Activity Report 2011

Section Dissemination

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9. Dissemination

9.1. Animation of the scientific community

9.1.1. Academy Members, Professional Societies

Patrick Cousot is a member of the Academia Europaea.

Patrick Cousot is member of the IFIP working group WG 2.3 on programming methodology.

Patrick Cousot is a member of the Board of Trustees and of the Scientific Advisory Board of the IMDEA - Software (Instituto madrileño de estudios avanzados—Research Institute in Software Development Technology), Madrid, Spain and of the Asian Association for Foundations of Software (AAFS).

9.1.2. Collective Responsibilities

Patrick Cousot is director of studies in computer science at ENS and member of the commission de spécialistes (hiring committee) of ENS.

Patrick Cousot, Antoine Miné and Xavier Rival are members of the lab council of the Laboratoire d’Informatique de l’École Normale Supérieure.

Jérôme Feret was a member of the comité de sélection (hiring committee) to hire an assistant professor at the Université de Lille 1.

Antoine Miné was a member of the comité de sélection (hiring committee) to hire an assistant professor at the École normale supérieure de Cachan, antenne de Bretagne (Ker Lann, France).

Xavier Rival was a member of the comité de sélection (hiring committee) to hire an assistant professor at the Université de Paris 7.

9.1.3. Editorial Boards and Program Committees


Patrick Cousot is member of the steering committees of the Static Analysis Symposium (SAS) and the Verification, Model-Checking and Abstract Interpretation (VMCAI) international conference.

Patrick Cousot was member of the program committees of the 32th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI 2011 ERC), San Jose, CA, USA, June 4-8, 2011; the 12th International Conference on Verification, Model Checking and Abstract Interpretation (VMCAI 2011), Austin, TX, USA, January 23-25, 2011; the 14th ACM International Conference on Hybrid Systems (HSCC 2011), Chicago, IL, USA, April 11-14, 2011; Verified Software: Theories, Tools and Experiments (VSTTE 2012), Philadelphia, USA, January 28-29, 2012; the 19th International Static Analysis Symposium (SAS’12), Deauville, France; the 15th ACM International Conference on Hybrid Systems: Computation and Control (HSCC 2012), Beijing, China, April 17-19, 2012.

— Radhia Cousot is member of the advisory board of the Higher-Order Symbolic Computation journal (HOSC, Springer) and the Central European Journal of Computer Science (CEJCS, Versita & Springer).

Radhia Cousot is member of the steering committees of the Static Analysis Symposium (SAS), the Workshop on Numerical and Symbolic Abstract Domains (NSAD), the Workshop on Static Analysis and Systems Biology (SASB) and the Workshop on Tools for Automatic Program Analysis (TAPAS).

Radhia Cousot is the program committee chair of the 40th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL 2013), Rome, Italy, January 23-25, 2013.
Radhia Cousot was member of the program committees of the 21st European Symposium on Programming (ESOP 2011), Saarbrücken, Germany, March 26-April 3, 2011; the 18th International Static Analysis Symposium (SAS’11), Venice, Italy, September 14-16, 2011; the 38th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL 2011), Austin, Texas, USA, January 26-28, 2011.

— Jérôme Feret is a member of the editorial board of the Frontiers in Genetics journal.

Jérôme Feret is a member of the steering committee of the Workshop on Static Analysis and Systems Biology (SASB).

Jérôme Feret was co-program committee chair of the 2nd SASB (2011) and is co-program committee chair of the 3rd SASB (2012).

Jérôme Feret was member of the program committee of the 2nd International Workshop on Interactions between Computer Science and Biology (CS2Bio 2011), the 9th International Conference on Computational Methods in Systems Biology (CMSB 2011), the 9th Asian Symposium on Programming Languages (APLAS 2011), the 4th International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO 2012). He will be a member of the International Symposium on Foundations of Health Information Engineering and System (FHIES 2012).

— Antoine Miné was member of the program committee of the 18th International Static Analysis Symposium (SAS’11), the third Workshop on Numerical and Symbolic Abstract Domains (NSAD’11), and the First International Workshop on Safety and Security in Cyber-Physical Systems (SSCPS’11).

Antoine Miné will be program committee co-chair and general chair of the 19th International Static Analysis Symposium (SAS’12), Deauville, France, general chair of the 4th International Workshop on Numerical and Symbolic Abstract Domains (NSAD’12), the 3rd International Workshop on Static Analysis and Systems Biology (SASB’12), and the 3rd International Workshop on Tools for Automatic Program AnalysisS (TAPAS’12), Deauville, France, and member of the program committee of the Second International Workshop on Safety and Security in Cyber-Physical Systems (SSCPS’12), Gaithersburg, Maryland, USA.

— Xavier Rival was member of the program committee the Conferences on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2011), Saarbrücken, Germany, March 26-April 3, 2011.

Xavier Rival is a member of the program committee the European Symposium On Programming (ESOP 2012). Xavier Rival is member of the steering committee of the Workshop on Tools for Automatic Program AnalysisS (TAPAS).

9.1.4. Jury of PhD and Habilitation

— Patrick Cousot was in the jury of the habilitation of Xavier Rival, (ENS, Paris, France, June 24, 2011).
— Jérôme Feret was in the jury of the PhD thesis of Loïc Paulevé (IRCCyn, Nantes, France, October 6, 2011).
— Antoine Miné was in the jury of the PhD thesis of Khalil Ghorbal (CEA, France, July 28, 2011).

9.1.5. Participation in Conferences

Ferdinanda Camporesi, Jérôme Feret, and Alessandro Romanel attended the workshop. Jérôme Feret chaired a session.

ESOP: European Symposium on Programming (Saarbrücken, Germany, 30 March – 1st April 2011)
Patrick Cousot, Radhia Cousot, Antoine Miné and Xavier Rival attended the conference. Antoine Miné gave a talk on the static analysis of parallel programs [22].

FOSSACS: 14th International Conference on Foundations of Software Science and Computation Structures (Saarbrücken, Germany, 29–31 March 2011)
Patrick Cousot, Radhia Cousot attended the conference. Patrick Cousot gave a talk on the reduced product of abstract domains and the combination of decision procedures [20].
MecBIC: International Workshop on Membrane Computing and Biologically Inspired Process Calculi (Fontainebleau, France, 23 August 2011).
Jérôme Feret and Alessandro Romanel attended the workshop.

Jérôme Feret attended the conference and gave an invited talk on model reduction of differential models [13].

Antoine Miné, Patrick Cousot, Radhia Cousot, and Xavier Rival attended the workshop.

Patrick Cousot, Radhia Cousot and Xavier Rival attended the conference [18]. Xavier Rival gave a talk on Calling context abstraction with shapes [23].

RAIM: 4ème Rencontres Arithmétique de l’Informatique Mathématique (Perpignan, France, 7–10 February 2011)
Antoine Miné attended and gave a talk on the static analysis of numerical programs manipulating floating-point numbers.

SAS: 18th International Static Analysis Symposium (Venice, Italy, 14–16 September 2011).
Ferdinanda Camporesi, Patrick Cousot, Radhia Cousot, Jérôme Feret, Antoine Miné, Xavier Rival, and Matteo Zanioli attended the conference. Patrick Cousot gave an invited talk on Combining Algebraic Domains and Logical Theories by the Reduced Product. Jérôme Feret gave an invited talk on model reduction of differential models [14]. Antoine Miné chaired a session.

SASB: International Workshop on Static Analysis and Systems Biology (Venice, Italy, 13 September 2011).
Ferdinanda Camporesi and Jérôme Feret attended to the workshop. Jérôme Feret co-chaired the workshop and chaired all the sessions.

TACAS: 17th International Conference on Tools for Automatic Construction and Analysis of Systems (Saarbrücken, Germany, 29–31 March 2011)
Xavier Rival attended the conference and chaired a session.

Antoine Miné and Xavier Rival attended the workshop.

VMCAI: International Conference on Verification, Model Checking and Abstract Interpretation (Austin, Texas, USA, 23–25 January 2011).
Patrick Cousot, Radhia Cousot attended the conference. Patrick Cousot gave a talk on precondition inference from intermittent assertions and application to contracts on collections [19].

9.1.6. Invitations and Participation in Seminars
— Ferdinanda Camporesi gave a talk on model reduction of signaling pathways at the Semantics and Abstraction Interpretation Seminar (ENS, Paris, France).
— Patrick Cousot gave a talk on Unifying proof theoretic/logical and algebraic abstractions for inference and verification, NSF CMACS Meeting, University of Maryland, College Park, MD, USA, April 28-29, 2011; on Theories, Solvers and Static Analysis by Abstract Interpretation, ASCERT Meeting, ENS Paris, France, November 30, 2011; on Program verification by abstract interpretation, NSF CMACS Industry Workshop on Verification of Embedded Control Systems, October 20, 2011, Carnegie Mellon University, Pittsburgh, PA.
— Patrick Cousot and Radhia Cousot gave a talk on Method Refactoring by Abstract Interpretation, MSR Talk Series, Microsoft Research, Redmond, WA, USA, September 2, 2011; on Theories, Solvers and Static Analysis by Abstract Interpretation, MSR Talk Series, Microsoft Research, Redmond, WA, USA. August 12th, 2011.

— Jérôme Feret gave a talk on the ASTRÉE analyzer at the Programming Methodology group at ETH Zürich (Zürich, Switzerland) and some talks on model reduction for signaling pathways at the Bison group at ETH Zürich (Zürich, Switzerland), at the Focus group at the University of Bologna (Bologna, Italy), at the ANRSYMBIOTIC meeting (IBISC, Evry, France), at the SysBio meeting of the Systems Biology of cancer group at the Institut Curie (Paris, France).

— Antoine Miné gave a talk on the static analysis of parallel programs at the 68NQRT Seminar, IRISA and INRIA Rennes (France) on the 26 May 2011, at the Semantics and Abstraction Interpretation Seminar, École normale supérieure (Paris, France) on the 18 November 2011, and at IMDEA-Software (Madrid, Spain) on the 12 December 2011.

— Xavier Rival was invited to give a talk on Perspective for compiler certification in avionics at the “Compiler Optimization meets Compiler Verification” Workshop (COCV) at ETAPS 2011, Saarbrücken, Germany, March 26-April 3, 2011. Xavier Rival gave a talk on Abstract domains for the static analysis of programs manipulating complex data-structures at Seoul National University (Seoul, Korea), on the 26th August, 2011.

9.2. Teaching

Licence :
• Mathematics, 20h, L1, Licence Frontiers in Life Sciences, Université Paris-Descartes, France.
• Introduction to static analysis, 8h, L3, École des Mines de Paris, France.
• Introduction to algorithmics, 40h, L2, École Polytechnique, Palaiseau, France.
• Algorithmics and programming, 40h, L3, École Polytechnique, Palaiseau, France.

Master :
• Computational Biology, 6h, M1, Interdisciplinary Approaches to Life Science (AIV) Master Program, Université Paris-Descartes, France
• Abstract interpretation: application to verification and static analysis, 48h, niveau M2, Parisian Master of Research in Computer Science (MPRI), École normale supérieure, France.
• Rule-based modeling and application to biomolecular networks, 8h, M1-M2, Master of Fundamental Research in Computer Science (MIF), École normale supérieure de Lyon, France

Doctorat :
• Abstract Interpretation and its Applications, 19h, University of Bologna / University of Padova, Italy.
• Abstract Interpretation-based Tool Construction for Software Verification, 8th LASER Summer School on Software Engineering (LASER 2011), Elba Island, Italy, September 4-10, 2011.

PhD & HdR :

HdR :
• Xavier Rival, Abstract domains for the analysis of programs manipulating complex data-structures [8], École Normale Supérieure, June, 24th, 2011.
PhD in progress:

- Mehdi Bouaziz, November 2011, Patrick Cousot, École Normale Supérieure.
- Vincent Laviron, October 2009, Patrick Cousot, École Normale Supérieure.
- Antoine Toubhans, Combination of shape abstract domains, October 2011, Xavier Rival, École Doctorale de Paris Centre.
- Caterina Urban, November 2011, Radhia Cousot, École Normale Supérieure.
- Matteo Zanioli, October 2008, Radhia Cousot (co-directed thesis with Agostino Cortesi, University of Venezia).
8. Dissemination

8.1. Animation of the scientific community

The Algorithms project runs a biweekly seminar devoted to the analysis of algorithms and related topics. A. Bostan and F. Chyzak organize this seminar. Several partner teams in the grand Paris area attend on a regular basis, and also take part in two regular workshops, Alea and the “Journées Nationales de Calcul Formel”, both gathering around 80 people in Luminy.

Alin Bostan has joined the Advisory Board of the MEGA conference (Effective Methods in Algebraic Geometry). He has served as a member of the hiring committees in computer science at the University Paris 13, and at the University Lille 1. He has been a member of the PhD thesis committee for Carole El Bacha, who defended on Nov. 25 her thesis “Méthodes algébriques pour la résolution d’équations différentielles matricielles d’ordre arbitraire” at the University of Limoges.

Nicolas Broutin is co-organizer with Luc Devroye (McGill, Montreal) of the 23rd International Meeting on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms (AofA 2012), to be held in Montreal next June. With Luc Devroye and Gabor Lugosi (Pompeu Fabra, Barcelona), they have received the funds to organize a one-week workshop at the Banff International Research Station (Canada), on “Sparse random graphs and network algorithms”, to be held in February 2012.

Bruno Salvy is a member of the editorial board of the Journal of Symbolic Computation and of the Journal of Algebra (section Computational Algebra). He is organizing the working group Computer Algebra of the CNRS GDR IM (Mathematical Computer Science). This year, he is a member of the program committee of AofA 2012, Montreal. He is a co-organizer of the conference “Philippe Flajolet and Analytic Combinatorics” that pays homage to Philippe Flajolet in December. He has been a member of the PhD committees of Marc Mezzarobba and Jérémy Berthomieu (Polytechnique) and of the committee for the habilitation of Damien Stehlé (ENS Lyon). He has also been a member of the committees hiring researchers at Inria (CR, DR) and Professors in combinatorics at LIPN (Paris 13).

8.2. Participation in conferences, seminars, invitations

Alin Bostan gave talks on “Symbolic analysis for lattice path combinatorics” at the Institute of Systems Science, Beijing, China (June 3), at the FOCM’11 conference, Budapest, Hungary (July 13), at the workshop “Rencontres autour des séries formelles arithmétiques”, Institut Fourier, Grenoble (Sept. 8), and at the Algo Seminar of the GREYC, Univ. Caen (Oct. 25). He presented a poster on “Fast computation of common left multiples of linear ordinary differential operators” at the ISSAC’11 conference, San Jose, USA (June 9).

Nicolas Broutin has given lectures at the workshop on random graphs (Lille), the meeting on “random trees, information and algorithms” in Oberwolfach, the “Colloque SMF Etats de la Recherche” on statistical learning (IHP), the seminar organized by the members of the A3 ANR project (ENS), the colloquium on Analysis of Algorithms (Poznan), the meeting of the Applied Probability Society (Stockholm), the Paris-Bath meeting on branching Structures (IHP), the “Séminaire de Combinatoire Philippe Flajolet” (IHP), and the joint Mainz-Frankfurt Seminar on probability. He also presented his experience of research at Inria to the students of Ecole Polytechnique during the round table on careers in research organized at the occasion of the “Forum métiers”.

Frédéric Chyzak presented his joint work with Alexis Darrasse (postdoc at the MSR-INRIA) on “Using Camlp4 for presenting dynamic mathematics on the web: DynaMoW, an OCaml language extension for the run-time generation of mathematical contents and their presentation on the web (an experience report)” [14] at ICFP’11 (Tokyo).
Christoph Koutschan gave an invited talk at ICASF (International Conference on Asymptotics and Special Functions, Hong Kong, June 2011) on “Software for Special Functions”. He presented his work on “Lattice Green’s Functions of the Higher-Dimensional Face-Centered Cubic Lattices” at the Joint Mathematical Conference of the Austrian Mathematical Society together with the Catalan, Czech, Slovak, and Slovenian Mathematical Societies (Krems, Austria) and at the Conference on Applied Algebraic Geometry (Raleigh, USA). He also gave a talk on “Advanced Computer Algebra for Evaluating Determinants” at the Journees Nationales de Calcul Formel 2011 (Luminy).

Bruno Salvy has been an invited speaker at the conference “Computational and Analytical Mathematics” in honour of Jonathan’s Borwein 60th birthday, Vancouver, May 2011, where he talked on automatic proofs of identities. He also presented variants of this talk at seminars in Waterloo, Ontario, the Fourier Institute (Grenoble), Labri (Bordeaux) and at the “Séminaire Philippe Flajolet” in IHP (Paris). He gave a talk on “Newton Iteration for Combinatorial Systems” at the Discrete Mathematics Seminar in Vancouver, at the Alea days in Luminy and at a seminar in ENS Lyon. Finally, he was invited to give a talk entitled “Computational Variations on Linear Differential Equations” at the workshop “Differential Equations and Galois Theory” organized at IHES for Galois’ 200th birthday.

Flavia Stan gave two talks on her work on symbolic summation for Feynman-integral calculus (at a seminar of the LIPN and at the workshop Combinatorial Physics III in Kraków, Poland). She also gave a seminar talk on her work on symbolic summation and Mellin-Barnes integrals at the University of Limoges (XLIM).

8.3. Teaching

Alin Bostan, Frédéric Chyzak, and Bruno Salvy have set up and taught a 48h course in computer algebra together with Marc Giusti (from École polytechnique). This course is part of the Master Parisien de Recherche en Informatique (MPRI).

Frédéric Chyzak gave a mini-course on “Le télescopage créatif pour l’intégration et la sommation paramétrées” at the JNCF 2011 (Journées Nationales de Calcul Formel) at Luminy.

Alin Bostan and Bruno Salvy participated to the training of ENS students preparing the French “agrégation”.

Bruno Salvy is also a PCC (professeur chargé de cours) at École polytechnique starting this September, where he participates in the courses “Logic, Models and Computation“ and “Algorithms and Programming”.

During the month of November, Nicolas Broutin has taught an intensive course on the topic of “random trees and applications” in the joint program in Mathematics and Computer Science at the J.W. Goethe University of Frankfurt (Germany).

In terms of volume, this is summarized as follows:

- Master : Efficient Algorithms in Computer Algebra, 54h ETP, M2, MPRI, France.
- License : Logic, Models and Computation, 54h ETP, L3, École polytechnique, France.
- Master : préparation à l’agrégation, 14h ETP, M1, ENS Cachan, France.
- Doctorate : Random trees and applications, 24h ETP, Joint program in Maths and CS, J. W. Goethe University of Frankfurt, Germany.
- Doctorate : Le télescopage créatif pour l’intégration et la sommation paramétrées, 4.5h ETP, Journées Nationales de Calcul Formel, France.

And here is the data concerning our PhD students:

- PhD : Shaoshi Chen, Quelques applications de l’algèbre différentielle et aux différences pour le télescopage créatif, École polytechnique, February 2011, F. Chyzak and Z. Li.
- PhD : Marc Mezzarobba, Autour de l’évaluation numérique des fonctions D-finies, École polytechnique, October 2011.
- PhD in progress : Alexandre Benoit, Algorithmes pour des familles de fonctions D-finies, started September 2008, B. Salvy.
PhD in progress: Pierre Lairez, Algorithmique efficace pour la création télescopique et ses applications, started September 2011, A. Bostan and B. Salvy.

PhD in progress: Basile Morcrette, Urnes analytiques, started September 2009, Ph. Dumas.

PhD in progress: Minmin Wang, Asymptotique des arbres aléatoires inhomogènes, started September 2010, N. Broutin and T. Duquesne (Paris 6).
9. Dissemination

9.1. Animation of the scientific community

- Alpage is involved in the French journal Traitement Automatique des Langues (T.A.L., AERES linguistic rank: A). Éric de La Clergerie is “Rédacteur en chef” and was the editor of the regular issue 52/1 (2011). Laurence Danlos is a member of the editorial board. Benoît Sagot is a guest editor, jointly with Núria Bel, for a special issue on Language Resources for which Benoît Crabbé is a member of the specific reviewing committee.

- Alpage is deeply involved in a forthcoming special issue of the major journal in our field of research, Computational Linguistics. Djamé Seddah is one of the guest editor of this issue devoted to “Parsing of morphologically-rich languages” while Marie Candito is a reviewer for this issue.

- Alpage members were involved in many Program, Scientific or Reviewing Committees for other journals and conferences. For example, Éric de La Clergerie participated to the program committees of IWPT’11, LGC’11, TALN’11, CLA’11, DepLing’11, TEMA’11, and was a reviewer for IJCNLP’11.

- Djamé Seddah and Benoît Sagot are elected board member of the French NLP society (ATALA); Benoît Sagot is Secretary since September 2010; Djamé Seddah is Program Chair of the “Journées ATALA” (one day long workshops in NLP, 4 or 5 per year).

- Laurence Danlos is a member of the Permanent Committee of the TALN conference organized by ATALA

- Laurence Danlos is a member of the Scientific Committee of the Linguistics UFR of University Paris Diderot

- Benoît Sagot is a member of the Governing Board and of the Scientific Board of the LabEx (excellency cluster EFL), as head of the research strand on language resources; Laurence Danlos is a member of the Scientific Board of the LabEx EFL, representing Alpage.

- Djamé Seddah is one of the founders of the statistical parsing of morphologically rich language initiative that started during IWPT’09. He was the program co-chair of the successful SPMRL 2010 NAACL-HLT Workshop and of its 2011 edition that took place during IWPT’11. He is co-chairing an ACL 2012 workshop centered around the Syntactic and Semantic Processing of Morphologically Rich Languages. He and Marie Candito are also involved (both as core members, Djamé Seddah as co-chair) into the MRL statistical parsing shared task that will be organized in this context (data are expected to be released during this ACL 2012 workshop, and the results will be presented at IWPT 2013; Marie Candito is in charge of the French data). Moreover, Benoît Sagot is a member of the reviewing committees. Finally, Alpage is a regular sponsor of this series of workshops.

- Laurence Danlos organized CID 2011 (Constraints in Discourse) that was held at Agay-Roches Rouges, France in September 2011.

- Benoît Sagot organized WoLeR 2011, an ESSLLI 2011 workshop on Lexical Resources (http://alpage.inria.fr/~sagot/woler2011/), that was held in Ljubljana, Slovenia in August 2011.

- Marie Candito was workshop chair at EMNLP 2011 (Conference on Empirical Methods in Natural Language Processing) that was held in Edinburgh in July 2011.

- Benoît Crabbé organized the Alpage research seminar

- Benoît Crabbé co-organized the research seminar : lectures in experimental linguistics (Univ P7)

- Éric de La Clergerie was a project reviewer for the ANR
9.2. Participation to workshops, conferences, and invitations

Invited talks and seminars:

- Éric de La Clergerie gave an invited talk at the 1st International “Work-Conference on Linguistics, Biology and Computer Science: Interplays” in Tarragona, Spain
- Benoît Crabbé and Juliette Thuilier gave an invited seminar at the University of Bordeaux (Séminaire ERSSàB)
- Benoît Crabbé gave an invited seminar at the University of Düsseldorf
- Marianna Apidianaki gave an invited seminar at the University of Ljubljana (JOTA talk)

Participation to conferences and workshops (in almost all cases, this is associated with at least a talk or a poster presentation):

- Almost all members of Alpage participated to TALN 2011, Montpellier, France.
- Marianna Apidianaki, Marie Candito and Enrique Henestroza Anguiano participated to EMNLP 2011, Edinburgh, UK.
- Marie Candito participated to IWPT’11 (International Conference in Parsing Technologies) Dublin, Ireland.
- Pascal Denis, Marianna Apidianaki and Luc Boruta participated to ACL-HLT 2011 in Portland, United States.
- Marianna Apidianaki participated to CICLing 2011 in Tokyo, Japan.
- Pascal Denis participated to the International Joint Conference on Artificial Intelligence (IJCAI 2011) in Barcelona, Spain
- Pascal Denis participated to the Discourse Anaphora and Anaphor Resolution Colloquium (DAARC 2011) in Faro, Portugal.
- Juliette Thuilier participated to the 18th International Conference on HPSG in Seattle, United States.
- Éric de La Clergerie participated to the 1st International “Work-Conference on Linguistics, Biology and Computer Science: Interplays” in Tarragona, Spain.
- Juliette Thuilier participated to the Colloque AFLS in Nancy, France.
- Pierre Magistry participated to ROCLING in Taipei, Taiwan.
- Rosa Stern and Benoît Sagot participated to the ATALA workshop on named entities in Paris, France.
- Éric de La Clergerie, Laurence Danlos and Benoît Sagot participated to the Lexis-Grammar Conference in Nicosia, Cyprus.
- Benoît Sagot participated to the 2nd workshop on Systems and Frameworks for Computational Morphology in Zürich, Switzerland.
- Benoît Sagot participated to the 5th Language and Technology Conference in Poznań, Poland.
- Benoît Sagot participated to the European Summer School on Logics, Language and Computation in Ljubljana, Slovenia.
- François Barthelémy participated to the FSMNLP/CIAA (joint events) in Blois, France.
- Laurence Danlos and Charlotte Roze participated to the Muldico Exploratory Workshop "Towards a multilingual database of connectives" in Les Diablerets, Switzerland.
- Laurence Danlos and Charlotte Roze participated to Constraints In Discourse (CID 2011) in Agay, France.
- Laurence Danlos participated to the 13th European Workshop on Natural Language Generation (ENLG) in Nancy, France.
9.3. Teaching

Alpage is in charge of the prestigious cursus of Computational Linguistics of Paris 7, historically the first cursus in France in this domain. This cursus, which starts in License 3 and includes a Master 2 (research) and a professional Master 2, is directed by Laurence Danlos. Marie Candito is in charge of the License 3, and Laurence Danlos is in charge of both Master 2. All faculty members of Alpage are strongly involved in this cursus, but some Inria members also participate in teaching and supervising internships. Unless otherwise specified, all teaching done by Alpage members belong to this cursus. Teaching by associate members in other universities are not indicated.

Laurence Danlos (INRIA partial delegation): Introduction to NLP (3rd year of License, 28h); Discourse, NLU and NLG (2nd year of Master, 28h).

Marie Candito (half-delegation since September 2011): Information retrieval (2nd year of professional Master, 12h); Clustering and Classification (2nd year of professional Master, 12h); Probabilistic methods for Natural language processing (1st year of Master, 48h); Machine translation (1st year of Master, 48h); Probabilities and statistics for Natural language processing (3rd year of Licence, 24h);

Benoît Crabbé (INRIA delegation until August 2010): Language data analysis (24h Master 2 P7) ; Logical and Computational structures for language modelling (12h Master 2 MPRI) with S. Schmitz. Introduction to computer science (24h L3 P7); Introduction to Corpus Linguistics (24h L3 P7);

Benoît Sagot: Parsing systems (2nd year of Master, 24h). Introduction to NLP (3rd year of License in Computer Science, 24h).

Pascal Denis: Computational Semantics (2nd year of Master, 24h).

Charlotte Roze: Introduction to Programming (3rd year of License, 24h); Algorithmics (3rd year of License, 24h).

Juliette Thuiller: Syntactic theories : Lexical-Functional Grammar (3rd year of Licence, 48h); Introduction to syntax (2nd year of License, 24h) at University Paris Sorbonne; Implementation of LFG Grammar (2nd year of Licence, 12h) at University Paris Sorbonne;

Pierre Magistry: Object Oriented Programming, Java-II (3rd year of licence, 12/24h) ; Syntax : HPSG with LKB (1st year Master, 24h)

Luc Boruta: Introduction to Programming II (3rd year of License, 24h); Algorithmics (3rd year of License, 24h); Language & Computer Science (1st year of License, 12h);

François-Régis Chaumartin: Modélisation (UML) et bases de données (SQL) (2nd year of professional Master, 24h).

Djamé Seddah (half-delegation since September 2011): as an Assistant Professor in CS in the University Paris 4 Sorbonne, member of the UFR ISHA, mainly teaches “Generic Programming and groupware”, “Distributed Application and Object Programming”, “Syntaxic tools and text Processing for NLP”, “Machine Translation Seminars” in both years of the Master “Ingénierie de la Langue pour la Gestion Intelligente de l’Information”. Djamé Seddah is also the “Directeur des études” of a CS transversal module for the Sorbonne’s undergraduate students (ie “Certificat Informatique et Internet”).

Ongoing PhDs and PhDs defended in 2011:

PhDs in progress:
- Luc Boruta, *Indicators of Allophony and Phonemehood*, started in September 2009, co-supervised by Emmanuel Dupoux (LSCP/ENS) and Benoît Crabbé
- Chloé Braud, *Développement d’un système complet d’analyse automatique du discours à partir de corpus annotés, bruts et bruités*, started in September 2011, supervised by Laurence Danlos, co-supervised by Pascal Denis
- François-Régis Chaumartin, *Extraction automatisée de connaissances d’une encyclopédie*, started in October 2005, supervised by Sylvain Kahane
• Valérie Hanoka, Construction semi-automatique de réseaux lexicaux spécialisés multilingues, started in January 2011, supervised by Laurence Danlos, co-supervised by Benoît Sagot

• Enrique Henestroza Anguiano, Enhancing statistical parsing with lexical resources, started in November 2009, supervised by Laurence Danlos and co-supervised by Marie Candito and Alexis Nasr.

• Emmanuel Lassalle, Résolution automatique des anaphores associatives, started in September 2010, supervised by Laurence Danlos and co-supervised by Pascal Denis

• Pierre Magistry, Construction (semi)-automatique de lexiques dynamiques du mandarin, started in September 2010, supervised by Sylvain Kahane and co-supervised by Benoît Sagot and Marie-Claude Paris

• Charlotte Roze, Vers une algèbre des relations de discours, started in October 2009, supervised by Laurence Danlos

• Rosa Stern, Construction d’une base de référence pour les métadonnées de dépêches d’agence: reconnaissance et résolution jointes d’entités avec adaptation au domaine, started in November 2009, supervised by Laurence Danlos and co-supervised by Benoît Sagot

• Juliette Thuillier, Contraintes préférentielles et ordre des mots en français, started in September 2008, supervised by Laurence Danlos and co-supervised by Benoît Crabbé

9.4. PhD committees

+ Benoît Sagot was a member of Ourania Voskaki’s PhD Committee (Université Paris-Est Marne-la-Vallée, IGM); the title of her dissertation is "Le lexique-grammaire des verbes du grec moderne — Constructions transitives non locatives à un complément d’objet direct"

+ Laurence Danlos was a referee member and Éric de La Clergerie was a member of Elsa Tolone’s PhD Committee (Université Paris-Est Marne-la-Vallée, IGM); the title of her dissertation is "Analyse syntaxique à l’aide des tables du Lexique-Grammaire du français"

+ Laurence Danlos was a referee member of Laurent Kevers’ PhD Committee (Université de Louvain La Neuve); the title of his dissertation is "Accès sémantique aux bases de données documentaires: "Techniques symboliques de traitement automatique du langage pour l’indexation thématique et l’extraction d’informations temporelles"

9.5. Commissions

+ Laurence Danlos was a member of the “Comité de Sélection” for a Full Professor position in Computational Linguistics (CNU 07) at University Paris 3.

+ Benoît Sagot was a member of the “Comités de Sélection” for an Assistant Professor position in Computer Science (CNU 27) at University Paris 13 (LIPN), for an Assistant Professor position in Computer Science or Applied Mathematics (CNU 26/27) at University Paris 4, and for an Assistant Professor position in Computer Science (CNU 27) at University Paris-Est Marne-la-Vallée (IUT).

