



RESEARCH CENTER  
**Rennes - Bretagne-Atlantique**

FIELD

Activity Report 2014

# Section Dissemination

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## **ALF Project-Team**

# **9. Dissemination**

## **9.1. Promoting Scientific Activities**

### **9.1.1. Scientific events organisation**

#### *9.1.1.1. Member of the organizing committee*

- Isabelle Puaut is a member of the Executive committee of IEEE Technical Committee on Real-Time Systems
- Isabelle Puaut is member of the Steering committees of ECRTS and WCET conferences.
- Isabelle Puaut is the chair of the RTNS steering committee.
- Isabelle Puaut and Damien Hardy are organizing the Ecole d'été Temps Réel in Rennes in August 2015.
- Sylvain Collange is a member of the organization committee of Rencontres Arithmétiques de l'Informatique Mathématique (RAIM) 2015 in Rennes.

### **9.1.2. Scientific events selection**

#### *9.1.2.1. Member of the conference program committee*

- Isabelle Puaut was a member of RTSS 2014, RTAS 2014, RTCSA 2014 and SIES 2014 program committees. She is a member of the RTAS 2015 and WCET 2015 program committees.
- Damien Hardy was a member of RTNS 2014 and WCET 2014 program committees. He is a member of the WCET 2015 program committee.
- André Seznec was a member of the MICRO 2014 top picks committee, a member of SAMOS 2014 program committee and HPCA 2015 committee.
- Erven Rohou was a member of the program committee of DITAM-PARMA 2015
- Pierre Michaud was a member of the program committees of the HPCC 2014 conference and the OMHI 2014 and CBP4 workshops.
- Sylvain Collange was a member of the program committee of the "Conférence en Parallélisme, Architecture et Système"(ComPas) 2014, Neuchâtel, Suisse.

### **9.1.3. Journal**

#### *9.1.3.1. Member of the editorial board*

- André Seznec is a member of the editorial board of the IEEE Micro.

## **9.2. Teaching - Supervision - Juries**

### **9.2.1. Teaching**

Master: A. Seznec, P. Michaud, A. Perais, Architecture avancée, 36 hours, M2, Ecole Supérieure d'Ingénieurs de Rennes, France

Master: I. Puaut, D. Hardy, Operating systems - process management, 130 hours, M1, Université de Rennes I, France

Master: I. Puaut, Système d'exploitation gestion mémoire, 39 hours, M1, Université de Rennes I, France

Master: I. Puaut, D. Hardy, Systèmes temps-réel, 69 hours, M1, Université de Rennes I, France

Master: D. Hardy, A. Perais, Systèmes d'exploitation, 44 hours, M1, Université de Rennes I, France

Licence: D. Hardy, Informatique temps-réel, 40 hours, L3, Université de Rennes I, France  
 Master: S. Collange, Programmation parallèle, 22 hours, M1, Université de Rennes I, France  
 Master/PhD: S. Collange, GPU programming, 30 hours, MSc/PhD programs, Universidade Federal de Minas Gerais, Brasil

### 9.2.2. Supervision

PhD in progress: Nabil Hallou, Université Rennes 1, Feb 2013, co-advisors E. Rohou and P. Clauss (EPI Camus Inria Strasbourg)  
 PhD in progress: Sajith Kalathingal, Université Rennes 1, Dec 2012, co-advisors S. Collange and A. Seznec  
 PhD in progress: Surya Khizakanchery Natarajan, Université Rennes 1, Jan 2012, advisor A. Seznec  
 PhD in progress: Hanbing Li, Université Rennes 1, Oct 2012, co-advisors E. Rohou and I. Puaut  
 PhD in progress: Andrea Mondelli, Université Rennes 1, Oct 2013, co-advisors P. Michaud and A. Seznec  
 PhD in progress: Bharath Narasimha Swamy, Université Rennes 1, Sept 2011, advisor A. Seznec  
 PhD in progress: Arthur Perais, Université Rennes 1, Sept 2012, advisor A. Seznec  
 PhD in progress: Aswinkumar Sridharan, Université Rennes 1, Oct 2013, advisor A. Seznec  
 PhD in progress: Arjun Suresh, Université Rennes 1, Dec 2012, co-advisors E. Rohou and A. Seznec

### 9.2.3. Dissemination

- Erven Rohou and Damien Hardy taught labs on "Compilation, Optimization, Debug methods" at "Ecole Jeune Chercheurs en programmation" in Rennes, June 2014
- Nabil Hallou presented "Dynamic re-vectorization of binary code", at Huitièmes rencontres de la communauté française de compilation, Jul 2014.
- Emmanuel Riou presented "Padrone: a dynamic binary modification tool" at the Intel Compiler, ARchitecture and Tools conference, at Haifa, Israel, Dec 2014
- Damien Hardy presented "Worst Case Execution Time Estimation and Permanent Faults" in the workshop on Challenges in Mixed Criticality and Real-time and Reliability in Networked Complex Embedded Systems at the Hipeac Computer System Week, May 2014.
- André Seznec and Arthur Perais presented their work on Value Prediction at a seminar at Qualcomm, Raleigh, in February 2014.
- André Seznec presented the work on Value Prediction at Intel, Hillsboro in November 2014.
- Arthur Perais was invited to present its work on Value Prediction at the COMPASS conference, Neufchatel, April 2014, <http://compas2014.unine.ch/>.

### 9.3. Miscellaneous

- Erven Rohou co-advised a MSc. student at the Egypt-Japan University of Science and Technology.
- Erven Rohou is a member of the Inria CDT (Commission du Développement Technologique)
- As "correspondant scientifique des relations internationales" for Inria Rennes Bretagne Atlantique, Erven Rohou is a member of the Inria COST GTRI (Groupe de Travail "Relations Internationales" du Comité d'Orientation Scientifique et Technologique).
- A. Seznec was an elected member of the scientific committee of Inria till November 2014.
- A. Seznec is an elected member of the administration board of Inria since November 2014.

## ASAP Project-Team

# 9. Dissemination

## 9.1. Promoting scientific activities

Davide Frey served in the program committees of the following conferences:

*13th IEEE International Conference on Peer-to-Peer Computing (P2P)*, London, England, Sep 2014.

*ACM/IFIP/USENIX International Conference on Middleware (Middleware)*, Bordeaux, France, Dec 2014.

*Middleware for Next Generation Internet Computing (MW4NG)*, Bordeaux, France, Dec 2014.

*34th International Conference on Distributed Computing Systems (ICDCS)*, Madrid, Spain, Jul 2014.

*IEEE International Parallel & Distributed Processing Symposium (IPDPS)*, Phoenix, Arizona, USA, May 2014.

George Giakkoupis organized the *Workshop on Randomized Algorithms for Distributed Computing and Networks (RADICON)*, Rennes, France, Jul 2014.

George Giakkoupis served in the program committees of the following conferences:

*21st International Colloquium on Structural Information and Communication Complexity (SIROCCO)*, Takayama, Japan, Jul 2014.

*28th International Symposium on Distributed Computing (DISC)*, Austin, TX, USA, Oct 2014.

George Giakkoupis served in the conference committee of the *ACM Symposium on Principles of Distributed Computing (PODC)*, Paris, France, Jul 2014.

Anne-Marie Kermarrec is a member of the *Academia Europea* since 2013.

Anne-Marie Kermarrec is a member of the scientific committee of the *Société Informatique de France*.

Anne-Marie Kermarrec is a member of the *Inria scientific board (Bureau du comité des projets)* in Rennes.

Anne-Marie Kermarrec was the chair of the *ACM Software System Award Committee* in 2014.

Anne-Marie Kermarrec is a member of the *ACM Software System Award Committee* since 2009.

Anne-Marie Kermarrec is a member of the *ERC panel for Consolidator Grants* since 2013.

Anne-Marie Kermarrec is an associate editor of *IEEE Internet Computing*.

Anne-Marie Kermarrec is an associate editor of the *Springer Computing Journal*.

Anne-Marie Kermarrec was a member of the hiring committee at EPFL in 2014.

Anne-Marie Kermarrec is the vice-chair of *ACM Eurosys*.

Anne-Marie Kermarrec served in the program committees of the following conferences:

*International Conference on Distributed Computing Systems (ICDCS)*, Madrid, Jul 2014.

*International Conference on Extending Database Technology (EDBT)*, Athens, Greece, Mar 2014.

*International Colloquium on Automata, Languages and Programming (ICALP)*, Copenhagen, Sweden, Jul 2014.

*ACM/IFIP/USENIX International Conference on Middleware (Middleware)*, Bordeaux, France, Dec 2014.

*International Conference on Networked Systems (NETYS)*, Marrakech, Morocco, May 2014.

*ACM Eurosys*, Amsterdam, The Netherlands, Apr 2014.

*ACM International Systems and Storage Conference (SYSTOR)*, Haifa, Israel, Jun 2014.

*International Conference on Distributed Computing Systems (ICDCS)*, Madrid, Jul 2014.

*International Conference on Extending Database Technology (EDBT)*, Athens, Greece, Mar 2014.

Anne-Marie Kermarrec is a member of the steering committees of *ACM Eurosys*, *Middleware*, and the *Winter School on Hot Topics in Distributed Systems*.

Anne-Marie Kermarrec is a member of the technical committee of the *ACM Conference on Online Social Networks*.

Anne-Marie Kermarrec co-organized the *Workshop Inria/Technicolor on Distributed Storage Systems*, Rennes, Dec 2014.

Anne-Marie Kermarrec co-organized the *Web Alter-Ego Workshop*, EPFL, Lausanne, Switzerland, Jan 2014.

Anne-Marie Kermarrec participated in the Forum Liberation de Rennes, Apr 2014.

Anne-Marie Kermarrec wrote two articles on the gender gap in computer science: (i) *Informatique [nom féminin]*, on the blog of the SIF Binaire on Mar 2014 (<http://binaire.blog.lemonde.fr/2014/03/07/informatique-nom-feminin-2/>); (ii) *Computer Science: Too young to fall into the gender gap*, IEEE Internet Computing [15].

Michel Raynal was in the editorial board of the journals: *IEEE Transactions on Computers*, *Journal of Parallel and Distributed Computing*, *Journal of Computer Systems Science and Engineering*, *Foundations of Computing and Decision Sciences*.

Michel Raynal served as a PC co-chair of the *International Conference on Networked Systems (NETYS)*, Marrakech, Morocco, May 2014.

