo, Japan, August 2016..

Simon Lacoste-Julien: "On the Global Linear Convergence of Frank-Wolfe Optimization Variants", invited talk in the Learning and Optimization workshop of DALI meeting, Sestri Levante, Italy, April 2016.

Simon Lacoste-Julien: "Modern Optimization for Structured Machine Learning", CS & OR Department Colloquium, Université de Montréal, Montreal, Canada, February 2016.

Antoine Recanati: Presentation at the group meeting of Mines ParisTech Centre for Computational Biology (CBIO) at Institut Curie, October, 18th 2016.

9.1.5. Leadership within the Scientific Community

Alexandre d'Aspremont: Porteur de l'IRIS PSL "Science des données, données de la science".

Alexandre d'Aspremont: Co-scientific director of Master's program MASH (Mathématiques, Apprentissage et Sciences Humaines), with ENS - Paris Dauphine.

Alexandre d'Aspremont: Scientific committee, programme Gaspard Monge pour l'Optimisation.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: A. d'Aspremont, M1 course on Optimization: ENS Paris, 21h

Master: A. d'Aspremont, M2 course on Optimization: MVA, ENS Cachan, 21h

Master : F. Bach (together with J.-P. Vert), "Apprentissage statistique", 35h, M1, Ecole Normale Supérieure.

Master : F. Bach (together with G. Obozinski), "Graphical models", 30h, M2 (MVA), ENS Cachan.

Master : F. Bach , 20h, M2 (Mathématiques de l'aléatoire), Université Paris-Sud.

Mastere (M1): S. Lacoste-Julien, F. Vogel, "Projets informatiques", 10h, Université de Paris-Dauphine, Master M2: Mathématiques, Apprentissage et Sciences Humaines (MASH)

Master : A. Osokin (together with K. Alahari), "The introduction to discrete optimization", 30h, M2, Centrale Supélec

Master: Fabian Pedredoga, Machine learning with scikit-learn, Master Mathématiques, Apprentissage et Sciences Humaines (MASH), Paris Dauphine.

9.2.2. Supervision

PhD: Anastasia Podosinnikova, November 2016, co-advised by Francis Bach and Simon Lacoste-Julien

PhD: Thomas Schatz, September 2016, co-advised by and E. Dupoux (ENS, cognitive sciences).

PhD: Sesh Kumar, September 2016, advised by F. Bach.

PhD in progress : Nom du doctorant, titre (provisoire) du mémoire, date du début de la thèse, encadrant(s)

PhD in progress : Jean-Baptiste Alayrac, co-advised by Simon Lacoste-Julien, Josef Sivic and Ivan Laptev, started Sept. 2014.

PhD in progress : Rémi Leblond, advised by Simon Lacoste-Julien, started Sept. 2015.

PhD in progress : Gauthier Gidel, advised by Simon Lacoste-Julien, started Sept. 2016.

PhD in progress : Vincent Roulet, directed by Alexandre d'Aspremont, started as a PhD on Oct. 1 2014.

PhD in progress : Nicolas Flammarion, co-directed by Alexandre d'Aspremont and Francis Bach, started Sept. 2013.

PhD in progress : Damien Scieur, co-directed with Alexandre d'Aspremont and Francis Bach, started Sept. 2015.

PhD in progress : Antoine Recanati, directed by Alexandre d'Aspremont, started Sept. 2015.

PhD in progress: Rafael Rezende, September 2013, F. Bach, co-advised with J. Ponce.

PhD in progress: PhD in progress: Christophe Dupuy, January 2014, co-advised by F. Bach and C. Diot (Technicolor).

PhD in progress: Damien Garreau, September 2014, co-advised by S. Arlot and G. Biau.

PhD in progress: Anaël Bonneton, December 2014, co- advised by F. Bach, located in Agence nationale de la sécurité des systèmes d'information (ANSSI).

PhD in progress: Dmitry Babichev, September 2015, co-advised by F. Bach and A. Judistky (Univ. Grenoble).

PhD in progress: Tatiana Shpakova, September 2015, advised by F. Bach.

9.2.3. Juries

Alexandre d'Aspremont: PhD Committee for Igor Colin, Nov. 2016.