+ Marie Candito was a member of the Comité de Sélection for an Assistant Professor position at University Paris 13 (LIPN).

+ Benoît Sagot was a member of 4 recruitment committees for PhD, post-doc and engineer positions within the LabEx (excellency cluster) EFL.

+ Benoît Sagot is a member of the Inria’s Scientific and Technological Orientation Council (COST-GTRI), and, as such, participated in the evaluation of the Inria Associate Team proposals and of ERCIM post-doc applications.
Éric de La Clergerie was a member of the mid-term Phd defense jury of Karen Fort (LIPN), and participated in the evaluation of the Phd proposal of Silvia Neculescu (Universitat Pompeu Fabra, Barcelona).

Marie Candito was a member of the AERES evaluation committee for the Centre de Recherche en Linguistique et Traitement automatique des Langues–Lucien Tesnière (EA 2283), at Université de Franche-Comté.

9.6. INRIA Evaluation

Alpage was evaluated during the evaluation seminar of the INRIA team “Audio, Speech and Language Processing” which took place at the Mercure Hotel in Rungis, on October 13-14, 2011.

In the “Overall Theme Evaluation” section, that precedes a more detailed analysis of Alpage’s achievements, the evaluators consider that Alpage has continued to publish theoretical contributions in parsing and formal language theory, using statistical and machine learning methods with particular attention to robustness issues in processing unrestricted texts. Alpage is also acting as a developer/providing of open-source NLP resources (lexicons, grammars, etc) for French. These resources are important both for the academic community and for the industrial sector. As a result, ALPAGE enjoys a prominent position in the field, both at the national and international level.
9. Dissemination

9.1. Animation of the scientific community

Robert de Simone
Program co-organizer: UML&FM 2011
Board of Administrators: CIM PACA Design Platform association
PhD reviewer: Florence Plateau (University Paris XI), Giovanni Funchal (VERIMAG Grenoble), Stéphane Lecomte (Supelec Rennes)
PhD examiner: Mathieu Acher (UNS) (President of Jury).

Yves Sorel
PhD reviewer: Ahmad Al Sheikh (INSA Toulouse), Frédéric Fauberteau (University Paris Est).
PhD examiner: Dominique Bertrand (University Toulouse), Cyril Faure (University Paris Est).
Steering Committee: OCDS/SYSTEM@TIC Paris-Region Competitivity Cluster.

Frédéric Mallet
PhD reviewer: Daniel Knorreec (Telecom-ParisTech)
PhD examiner: Kelly Garcès-Perrett (Ecole Centrale de Nantes)

Dumitru Potop-Butucaru
Technical Program Committee: ACSD 2011, ESLsyn 2011, APRES 2011

Julien Deantoni
Action co-leader: CNRS Specific Action AS GeMoC

Laurent George
Program Chair: RTNS 2011 (with Alan Burns, University of York)
Technical Program Committee: RTNS 2011, OPODIS 2011, WFCS 2011, ICONS 2011
Co-leader of the ACTRISS group, supported by GDR ASR (CNRS, France),
Organisation: ACTRISS workshop (http://www-roc.inria.fr/who/Laurent.George/ACTRISS/).
PhD reviewer: Henri Bauer (ENSEEIHT, Toulouse)
PhD examiner: Frédéric Fauberteau (University Paris Est).

9.2. Teaching

Julien Deantoni
Licence: Computer Environnement, 30 h, L2 level, Polytechnical engineering school of Université de Nice/Sophia-Antipolis (UNS EPU) France.
Master: Model Driven Engineering, 22 h, M2, UNS EPU.
Master: C++ and Object Oriented Programming, 54 h, M1, UNS EPU.
Master: Embedded Software and systems, 7 h, M2, UNS EPU.
Master: VHDL, 20 h, M1, UNS EPU.

Sid-Ahmed-Ali Touati
Licence: Assembleurs et jeux d’instructions, 52h, L2, UNS Licence info.
Licence: Systèmes d’exploitation, 27h, L2, UNS Licence info.
Master: Systèmes d’exploitation, 36h, M1, UNS Master ISI.
Master: Programmation efficace et Optimisation de code, 23h, M1, UNS Master ISI.

Frédéric Mallet
Licence : Introduction à la Programmation Objet, 45h, L1, UNS.
Licence: Architecture des ordinateurs, 45h, L3, UNS.
Master: Programmation Avancée et Design Patterns, 93h, M1, UNS.
Master: Java pour l’Informatique Industrielle, 24h, M1, UNS.
Master: Architectures des ordinateurs, 12h, M1, UNS.
Master: Formal Models for Network-On-Chips, 12h, M2, UNS.

Marie-agnes Peraldi-Frati
Licence : Algorithms and programming 60h,L1, UNS Institute of technology.
Licence : System and Networks administration 80h, L2, UNS Institute of technology.
Licence : Web Programming 50 h, L2, UNS Institute of technology.

Robert de Simone
Master UNS Ubinet : Formal Models for Networks-on-Chip (together with Frédéric Mallet), 24h , M2, UNS.
Master UNS ISI : Semantics of Embedded and Distributed Systems, 24 h (together with Ludovic Henrio of Oasis EPI), M1, UNS.

Yves Sorel
Master: Optimization of distributed real-time embedded systems, 24H, M2, University Paris Sud.
Master: Distributed real-time systems, 26H, M2, University Paris Est
Master: Specification and formal models for embedded systems, 26H, M2, ENSTA Engineering School Paris
Master: Correct by construction design of reactive systems, 18H, M2, ESIEE Engineering School Noisy-Le-Grand
Dumitru Potop-Butucaru
Master: Programmation synchrone des systèmes temps-réel, 8h, M1, EPITA Engineering School Paris

PhD in progress : Jean-François le Tallec, entitled Extraction de modèles pour la conception de systèmes sur puce, started November 2007, defense scheduled on January 25, 2012; supervised by Charles André.

PhD in progress : Mohamed Marouf, entitled Implementation of real-time multi-periodic fault tolerant robotics applications onto distributed architecture, started January 2009; supervised by Yves Sorel.

PhD in progress : Manel Djemal, entitled ??, started 2010; co-supervised by Dumitru Potop (with Alix Munier, professor at University Paris 6).

PhD in progress : Carlos Gomez Cardenas, entitled ??, started October 2010; supervised by Frédéric Mallet.

PhD in progress : Thomas Carle, entitled ??, started October 2011; supervised by Dumitru Potop.

PhD in progress : Falou Ndoye, entitled Distributed real-time scheduling with optimized preemption, started January 2011; supervised by Yves Sorel.
8. Dissemination

8.1. Involvement within the Scientific Community

8.1.1. Programme Committees of Conferences and Workshops

- Nelly Bencomo is PC member of the following international conferences: SEAMS ’11 & ’12, SBES ’11, MODELS ’12, CbSE ’12, Poster track at RE ’11 & ’12;
- Nelly Bencomo is PC member of the following international workshops: MAPLE ’10 at SPLC ’10, WCSI ’10, SOAR ’11, MoDRE ’11 at MODELS’11, VAST ’11 UsARE ’12 at ICSE ’12;
- Nikolaos Georgantas is PC member of the IC SOFTWARE ’11, AmI ’11, NAS ’11 international conferences, and the CFSE ’11 national conference;
- Nikolaos Georgantas is PC member of the M-MPAC ’11, MW4SOC ’11, QASBA ’11, MAASC ’11 international workshops, and the IC SOC’11 PhD Symposium;
- Valérie Issarny is PC member of the following international conferences: COMSWARE ’11, ESEC/FSE ’11, ESSOS’12, FASE ’11 & ’13, FMOODS ’11, ICDCS ’11, ICSE ’13, ICSOC ’11, IFIPTM ’11, ISARCS ’11 & 12, Middleware ’11, SEAMS ’11 ServiceWave ’11, Mobile track at ESWC ’11, Demonstration track at ICSE ’11, NIER Track at ICSE ’12;
- Valérie Issarny is PC member of the following international workshops: ESWC ’11, EternalS ’11, MW4SOC ’11, Serene ’11, SESENA ’11;
- Animesh Pathak is PC member of ISSNIP ’11, S-Cube ’11 & ’12, and SECON ’11 international conferences; and
- Animesh Pathak is PC member of SESENA ’12 and NPC ’12 international workshops.

8.1.2. Leadership Services in Academic Events and Edited Journals

- Nelly Bencomo is Student Volunteers Co-Chair at ICSE 2012;
- Nikolaos Georgantas is associate editor of the International Journal of Ambient Computing and Intelligence (IJACI);
- Valérie Issarny is member of the Steering Committee of the Middleware and ESEC/FSE conferences;
- Valérie Issarny was associate editor of ACM Computing Surveys till September 2011;
- Valérie Issarny is associate editor the Springer JISA Journal of Internet Services and Applications;
- Valérie Issarny is co-chair of the Future of Middleware event, co-located with Middleware ’11, 13 December 2011 in Lisbon, Portugal;
- Valérie Issarny is co-chair of SFM-CONNECT: The 11th International School on Formal Methods for the Design of Computer, Communication and Software Systems: Connectors for Eternal Networked Software Systems, on 13-18 June, 2011 in Bertinoro; and
- Animesh Pathak is the Production Chair of HiPC 2011 & 2012.

8.1.3. Other Academic Services

- Nikolaos Georgantas is member of the PhD monitoring committee at Inria Paris-Rocquencourt;
- Nikolaos Georgantas is member of the organizing committee of the monthly colloquium at Inria Paris-Rocquencourt;
• Valérie Issarny is coordinator of the EC FP7 FET IP CONNECT;
• Valérie Issarny is scientific leader of the EC FP7 IP CHOREOS;
• Valérie Issarny is expert for the EC FP7 ICT work programme, and ARTEMIS Joint Undertaking;
• Valérie Issarny is member of the INRETS scientific council (IFSTTAR since 2011) & “Commission d’évaluation des chercheurs”;
• Valérie Issarny is member of the GDR GPL scientific council; and
• Valérie Issarny is member of the evaluation committee of the ANR “Programme Blanc” and “Programme Jeunes Chercheuses et Jeunes Chercheurs” for the 2011 & 2012 call.

8.2. Teaching

• Valérie Issarny gives a 12 hours lecture on “Pervasive Service Oriented Computing” as part of the SWAS lecture of the Master 2 COSY of the University of Versailles Saint-Quentin en Yvelines;
• Valérie Issarny gave a lecture "Revisiting the Middleware Paradigm to Meet the Challenge of Interoperability in Pervasive Networks" at The workshop on Ubiquitous Computing Middleware 2011 (UCM 2011), 27 - 28 of June 2011 at the Department of Informatics of the University of Fribourg, Switzerland;
• Valérie Issarny gave a lecture on "Model-based Emergent Middleware to Meet the Challenges of Interoperability in Pervasive Networks" at ESEC/FSE’11 Tech Briefings, 6 September 2011, in Szeged, Hungary;
• Valérie Issarny gave a lecture on "Towards Future Proof Interoperability" at the SERENE’2011 Autumn School, 27-28 September 2011 in Geneva, Switzerland;
• Animesh Pathak co-taught a Master’s level course on “Web sémantique, contenus et usages” at University of Versailles Saint-Quentin-en-Yvelines in Spring 2011; and
• Animesh Pathak gave two three-hour guest lectures at CNAM, Paris as part of a Master-level course.

8.3. PhD

The following PhD theses are currently in progress at the ARLES project-team:

• Dionysis Athanasopoulos, “Evolution and Maintenance in Service-oriented Software”, started October 2008, advised by Apostolos Zarras and Valérie Issarny
• Nebil Ben Mabrouk, “QoS Service Oriented Middleware for Pervasive environments”, started October 2007, advised by Nikolaos Georgantas and Valérie Issarny
• Amel Bennaceur, “Synthèse dynamique de connecteurs pour les réseaux ubiquitaires”, started October 2009, advised by Valérie Issarny
• Sara Hachem, “Middleware pour l’Internet des objets intelligents”, started October 2012, advised by Valérie Issarny
• Amir Seyedi, “Impact of Social Networks on Middleware for Mobile Environment”, started December 2009, advised by Animesh Pathak and Valérie Issarny.
8.4. Internships

During the year 2011, members of the ARLES project-team supervised the work of the following student interns:

- Benjamin BILLET, *En quoi les architectures logicielles et intégricielles peuvent-elles simplifier le processus de développement et d’évolution des applications multi-plateformes?*, EPSI, Montpellier, France.
- Ajay CHHATWAL, *Supporting application development for Future Internet of smart things and services*, Integrated M.Tech Dual-degree program, Institute of Technology, Banaras Hindu University, India.
- Fatma GHACHEM, *Développer et intégrer de nouveaux services d’infrastructure pour faciliter les interactions entre les terminaux mobiles*, M2, ESPRIT Ecole Supérieure Privée D’Ingénierie et de Technologie, Tunisia.
- Mahesh GONDI, *Middleware support for managing social data in smart urban environments*, Bachelor of Technology, Institute of Technology, Banaras Hindu University, India.
- Shashank KHARE, *Realization of a generic trust simulator for distributed systems*, Integrated M.Tech Dual-degree program, Institute of Technology, Banaras Hindu University, India.
- Shashank TYAGI, *Ontology based interoperability of instant messaging applications*, Integrated M.Tech Dual-degree program, Institute of Technology, Banaras Hindu University, India.
- Valentin VILLANOVA, *Ergonomie des services coopératifs mobiles*, IUT Cergy-Pontoise, France.
7. Dissemination

7.1. Animation of the Scientific Community

7.1.1. General Audience

- Two accepted manifestations (AxIS INRIA & ICT Usage lab) at the Mobility Week event European in Nice and Antibes territories in relation to ELLIOT (cf. section 6.3.1.1) and TIC TAC (cf. section 6.1.1) projects: Demonstration of the Nice Air application and street survey on people relation to air pollution (cf. 6.3.1.1) and demonstration of MobilTIC application and questionnaires on citizen needs in terms of a real-time information system for public transportation (cf. 6.1.1). http://www.agissons.developpement-durable.gouv.fr/-Semaine-europeenne-de-la-mobilite-

- Co-organization of three open days at CSTB (Sophia Antipolis) related to the PACALABS Ecoffices project and their reports [79] (cf. 6.1.3).

7.1.2. Editorial Boards and Reviewing

AxIS members participate in the editorial boards of the following journals:

- MODULAD (electronic journal), http://www.modulad.fr/: Y. Lechevallier as co-editor
- BIT (Behaviour & Information Technology): D.L. Scapin (Associate Editor)
- Journal of Symbolic Data Analysis: Y. Lechevallier and B. Trousse
- IJDST - International Journal of Design Sciences & Technology: B. Trousse
- Co-Design Journal: B. Trousse
- IE - International Journal of Innovation and Entrepreneurship: M. Pullot
- IJHCS - International Journal of Human-Computer Studies: D.L. Scapin
- IWC - Interacting with Computers: D.L. Scapin

AxIS members are very regularly reviewers for various major journals: let us note for 2011 TKDE, BIT, IJHCS (International Journal of Human-Computer Studies), JMUI (Journal of Multimodal User Interfaces), Le Travail Humain, UAlS, IwC;

D. Scapin was reviewer for a book: Cognitively Informed Interfaces to be published by IGI Global (http://www.igi-global.com/)
7.1.3. Conferences/Workshops Scientific Program Committees

- Y. Lechevallier is **scientific chair** of the 12th French-Speaking International Conference EGC 2012 which is the main francofon-speaking conference in KDD (around 400 participants) (http://egc2012.labri.fr/).
- B. Trousse is member of the **supervising committee** of the association EGC (http://www.egc.asso.fr/).

AxIS permanent members are involved in the following program committees of conferences and workshops:

- EGC 2011, Extraction and Management of Knowledge, January: Y. Lechevallier, B. Trousse
- IC 2011, 22èmes journées francophones d’Ingénierie des connaissances, 16-20 May, Chambery: B. Trousse
- CSCWD 2011, the 15th International Conference on Computer Supported Cooperative Work in Design, June 8-10, Lausanne, Switzerland (IEEE SMC Society): B. Trousse
- H2PTM 2011, Hypermédias et pratiques numériques, 12-14 October, Metz: B. Trousse
- EGC Maghreb 2011, Extraction and Management of Knowledge, November (Tanger, Morocco): B. Trousse
- EGC 2011, EvalECD Workshop, January: Y. Lechevallier
- Workshop UED 2011, Workshop on Usability in Education at IHM’11, Nice - Sophia Antipolis: D. Scapin
- HCI International 2011, the 14th International Conference on Human-Computer Interaction, Orlando, Florida, USA, in July 2011: D. Scapin
- HCD 2011 2nd International Conference on Human Centered Design; in the context of HCI, Orlando, Florida, USA, in July 2011: D. Scapin
- EPIQUE 2011 (Colloque de Psychologie Ergonomique) September 5-7 à Metz: D. Scapin
- INTERACT 2011, 13th IFIP TC13 Conference on Human-Computer Interaction, Lisbon, Portugal, September 5-9, 2011: D. Scapin
- PUX2011 (5th Workshop on Software and Usability Engineering Cross-Pollination), Lisbon, Portugal, September 5-9, 2011: D. Scapin
7.1.4. Organization of Workshops and Conferences


- AxIS (M. Pallot and B. Trousse) as member of the ICT Usage lab collaborates to the organization of the Living Lab Track at ICE 2011, the 2011 edition of the ICE International Conference on Concurrent Engineering: the thematic Domain Network [68] and the concept of “Common Asset” key element for the thematic Domain Network [81]. Panelist and participants were involved also in an interactive session to analyze what can be done with the establishment of Domain Networks and how the relevant phases can be achieved.

- LLSS2011, the Second European Living Labs Summer school in Cornella, 29 August – 2 September 2011: M. Pallot and B. Trousse were members of the international organizing team. M. Pallot was chair and organizer of The Core Workshop on “Living Lab State of the Art” (M. Pallot as chair and organizer).

7.1.5. Participation in PhD Thesis Committees

AxIS researchers were members of the following Ph.D. committees in 2011:

- B. Trelhu, Ph.D., Modélisation, analyse et comparaison de procédures bchirurgicales, application à la neurochirurgie, June, University Rennes 1: Y. Lechevallier

- O. Merroun, Ph.D., Traitement à grande échelle des données symboliques, July, University Dauphine: Y. Lechevallier

- I. Abid, Ph.D., Modélisation de la prévision de défaillance des entreprises par des approches statiques et dynamiques : Réseaux de neurones réseaux bayésiens, modèles de durée et dichotomiques, July, University Paris 10 Paris-Ouest Nanterre La Défense: Y. Lechevallier

- C. Zhang, Ph.D., Mining data streams: clustering and pattern extraction, University of Nice-Sophia Antipolis & INRIA: F. Masseglia (director), October, B. Trousse

- T. Amouh, Ph.D., Analysis of tabular non-standard data with decision trees, and application to hypnogram-based detection of sleep profile, December, University Namur (FNDP), November: Y. Lechevallier

- E. Smirnova, Ph.D., Network-based solutions for expert finding, University of Nice Sophia-Antipolis & INRIA, December: B. Trousse

7.1.6. Invited Talks

Marc Pallot was invited speaker at CLMPS 2011 (Congress of Logic, Methodology and Philosophy of Science), Nancy, 21-22 July 2011, at the IUHPS (International Union of History and Philosophy of Science Joint commission Symposium) session on “Development of Cognition in Technology and Technosciences”. Presentation title “Group Cognition within Living Lab Research and Innovation, the Cycle of Experiential Knowledge”.

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**Note:** The text appears to contain a mix of references and affiliations, possibly from a research report or academic document, which is not typical for a standard research paper format. It's possible that this is a draft or a rough version of a document, given the scattered formatting and informal language used throughout.
7.1.7. Involvement in Regions

PACA Region

- B. Trousse and B. Senach are members of the coordination committee of the ICT Usage Lab (INRIA, CSTB, Orange Labs and UNS).
- B. Senach and B. Trousse pursued the reactivation started in 2008 of the living lab ICT Usage Lab by increasing our contacts with territories (NCA, CASA, CG06) and with the University Of Nice Sophia Antipolis disseminating the living lab approach and/or involving them as supporters or partners of ICT usage Lab projects.
- AxIS as ICT Usage Lab Member has established relations with the urban community of Nice Cote d’Azur (NCA) mainly related to their numeric ecosystem project (PACALABS 3), the Fireball european action (FP7), the ELLIOT European project (FP7) and to some future projects (pacalabs Eco-families, Ecocité project) as well as this urban community of Antibes Sophia Antipolis (CASA) on transportation:information systems (TIC TAC) and energy (Ecoffices). Subjects: user involvement, usage analysis, service evaluation and experiments, co-creation with citizen.
- AxIS maintained his contacts with CRT Tourism PACA and Province of Impera (Italy).
- B. Trousse as INRIA representative is a member of the expert committee of the Pacalabs and to the strategic committee of the Pacalabs orientation of the Regional Council.
- B. Trousse was invited by P. Mallea to participate to the Open Innovation workshop and living lab organised by Poe SCS and CNR Santé, NICE (28 June 2011).
- B. Senach and A-L Negri attended the FabLab day (November 18) Aix-en-Provence organised by FING.

Others Regions

- AxIS (D. Scapin) is involved in Process 2.0 project where the Midi-Pyrénées region and Limousin Region are pilots.
- B. Trousse was invited in december to participate in a working meeting related to a living lab project for Gran Lyon territory.
- B. Trousse was invited by C. Colucci in a round table “Espaces publics: living labs, co-working, comment innover avec les citoyens?” at les Interconnectés 2011 - Réseau des territoires innovants in Lyon (December 2nd).
- B. Trousse as co-animator of the french network of living labs organised two meetings in Paris in order to create a new 1901 association called “France Living Labs” (http://www.france-livinglabs.fr) facilitating mutualisation between living labs and increasing our visibility.

7.2. Teaching and Supervision

7.2.1. Teaching activities

Y. Lechevallier

Master 2 Recherche Systemes intelligents (resp: S. Pinson), University at Paris IX-Dauphine, France. Yves Lechevallier taught a course on "Du data mining au knowledge mining" (12h).

Master 2 Pro Ingénierie de la Statistique (resp: G. Saporta) at CNAM (Conservatoire national des arts et métiers), France. Yves Lechevallier taught a course on "Méthodes neuronales” (12h).

ENSAE (Ecole Nationale de la Statistique et de l’Administration Economique): Yves Lechevallier taught a course on Data Mining (18h).

ENSG: Yves Lechevallier taught a course on Clustering (12h).
7.2.2. PhD Thesis

AxIS is a associated team of the STIC Doctoral school of the Nice-Sophia Antipolis University (UNS). Our PhD students come from the University of Paris Dauphine, the University of Nice Sophia Antipolis, the Université Catholique de Louvain, the University of Recife (Brazil) and from various Universities of Morocco and of Tunisia.

Two PhD have been defended this year:

PhD: E. Smirnova, "Network-based solutions for expert finding" [18], University of Nice-Sophia Antipolis & INRIA, december 15, (co-directors: M. Rueher, B. Trousse with the participation of K Avrachtechov).

PhD: C. Zhang, “Mining data streams: clustering and pattern extraction” [19], University of Nice-Sophia Antipolis & INRIA, October (director: F. Masseglia).

3 PhDs under progress: B. Trousse participates in supervising three PhD students from Morocco in the context of the WRUM project related to data mining in e-learning: M. Naamany and N. Sael (University of Casablanca supervised by A. Marzark) and E Zemmouri (University of Fes and ENSAM Meknès, Morocco supervised by H. Behja and A. Marzark).
8. Dissemination

8.1. Animation of the scientific community

Benoît Perthame is editor in various journals (CALCOLO, CPDE, SIAM J. Math. Analysis, DCDS(B)).
Dirk Drasdo is in the editorial board of TheScientificWorldJOURNAL and ISRN Biophysics. He is member of the VPH FET advisory board for the EU and an expert team for Mathematics for health care.
Organisation of a weekly informal, interactive seminar by Marie Doumic-Jauffret, Dirk Drasdo and Irène Vignon-Clémentel (REO project-team).
Benoît Perthame represents INRIA at the expert group of the INSERM Institute “Molecular and structural bases of the living” (ITMO Bases moléculaires et structurales du vivant, head Thierry Meinnel).
Jean Clairambault represents INRIA at the expert group of the INSERM Cancer Institute (ITMO Cancer, head Fabien Calvo).

Supervision of Annabelle Ballesta’s PhD thesis (June 2007-June 2011) by Jean Clairambault and Francis Lévi.
Supervision of François Bertaux’s PhD thesis (since September 2011) by Dirk Drasdo and Gregory Batt.
Supervision of François Bertaux’s M2 internship (until August 2011) by Dirk Drasdo and Gregory Batt.
Supervision of Anne-Céline Boulanger’s PhD thesis by Marie-Odile Bristeau and Jacques Sainte-Marie.
Supervision of Youssef Bourfia’s PhD thesis (since September 2011) by Jean Clairambault, Mostafa Adimy and Hassan Hbid (UCAD, Marrakech).
Supervision of Luna Dimitrio’s PhD thesis (since March 2010) by Jean Clairambault and Roberto Natalini (University Sapienza, Rome).
Supervision of Adrian Friebels PhD thesis (since June 2011) by Dirk Drasdo and Stefan Hoehme.
Supervision of Hadjer Wafaâ Haffaf’s PhD thesis (from September 2011) by Marie Doumic-Jauffret.
Supervision of Nick Jagiella’s PhD thesis (since July 2007) by Dirk Drasdo, Benoît Perthame, and Irène Vignon-Clémentel (REO project-team).
Supervision of Emanuele Leoncini’s M2 internship by Dirk Drasdo.
Supervision of Johannes Neitsch’s PhD thesis (since June 2011) by Dirk Drasdo and Stefan Hoehme.

8.2. Scientific popularisation

B. Perthame has given a public talk ‘Interactions entre mathématiques et sciences du vivant’, CentreSciences, Chartres, May, 2011.
A. Ballesta, J. Clairambault, F. Lévi, A. Langlois (direction), C. Mistral (graphisme) “La chronothérapie des cancers”, video/animation of scientific popularisation, produced in collaboration with the multimedia team of INRIA Paris-Rocquencourt, November 2011
A. Ballesta has presented chronotherapy, illustrated by her popularisation movie on the subject in various lycées of the Paris region in 2011.
D. Drasdo has written an article on simulated liver regeneration in the popular journal systembiologie.de (in English and German, printed and under http://www.systembiologie.de) (Issue 03, 2011).
D. Drasdo was also interviewed by Kai Kraemer for the article Virtuelle Heilung (Laborjournal, 3/2011), in German and by Richard Grant for an article in The Scientist, also on liver regeneration (accessible by internet 2011).

J. Clairambault has published an article in Acta Biotheoretica [14]: “Commitment of mathematicians in medicine. A personal experience, and generalisations”, following an international workshop organised in 2010 in Paris on “The role and impact of mathematics in medicine”, on which a collective report has been published independently [3].

8.3. Teaching

- “Modélisation dans le domaine biomédical: Introduction à la biologie mathématique”. Lectures in 2nd school year in the common course “Physiology and biotechnologies”). École Centrale de Paris (Chatenay-Malabry): 9 h (Jean Clairambault)
- M2 Pharmacology (Rennes 1): 4 h (Jean Clairambault)
- M2 Pharmacology & Oncology (Paris XI): 2 h (Jean Clairambault)
- Doctoral school “Innovation thérapeutique” (Paris XI): 2 h (Jean Clairambault)
- M2, Mathematical Biology, UPMC: “Agent-based models of tissue organisation”: 24 h (Dirk Drasdo)
- School on Cancer modelling at IRCC (Institute for Cancer Research and Treatment) in Candiolo, Italy, March 2011: “Individual-cell-based models for tumor growth and tissue regeneration”: 6 h (Dirk Drasdo)
- Course on Finite Elements (professor: P. Ciarlet), ENSTA, Paris: 12 h (Marie Doumic-Jauffret, assistant professor)
- TP atelier LM220 “Arithmétique” (Paris VI): 26 h (Luna Dimitrio, PhD student)
- L2 “Biology, Health & Environment” at university P. M. Curie, 21 h : S. Ayata
- M2 “Oceanography and marine environments” at university P. M. Curie, 9 h : S. Ayata
- Ecole d’Ingénieur SupGalilée (Univ. Paris 13) Finite Elements, 48 h : E. Audusse
- Numerical methods, UAM (Universidad Autonoma Madrid, Spain), 10 h : E. Audusse

8.4. Participation in congresses, workshops,...

- Audusse Emmanuel: SMAI congress, Guidel, France.
- Audusse Emmanuel: Finite Volumes and Complex Analysis (6th conference), Prague (presentation)
- Audusse Emmanuel: NumHyp (“Numerical Approximations of Hyperbolic Systems with Source Terms and Applications.”), Roscoff, France. (organizer)
• Ballesta, Annabelle: European Conference on Mathematical and Theoretical Biology (ECMTB) Kraków, Poland, July 2011 (poster).
• Ballesta, Annabelle: “Young Investigators International Workshop”, Rouen, France, April 2011.
• Billy, Frédérique: “Modélisation mathématique de mécanismes de la croissance tumorale”, Seminar talk, Laboratory of Applied Mathematics, Le Havre University, Le Havre, France, April 2011.
• Billy, Frédérique: “Mathematical modeling of interactions between cell cycle and circadian rhythms” - Mathematics and Biology: Young investigators international workshop, Rouen, France, April 2011.
• Boulanger Anne-Céline: Conference “Numerical methods for Hyperbolic Equations Theory and Applications” at Santiago de Compostela, Spain (presentation).
• Boulanger Anne-Céline: SMAI congress, Guidel, France. (presentation)
• Cheddadi ibrahim: Towards quantitative individual-based and continuum models of cells aggregates, ECMTB 2011, Kraków, Poland, June 2011.
• Cheddadi, Ibrahim: Modélisation visco-élasto-plastique d’écoulements de mousse, seminar of Laboratory Matière et Systèmes Complexes, Paris 7, November 2011
• Cheddadi, Ibrahim: Modélisation visco-élasto-plastique d’écoulements de mousse, seminar of Institut Navier, Rhéophysique team, Marne-la-Vallée, November 2011.
• Chettaoui, Chadha: Towards a single-cell-based model of early development in ruminants, 8th European Conference on Mathematical and Theoretical Biology, Kraków, Poland, June 2011.
• Clairambault, Jean: Proliferation in cell population models with age structure. Proceedings of the conference ICNAAM 2011, Kallithea Chalkidikis (Greece), September 2011.
• Clairambault, Jean: Numerical optimisation of anticancer therapeutics, especially chronotherapeutics, with toxicity constraints. 8th international conference of the European Society for Mathematical and Theoretical Biology (ESMTB), Kraków (Poland), June 2011.
• Clairambault, Jean: Modelling the cell division cycle and its control in proliferating healthy and cancer cell populations. Plenary talk, International workshop on mathematical biology, Casablanca, June 2011.
• Clairambault, Jean: Modélisation de la division cellulaire et de son contrôle dans des populations de cellules proliférantes, saines et tumorales. Seminar “Commands”, CMAP, Palaiseau, May 2011.
- Dimitrio, Luna: A Spatial Model For p53 Nuclear Accumulation. Oral communication orale at the conference Mathematics and Biology: Young Investigators International Workshop, Université de Rouen, April 2011.
- Dimitrio, Luna: A Spatial Model For p53 Nuclear Accumulation. Oral communication, Young Researcher Workshop on Theoretical Approaches and Related Mathematical Methods in Biology and Medicine, L’Aquila, Italy, December 2011.
- Drasdo Dirk: International Spring Symposium of the Amsterdam Center for Multiscale Modeling, VU Amsterdam, April 2011.
- Drasdo Dirk: Workshop on integrated liver modelling, Berlin, Germany
- Drasdo Dirk: ECMTB 2011 Kraków (invited to three minisymposia), June-July 2011.
- Drasdo Dirk: Sony Computer Science Laboratory visit to INRIA, March 2011.
- Gabriel, Pierre: Mathematics and Biology: Young Investigators International Workshop, Rouen, France, April 2011
- Lorz, Alexander: Seminar talk, Université Paris V, Mars 2011
- Lorz, Alexander: Seminar talk, Université de Münster (Allemagne), Octobre 2011
- Lorz, Alexander: Invited research stay, Université de Paderborn (Allemagne), Octobre 2011
- Perthame Benoît: Singularities in Nonlinear Problems, Kyoto, short course 2-5/12 2011
- Perthame Benoît: San Diego SIAM PDE (conf. and short course) 14-16th nov. 2011
- Perthame Benoît: Sapporo, short course in the conference “Front propagation, biological problems and related topics”, 6th to 9th sept. 2011
- Perthame Benoît: Vancouver ICIAM plenary speaker, July 18-22 2011
- Perthame Benoît: Spain (Granada) Conference BIOMAT 6-8 June 2011
- Perthame Benoît: USA Providence (Conference for the 70th birthday of C. Dafermos) 11th-12 May 2011
- Perthame Benoît: Nice (Conf. en l’honneur de C. Bardos) 21-24/2 2011
- Perthame Benoît: Santiago (Chile) Seminar 3-12/1/2011
- Sainte-Marie Jacques: SMAI congress, Guidel, France (presentation)
- Sainte-Marie Jacques: invited speaker in various seminars (Orléans, INRA Montpellier, univ. Paris XIII,...)
9. Dissemination

9.1. Teaching

Pr. Jean-Claude Paul, Pr. Jun-Hai Yong, Dr. Bin Wang and Dr. Hui Zhang teach at Tsinghua University. Dr. Hui Zhang is the Dean of the School of Software Teaching Program.