Michel Raynal served in the program committee of the *ACM Symposium on Principles of Distributed Computing (PODC)*, Paris, France, Jul 2014.

Michel Raynal was the Award chair of the *IEEE Symposium on Reliable Distributed Systems (SRDS)* 2014.

Michel Raynal was a *European Representative in the IEEE Technical Committee on Distributed Computing*.

Michel Raynal was an international liaison co-chair of *ICDCS 2013*.

François Taïani served in the program committees of the following conferences:

*34rd International Conference on Distributed Computing Systems (ICDCS)*, Madrid, Spain, Jun 2014.

*33rd IEEE Symposium on Reliable Distributed Systems (SRDS)*, Nara, Japan, Oct 2014.

*14th International IFIP Conference on Distributed Applications and Interoperable Systems (DAIS)*, Berlin, Germany, Jun 2014.

François Taïani served as PC Co-Chair of the *15th ACM/IFIP/USENIX Middleware Conference (Middleware)*, Dec 2014, Bordeaux, France.

François Taïani is a member of the Steering Committee of the *International IFIP Conference on Distributed Applications and Interoperable Systems (DAIS)* since 2013.

Juan Manuel Tirado Martin was a program co-chair of the conferences:

*17th IEEE International Conference on Computation Science and Engineering (CSE)*, Chengdu, China, 2014.

*6th IEEE International Conference on Cloud Computing Technology and Science (Cloud-Com)*, Singapore, 2014.

*Middleware for Next Generation Internet Computing (MW4NG)*, Bordeaux, France, 2014.

## 9.2. Invited talks

George Giakkoupis. *Rumor spreading and graph expansion*. CS and SE Seminar, Concordia Univ., Montreal, Canada, Mar 10 2014.

Anne-Marie Kermarrec. *Privacy-preserving distributed collaborative filtering*. Lecture at NICTA, Sydney, Australia, Jan 2014.

Anne-Marie Kermarrec. *Catch me if you can: Privacy-preserving micro-blogging*. Workshop on Distributed Systems, Univ. of Sydney, Jan 2014.

Anne-Marie Kermarrec. Scalable infrastructures for personalization. Morgenstern Colloquium, Inria Sophia-Antipolis, Apr 2014.

Anne-Marie Kermarrec. *Privacy-preserving distributed collaborative filtering*. Spring School METIS 2014, Marrakech, May 2014.

Anne-Marie Kermarrec. *Scalable Infrastructures for Personalization: from and ERC Grant to a startup*. Symposium on the Future of Cloud Computing, EIT-ICT Labs, Rennes, Jun 2014.

Anne-Marie Kermarrec. *Scalable infrastructures for personalization*. Yandex, Moscow, Jun 2014

Anne-Marie Kermarrec. *Scalable infrastructures for personalization*. MPI SWS Distinguished Lecture, Saarbrücken, Nov 2014.

Michel Raynal. *What can be computed in a distributed system?* Workshop “From Programs to Systems: The Systems Perspective in Computing” in honor of Turing Award Winner Professor Joseph Sifakis, Apr 2014.

Michel Raynal. *From Turing to the clouds (on the computability power of distributed systems)*. 21th International Colloquium on Structural Information and Communication Complexity (SIROCCO), Jul 2014.

## 9.3. Teaching, supervision, juries

### 9.3.1. Teaching

Licence (bachelor) courses:

Simon Bouget, APF (Algorithmique et Programmation Fonctionnelle), 40 HEQTD (2 x 10 séances de 2 heures de TP), L1, Univ. Rennes 1 (ISTIC), France.

Davide Frey, Scalable Distributed Systems, 10 hours, M1, EIT/ICT Labs Master School, Univ. Rennes 1, France.

Davide Frey, Scalable Distributed Systems, 5 hours, M2, Univ. Rennes 1, France.

Michel Raynal, Introduction to distributed computing, 20h, M1, Univ. Rennes, France.

Michel Raynal, Distributed Computability, 20h, M2, Univ. Rennes, France.

François Taïani, Introduction to Operating Systems, 16h, 1st year of Engineering School (L3), ESIR / Univ. Rennes 1, France.

Master courses:

François Taïani, Synchronization and Parallel Programming, 48h, 2nd year of Engineering School (M1), ESIR / Univ. Rennes 1, France.



François Taïani, Distributed Systems, 48h, 3rd year of Engineering School ( M2), ESIR / Univ. Rennes 1, France.

François Taïani, Programming Technologies for the Cloud, 32h, M2, Univ. Rennes 1, France.

### 9.3.2. Supervision

PhD: Arnaud Jégou. *Harnessing the power of the implicit and explicit social networks through decentralization*. Sep 23 2014. Supervised by Davide Frey and Anne-Marie Kermarrec.

PhD in progress: Fabien André. *Calcul sur des données hétérogènes et modifiables dans les plateformes à large-échelle*. Started Nov 18 2013. Supervised by Anne-Marie Kermarrec (and Nicolas Le Scouarnec).

PhD in progress: Simon Bouget. *EMILIO: Emergent Middleware for extra-Large-scale self adaptation*. Started Sep 1 2014. Supervise by François Taïani

PhD in progress: Resmi Ariyattu Chandrasekharannair. *Towards decentralized federations for plug-based decentralized social networks*. Started Dec 1 2013. Supervised by François Taïani.

PhD in progress: Stéphane Delbruel. *Towards a decentralized embryomorphic storage System*. Started Oct 1 2013. Supervised by François Taïani and Davide Frey (since Oct 1 2014).

PhD in progress: Ali Gouta. *Caching and prefetching for efficient video services in mobile networks*. Started Jan 2 2012. Supervised by Anne-Marie Kermarrec (and Yannick Le Louédec).

PhD in progress: Nupur Mitall. *Infrastructure et algorithmes pour la recommandation de contenus cross application*. Started Dec 1 2013. Supervised by George Giakkoupis and Anne-Marie Kermarrec.

PhD in progress: Javier Olivares. *Web-Alter-Egos Platform: A peer-sourcing infrastructure for personalized privacy-aware event processing*. Started Sep 1 2013. Supervised by Anne-Marie Kermarrec.

PhD in progress: Antoine Rault. *Privacy through decentralization*. Started Oct 1 2012. Supervised by Davide Frey and Anne-Marie Kermarrec.

PhD in progress: Pierre-Louis Roman. *Epidemic distributed convergence for decentralized social networking*. Started Oct 1 2014. Supervised by Davide Frey and François Taïani.

PhD in progress: Julien Stainer. *Calculabilité distribuée*. Started Oct 1 2011. Supervised by Michel Raynal.

### 9.3.3. Juries

Anne-Marie Kermarrec was a member of the PhD juries for:

Ercan Ucan. *Data storage, transfers and communications in personal clouds*. ETH, Zurich, Feb 28 2014.

Oana Gog. *Matching user accounts across online social networks: Methods and application*. Univ. Paris 6, May 21 2014.

Abdelberi Chaabane. *Online social networks: Is it the end of privacy?*. Univ. Grenoble, May 22 2014.

Anne-Marie Kermarrec was a member of the HDR jury for Xavier Bonnaire. *Adaptabilité dans les systèmes répartis à large-échelle*. Univ. Paris 6, Jul 2014.

François Taïani was a member of the PhD juries for:

Bassem Debbabi. *Cube: A decentralised architecture-based framework for software self-management*. Univ. Grenoble (LIG), Jan 28 2014.

Adel Noureddine. *Towards a better understanding of the energy consumption of software systems*. Univ. Lille 1 (LIFL / Inria Lille), Mar 19 2014.

Romarc Ludinard. *Caractérisation locale de fautes dans les systèmes large échelle*. Univ. Rennes 1 (Inria Rennes - Bretagne Atlantique), Oct 2 2014.

François Taïani was a member of the HDR juries for:

Sébastien Gambs. *Respect de la vie privée dans la société de l'information*. Univ. Rennes 1, Jun 23 2014.

Yérom-David Bromberg. *Towards interoperable distributed systems* Univ. Bordeaux, Nov 28 2014.

## ASCOLA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, scientific chair

- A. Lebre and M. Sellami organized cloudDays@Nantes. Supported by the ASR System consortium and the Inria Large Scale Initiative Hemera, this two day national event gathered 25 researchers and phd students to discuss about latest results in Virtualization and Cloud Computing <sup>0</sup>.
- A. Lebre was local chair of the 2014 Simgrid Users Days (30 participants).
- J.-C. Royer and M. Sellami were co-chair of the first PACS track (Privacy and Accountability for Software and Cloud Services) at WETICE 2014.

#### 9.1.1.2. Member of the organizing committee

- Green Lab Center: T. Ledoux and J.-M. Menaud are members of the board of the Green Lab Center association. This association promotes and disseminates Green IT practices and research prototypes to the world of education, research and companies <sup>0</sup>.
- M. Südholt has been a member of the steering committee of the international conference Modularity.

### 9.1.2. Scientific events selection

#### 9.1.2.1. Member of the conference program committee

- A. Lebre was member of the program committees of IEEE IC2E 2014, SCRAMBL 2014, IEEE BigData 2014, IEEE CloudCom 2014, and IEEE BDCloud 2014.
- T. Ledoux was member of the program committees of the following conferences: the 29th Symposium On Applied Computing (SAC'14) - track Software Engineering Aspects of Green Computing, the 3rd International Conference on Eco-friendly Computing and Communication Systems (ICECCS'14), the 13th Workshop on Adaptive and Reflective Middleware (ARM'14) @ Middleware, the workshop CrossCloud'14 @ INFOCOM, the workshop CrossCloud Brokers'14 @ Middleware, the 3rd International Workshop on Green and Sustainable Software (GREENS'14) @ ICSE.
- J.-M. Menaud has served on the program committee of the third SMARTGREENS 2014, IEEE ICC SAC, The Fifth CLOUD COMPUTING 2014, the third CAGing 2014, the IEEE Globecom 2014, the 5th IEEE ICICS, the first SDS, VHPC'14 and CFSE-10.
- J. Noyé has been a member of the program committee of Modularity '14.
- J.-C. Royer was a member of the program committees of WETICE 2014, CAL 2014, CIEL 2014, ICIS 2014, and JLDP 2014. He participated in the evaluation of a project for the Israel Science Foundation.

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

- M. Südholt has been a member of the editorial board of the Springer journal "Transactions of Aspect-Oriented Software Development" (TAOSD).

#### 9.1.3.2. Reviewer

- A. Lebre has been a reviewer for the JPDC and the Cluster Computing Journals.