Francis Bach: PhD Committee for Alain Durmus, Dec. 2016.

6. Dissemination

6.1. Promoting Scientific Activities

6.1.1. Scientific Events Organisation

6.1.1.1. Chair of Conference Program Committees

Woods. Program committee (PC) co-chair for DNA22: The 22nd International Conference on DNA Computing and Molecular Programming, 2016. Munich, Germany (co-chairing with Yannick Rondelez, CNRS, ESPCI)

6.1.1.2. Member of the Conference Program Committees

Woods. AUTOMATA 2016. 22nd International Workshop on Cellular Automata & Discrete Complex Systems, ETH Zürich, Switzerland

6.1.1.3. Reviewer

Woods was reviewer for several conferences and journals (not listed for confidentiality reasons).

6.1.2. Invited Talks

- Woods. Transversal aspects of tilings, month-long workshop/course, Oléron, France. Week 1 lectures on Theory and Experiments with Algorithmic Self-Assembly. Invited lecture series.

- Woods. Dagstuhl Seminar 16271 on Algorithmic Foundations of Programmable Matter, 3-8 July 2016 (Germinay).

- Woods. Oxford University, Department of Computer Science, UK, 2016.

- Woods. Journées GT COA, Bordeaux. Evaluating a large class of Boolean circuits via algorithmic self-assembly of DNA strands. 28-29 Nov, 2016.

- Woods. 15éme Journées de la Matière Condensée, Bordeaux 22-26 Aug 2016 (JMC15). Evaluating a large class of Boolean circuits via algorithmic self-assembly of DNA strands

6.2. Teaching - Supervision - Juries

6.2.1. Teaching

Woods made preparations, including visits, to teach a 1-week school at ENS Lyon showing students both theoretical results and wet-lab experimental results. Also, students took part in wet-lab experiments, as well as carrying out projects in teams (involving both theory and experiments). The school occurred in the week of Jan 16-20, 2017.

6.2.2. Juries

In 2016 Woods was PhD examiner for: Frits Dannenberg. Oxford University, 2016 (Supervisors: Marta Kwiatkowska & Andrew Turberfield) Thesis title: Modelling and verification for DNA nanotechnology

<h1 style="text-align:center; color:red">WHISPER Project-Team</h1>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Selection

10.1.1.1. Member of the Conference Program Committees

- Pierre-Évariste Dagand: TyDe 2016 PC.
- Julia Lawall: FLOPS 2016 PC, PLDI 2016 EPC, LCTES 2016 PC, OOPSLA 2016 PC, ASE 2016 ERP, Middleware 2016 PC, GPCE 2016 PC, SLE 2016 PC, ICSME 2016 ERA.
- Gilles Muller: EDCC 2016 PC, OPODIS 2016 PC, DSN 2016 PC, ASPLOS 2016 PC.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- Julia Lawall: Editorial board of Science of Computer Programing (2008 - present).

10.1.2.2. Reviewer - Reviewing Activities

- Pierre-Évariste Dagand: Journal of Logical and Algebraic Methods in Programming (journal), Journal of Functional Programming (journal), Type-driven Development (workshop)
- Julia Lawall: Automated Software Engineering (journal).
- Gilles Muller: IEEE Transactions on Computers, Operating Systems Review.

10.1.3. Invited Talks

- Julia Lawall: PPL workshop (Japan) 2016, Linux Security Summit 2016, SPLASH 2016 Programming Languages Mentoring Workshop, IFIP WG 2.4 (Software Implementation Technology).

10.1.4. Research Administration

- Pierre-Évariste Dagand: Member of the steering committee for the Colloquium d'Informatique de L'UPMC Sorbonne Universités
- Julia Lawall: IFIP TC secretary (2012 - present).