Pr. Xiaopeng Zhang and Dr. Weiming Dong teach at Graduate University of Chinese Academy of Sciences.

9.2. International Conferences Organisation

Pr. Jean-Claude Paul was Honorary Chair and Pr. Xiaopeng Zhang was Program Chair of the ACM Siggraph VRCAI 2011 The 10th International Conference on Virtual Reality Continuum and Its Applications in Industry Dec.11-12, 2011, Hong Kong, China.
8. Dissemination

8.1. Editorial Boards

Editor-in-Chief

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

Associate Editor-in-Chief

– of the *Theory of Computing (ToC)*: Oded Regev

Associate Editor

– of the *Journal of Cryptology*: Phong Nguyen
– of the *Journal of Mathematical Cryptology*: Phong Nguyen
– of the *Security and Communication Networks*: David Naccache
– of the *Journal of Cryptographic Design*: David Naccache
– of the *Encyclopedia of Cryptography and Security*: David Naccache
– of the *Journal of Small Scale Digital Device Forensics (publication currently on hold for financial reasons)*: David Naccache
– of the *Computers & Security Elsevier Advanced Technology* – Elsevier: David Naccache
– of the *Crytologia* – Taylor & Francis: David Naccache
– of the *Information Processing Letters* – Elsevier: David Pointcheval
– of the *IEEE Transactions on Information Forensics and Security*: Michel Abdalla

Columnist (in charge of the bi-monthly CryptoCorner)

– of the *IEEE Security and Privacy Magazine*: David Naccache

8.2. Program Committees

- COSADE – February 2011, Darmstadt, Germany: David Naccache
- CT-RSA – February 2011, San Francisco, USA: David Pointcheval
- ESSoS – February 2011, Madrid, Spain: Bruno Blanchet
- FSE – February 2011, Copenhagen, Denmark: Pierre-Alain Fouque
- NTMS - Security Track – February 2011, Paris, France: David Naccache
- AsiaCCS – March 2011, Hong Kong, China: Damien Vergnaud
- TCC – March 2011, Providence, USA : Vadim Lyubashevsky
- PKC – March 2011, Taormina, Italy: Dario Fiore
- EUROCRYPT – May 2011, Tallinn, Estonia: Michel Abdalla, Vadim Lyubashevsky, David Pointcheval
8.3. Teaching

L1 – Introduction to computer science (Univ. Paris II): David Naccache
L3 – Analytical Methods in Computer Science (ENS): Oded Regev
M1 – Scientific programming through practice (ENS): David Naccache
M1 – Introduction to Cryptology (ENS): David Naccache, Jacques Stern, Damien Vergnaud
M1 – Introduction to Cryptology (EPITA): Phong Nguyen
M2 – Cryptography (MPRI): Michel Abdalla, Vadim Lyubashevsky
M2 – Computer Security (Univ. Paris II): David Naccache
M2 – Risk Management (Univ. Paris II): David Naccache
M2 – Computer forensics (Univ. Paris II): David Naccache
M2 – Provable Security (Univ. Paris VIII): Duong-Hieu Phan
M2 – Cryptography (ESIEA): David Pointcheval
Summer school – Marktoberdorf (Bayrischzell, Germany): Bruno Blanchet
Summer school – VTSA (Liege, Belgium): Bruno Blanchet

8.4. Ph.D/Habilitation Defenses

• Mehdi Tibouchi – Ph.D. – 23 sept. 2011 – Université Paris VII – France
  *Hachage vers les courbes elliptiques et cryptanalyse de schémas RSA [16]*
8.5. Ph.D/Habilitation Committees

- Charles Bouillaguet – Ph.D. – 26 sept. 2011 – Université Paris VII – France  
  *Etudes d’hypothèses algorithmiques et analyse de primitives cryptographiques* [15]

- Michel Abdalla – HDR – 24 nov. 2011 – ENS – France  
  *Reducing The Need For Trusted Parties In Cryptography* [14]

  *Contribution à la sécurité physique des cryptosystèmes embarqués*  
  David Naccache (reviewer)

  *Outils Cryptographiques pour la Protection des Contenus et de la Vie Privée des Utilisateurs*  
  David Pointcheval (reviewer)

  *Modelling and Analyzing Security Protocols in Cryptographic Process Calculi*  
  David Pointcheval

  *Verification of security protocols: from confidentiality to privacy*  
  Bruno Blanchet

- Moez Ben Mbarka – Ph.D. – 6 Apr. 2011 – Université Bordeaux I – France  
  *Signatures électroniques avancées : modélisation de la validation à long terme et sécurité des autorités de certification*  
  Bruno Blanchet

- Jean Lancrenon – Ph.D. – 22 June 2011 – Univ. Grenoble – France  
  *Protocoles d’authentification d’objets à distance*  
  David Pointcheval (reviewer)

- Carla Ràfols – Ph.D. – 19 July 2011 – Universitat Politècnica de Catalunya – Spain  
  *Some issues in public key cryptography: hard-core predicates, distributed protocols and functional encryption*  
  Damien Vergnaud (reviewer)

  *Hachage vers les courbes elliptiques et cryptanalyse de schémas RSA*  
  Pierre-Alain Fouque, David Naccache (co-advisor), Jacques Stern

- Charles Bouillaguet – Ph.D. – 26 Sept. 2011 – Université Paris VII – France  
  *Etudes d’hypothèses algorithmiques et analyse de primitives cryptographiques*  
  Pierre-Alain Fouque (co-advisor), David Pointcheval (co-advisor), Jacques Stern

- Luk Bettale – Ph.D. – 3 Oct. 2011 – Université Paris VI – France  
  *Cryptanalyse Algébrique: Outils et Applications*  
  Pierre-Alain Fouque (reviewer)

  *Euclidean Lattices: Algorithms and Cryptography*  
  Oded Regev (reviewer)

  *Contribution à la sécurité des cartes à puce et de leur utilisation*  
  David Naccache (reviewer)

  *Grothendieck inequalities, Nonlocal games and Optimization*  
  Oded Regev (reviewer)
8.6. Invited Talks

- QIP 2010, Singapore (January): Oded Regev
- CASED Distinguished Lecture + Additional Lecture for Students, Germany (January): David Naccache
- Anniversary workshop in honour of Gérard Berry and Jean-Jacques Lévy, Gérardmer, France (February): Bruno Blanchet
- Two talks in workshop, Dagstuhl, Germany (March): Oded Regev
- Journées Codage et Cryptographie, St. Pierre d’Oleron, France (April): Vadim Lyubashevsky, Damien Vergnaud
- Mathématiques en mouvement, Paris, France (May): Phong Nguyen
- Coding, Cryptology, and Combinatorial Design, Singapore (May): Vadim Lyubashevsky
- International Workshop on Mathematical Cryptology, Daegu, South Korea (June): Michel Abdalla
- WISTP 2011, Heraklion, Crete, Greece (June): David Naccache
- Introductory Workshop on Quantitative Geometry, MSRI, Berkeley, California, USA (August): Oded Regev
- Course on Foundations of Cryptography and Impossibility Results, Scuola Superiore di Catania, Catania, Italy (September): Dario Fiore
- Faces of Modern Cryptography, New York City, USA (September): Vadim Lyubashevsky
- 5th CHINACRYPT, Changsha, China (October): Phong Nguyen
- IEEE Information Theory Workshop, Paraty, Brazil (October): Vadim Lyubashevsky
- São Paulo Advanced School of Cryptography, Campinas, Brazil (October): Michel Abdalla, Vadim Lyubashevsky, Jacques Stern
- 4th PQCrypto Conference, Taipei, Taiwan (November): Phong Nguyen
- European Postdoctoral Day of Excellence in Cryptography, Darmstadt, Germany (November): Dario Fiore
- Congrès du LIA CNRS Formath Vietnam (November): Duong Hieu Phan
- New York Theory Day (November): Oded Regev
- 7th INSCRYPT Conference, Beijing, China (December): Phong Nguyen
- 10th CANS Conference, Sanya, China (December): Phong Nguyen
- IMACC, Oxford, UK (December): David Naccache

8.7. Invitations

- Weizmann Institute, Jan 23 - Feb 8: Oded Regev
- New York University, Oct 8 - Jan 2: Oded Regev
- Weizmann Institute, Oct 28 - Nov 8: Pierre-Alain Fouque

8.8. Seminar Presentations

- Séminaire Codage, Cryptologie, Algorithmes (CCA), Paris, France (January): Oded Regev
- Theory seminar, Technion, Israel (January): Oded Regev
- Cryptography Group, Bristol University, UK (January): Mehdi Tibouchi
- LIRMM, Montpellier, France (January): Mehdi Tibouchi
- Theory seminar, Weizmann Institute, Israel (February): Oded Regev
- GREYC, Université de Caen, France (February): Mehdi Tibouchi
- TELECOM ParisTech, Paris, France (February): Mehdi Tibouchi
- Newton Institute, Cambridge (March): Oded Regev
- Univ. of Limoges, France (March): Vadim Lyubashevsky
- ENS Lyon, France (March): Vadim Lyubashevsky
- Univ. of Grenoble, France (March): Phong Nguyen
- East China Normal Univ., China (April): Phong Nguyen
- IRSEM – IDEST, Paris, France (June): David Naccache
- Univ. of Grenoble, France (June): David Pointcheval
- Univ. of Rennes, France (June): Vadim Lyubashevsky
- ENPC, Marne la Vallée, France (September): David Pointcheval
- IQC, Waterlo, Canada (September): Vadim Lyubashevsky
- IRISA, Rennes, France (October): Bruno Blanchet
- ENS Cachan, Ker Lann, France (November): Pierre-Alain Fouque
- Univ. of Rennes, France (November): David Naccache
- LACS, University of Luxembourg, Luxembourg (May): Dario Fiore
- GREYCC, Université de Caen, France (June): Dario Fiore
- Tsinghua Univ., China (August): Phong Nguyen
- Seminar, Haifa University, Israel (November): Pierre-Alain Fouque
- Theory seminar, Weizmann Institute, Israel (November): Pierre-Alain Fouque
- CSDM seminar, Institute for Advanced Study, Princeton, USA (November): Oded Regev
- IMATH, Université Sud Toulon Var, France (November): Aurore Guillevic
- PRiSM, Université de Versailles, France (November): Aurore Guillevic
- ENS Cachan, Cachan, France (November): Pierre-Alain Fouque
- IRISA, Rennes, France (December): Pierre-Alain Fouque

8.9. Participation in Workshops and Conferences

QIP – January 2011, Singapore: Oded Regev
Computational Complexity of Discrete Problems – March 2011, Dagstuhl, Germany: Oded Regev
Cryptography and Security in Clouds Workshop – March 2011, Zurich, Switzerland: Michel Abdalla
Discrete Harmonic Analysis Workshop – March 2011, Cambridge, UK: Oded Regev
TCC – March 2011, Providence, USA: Vadim Lyubashevsky
FSE – March 2011, Copenhagen, Danmark: Jérémy Jean
FSE – March 2011, Copenhagen, Danmark: Pierre-Alain Fouque
PKC – March 2011, Taormina, Italy: Michel Abdalla, David Pointcheval, Dario Fiore, Mehdi Tibouchi, Damien Vergnaud, Olivier Blazy, David Naccache
CT-RSA – April 2011, San Francisco, California, USA: David Pointcheval
Eurocrypt – May 2011, Tallinn, Estonia: Phong Nguyen, David Pointcheval, Jacques Stern, Dario Fiore, Damien Vergnaud, David Naccache
ACNS – June 2011, Malaga, Spain: Dario Fiore, Mario Streffler
MathCrypt – June 2011, Daejeon, South Korea: Michel Abdalla
STOC and CCC – June 2011, San Jose, California, USA: Oded Regev
WISTP – June 2011, Heraklion, Crete, Greece: David Naccache
Africacrypt – July 2011, Dakar, Senegal: David Pointcheval, Damien Vergnaud
MAYA Workshop “New Applications of New Computational Problems” – July 2011, Bochum, Germany: Michel Abdalla, Dario Fiore
SAC – August 2011, Toronto, Canada: Charles Bouillaguet, Jérémy Jean
8.10. Scientific Animation

8.10.1. Organisation of Events

- a weekly seminar is organized: http://www.di.ens.fr/CryptoSeminaire.html

8.10.2. Board of International Organizations

- Chair of the Program Committee of Africacrypt – David Pointcheval

8.10.3. French Research Community

- Recruitment committee at Université Paris VIII (PR 27): David Pointcheval
- Recruitment committee at Université Versailles-Saint Quentin en Yvelines (MdC 27): Pierre-Alain Fouque
- Recruitment committee at Université Paris II (MdC 26): David Naccache
- Recruitment committee at Université Paris I (PR 27): David Naccache
- INRIA Paris-Rocquencourt seminar committee: Phong Nguyen
- Member of the scientific committee of the LabEx AMIES (Agence pour les Mathématiques et Interaction avec l’Entreprise et la Société)
CLASSIC Project-Team

8. Dissemination

8.1. Animation of the scientific community

8.1.1. Editorial activities, reports written on articles

Gérard Biau serves as an Associate Editor for the journals Annales de l’ISUP, ESAIM: Probability and Statistics and International Statistical Review.

Olivier Catoni is a member of the editorial committee of the joint series of monographies “Mathématiques et Applications” between Springer and SMAI.

All permanent members of the team reviewed several journal papers during the year.

8.1.2. Report written on PhD / habilitation theses, participation to defense committees

We wrote reports on PhD (1 by Gilles Stoltz) and habilitation (1 by Olivier Catoni) theses.

We were examinators for other PhD (4 by Gérard Biau, 1 by Olivier Catoni) and habilitation (1 by Gérard Biau) defenses.

8.1.3. Participation to national or local evaluation or recruitment committees, to scientific societies

Vincent Rivoirard was elected at the Conseil de la SFdS.

Gérard Biau was elected member of the national council of French universities (CNU) within the applied mathematics section (number 26).

Olivier Catoni is a member of the doctoral commission in mathematics of Universities Pierre et Marie Curie and Paris Diderot.

All permanent members of the team participated in several recruitment committees for assistant or full professors in universities.

8.1.4. Conference organization

Gilles Stoltz was a member of the program committee of the 24th Conference on Learning Theory (COLT’11);

Vincent Rivoirard was a member of the program committee of the Journées de la SFdS 2011.


8.1.5. Dissemination of scientific knowledge to the general audience

Gille Stoltz participated in a meeting [Rencontres S’Cube] between a crowd of 4 professional mathematicians and a general audience; the theme was “Perdre ou gagner, peut-on prévoir ?” and the meeting took place in Gif-sur-Yvette, in May 2011.
8.2. Teaching

The permanent members of the team (Gérard Biau, Olivier Catoni, Vincent Rivoirard, and Gilles Stoltz) taught the following classes.

- Licence : Statistiques, 39h, niveau L2, Université Paris-Dauphine, par Vincent Rivoirard
- Licence : Apprentissage, 20h, niveau L3, Ecole normale supérieure, par Olivier Catoni et Gilles Stoltz
- Licence : Théorie des probabilités, 40h, niveau L3, ISUP – Université Pierre et Marie Curie), par Gérard Biau
- Licence : Statistiques pour citoyens d’aujourd’hui et managers de demain, 40h, niveau L3, HEC Paris, par Gilles Stoltz
- Master : Groupe de travail en statistique, 12h, niveau M1, Ecole normale supérieure, par Gérard Biau, Olivier Catoni et Gilles Stoltz
- Master : Statistique mathématique, 30h, niveau M1, Ecole normale supérieure, par Gérard Biau
- Master : Statistique non-paramétrique, 8h, niveau M1, Ecole normale supérieure, par Vincent Rivoirard
- Master : Statistique non-paramétrique, 35h, niveau M1, Université Paris-Dauphine, par Vincent Rivoirard
- Master : Classification et statistique en grandes dimensions, 18h, niveau M2, Université Paris-Sud, par Vincent Rivoirard
- Master : Statistiques et théorie de l’information, 10h, niveau M2, Université Paris-Sud, par Gilles Stoltz
- Master : Apprentissage statistique, 36h, niveau M2, Université Pierre et Marie Curie, par Gérard Biau
- Master : Méthodes pour les modèles de régression, 21h, niveau M2, Université Paris-Dauphine, par Vincent Rivoirard
- Master : Statistique bayésienne non-paramétrique, 21h, niveau M2, Université Paris-Dauphine, par Vincent Rivoirard
- Master : Examinateur à l’oral de probabilités et statistiques de l’agrégation de mathématiques, par Gilles Stoltz

PhD & HdR

- HdR : Gilles Stoltz, Contributions à la prévision séquentielle de suites arbitraires : applications à la théorie des jeux répétés et études empiriques des performances de l’agrégation d’experts, Université Paris-Sud; defended on February 3, 2011
- PhD : Sébastien Gerchinovitz, Prédiction de suites individuelles et cadre statistique classique : étude de quelques liens autour de la régression parcimonieuse et des techniques d’agrégation, Université Paris-Sud; defended on December 12, 2011; supervised by Gilles Stoltz
- PhD in progress : Thomas Mainguy, Modèles statistiques pour la linguistique computationnelle, since September 2009, supervised by Olivier Catoni
- PhD in progress : Pierre Gaillard, since September 2011, supervised by Gilles Stoltz
- PhD in progress : Emilian Joly, since September 2011, supervised by Gábor Lugosi and co-supervised by Gilles Stoltz
- Several other PhD in progress : Gérard Biau and Vincent Rivoirard [co-]supervise[d] several other PhD students who are not members of our project-team (respectively, Benjamin Auder, Aurélie Fischer, Benoît Patra, Clément Levrand, Benjamin Güedj, Svetlana Gribkova, Baptiste Gregorutti for Gérard Biau, and Laure Sansonnet for Vincent Rivoirard)

MSc thesis: Pierre Gaillard (Master MVA, ENS Cachan) was supervised by Gilles Stoltz during this MSc thesis, whose subject was the use of aggregation techniques (based on random forests and/or stemming from the theory of the prediction of individual sequences) for the forecasting of electricity consumption.
CLIME Project-Team

9. Dissemination

9.1. Animation of the scientific community

- Marc Bocquet has been co-chair of the INSU/LEFE ASSIM scientific committee until September 2011. He is now co-chair of the INSU/LEFE MANU scientific committee (since October 2011), which replaces LEFE ASSIM. Marc Bocquet is a member of the Scientific Council of the CERFACS institute in Toulouse, France. He is Associate Editor of the Quarterly Journal of the Royal Meteorological Society.

- Isabelle Herlin is member of the Scientific Council of CSFRS (High Council for Strategic Education and Research in France). She was member of the Program Committee of the Workshop of Aerial Video Processing, joint with IEEE CVPR2011. She is organizing a session on "Analysis of data of different scales and sources for mesoscale environmental models" for the International Congress on Environmental Modelling and Software (iEMSs2012).

9.2. Teaching

- Introduction to Data Assimilation for Geophysics (Master2 OACOS (ocean, atmosphere, climate and space observation), UPMC, X, ENS, ENSTA ParisTech, École des Ponts ParisTech): 30 hours (Marc Bocquet, Vivien Mallet).

- Master2 "Nuclear Energy": 9 hours (Marc Bocquet, Vivien Mallet, Victor Winiarek, Anne Tilloy).

- Practical sessions on air pollution, École des Ponts ParisTech, third year (master 2): 3 hours (Vivien Mallet)

- "Introduction to chemistry-transport models", master 2 “Sciences et le Management de l’Environnement” (Paris Diderot, École des Ponts ParisTech ): 3.5 hours (Vivien Mallet)


9.3. Participation to workshops, conferences and invitations

- Marc Bocquet:
  - MCI workshop, Fort Collins, Colorado, USA, January 2011.
  - Invited seminar at Maryland University, Maryland, USA, January 2011.
  - Oral presentation at GLOREAM-EURASAP Workshop 2011, Copenhagen, Denmark.
  - Two oral presentations and three poster presentations at EGU meeting, Vienna, Austria, April 2011.
– Invited lecturer at the "2nd Summer School on Data Assimilation and its applications", Iasi, Romania, July 2011.
– Participant at the ECMWF Seminar 2011 on data assimilation, Reading, UK, September 2011.
– Invited lecturer and chairman at the OHOLO Conference, Eilat, Israel, November 2011.

• Vivien Mallet, Damien Garaud, Anne Tilloy: “Estimation des incertitudes, et couplage entre les modèles et les données”; invited at the “1ère Journée Technique autour de la Modélisation de la Qualité de l’Air en milieu Urbain”, Lyon, January 2011.
• Vivien Mallet:
  – “Uncertainty Estimation and Ensemble Forecasting in Air Quality Modeling “; invited at the workshop on data assimilation in air quality models (Katholieke Universiteit Leuven, VITO), March 2011.
  – “Uncertainty estimation and data assimilation in air quality modeling”; seminar at CWI, November 2011.
• Mohammad Reza Koohkan: Oral presentation at the second ADOMOCA-2 workshop, Saint-Cyr Les Lecques, France, November 2011.
• Victor Winiarek. Oral presentation at GLOREAM-EURASAP Workshop 2011, Copenhagen, Denmark. Poster presentation at EGU meeting, Vienna, Austria, April 2011.
• Lin Wu. Oral presentation at MCI workshop, Fort Collins, Colorado, USA, January 2011. Poster presentation at EGU meeting, Vienna, Austria, April 2011.
CONTRAINTE Project-Team

9. Dissemination

9.1. Animation of the scientific community

- Grégory Batt’s invited seminars:
  - Workshop on identification and control of biological interaction networks, Grenoble, Feb 08, invited talk
  - Rule-based modeling and application to biomolecular networks, École de recherche d’hiver en informatique fondamentale, ENS Lyon, Feb. 14 - 18, invited talk
  - Computational biology group, Instituto Gulbenkian de Ciência, Lisbon, May 16, invited seminar
  - Synthetic biology meeting of Societe Francaise de Biologie, Sept 21, invited talk
  - Biomolecular signaling and control group, ETHZ, Zurich, Oct 11, invited seminar
  - Automatique des systèmes hybrides, Supelec Rennes, Oct 17, invited seminar
  - Formal methods for bioinformatics workshop of ”Approches Formelles des Systèmes Embarqués Communicants” group, Paris, Oct 19
  - P.S. Thiagarajan group seminar, NUS school of computing, Singapore, Nov 14, invited seminar
  - Computing department seminar, NUS school of computing, Singapore, Nov 15, invited seminar
  - Vasy team seminar, Autrans, Nov 28-30, invited seminar

He was a reviewer for Bioinformatics, IEEE Transactions on Computational Biology and Bioinformatics, and Internal Journal of Robust and Nonlinear Control, and for CMSB’11, CDC’11, and ACC’11 conferences.

- Pierre Deransart is the General Secretary, past Chairman, of the “Association Française pour la Programmation par Contraintes” AFPC and contributes to the Members Council of ASTI AFPC . He is member of the program committee of the French Speaking Conference on Knowledge Engineering 2011 http://ic2011.liris.cnrs.fr/ and 2012. He organised with Alain Mille in may 2011 a workshop on “Traces, Digital Traces, Knowledges and Cognition” http://pauillac.inria.fr/~deransar/ICAtelierIC1/IC2011AtelierTraces.html whose material will be published in a special issue of the review Intellectica in 2012.

- Xavier Duportet’s invited seminar and contributed poster presentations:
  - Qu’est ce que la Biologie de Synthèse, Cité des Sciences, Paris, June 13, invited talk
  - Synthetic Biology 5.0 conference, Stanford, USA, Jun 15-17, poster
  - SynBerc retreat, Harvard Medical School, USA, October 19, poster

  technological transfer activities:
  - Young Entrepreneurs Initiatives competition, Boston, February - laureate
  - Concours de création d’entreprise innovante, Génopole Evry - ranked 3rd

- François Fages is a member of the Editorial Board of RAIRO Operations Research , and of the Steering Committee of the International Conference series on Computational Methods in Systems Biology (CMSB) in cooperation with the ACM.

He is a member of the Scientific Advisory Boards of
– the Center for Systems Biology at Edinburgh, Scotland,
– the Doctorate School Frontières du Vivant of the University René Descartes, Paris 5,
– the Laboratoire d’Informatique Fondamentale, University of Orléans,
a member of the “Comité de pilotage” of the OSEO BioIntelligence project, coordinated by Dassault-Systèmes, of the “Comité d’animation du domaine STIC pour les sciences de la vie et de l’environnement” at Inria, and an assistant of the “inspecteurs de l’académie de Versailles pour le nouvel enseignement de l’informatique en terminale S”.

François Fages has been the Conference and Program Chair of CMSB’11 and a member of the Program Committees of CHR’11, CompMod’11, CS2BIO’11, ICECCS’11, ICLP’11, JFPC’11, MELO’11, RuleML’11, SASB’11, WCB’11.

François Fages was a reviewer for research grants of the Research Foundation Flanders - FWO, Belgium, of the EPSRC Programme Grant Applications, UK, of the CNRS-MPG postdoctoral awards, Germany, of several ANR project proposals, and of Inria “Primes d’Excellence Scientifique”.

He has been reviewer of the PhD Thesis of Loïc Paulevé, Ecole Centrale de Nantes, and a member of the PhD Thesis committee of Guillermo Rodrigo, University of Valencia, Spain.

Invited seminars:
– Andreas Draeger’s group, University of Tubingen, Germany, Jan 28,
– Torsten Schaub’s group, Max Planck Institute, Potsdam, Germany, Feb 10,
– University Federal De Pernambuco, Recife, Brazil, Dec 14,
– University De Pernambuco, Recife, Brazil, Dec 15,
– Lycée Jules Ferry, Versailles, France, Nov 30,
– Lycée Essouriau, Les Ulis, France, Dec 3.

• Thierry Martinez acted as reviewer for ICLP’11, JFPC’11 and RULEML’11. He was also a member of the organizing committe of CMSB’11.
Invited Seminar:
• Faten Nabli, poster presentation:
  – Constraint Programming Conference Doctoral Program, Perugia, Italy, Sep 11
• Sylvain Soliman acted as reviewer for CMSB’11, TACAS’11, ICLP’11 and IET Systems Biology. He was also member of the organizing committe of CMSB’11
• Szymon Stoma was Mentor for the Google Summer School of Code 2011, Jun-Sep.
Invited seminars:
– Open phyllotaxis meeting, Virtualplants INRIA, Montpellier, June
– Ann Carpenter’s group, Broad Institute/MIT, Boston, Nov
• Denis Thieffry is currently
  – member of the Comité Scientifique Sectoriel of the Department Biologie et Santé of the ANR,
  – member of the Comité de Pilotage of the LabEx MemoLife (involving teams from IBEns, Collège de France, and ESPCI);
  – member of the CNRS/INSERM ATIP/Avenir Scientific Committee (young group leader grant scheme);
– member of the board of the PhD Program Complexity in Post-Genomic Biology of the University of Torino;
– member of the scientific committees for ECCB-ISMB 2011, JOBIM 2011, CMSB 2011, and SASB 2011;
– Editor of BioSystems;
– Associated Editor of PLoS Computational Biology;
– Adviser for the PLoS Biology Education series.

• Jannis Uhlendorf poster presentation:
  – Basel computational biology conference, Basel, Switzerland, poster
  – Stochastic systems biology conference, Monte Verita, poster
  – Physics and biological system conference, Orsay, France, poster
  – Young Researchers in Life Sciences Congress, Paris, France, poster

9.2. Teaching
Contraintes is affiliated to the Doctoral school of Mathematical Science of the University of Paris 7, and to the interdisciplinary Doctoral school “Frontières du Vivant” of the University of Paris 5.

The following courses have been given by members of Contraintes:

Doctorate: Ecole Jeunes Chercheurs en Programmation “Programmation par Contraintes”, Dinard, François Fages (6h).


Master M2 course C2-35-1 on *Constraint Programming*, Master Parisien de Recherche en Informatique (MPRI) Sylvain Soliman (responsible, 24h).

Master M2 course C2-19 on *Computational Methods for Systemic and Synthetic Biology*, Master Parisien de Recherche en Informatique (MPRI) François Fages (responsible, 12h), Grégory Batt (12h), Denis Thieffry (12h).

Master M2 course on *Constraint Programming*, Master d’Informatique d’Orléans, François Fages (3h).

Master M1 course on *Computational Biology*, Master Approches Interdisciplinaires du Vivant (AIV), Grégory Batt (responsible, 40h).

Master M1 course on Synthetic Biology and Entrepreneurship, AgroParisTech, Xavier Duportet (6h)

Licence L2 Cours/TD *Informatique*, Université de Paris Dauphine, Faten Nabli (72h).

Licence L1 TD on *Fondements de l’Informatique*, Université de Versailles-Saint-Quentin-en-Yvelines, Elisabetta De Maria (36h).

Licence L1 TD on *Fondements de l’Informatique*, Université de Versailles-Saint-Quentin-en-Yvelines, Aurélien Rizk (33h).