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<sup>0</sup>CloudDays@Nantes, 2014.

<sup>0</sup>Green Lab Center

- J. Noyé has been a reviewer for “Transactions on Aspect-Oriented Software Development”, “Software: Practice and Experience” and “Science of Computer Programming”.
- M. Südholt has been a reviewer for IEEE “Transactions in Software Engineering” (TSE) and the Springer journal “Transactions on Aspect-Oriented Software Development” (TOASD).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

The team is involved in the following undergraduate and graduate-level programs at Mines Nantes and University of Nantes (the institutions all of eaching staff belongs to):

- The team is a main contributor to the **engineering program of EMN**.
- Within this engineering program, the team is steering, chairing and the main contributor to a two-year **graduate-level informatics specialization**. H. Grall is managing this program.
- Since 2009 our team has defined and set up a new three-year **engineering program on software engineering**. T. Ledoux is managing this program.

The team has also been involved in the following MSc programs that have been carried out with partners from French and foreign universities:

- The team participates in the **MSc program “Alma”** on software architecture and distributed systems, a joint program steered by colleagues from University of Nantes. In this context, we are responsible for a 48-hour module on advanced software composition and take part in the program’s governing board. M. Südholt is managing the participation of Mines Nantes in this program.
- Members of the team have taught different **courses at different study levels in Rennes** mainly organized by University of Rennes and the research institutes IRISA and Inria.

ASCOLA members have taught for about 210 hours on average in 2014 (hours of presence in front of students). Hereby, we have taken into account that researchers and some professors have not taught at times. In addition, another significant part of the program is taught by temporary and external staff, whose participation is managed by ASCOLA members.

In addition, J. Noyé was deputy for teaching of the Computer Department until March, 31.

### 9.2.2. Supervision

The team has been supervising 18 PhD thesis in 2014, of which six have been co-supervised with external partners (three with foreign partners from U. Chile; TU Darmstadt, Germany; VU Brussel, Belgium), two with another Inria team (Myriads from Rennes) and one with the French TASC team from Mines Nantes.

Six PhD theses have been defended this year. Mayleen Lacouture on chemical programming for the web; Guilhem Jaber on the extension of logics for theorem provers using forcing; Diana Allam on service interoperability and securing service compositions; Guillaume Le Louët on energy management in data centers; Ismaël Figueroa on formal approaches for correct software composition; Charles Prud’homme on the structuring of constraint solvers.

Two members of the team have been preparing an HDR in 2014 for a defense in 2014.

### 9.2.3. Juries

- J.-C. Royer was a member of the PhD committees of Cosmin Dumitrescu (Université Paris I), Hamzeh Eyal Salman (Université de Montpellier II), Diana Allam (Mines de Nantes), Ahmad Kheir (Université de Nantes and Université Libanaise), and Hamza Samih (Université de Rennes I).
- A. Lebre was a member of the PhD committee of Alexandre Lissy, “Utilisation de méthodes formelles pour garantir des propriétés de logiciels au sein d’une distribution : exemple du noyau Linux”, University of Tours, March 2014.

- J.-M. Menaud was a reviewer of the PhD of : Gueérout Tom (Dec. 5, 2014 on “Ordonnement sous contraintes de Qualité de Service dans les Clouds” in Toulouse), Sébastien Schinella (Dec. 2, 2014 on “Contribution à l’étude de l’Efficacité énergétique des Services TIC” in Paris), Aurélien Wailly (Sep. 15, 2014 on “Architecture de sécurité de bout-en-bout pour les environnements cloud” in Paris), Djawida Dib (Jul. 7, 2014 on “Optimizing PaaS Provider Profit under Service Level Agreement Constraints” in Rennes), Tran Giang Son (Jun. 4, 2014 on “Cooperative Resource Management in the Cloud” in Grenoble), Amit Sangroya (Apr. 24, 2014 on “Towards Dependability and Performance Benchmarking for Cloud Computing Services” in Grenoble).
- M. Südholt has served as reporting member of the examination committee of Mohamed Aly at TU Darmstadt, Germany, in Nov. 2014.

## ASPI Project-Team

## 8. Dissemination

### 8.1. Promoting scientific activities

#### 8.1.1. Scientific events organisation

Valérie Monbet has co-organized the workshop on *Stochastic Weather Generators*, held in Avignon in September 2014.

François Le Gland has been a member of the organizing committee of the *46èmes Journées de Statistique*, held in Bruz in June 2014.

### 8.2. Teaching, supervision, thesis committees

#### 8.2.1. Teaching

François Le Gland gives

- a course on **Kalman filtering and hidden Markov models**, at université de Rennes 1, within the SISEA (signal, image, systèmes embarqués, automatique, école doctorale MATISSE) track of the master in electronical engineering and telecommunications,
- a 3rd year course on **Bayesian filtering and particle approximation**, at ENSTA (école nationale supérieure de techniques avancées), Paris, within the systems and control module,
- a 3rd year course on **linear and nonlinear filtering**, at ENSAI (école nationale de la statistique et de l'analyse de l'information), Ker Lann, within the statistical engineering track,
- and a 3rd year course on **hidden Markov models**, at Télécom Bretagne, Brest.

He has also animated a set of training sessions on particle filtering, with an application to video multi-object tracking, to engineers from Canon Research France.

Patrick Héas gives a course on statistical image analysis at université de Rennes 1, within the SISEA (signal, image, systèmes embarqués, automatique, école doctorale MATISSE) track of the master in electronical engineering and telecommunications.

Valérie Monbet gives several courses on data analysis, on time series, and on mathematical statistics, all at université de Rennes 1 within the master on statistics and econometrics. She is also the director of the master on statistics and econometry at université de Rennes 1.

#### 8.2.2. Supervision

François Le Gland has been supervising one PhD student

- Damien-Barthélémy Jacquemart, title: *Contributions to multilevel splitting for rare events, and applications to air traffic*, université de Rennes 1, started in October 2011, defense in December 2014, funding: DGA / ONERA grant, co-direction: Jérôme Morio (ONERA, Palaiseau).

and he is currently supervising two PhD students

- Alexandre Lepoutre, provisional title: *Detection issues in track-before-detect*, université de Rennes 1, started in October 2010, expected defense in 2015, funding: ONERA grant, co-direction: Olivier Rabaste (ONERA, Palaiseau),
- Kersane Zoubert-Ousseni, provisional title: *Particle filters for hybrid indoor navigation with smart-phones*, université de Rennes 1, started in December 2014, expected defense in 2017, funding: CEA grant, co-direction: Christophe Villien (CEA LETI, Grenoble).

Valérie Monbet has been supervising one PhD student

- Julie Bessac, title: *On the construction of stochastic wind data generators off-shore Brittany*, universit  de Rennes 1, started in October 2011, defense in October 2014, co-direction : Pierre Ailliot (universit  de Bretagne Occidentale).

### 8.2.3. Thesis committees

Fran ois Le Gland has been a reviewer for the PhD theses of Paul Lema tre (universit  de Bordeaux 1, advisors: Pierre Del Moral and Bertrand Iooss), Achille Murangira (universit  de technologie de Troyes, advisors: Igor Nikoforov and Karim Dahia) and El houcine Bergou (universit  de Toulouse, advisor: Serge Gratton).

Val rie Monbet has been a member of the committee for the PhD thesis of Emmanuelle Autret (IFREMER).

## 8.3. Participation in workshops, seminars, lectures, etc.

In addition to presentations with a publication in the proceedings, which are listed at the end of the document in the bibliography, members of ASPI have also given the following presentations.

Fr d ric C rou has given a talk on rare event simulation for molecular dynamics, at the ICMS workshop on Computational Methods for Statistical Mechanics — at the Interface between Mathematical Statistics and Molecular Simulation, held in Edinburgh in June 2014, and a talk on a central limit theorem for adaptive splitting, at the 10th International Workshop on Rare Event Simulation (RESIM'14), held in Amsterdam in August 2014. He has been invited to give two seminar talks on rare event simulation with multilevel splitting, in Marseilles in May 2014.

Fran ois Le Gland has given a talk on a two-step multilevel splitting algorithm for rare event simulation, at the 10th International Workshop on Rare Event Simulation (RESIM'14), held in Amsterdam in August 2014, and a talk on simulation-based algorithms for the optimization of sensor deployment, at the Conference on Optimization and Practices in Industry (COPI), held in Palaiseau in October 2014.

## 8.4. Collective responsibilities

Fran ois Le Gland is a member of the “conseil d’UFR” of the department of mathematics of universit  de Rennes 1.

Val rie Monbet is a member of the two “comit  de direction” and “conseil” of IRMAR (institut de recherche math matiques de Rennes, UMR 6625). She is also the deputy head, and a member of the two “conseil scientifique” and “conseil d’UFR” of the department of mathematics of universit  de Rennes 1.

## ATLANMOD Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific events organisation

##### 8.1.1.1. Member of the organizing committee

The AtlanMod team has coorganized the following events:

- A. Gómez was publicity co-chair for the 10th European Conference on Modelling Foundations and Applications (ECMFA 2014).
- M. Tisi has coorganized the Scalable Model Driven Engineering Workshop (BigMDE'14) within the STAF federated conference.
- J. Cabot coorganized the CloudMDE workshop within the MoDELS Conference and was the demo co-chair for the International Conference on Web Engineering (ICWE)

#### 8.1.2. Scientific events selection

##### 8.1.2.1. Chair of conference program committee

J. Cabot was the PC Cochair for the 10th European Conference on Modelling Foundations and Applications (ECMFA 2014)

##### 8.1.2.2. Member of the conference program committee

Participation to conference program committees/boards:

- Jordi Cabot:
  - International: International Conference on Model-Driven Engineering Language and Systems, European Conference on modeling foundations and applications, International Conference on Web Engineering, International Conference on Advanced Information Systems Engineering, International Conference on Model Transformations, Automated Software Engineering Conference, OCL workshop.
  - National: French national conference on MDE, Spanish national conference on MDE.
- Massimo Tisi:
  - International: International Conference on Model Transformation (ICMT2014), Software Language Engineering conference (SLE2014 - Industrial Track), Transformation Tool Contest (TTC2014), International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM2014)
- Gerson Sunye:
  - International: International Conference on Model Transformation (ICMT2014), International Conference on Software Engineering and Knowledge Engineering, International Workshop on Large-Scale Testing, International Workshop on Testing The Cloud.
- Salvador Martínez:
  - International: Metamodelling for Healthcare Systems (MMHS) Workshop
- Javier Canovas:
  - International: European Conference on Modelling Foundations and Applications, International Conference on Web Engineering, International Conference on Model Driven Engineering Languages and Systems, International Conference on Automated Software Engineering, Workshop on Modeling Social Media
- Abel Gómez:
  - International: 23rd International Conference on Information Systems Development.
- Hugo Bruneliere:
  - International: 8th Symposium on the Maintenance and Evolution of Service-Oriented Systems and Cloud-Based Environments



### 8.1.2.3. Reviewer

- Abel Gómez:
  - International: 40th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2015) (external reviewer).