  Hiring committees: Inria Paris (CR2, 2016), Bordeaux (MdC, 2016), CNAM (MdC, 2016)
- Gilles Muller: EuroSys steering committee (2013-2016), elected member of WG 10.4 (Dependability), representative of Inria in Sorbonne University's advisory committee for research, member of the project committee board of the Inria Paris Center, member of the Paris committee for allocating post-docs, PhD stipends and sabbaticals.
- Bertil Folliot: Elected member of the IFIP WG10.3 working group (Concurrent systems)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Licence: Pierre-Évariste Dagand, Distributed cooperating objects, L3, UPMC, France
- Professional Licence: Bertil Folliot, Programmation C, L2, UPMC, France
- Professional Licence: Bertil Folliot, Lab projects, L2, UPMC, France

10.2.2. Supervision

- PhD in progress : Antoine Blin, CIFRE Renault, Vers une utilisation efficace des multi-coeurs dans des systèmes embarqués à criticités multiples, 30 Janvier 2017, Gilles Muller, Julien Sopéna (Regal)

- PhD in progress : Mariem Saeid, Jens Gustedt (Camus), soutenance en 2017, Gilles Muller.

- PhD in progress : Cédric Courtaud, CIFRE Thalès, 2016-2018, Gilles Muller, Julien Sopéna (Regal).

- PhD in progress : Redha Gouicem, 2016-2018, Gilles Muller, Julien Sopéna (Regal).

10.2.3. Juries

- Pierre-Évariste Dagand: member of the Jury of Mahsa Najafzadeh (UPMC)

- Julia Lawall: PhD reporter for Pierre Wilke (Rennes), Alan Charpentier (Bordeaux), Guido Lena Cota (Milan, defense in 2017), Krishna Narasimhan (Frankfurt, defense in 2017). PhD jury for Ripon Saha (UT Austin).

- Gilles Muller: President of the PhD thesis of T. Tigori (U. of Nantes), Member of the Jury of V. Trigonakis (EPFL, Switzerland), Reporter of the PhD of A. Walker (U. of New South Wales, Australia).

10.3. Popularization

10.3.1. Talks

- Julia Lawall: Coccinelle: invited talk, Linux Security Summit, 2016.

- Julia Lawall: Coccinelle BoF: Linuxcon Europe 2016.

- Julia Lawall: Outreachy intern panel, Linuxcon Europe 2016.

- Julia Lawall: Prequel, 2016 OSADL networking day.

WILLOW Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- I. Laptev will be program co-chair of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018.

10.1.1.2. Member of the Organizing Committees

- M. Trager is an organizer of "Minisymposium" on "Algebraic Vision" at the SIAM conference on Applied Algebraic Geometry (Atlanta, July 31st-August 4th 2017).

10.1.2. Scientific Events Selection

10.1.2.1. Area chairs

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016 (I. Laptev).
- Asian Conference on Computer Vision (ACCV), 2016 (I. Laptev).
- International Conference on Computer Vision (ICCV), 2017 (J. Sivic).

10.1.2.2. Member of the Conference Program Committees

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016 (R. Arandjelovic, A. Bursuc, P. Bojanowski, M. Cho, J. Sivic, G. Cheron).
- European Conference on Computer Vision (ECCV), 2016 (R. Arandjelovic, A. Bursuc, P. Bojanowski, G. Cheron, M. Cho, S. Kwak, J. Sivic, G. Cheron, I. Laptev).
- International Conference on Learning Representations, 2016 (J. Sivic).

10.1.3. Journals

10.1.3.1. Member of the editorial board

- International Journal of Computer Vision (I. Laptev, J. Ponce, J. Sivic).
- IEEE Transactions on Pattern Analysis and Machine Intelligence (I. Laptev, J. Sivic).
- Foundations and Trends in Computer Graphics and Vision (J. Ponce).
- I. Laptev and J. Sivic co-edit a special issue on "Video representations for visual recognition" in the International Journal of Computer Vision.
- J. Sivic co-edits a special issue on "Advances in Large-Scale Media Geo-Localization" in the International Journal of Computer Vision.

10.1.3.2. Reviewer

- International Journal of Computer Vision (M. Cho, G. Cheron, R. Arandjelovic).
- IEEE Transactions on Pattern Analysis and Machine Intelligence (R. Arandjelovic, P. Bojanowski, M. Cho, S. Kwak, G. Cheron, A. Bursuc).
- IEEE Transactions on Circuits and Systems for Video Technology (P. Bojanowski, B. Ham).
- IEEE Transactions on Image Processing (B. Ham).
- IEEE Signal Processing Letters (B. Ham).
- Computer Vision and Image Understanding (M. Cho, A. Bursuc).
- Elsevier Neurocomputing (B. Ham).