Science, Innovation and Entrepreneurship non for profit organization: 4 conferences (400 people), Paris, Xavier Duportet (12h)

Alliance pour la recherche et l’innovation des industries de santé, Paris, bimonthly meetings for SynBio Scientific Commitee, Xavier Duportet
The following PhD theses have been supervised:

PhD : Domitille Heitzler, “Modélisation dynamique des mécanismes de signalisation cellulaire induits par l’hormone folliculo-stimulante et l’angiotensine”, Université Rabelais à Tours, Janvier 2011, Dir. Eric Reiter, Frédérique Clément, François Fages,

PhD : Aurélien Rizk, “Résolution de contraintes temporelles pour l’analyse de systèmes biologiques”, Université Paris Diderot, Paris, 6 juin 2011, Dir. François Fages,

PhD in progress : Thierry Martinez, “Concurrence, angélisme et contraintes pour la programmation en logique linéaire”, Université Paris Diderot, Paris, Dir. François Fages,

PhD in progress: François Bertaux, Université Pierre et Marie Curie, Paris, Sept 2011, Dir. Dirk Drasdo (EPI BANG) and Grégory Batt

PhD in progress : Xavier Duportet, Université Paris Diderot, Paris, octobre 2010, Dir. Grégory Batt, François Fages and Ron Weiss (MIT)

PhD in progress : Steven Gay, Université Paris Diderot, Paris, octobre 2009, Dir. François Fages and Sylvain Soliman,

PhD in progress : David Fournier, Université Paris Diderot, Paris, octobre 2009, Dir. François Fages and Denis Mulard (General Electric),

PhD in progress : Thierry Martinez, Université Paris Diderot, Paris, octobre 2009, Dir. François Fages,

PhD in progress : Faten Nabli, Université Paris Diderot, Paris, octobre 2009, Dir. François Fages and Sylvain Soliman,

PhD in progress : Jannis Uhlendorf, Université Paris Diderot, Paris, octobre 2009, Dir. Grégory Batt, François Fages and Pascal Hersen (MSC)
6. Dissemination

6.1. Animation of the scientific community

J. E. Roberts:

- Member of the External Advisory Board for CFSES (Center for Frontiers of Subsurface Energy Security).
- Member of the International Scientific Committee for the conference Interpore 2011, Bordeaux, March 2011, and organization (with R. Helmig) of the minisymposium “Advanced Numerical Modeling”.
- Chair of the prize committee for the SIAM conference on Geosciences, Long Beach, March 2011, and organization of the minisymposium.

6.2. Conferences, Seminars, Invitations

I. Ben Gharbia:

- Gas Phase Appearance and Disappearance as a Problem with Complementarity Constraints, 4th International Conference on Approximation Methods and numerical Modeling in Environment and Natural Resources (MAMERN’11), Morocco, May 23 –26, 2011.
- Nonlinear complementarity constraints for two-phase flow in porous media with gas phase appearance and disappearance, TAM–TAM’11, Tunis, Tunisia, April 23–26, 2011.
- Complementarity problem for hydrogen-water flow with hydrogen dissolution (Poster), Journées scientifiques du GNR MOMAS, CIRM, Marseille, France, 02–04 novembre, 2011.

Q. Carbonneaux:

- Parallel programming with Sklml, MaGiX@LiX 2011, École Polytechnique, Palaiseau (France), September 19–23, 2011 (with F. Clément and P. Weis).

A. Chiche:


F. Clément:

- Formalisation de la preuve de convergence d’un schéma numérique pour la résolution de l’équation des ondes mono-dimensionnelle, 4es Rencontres Arithmétique de l’Informatique Mathématique (RAIM’11), Perpignan (France), February 7–10, 2011

J. Jaffré:


Mathematics to validate numerical methods for simulation, HLRS German-French Workshop, Fellbach, Germany, April 2011.

M. Kern:

Iterative methods and preconditioning for a model of transport with sorption, SIAM Conference on Geosciences, March 2011 (with A. Taakili).

Reactive transport in Porous Media — Applications to CO2 storage, Université de Pau, October 2011 (with L. Amir, B. Gueslin, A. Taakili).

Des mathématiques pour modéliser les eaux souterraines, Lycée Talma (Brunoy), March 2011.

J. E. Roberts:

Flow in porous media with fractures: modeling fractures as interfaces, seminar, university of Zagreb, Croatia, February 2011.

Mathematics and simulation of subsurface flow, HLRS German-French Workshop, Fellbach, Germany, April 2011.


6.3. Teaching

I. Ben Gharbia:
Université Paris–Dauphine, Algèbre linéaire, License 1 TD, 39 h.

A. Chiche:
ENSTA ParisTech, Optimisation différentiable – théorie et algorithmes, Master 1 TD, 26 h.

F. Clément:
Mines ParisTech, Calcul différentiel, Licence 3, 17 h.

J. Ch. Gilbert:
ENSTA ParisTech, Optimisation différentiable – théorie et algorithmes, Master 1, 42 h.

J. Jaffré:
École Nationale d’Ingénieurs de Tunis (ENIT), Tunisia, Volumes finis et éléments finis mixtes, Mastère 2, 20 h (with J. E. Roberts).

M. Kern:
Mines ParisTech, Éléments finis, Master 1, 30 h.
Mines ParisTech, Problèmes inverses, Master 1, 26 h.

J. E. Roberts:

École Nationale d’Ingénieurs de Tunis (ENIT), Tunisia, *Volumes finis et éléments finis mixtes*, Mastère 2, 20 h (with J. Jaffré).


9. Dissemination

9.1. Animation of the scientific community

- FORMES organizes a weekly seminar which is a major local forum in the area of formal methods, with a steady participation of colleagues who come from the other nearby research institutions, CASIA, ISCAS and Peking University, to attend the presentations. All seminars are announced on our website, as well as the other relevant local seminars or events, in particular those taking place at ISCAS.

- Jean-Pierre Jouannaud and Zhong Shao (Yale University) have initiated a new conference, the 1st international conference on Certified Programs and Proofs (CPP’11), held on December 7-9 at Kenting, Taiwan. The local organization is done by Tyng-Ruey Chang (Academia Sinica), Yih-Kuen Tsay (NTU) and Bow-Yaw Wang (INRIA and Academia Sinica).

- Vania Joloboff co-organized with Pr John Koo the first Shenzhen International Summer School on Embedded Systems Design, held at Shenzhen SIAT from July 4-8.

- FORMES organized on April 11-12 the 1st Tsinghua Software Day and Tsinghua Student Day on the occasion of Tsinghua’s 100 years anniversary with talks by Pierre-Louis Curien, Zhaohui Luo, Georges Gonthier and Tom Henzinger.

- Frédéric Blanqui is member of the Steering Committee of the International Conference on Rewriting Techniques and Applications (RTA) from July 2010 to July 2013.

- Frédéric Blanqui was a PC member of the 22nd International Conference on Rewriting Techniques and Applications (RTA’11), 30 May - 1st June, Novisad, Serbia.

- Jean-Pierre Jouannaud is a member of the LICS organizing committee.

- Jean-Pierre Jouannaud is a member of the editorial board of the International Journal of Software and Informatics (IJSI).

- Jean-Pierre Jouannaud is a guest co-editor of JACM (selection of 3 papers from LICS 2010), and a co-guest editor of LMCS (selection of papers from LICS 2010).

- Jean-Pierre Jouannaud is a member of the advisory committee of Academia Sinica, Taipei, Taiwan.

- Jean-Pierre Jouannaud is PC co-chair of CPP 2011, 7-9 December 2011, Kenting, Taiwan.

- Jean-Pierre Jouannaud participated to the STIC-Asie meeting in Guangdong in June, and the AURA meeting in Hanoi, Vietnam, in November, where he gave talks.

9.2. Teaching

- Vania Joloboff taught a class at Tsinghua University on SystemC and Transaction Level Modeling.

- Vania Joloboff taught a session at Shenzhen International Summer School on Embedded Systems Design.

- Jean-François Monin taught a module on Coq entitled *Introduction to Interactive Proofs of Software* at Tsinghua School Software, 3rd year undergraduate, but also followed by 4th year students, a master student of Beihang and 2 master students of University of Beijing, department of mathematics; volume: 35 hours.
9. Dissemination

9.1. Animation of the scientific community

9.1.1. Collective responsibilities within INRIA

Damien Doligez is a member of the CUMIR committee (Commission des Utilisateurs des Moyens Informationnels, section Recherche).

Damien Doligez is a member of the COST/GTAI committee (Comité d’Orientation Stratégique – Groupe de Travail sur les Actions Incitatives).

Xavier Leroy was scientific organizer of the INRIA Evaluation Seminar for the “Programs, Verification and Proofs” theme (Paris, March).

Xavier Leroy is a member of Bureau du Comité des Projets of INRIA Paris-Rocquencourt.

Jonathan Protzenko, along with two other Ph.D. students, organizes the Junior Seminar of INRIA Paris-Rocquencourt, where Ph.D. students communicate their research work to a general audience.

9.1.2. Collective responsibilities outside INRIA

Roberto Di Cosmo is member of the Scientific Advisory Board and of the Board of Trustees of the IMDEA Software research institute in Madrid.

Xavier Leroy was a member of the hiring committees for two professor positions, one at ENS Lyon, the other at ENSEEIHT, Toulouse.

Xavier Leroy is INRIA representative on the Comité de Direction of the MPRI Master programme, and a member of the Commission des Études of this Master.

9.1.3. Editorial boards


9.1.4. Program committees and steering committees

Roberto Di Cosmo chaired the OSS 2011 workshop. He participated in the program committee of OpenCert 2011 and co-organized the Mancoosi International Solver Competition.

Xavier Leroy was a member of the program committees of the Practical Aspects of Declarative Languages conference (PADL 2011) and the international conference on Certified Programs and Proofs (CPP 2011).

François Pottier was a member of the program committee for the POPL 2012 symposium. He is a member of the steering committee for the ACM TLDI workshop.

Didier Rémy co-chairs the Caml Users and Implementors Workshop, affiliated with ICFP 2012, to be held in Copenhagen, Denmark in September 2012.

Na Xu was a member of the program committee of the IFIP working conference on Domain-Specific Languages (IFIP DSL 2011) and the ACM SIGPLAN Workshop on Programming Languages meets Program Verification (PLPV 2012).

9.1.5. Ph.D. and habilitation juries

Roberto Di Cosmo was president of the jury of Cesara Dragoi (U. Paris Diderot, december); member of the Habilitation jury of Jean-Christophe Filliâtre (U. Paris Sud, december); external reviewer of the thesis of Paulo Trezentos (Instituto Superior Tecnico, Lisbonne, july); president of the jury of Grégoire Henry (U. Paris Diderot, june); president of the jury of Natalya Guts (U. Paris Diderot, january).
Xavier Leroy chaired the Habilitation jury for Xavier Rival (ENS Paris, June). He was a member of the Habilitation jury for Jean-Christophe Filliâtre (U. Paris Sud, December).

François Pottier was an external examiner for the Ph.D. theses of Mathieu Boespflug (École Polytechnique, January 18), Romain Bardou (U. Paris Sud, October 14), and Jules Villard (ENS Cachan, February 18). He was a member of the jury for the Ph.D. defense of Séverine Maingaud (Université Paris 7, December 13).

9.1.6. Learned societies

Xavier Leroy and Didier Rémy are members of IFIP Working Group 2.8 (Functional Programming).

9.2. Teaching

Courses taught:

- Licence: “Principe de fonctionnement des machines binaires”, 33h, L1, University Paris Diderot, France, taught by Julien Cretin.
- Licence: “Virtual machines”, 14h, L3, University Paris Diderot, France, taught by Tahina Ramananandro.
- Master: “Linear Logic”, 12h, M2, MPRI master (U. Paris Diderot and ENS Paris and ENS Cachan and Polytechnique), France, taught by Roberto Di Cosmo.
- Master: “Functional programming and type systems”, 38h, M2, MPRI master (U. Paris Diderot and ENS Paris and ENS Cachan and Polytechnique), France, taught by Xavier Leroy and Didier Rémy.
- Master: “Preuve de programmes”, 21h, M2, University Paris Diderot, France, taught by Alexandre Pilkiewicz.
- Master: “Compilation” (INF564), 13h30, M1, École Polytechnique, France, taught by François Pottier.
- Doctoral: “Proving a compiler: mechanized verification of program transformations and static analyses”, 7h, Oregon Programming Languages Summer School, USA, taught by Xavier Leroy.

PhD & HdR:

PhD in progress: Julien Cretin, “Coercions in typed languages”, since December 2010, supervised by Didier Rémy.


PhD in progress: Jonathan Protzenko, “Fine-grained static control of side effects”, since September 2010, supervised by François Pottier.

PhD in progress: Tahina Ramananandro, “Mechanized formal semantics and verified compilation for C++ objects”, since September 2008, to be defended January 10th, 2012, supervised by Xavier Leroy.

PhD in progress: Gabriel Scherer, “Modules and mixins”, since October 2011, supervised by Didier Rémy.
9.3. Participation in conferences and seminars

9.3.1. Participation in international conferences and workshops

POPL: Principles of Programming Languages  (Austin, Texas, USA, January).

TLDI: Types in Language Design and Implementation  (Austin, Texas, USA, January).
Alexandre Pilkiewicz presented [25]. François Pottier and Didier Rémy attended.

PPES: Predictability and Performance in Embedded Systems  (Grenoble, France, March).
Xavier Leroy attended.

ETAPS: European Joint Conference on Theory and Practice of Software  (Saarbrucken, Germany, March).
Na Xu attended.

CGO: Code Generation and Optimization  (Chamonix, France, April).
Xavier Leroy gave an invited talk [15].

HCSS: High Confidence Software and Systems  (Annapolis, Maryland, USA, April).
Xavier Leroy gave an invited talk.

Microsoft Software Summit  (Issy-Les-Moulineaux, France, April).
Xavier Leroy gave a talk on compiler verification. François Pottier participated in a panel discussion on type systems. Didier Rémy attended.

AIM13: Agda Implementors’ Meeting XIII  (Göteborg, Sweden, April).
Nicolas Pouillard attended.

CADE: Conference on Automated Deduction  (Wroclaw, Poland, August).
Xavier Leroy gave an invited talk.

ICFP: International Conference on Functional Programming  (Tokyo, Japan, September).
Nicolas Pouillard presented [27].

AIM14: Agda Implementors’ Meeting XIV  (Shonan, Japan, September).
Nicolas Pouillard attended.

IFIP DSL: IFIP Working Conference on Domain-Specific Languages  (Bordeaux, France, September).
Na Xu attended.

OSSC: OpenSource Software for Scientific Computation  (Beijing, China, October) Roberto Di Cosmo gave a talk entitled Free/Open Source Software: scientific opportunities and challenges for the future.

9.3.2. Participation in national conferences

JFLA: Journées Francophones des Langages Applicatifs  (La Bresse, France, January).
François Pottier gave an invited talk.

Colloquium in honor of Gérard Berry and Jean-Jacques Lévy  (Gerardmer, France, February).
Damien Doligez and Didier Rémy attended.

Rencontres de la communauté française de compilation  (Dinard, France, April).
Alexandre Pilkiewicz presented his work on validated polyhedral optimizations. Xavier Leroy attended.

GDR GPL: journées du GDR Génie de la Programmation et du Logiciel  (Lille, June).
Roberto Di Cosmo gave a keynote address on Research challenges from Free Software distributions
GDR GPL: journées du GDR Génie de la Programmation et du Logiciel  (Rennes, October).
Xavier Leroy gave a talk on [24].

9.3.3. Invitations and participation in seminars

Julien Cretin presented his work on Haskell’s kind level at the seminar of Microsoft Research Cambridge.
Roberto Di Cosmo was invited to talk on free software at the *Formation des inspecteurs d'académie pour la discipline ISN* (Lyon, March), at INRIA Rocquencourt (March), at the *Journées nationales de la MIAGE* (Orsay, May) and at the LINA laboratory of U. Nantes (June).

Xavier Leroy gave a distinguished lecture at Texas A&M University (January). He gave a tutorial on Caml and Coq to the DO178 standardization committee (Toulouse, France, August).

François Pottier gave a talk at the students’ seminar of ENS Lyon (March).

Tahina Ramananandro visited the FLINT laboratory at Yale University (New Haven, Connecticut, USA, November 14th–20th) and gave a seminar talk on a machine-checked formalization of C++ object construction and destruction.

Na Xu visited National University of Singapore and gave a talk on hybrid contract checking.

### 9.4. Other dissemination activities

As founder, president and now vice-president of the Free Software thematic group of the Systematic competitiveness cluster (also known as GTLL), Roberto Di Cosmo has had a major role in fostering the emergence of 21 collaborative R&D projects, for a budget over 50 MEUR, which bring together researchers from most of the universities and research centers in the Paris area, and industries ranging from SMEs to large corporations (see [http://www.gt-logiciel-libre.org/projets/](http://www.gt-logiciel-libre.org/projets/) for more informations on the active projects).

Roberto Di Cosmo organized the “Education with and to FOSS” track of the Fossa 2011 conference (Lyon, November).

Xavier Leroy gave a popular science talk on critical embedded software at the *Demi-heure de science* seminar of INRIA Rocquencourt (November).

Alexandre Pilkiewicz gave a popular science talk on verified compilation at the junior seminar of INRIA Rocquencourt (September).

Valentin Robert gave a tutorial on functional programming in Haskell at the Open World Forum (Paris, September).
GAMMA3 Project-Team

6. Dissemination

6.1. Teaching

Master : F. Alauzet: Simulation numérique en géométries complexes, niveau M1, École Centrale Paris

Master : P. Laug : CAO et maillage, 35 heures, niveau M2, UPEC (Université Paris-Est Créteil), France
GANG Project-Team (section vide)
HIPERCOM Project-Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Editorial boards, steering and program committees

Philippe Jacquet belongs to the editorial board of the DMTCS journal.

Pascale Minet was member of the Gilles Kahn 2011 jury awarding an excellent 2010 PhD thesis in Computer Science.

Pascale Minet was reviewer of the PhD Thesis of:

- Bilel NEFZI, Mécanismes auto-adaptatifs pour la gestion de la qualité de service dans les réseaux de capteurs sans fil, PhD thesis of the Institut National Polytechnique de Lorraine, September 2011.
- Nancy EL RACHKIDY, Cross-layering et routage dans un réseau ad hoc : politique de relais de trame sur un réseau de capteurs sans fil organisé selon une topologie en arbre, PhD thesis of the Université Blaise Pascal, December 2011.
- Arnaud KAISER, Mécanismes d’adaptation des réseaux MANET pour le support des jeux vidéo multijoueurs temps réel, PhD thesis of the Université Paris XIII, December 2011.

She was Jury member for the Habilitation à Diriger des Recherches of

- Anthony Busson Protocoles et évaluation de performances dans les réseaux ad hoc, University of Paris Sud 11, December 2011.

Pascale Minet took an active part in the dissemination of the results obtained in the OCARI project, dealing with energy efficient industrial wireless sensor networks.

Pascale Minet was member of the program committee of:

- ICN 2011, the 10th International Conference on Networks, January 2011.
- IUCC 2011, the 10th IEEE International Conference on Ubiquitous Computing and Communications, August 2011.
- IWCMC 2011, the 7th International Wireless Communications and Mobile Computing Conference, July 2011.
- RTNS 2011, 18th International Conference on Real-Time and Network Systems, September 2011.
Pascale Minet was also reviewer for the following journals:
- IEEE Transactions on Vehicular Technology,
- IEEE Transactions on Wireless Communications,
- Real-Time Systems,
- International Journal of Communication Systems,
- Computer Communications Journal.

Paul Mühlethaler was reviewer for the following journals and international conferences:
- IEEE ITS Magazine,
- IEEE/ACM Transactions on Networking,
- ISCIS,
- ISIT,
- VTC spring.

Since July 2010, Paul Mühlethaler is scientific head of the DGA/INRIA partnership.

Cédric Adjih was a co-chair for ACM MOBIHOC 2011. He was also:
- Member of the program committee of AINTEC 2011, 7th Asian Internet Engineering Conference, November 2011.
- Reviewer for the journal ACM Transactions on Sensor Networks
- Reviewer for the MILCOM 2011, IEEE Military Communications Conference, November 2011.

Cédric Adjih served also as reviewer for the French ANR (for proposals for the Young Researchers program)

Emmanuel Baccelli was a co-chair for ACM MOBIHOC 2011, and is currently TPC for IEEE SECON, IEEE PerGroup, ACM MobileHealth and NovaEnv.

Aline C. Viana served as:
- Local arrangement co-chair of ExtremeCom 2011: 3rd Extreme Conference on Communication, Manaus, Brazil, September 2011.
- Publicity chair of ExtremeCom 2011: 3rd Extreme Conference on Communication, Manaus, Brazil, September 2011.
- TPC co-chair of Shadow ACM Conext 2011: Shadow ACM 7th International Conference on emerging Networking EXperiments and Technologies. Shadow TPC meeting was in Toronto, Canada. August 2011.

She also served in the program committees for the following conferences/workshops:

9.1.2. Evaluation committees, consulting

A. Carneiro Viana served as a reviewer for the PhD committee of Natascia Piroso, Sapienza University of Rome, Italy. She has been also performing remote evaluation of short proposals for the EC "Future and Emerging Technologies" programme (EC FET-Open).

Emmanuel Baccelli served as expert reviewer for the french National Research Agency (ANR) in 2011.

9.2. Academic teaching

Philippe Jacquet taught:
- class: Mobile networking (Polytechnique),
- class: Telecommunication. Master COMASIC (Polytechnique)

Emmanuel Baccelli taught:
- class: Mobile networking at Ecole Polytechnique.

Pascale Minet taught:
- Networks and quality of service in Master Systèmes Electroniques et Traitement de l’Information, at INSTN (Saclay).
- Mobile ad-hoc networks: medium access, routing and quality of service in Master Ingénierie informatique of the university of Marne-la-Vallée.
- Mobile ad hoc networks and wireless sensor networks: medium access, routing and energy efficiency in Master ScTIC (Systèmes complexes, Technologies de l’Information et du Contrôle) of the University of Paris 12.

Aline C. Viana was invited as a speaker at the GBR 2011, Beyond Networking workshop, Buzios, Rio de Janeiro, Brazil. October 2011.

9.3. Standardization

The HIPERCOM project-team has been very active in the standardization process at IETF. It made many contributions in the MANET, AUTOCONF and ROLL working groups (see for instance the publication list with the numerous IETF drafts).
IMARA Project-Team

9. Dissemination

9.1. Animation of the scientific community

- An Exploratory Seminar was held at INRIA (Rocquencourt) on December 15th in cooperation with INRIA-HIPERCOM team-project and the University of Pierre et Marie Curie (LIP6 Lab). Title: “VANETs, platoons, and DSRC: where do we stand?” Organizer: Gérard Le Lann.
- On September 20, a first national Stakeholder Forum on “Cooperative ITS” was organized by IMARA (as member of the consortium SCORE@F) at INRIA Rocquencourt. The same day a national seminar and demo day was held at INRIA Rocquencourt bringing together the partners of the national AROS project. Because of this dual presentations, a hundred participants (researchers, decision maker, national authorities representatives) were present showing the interest in these two national projects.
- This year Fawzi Nashashibi was an associate editor of a number of international IEEE conferences: ICRA, IROS, IV and ITSC. He is an IPC member of several international conferences: ICAR, IV, SCS & ISM. He is also a reviewer in a number of internal journals and conferences: IJVAS and IJVICS Journals, Revue internationale “Traitement du signal”, IEEE ICRA, IEEE ITS, IEEE ITSC, IEEE IV, IEEE VTC, RFIA...
- Guy Fayolle was reviewer of the PhD thesis entitled Current fluctuations out-of-Equilibrium, submitted by Antoine Gerschenfeld to the Department of Statistical Physics (University Paris 6), and defended at ENS on 23 January 2012. The thesis advisor was Bernard Derrida (ENS, Department of Physics). As a reviewer for the Mathematical Reviews (MR), he was in charge of the paper MR 2724327 entitled Théorémes limites pour des variables quasi-associées hilbertiennes.

9.2. Teaching

Fawzi Nashashibi
Licence: “Programmation avancée”, 84h, niveau (L1), Université Paris-8 Saint-Denis, France
Master: “Vision pour la robotique”, 16h, 2nd year (MAREVA), Mines ParisTech, France
“Programmation C++/OpenGL”, 16h, 2nd year (MAREVA), Mines ParisTech, France
“Programmation avancée et infographie 3D”, 25h, niveau (M1), Ecole d’ingénieurs ESILV, France
“Synthèse d’images”, 12h, niveau (M2), INT Sud Telecom, France.

Jean-Marc Lasgouttes
Master: “analyse de données”, 59.5h, second year of Magistère de Finance (M1), University Paris 1 Panthéon Sorbonne, France

Gérard Le Lann
Master: “Communications et coordination temps réel dans les réseaux véhiculaires ad hoc”, Module du cours de 5ème année "Réseaux temps réel”, INSA Lyon, January 2011
“Vehicular Ad Hoc Networks” Module de Master, TELECOM Bretagne, Rennes, June 2011

PhD & HdR
Manabu Tsukada, Communications Management in Cooperative Intelligent Transportation Systems, Mines ParisTech, December 2011 [10]
8. Dissemination

8.1. Animation of the scientific community

8.1.1. Nozha Boujemaa

- Re-elected member in the Steering Board of NEM ETP (Networked and Electronic Media European Technology Platform) and acting as INRIA representative.
- Scientific coordinator of Pl@ntNet.
- Member of the steering committee of CHORUS+.
- Founding member of the ACM ICMR “ACM International Conference on Multimedia Retrieval” born from the fusion of: ACM MIR (International Conference on Multimedia Information Retrieval) and ACM CIVR (International Conference on Image and Video Retrieval)
- Member of the steering committee of ACM ICMR.
- Responsibilities within INRIA: Director of the INRIA Saclay Ile-de-France research centre.

8.1.2. Alexis Joly

- Member of the steering committee of Pl@ntNet: WP2 co-leader.
- Member of the steering committee of CHORUS+ and of GLOCAL.
- Member of the organizing committee of ImageCLEF evaluation forum (http://www.imageclef.org/2011) and co-organizer, with Hervé Goëau, of an evaluation task on plant images retrieval within the 2011 evaluation campaign of ImageCLEF.
- Chair of a community networking session on the access to scientific multimedia data within CLEF 2011 international conference, http://avmediasearch.eu/index.php?article_id=246&page=115&action=article&=
- Member of the conference program committee of NEM Summit 2011.

8.1.3. Anne Verroust-Blondet

- Member of the steering committee of Pl@ntNet (WP5 co-leader: “Dissemination”).
- Member of the steering committee of I-SEARCH (WP4 leader).
- Member of the Humanities and Social Sciences committee for the “Blanc” and “Young researcher” 2011 programmes of the French National Research Agency (ANR).
- Member of the steering committee of the CNRS GDR IG (Informatique Graphique);
- Member of the technical programme committee of the Eurographics Workshop on 3D Object Retrieval in 2011 and of the Third International Conference on Advances in Multimedia (MMEDIA 2011),
- Member of the editorial board of the “Revue Electronique Francophone d’Informatique Graphique”.

8.2. Teaching

Mohamed Riadh Trad:

Master: Advanced Java, 27 hours/year, M1 level, Paris Dauphine University, France.
Master: JAVA, 27 hours/year, M1 & M2 levels, Paris Dauphine University, France.
Amel Hamzaoui:

License: Algorithm and programming, 48 hours/year, L1 level, Orsay University Paris 11, France
License: Web programming, 24 hours/year, L1 level, Orsay University Paris 11, France

Sofiène Mouine

License: C2I, 36h, level (L2), University Paris 1 (Panthéon-Sorbonne), France.

PhD & HdR:


PhD in progress: Esma Elghoul, Segmentation d'Objets 3D - Indexation Partielle, October 2010, Anne Verroust-Blondet

PhD in progress: Amel Hamzaoui, Shared-Neighbours methods for visual content structuring and mining, October 2008, Nozha Boujemaa and Alexis Joly

PhD in progress: Pierre Letessier, Analyse, Structuration et Enrichissement de contenus vidéos à large échelle, Exploitation de statistiques à grande échelle, October 2009, Nozha Boujemaa, Olivier Buisson and Alexis Joly

PhD in progress: Sofiène Mouine, Geometric models for a local description of images, October 2010, Anne Verroust-Blondet and Itheri Yahiaoui

PhD in progress: Saloua Ouertani-Litayem, Large scale supervised image retrieval through hashing methods, October 2009, Nozha Boujemaa and Alexis Joly

PhD in progress: Wajih Ouertani, Relevance feedback on local features: Application to plants annotations and identification, October 2008, Nozha Boujemaa and Michel Crucianu

PhD in progress: Asma Rejeb Sfar, Machine Identification of Biological Shapes, October 2010, Nozha Boujemaa and Donald Geman

PhD in progress: Mohamed Riadh Trad, Scalable information retrieval in distributed architectures, October 2009, Nozha Boujemaa and Alexis Joly
MACS Project-Team

8. Dissemination

8.1. Animation of the scientific community

Dominique Chapelle

- Seminars at Ecole Polytechnique (Ladhyx, Febr. 7th), ESPCI (Febr. 22nd), Univ. Grenoble (LJK, May 12th), Harvard (June 6th)
- PhD thesis referee for E. Lignon (Ecole Polytechnique, Jan. 21st) and M. Caruel (Ecole Polytechnique, Oct. 10th)

Sofiane Hendili

- Speaker at 10ème Colloque National en Calcul des Structures CSMA 2011, 9-13 Mai 2011, Giens
- Speaker at 20ème Congrès Français de Mécanique CFM 2011, 28 Aout au 2 Septembre 2011, Besançon

Philippe Moireau

- Attending the conference Functional Imaging and Modeling for the Heart FIMH’11, where 2 proceedings were accepted as a poster and an oral presentation given by D. Chapelle,
- Speaker at “Contact Innovation” on “Patient-specific bio-physical modeling for the heart”, 15 Nov. 2011, Ministère de la Recherche, Paris.
- Speaker at “Horizon Maths” on “Joint state parameter estimation for PDEs by observer and optimal filtering”, 12-13 Dec. 2011, Areva, Paris
- Lecture “La météo du cœur” at award ceremony for “Olympiades de Mathématiques” (Versailles academic district), 15 June

Daniele Trimarchi

- Speaker at 10ème Colloque National en Calcul des Structures CSMA 2011, 9-13 May 2011, Giens

Marina Vidrascu

- with A. Gloria, P. Le Tallec and F. Lequeux, organization of the workshop “From polymer physics to rubber elasticity” January 17–19 IHP (Paris)
- Seminars: Univ. Amiens (June 6th), Laboratoire JLL (Oct. 10th), Univ. Orsay (Nov. 24th)

8.2. Teaching

Philippe Moireau

Master : “MA103 - Introduction aux EDP et à leur approximation numérique”, 14h, M1, ENSTA ParisTech, France
Master : “MA201 - La méthode des éléments finis”, 14h, M2, ENSTA ParisTech, France
PhD supervisions


PhD in progress: Sofiène Hendili, “Décomposition de domaines et calculs multi-échelles dans les structures mécaniques”, started October 2009, Françoise Krasucki and Marina Vidrascu

PhD in progress: Daniele Trimarchi “Analysis of downwind sail structures using nonlinear shells finite elements: wrinkle development and fluid interaction effects”, started January 2009, Stephen Turnock (Univ. Southampton)

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

8.1. Animation of the scientific community

- A. Alfonsi: Co-organizer of the working group seminar of MATHFI “Méthodes stochastiques et finance”.
- V. Bally: Member of the scientific committee of the congress of SMAI 2011, du 23 au 27 mai 2011.
- B. Jourdain:
  1. Deputy head of the doctoral school ICMS, university Paris-Est
  2. report on the PhD dissertation "Some aspects of optimal quantization and applications to finance" by Sylvain Corlay
  3. report on the PhD dissertation "Non-parametric calibration of some financial models” by Rémi Tachet des Combes
- D. Lamberton:
  1. "Associate Editor" of Mathematical Finance, co-editor of ESAIM P&S.
  2. In charge of the master program "Mathématiques et Applications" (Universities of Marne-la-Vallée, Créteil and Evry, and Ecole Nationale des Ponts et Chaussées).
  3. Directeur de l’UFR de mathématiques, Université Paris-Est Marne-la-Vallée.
- A. Sulem:
  Associate editor of:
  - SIAM Journal on Financial Mathematics (SIFIN) (since its creation in 2008)
  - International Journal of Stochastic Analysis (IJSA) (since 2009)
  - Journal of Mathematical Analysis and Applications (JMAA)(since 2011)
  Examinor of the thesis of Paul Gassiat, December 2011, Université Paris Diderot.