## 8.1.3. Journal

### 8.1.3.1. Member of the editorial board

Jordi Cabot is on the editorial board of the Journal of Object Technology and Software and Systems Modeling journals

### 8.1.3.2. Reviewer

AtlanMod members have collaborated in the reviewing process for the following journals this year

- Javier Canovas: Software and Systems Modeling Journal.
- Jordi Cabot: IEEE Software, IEEE Transactions on Software Engineering Journal, Journal of Systems and Software, Information and Software Technology Journal, Software and Systems Modeling Journal, Science of Computer Programming journal, Journal of Software: Evolution and Process
- Massimo Tisi: Transactions on Software Engineering Journal (TSE), Journal of Logic and Algebraic Programming (JLAP), Journal of Software: Evolution and Process (JSEP), NeuroComputing, Journal on Web Engineering (JWE)
- Gerson Sunyé: Transactions on Software Engineering Journal (TSE), IBM Journal of Research and Development, Journal of System and Software, Distributed Computing Journal, Software: Practice and Experience Journal.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

License: M. Tisi, Projet Integrateur PRIME, 12h, L3, Ecole des Mines de Nantes

License: M. Tisi, Projet IPIPIP, 8h, L3, Ecole des Mines de Nantes

Master: M. Tisi, Bases de Données, 30h, M1, Ecole des Mines de Nantes

Master: M. Tisi, Interaction Homme-Machine, 14h, M1, Ecole des Mines de Nantes

Master: M. Tisi, Model-Driven Engineering II, 45h, M2, Ecole des Mines de Nantes, Formation par Apprentissage

Master: M. Tisi, Sensibilisation Recherche, 12h, M2, Ecole des Mines de Nantes, Formation par Apprentissage

Master: J. Cabot, Model-Driven Engineering I, 45h, M2, Ecole des Mines de Nantes, Formation par Apprentissage

Master: G. Sunye, Model-Driven Engineering, 30h, M2, Université de Nantes

Master: G. Sunye, Software Engineering, 48h, M1, Université de Nantes

Master: G. Sunye, Software Testing, 48h, M1, Université de Nantes

Master: G. Sunye, Software Development, 24h, M1, Université de Nantes

License: S. Martínez, Bases de Données, 28h, L3, Ecole des Mines de Nantes

License: S. Martínez, Interaction Homme-Machine, 14h, L3, Ecole des Mines de Nantes

Master: S. Martínez, Master MIAGE - Model Transformations, 6h, Université de Nantes

License: S. Martínez, Domain Specific Languages, 3h, L3, Ecole des Mines de Nantes

### 8.2.2. Supervision

MSc: Pau Martí: Generación de Familias de Documentos en DPL: Soporte a componentes parcialmente instanciados, Universitat Politècnica de València, September 2014, M. Carmen Penadés and Abel Gómez.

PhD in progress: Ahmed Ezzat Labib, Automatic reconstruction and analysis of semantic network security policies from deployed security components, Universitat Politècnica de València, José H. Canós, Abel Gómez

PhD in progress: Amine Benellam, Scalability of model transformations, Jordi Cabot, Massimo Tisi and Gerson Sunye.

PhD in progress: Gwendal Daniel, Efficient storage of large models, Jordi Cabot, Massimo Tisi and Gerson Sunye.

PhD in progress: Michel Albonico, Model-driven testing of cloud environments, Jordi Cabot and Gerson Sunye.

PhD in progress: Mohamed Boussaa, An Architecture for Testing Large-Scale Dynamic Distributed Systems, Université de Rennes 1, Benoit Baudry, Olivier Barais, Gerson Sunyé.

PhD in progress: Kevin Corre, Model-based Trust, Université de Rennes 1–Orange, Olivier Barais, Gerson Sunye, Jean-Michel Crom, Vincent Frey

PhD : Carlos A. González, Pragmatic Model Verification, Jordi Cabot. Thesis defended on October 2014

PhD : Salvador Martínez Pérez, Automatic reconstruction and analysis of semantic network security policies from deployed security components, Jordi cabot and Frédéric Cuppens. Thesis defended on July 2014

### 8.2.3. Juries

Jordi Cabot was a reviewer for the thesis of Jokin Garcia (Basque Country University), Oscar Sanchez (University of Murcia) and Eugene Doma (University of Sydney) and member of the jury for the thesis of David Aguilera (Technical University of Catalonia).

Massimo Tisi was a member of the ph.d. jury of Mehdi IRAQI HOUSSAINI (Arts et métiers ParisTech).

Gerson Sunyé was a member of the Ph.D jury of Jorge Augusto Meira (University of Luxembourg).

## 8.3. Popularization

In January 2014 the team participated to the Rencontres Inria - Industrie on the theme Répondre aux Défis de L'Ingénierie Logicielle, in which we notably presented our MoDisco project and collaboration<sup>0</sup>. The seminar had many participants from both industry and academia. Moreover, since several years, the AtlandMod team is already very involved in the open source community, notably via its constant activity within the context of the Eclipse Foundation. This activity actually takes different forms: creation and leading/development of Eclipse projects (under *Eclipse.org* or *Eclipse Labs*), participation to the major worldwide community events (i.e.; EclipseCon North America, EclipseCon Europe and EclipseCon France), organization of events targeting the local community (i.e. Eclipse DemoCamps), etc. This year again, the team has been active and visible in terms of concrete contributions to the community. The main remarkable items are the following ones:

- Leading of the MDT MoDisco project (Hugo Bruneliere), the Eclipse reference project concerning model-driven reverse engineering;
- Commitment to other projects directly under *Eclipse.org*: MMT ATL and EMFT EMF Facet (Hugo Bruneliere);
- Commitment to other projects under *EclipseLabs*: EMFToCSP (Jordi Cabot, Carlos Gonzalez) and EMF Views (Juan David Villa Calle, Jokin Garcia Perez, Hugo Bruneliere);

<sup>0</sup><http://videos.rennes.inria.fr/InriaMeito/index-HugoBruneliere.html>

- Creation and development of a new incubation project under *Eclipse Labs*: Collaboro (Javier Canovas);
- Publication of a paper about our experience and feedback on developing and promoting open source projects in Eclipse [23], presented during the Open Source Software for MDE workshop at MODELS 2014 Conference (Hugo Bruneliere and Jordi Cabot);
- Presentation of talks during two main Eclipse events (Hugo Bruneliere): at EclipseCon North America 2014 about EMF Views [36], at EclipseCon France 2014 about Neo4EMF [35].
- In the context of the ARTIST EU collaborative project, we are strongly involved in the official ARTIST Open Source Release <sup>0</sup>, notably by developing and making available several (MoDisco-based) model discovery components from Java and SQL.

Generally, the team visible presence under Eclipse is also an efficient way to continue active collaborations with industrial partners, such as Mia-Software (Sodifrance) on MoDisco - EMF Facet, and Obeo on ATL.

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<sup>0</sup><http://www.artist-project.eu/open-source-package>

## CAIRN Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific Events Selection

#### 9.1.1.1. Responsible of Conference Program Committee

D. Chillet was Track Chair of the 12th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC).

O. Sentieys was Track Chair at IEEE NEWCAS.

A. Tisserand is program co-chair of the 22nd IEEE Symposium on Computer Arithmetic (Lyon, 22-24 June 2015).

A. Tisserand was the program co-chair of ComPAS national conference, Conférence d'informatique en Parallélisme, Architecture et Système (Neuchâtel Suisse, 22-25 April 2014).

#### 9.1.1.2. Member of Conference Program Committee

E. Casseau was a member of the technical program committee of SiPS.

D. Chillet was member of the technical program committee of HiPEAC RAPIDO, HiPEAC WRC, MCSoC, DCIS, ComPAS, and DASIP.

M. Gautier was a member of the technical program committee of IEEE WCNC, IEEE PIMRC, IEEE ICCVE, and IARIA COCORA.

C. Wolinski was a member of the technical program committee of IEEE ASAP and DSD.

A. Tisserand was a member of technical program committee of DASIP, IEEE NEWCAS, IEEE ATMOS, and IEEE Reconfig.

O. Sentieys was a member of technical program committee of IEEE/ACM DATE, IEEE FPL, IEEE/ACM ICCAD, ACM ENSSys, ACM SBCCI, IFIP/IEEE VLSI-SoC, FTFC, GRETSI.

### 9.1.2. Journal

#### 9.1.2.1. member of the editorial board

D. Chillet is member of the Editor Board of Journal of Real-Time Image Processing (JRTIP).

O. Sentieys is member of the editorial board of Journal of Low Power Electronics, Advances in Computer Engineering, and International Journal of Distributed Sensor Networks.

A. Tisserand is Associate Editor of IEEE Transactions on Computers. He is a member of the editorial board of the International Journal of High Performance Systems Architecture.

### 9.1.3. Other Scientific Responsibilities

D. Chillet is member of the Board of Directors of Grets Association.

F. Charot, O. Sentieys and A. Tisserand are members of the steering committee of a CNRS spring school for graduate students on embedded systems architectures and associated design tools (ARCHI).

O. Sentieys and A. Tisserand are members of the steering committee of a CNRS spring school for graduate students on low-power design (ECOFAC).

O. Sentieys is a member of the steering committee of the GDR SOC-SIP. He is the chair of the IEEE Circuits and Systems (CAS) French Chapter. In 2013, he was an expert for some scientific organizations (ANR, AERES).

A. Tisserand is co-organizer and president of scientific council of Seminar on Security of Embedded Electronic Systems (IRISA-DGA).

## 9.2. Seminars and Invitations

O. Berder gave an invited lecture at SENSO 2014 conference in Ecole des Mines, Gardanne, France, in October 2014.

O. Berder gave an invited lecture at Common Colloquium GDR Ondes and GDR ISIS in Telecom ParisTech, Paris, in December 2014.