- EURASIP Journal on Image and Video Processing (B. Ham).

10.1.4. Others

- J. Sivic is senior fellow of the Neural Computation and Adaptive Perception program of the Canadian Institute of Advanced Research.
- R. Arandjelovic and J. Sivic obtained the outstanding reviewer award at IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016.

10.1.5. Invited Talks

- V. Kantorov, Speaker at Second Christmas Colloquium on Computer Vision (December 2016, Moscow, SkolTech).
- I. Laptev, Invited talk, MailRu, Moscow, May 2016.
- I. Laptev, Invited talk, Skolkovo Robotics, Moscow, May 2016.
- I. Laptev, Invited talk, Deep Machine Intelligence and its Applications, SkolTech, Moscow, June 2016.
- I. Laptev, Invited talk, MSR-Inria Offsite Meeting, Paris, September, 2016.
- I. Laptev, Invited talk, University of Central Florida, Orlando, September, 2016.
- I. Laptev, Invited talk, Georgia Institute of Technology, Atlanta, September, 2016.
- I. Laptev, Invited talk, ECCV'16 Workshop on Brave new ideas for motion representations in videos, Amsterdam, October, 2016.
- I. Laptev, Invited talk, Open Day AI Innovation Factory , December, 2016.
- J. Ponce, Invited talk, New York University, January 2016.
- J. Ponce, Invited talk, Université Marne la Vallée, Mars 2016.
- J. Ponce, Invited talk, Workshop on Algebraic Vision, San Jose, May 2016.
- J. Ponce, Invited talk, Colloque LORIA, Nancy, May 2016.
- J. Ponce, Invited talk, Parthenos Workshop, Bordeaux, November 2016.
- J. Sivic, seminar, UC Berkeley, May, December, 2016.
- J. Sivic, invited talk, Brno University of Technology, April 2016.
- J. Sivic, Invited talk, the CIFAR workshop, Barcelona, December 2016.
- J. Sivic, Invited talk, Colloquium on Perspectives and New Challenges in Data Science, Ecole de Ponts ParisTech, 2016.
- M. Trager, invited speaker, AIM workshop "Algebraic Vision" (San Jose, May 2-6, 2016).

10.1.6. Leadership within the Scientific Community

- Member, advisory board, IBM Watson AI Xprize (J. Ponce).
- Member, steering committee, "France Intelligence Artificielle" initiative (J. Ponce).
- Member, advisory board, Computer Vision Foundation (J. Sivic).

10.1.7. Scientific Expertise

- J. Sivic gave an overview of state-of-the-art in computer vision at the seminar on artificial intelligence, Direction Generale des Entreprises (DGE) du Ministere de l'Economie, de l'Industrie et du Numerique, September, 2016.

10.1.8. Research Administration

- Member, Bureau du comité des projets, Inria, Paris (J. Ponce)
- Director, Department of Computer Science, Ecole normale supérieure (J. Ponce)
- Member, Scientific academic council, PSL Research University (J. Ponce)

- Member, Research representative committee, PSL Research University (J. Ponce).
- Member of Inria Commission de developpement technologique (CDT), 2012- (J. Sivic).
- Member of ANR evaluation committee (I. Laptev).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master : J. Ponce, "Introduction to computer vision", M1, Ecole normale superieure, 36h.
- Master : I. Laptev, J. Ponce and J. Sivic (together with C. Schmid, Inria Grenoble), "Object recognition and computer vision", M2, Ecole normale superieure, and MVA, Ecole normale superieure de Cachan, 36h.
- Master : I. Laptev, J. Ponce and J. Sivic, Cours PSL-ITI - Informatique, mathematiques appliques pour le traitement du signal et l'imagerie, 20h.

10.2.2. Supervision

PhD : Piotr Bojanowski, "Learning to annotate dynamic video scenes", graduated in 2016, I. Laptev, J. Ponce, C. Schmid and J. Sivic.

PhD : Guillaume Seguin, "Person analysis in stereoscopic movies", graduated in 2016, I. Laptev and J. Sivic.

PhD in progress : Ignacio Rocco, "Estimating correspondence between images via convolutional neural networks", started in Jan 2017, J. Sivic, R. Arandjelovic (Google DeepMind).