8.2. Teaching

- A. Alfonsi:
  1. “Modéliser, Programmer et Simuler”, second year course at the Ecole des Ponts.
  3. “Traitement des données de marché : aspects statistiques et calibration”, lecture for the Master at UPEMLV.
  4. “Mesures de risque”, Master course of UPEMLV and Paris VI.
- V. Bally:
  1. Master 2 of the University Marne la Vallée:
     -Malliavin Calculus and numerical applications in finance
     - Probabilistic methods for risk analysis.
     -Taux d’îtéret
B. Jourdain:
1. Course "Probability theory and statistics", first year ENPC
2. Course "Introduction to probability theory", 1st year, Ecole Polytechnique
3. Course "Stochastic numerical methods", 3rd year, Ecole Polytechnique
4. Projects in finance and numerical methods, 3rd year, Ecole Polytechnique

B. Jourdain, B. Lapeyre: course "Monte-Carlo methods in finance", 3rd year ENPC and Master Recherche Mathématiques et Application, University of Marne-la-Vallée

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

D. Lamberton:
1. Second year of Licence de mathématiques (probability), Université Paris-Est Marne-la-Vallée.

A. Sulem:
1. Master Course, Université Paris IX-Dauphine, Département MIDO (Mathématiques et Informatique de la Décision et des Organisations), Master MASEF, (21 h) Finite difference methods in Finance

8.3. PhD

8.3.1. PhD defense


Andreea Minca, Modélisation mathématique de la contagion de défaillant; Mathematical modeling of financial contagion Adviser: A. Sulem (30%) and Rama Cont, (Bourse Fondation Natixis): Thesis defense was at Université Pierre et Marie Curie (Paris 6) September 5, 2011. Actual Position: Assistant Professor, School of Operations Research and Information Engineering, Cornell University.

8.3.2. PhD in progress

José Infante Acevedo (from Oct. 2009). Liquidity risk and limit order books modelling, ENPC. Adviser: A. Alfonsi

Lokmane Abbas Turki (3rd year, started in March 2009). Modelling of correlation in high dimensions and numerical methods. This thesis is funded by Credinext. Université Paris-Est Marne-la-Vallée Advisers: D. Lamberton and B. Lapeyre.

Ayech Bouselmi (3rd year, started in October 2009). Lévy processes and multi-dimensional models in finance. Allocataire de recherche, Université Paris-Est Marne-la-Vallée. Adviser: D. Lamberton

Jing Chen, Non linear expectations and Backward SDEs, (Shandong University grant, INRIA. Adviser: A. Sulem (started September 2011).

Maxence Jeunesse: Study of some numerical methods in finance Adviser: B. Jourdain

Victor Rabiet, Malliavin calculus for jump diffusions. (3rd year, started in October 2009), ENS Cachant, Adviser: V. Bally
MICMAC Project-Team

8. Dissemination

8.1. Animation of the scientific community

E. Cancès

- is co-Editor in chief (with P. Del Moral and J.-F. Gerbeau) (2005-) of ESAIM Proc,
- is a member of the executive committee of the CEA-EDF-INRIA schools in applied mathematics and computer science,
- is a member of the scientific committee of the GDR co-DFT.

E. Cancès has organized or co-organized

- a BIRS workshop on Density Functional Theory: fundamentals and applications in condensed matter physics, Banff, Canada, January 2011,
- a thematic minisymposium on electronic structure calculation at ICIAM 2011, Vancouver, Canada, July 2011,
- a minisymposium on mathematics in materials science, Beijing, China, September 2011.

Eric Cancès and G. Stoltz have co-organized the workshop "Interactions between PDEs and probability theory", held in Grenoble, France, 23-25 November 2011, in the framework of the GdR CHANT.


C. Le Bris has been a member of the Scientific Program Committee of ICIAM 2011, Vancouver, Canada.

C. Le Bris is a member of

- the scientific board of ENPC, 2008- (nominated as representative of the research scholars),
- the “Comité d’experts” for the “Fondation de Recherche pour l’Aéronautique et l’Espace”,
- the “Comité d’animation du domaine thématique Mathématiques appliquées, calcul et simulation” at INRIA,
- 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,
- Conseil de perfectionnement du Master de Mathématiques de l’Université Pierre et Marie Curie.
C. Le Bris has co-organized, with M.P. Calvo (University of Valladolid, Spain) the minisymposium “Numerical integrators of Hamiltonian systems and related problems”, Centennial congress of the Spanish Royal Mathematical Society, February 1-5, 2011, Avila.

Tony Lelièvre co-organized a minisymposium on "Numerical Methods for Molecular Dynamics" at the ENUMATH 2011 conference (Septembre 2011), and a workshop on "Metastability and stochastic processes" at Ecole des Ponts (September 2011).

F. Nier is a member of the scientific committee of
- the workshop “Spectral Analysis of Non-Selfadjoint operators”, ANR NONAa, CIRM, December 2011,
- the workshop “Mathematics for semiconductor heterostructure 2012” WIAS-Berlin, September 2012,
- the CNRS-GDR “Dynamique Quantique” led by S. de Bièvre.

S. Olla is a member of the editorial boards of Annals of Probability and of Probability theory and related fields. He has organized with Carlangelo Liverani a workshop on “Fourier’s Law” at the Field Institute, Toronto in April 2011.

Gabriel Stoltz co-organized a mini-symposium on “Numerical methods in molecular simulation” at the SMAI 2011 meeting, in Guidel, France (may 2011).

8.2. Teaching

The members of the team have taught the following lectures:
- Licence: Formation au logiciel scientifique SCILAB, 12h, L3, Ecole des Ponts, France (D. Benoit, I. Dabo)
- Licence: Informatique, 50h, L2, CPGE Jean-Baptiste Say, France (D. Benoit, I. Dabo)
- Licence: Analyse, 36h, L3, Ecole des Ponts, France (E. Cancès, V. Ehrlacher, F. Legoll, F. Thomines)
- Licence: Optimisation linéaire et convexité, 36h, L3, Université Paris 6, France (R. Costaouec)
- Licence: Calcul Scientifique, 30h, L3, Ecole des Ponts ParisTech, France (M. Dobson, G. Stoltz)
- Licence: Mathématiques pour biologistes, 36h, L2, University of Cergy Pontoise, France (S. Lahbabi)
- Licence: Formation "C2i" (Certificat Informatique et Internet), 30h, L2, University of Cergy Pontoise, France (S. Lahbabi)
- Master: Introduction au calcul Scientifique, 12h, M1, Ecole des Mines ParisTech, France (D. Benoit, M. Dobson, G. Stoltz)
- Master: Analyse, 40h, M1, EPFL, Switzerland (S. Boyaval)
- Master: Analyse Numérique et Optimisation, 56h, M1, Ecole Polytechnique, France (E. Cancès, C. Le Bris)
- Master: Méthodes mathématiques en chimie quantique, 12h, M2, University Paris 6, France (E. Cancès)
- Master: Introduction à la physique quantique et statistique, 20h, M1, Ecole des Ponts, France (I. Dabo)
- Master: Mathématiques des modèles multi-échelles, 39h, M1, Ecole des Ponts ParisTech, France (F. Legoll)
- Master: Problèmes multi-échelles, 24h, M2, Université Paris 6, France (F. Legoll)
• Master: Méthodes numériques probabilistes, 36 h, M2 Mathématiques et Applications, Université Pierre et Marie Curie, France (T. Lelièvre)
• Master: Modéliser Programmer Simuler, 28 h, M1, Cours Ecole des Ponts ParisTech, France (T. Lelièvre)
• Master: Méthodes déterministes en mathématiques financières, 42h, M2, Ecole des Ponts ParisTech, France (T. Lelièvre)
• Master: Analyse spectrale, 39h, M1, Ecole des Ponts, France (G. Stoltz)
• Master: Computational Statistical Physics, 18h, M2, Ecole des Ponts, France (G. Stoltz)
• Doctorat: Introduction à l’informatique scientifique, 16h, D, Université Paris-Est, France (I. Dabo)

G. Stoltz supervised the internships of Laura Da Silva (Paris 7, Master 1 in biology (AIV)) from March, 1st to April 30th, 2011, and the internship of Etienne Germain (Ecole des Ponts, first year of training), from April 15th to July 15th.

The following PhD & Habilitation were defended:

• HdR: F. Legoll, Contributions à l’étude mathématique et numérique de quelques modèles en simulation multi-échelle des matériaux, Université Paris 6 Pierre et Marie Curie, 17 oct. 2011,
• PhD: R. Costaouec, Techniques numériques d’homogénéisation: application aux matériaux aléatoires, Université Paris-Est, Ecole des Ponts ParisTech, 23 nov. 2011, supervised by C. Le Bris.

The following PhDs are in progress:

• PhD in progress: D. Benoit, Méthodes numériques pour la simulation des fluides non-Newtoniens, Université Paris-Est, Ecole des Ponts ParisTech, started october 1st, 2010, supervised by C. Le Bris and T. Lelièvre
• PhD in progress: V. Ehrlacher, Some mathematical and numerical problems in quantum mechanics and uncertainty quantification", Université Paris-Est, Ecole des Ponts ParisTech, started october 1st 2009, supervised by E. Cancès and T. Lelièvre
• PhD in progress: S. Lahbabi, Mathematical study of quantum crystals with random defects, University of Cergy-Pontoise, started september 1st 2010, supervised by E. Cancès and M. Lewin
• PhD in progress: F. Thomines, Méthodes numériques multi-échelles: application à l’homogénéisation des matériaux aléatoires, Université Paris-Est, Ecole des Ponts ParisTech, started on Sept. 1st, 2009, supervised by C. Le Bris

8.3. Conference participation

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

• D. Benoit, Congrès SMAI 2011, Guidel, France, May 2010,
• S. Boyaval, séminaire Université de Lille, January 2011,
• S. Boyaval, workshop on Reduced basis methods in high dimensions, Paris, June 2011,
• S. Boyaval, ICIAM, minisymposium Reduced-Basis methods, Vancouver, Canada, July 2011,
• S. Boyaval, CEMRACS, SimTech Workshop on Current Trends in Computational Fluid Mechanics, Marseille, August 2011,
• S. Boyaval, workshop Numerical Analysis of Multiscale Problems and Stochastic Modelling, RICAM Linz, Austria, December 2011,
• E. Cancès, workshop on computational challenges in partial differential equations, Swansea, United Kingdom, April 2011,
• E. Cancès, workshop Polaritons 2011, CIRM, Marseille, April 2011,
• E. Cancès, summer program on electronic structure analysis, Shanghai, China, June 2011,
• E. Cancès, MFO workshop on mathematical methods in quantum chemistry, Oberwolfach, Germany, June 2011,
• E. Cancès, ICIAM 2011, Vancouver, Canada, July 2011,
• E. Cancès, Minisymposium on mathematics in materials science, Beijing, China, September 2011,
• E. Cancès, distinguished professor lecture, Chinese Academy of Sciences, Beijing, China, September 2011,
• E. Cancès, weekly seminar of the mathematics department, University of Grenoble, February 2011,
• E. Cancès, weekly seminar of the mathematics department, University of Nice, March 2011,
• E. Cancès, weekly seminar of the mathematics department, University of Créteil, May 2011,
• E. Cancès, weekly seminar of the chemistry department, University of Pisa, Italy, October 2011,
• E. Cancès, weekly seminar of the chemistry department, University of Lille, November 2011,
• R. Costaouec, Congrès SMAI 2011, Guidel, May 2011,
• R. Costaouec, ICIAM 2011 conference, Vancouver, July 2011,
• I. Dabo, CEA Seminar, CEA, Saclay, September 2011,
• I. Dabo, CEA Seminar, CEA, Grenoble, September 2011,
• I. Dabo, LPICM Seminar, Ecole Polytechnique, Palaiseau, April 2011,
• I. Dabo, GDR coDFT, Obernai, June 2011,
• I. Dabo, First-principles surface chemistry under applied voltage (contributed oral presentation), Electrochemical Society Meeting, Montreal, May 2011,
• I. Dabo, American Physical Society Meeting, Dallas, March 2011,
• M. Dobson, RSME2011 conference, Avila, February 2011,
• M. Dobson, ICIAM 2011 conference, Vancouver, July 2011,
• M. Dobson, 11th USNCCM conference, Minneapolis, July 2011,
• M. Dobson, workshop Nonequilibrium Processes, Obergurgl, Austria, August 2011,
• V. Ehrlacher, ICIAM 2011, Vancouver, Canada, July 2011,
• V. Ehrlacher, ENUMATH 2011, Leicester, United Kingdom, September 2011,
• V. Ehrlacher, BIRS workshop on Density Functional Theory: fundamentals and applications in condensed matter physics”, Banff, Canada, January 2011,
• V. Ehrlacher, IMA workshop on Large-scale Inverse Problems and Quantification of Uncertainty, Minneapolis, United States, June 2011,
• V. Ehrlacher, MFO workshop on mathematical methods in quantum chemistry, Oberwolfach, Germany, June-July, 2011,
• C. Le Bris, plenary lecture, International conference on "Frontiers of Computational and Applied Mathematics", Peking University, Beijing China, October 2011,
• C. Le Bris, keynote lecturer, joint MIT (CCE) - Politecnico di Milano (MOX) workshop, "Reduction Strategies for the Simulation of Complex Problems", Milano, January 2011,
• C. Le Bris, INI/WIMCS Joint Follow-Up Meeting on Computational challenges in partial differential equations, Swansea University, April 2011,
• C. Le Bris, “The ACMAC workshop on Stochastic Partial Differential Equations”, Heraklion, Crete, June 2011,
- C. Le Bris, Sino-French Workshop on Contemporary Applied Mathematics, Fudan University, Shanghai, July 2011,
- C. Le Bris, ICIAM conference, Minisymposium on Reduced basis methods and their applications, Vancouver, Canada, July 2011,
- C. Le Bris, ICIAM conference, Minisymposium on Coupling Atomistic and Continuum Simulations: Coping with Length and Time Scales, Vancouver, Canada, July 2011,
- C. Le Bris, ICIAM conference, Minisymposium on multiscale interaction between microscopic and continuum scales, Vancouver, Canada, July 2011,
- C. Le Bris, Modern Trends in PDE’s, Geometric Analysis and Mathematical Physics, University of Cergy-Pontoise, September 2011,
- C. Le Bris, Workshop on Partial Differential Equations in Mathematical Physics and their Numerical Approximation, Levico Terme (Trento, Italy), September 2011,
- C. Le Bris, Minisymposium on mathematics in materials science, Beijing, September 2011,
- C. Le Bris, Workshop on Control and Optimization of PDEs, Graz, October 2011,
- C. Le Bris, Workshop Modeling of defects, Singapore, December 2011,
- C. Le Bris, Penn State University Math Colloquium, 2011,
- C. Le Bris, NCMIS Distinguished Lecture Series National Center for Mathematics and Interdisciplinary Science, Chinese Academy of Sciences, 2011,
- F. Legoll, workshop on “Multiscale simulation of heterogeneous materials and coupling of thermodynamic models”, Louvain, January 2011,
- F. Legoll, workshop on “Mathematical Analysis for Peridynamics”, Oberwolfach, January 2011,
- F. Legoll, Workshop “Random Media: Homogenization and Beyond”, IPAM, Los Angeles, January 2011,
- F. Legoll, RSME2011 conference, Avila, February 2011,
- F. Legoll, seminar of the POEMS team-project, Paris, February 2011,
- F. Legoll, Fraunhofer Institute seminar, Kaiserslautern, March 2011,
- F. Legoll, workshop on Stochastic Multiscale Methods, Banff, March 2011,
- F. Legoll, Applied Mathematics Colloquium, Caltech, April 2011,
- F. Legoll, 10ième Colloque National en Calcul des Structures, Giens, May 2011,
- F. Legoll, workshop on “Ginzburg-Landau equations, Dislocations and Homogenization”, Ile de Ré, May 2011,
- F. Legoll, Workshop on “Coarse-graining of many-body systems”, Heraklion, June 2011,
- F. Legoll, AMS von Neumann Symposium on Multimodel and Multialgorithm Coupling for Multiscale Problems, Snowbird, July 2011,
- F. Legoll, ICIAM 2011 conference, Vancouver, July 2011,
- F. Legoll, 11th USNCCM conference, Minneapolis, July 2011,
- F. Legoll, Enumath conference, Leicester, September 2011,
- F. Legoll, Mini-symposium on Mathematics in Materials Science, September 2011,
- F. Legoll, 3rd Summer School of the Large Scale Initiative "FUSION", Paris, September 2011,
- F. Legoll, Numerical analysis seminar, Department of Mathematics, Texas A & M University, September 2011,
• T. Lelièvre, Meeting on Computational Challenges in Partial Differential Equations, Swansea University, April 2011,
• T. Lelièvre, Workshop on complexity and computational methods in statistics, Sante Fe, April 2011,
• T. Lelièvre, Séminaire du CMAP, Ecole Polytechnique, May 2011,
• T. Lelièvre, Workshop on Macroscopic Modeling of Materials with Fine Structure, Carnegie Mellon University, Pittsburgh, May 2011,
• T. Lelièvre, Workshop Coarse-graining of many-body systems: analysis, computations and applications, University of Crete, Greece, June 2011,
• T. Lelièvre, ENUMATH 2011, Vancouver, July 2011,
• T. Lelièvre, Plenary speaker at the ENUMATH conference, University of Leicester, September 2011,
• T. Lelièvre, Minisymposium on Mathematics in Materials Science, Pekin, September 2011,
• T. Lelièvre, Workshop on Nucleation and Rare Events, Pekin, September 2011,
• T. Lelièvre, Journées scientifiques MoMaS, Marseille, November 2011,
• T. Lelièvre, Workshop Reduced Basis, POD or PGD-Based Model Reduction Techniques, Cachan, November 2011,
• T. Lelièvre, Workshop Interactions EDPs/Probas, GDR CHANT, Grenoble, November 2011,
• T. Lelièvre, Workshop on Multiscale Systems: Theory and Applications, Warwick, December 2011,
• F. Nier, Journée de la Fédération CNRS Amiens-Reims-Compiègne”, November 2011 ,
• F. Nier, Mathematics-Physics meeting around Bose-Einstein Condensates, ANR Volquan, Versailles, December 2011,
• F. Nier, weekly seminar of the mathematics department, University of Créteil, December 2011,
• G. Samaey, Séminaire de mathématiques appliquées, Collège de France, Paris, May 2011,
• G. Samaey, SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 2011,
• G. Samaey, Making it Real Seminar, Bristol University, May 2011,
• G. Samaey, Applied Mathematics and Mathematical Physics Seminar, Imperial College, London, June 2011,
• G. Samaey, von Neumann Symposium, Snowbird, Utah, July 2011,
• G. Stoltz, Summer school on Electronic Structure Analysis and Computation, Shanghai Jiao Tong University, China, June 2011
• G. Stoltz, ICIAM, Vancouver, Canada, July 2011,
• G. Stoltz, Molecular Kinetics, Berlin, Germany, September 2011,
• G. Stoltz, Minisymposium on mathematics in materials science, Beijing, China, September 2011,
• G. Stoltz, weekly seminar of the mathematical physics group, Université de Cergy, November 2011,
• G. Stoltz, journée CECAM on modeling of matter, Paris, December 2011,
• G. Stoltz, Workshop on Multiscale Systems: Theory and Applications, Warwick, December 2011,
• F. Thomines, workshop on “Multiscale simulation of heterogeneous materials and coupling of thermodynamic models”, Louvain, January 2011,
• F. Thomines, ICIAM 2011 conference, Vancouver, July 2011,
• F. Thomines, Enumath conference, Leicester, September 2011,
• F. Thomines, Numerical analysis seminar, Department of Mathematics, Texas A & M University, September 2011,
In addition to the above, some members of the team have been invited for stays in institutions abroad:

- F. Legoll, Texas A & M University, College Station, USA, 30 Nov - 9 Dec 2011,
- F. Thomines, Texas A & M University, College Station, USA, September 2011,

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

- E. Cancès, Lectures (6h) on molecular modelling, Université de Versailles-St Quentin, March 2011,
- C. Le Bris, Lectures on Stochastic homogenization, Series of 4 one-hour lectures, Colloque "Marches aléatoires, Milieux aléatoires", Roscoff, June 2011,
- C. Le Bris, Lectures on Stochastic homogenization, Series of 3 one-hour lectures, Third International Riemann International School of Mathematics, "Free Surface, Multiphase and Multiphysics Problems", Verbania on the Lago Maggiore, September 2011,
- C. Le Bris, Lectures on Stochastic homogenization, Series of 3 one-hour lectures, National University of Singapore, December 2011,
- F. Legoll, Lectures (5h) on "Some recent numerical approaches for random multiscale materials", EMS School and Workshop on Mathematics for Multiscale Phenomena, Bedlewo, October 2011,
- F. Legoll, Lectures (3h) on "Energie libre et dynamique réduite en dynamique moléculaire", GdR CHANT workshop on “Interactions EDPs/Probas: modèles probabilistes pour la simulation moléculaire”, Grenoble, November 2011.

Members of the project-team have presented posters in the following events:

- R. Costaouec, Workshop Random Media: Homogenization and Beyond, IPAM, Los Angeles, January 2011,
- M. Dobson, AMS von Neumann Symposium on Multimodel and Multialgorithm Coupling for Multiscale Problems, Snowbird, July 2011,
- M. Dobson, Metastability and stochastic processes, Ecole des Ponts ParisTech, September 2011,

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

- S. Lahbabi, BIRS workshop on Density Functional Theory: fundamentals and applications in condensed matter physics”, Banff, Canada, January 2011,
- S. Lahbabi, MFO workshop on mathematical methods in quantum chemistry, Oberwolfach, Germany, June-July 2011,
- S. Lahbabi, Modern Trends in PDE’s, Geometric Analysis and mathematical physics, Cergy, September 2011,
- S. Lahbabi, Frontiers in Mathematical Physics, Cergy, May 2011,
- S. Lahbabi, Summer school on current topics in Mathematical Physics, Vienna, Austria, August 2011,
MOSCOVA Project-Team

8. Dissemination

8.1. Animation of the scientific community

+ J. Leifer was a member of the Program Committee of JFLA’11.
+ J.-J. Lévy is director of the Microsoft Research-INRIA Joint Centre, see http://msr-inria.inria.fr.
+ J.-J. Lévy is member of the Scientific Committee of the “Fondation Sciences Mathématiques de Paris” and participates to corresponding meetings and juries.
+ J.-J. Lévy is member of the Program Committee of Digiteo as representative of INRIA–Paris-Rocquencourt.
+ L. Maranget is elected member of the INRIA Comité technique paritaire. He participates to one meeting every two months, discussing about the politics of Inria at the highest level.
+ L. Maranget is president of CUMIR-RCommission des utilisateurs des moyens informatiques de Rocquencourt-Recherche.
+ F. Zappa Nardelli is member of the Comité Directeur of the CEA-EDF-INRIA summer schools.
+ F. Zappa Nardelli is the correspondent of the Équipes associates MM.
+ F. Zappa Nardelli is member of the comité de suivi doctoral de l’INRIA Saclay.
+ F. Zappa Nardelli served in the POPL 2012 PC. He attended the PC meeting on September, 29-2 at U. Maryland, USA.
+ K. Bhargavan and J. Leifer organised the security seminar series. Leifer continued in 2011 with a series of talks by invited researchers: 11-01 (Graham Steel, Nataliya Guts), 09-03 (François Dupressoir), 15-03 (David Cadé), 28-04 (Nikhil Swamy), 01-06 (Kristin Lauter).

8.2. Teaching

Our project-team participates to the following courses:

- October-February, K. Bhargavan taught courses in programming as a Chargé d’Enseignement at the École Polytechnique in 2011.
- October-November, J. Leifer participated to the “Concurrency” course, Master Parisien de Recherche en informatique (MPRI), 2011-2012, at U. of Paris 7, 23 students, (J. Leifer taught the pi-calculus semantics: 15 hours plus the mid-term exam)
- J.-J. Lévy taught “Reductions and Causality”, an advanced course on the lambda-calculus in October-November, Tsinghua University, Beijing (15 students, 12h) http://jeanjacqueslevy.net/courses/tsinghua/reductions.
- J.-J. Lévy wrote a vulgarisation article on “Les dominos de Wang” in Quadrature, journal for the students of the French Classes Préparatoires.
- L. Maranget is the coordinator of the computer science examinations of the Concours d’entrée à l’École polytechnique.
- January, F. Zappa Nardelli was responsible of a quarter of the Master course “Concurrency”, Master Parisien de Recherche en Informatique, where he lectured about proof methods for concurrent programs (12 hours of lecture plus a final exam, about 30 students).
- February, F. Zappa Nardelli lectured at ENS Lyon on "Shared memory: an elusive abstraction" (4h, about 15 students).
- June, 20-23, F. Zappa Nardelli lectured on "Shared memory: an elusive abstraction" at the UPMARC Summer School, Sweden (4h, about 60 students).
- November, 7-11, F. Zappa Nardelli was teaching assistant at the "Introduction to the Coq proof assistant” CEA-EDF-INRIA summer school (20 hours, about 25 students).
Training and Supervisions:

- K. Bhargavan supervised 2 Masters internships (stagiaires) in 2011: Quentin Lefebvre and Evmorfia-Iro Bartzia.
- K. Bhargavan supervised 2 summer internships: Chetan Bansal and Ravinder Shanksi.
- K. Bhargavan is supervising Evmorfia-Iro Bartzia as a PhD. student since October 2011.
- K. Bhargavan is supervising Alfredo Pironti as a post-doc since 2010.
- J. Leifer supervised Jean Pichon, a Masters (M1) research intern from ENST Telecom ParisTech, from 1 July - 31 December 2011. The topic of the research project was “A verified interpreter for secure multiparty sessions”. Pichon will hold his defence in January 2012.
- F. Zappa Nardelli supervised the 6 months long M2 internship of Kayvan Memarian (ENS Cachan) on “Correctness of compilation of C++11 low-level atomics”.

8.3. Participations to conferences, Seminars, Invitations

8.3.1. Participations to conferences

- January 24-30, F. Zappa Nardelli attended the POPL conference in Austin, Texas (US).
- January 29-Feb. 1, J. Leifer, J.-J. Lévy, L. Maranget attended the JFLA’11, La Bresse France. L. Maranget gave a tutorial on Jocaml, 5 hours, for a public of about 40 researchers.
- February 2-5, L. Maranget attended the GGJ’11, in Gérardmer. He gave an invited talk with Jade Alglave.
- February 2-5, F. Zappa Nardelli attended the GGJ’11, in Gérardmer. He gave a talk on “relaxed memory models must be rigorous”.
- March 22-24, All Moscova attended the INRIA evaluation seminar, Paris.
- March 26 - April 3, L. Maranget attended TACAS’11, in Saarbrücken. He gave a talk and a tool presentation [31].
- April 18-22, J. Leifer attended the “Behavioural Types Workshop”, Lisbon, Portugal. He presented a talk “Secure protocol synthesis for multi-party sessions” and was an invited member of a panel on “Comparing approaches to behavioural types”.
- June 6–8, L. Maranget attended PLDI’11, San Jose, California. His co-author S. Sarkar gave a talk of this article [26].
- July 16–20, L. Maranget attended CAV’11, in Snowbird, Utah. His co-author J. Alglave gave a talk of this article [30].
- September, 2, F. Zappa Nardelli gave a talk on “Veryifing Fence elimination Optimisations” at the POPL PC workshop.

8.3.2. Seminars

- January 31, F. Zappa Nardelli gave a talk on relaxed memory models at the Parkas seminar, Paris.
- March 3, F. Zappa Nardelli gave a talk on relaxed memory models at the “groupe de travail Programmation”, Paris.
- April, 7-10, F. Zappa Nardelli visited Cambridge University for collaboration with Peter Sewell.
- April, 7-10, K. Memarian visited Cambridge University for collaboration with Peter Sewell.
- May 5, K. Bhargavan gave a seminar as part of the le Modèle et l’Algorithme series in INRIA Rocquencourt.
• June 1–4, L. Maranget visited IBM in Austin, Texas, for discussion with D. Williams (IBM), J.
• July, K. Memarian visited Cambridge University for collaboration with Peter Sewell.

8.3.3. Invited visitors

• Sergio Maffeis (Imperial College) visited the Moscova EPI as invited professor from June to
  November and worked with K. Bhargavan.
• June 24, Mike Hicks (U. Maryland) visited the Moscova EPI and gave a talk on "monads in OCaml".
• June-July, Pankaj Pawan (IIT Kanpur) was intern student in the Moscova project team under the
  supervision of F. Zappa Nardelli.
• May-September, Kayvan Memarian (ENS Cachan) was intern student in the Moscova project team
  under the supervision of F. Zappa Nardelli.
• May-August, Jan Vitek (U. Purdue) visited the Moscova project as Invited Professor. He collaborated
  with F. Zappa Nardelli.
• June, Gregor Richards (U. Purdue) visited the Moscova project for collaboration with F. Zappa
  Nardelli and Jan Vitek.
7. Dissemination

7.1. Animation of the scientific community

Bruno Cessac is a reviewer for the CONYCIT (Chile) and COFECUB (Brasil) program and for the journals Physica D, Nonlinearity, Chaos, Journal of Statistical Physics, IEEE Transaction in Neural Networks, Journal of Mathematical Biology, Journal of Computational Neuroscience. He is in charge of internships organisation in the Master of Computational Biology, Nice.

Pascal Chossat is deputy scientific director of INSMI, the newly created mathematics institute of CNRS, in charge of the international relations of CNRS in this field. He is the coordinator of a geographic EraNet (EC program) named New Indigo for the development of scientific networks between European member states and India.

Olivier Faugeras is a member of the French Academy of Sciences and the French Academy of Technology. He is on the Editorial board of the International Journal of Computer Vision (IJCV). He is the co-editor in chief of the Journal of Mathematical neuroscience, Springer: Website: http://www.mathematical-neuroscience.com/ He is a member of the Institut Thématique Multi-organismes Neurosciences, Sciences cognitives, Neurologie, Psychiatrie. He is a member of the ERC PE1 panel. He co-organized a thematic semester at CIRM, Luminy, France, October-December 2011, on “Theoretical, Mathematical and Computational Neuroscience” which featured four one-week workshops and six one-week courses. For more information see Website: http://www-sop.inria.fr/manifestations/SemesterCirm/.

Pierre Kornprobst has been the coordinator of the MSc 2 in Computational Biology and Biomedicine (Université Nice Sophia Antipolis) until September 2011, together with Frédéric Cazals (Website: http://cbb.unice.fr).