A. Courtay gave an invited talk at the NASA/ESA Conference on Adaptive Hardware and Systems (AHS'14), Leicester, UK, on Dynamically Reconfigurable Embedded FPGA Systems in July 2014.

O. Sentieys gave an invited talk at the 24th International Conference on Field Programmable Logic and Applications (workshop on Self-adaptive heterogeneous many-core based on Flexible Tiles), Munich, Germany, in September 2014 on Runtime Mapping of Hardware Accelerators on the Embedded FPGA Layer.

O. Sentieys gave an invited talk at GreenDays'14 on Domain-Specific Computing Platforms: the Ultimate Energy-Efficiency of Hardware Accelerators.

O. Sentieys gave an invited lecture at FETCH (École d'hiver Francophone sur les Technologies de Conception des Systèmes embarqués Hétérogènes), Ottawa, Canada, in January 2014 on FlexTiles: runtime mapping of hardware accelerators on 3D self-adaptive heterogeneous manycore.

A. Tisserand gave an invited lecture at the CNRS ECOFAC 2014 spring school on low power arithmetic circuits.

## 9.3. Teaching - Supervision - Juries

### 9.3.1. Teaching

- O. Berder: introduction to signal processing, 38h, ENSSAT (L3)
- O. Berder: microprocessors and digital systems, 30h, ENSSAT (L3)
- O. Berder: wireless communications, 23h, ENSSAT (M2)
- O. Berder: ad hoc networks, 58h, ENSSAT (M1-M2)
- O. Berder: signal processing, 12h, IUT Lannion (L2)
- E. Casseau: signal processing, 16h, ENSSAT (L3)
- E. Casseau: low power design, 6h, ENSSAT (M1)
- E. Casseau: real time design methodology, 24h, ENSSAT (M1)
- E. Casseau: computer architecture, 36h, ENSSAT (M1)
- E. Casseau: system on chip and verification, 10h, Master by Research (SISEA) and ENSSAT (M2)
- E. Casseau: high level synthesis, 12h, Master by Research (SISEA) and ENSSAT (M2)
- S. Derrien: component and system synthesis, 20h, Master by Research (MRI ISTIC) (M2)
- S. Derrien: computer architecture, 12h, ENS Cachan (L3)
- S. Derrien: computer architecture, 24h, ISTIC (L3)
- S. Derrien: introduction to operating systems, 8h, ISTIC (M1)
- S. Derrien: embedded architectures, 48h, ISTIC (M1)
- S. Derrien: high-level synthesis, 6h, ISTIC (M1)
- S. Derrien: software engineering project, 40h, ISTIC (M1)
- F. Charot: processor architecture, 25h University of Science and Technology of Hanoi (M1)
- A. Courtay: processor architecture, 24h, ENSSAT (L3)

- A. Courtay: digital electronics, 32h, ENSSAT (L3)
- A. Courtay: digital system design, 12h, ENSSAT (L3)
- A. Courtay: digital electronics communication interfaces, 68h, ENSSAT (M1)
- A. Courtay: processor architecture, 25h, USTH (M1)
- D. Chillet: embedded processor architecture, 20h, ENSSAT (M1)
- D. Chillet: VHDL, 10h, ENSSAT (M1)
- D. Chillet: multimedia processor architectures, 24h, ENSSAT (M2)
- D. Chillet: advanced processor architectures, 24h, Master by Research (SISEA) and ENSSAT (M2)
- D. Chillet: low-power digital CMOS circuits, 6h, Telecom Bretagne and University of Occidental Brittany (UBO) (M2)
- M. Gautier: electronics, 42h, IUT Lannion (L1)
- M. Gautier: telecommunications, 114h, IUT Lannion (L1)
- M. Gautier: digital communications, 28h, IUT Lannion (L2)
- C. Killian: digital electronics, 37h, IUT Lannion (L1)
- C. Killian: signal processing, 36h, IUT Lannion (L2)
- C. Killian: automated measurements, 40h, IUT Lannion (L2)
- C. Killian: measurement chain, 20h, IUT Lannion (L2)
- C. Killian: embedded systems programming, 12h, IUT Lannion (L2)
- A. Kritikakou: computer architecture, 50h, ISTIC, Univ. Rennes 1 (L3)
- A. Kritikakou: operating systems, 24h, ISTIC, Univ. Rennes 1 (L3)
- R. Rocher: electricity, 16h, IUT Lannion (L1)
- R. Rocher: electronics, 44h, IUT Lannion (L1)
- R. Rocher: telecommunications, 82h, IUT Lannion (L1)
- R. Rocher: signal processing, 12h, IUT Lannion (L2)
- R. Rocher: digital communications, 48h, IUT Lannion (L2)
- P. Scalart: non-linear optimisation, 18h, Master by Research (SISEA) and ENSSAT (M2)
- P. Scalart: parametric modelisation, optimal and adaptive filters, 24h, Master by Research (SISEA) and ENSSAT (M2)
- P. Scalart: source coding, 14h, Master by Research (SISEA) and ENSSAT (M2)
- P. Scalart: cellular networks, 24h, ENSSAT (M2)
- P. Scalart: digital communication systems, 32h, ENSSAT (M1)
- P. Scalart: random signals and systems, 12h, ENSSAT (M1)
- O. Sentieys: digital signal processing, 40h, ENSSAT (M1)
- O. Sentieys: VLSI integrated circuit design, 40h, ENSSAT(M1)
- A. Tisserand: multiprocessor architectures and programming, 20h, ENSSAT and Master by Research (SISEA) (M2)
- A. Tisserand: hardware computer arithmetic operators, 6h, Master by Research (SISEA) (M2)
- B. Vrigneau: electronics, 36h, IUT Lannion (L1)
- B. Vrigneau: telecommunications, 128h, IUT Lannion (L1)
- B. Vrigneau: digital communications, 28h, IUT Lannion (L1)
- C. Wolinski: computer architectures, 92h, ESIR (L3)
- C. Wolinski: design of embedded systems, 48h, ESIR (M1)
- C. Wolinski: signal, image, architecture, 26h, ESIR (M1)
- C. Wolinski: programmable architectures, 10h, ESIR (M1)
- C. Wolinski: component and system synthesis, 10h, Master by Research (MRI ISTIC) (M2)

### 9.3.2. Teaching Responsibilities

C. Wolinski is the Director of ESIR.

P. Quinton is the director of Ecole Normale Supérieure de Rennes.  
 D. Chillet is the Director of Academic Studies of ENSSAT.  
 P. Scalart is the Head of the Electronics Engineering department of ENSSAT.  
 S. Derrien is the responsible of the first year of the Master of Computer Science at ISTIC since Sep. 2012.  
 O. Sentieys is responsible of the "Embedded Systems" branch of the SISEA Master by Research.  
 D. Chillet is the responsible of the ICT Master of University of Science and Technology of Hanoi and also co-responsible of the "Embedded Systems" speciality of this master.

ENSSAT stands for "*École Nationale Supérieure des Sciences Appliquées et de Technologie*" and is an "*École d'Ingénieurs*" of the University of Rennes 1, located in Lannion.

ISTIC is the Electrical Engineering and Computer Science Department of the University of Rennes 1.

ESIR stands for "*École supérieure d'ingénieur de Rennes*" and is an "*École d'Ingénieurs*" of the University of Rennes 1, located in Rennes.

D. Chillet is member of the French National University Council since 2009 in signal processing and electronics (Conseil National des Universités en 61e section).

D. Chillet is member of the Permanent Committee of the French National University Council since November 2011 in signal processing and electronics (Commission Permanente du Conseil National des Universités en 61e section).

A. Tisserand is member of the French National University Council since 2011 in computer science (Conseil National des Universités en 27e section).

### 9.3.3. Supervision

PhD: Ganda-Stéphane Ouedraogo, Automatic Synthesis of Hardware Accelerator from High-Level Specifications in Flexible Radios, Univ. Rennes 1, Dec. 2014, M. Gautier, O. Sentieys

PhD: Aymen Chakhari, Analytical Accuracy Evaluation in Fixed-Point Digital Communication Systems, Oct. 2014, R. Rocher, P. Scalart.

PhD: Amine Didioui, Energy-Aware Transceiver for Energy Harvesting Wireless Sensor Networks, Oct. 2014, O. Sentieys, C. Bernier.

PhD: Matthieu Texier, Dynamic Parallelism Management in Multi-Core Architectures for Mobile Systems, Dec. 2014, O. Sentieys, C. Bernier.

PhD: Trong-Nhan Le, Global Power Management System for Self-Powered Autonomous Wireless Sensor Nodes, Jul. 2014, O. Sentieys, O. Berder.

PhD: Karim Bigou, RNS Hardware Units for ECC, Nov. 2014, A. Tisserand.

PhD: Pramod P. Udupa, Low Complexity, Parallel Algorithms and Scalable Architectures for Real Time Coherent Optical OFDM Systems, Jun. 2014, O. Sentieys.

PhD in progress: Faycal Ait Aoudia, Power Manager Design and Implementation for Wake-Up Radio WSN Nodes, Oct. 2014, O. Berder, M. Gautier.

PhD in progress: Benjamin Barrois, Approximate Computing: a New Paradigm for Energy-Efficient Computing Architectures, Oct. 2014, O. Sentieys.

PhD in progress: Florent Berthier, Study and Design of an Ultra Low Power Asynchronous Core for Sensor Networks, Oct. 2013, O. Sentieys, P. Vivet, E. Beigne.

PhD in progress: Franck Bucheron, Secure Virtualization for Embedded Systems, Oct. 2011, A. Tisserand.

PhD in progress: Gaël Deest, Computing with Errors: Error-Tolerant Machine Code Generation for Unreliable Embedded Hardware, Oct. 2013, S. Derrien, O. Sentieys.

PhD in progress: Ali Hassan El-Moussawi, Performance/Accuracy Trade-Off in Automatic Parallelization for Embedded Many-Core Platforms, Nov. 2012, S. Derrien.

PhD in progress: Gabriel Gallin, Hardware Arithmetic Units and Crypto-Processor for Hyperelliptic Curves Cryptography, Oct. 2014, A. Tisserand, N. Veyrat-Charvillon.

PhD in progress: Christophe Hurliaux, Embedded reconfigurable hardware accelerators with efficient dynamic reconfiguration management, Oct. 2012, O. Sentieys, A. Courtay.