PhD in progress : Antoine Miech, "Understanding long-term temporal structure of videos Phd thesis proposal", started in Oct 2016, I. Laptev, J. Sivic, P. Bojanowski (Facebook AI Research).

PhD in progress : Gul Varol, "Deep learning methods for video interpretation", started in Oct 2015, I. Laptev, C. Schmid.

PhD in progress : Julia Peyre, "Learning to reason about scenes from images and language", started in Oct 2015, C. Schmid, I. Laptev, J. Sivic.

PhD in progress : Jean-Baptiste Alayrac, "Structured learning from video and natural language", started in 2014, I. Laptev, J. Sivic and S. Lacoste-Julien (Inria SIERRA / U. Montreal).

PhD in progress : Rafael Sampaio de Rezende, started in 2013, J.Ponce.

PhD in progress : Guilhem Cheron, "Structured modeling and recognition of human actions in video", started in 2014, I. Laptev and C. Schmid.

PhD in progress : Theophile Dalens, "Learning to analyze and reconstruct architectural scenes", starting in Jan 2015, M. Aubry and J. Sivic.

PhD in progress : Vadim Kantorov, "Large-scale video mining and recognition", started in 2012, I. Laptev.

PhD in progress : Maxime Oquab, "Learning to annotate dynamic scenes with convolutional neural networks", started in Jan 2014, L. Bottou (Facebook AI Research), I. Laptev and J. Sivic.

PhD in progress : Matthew Trager, "Projective geometric models in vision", started in 2014, J. Ponce and M. Hebert (CMU).

PhD in progress : Tuang Hung VU, "Learning functional description of dynamic scenes", started in 2013, I. Laptev.

10.2.3. Juries

- PhD thesis committee:
  - Stavros Tsogkas, Ecole Centrale, France, 2016 (J. Sivic, examinateur).
  - Sesh Karri, Ecole Normale Superieure, France, 2016 (J. Sivic, examinateur).

- – Elliot Crowley, University of Oxford, UK, 2016, (J. Sivic, external examiner)
- – Olivier Frigo, Universite Paris Descartes, France, 2016 (J. Sivic, rapporteur).
- – Mattis Paulin, Inria Grenoble, France, 2017 (J. Sivic, rapporteur).
- – Francesco Massa, ENPC, France 2017 (J. Sivic, examinateur).
- – Philippe Weinzaepfel, Universite Grenoble Alpes, France, 2015 (I. Laptev, rapporteur).
- – Guillaume Seguin, Ecole Normale Superieure, France, 2016 (I. Laptev, J.Ponce, J. Sivic, examinateurs).
- – Piotr Bojanowski, Ecole Normale Superieure, France, 2016 (I. Laptev, J.Ponce, J. Sivic, examinateurs).
- – Ala Aboudib, Télécom Bretagne, France, 2016 (J. Ponce).
- – Philippe Weinzaepfel, Universite Grenoble Alpes, France, 2016 (J. Ponce).

10.3. Popularization

- Participation to the round table on "L'IA est-elle réservée aux GAFA", NUMA, June 2016 (J. Ponce).
- Participation to the round table on "Fictions, magie numerique et realites", Post-digital program, ENS/PSL Research University, October 2016 (J. Ponce).
- Debate with Jacques Attali, "Intelligence Artificielle, science avec conscience?", "Intelligence Artificielle : de la technique au business" Conference, December 2016 (J. Ponce).
- Participation to the round table on AI, Liberté Living Lab, December 2016 (J. Ponce).
- Participation to the round table on ethics at the Senate's public hearing on Artificial Intelligence, January 2017 (J. Ponce).
- Interview on Nolife 56Kast (https://www.youtube.com/watch?v=8UgH8_J2ugU) (J. Ponce).
- Interview in Le Monde (http://www.lemonde.fr/pixels/article/2016/01/08/intelligence-artificielle-ce-que-voient-les-machines_4843858_4408996.html) (J. Ponce).
- Interview in Télérama (http://www.telerama.fr/monde/trouver-le-calme-reconstituer-palmyre-ou-choisir-un-traitement-grace-a-l-ia,141131.php) (J. Ponce).