7.2. Teaching

- Licence 1 : Grégory Faye, Mathematics for Biology, 50h, L1, Université Nice Sophia Antipolis, France.
- Licence 3 : Hassan Nasser, Electronique numérique, 36h, L3, Université de Nice Sophia-Antipolis, France
- License 3 : Hassan Nasser, Microprocesseurs, 28h, L3, Université de Nice Sophia-Antipolis, France
- License 3 : Mathieu Galtier, Mathématiques, Ecole des Mines, France.
- Master: Bruno Cessac, Neuronal dynamics, 36 hours, Master of Computational Biology and Biomedicine, Université Nice Sophia Antipolis, France.
- Master: Olivier Faugeras, Mathematical Methods for Neuroscience, 27h, M2, ENS Paris, France. 15h were taught by Grégory Faye.

PhD & HdR


PhD : Romain Veltz, Nonlinear analysis methods in neural field models, Univ Paris Est ED MSTIC, December 16th 2011, supervised by O. Faugeras [15].

PhD: Geoffroy Hermann, “Some mean field equations in neuroscience”, 08/01/08, supervised by Olivier Faugeras and Jonathan Touboul. January 2012 [66].

PhD in progress: Rodrigo Cofre-Torres, «Statistics of spike trains and neuronals structures», 2014, supervised by Bruno Cessac [60].


PhD in progress: Diego Fasoli, “Mean-field theory of realistic spiking neurons”, Université de Nice Sophia-Antipolis, defence planned in 2013, supervised by Olivier Faugeras.

Phd in progress: Javier Baladron, “Parallel implementations of mean field and neural field equations”, Université de Nice Sophia-Antipolis, defence planned in 2013, supervised by Olivier Faugeras.

PhD in progress: Hassan Nasser, « Reproducing and anticipating retinal responses», defence planned in 2013, supervised by Bruno Cessac.
9. Dissemination

9.1. Animation of the scientific community

9.1.1. Event organization

- Albert Cohen is the General Chair of the 7th HiPEAC conference, January 2012. Louis Mandel is member of the local arrangements committee.

The conference is pioneering a new “journal first” publication model, and has been completely reorganized into a large networking event with 27 parallel events, an industry exhibit with 50 companies booths and posters, and a European project exhibit with 46 projects from the computing systems, embedded systems strategic objectives of the FP7 and from the FET programme.

475 registered participants, 34 ACM TACO journal papers will be presented (the record number for previous HiPEAC conferences was 210 participants).

- Albert Cohen co-organized the 9th Symposium on Code Generation and Optimization, as a finance chair, April 2011. CGO is co-sponsored by ACM and IEEE, in Chamonix http://www.cgo.org/cgo2011. 240 participants and 120 paper submissions, an increase of 10% and 30% over the record numbers for the conference.


This year, we have invited colleagues from IRCAM (Paris) and GRAME (Lyon) for a half day presentation of their work on programming languages for music.

The workshop has been a great success with 80 participant whereas the workshop usually have 50.

9.1.2. Editorial boards

- Jean Vuillemin is on the board of 5 international journals.
- Marc Pouzet is associate editor of the EURASIP Journal on Embedded systems (http://www.hindawi.com/journals/es/).
- Marc Pouzet is “directeur de collection” for Hermes publisher.

9.1.3. Program committees

- M. Pouzet is a member of the program committee of the following conferences: Design, Automation & Test in Europe (DATE 2011 and DATE 2012); Approches Formelles dans l’Assistance au Développement de Logiciels (AFADL 2011 and AFADL 2012); Conference on Real-Time and Network Systems (RTNS 2011); Modélisation des systèmes Réactifs (MSR 2011); ACM Conf. on the Principles and Applications of Declarative Programming (PADL 2012), located with POPL;
- M. Pouzet is an expert reviewer for the Design Automation Conference (DAC) in 2011 and 2012.
- A. Cohen is a co-chair of the DAC 2012 ESS1&2 TPC.
- A. Cohen is a member of the program committee of the following conferences: PLDI 2011, LCTES 2011, PPOPP 2011, ICS 2012, CC 2013.
● A. Cohen is a member of the program committee of the following workshops: IMPACT 2011, GROW 2011, WIR 2011, IMPACT 2012, INTERACT 2012, GPGPU 2012.

● L. Mandel, member of the program committee of the Journées Francophones des Langages Appliqués (JFLA 2012).

9.1.4. Participation to Thesis Committees

● M. Pouzet was a reviewer of the following PhD theses: Tayeb Bouhadiba (Université de Grenoble; dir: Florence Maraininchi; September 16th, 2010); Daniel Reynaud (INPL, Nancy; dir: Jean-Yves Marion; October 15th, 2010); Antony Coadou (Université de Nice; dir: Robert de Simone; December 3th, 2010).

● M. Pouzet was president of the PhD jury of Nicolas Vallée (July 12, 2011), Univ. Paris-Diderot; Nicolas Pouillon (Sept. 26, 2011), Université Pierre et Marie Curie.

● A. Cohen was a reviewer of the following PhD theses: Per Larsen (August 2011, DTU, Copenhagen); Paul Carpenter, (September 2011, UPC Barcelona); Serge Guelton (September 2011, UBO and Telecom Bretagne); Benoît Pradelle (December 2011, Université Louis Pasteur, Strasbourg); Nicolas Benoît (January 2012, Université de Versailles St-Quentin).

● A. Cohen was a committee member of the following PhD theses: Matthias Eriksson (May 2011, Linköping U.); Antoniu Pop (September 2011, MINES ParisTech); Asma Charfi (December 2011, Université Paris Sud);

● A. Cohen was on the Prelim committee of Eunjung Park (December 2011, University of Delaware).

9.1.5. Invited Presentations

● L. Mandel and M. Pouzet, were invited to give a lecture at IRCAM in the Master of “Acoustique, Traitement du signal, Informatique, Appliqués à la Musique”. Nov. 2010 and Nov. 2011.

● M. Pouzet was invited speaker at Complex Systems Design & Management (CSDM), Paris, in Dec. 2011. The title of the talk was: Programming hybrid systems with synchronous languages.

● M. Pouzet was invited speaker by Hilding Elmquist, CTO at Dassault-Systèmes and the founder of the Modelica Language, at the 69th Modelica Design Meeting, Munich, Germany, in Jan. 2011. M. Pouzet gave two one-hour talks. The titles were Lucid Synchrone, a Functional Synchronous Language and Design, Semantics and Compilation for a Hybrid Synchronous Language.

● A. Cohen was a keynote speaker at the CTHPC 2011 workshop in Tai Chung, Taiwan, titled “Polyhedral Compilation Runs Out of (Static) Control!”, July 2011.

● A. Cohen gave an invited presentation at the National Tsing Hua University, Hsin Chu, Taiwan, titled “Work-Streaming: a Combined Language, Compiler and Runtime Approach to Deterministic, Scalable and Efficient Parallel Computing”, July 2011.

9.2. Interaction with the scientific community

9.2.1. Prizes and distinctions

Since 2007, Marc Pouzet is a junior member of the IUF (”Institut Universitaire de France”), that distinguishes each year a few French university professors for the high quality of their research activities.
9.2.2. Collective responsibilities within INRIA

- M. Pouzet is an elected member of the INRIA Evaluation Committee.
- A. Cohen is an elected member of the INRIA Scientific Council.
- A. Cohen is a member of the BCP of INRIA Rocquencourt.
- A. Cohen is the scientific representative for the International Relations of INRIA for INRIA Rocquencourt, and a member of the COST GTRI committee.
- J. Vuillemin was head of Computer Science at ENS from 2007 to 2011.

9.2.3. Collective responsibilities outside INRIA

- J. Vuillemin is a 2011 member of the International Scientific Advisory Board, National ICT Australia.
- J. Vuillemin chairs the 2011 Scientific Advisory Board of I2R in Singapore.
- J. Vuillemin received the “Grand prix 2008 des sciences de l’Informatique et de leurs applications”, from the French Academy of Sciences and foundation EADS.
- J. Vuillemin was "Directeur Scientifique" at INRIA from 2005 to 2007.
- L. Mandel is in charge of the International Selection of ENS with J. Bertrane (ENS) for the computer science department.
- M. Pouzet was president of the hiring committee for a Chaire position funded by CNRS and École Polytechnique, in the computer science department of École Polytechnique, in January 2011.
- M. Pouzet was a member of the hiring committee for an Assistant Professor position at École Nationale Supérieure des Techniques Avancées (ENSTA), in May 2011; a Full Professor position in Université de Nice, in May 2011.
- A. Cohen was a member of two hiring committees for Associate Professor positions at UPMC in May and September 2011.
- A. Cohen jointly created and operates the Electrical Engineering multidisciplinary program at at École Polytechnique (Master 1 level), with Yvan Bonnassieu (physics department) and Frédéric Bonnans (applied mathematics department).

9.3. Industrial Dissemination

- M. Pouzet is scientific advisor for the company Esterel-Technology on the evolution of SCADE (start in Nov. 2011).
- A. Cohen initiated and manages a 20 man-year R&D project in production-ready polyhedral compilation within GCC (Graphite project, since GCC 4.5), in collaboration with AMD, IBM Research, and several GCC developers.

9.4. Teaching

Licence: “Projet de programmation” (L3), L. Mandel (23h), Université Paris-Sud 11, France
Licence: “Systèmes et réseaux” (L3), M. Pouzet (24h), L. Mandel (24h), École Normale Supérieure, France
Licence: “Langages de programmation et compilation” (L3), L. Mandel (24h), École Normale Supérieure, France
Licence: “Components of a Computing System Introduction to Computer Architecture and Operating Systems” (L3), A. Cohen (44h), École Polytechnique, France
Master 1 École Polytechnique: “Operating Systems Principles and Programming” (M1), A. Cohen (38h), École Polytechnique, France

Master Parisien de Recherche en Informatique (MPRI): “Synchronous systems” (M2), M. Pouzet (12h), J. Vuillemin (12h), L. Mandel (6h), A. Cohen (6h), École Normale Supérieure and Université Paris Diderot, France

Master sur les Systèmes Industriels Complexes (COMASIC): Univ. Paris-Sud, École Polytechnique, INSTN. Synchronous Languages (24h), M. Pouzet.
PI.R2 Project-Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Collective responsibilities

Pierre-Louis Curien was deputy director of the Foundation “Sciences Mathématiques de Paris” until September 2011.

Hugo Herbelin coordinated the ADT Coq and the development of Coq.

9.1.2. Editorial activities

Pierre-Louis Curien is co-editor in chief of Mathematical Structures in Computer Science, and is an editor of Theoretical Computer Science and of Higher-Order and Symbolic Computation.

Pierre-Louis Curien is guest editor for a special issue of Logical Methods in Computer Science in connection with the conference TLCA 2009 (about 9/10 of the issue is already published online).

9.1.3. Program committees and organising committees

Yann Régis-Gianas served on the program committee for the conference “Journees Francophones des Langages Applicatifs”.

Yann Régis-Gianas organized a joint workshop regrouping members of the CerCo european project and the Eternal ARC.

Matthieu Sozeau organised a Coq workshop on type-classes and reification in February in Paris, with around 20 attendees. This was funded by the ADT Coq. He was on the organising committee of DTP’11, a satellite workshop of ITP’11 in Nijmegen.


Hugo Herbelin was in the Program Committee of the conference TLCA 2011 and of the workshop Coq 2011. He will be in the Program Committee of ITP 2012 and MFPS 2012.

Hugo Herbelin, Alexis Saurin, and Noam Zeilberger organized a satellite workshop of RDP 2011 on “Theory and Practice of Delimited Control” (May).

Hugo Herbelin is organizing the “Automation in Proof Assistant” satellite workshop of ETAPS 2012 which will be partly shared with the organization of the first COST 0901 meeting of year 2012.

Alexis Saurin was in the Program Committee of ICFP 2011 and he organized, together with Marine Meyer, the PC meeting which took place in INRIA offices, gathering the PC members (about 20 PC members) for 3 days in may 2011.

Alexis Saurin was in the Program Committee of the workshop GaLoP 2011.

Alexis Saurin is in the scientific committee of the Logic and Interaction weeks 2011, more specifically in charge of the week on proofs and programs.

9.1.4. Jurys

In June and July 2011, Alexis Saurin has been member of the Jury for entrance exams at Ens Paris and examined the candidates for the three ENS for the “Informatique Fondamentale” Oral exam.
9.1.5. **Ph.D. and habilitation juries**

Hugo Herbelin (reviewer) and Matthieu Sozeau (member) participated to the PhD committee of François Garillot (École Polytechnique) on December 5th. Hugo Herbelin participated to the PhD committee of Barbara Petit (ENS Lyon) on July 13th.

9.1.5.1. Invited talks

Matthieu Sozeau was invited to the DTP seminar at the Shonan Village Center in Japan, September 2011, and gave a talk on dependent pattern-matching compilation.

Alexis Saurin has been invited to give a talk at a special session on Structural Proof Theory and Computing as part of the 2012 ASL (Association of Symbolic Logic) Annual meeting which will take place in Madison, Wisconsin from March 31-to April 3, 2012.

9.1.5.2. Presentation of papers

Matthias Puech will present his paper [15] at the TLDI 2012 workshop.

Alexis Saurin gave a communication at TLCA 2011 on his work with Zena Ariola and Hugo Herbelin [12]

9.1.5.3. Other presentations

Matthieu Sozeau and Letouzey presented the developers talk at the Coq’3 workshop in Nijmegen.

Pierre Boutillier, Hugo Herbelin and Noam Zeilberger gave each one a talk at the TPDC workshop in Novi Sad (June).

Arnaud Spiwack and Hugo Herbelin gave a talk at the TYPES conference in Bergen (September).


Letouzey gave two of the lessons in the one-week CEA-INRIA-EDF School about Coq (November, Paris).

Guillaume Munch-Maccagnoni gave a talk at the Linear Logic workshop (November, Kyoto).

Noam Zeilberger gave a talk at the European Workshop on Computational Effects in Ljubljana, Slovenia (March).

9.1.5.4. Attendance to conferences, workshops, schools,...

Oregon Programming Languages Summer School (Puech, Sozeau). Journées Francophones des Langages Applicatifs, February, La Bresse (Boutillier).

Final meeting of the ANR project CHOCO (Curry-Howard for concurrency) at Lyon (Munch-Maccagnoni), April.

Hugo Herbelin gave a talk at the FATPA 2011 workshop at Belgrade (February).

Pierre Boutillier and Hugo Herbelin attended TLCA 2011 in Novi Sad.

Hugo Herbelin and Matthieu Sozeau attended ITP 2011 at Nijmegen (August).

Hugo Herbelin attended the Coq workshop 2011 at Nijmegen (August).

Arnaud Spiwack attended CSL 2011.

Matthieu Sozeau and Arnaud Spiwack attended the MAP 2011 conference in Leiden (November).

DTP meeting in Shonan, Japan (Sozeau).

ICFP 2011 in Tokyo (Sozeau).

Hugo Herbelin attended the COST 0901 meeting in Torino.

Noam Zeilberger attended the 13th Agda Implementors’ Meeting (AIM XIII) at Chalmers University (Göteborg, Sweden, April).

9.1.5.5. Talks in seminars

Munch-Maccagnoni: "Semantics Lunch", Cambridge Computer Lab (June); Séminaire Théorie des Types et Réalisabilité (PPS, Paris).
Sozeau: Chalmers Programming Languages seminar (Gothenburg, January). IMDEA Seminar (Madrid, October), University of Kent programming languages and systems seminar (Canterbury, November).
Letouzey: talk in a local seminar at University of Nijmegen (April).
Herbelin: talk at the Geocal-Lac meeting of the GDR IM at École Polytechnique (November). Curien and Spiwack attended the meeting.
Herbelin and Sozeau: talks at the Journées PPS, September 2011 (Boutillier, Curien, Glondu, Munch-Maccagnoni, Zeilberger attended the Journées).
Zeilberger: invited speaker at the Paris 7 PhilMaths seminar session on “Proof-theoretic semantics and the justification of logical laws” (March).
Pierre-Louis Curien organised, jointly with Jean-Pierre Jouannaud and Lihong Zhi, a seminar on Rewriting and Algebra at the university of Tsinghua during his three-months visit in China (March-May): he gave two talks, one on Gröbner bases and Rewriting, and another one on Janet bases.

9.1.5.6. Groupe de travail Théorie des types et réalisabilité
This is one of the working groups of PPS, jointly organised by Hugo Herbelin and Paul-André Melliès, since September 2009. It is held weekly at the Antenne INRIA.

9.1.6. Other dissemination activities
Yann Régis-Gianas organised the "Fête de la Science" event for the computer science department of the Paris Diderot university, with some financial support of INRIA Paris-Rocquencourt communication services. Nicolas Ayache and Guillaume Munch-Maccagnoni also took part in the animation.
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 gave several conferences about computer science in the high-schools Camille Sée (Paris) and Albert Einstein (Sainte Genevieve des Bois). He also trained four high-school students to be able to explain the first principles of programming to the other students of the high-school.
Yann Régis-Gianas gave short presentations to high-school teachers in order to present the programming part of the new high-school teaching module “Informatique et Science du Numérique” (ISN)
Pierre Letouzey participates in a training period of high-school teachers for the computer science courses that will be introduced next year in the last grade of French high-schools (ISN).

9.2. Teaching
9.2.1. Supervision of Ph.D. and internships
PhD in progress: Pierre Boutillier, Représentation des effets et inférence de type dans le cadre du développement d’un langage de programmation à types riches, September 2010, Hugo Herbelin.
PhD in progress: Stéphane Glondu, Vers une certification de l’extraction de Coq, September 2007, Pierre Letouzey.
PhD in progress: Lourdes del Carmen Gonzalez Huesca, Un langage de tactiques typés pour Coq, December 2011, Hugo Herbelin and Yann-Régis Gianas.
PhD in progress: Guillaume Munch-Maccagnoni, Polarités, réalisabilité classique, contrôle délimité, September 2009, Pierre-Louis Curien and Thomas Ehrhard.
PhD in progress: Pierre-Marie Pédrot,
PhD in progress: Matthias Puech, Incremental proof development, September 2008, Hugo Herbelin, Andrea Asperti, and Yann-Régis Gianas.

Yann Régis-Gianas supervised the master internship of Guillaume Claret.
9.2.2. Courses

Licence : Initiation aux systèmes d’exploitation, (Boutillier) 1/4, L1 sciences exactes, Université Paris Diderot, France
Licence : Algorithmique, (Boutillier) 1/4, L3 BioInfo, Université Paris Diderot, France
Licence : Principes de fonctionnement des machines binaires, (Letouzey) 1/6, L1, Université Paris Diderot, France
Licence : Programmation fonctionnelle, (Letouzey) 1/6, L2 Math-Info, Université Paris Diderot, France
Master : Circuits et architectures, (Letouzey) 1/6, M1, Université Paris Diderot, France
Master : Typage, (Letouzey) 1/6, M2 Pro, Université Paris Diderot, France
Master : Preuves assistées par ordinateur, (Glondu) 1/6, M1, Université Paris Diderot, France
Doctorat : Pierre-Louis Curien and Hugo Herbelin gave lectures at the 10th Oregond Summer School on Programming Languages (June).

Matthias Puech is a teaching assistant (A.T.E.R) at University Paris Diderot – Paris 7 for the academic year 2011–2012. He teaches Java programming and Binary machines (beginner).

Yann Régis-Gianas took part in the MPRI course entitled “Type systems”. He gave a 12 hours course about generalised algebraic data types, higher-order Hoare logic and dependently typed programming.
9. Dissemination

9.1. Animation of the scientific community

- A. S. Bonnet-Ben Dhia is the Head of the Electromagnetism Group at CERFACS (Toulouse)
- A. S. Bonnet-Ben Dhia is in charge of the relations between l’ENSTA and the Master “Dynamique des Structures et des Systèmes Couplés (Responsable : Etienne Balmes)”.
- A. S. Bonnet-Ben Dhia is president of the “Conseil scientifique de l’Institut des sciences de l’ingénierie et des systèmes (INSIS-CNRS)”.
- M. Bonnet is associate editor of Engineering Analyses with Boundary Elements (since July 2011).
- M. Bonnet is on the editorial board of Inverse Problems.
- M. Bonnet is on the editorial board of Computational Mechanics.
- P. Ciarlet is an editor of DEA (Differential Equations and Applications) since July 2008
- G. Cohen is a scientific expert of ONERA.
- P. Joly is a member of the scientific committee of CEA-DAM.
- P. Joly is a member of the Hiring Committee of Ecole Polytechnique in Applied Mathematics.
- P. Joly is a member of the Post Docs Commission of INRIA Rocquencourt.
- P. Joly is a member of the Scientific Committee of the Seminar in Applied Mathematics of College de France (P. L. Lions).
- P. Joly is an editor of the journal Mathematical Modeling and Numerical Analysis.
- P. Joly is a member of the Book Series Scientific Computing of Springer Verlag.
- P. Joly is an expert for the MRIS (Mission pour l’Innovation et la Recherche Scientifique) of DGA (Direction Générale de l’Armement)
- P. Joly is a scientific expert for the “Fondation de Recherche pour l’Aéronautique et l’Espace” in the thematic “Mathématiques Appliquées au domaine de l’Aéronautique et Espace”.
- M. Lenoir is a member of the Commission de Spécialistes of CNAM.
- M. Lenoir is in charge of Master of Modelling and Simulation at INSTN.
- E. Lunéville is the Head of UMA (Unité de Mathématiques Appliquées) at ENSTA.
- The Project organizes the monthly Seminar Poems (Coordinators: A. Burel, N. Chaulet)

9.2. Teaching

- Eliane Bécache
  - Compléments sur la méthode des éléments finis, ENSTA, Paris, (2nd year).
  - Cours sur les PML, Collège Polytechnique, Paris.
- Anne-Sophie Bonnet-Ben Dhia
  - Outils élémentaires d’analyse pour les EDP, ENSTA, Paris (1st year).
  - Propagation dans les guides d’ondes, ENSTA, Paris (3rd year).
- Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques, ENSTA, Paris (2nd year).
- Propagation des ondes, Ecole Centrale de Paris (M2).

Marc Bonnet
- Problèmes inverses, Master TACS (ENS Cachan) et DSMSC (Centrale Paris).
- Méthodes intégrales, Master TACS (ENS Cachan).
- Equations intégrales et multipôles rapides, Ecole doctorale MODES (Univ. Paris Est, Marne la Vallée).

Laurent Bourgeois
- Outils élémentaires pour l’analyse des EDP, ENSTA, Paris (1st year).
- Fonctions de la variable complexe, ENSTA, Paris (2nd year)

Aliénor Burel
- Probabilités, IUT d’informatique, Université Paris-Sud XI, Orsay (2nd year).
- Analyse, IUT d’informatique, Université Paris-Sud XI, Orsay (1st year).

Maxence Cassier
- Système dynamique: Stabilité et Commande, ENSTA, Paris (1st year).
- Introduction à MATLAB, ENSTA, Paris (1st year).
- Fonction de variable complexe, ENSTA, Paris (2nd year)
- Tutorat pour élèves en difficulté en mathématiques appliquées, ENSTA, Paris (1st year).

Stéphanie Chaillat
- Introduction à la discrétisation des équations aux dérivées partielles, ENSTA, Paris (1st year).

Nicolas Chaulet
- Équations différentielles et introduction à l'automatique, ENSTA, Paris (1st year)
- Optimisation quadratique et analyse convexe, ENSTA, Paris (1st year)
- Méthode des éléments finis, ENSTA, Paris (2nd year)

Lucas Chesnel
- Méthode des éléments finis, ENSTA, Paris (2nd year)
- Introduction au calcul scientifique, ENSTA, Paris (2nd year)
- Les équations de Maxwell et leur discrétisation, ENSTA, Paris (3rd year), and Master "Modeling and Simulation" (M2)

Patrick Ciarlet
- Méthode des éléments finis, ENSTA, Paris (2nd year)
- Parallélisme et calcul réparti, ENSTA (3rd year), and Master "Modeling and Simulation" (M2)
- Les équations de Maxwell et leur discrétisation, ENSTA, Paris (3rd year), and Master "Modeling and Simulation" (M2)
- Practical tools to solve indefinite problems, Master, Facultade de Matemáticas, USC, Santiago de Compostela.

Julien Coatléven
• Introduction à la discrétisation des équations aux dérivées partielles, ENSTA, Paris (1st year)

• Gary Cohen
  – Méthodes numériques pour les équations des ondes, Master 2, Université de Paris-Dauphine

• Sonia Fliss
  – Méthode des éléments finis, ENSTA, Paris (2nd year)
  – Programmation scientifique et simulation numérique, ENSTA, Paris (2nd year)
  – Introduction à la discrétisation des équations aux dérivées partielles, ENSTA, Paris (1st year).

• Christophe Hazard
  – Outils élémentaires d’analyse pour les EDP, ENSTA, Paris (1st year)
  – Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques, ENSTA, Paris (2nd year).

• Sébastien Impériale
  – Introduction à la discrétisation des équations aux dérivées partielles, ENSTA, Paris (1st year).
  – Programmation scientifique et simulation numérique, ENSTA, Paris (2nd year)
  – Discrétisation de systèmes hyperboliques symétriques par Galerkin discontinu, Collège polytechnique.

• Patrick Joly
  – Introduction à la discrétisation des équations aux dérivées partielles, ENSTA, Paris (1st year).
  – Outils élémentaires d’analyse pour les EDP, ENSTA, Paris (1st year).

• Marc Lenoir
  – Fonctions de variable complexe, ENSTA, Paris (2nd year).
  – Équations intégrales, ENSTA, Paris (3rd year).

• Eric Lunéville
  – Introduction au calcul scientifique, ENSTA, Paris (2nd year)
  – Programmation scientifique et simulation numérique, ENSTA, Paris (2nd year)
  – Propagation dans les guides d’ondes, ENSTA, Paris (2nd year)

• Jean-François Mercier
  – Outils élémentaires d’analyse pour les EDP, ENSTA, Paris (1st year).
  – Fonctions de variable complexe, ENSTA, Paris (2nd year).
  – Fluides compressibles, ENSTA, Paris (2nd year).
  – Théorie spectrale des opérateurs autoadjoints et applications aux guides optiques, ENSTA, Paris (2nd year).

• Nicolas Salles
  – Analyse et séries de Fourier, Université Paris XI Orsay (L2)
  – Systèmes Linéaires (Matlab), Université Paris XI Orsay (L3)
9.3. Participation in Conferences, Workshops and Seminars

- Eliane Bécache
  - Some contributions to wave propagation problems in unbounded domains, WAM, Heraklion, May 2-5, 2011

- Anne-Sophie Bonnet-Ben Dhia

- Marc Bonnet

- Jean-David Benamou
  - Numerical Microlocal Analysis, Advances in Viscosity Solutions Nom de la conference 1, Banff Research Centre (Canada), February 2011.

- Laurent Bourgeois
  - Imaging an elastic waveguide with the Linear Sampling Method by using the Lamb modes, Applied Inverse Problems, College Station (USA), may 2011

- Maxence Cassier
  - Multiple Acoustic Scattering by small obstacles in two dimensions, 10th International Conference on Mathematical and Numerical Aspects of Waves, Vancouver, July, 2011.

- Juliette Chabassier
  - Introduction of high order $\theta$ schemes for the linear wave equation, ICIAM conference, Vancouver, July, 2011.
  - Modeling and numerical simulation of a piano, Acoustical Society of America 161st Meeting, Seattle, USA, May 2011

- Stéphanie Chaillat
– A fast and adaptive algorithm for the inverse medium problem with multiple frequencies and multiple sources for the 3-D elastodynamic equation, 8th International Conference on Structural Dynamics (Eurodyn 2011), Leuven, Belgium, July 2011.

• Nicolas Chaulet

• Lucas Chesnel
  – Radiation condition for a non-smooth interface between a dielectric and a metamaterial, Numerical Electromagnetics & Industrial Applications (NELIA 2011), Santiago de Compostela, October, 2011.
  – Radiation condition for a non-smooth interface between a dielectric and a metamaterial, 10th International Conference on Mathematical and Numerical Aspects of Waves, Vancouver, July, 2011.

• Patrick Ciarlet

• Sonia Fliss
  – Vers des méthodes de décomposition de domaines pour des problèmes de guides d’ondes non classiques, 5ème Colloque sur les Tendances des Applications Mathématiques en Tunisie, Algérie, Maroc (TAMTAM), Sousse (Tunisie), 23-26 April 2011.
  – A DtN approach for the exact computation of guided modes in a photonic crystal waveguides, 10th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Vancouver, July 2011.

• Christophe Hazard
  – Using time reversal for space–time focusing of acoustic waves, 5ème Colloque sur les Tendances des Applications Mathématiques en Tunisie, Algérie, Maroc (TAMTAM), Sousse (Tunisie), 23-26 April 2011.
  – A uniqueness property for the scattering by a junction of open waveguides, 10th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Vancouver, July 2011.
• Sébastien Impériale

• Patrick Joly
  – *Mathematical and numerical modeling of piezoelectric sensors for non destructive testing*, NELIA 2011, Santiago de Compostela, October 2011
  – *Mathematical modelling of electromagnetic waves in heterogeneous lossy coaxial cables*, 4th International Conference SCPDE, Hong Kong Baptist University, Hong Kong, December 2011

• Jean-François Mercier
  – *Time harmonic acoustic scattering in presence of a shear flow and an impedance condition*, Anne-Sophie Bonnet-Ben Dhia, Jean-François Mercier and Florence Millot, 10th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Vancouver, July 2011.
  – *Time harmonic acoustic scattering in presence of a shear flow and a Myers impedance condition*, Anne-Sophie Bonnet-Ben Dhia, Jean-François Mercier and Florence Millot, 17th AIAA/CEAS Aeroacoustics Conference (32nd AIAA Aeroacoustics Conference), American Institute of Aeronautics and Astronautics, Portland, may 2011

• Nicolas Salles

• Ricardo Weder
  – *Creación de Entrelazamiento en Colisiones a Bajas Energías*, Seminario del Instituto de Física Rosario, Rosario, Argentina, 24.10.2011.
7. Dissemination

7.1. Leadership within scientific community

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”. He is member of the scientific council of EURANDOM. He is also associate Professor at the École Polytechnique in the department of applied mathematics where he is in charge of lectures on mathematical modeling of networks. He has been a member of the technical programme committee of the conference ACM Sigmetrics and Technical Program Chair (TPC) of the conference Performance.

James Roberts is a Fellow (membre émérite) of the SEE. In 2011, he has been a member of the technical programme committee of the following conferences: Sigmetrics, Networking, CoNext, Performance, ITC.

7.2. Teaching

Mathieu Feuillet is teaching assistant for the course “Traffic, Queueing and Networks” given by Thomas Bonald at Telecom ParisTech. A book (available in French [11] and English [10]) has been written based on this course.

Christine Fricker was reviewer for the thesis defense of Gonçalo Jacinto’s at the University of Lisbon.

Emanuele Leoncini is teaching assistant for the course “Séries et intégrales (étude approfondie)” at University Paris VI.

Philippe Robert gives Master2 lectures “Analyse probabiliste d’algorithmes” in the laboratory of the Probability of the University of Paris VI. He is also giving lectures in the “Programme d’approfondissement de Mathématiques Appliquées et d’Informatique” on Networks and Algorithms at the École Polytechnique. He gave a series of lectures at the University of Casablanca and a conference at the Lycée Rosa Park in Montgeron (91).

James Roberts lectured to third year students at Telecom ParisTech on “Traffic management and the future Internet”. He was reviewer for the thesis defense of M. Dirani (Paris VI).