PhD in progress: Quang-Hai Khuat, Real-Time Spatio-Temporal Task Scheduling on 3D Architectures, Oct. 2011, D. Chillet.

PhD in progress: Xuan Chien Le, Indirect Monitoring in Self-Powered Wireless Sensor Networks for Smart Grid and Building Automation, Oct. 2013, O. Sentieys, B. Vrigneau.

PhD in progress: Jiating, Luo, Communication protocol exploration in the context of 3D integration of multiprocessors interconnected by Optical Network-on-Chip with energy constraints, Nov. 2014, D. Chillet, C. Killian, S. Le-Beux.

PhD in progress: Jérémie Métairie, Reconfigurable Arithmetic Units for Secure Cryptoprocessors, Oct. 2012, A. Tisserand, E. Casseau.

PhD in progress: Huu-Van-Long Nguyen, Design and error analysis of robust arithmetic operators for unreliable technologies, Oct. 2014, E. Casseau, A. Tisserand.

PhD in progress: Van-Thiep Nguyen, Energy-efficient MAC protocols for cooperative strategies in Wireless Sensor Networks, Oct. 2013, O. Berder, M. Gautier.

PhD in progress: Viet-Hoa Nguyen, Energy-efficient cooperative techniques for Wireless Body Area Sensor Networks, Nov. 2012, O. Berder, jointly with C. Langlais from Telecom Bretagne.

PhD in progress: Van Dung Pham, Design space exploration in the context of 3D integration of multiprocessors interconnected by Optical Network-on-Chip, Dec 2014, O. Sentieys, D. Chillet, C. Killian, S. Le-Beux.

PhD in progress: Rengarajan Ragavan, Ultra-Low Power Reconfigurable Architectures for Computing and Control in Wireless Sensor Networks, Oct. 2013, O. Sentieys, C. Killian.

PhD in progress: Baptiste Roux, Architectural Exploration of a Low-Power Flexible Radio Embedded on Drones, Oct. 2014, O. Sentieys, M. Gautier.

PhD in progress: Mai-Thanh Tran, Hardware Synthesis of Flexible and Reconfigurable Radio from High-Level Language Dedicated to Physical Layer of Wireless Systems, Oct. 2013, E. Casseau, M. Gautier.

PhD in progress: Zhongwei Zheng, Short-range geolocation algorithms based on distributed multi-sensor processing, Nov. 2012, P. Scalart, jointly with C. Roland from Lab-STICC.



## CELTIQUE Project-Team

# 7. Dissemination

## 7.1. Promoting Scientific Activities

### 7.1.1. Scientific events organisation

#### 7.1.1.1. general chair, scientific chair

- EJCP 2014 (École jeunes chercheurs en programmation): Thomas Jensen, Alan Schmitt.

#### 7.1.1.2. member of the organizing committee

- PLMW 2014 (Programming Languages Mentoring Workshop): Alan Schmitt.

### 7.1.2. Scientific events selection

#### 7.1.2.1. responsible of the conference program committee

- GraMSec 2014 (International Workshop on Graphical Models for Security): Barbara Kordy.

#### 7.1.2.2. member of the conference program committee

- ESOP 2014 (European Symposium on Programming): David Pichardie.
- ITP 2014 (Interactive Theorem Proving): David Pichardie.
- CC 2014 (Compiler Construction): Sandrine Blazy
- VSTTE 2014 (Verified Software: Theories, Tools and Experiments): Sandrine Blazy
- AFADL 2014 (Approches Formelles dans l'Assistance au Développement de Logiciels) : Sandrine Blazy
- WASMAS (Active Security Through Multi-Agent Systems): Barbara Kordy.

#### 7.1.2.3. reviewer

- ESOP 2014 (European Symposium on Programming): Delphine Demange, Alan Schmitt, Thomas Jensen.
- FLOPS 2014 (Symposium on Functional and Logic Programming): Alan Schmitt.
- ICFP 2014 (International Conference on Functional Programming): Alan Schmitt.
- IFIP SEC 2014 (International Information Security and Privacy Conference): Frédéric Besson, Thomas Jensen.
- ITP 2014 (Interactive Theorem Proving): Delphine Demange.
- LICS 2014 (Logic In Computer Science): Delphine Demange.
- POPL 2014 (Symposium on Principles of Programming Languages): David Pichardie
- PPDP 2014 (Principles and Practice of Declarative Programming): Alan Schmitt.
- PEPM 2015 (Partial Evaluation and Program Manipulation): Thomas Jensen.
- CC 2014 (Compiler Construction): Sandrine Blazy
- VSTTE 2014 (Verified Software: Theories, Tools and Experiments): Sandrine Blazy
- AFADL 2014 (Approches Formelles dans l'Assistance au Développement de Logiciels) : Sandrine Blazy
- POST 2014 (Conference on Principles of Security and Trust): Barbara Kordy.
- TACAS 2014 (International Conference on Tools and Algorithms for the Construction and Analysis of Systems): Barbara Kordy.
- GraMSec 2014 (International Workshop on Graphical Models for Security): Barbara Kordy.

- WASMAS 2014 (Active Security Through Multi-Agent Systems): Barbara Kordy.
- FORTE 2014 ( International Conference on Formal Techniques for Distributed Objects, Components and Systems): Barbara Kordy.
- PRDC 2014 (IEEE Pacific Rim International Symposium on Dependable Computing): Barbara Kordy.
- STM 2014 (International Workshop on Security and Trust Management): Barbara Kordy

### 7.1.3. Journal

#### 7.1.3.1. reviewer

- Logical Methods in Computer Science: Alan Schmitt.
- Science of Computer Programming: Alan Schmitt.
- Journal of Computer Security: Sandrine Blazy
- Journal of Formalized Reasoning: Frédéric Besson, Sandrine Blazy.

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Licence: Delphine Demange, Functional Programming, 70h, L1, Université de Rennes 1 / Istic, France

Licence: Thomas Genet, Software Engineering, 58h, L2, Université de Rennes 1 / Istic, France

Licence: Delphine Demange, Software Engineering, 40h, L2, Université de Rennes 1 / Istic, France

Licence : Sandrine Blazy, Functional programming in OCaml, 30h, L3, Rennes 1, France

Master : Sandrine Blazy, Méthodes Formelles pour le développement de logiciels sûrs, 53h, M1, Rennes 1, France

Master : Sandrine Blazy, Software vulnerabilities, 26h, M2, Rennes 1

Master : Sandrine Blazy, Mechanised semantics, 15h, M2, Rennes 1, France

Licence : David Cachera, Formal Languages, 36h, L3, ENS Rennes, France

Licence : David Cachera, Logic, 36h, L3, ENS Rennes, France

Licence : David Pichardie, Algorithms, 36h, L3, ENS Rennes, France

Licence : Alan Schmitt, Programmation Fonctionnelle, 37h, L3, Insa Rennes, France

Licence : Barbara Kordy, Formal Languages and Grammars, 36h , L3, INSA Rennes, France

Master : Thomas Genet, Formal Design and Verification, 108h, M1, Université de Rennes 1 / Istic, France

Master : Thomas Genet, Cryptographic Protocols, 24h, M2, Université de Rennes 1 / Istic, France

Master : Frédéric Besson, Compilation, 68h, M1, Insa Rennes, France

Master : Alan Schmitt, Méthodes Formelles pour le développement de logiciels sûrs, 22h, M1, Rennes 1, France

Master : David Cachera, Semantics of Programming Languages, 36h, M1, Université Rennes 1, France

Master : Delphine Demange, Software Security, 9h, M2, Université Rennes 1, France

Master : David Pichardie, Software Security, 21h, M2, Université Rennes 1, France

Master : David Pichardie, Mechanized Semantics, 15h, M2, Université Rennes 1, France

Master : Thomas Jensen, Static Analysis and Software Security, 20h, University of Copenhagen, Denmark.

Master : Barbara Kordy, Security, 17h, M2, INSA Rennes, France

Master : Barbara Kordy, 4th year Project, 55h, M1, INSA Rennes, France

### 7.2.2. *Supervision*

PhD in progress : Martin Bodin, Certified Analyses of JavaScript, 1st september 2012, Thomas Jensen and Alan Schmitt

PhD in progress : Vincent Laporte, Formal verification of static analyses for low level langages, 1st septembre 2012, Sandrine Blazy and David Pichardie

PhD in progress : Yannick Zakowski, Programs Logics for Concurrency, 1st september 2014, David Pichardie and David Cachera

PhD in progress: Pierre Wilke, Low-level memory models for compilers and static analysers, 1st august 1013, Sandrine Blazy and Frédéric Besson

PhD in progress: Yann Salmon, Reachability for Term Rewriting Systems under Strategies, from Sept 2012, Thomas Genet

PhD in progress: David Bühler, Communication between analyses by deductive verification and abstract interpretation, November 2013, Sandrine Blazy and Boris Yakobowski (CEA)

PhD in progress: Stéphanie Riaud, Transformations de programmes pertinentes pour la sécurité du logiciel, septembre 2011, Sandrine Blazy

PhD: Valérie Murat, Tree Automata Extensions for the Verification of Infinite State Systems, Université de Rennes 1, Thomas Genet

PhD: Andre Oliveira Maroneze, Verified Compilation and Worst-Case Execution Time Estimation, Université de Rennes 1, Sandrine Blazy, David Pichardie and Isabelle Puaut

### 7.2.3. *Juries*

Thomas Genet, jury member (reviewer) for the PhD defense of Marc Sylvestre, October 2014, University Bordeaux 1

Alan Schmitt, jury member for the PhD defense of Alain Mebsout, September 2014, Laboratoire de Recherche en Informatique

Alan Schmitt, jury member (reviewer) for the PhD defense of Nuno Gaspar, December 2014, Université de Sophia-Antipolis

Thomas Jensen, jury member (reviewer) for the PhD defense of Jael Kriener, March 2014, University of Kent at Canterbury, UK

David Pichardie, jury member (chair) for the PhD defense of Sebastien Chedor, January 2014, University Rennes 1, France

David Pichardie, jury member (examiner) for the PhD defense of Jonathan Protzenko, September 2014, University Paris-Diderot, France

David Pichardie, jury member (chair) for the PhD defense of Hernan Vanzetto, December 2014, University of Lorraine, France

David Pichardie, jury member (chair) for the PhD defense of Radoniaina Andriatsimandefitra Ratsisahanana, December 2014, SUPELEC, France

Sandrine Blazy, jury member (reviewer) for the PhD defense of Vincent Benayoun, May 2014, CNAM, France

Sandrine Blazy, jury member (chair) for the PhD defense of Van Chan Ngo, July 2014, University Rennes 1, France

Sandrine Blazy, jury member (reviewer) for the PhD defense of Etienne Millon, July 2014, University Paris 6, France

Barbara Kordy, jury member, (reviewer) for the PhD defense of Hannes Holm, February 2014, KTH, Sweden.