7.3. Conference and workshop committees, invited conferences

Mathieu Feuillet gave a talk at the conference CISS’2011 in Baltimore (March 2011), an invited talk at the workshop YEQT in Eindhoven (October 2011) and a set of two lectures as an invited researcher in Montevideo, Uruguay (December 2011).

Christine Fricker gave an invited talk on ‘Performance of passive optical networks’ at Lisbon University 11/1-03. She visited Lisbon and Algrave Universities in Portugal (one week). She gave an invited talk on Mean field for large bike sharing systems at Informs Conference on Applied Probability, Stockholm, 11/14-07. Her co-author N. Gast gave an invited talk on their joint work in a sponsored session on operational aspects of bike sharing systems in the INFORMS Annual Meeting at Charlotte, North Carolina, November 13-16, 2011.

Emanuele Leoncini participated at the conferences “European Conference on Mathematical and Theoretical Biology” in Krakow (June 2011) and “INFORMS” in Stockholm (July 2011).

Philippe Robert gave a talk at the University of Marne la Vallée at the PDMP conference and a plenary talk at the conference INFORMS in Stockholm.

James Roberts gave a keynote presentation at the European Teletraffic seminar at Poznan (Feb), an invited talk at the ResCom workshop in Paris (Oct) and an invited talk at the COMET-ENVISION Workshop in London (Nov).
REGAL Project-Team

8. Dissemination

8.1. Animation of the scientific community

Luciana Arantes is:

- Member of the program committee of the 6ème Conférence franco-allemande sur les systèmes d'exploitation, CFSE-6, Fribourg, Switzerland, February 2008.
- Member of PC of Workshop de Sistemas Operacionais, SBC, Brazil, 2007-2010.
- Member of PC of WTF - Workshop of Fault Tolerance, Brazil, 2009-2011.
- Member of PC of International Conference on Grid and Pervasive Computing, 2009-2011.
- Member of PC of LADC - Fifth Latin-American Symposium on Dependable Computing 2011.
- Reviewer for JPDC and TPDS journals.

Bertil Folliot is:

- Member of the scientific committee of LIP6.
- Member of the “Executive Committee” of GdR ASR (Hardware, System and Network), CNRS.
- Elected member of the IFIP WG10.3 working group (International Federation for Information Processing - Concurrent systems).
- Member of the “Advisory Board” of EuroPar (International European Conference on Parallel and Distributed Computing), IFIP/ACM.
- Member of the “Steering Committee” of the International Symposium on Parallel and Distributed Computing”.
- Member of the program committee of the 10th International Symposium on Parallel and Distributed Computing (ISPDC 2011), Cluj-Napoca, Romania, July 2011.
- Member of the program committee of the 2011 International Conference on High Performance Computing & Simulation (HPCS 2011), Istanbul, Turkey, July 2011.
- Member of the program committee of the 9th International Conference on the Principles and Practice of Programming in Java (PPPJ 2011), Kongens Lyngby, Denmark, August 2011.

Maria Potop-Butucaru is:

- Member of the program committee of SSS 2011 (13th International Symposium on Stabilization, Safety, and Security of Distributed Systems).
- Member of the program committee of DISC 2011 (25th International Symposium on Distributed Computing).
- External member of the "Commission de specialistes" INSA Toulouse.

Olivier Marin is:

- Reviewer for Distributed Computing, and Techniques et Sciences Informatiques.
- Elected vice-president of the “Conseil d’experts” of the Paris 6 University, section 27.
- Elected member of the “Commission des primes de recherche” of the Paris 6 University.
- Elected member of the “Commission des avancements de carrière - rang B” of the Paris 6 University.
- Member of the scientific committee of LIP6.
- Member of “Comité de sélection” of Grenoble INP - ESISAR (Maitre de Conférences).
Sébastien Monnet is:

- Elected member of the administrative committee of LIP6.

Gilles Muller is:

- Member of the PC and co-organizer of the PLOS workshop, October 2011, Portugal, http://plosworkshop.org/2011/
- Member of the jury of the best European thesis on systems (EuroSys) 2011
- Member of PC of the 8ème Conférence francaise sur les systèmes d’exploitation, CFSE-8, May 2011 http://renpar.irisa.fr/CFP-CFSE.html
- Member of PC of the 5th EuroSys Doctoral workshop, Saltzburg, April 2011
- Member of “Comité de selection” of INSA de Lyon (Professeur) and University of Nice (Maitre de Conférence)
- Management Committee Substitute Member for the COST action “Transactional Memories: Foundations, Algorithms, Tools, and Applications (Euro-TM)” and leader of the working group on “Hardware’s and Operating System’s Supports”
- Reviewer for the University of Leuven
- Reviewer for the Swiss National Science Foundation

Julia Lawall is:

- Chair of the steering committee of Generative Programming and Component Engineering (2011, 2012)
- Secretary of IFIP TC2 (from 2011)
- Member of the editorial board of Science of Computer Programming
- Associate editor of Higher Order and Symbolic Computation
- PC member of 21st International Conference on Compiler Construction (CC 2012)
- PC member of Modularity: AOSD 2012
- PC member of OBT: Underrepresented Problems for PL Researchers, with POPL 2012
- Member of the Needham Award Review Committee (PhD dissertation award of EuroSys).
- Invited reviewer for PLDI 2012
- Member of IFIP WG 2.11 (Program Generation)

Franck Petit is:

- PC Member of Renpar 2011, 20th Rencontres francophones du Parallélisme, France, 2011.
- Invited Editor for ACM TAAS, Transactions on Autonomous and Adaptive Systems, Special Issue on Stabilization, Safety, and Security of Distributed Systems,
- Invited Editor for TCS, Theoretical Computer Science Special Issue on Stabilization, Safety, and Security of Distributed Systems,
- Member of scientific committee for the AREA evaluation of “INRIA Bretagne”.
- Member of “Vivier d’experts” of UPMC Paris 6.
Pierre Sens is:

- Local chair of Topic 8 “Distributed systems and algorithms” of EuroPar 2011
- co-Chair of P2P-Dep 2012 (1st Workshop on P2P and Dependability in conjunction with EDCC 2012)
- Member of PC of ICDCS 2012 (IEEE 32nd International Conference on Distributed Computing Systems)
- Member of PC of of EDCC’2012 (9th European Dependable Computing Conference)
- Member of "Directoire de la recherche” of University Pierre et Marie Curie.
- vice-chair of LIP6 Laboratory.
- Member of the scientific council of AFNIC.
- Member of the scientific committee of LIP6.
- Member of the evaluation committee of the Digiteo DIM LSC program.
- Member of scientific committee of ANR project Blanc International.
- Member of "Comité de selection” of Universities of Amiens, Grenoble, and Paris X.

Marc Shapiro is:

- Member of Advisory Board for CITI, the Research Center for Informatics and Information Technologies of UNL, the New University of Lisbon (Portugal).
- Member of the steering committee for the LADIS workshop (Large-Scale Distributed Systems and Middleware).
- Member of PC of EuroSys 2010.
- PC Chair of CFSE 2011, and member of PC of CFSE 2009 (Conférence francaise sur les systèmes d’exploitation).
- Promotion reviewer for various European universities (names confidential).
- Reviewer for European Research Council.
- Reviewer for ANR (Agence Nationale de la Recherche), France.
- Reviewer for National Science Foundation, Switzerland.
- Reviewer for USA-Israel Binational Science Foundation.
- Reviewer for Swedish Research Council .
- Reviewer for Springer Distributed Computing.
- Reviewer for IEEE Transactions on Parallel and Distributed Systems (TPDS).
- Member, ACM Distinguished Service Award Committee 2010.

8.2. PhD reviews

Bertil Folliot was part of the PhD committee of:

Gilles Muller was part of the committee of:
- Patrick Marlier. PhD. Univ. Neuchâtel, August 2011, Member.
- Laurent Réveillère. HDR. Univ. Bordeaux, November 2011, Member.
- Jean-Marc Menaud. HDR. école des Mines de Nantes, June 2011, Member.

Julia Lawall was part of the committee of:
- Laurent Réveillère. HDR. Univ. Bordeaux, November 2011, Member.

Franck Petit was member of thesis committees of:
- Lélia Blin, HDR LiP6, Committee Chair
- Nicolas Hidalgo, PhD LiP6 (Advisors: P. Sens, L. Arantes, and X. Bonnaire), Committee Chair
- Thomas Aynaud, PhD LiP6, (Advisors: M. Latapy, J-L. Guillaume), Committee Chair

Pierre Sens was the reviewer of:
- P. Riteau. PhD. IRISA, (Advisor : C. Morin)
- W. Malvault. PhD LIG, (Advisors: JB. Stefani, V. Quema)

### 8.3. Teaching

- Luciana Arantes
  - Principles of operating systems in Licence d’Informatique, Université Paris 6
  - Operating systems kernel in Master Informatique, Université Paris 6
  - Distributed algorithms in Master Informatique, Université Paris 6
  - Responsible of Advanced distributed algorithms in Master Informatique, Université Paris 6
  - Unix system programming, Licence and Master d’Informatique, Université Paris 6

- Bertil Folliot
  - Head of the second year of professional Licence d’Informatique, Université Paris 6
  - Principles of operating systems in Licence d’Informatique, Université Paris 6
  - Responsible Advanced POSIX & C, Université Paris 6
  - Distributed algorithms and systems in Master Informatique, Université Paris 6
  - Distributed systems and client/serveur in Master Informatique, Université Paris 6
  - Projects in distributed programming in Master Informatique, Université Paris 6

- Maria Potop-Butucaru
  - Principles of Operating Systems, Licence d’Informatique, Université Paris 6
  - Distributed algorithms, Master d’Informatique, Université Paris 6
  - Resistance of Distributed Attacks, Master Paris 6, Network track
  - Embedded communicant systems, Master Paris 6, Network track

- Mesaac Makpangou
- Client/server architecture, Licence professionelle d’Informatique, Université Paris 6: TD, 16 heures

- **Oliver Marin**
  - Advanced operating systems programming, Master d’Informatique, Université Paris 6
  - Advanced distributed algorithms in Master Informatique, Université Paris 6
  - Responsible of operating systems programming, Licence d’Informatique, Université Paris 6
  - Parallel and distributed systems, Master d’Informatique, Université Paris 6
  - Responsible of the “Parcours professionnalisant L3 - Développeur d’Applications - Nouvelles Technologies (DANT)”
  - Responsible of Deployment of Cooperative Objects, Licence d’Informatique - parcours DANT, Université Paris 6

- **Sébastien Monnet**
  - Responsible of “Middleware for advanced computing systems in Master d’Informatique (2), Université Paris 6”
  - Responsible of System and Internet programmation in Licence d’Informatique (2), Université Paris 6
  - Operating systems kernel in Master Informatique (1), Université Paris 6
  - Principles of operating systems in Licence d’Informatique (3), Université Paris 6
  - Computer science initiation in Licence d’Informatique (1), Université Paris 6

- **Pierre Sens**
  - Responsible of “Principles of operating systems” in Licence d’Informatique, Université Paris 6
  - Responsible of “Operating systems kernel in Master Informatique”, Université Paris 6
  - Distributed systems and algorithms in Master Informatique, Université Paris 6

- **Marc Shapiro**
  - Teaches NMV (*Noyaux Multi-cœurs et Virtualisation*, i.e., multicore kernels and virtualisation) at Université Paris 6, Master 2.

- **Gaël Thomas**
  - Responsible for the Master 1 module “Systèmes Répartis Clients/Serveurs” in Master Informatique at the University Université Paris 6
  - Responsible for the Master 2 module “Middleware Orientés Composants” in Master Informatique at the University Université Paris 6
  - Responsible for Master 2 module NMV (*Noyaux Multi-cœurs et Virtualisation*, i.e., multicore kernels and virtualisation)
  - Responsible for the Master 2 module “Répartition et Client/Serveur” in Master Informatique at the University Université Paris 6
  - “Noyau des Systèmes d’exploitation” in Master Informatique at the Université Paris 6
  - “Systèmes” at PolyTech’ Paris
8. Dissemination

8.1. Animation of the scientific community

- Laurent Boudin
  - Hiring committees: Univ. Besançon (MCF position in Numerical analysis), Univ. P. & M. Curie (MCF position in Modeling, PDE analysis, numerical analysis, scientific computing).

- Miguel Ángel Fernández Varela
  - Member of the Postdocs Selection Committee, INRIA Paris-Rocquencourt, 2011

- Jean-Frédéric Gerbeau
  - Service activity at INRIA: Member of the evaluation committee of INRIA; Vice-president of the project-teams committee at INRIA Paris-Rocquencourt.
  - Service activity in Universities: Member of the board of the Department of Mathematics of Paris 6 University (*conseil de l’UFR 929*), member of the Reference Committee of the PhD program *Mathematical Models and Methods in Engineering* (Politecnico di Milano, Italy).
  - Thesis committee: D. Lombardi, Univ. Bordeaux (referee)
  - Hiring committees: Univ Rouen (Professor position), INRIA Bordeaux (CR2 and CR1 positions).

- Céline Grandmont
  - Co-organizer of the first parity day in mathematic [http://postes.smai.emath.fr/parite/journee/journee_parite.php](http://postes.smai.emath.fr/parite/journee/journee_parite.php);
  - Program committee for 4 years of the “forum des jeunes mathématiciennes” (2010–2014);
  - Member of the CNU 26 (2011–2015)
  - Thesis committees: Referee for the Ph.D thesis of E. Schwindt (Univ. of Nancy and Santiago de Chili); Referee for the Ph.D thesis of J. Lequeurre (Toulouse Univ.); Member of the Ph. D. jury of A. Blasselle (Paris 6 Univ.) J. Lequeurre (Toulouse Univ.) and E. Schwindt (Univ. of Nancy and Santiago de Chili).
  - Hiring committee: INSA Lyon.

- Marc Thiriet
  - Editorial board: *Computer Methods in Biomechanics and Biomedical Engineering*.
  - Member of the selection committee of HPC projects in the framework of HPC-Europa2 – Pan-European Research Infrastructure for High Performance Computing supported by the European Commission Capacities Area - Research Infrastructures Initiative
  - President of thematic committee CT3 (Biomedical Simulation and Applications to Health) of GENCI (Grand Equipement National de Calcul Intensif – National Large Equipement for Intensive Computation)

- Irène Vignon-Clémentel
  - Organizing the monthly seminar at INRIA Paris-Rocquencourt on “modeling and scientific computing”
  - Member of the ‘Conseil d’orientation scientifique et technologique’ (scientific and technologic orientation council) of l’INRIA, in the subgroup “GT Actions Incitatives” (incentive action working group)
  - Mediator between PhD students and their supervisors for INRIA Paris-Rocquencourt, presentation October 21rst to new PhD students
  - Coordinator of the associated team CARDIO between REO and Prof. Taylor’s lab at Stanford University, USA and colleagues both at INRIA and in the USA (2008-present)

8.2. Participation in conferences, workshops and seminars

- Cristóbal Bertoglio Beltran
  - Seminar, Université Paris 5, February 11th, 2011, Paris, France.
  - Contributed talk at “2nd International Conference on Computational & Mathematical Biomedical Engineering”, March 30th - April 1st, 2011, George Mason University, Washington D.C., USA,
  - Seminar, euHeart’s Data Assimilation Workshop, July 1st, 2011, Paris, France
  - Seminar, Department of Biomedical Engineering, King’s College of London, November 4th, 2011, London, UK
  - Seminar, INRIA-Rocquencourt, December 20th, Le Chesnay, France

- Laurent Boudin
  - Seminar, Applied Mathematics, Collège de France, January 14, 2011, Paris, France
  - Seminar, Numerical Analysis and PDEs, Univ. Paris-sud, February 3, 2011, Orsay, France
  - Contributed talk at SMAI 2011 Congress, May 23–27, 2011, Guidel, France
  - Invited talk at “Rencontres EDP-Normandie 2011”, October 25–26, 2011, Rouen, France

- Muriel Boulakia
  - Meeting Researchers-Industrialists, UPMC Paris 6, June 2011
  - Seminar, University Darmstadt (Germany), May 2011
  - Invited in a minisymposium, 16th International Conference on Finite Elements in Flow problems (FEF2011), Munich (Germany), March 2011
  - Seminar, University Caen, January 2011

- Anne-Claire Egloff
  - Invited speaker, Lions-Magenes days, Paris 6, december 2011
  - PhD students Seminar, LJLL, Paris 6, may 2011
  - Contributed talk, SMAI 2011, Guidel, mai 2011
  - Contributed talk, Conference of the European GDR control of PDEs, Marseille, novembre 2011
  - CEMRACS, Marseille 17/07-26/08, 2011
• Miguel Ángel Fernández Varela
  – Invited in Mini-symposium. USNCCM-11, July 25-29, 2011, Minneapolis, USA
  – Seminar, University of Paris XIII, June 10, 2011
  – Seminar, University of Paris VI, May 23, 2011

• Jean-Frédéric Gerbeau
  – Plenary conference, ECCOMAS Simbio conference, Brussel, Belgium, 2011
  – Plenary conference, ENUMATH, Leicester, United Kingdom, 2011
  – Invited keynote conference, International Conference on Computational & Mathematical Biomedical Engineering (CMBE), Washington D.C., USA, 2011
  – Invited conference, Numerical Methods for PDEs, Heraklion, Greece, 2011
  – Invited lecture, Riemann International School of Mathematics, Verbania, Italia, 2011
  – Seminar, Texas A & M university (USA)
  – Seminar, Politecnico di Milano (Italy)
  – Seminar, Agro ParisTech, Paris (France)
  – Invited minisymposium talk, Conference on Mathematics of Medical Imaging, Fields Institute, Toronto (Canada) 2011
  – Minisymposium talk, ICIAM, Vancouver, Canada, 2011
  – Minisymposium talk, USNCCM, Minneapolis, USA, 2011
  – Journée de la Fédération de Recherche Mathématique Paris Centre
  – Journée de l’Institut Thématique Multi-Organisme (ITMO) Circulation métabolisme nutrition,
  – Journée interaction données - simulation, UPMC

• Céline Grandmont
  – Invited speaker, SIAM PDE, San Diego, nov. 2011;
  – Invited speaker in a minisymposium, Enumath 2011, Leicester, sept. 2011;
  – Invited Lecturer, Summer school Fluid-Structure for Biomedical Applications, Prague, sept. 2011;
  – Seminar, Orléans, March 2011;
  – Seminar, Grenoble, January, 2011.

• Bérénice Grec

• Sébastien Martin
  – Seminar, Université Blaise Pascal, December 8th, 2011, Clermont-Ferrand, France.

• Vincent Martin
– Poster, 6th Internat. Conf. on Functional Imaging & Modelling of the Heart (FIMH 2011), May 2011, New York, USA.
– Seminar, may 2011, Mox, Politecnico di Milano, Milan, Italy.

- Ayman Moussa
  – Invited speaker, 23eme seminaire de mécanique des fluides numériques CEA-GAMNI, IHP, January 24/25 2011, Paris, France
  – Contributed talk at SMAI 2011 Congress, May 23–27, 2011, Guidel, France
  – Seminar, IMATH-ANLM, Univ. Toulon-Var, invited speaker, March 10 2011

- Marc Thiriet
  – Seminar, Warsaw Polytechnique University, April 20 2011, Poland.
  – Invited talk, International Conference VipIMAGE 2011 - III ECCOMAS thematic conference on computational vision and medical image processing, October 11-14, Olhão, Portugal

- Irène Vignon-Clementel
  – Keynote speaker at a minisymposium, FEF2011 conference, March 23-25th, Munich, Germany
  – Invited talk, 2nd International Conference on Engineering Frontiers in Congenital Heart Diseases, March 17th-18th, London, UK
  – Invited talk at a minisymposium, CSMA, May 9th-13th, Giens, France
  – Seminar, Mathematics, Université Montpellier II, June 7th, Montpellier, France
  – Invited talk at a minisymposium, Conference on Mathematics of Medical Imaging, June 19th-22th, Toronto, Canada
  – 2 contributed talks, European Conference on Mathematical and Theoretical Biology, June 27th-July, 2nd, Krakow, Poland
  – Evaluation talk, INRIA national days ARC-ADT, November, 16th-17th, 2011, Vincennes, France
  – Seminar, Laboratoire Jean Kuntzmann - mathématiques appliquées informatique, November 24th, Grenoble, France
  – Invited presentation, “Associated team experience”, internal communication for the International Relation Department, February 7th, 2011, Rocquencourt, France

- Mediation and popularization of sciences:
  – Trofemina, finalist in the “sciences, research and technology” category, Spring 2011, Paris, France
  – Invited, lunch debate of the “Magazine Tentation”, March 8th, 2011, Paris, France
  – TV interview, NRJ12, April 17th (broadcasted on May 7th), 2011, Rocquencourt, France
  – Plenary talk, Journée “Filles et Mathématiques”, High-school students, January 27th, 2011, Paris, France
  – Promenade mathématique dans les vaisseaux sanguins, Conference in High school, April 8th, 2011, Mantes La Jolie, France
8.3. Teaching

8.3.1. Licence & Master

- Grégory Arbia
  - Licence: LateX CNED, 20h, L2, Universite Pierre et Marie Curie, France.
  - Licence: Scilab CNED, 20h, L2, Universite Pierre et Marie Curie, France.
  - Licence: Series et Integrales CNED, 25.9h, L2, Universite Pierre et Marie Curie, France.
  - Licence: Calcul matriciel numerique, 12h, L3, Universite Pierre et Marie Curie, France.
  - Licence: Algebre 1: calcul vectoriel, 36h, L1, Universite Pierre et Marie Curie, France.

- Laurent Boudin
  - Supervisor of the bidisciplinary computer science / applied maths licence program and of the joint program UPMC-Brown on computer science / applied maths at the licence level (18h)
  - Licence: “Series and integrals” (30h), L2, UPMC.
  - Licence: “Functions of several variables and multiple integrals” (36h taught in French), L2, UPMC.
  - Licence: “Functions of several variables and multiple integrals” (48h taught in English), joint program UPMC-Brown.
  - Licence: “Introduction to numerical analysis” (36h), L3, UPMC.
  - Master: “Numerical analysis” (38h), M1, Polytech’Paris.

- Muriel Boulakia
  - Licence: Linear optimization and convexity (36h), L3, UPMC, France.
  - Licence: Hilbertian analysis (21h), L3, Polytech’Paris, France.
  - Licence: Upgrade course (64h), L3, Polytech’Paris, France.
  - Master: Approximation methods for partial differential equations (72h), M1, UPMC, France.
  - Master: Supervision of an internship “Use of Freefem++ for simulating the electrical activity of the heart” (5h), M1, UPMC, France.

- Anne-Claire Egloffe
  - Licence: Differential calculus, 72h, L2, Pierre and Marie Curie University (Paris 6), France.
  - Licence: Sequences, series, integrals , 20h, L2, Pierre and Marie Curie University (Paris 6), France.

- Miguel Ángel Fernández Varela
  - Licence: Scientific computing, 30h, level L3, École des Ponts ParisTech, France.
  - Master: Numerical methods in bio-fluids, 6h, level M2, University of Vigo, Spain.
  - Master: Inverse problems, 44h, level M1, Ecole Supérieure d’Ingénieurs Léonard de Vinci, France.

- Ayman Moussa
  - Licence: “Numerical Methods for differential equations” (36h), L3, UPMC.
Master: “Real Analysis” (72h), M1, UPMC.
Master: “Numerical analysis” (38h), M1, Polytech’Paris.

- Marc Thiriet
  Master: “Biofluid flows”, 12 h, niveau M2, University Pierre et Marie Curie, France.

- Irène Vignon-Clémentel:
  Licence: Mathematics for biology, 64h ETD, L1, Université de Versailles Saint Quentin, France.
  Master: Different types of model for blood flow simulations, within the course “Mathematics modeling for biology”, 5h ETD, M1, Ecole Centrale Paris, France.
  Different types of model for blood flow simulations, 1h, “Diplôme universitaire de Médecine” on percutaneous valvular replacement, Paris, France.

8.3.2. PhD & HDR

- HdR [12]: Laurent Boudin, Modélisation cinétique et hydrodynamique pour la physique, la chimie et la santé, analyse mathématique et numérique, Université Pierre et Marie Curie, 8 décembre 2011.

- PhD in progress:
  – Paul Cazeaux, Homogenization and lungs modelling, since September 2009. Supervisors: C. Grandmont & Y. Maday
SALSA Project-Team (section vide)
8. Dissemination

8.1. Animation of the scientific community

8.1.1. Publishing activities.

- A. Canteaut is a member of the steering committee of *Fast Software Encryption (FSE)*;
- N. Sendrier is a member of the steering committee of *Post-quantum cryptography (PQCrypto)*.

8.1.2. Organization of international conferences

We are involved in the organization of the *Workshop on Coding Theory and Cryptography (WCC)* which will be held in Paris in April 2011. This is the seventh in the series of biannual workshops on Coding and Cryptography. Pascale Charpin and Nicolas Sendrier were the general chairs of the workshop. Anne Canteaut was a program co-chair.

8.1.3. Program committees

- FSE 2011: February, 14-16, 2011, Lyngby, Denmark (A. Canteaut);
- Skew 2011: February 16-17, 2011, Lyngby, Denmark (A. Canteaut);
- WCC 2011: April 11-15, 2011, Paris, France (A. Canteaut, program co-chair);
- Code-based Cryptography Workshop: May 11-12, 2011, Eindhoven, The Netherlands (N. Sendrier);
- WCCS’11 (2nd Workshop on Codes, Cryptography and Communication Systems), June 16-17, 2011, Rabat, Morocco (A. Otmani);
- Africacrypt 2011: July 4-8, 2011, Dakar, Senegal (A. Canteaut, A. Otmani);
- SCC 2011: June 24-25, 2011, Royal Holloway, University of London, UK (A. Otmani);
- SAC 2011: August 11-12, 2011, Ryerson University, Ontario, Canada (A. Canteaut);
- ITW 2011: October 16-20, 2011, Paraty, Brazil (N. Sendrier);
- PQCrypto 2011: November 29 - December 2, Taipei, Taiwan (N. Sendrier, JP Tillich);
- Indocrypt 2011: December 11-15, 2011, Chennai, India (N. Sendrier);
- IMA International Conference on Cryptography and Coding: December 12-15, 2011, University of Oxford, UK (P. Charpin);
- FSE 2012: March 19-21, 2012, Washington DC, USA (A. Canteaut, program chair);
- PKC 2012: May 21-23, 2012, Darmstadt, Germany (N. Sendrier);
• SAC 2012: August 16-17, 2012, Windsor, Ontario, Canada (A. Canteaut).

8.1.4. Invited talks

• JP. Tillich, Quantum turbo codes with unbounded minimum distance and excellent error-reducing performance, Workshop on /Quantum/ Information: Codes, /Geometry/ and Random Structures, Centre de recherches mathématiques Université de Montréal, October 24-26, 2011.

• N. Sendrier, Decoding One Out of Many, Algebraic Coding Theory workshop, CI Bernoulli, EPFL, Lausanne, September 2011.


• N. Sendrier, A Survey of Code-based Cryptography, The São Paulo Advanced School of Cryptography, University of Campinas, Brazil, October 2011.

• A. Canteaut, De l’espérance de vie d’un algorithme symétrique (ou l’AES dix ans après), Journées CRYPTIS, Université de Limoges, November 25-26, 2011.

8.1.5. Other responsibilities in the national community.

• N. Sendrier is a member of the “Commission d’Evaluation” at INRIA;

• “Commission d’experts”(Committees for the selection of professors and assistant professors, or for the selection of researchers): Université de Versailles-St Quentin (A. Canteaut), Université Paris Diderot (A. Canteaut), INRIA Saclay-Ile de France (concours CR, N. Sendrier), INRIA (concours DR, N. Sendrier);

• A. Canteaut has been co-chair of the postdoc committee for the Paris-Rocquencourt center;

• JP Tillich is in charge of “Formation par la recherche” for the Paris-Rocquencourt center since October 2011.

8.2. Ph.D. committees

• P. Delaunay, Attaques physiques sur des algorithmes de chiffrement par flot, Université de Versailles-St Quentin, January 28, 2011, committee: A. Canteaut.


• R. Bhattacharyya, On the blackbox reduction of some cryptographic constructions, Indian Statistical Institute, October 1, 2011, committee: A. Canteaut (reviewer).


• C. Blondeau, La cryptanalyse différentielle et ses généralisations, Université Pierre et Marie Curie, November 7, 2011, committee: P. Charpin (supervisor), A. Canteaut, JP. Tillich.


• Vincent Herbert, Des codes correcteurs pour sécuriser l’information numérique, Université Pierre et Marie Curie, December 5, 2011, committee: N. Sendrier (supervisor).

• Y. Guo, Confidentialité et intégrité de bases de données embarquées, Université de Versailles-St Quentin, December 6, 2011, committee: A. Canteaut.

• A. Bocquet, Modèles de sécurité réalistes pour la distribution quantique de clés, Telecom ParisTech, December 6, 2011, committee: JP. Tillich.

### 8.3. Teaching

A. Canteaut, *Stream ciphers*, 6 hours, M2, Telecom ParisTech, France;
A. Canteaut, *Principles of programming languages*, 40 hours, L3, Ecole Polytechnique, France;
N. Sendrier, *Error-correcting codes and applications to cryptography*, 3 h, M2, Master Parisien de Recherche en Informatique (MPRI), Université Paris Diderot, France;

### 8.4. General Audience Actions

• A. Canteaut gave a talks at Lycée Jean Renoir, Bondy (Feb. 2011) and to the professors of mathematics from Académie de Versailles (Dec. 2011)
• Talk to *Les rencontres des Tuileries*, June 2011.
• The whole team was in charge of one of the Inria animation during *Fête de la science* at the "Quartier des sciences" in Paris (Nov. 2011).

### 8.4.1. PhD defended in 2011.

• Céline Blondeau, *La cryptanalyse différentielle et ses généralisations*, Université Pierre et Marie Curie, November 7, 2011, supervisor: P. Charpin.
• Vincent Herbert, Université Pierre et Marie Curie, December 5, 2011, supervisor: N. Sendrier.

### 8.4.2. PhD in progress.

• Christina Boura, *Sécurité et cryptanalyse des fonctions de hachage*, since January 2010, supervisor: A. Canteaut
• Stéphane Jacob, *Protection cryptographique des bases de données : conception et cryptanalyse*, since December 2008, defense scheduled in March 2012, supervisor: A. Canteaut
• Grégory Landais, *Mise en oeuvre des cryptosystèmes basés sur les codes correcteurs d’erreurs et de leurs cryptanalyse*, October 2010, supervisors: M. Finiasz and N. Sendrier
• Denise Maurice, *Quantum LDPC codes*, September 2010, supervisor: JP. Tillich.
• Rafael Misoczki, *Aspects of code-based cryptography*, November 2010, supervisor: N. Sendrier
• Jean-Christophe Sibel, *Decoding LDPC codes with many short cycles*, October 2009, supervisor: D. Declercq.
8. Dissemination

8.1. Animation of the scientific community

8.1.1. Conference and workshop organization


8.1.2. Editorial boards

- F. Bach: Journal of Machine Learning Research, Action Editor
- F. Bach: IEEE Transactions on Pattern Analysis and Machine Intelligence, Associate Editor
- F. Bach: SIAM Journal on Imaging Science, Associate Editor

8.1.3. Area chairs

- J.-Y. Audibert: International Joint Conference on Artificial Intelligence (IJCAI), 2011
- F. Bach: International Conference on Machine Learning, 2011, Area chair, Workshop co-chair
- F. Bach: International Conference on Computer Vision, 2011, Area chair
- G. Obozinski: Fifteenth International Conference on Artificial Intelligence and Statistics

8.1.4. Reviewing

- International conferences: AISTATS, ALT, ICML, ICPRAM, NIPS

8.1.5. PhD and HDR thesis committee

- Pierre Connault, University Paris-Sud, 2011 (S. Arlot)
- Rodolphe Jenatton, ENS Cachan, 2011 (J.-Y. Audibert, F. Bach, G. Obozinski)
- Jean-Baptiste Monnier, Université Paris 7, 2011 (J.-Y. Audibert, F. Bach)
- Novi Quadrianto, Australian National University (F. Bach)
- Gilles Meyer, Université de Liège (F. Bach)
8.1.6. Other

- S. Arlot is member of the board for the entrance exam in École Normale Supérieure (mathematics, voie B/L)

8.2. Prizes and awards

- CNRS Prime d’excellence scientifique (S. Arlot)
- T. Hocking: Best Student Poster at useR 2011 in Warwick, England for “Adding direct labels to plots”
- M. Schmidt: NSERC postdoctoral fellowship

8.3. Invited presentations

- S. Arlot, “Data-driven calibration of linear estimators with minimal penalties, with an application to multi-task regression”, Seminar, Statistics Laboratory, University of Cambridge, 2011.
- F. Bach, Small Workshop on Sparse Dictionary Learning (invited talk) - Queen Mary University, London - January 2011
- F. Bach, Statlearn workshop on Challenging problems in Statistical Learning (invited talk) - Grenoble - March 2011
- F. Bach, Congrès SMAI 2011 (invited talk in special session) - Lorient - May 2011
- F. Bach, Université de Lille (seminar) - June 2011
- F. Bach, Conference on Foundations of Computational Mathematics (two invited talks) - Budapest - July 2011
- F. Bach, Université de Liège (seminar) - September 2011
- F. Bach, IMA Workshop on High Dimensional Phenomena (invited tutorial) - Minneapolis - September 2011
- F. Bach, University of California, Berkeley (two seminars) - October 2011
F. Bach, Machine Learning for NeuroImaging Workshop (invited talk) - November 2011
F. Bach, Rencontres de Statistique Mathématique (invited talk) - Luminy - December 2011
F. Bach, NIPS workshop on Discrete Optimization (invited talk) - Granada - December 2011
F. Bach, NIPS workshop on Deep Learning (invited talk) - Granada - December 2011

8.4. Teaching

Licence:


Master:

- S. Arlot, “Leçons de Mathématiques: Classification”, 9h, M1, École Normale Supérieure (Paris), France.
- S. Arlot and Francis Bach, “Statistical learning”, 24h, M2, Université Paris-Sud, France.
- J.-Y. Audibert, “Machine Learning and applications”, 30h, M2, École des Ponts ParisTech and Université Paris-Est Marne-la-Vallée, France
- J.-Y. Audibert, “Prédiction séquentielle”, 14h, M2, Université Paris 7, France
- F. Bach and G. Obozinski, “Probabilistic Graphical Models”, 30h, M2, Mastère MVA, ENS Cachan, France.
- N. Le Roux, “Neural Networks and Optimization Methods”, 3h, M2, Mastère MVA, ENS Cachan, France.
- G. Obozinski, Enseignement spécialisé “Apprentissage Artificiel”, 3h, M1 (Graduate 1st year level), Mines de Paris, April 29th 2011.

Doctorat:
- S. Arlot, “Sélection de modèles et sélection d’estimateurs pour l’Apprentissage statistique”, 8h, Collège de France, France
- S. Arlot, “Model selection and estimator selection for statistical learning”, 10h, Scuola Normale Superiore di Pisa, Italy
- G. Obozinski, Summer school on Sparsity and Model Selection, 10h, Centro de Matematica Montevideo Urugaya, Montevideo, Uruguay, Feb. 28 - March 4, 2011.

PhD & HdR:


PhD in progress:
- Louise Benoît, 2009, F. Bach and J. Ponce
- Florent Couzinie-Devy, 2010, F. Bach and J. Ponce
- Edouard Grave, 2010, F. Bach and G. Obozinski
- Toby Hocking, 2009, F. Bach and Jean-Philippe Vert (Ecole des Mines de Paris)
- Armand Joulin, 2009, F. Bach and J. Ponce
- Anil Nelakanti, 2010, Cédric Archambeau (Xerox) and F. Bach
- Fabian Pedregosa, 2011, F. Bach and Alexandre Gramfort (INRIA Saclay)
- Matthieu Solnon, Multi-task learning, September 2010, S. Arlot and F. Bach
8. Dissemination

8.1. Animation of the scientific community

P.A. Bliman:
- Scientist in charge of Latin America at Department of International Affairs, INRIA.
- Member of the Scientific Committee of the collaboration program STIC AmSud.
- Associate Editor of Systems & Control Letters.
- Member of the Board for recruitment of Chargés de recherche (Centre de recherche INRIA, Bordeaux, 2011) and Directeurs de recherche.

F. Clément:
Responsibilities:
- Scientific head of the Large Scale Initiative Action REGATE (REgulation of the GonAdoTropE axis).
- Appointed member of the scientific board of the INRA Research Centre of Jouy-en-Josas http://www.jouy.inra.fr/.
- Appointed member of the scientific board of the BCDE (Cell Biology, Development and Evolution) ITMO (Multi OrganizationThematic Institute) of the French National Alliance for Life and Health Sciences http://www.aviesan.fr/en .

Participations in examination boards:
- INRA Experienced Research Scientist open competitions for non-assigned positions (admissibility phase).
- INRA Research Director open competitions (admissibility and admission phases).
- Inria Research Director open competitions (admission).

Conference organizations: Member of the organizing committee of the second annual symposium of ITMO BCDE, “Cell dynamics and cellular interactions in reproductive biology”, 7 September 2011, Paris.

M. Mirrahimi:
- Associate Editor of Systems & Control Letters.

M. Sorine:
- Member of IFAC Technical Committee on the Biological and Medical Systems (IFAC TC 8.2).
- Member of the Program Committee of FHIES 2012, the “Second International Symposium on Foundations of Health Information Engineering and Systems”.
- Member of the Program Committee and local organizer of the conference SFIMAR 2011 (workshop of the Société Francophone d’Informatique et de Monitorage en Anesthésie - Réanimation), INRIA Rocquencourt, May 5 - 6, 2011.
- Member of the scientific board of the ITMO Circulation, Metabolism and Nutrition (Multi Organization Thematic Institute of the French National Alliance for Life and Health Sciences).
- Member of the steering committee of the clinical study CGAO-REA .
- Member of several PhD committees.

Q. Zhang:
- Member of IFAC Technical Committee on Fault Detection, Supervision and Safety of Technical Processes (SafeProcess).
- Member of the Program Committee of the 3èmes Journées Identification et Modélisation Expérimentale.
- Member of the International Program Committee of the 16th IFAC Symposium on System Identification.
8.2. Participation in conferences, seminars


8.3. Teaching

Master: F. Clément, “Modelling and control of biological systems” course, 2.5 ECTS, part of the “Master’s Degree in BioInformatics and BioStatistics” (Paris-Sud 11 University, in collaboration with Béatrice Laroche) [http://www.bibs.u-psud.fr/](http://www.bibs.u-psud.fr/)


PhD & HdR

HdR : Mazyar Mirrahimi, “Estimation et contrôle non-linéaire : application à quelques systèmes quantiques et classiques, UPMC (Université Pierre et Marie Curie), January 27, 2011.


9. Dissemination

9.1. Animation of the scientific community

- Philippe Pucheral
  - Scientific evaluation for ANR (programmes Blanc and Emergence) since 2009.
  - PC member of MOBIWIS’11, CODAPSY’11, EDBT’11.
  - Member of the recruiting committees of UVSQ and ENSIMAG.
  - Co-founder of the bi-annual French Summer School “Masses de Données Distribuées” and co-organiser of this school in 2010 and 2012.

- Luc Bouganim
  - Tutorial on Data Management in Flash Memories, given at VLDB 2011.
  - President of the INRIA Post-Doc and Delegation Commission
  - PC member of EDBT’11, FlashDB’11, MobiWIS’11, VLDB’11 PhD WS.
  - PC chair of BDA 2011 (Bases de Données Avancées).
  - Member of the Commission PES (Prime d’Excellence Scientifique) for computer science at UVSQ (since 2010).
  - Referee for the PhD thesis of Brice Chardin (INSA Lyon) and Stéphane Jacob (Univ. Paris 6) in 2012

- Nicolas Anciaux
  - PC member of ICDE’11.
  - Jury member of the PhD thesis of S. Yin (UVSQ) in 2011.

- Benjamin Nguyen
  - Co-author of a book on the introduction of Computer Science in high school.
  - Member of the Advisory Committee of the W3C for the UVSQ, of the W3C XQuery Working Group (Test Suite Editor) and of the W3C Social Web Interest Group.
  - Coach of the UVSQ H.E.O. student team that reached the French finals (top 5 teams) of Microsoft Imagine Cup (Software Design Category).
  - Member of the Selection Committee of UVSQ (since 2009), of U. Paris-X Nanterre (since 2007), and of U. Paris-XI (2011).
  - Elected member of the Scientific Committee of the Science Faculty of UVSQ.
  - Member of the INRIA Post-Doc Commission since 2010.
9.1.1. General Audience Actions

SMIS members have an important dissemination activity, motivated both by the popularity of the addressed research domain (security/privacy) and of the targeted applications (e.g., personal medical folder), leading to

- interactions with different institutions, for instance, the French Deputy Chamber, The Parliamentary Office for Evaluation of Scientific and Technological Options (OPECST), or the French Network and Information Security Agency.
- interviews resulting in articles in large audience magazine like “La Recherche”, the CNRS Journal or BBC news, as well as participation in debates [25].
- talks and demonstrations targeting industrials in wide audience conferences like JavaOne, or e-Smart or meetings with industrials like “Les rendez-vous Carnot” and others [23].
- invited talks in conference or workshops with broad audience: targeting physicians [24], Researchers in law or keynote speech at UbiMob.
- actions targeting students like the organization of the French Summer School “Masses de Données Distribuées” in 2010 and 2012 or interventions at IBM France for developer training.

9.2. Teaching

SMIS is a joint project-team with University of Versailles St-Quentin (UVSQ) and CNRS. Hence SMIS members are naturally deeply involved in teaching.

- P. Pucheral: (120h/y)
  - Full professor at UVSQ.
  - Director of the research Master COSY (UVSQ).
  - Member of the HDR committee of the STV doctoral school.
  - Courses on databases, DBMS architecture and security in Master1, Master2 and engineer school ISTY.
- B. Nguyen: (192h/y)
  - Associate professor at UVSQ.
  - Courses on object programing, databases, XML in undergraduate and Master2.
  - Courses on Teaching CS courses for High School teachers.
- L. Bouganim: (90h/y)
  - Courses on DBMS architecture, data security, database technology in Master1 and Master2 (AFTI, Orsay) and in engineering school (ENST Paris).
- N. Anciaux: (90h/y)
  - Courses on DBMS internal mechanisms, database technology in Master1 and Master2 (UVSQ), and in engineering school (ENSTA Paris).
- T. Allard: (64h/y)
  - Courses on Database concepts, System Programming in undergraduate and Masters 1 (UVSQ).
- L. Le Folgoc: (64h/y)
  - Courses on Relational Database Concepts and SQL, system programming in Masters 1 (UVSQ).
- S. Yin: (51h/y)
  - Courses on Relational Database Concepts and SQL, Embedded DBMS in Master1 and 2 (UVSQ and CNAM).
PhD & HdR:


PhD in progress : Lionel Le Folgoc, October 2009, Co-supervised by Luc Bouganim and Nicolas Anciaux

PhD in progress : Matias Björling, December 2011, Co-supervised by Philippe Bonnet and Luc Bouganim
9. Dissemination

9.1. Animation of the scientific community

TREC’s seminar The following scientists gave talks on Trec’s seminar in 2011 (see http://www.di.ens.fr/~trec/seminar.html for details)

- **Michel Mandjes** (University of Amsterdam) /Nov 30/ Talking on: "Birthday surprises",
- **Prashant Mehta** (University of Illinois at Urbana-Champaign) /Oct 14/ Talking on: "Feedback Particle Filter: A New Formulation for Nonlinear Filtering based on Mean-field Theory",
- **Anastasios Giovanidis** (TREC) /Sep 23/ Talking on: "Measurement Based Self-Optimization in Random Access Communications",
- **Anne Bouillard** (TREC) /Sep 22/ Talking on: "Residuation of tropical series: rationality issues",
- **Naoto Miyoshi** (Tokyo Institute of Technology) /Sep 7/ Talking on: "Limiting size index distributions for ball-bin models with Zipf-type frequencies",
- **Justin Salez** (TREC), PhD thesis defense /Jul 4/ Talking on: "Quelques conséquences de la convergence locale faible pour les graphes aléatoires",
- **Hamed Amini** (TREC), PhD thesis defense /Jun 24/ Talking on: "Epidémies et Percolation dans les Graphes Aléatoires",
- **Shenghao Yang** (INC, The Chinese University of Hong Kong) /Jun 23/ Talking on: "BATS Codes: when Network Coding Meets Digital Fountain",
- **Van Minh Nguyen** (TREC), PhD thesis defense /Jun 20/ Talking on: "Wireless Link Quality Modelling and Mobility Management Optimisation for Cellular Networks",
- **I-Hong Hou** (University of Illinois at Urbana-Champaign) /Jun 15/ Talking on: "Supporting Delay Guarantees over Unreliable Wireless Channels",
- **Giovanni Luca Torrisi** (IAC Mauro Picone Italy) /May 26/ Talking on: "Density estimation of functionals of spatial point processes with application to wireless networks",
- **Richard Emilion** (Université d’Orléans) /May 16/ Talking on: "Hierarchical Dirichlet Models",
- **Kristen Woyach** (UC Berkeley) /Apr 29/ Talking on: "Crime and Punishment for Cognitive Radios",
- **Martin Haenggi** (University of Notre Dame) /Apr 14/ Talking on: "A Geometric Approach to Security in Wireless Systems",
- **Amin Coja-Oghlan** (University of Warwick) /Apr 8/ Talking on: "Phase transitions and computational complexity",
- **Ilkka Norros** (VTT, Finland) /Mar 30/ Talking on: "Stability problems of two-chunk file-sharing systems",
- **Michel Mandjes** (University of Amsterdam & EURANDOM & CWI) /Mar 25/ Talking on: "Resource dimensioning through buffer sampling",
- **Bruno Kauffmann** (Orange Labs and INRIA/ENS), PhD thesis defense /Mar 24/ Talking on: "Inverse Problems in Networks"
Darryl Veitch (University of Melbourne) /Mar 23/ Talking on: "La synchronisation d’horloges à travers l’internet",
Irene Marcovici (LIAFA) /Feb 17/ Talking on: "Probabilistic cellular automata, invariant measures, and perfect sampling",
Stefan Haar (LSV) /Feb 10/ Talking on: "When you don’t have a Free Choice",
Victor Bapst (Laboratoire de Physique Théorique, ENS) /Jan 26/ Talking on: "On the spectrum of random regular graphs with random edges weights",
Armand Makowski (University of Maryland) /Jan 24/ Talking on: "Recent results for random key graphs: Connectivity, triangles, etc.”,
Nicolas Broutin (INRIA) /Jan 13/ Talking on: "La limite d’échelle des graphes aléatoires critiques",
Nadir Farhi (TREC, INRIA/ENS) /Jan 7/ Talking on: "Packetization and aggregate service in network calculus"

TREC’s Reading group The reading group on Random Graphs is animated by A. Bouillard and A. Giovanidis; see http://www.di.ens.fr/~bouillar/GdL/index.html

9.2. Teaching

ENS Paris

– Undergraduate course (master level, MMFAI) by M. Lelarge and J. Salez, on Information Theory and Coding (24h + 24h of exercise session).
– Course on Communication Networks (master level, MMFAI) by F. Baccelli, A. Bouillard and A. Bušić (24h + 24h of exercise sessions).
– Course on Network Modeling (master level, MPRI) by F. Baccelli and A. Bouillard (24h)
– Undergraduate course (master level, MMFAI) by F. Baccelli, A. Bouillard and P. Brémaud, on Random Structures and Algorithms (35h + 28h of exercise session).
– Undergraduate exercise session (master level, MMFAI) by A. Bouillard on formal languages, computability and complexity (28h).

ENS Cachan - Antenne de Bretagne

– Preparation to the oral exams of the aggregation of mathematics (computer science option) by A. Bouillard (12h).

UPMC, Paris 6

– Graduate Course on point processes, stochastic geometry and random graphs (program "Master de Sciences et Technologies"), B. Błaszczyszyn and L. Massoulié (45h).
– Undergraduate course on conception of algorithms and applications (Licence Informatique, 3rd year), A. Bušić (24h)

Université Paris 10

– Preparation to the certification C2i by A. Benabid (36h)

Université de Versailles Saint-Quentin-en-Yvelines

– Graduate course on simulation (M2 COSY), A. Bušić (6h).

Tutorials
– Lectures on Clustering, percolation and convex ordering of point processes, during Summer Academy on “Stochastic Analysis, Modelling and Simulation of Complex Structures”, Söllerhaus, Austria, September 2011; http://www.uni-ulm.de/mawi/summer-academy-2011/ by B. Błaszczyszyn (4h).
– Ecole de Recherche ENS Lyon 10-14 janvier 2011. 25 hours of lectures of F. Baccelli on stochastic geometry.
– Kyoto University, January 2011, Department of Systems Science, 3 lectures of F. Baccelli on “Stochastic Geometry and Wireless Networks”.
– Chinese University of Hong Kong, July 2011, EECS Dept., 3 lecture of F. Baccelli on “Stochastic Geometry and Information Theory”.

PhD advising

PhD: Bruno Kauffmann, “Inverse Problems in Networks”, defended on March 24, 2011; adviser F. Baccelli; see [6]


PhD: Justin Salez, “Quelques conséquences de la convergence locale faible pour les graphes aléatoires”, defended on July 4, 2011; adviser F. Baccelli and M. Lelarge; see [8]

PhD in progress: Emilie Coupechoux, “Analysis of large random graphs”, started in September 2009, adviser M. Lelarge, F. Baccelli;

PhD in progress: Kumar Gaurav, “Convex comparison of network architectures” started in October 2011, adviser B. Błaszczyszyn;

PhD in progress: Mir Omid Haji Mirsadeghi, “Routing on Point Processes”, started in 2009, adviser F. Baccelli;

PhD in progress: Mathieu Leconte, “Propagation d’information et recommandations dans les réseaux sociaux”, started in January 2011, adviser M. Lelarge, F. Baccelli;

PhD in progress: Frédéric Morlot, “Mobility Models for Communication Networks”, started in 2008, adviser F. Baccelli;


9.3. Invitations and Participation in Conferences
François Baccelli

– Keynote or Colloquium Lectures at the


* Colloquium, Department of Mathematics, UT Austin, October 2011. Lecture on “Phase Transitions in Stochastic Network Dynamics”.

– Presentations in the following conferences or seminars

tique”.
* Workshop on stochastic geometry - Université de Lille, April 2011. Lecture on “Information–Theoretic Capacity and Error Exponents of Stationary Point Processes under Random Additive Displacements”.
* UT Austin, ECE Department, October 2011. Lecture on “Performance Evaluation and Design of Communication Networks with Random Spatial Components”.
* ICERM Workshop “Novel Applications of Kinetic Theory”, Brown University, USA, October 2011. Lecture on “Transport Equations for Internet Transmission Control”.

– Member of the TPC of IEEE Infocom 2011.

Abir Benabid

– Participation in the following conferences:

* WCTT 2011, Vienna, Austria, November 2011; http://www.wctt.info/

Bartłomiej Błaszczyszyn

– Presentation in the following conferences or seminars

* 16th Workshop on Stochastic Geometry, Stereology and Image Analysis, SGSIA 2011 at Sandbjerg Estate, Sonderborg, Denmark, June 2011; http://csgb.dk/events/2011/sgsia11/
* Summer Academy on “Stochastic Analysis, Modelling and Simulation of Complex Structures”, Söllerhaus, Austria, September 2011; http://www.uni-ulm.de/mawi/summer-academy-2011/; invited talk
* Journé scientifique ”Graphes aléatoires”, l’Institut Elie Cartan, Nancy, October 2011; http://www.iecn.u-nancy.fr/~chassain/homepage/Graphes aleatoires et reseaux sans fil; invited talk
* NetGCoop, Paris, October 2011; http://netgcoop.imag.fr/; invited talk,

Anne Bouillard
- Member of the program committee of the WCTT workshop (worst-case traversal time) affiliated with the RTSS2011 conference
- Presentation in the following conferences or seminars:
  * WCTT 2011, Vienna, Austria, November 2011; http://www.wctt.info/
  * LSV seminar, ENS Cachan, March 2011; http://www.lsv.ens-cachan.fr/ Seminaires/
  * TREC seminar, INRIA Paris, September 2011; http://www.di.ens.fr/~trec/seminaires.html
  * 68NQT seminar, INRIA/IRISA, September 2011; http://68nqrt.inria.fr/
  * WEED annual meeting, INRIA Paris, November 2011; http://afsec.asr.cnrs.fr/?p=212
  * SDA2 annual meeting, Caen, June 2011; https://jsda2-2011.greyc.fr/node/3
- Participation in the following conferences:

Ana Bušić
- Editor of European Transactions on Telecommunications (Journal)
- International Editorial Board of Internet of Things (Journal)
- Participation in the following conferences or seminars:
  * 49th Annual Allerton Conference on Communication, Control, and Computing, Monticello, IL, USA, September 2011; http://www.csl.uiuc.edu/allerton/
  * 5th Young European Queueing Theorists (YEQT) workshop, October 2011 (invited); http://www.eurandom.tue.nl/events/workshops/2011/YEQTV/
  * Probability Seminar, Department of Mathematics, University of Zagreb, Croatia, May 2011; http://web.math.hr/~goranc/seminar/
  * LACL seminar, University Paris 12, France, January 2011; http://lacl.univ-paris12.fr/Labo/seminaire.html
- Participation in the following conferences:

Chung Shue Chen
- Editor of European Transactions on Telecommunications (Journal)
- International Editorial Board of Internet of Things (Journal)
- Participation in the following conferences or seminars:

Emilie Coupechoux
- Presentation in the following conferences or seminars:
  * APS Conference, Stockholm (Sweden), July 2011; http://www.informs.org/Community/Conferences/APS2011
  * NetGCooP Conference, Paris, October 2011; http://netgcoop.imag.fr/
  * Séminaire de Probabilités, Nanterre, November 2011; http://www.u-paris10.fr/61454289/0/fiche___pagelibre/

Nadir Farhi
- Presentation in the following conferences or seminars:
  * ILAS(International Linear Algebra Society Conference), Braunschweig, Germany, August 2011 http://ilas2011.de/

Yogeshwaran Dhandapani
- Presentation in the following seminars:
  * University of Rouen, Rouen, France. February 2011.
  * University of Bath, Bath, UK. April 2011.
  * University of Orleans, Orleans, France. May 2011.
  * Indian Statistical Institute, Bangalore, India. July 2011.
  * TIFR Centre for Applicable Mathematics, Bangalore, India. August 2011.
- Participation in the following conferences:
  * Random Structures and Dynamics, Oxford, April 2011; http://www.maths.ox.ac.uk/events/conferences/random-structures-and-dynamics

Marc Lelarge
- On sabbatical in the Electrical Engineering Department of Stanford University from September to December 2011, working with Andrea Montanari on message passing algorithms for compressed sensing.
- Presentation in the following conferences or seminars:
  * Stochastic Activity Month EURANDOM, Eindhoven, April, 2011; http://www.eurandom.tue.nl/events/workshops/2011/SAM/Seminars/Seminars_SAM.html#Lelarge
  * WIDS MIT, Boston, June, 2011; http://wids.lids.mit.edu/
* Berkeley seminar, Berkeley, October, 2011; http://www.trusttsc.org/seminar.htm

* ISL colloquium, Stanford, November, 2011;

Mir Omid Haji Mirsadeghi
- Participation in the following conferences:
  * Stochastic Geometry days, Lille, March 2011; http://math.univ-lille1.fr/~heinrich/geostoch2011/

Frédéric Morlot
- Presentation in the following conferences or seminars:
- Participation in the following conferences:

Van Minh Nguyen
- Member of the organization committee of VnTelecom conference http://conferences.vntelecom.org/home
- Member of the program committee of ICC 2011,
- Presentation in the following conferences or seminars:
  * VnTelecom conference, Paris, November, 2011

Furcy Pin
- Presentation in the following conferences or seminars:

Justin Salez
- Presentation in the following conferences or seminars:
  * Seminaire de Probabilites de l’Institut Elie Cartan, Nancy (France), January 2011; http://www.iecn.u-nancy.fr/~probstat/Les-Seminaires
  * Workshop on Stochastic Networks and Related Topics, Bedlewo (Poland), May 2011; http://www.math.uni.wroc.pl/~lorek/bedlewo2011/
  * Seminaire de l’équipe INRIA Reseaux, Algorithmes et Probabilites, Rocquencourt (France), June 2011; https://www-roc.inria.fr/twiki/bin/view/RAP/PastSeminars2011
  * UC Berkeley Probability Seminar, Berkeley (USA), September 2011; http://www.stat.berkeley.edu/cgi-bin/events.cgi?se=776&period=past_future

Aleksander Wieczorek
- Presentation in the following conferences or seminars:
9. Dissemination

9.1. Animation of the scientific community

+ Conference and workshop organization
  * A. Zisserman, Co-organizer of the Mysore Park Workshop on Computer Vision 2011

+ Editorial Boards
  * SIAM Journal on Imaging Sciences (J. Ponce)

+ Area Chairs
  * IEEE Conference on Computer Vision and Pattern Recognition, 2011 (J. Sivic).
  * IEEE International Conference on Automatic Face and Gesture Recognition, 2011 (I. Laptev).
  * IEEE International Conference on Computer Vision, 2011 (I. Laptev, J. Sivic, A. Zisserman (Program board member)).

+ Program Committees
  * IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2012 (I. Laptev, J. Sivic, A. Zisserman)
  * A. Zisserman, reviewer for ERC grant applications.
PhD thesis committee:

- Biliana Kaneva, MIT, 2011 (J. Sivic)
- Meriem Bendris, Telecom ParisTech, 2011 (J. Sivic)
- Jerome Revaud, INSA Lyon (J. Ponce)
- Sebastien Dalibard, LAAS Toulouse (J. Ponce)
- Hedi Harzallah INRIA Rhone-Alpes (J. Ponce)
- Amael Delaunoy INRIA Rhone-Alpes (J. Ponce)
- Hoang Hiep Vu, ENPC (J. Ponce)
- Ana Lopes, Federal University of Minas Gerais, Brasil, 2011 (I. Laptev)
- Pyry Matikainen, CMU, USA, 2011 (I. Laptev)
- Shuji Zhao, ETIS/LIP6, France, 2011 (I. Laptev)
- Sibt ul Hussain, Laboratoire Jean Kuntzmann, Grenoble (A. Zisserman)

HDR thesis committee:

- Theodore Papadopoulo, Universite de Nice. (J. Ponce)

Prizes:

- Andrew Zisserman was awarded the Rank Prize for his “outstanding contributions to modern computer vision”.
  - runner-up for the 2011 Gilles-Kahn prize (computer science). Prize awarded by Specif (society of computer science researchers and teachers of France) and supervised by the Academie des Sciences. [http://www.specif.org/prix-these/historique.html](http://www.specif.org/prix-these/historique.html)
  - the 2010 PhD thesis prize from AFRIF (pattern recognition) [http://www.afrif.asso.fr/node/12](http://www.afrif.asso.fr/node/12)

- INRIA Prime d’excellence scientifique (I. Laptev, J. Sivic)

Other:

- Jean Ponce was named Head of the ENS computer science department in September 2011.
- Jean Ponce was named Head of the ENS computer science laboratory (LIENS, joint ENS/CNRS/Inria UMR 8548) in September 2011.
- Jean Ponce was in charge of the LIENS activities linked to the French “investissements d’avenir” (“investing in the future”) initiative, including the LIENS parts of two successful projects, the Laboratory of Excellence (“LABEX”) project of the Foundation of Mathematical Sciences, and the Excellence Initiative (“IDEX”) project of the “Paris Sciences et Lettres” Foundation, granted in 2011.
- Comites de selection de l’Universite de Caen, May 2011 (I. Laptev)
9.2. Teaching

- J. Ponce, "Introduction to computer vision", L3, Ecole normale supérieure, 36h.
- M. Pocchiola and J. Ponce, "Geometric bases of computer science, L3, Ecole normale supérieure, 36h.
- I. Laptev; J. Ponce and J. Sivic (together with C. Schmid (INRIA Grenoble)), “Object recognition and computer vision”, M2, Ecole normale supérieure, and MVA, Ecole normale supérieure de Cachan, 36h.
- I. Laptev and J. Sivic were speakers at the International Computer Vision Summer School 2011, Sicily, Italy, July 2011.
- I. Laptev and J. Sivic were speakers at the Computer Vision Winter School, ENS Lyon, January 2011.
- I. Laptev and A. Zisserman were speakers at Microsoft Computer Vision School, Moscow, Russia, August 2011 http://summerschool2011.graphicon.ru/en/courses.

9.3. ENS/INRIA Visual Recognition and Machine Learning Summer School 2011

http://www.di.ens.fr/willow/events/cvml2011/

I. Laptev, J. Ponce and J. Sivic (together with C. Schmid (INRIA Grenoble)) co-organized a one week summer school on Visual Recognition and Machine Learning. The summer school, hosted by ENS Ulm, attracted 175 participants from 28 countries (31% France / 48% Europe / 21% other countries (including USA, India, Brazil, Canada, Russia, Japan and China)), and included Master students, PhD students as well as Post-docs and researchers. The summer school provided an overview of the state of the art in visual recognition and machine learning. Lectures were given by 12 speakers (4 USA, 1 UK, 1 Austria, 1 France, 5 INRIA / ENS), which included top international experts in the area of visual recognition (J. Malik, UC Berkeley, USA; M. Hebert and A. Efros, CMU, USA; A. Zisserman, Oxford, UK / WILLOW; L. Bottou, Microsoft, USA). Lectures were complemented by practical sessions to provide participants with hands-on experience with the discussed material. In addition, a poster session was organized for participants to present their current research.

The third summer school in this series is currently in preparation for 2012 to be hosted by INRIA Grenoble.

9.4. Invited presentations

- J. Sivic, Microsoft Research Redmond, USA, Host: R. Szeliski, March 2011
- J. Sivic, Carnegie Mellon University, USA, Host: A. Efros, February 2011
- J. Sivic, Czech Technical University in Prague, Host: J. Matas, April 2011
- J. Ponce, Distinguished speaker, Taiwan Academica Sinica, 2011
- J. Ponce, Distinguished speaker, University of Delaware Computer Science Department, 2011
- J. Ponce, ETH Zurich Computer Science Department, 2011
- I. Laptev, Royal Institute of Technology, Stockholm, Sweden, Host: S. Carlsson, December 2011
- I. Laptev, ICCV2011 International Workshop on Video Event Categorisation, Barcelona, Spain, November 2011
- I. Laptev, Assemblee generale du GdR ISIS, Saint-Georges-de-Didonne, France, May 2011
- A. Zisserman, BBC Faces Workshop, September, 2011.