#### **7.2.4. Juries for competitive selections**

Sandrine Blazy, jury member and external president for the selection of a Maître de Conférences, May 2014, University Paris Sud, France.

Sandrine Blazy, jury member for the selection of a Maître de Conférences, May 2014, INSA de Rennes, France.

Sandrine Blazy, jury member for the selection of a Professeur des Universités, May 2014, University Paris Diderot, France.

Sandrine Blazy, jury member for the final selection of Inria DR (senior researchers) candidates, June 2014, Inria, Paris, France.

Sandrine Blazy, member of the evaluation committee CES 28 of ANR for the competitive selection of ANR projects, June 2014, Paris, France.

Delphine Demange, jury member for the selection of a Maître de Conférences at University of Rennes 1 / ISTIC, May 2014, University of Rennes 1, France.

Delphine Demange, jury member of the Gilles Kahn PhD award committee, December 2014, Inria Paris - Rocquencourt, Antenne Parisienne, France.

### **7.3. Popularization**

- Talk “Bug, Virus, Intrusion, Pirates... So many threats and no defense? Yes... maths.”, Thomas Genet, for high school teachers, ENS Rennes, Oct. 2014.

## CIDRE Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. member of the organizing committee

Nicolas Prigent served as a member of the organization committees of the following conferences and workshops:

- SSTIC 2014 (Symposium sur la Sécurité des Systèmes d'Information et des Réseaux 2014).
- VizSec 2014 (Visualization for Cyber-Security), official workshop of IEEE VIS 2014.

Frédéric Tronel served as a member of the organization committee of the following conference:

- SSTIC 2014 (Symposium sur la Sécurité des Systèmes d'Information et des Réseaux 2014).

Ludovic Mé served as a member of the organization committee of the following conference:

- C&ESAR 2014 (Computers & Electronics Security Applications Rendez-vous).

### 9.1.2. Scientific events selection

#### 9.1.2.1. member of the conference program committee

Emmanuelle Anceaume served as a member of the program committees of the following conferences:

- 14th IEEE International Conference on Computer and Information Technology (CIT-2014), 11-13 September 2014
- 13th IEEE International Conference on Ubiquitous Computing and Communications (IUCC-2014), 19-21 December, 2014
- 13th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom). September 24th-26th, 2014.

Sébastien Gambis served as a member of the program committees of the following conferences and workshops:

- 6th IEEE International Workshop on Security and Social Networking (SESOC 2014), 28 March 2014, Budapest, Hungary.
- 9ème Conférence sur la Sécurité des Architectures Réseau et des Systèmes d'Information (SAR-SSI 2014), 13-16 May 2014, Saint-Germain-Au-Mont-d'Or, France.
- 10th European Dependable Computing Conference (EDCC 2014), 13-16 May 2014, Newcastle Upon Tyne, UK.
- IEEE ICC 2014 - Communication and Information Systems Security Symposium, 10-14 June 2014, Sydney, Australia.
- 5ème Atelier sur la Protection de la Vie Privée (APVP 2014), 15-18 June 2014, Cabourg, France.
- 12th Annual Conference on Privacy, Security and Trust (PST 2014), 23-24 July 2014, Toronto, Canada.
- IEEE Workshop on Privacy and Anonymity in Digital Economy (PADE 2014), September, Edmonton, Canada.
- 9th DPM International Workshop on Data Privacy Management (DPM 2014), 10 September 2014, Wrocław, Poland.
- 5th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN 2014), 22-25 September, Halifax, Canada.
- 15th Joint IFIP TC6 and TC11 Conference on Communications and Multimedia Security (CMS 2014), 25-26 September 2014, Aveiro, Portugal.
- 7th International Symposium on Foundations & Practice of Security (FPS 2014), 3-5 November 2014, Montréal, Canada.

Michel Hurfin was a member of the program committee of

- the 6th IEEE International Symposium on UbiSafe Computing (UbiSafe 2014) in conjunction with the 13th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom 2014), 24-26 September 2014, Beijing, China. <http://trust.csu.edu.cn/conference/ubisafe2014/>
- the 12th African Conference on Research in Computer Science and Applied Mathematics (CARI'2014), 16-23 October, 2014, Saint Louis, Senegal. <http://www.cari-info.org/>
- the 6th International Workshop on Workflow Management in Cloud and Big Data (WMCB 2014) in conjunction with the International Conference on Big Data and Cloud Computing (BDCloud 2014), 3-5 December 2014, Sydney, Australia. <http://wmc2014.sinaapp.com/index.html>

J.-F. Lalande served as a member of the program committees of the following conferences and workshops:

- International Conference on Emerging Security Information, Systems and Technologies (IARIA SECURWARE 2014)
- International Conference on High Performance Computing & Simulation (IEEE HPCS 2014)
- International Conference on High Performance and Communications (IEEE HPCC 2014)
- International Workshop on Methods for Establishing Trust with Open Data (IEEE METHOD 2014)
- International Workshop on Security and High Performance Computing Systems (Workshop SHPCS 2014)
- International Workshop on Secure Peer-to-Peer Intelligent Networks & Systems (Workshop SPINS 2014)

Nicolas Prigent served as a member of the program committees of the following conferences and workshops:

- SSTIC 2014 (Symposium sur la Sécurité des Systèmes d'Information et des Réseaux 2014).
- VizSec 2014 (Visualization for Cyber-Security), official workshop of IEEE VIS 2014.

Guillaume Piolle served as a member of the program committees of the following conferences and workshops:

- First International Workshop on Agents and CyberSecurity (ACySe 2014). <https://sites.google.com/site/acyseamas2014/home>
- 16ème Colloque CREIS-TERMINAL. <http://www.lecreis.org/?p=1789>
- 9ème Conférence sur la Sécurité des Architectures Réseau et des Systèmes d'Information (SAR-SSI 2014). <http://sarssi14.liris.cnrs.fr/>

Eric Totel was a member of the program committee of:

- the 6th IEEE International Symposium on UbiSafe Computing (UbiSafe 2014) in conjunction with the 13th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom 2014), 24-26 September 2014, Beijing, China. <http://trust.csu.edu.cn/conference/ubisafe2014/>

Frédéric Tronel was a member of the program committee of:

- SSTIC 2014 (Symposium sur la Sécurité des Systèmes d'Information et des Réseaux 2014).

Gilles Guette served as a member of the program committees of the following conferences:

- 1st International Conference on Information Systems Security and Privacy (ICISSP-2015), 9-11 February 2015,
- 9ème Conférence sur la Sécurité des Architectures Réseaux et des Systèmes d'information (SARSSI 2014), 13-16 mai 2014.

Christophe Bidan was a member of the program committees of the following conferences and workshops:

- the Fourth International Workshop on Information Systems Security Engineering (WISSE 2014), in conjunction with the 26th International Conference on Advanced Information Systems Engineering (CAiSE'14), 17th June 2014, Thessaloniki, Greece. <http://gsya.esi.uclm.es/WISSE2014/>
- the 10th International Conference on Security and Privacy in Communication Networks (SecureComm2014), September 24–26, 2014 Beijing, China. <http://securecomm.org/2014/show/home/>

Ludovic Mé served as a member of the program committee of the following conference:

- ACNS 2014 (Applied Cryptography and Network Security),
- CARI 2014 (Conférence Africaine sur la recherche en Informatique),
- C&ESAR 2014 (Computers & Electronics Security Applications Rendez-vous),
- SAR-SSI 2014 (Conférence sur la Sécurité des Architectures Réseaux et des Systèmes d'Information),
- WESSI 2014 (Workshop sur l'Enseignement de la Sécurité des Systèmes d'Information).

#### 9.1.2.2. reviewer

- Sébastien Gambs acts as an external reviewer for EDBT 2014, DSN 2014 and PETS 2014.
- Michel Hurfin acts as a reviewer for the following conferences: UbiSafe 2014 and CARI'2014.

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

- Sébastien Gambs is member of the editorial board of the International Journal of Data Mining, Modelling and Management and a member of the editorial board of the International Journal of Privacy and Health Information Management.
- Michel Hurfin belongs to the editorial board of the Springer open access journal of Internet Services and Applications (<http://www.springer.com/computer/communications/journal/13174>).

#### 9.1.3.2. reviewer

- Emmanuelle Anceaume served as a reviewer for the Journal of Parallel and Distributed Computing and the Transactions on Parallel and Distributed Systems Journal.
- Sébastien Gambs served as reviewer for the following journals: Nature Communications, Pervasive and Mobile Computing, Neurocomputing, IEEE Internet Computing and Journal of Selected Topics in Signal Processing.
- Michel Hurfin acts as a reviewer for the following journals: IEEE Transactions on Computers (TC) and Springer Journal of Internet Services and Applications (JISA).
- Guillaume Piolle acts as a reviewer for the following journals: International Journal of Information Security (IJIS), Interstices.
- Gilles Guette acts as a reviewer for the journal Security and Communication Networks and Sensor Networks Journal.
- Nicolas Prigent acts as a reviewer for the Lavoisier TSI journal and the SAR-SSI 2014 conference.
- Ludovic Mé acts as a reviewer for the following journals: IEEE Transactions on Network and Service Management, and Logical Methods in Computer Science.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master 2: Emmanuelle Anceaume, responsable du module BIB, 35 h. equiv. TD

Master: Sébastien Gambs, *Protection of Privacy*, 16 hours of lectures, M2 - Master Pro SSI, Université de Rennes 1, France.

Master: Sébastien Gambs, *Topics on Authentication*, 16 hours of lectures, M2 - Master Pro SSI, Université de Rennes 1, France.

Master: Sébastien Gambs, *Introduction to Computer Security*, 8 hours of lectures and 4 hours of practical works, M2 - Master Pro SSI, Université de Rennes 1, France.

Licence: Eric Totel, *Models and programming languages*, 19.5 hours including 10.5 hours of lecture, L3 - first year of the engineer degree, Supélec, France

Licence: Eric Totel, *Foundations of computer science, data structures and algorithms*, 6 hours, L3 - first year of the engineer degree, Supélec, France

Master: Eric Totel, *Computer systems architecture*, 30 hours, M1 - second year of the engineer degree, Supélec, France

Master: Eric Totel, *C language*, 24 hours including 6 hours of lecture, M2 - master CS (Cyber Security), Supélec, France

Master: Eric Totel, *C language and C++ language*, 12 hours including 6 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: Eric Totel, *Dependability*, 9 hours including 7.5 hours of lecture, M2 - third year of the engineer degree and master research, Supélec, France

Master: Eric Totel, *Dependability*, 3 hours of lecture, M2 - third year of the engineer degree (ingénierie des systèmes automatisés), Supélec, France

Master: Eric Totel, *Intrusion Detection*, 6 hours of lecture, M2 - M2 - mastère spécialisé CS (Cyber Security), Supélec, France

Master: Eric Totel, *Intrusion Detection*, 8 hours of lecture, M2 - master 2 degree, University of Rennes 1, France

Master: Eric Totel, *Intrusion Detection*, 4 hours of lecture, M2 - master 2 degree, University of Rennes 1, France

Master: Eric Totel, *Supervision of student project*, 4 projects, M1 - second year of the engineer degree, Supélec, France

Master: Eric Totel, *Supervision of student project*, 1 project, M2 - third year of the engineer degree, Supélec, France

Licence: Frédéric Tronel, *Software engineering*, 40h30, L3 - first year of the engineer degree, Supélec, France.

Master: Frédéric Tronel, *Operating systems*, 18h, M2 - third year of the engineer degree, Supélec, France .

Master: Frédéric Tronel, *Compilers*, 26h, M2 - third year of the engineer degree, Supélec, France.

Master: Frédéric Tronel, *Automatic reasoning*, 8h, M2 - third year of the engineer degree, Supélec, France.

Master: Frédéric Tronel, *Buffer overflow vulnerabilities (theory and practice)*, 16h30, M2 - third year of the engineer degree, Supélec, France.

Master: Frédéric Tronel, *Buffer overflow vulnerabilities (theory and practice)*, 7h30, M2 - third year of the engineer degree, Telecom Bretagne, France.

Master: Frédéric Tronel, *Firewall*, 7h30, M2 - third year of the engineer degree, Supélec, France.

Master: Frédéric Tronel, *Calculability in distributed systems*, 9h, M2, jointly with University of Rennes 1 and Supélec, France.

Licence: Guillaume Piolle, *Programming models and languages*, 18 hours, L3 - first year of the engineering degree, Supélec, France;

Licence: Guillaume Piolle, *Foundations of computing, data structures and algorithms*, 31.5 hours, L3 - first year of the engineering degree, Supélec, France;

Licence: Guillaume Piolle, *Software engineering*, 24 hours, L3 - first year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Modelling, algorithms and programming*, 23.7 hours, M1 - second year of the engineer degree, Supélec, France;



Master: Guillaume Piolle, *Computer security and privacy for the engineer*, 6 hours, M1 - second year of the engineer degree, Supélec, France;

Master: Guillaume Piolle, *Security policies*, 4.5 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Network supervision in Java*, 3 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Computer networks*, 3 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *C++/Qt*, 12 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Symbolic artificial intelligence*, 4.5 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Network access protection*, 6 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Web development*, 9 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Privacy protection*, 4.5 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Guillaume Piolle, *Privacy protection*, 2.25 hours, course for computing high school teachers, Académie de Rennes, France;

Master: Guillaume Piolle, *Discovering Tor*, 1.5 hours, course for computing high school teachers, Académie de Rennes, France;

Doctorat: Guillaume Piolle, *Privacy and data protection*, 9 hours, doctoral course, Matisse doctoral school, France;

Licence: Nicolas Prigent, *Models and programming languages*, 19.5 hours including 12 hours of lecture, L3 - first year of the engineer degree, Supélec, France.

Licence: Nicolas Prigent, *Foundations of computer science, data structures and algorithms*, 12 hours, L3 - first year of the engineer degree, Supélec, France.

Master: Nicolas Prigent, *Operating systems*, 18h, M2 - third year of the engineer degree, Supélec, France.

Master: Nicolas Prigent, *Automatic reasoning*, 8h, M2 - third year of the engineer degree, Supélec, France.

Master: Nicolas Prigent, *Web development*, 12 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Nicolas Prigent, *Applied Cryptography*, 4,5 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Nicolas Prigent, *Python Programming*, 6 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Nicolas Prigent, *Advanced Java Programming*, 1,5 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Nicolas Prigent, *Penetration Testing*, 12 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Nicolas Prigent, *IDS and Visualization*, 2 hours, M2, ESIR, France.

Master: Nicolas Prigent, *Virtualization and Cloud Computing*, 4 hours, M2, ESIR, France.

Master: Nicolas Prigent, *MS Windows Configuration and Administration*, 16 hours, Mastère CS - Specialization year, Supélec Campus de Rennes, France.

Master: Nicolas Prigent, *MS Windows Configuration and Administration*, 8 hours, CQP - Specialization year, Supélec Campus de Gif, France.

Master: Nicolas Prigent, *Cryptography, Cryptographic Protocols and Applications*, 16 hours, CQP - Specialization year, Supélec Campus de Gif, France.

Master: Nicolas Prigent, *Supervision of student project*, 2 projects, M1 - second year of the engineer degree, Supélec, France.

Master: Nicolas Prigent, *Supervision of student project*, 2 project, M2 - third year of the engineer degree, Supélec, France.

Master: Nicolas Prigent, *Supervision of student project*, 1 project, Mastère CS - Specialization year, Supélec, France.

Master: Gilles Guette, *Infrastructure Network*, 22 hours, M2 - third year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Network Security*, 18 hours, M2 - third year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Network and System Security*, 15 hours, M2 - third year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Network Dimensionning*, 6 hours, M2 - third year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Network Administration*, 50 hours, second year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Mobile Network*, 5 hours, second year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Network Routing*, 35 hours, second year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Supervision of student Project*, 3 projects, third year of the engineer degree, ESIR, France;

Master: Gilles Guette, *Supervision of student Project*, 2 projects, second year of the engineer degree, ESIR, France;

Master: Jean-Francois Lalande, *Programmation orientée objet avancée: Java*, 16 hours, M2 - third year of the engineer degree, INSA Centre Val de Loire, France;

Master: Jean-Francois Lalande, *Atelier Sécurité Android*, 2 days, master degree students of ENSA de Kénitra (conférence CISSI 2014) and ENSA de Khouribga (conférence CISTIC 2014), Maroc;

Licence: Christophe Bidan, *Programming models and languages*, 18 hours, L3 - first year of the engineering degree, Supélec, France;

Licence: Christophe Bidan, *Network and Operating Systems*, 6 hours, L3 - second year of the engineering degree, Supélec, France;

Master: Christophe Bidan, *Introduction to security*, lab work (4h30), M2 - third year of the engineer degree, Supélec, France

Master: Valérie Viet Triem Tong, *Games Theory*, 18 hours, M1 - second year of the engineering degree, Supélec, France;

Master: Valérie Viet Triem Tong, *Certified Programming using Coq*, 9 hours, M2 - third year of the engineering degree, Supélec, France;

Master: Valérie Viet Triem Tong, *Intrusion detection using information flow control*, 9 hours, M2 / third year of the engineering degree, Supélec, France;

Master: Valérie Viet Triem Tong, *Small elements of decidability*, 7h30 hours, M2 - third year of the engineering degree, Supélec, France;

Licence: Ludovic Mé, *Software Engineering*, 15h, L3 - first year of the engineer degree, Supélec, France

Master: Ludovic Mé, *Introduction to Computer Security and Privacy*, 6.75 hours, M1 - second year of the engineer degree, Supélec, France

Master: Ludovic Mé, *Information systems*, 6 hours, M1 - second year of the engineer degree, Supélec, France

Master: Ludovic Mé, *Supervision of student project*, 1 project, M1 - second year of the engineer degree, Supélec, France

Master: Ludovic Mé, *Supervision of student project*, 1 project, M2 - third year of the engineer degree, Supélec, France

Master: Ludovic Mé is responsible for the module “Secured information systems”, M2 - third year of the engineer degree, Supélec, France

Licence: Guillaume Hiet, *Models and programming languages*, 11 hours, L3 - first year of the engineer degree, Supélec, France

Licence: Guillaume Hiet, *Foundations of computer science, data structures and algorithms*, 15 hours, L3 - first year of the engineer degree, Supélec, France

Master: Guillaume Hiet, *Computer security and privacy for the engineer*, 10 hours including 4,5 hours of lecture, M1 - second year of the engineer degree, Supélec, France

Master: Guillaume Hiet, *Buffer overflow vulnerabilities*, lab work (16h), M2 - third year of the engineer degree, Supélec.

Master: Guillaume Hiet, *Pentest*, lab work (9h00), M2 - third year of the engineer degree, Supélec, France

Master: Guillaume Hiet, *Introduction to Linux*, lab work (3h), M2 - mastère CS (Cyber Security), Supélec, France

Master: Guillaume Hiet, *Java Security*, lecture (3h), M2 - mastère CS, Supélec, France

Master: Guillaume Hiet, *Linux Security*, lab work (6h), M2 - mastère CS, Supélec, France

Master: Guillaume Hiet, *Linux Security*, lecture (3h) and lab work (3h), third year of the engineer degree, Supélec, France

Master: Guillaume Hiet, *Intrusion Detection*, lecture (6h) and lab work (6h), M2 - mastère CS, Supélec, France

Master: Guillaume Hiet, *Intrusion Detection*, lecture (3h) and lab work (6h), M2 - third year of the engineer degree, M2 research degree of University of Rennes 1, Supélec

Master: Guillaume Hiet, *Intrusion Detection*, lecture (8h) and lab work (12h), M2, University of Rennes 1, France

Master: Guillaume Hiet, *Intrusion Detection*, lecture (4h) and lab work (6h), M2 - third year of the engineer degree, ESIR, France

Master: Guillaume Hiet, *Intrusion Detection*, 6 hours of lecture, M2, Université de Limoges, France

Master: Guillaume Hiet, *Firewall*, lecture (4h), M2, University of Rennes 1, France

Master: Guillaume Hiet, *Supervision of student project*, 4 projects, M1 - second year of the engineer degree, Supélec, France

Master: Guillaume Hiet, *Supervision of student project*, 1 project, M2 - third year of the engineer degree, Supélec, France

### 9.2.2. Supervision

HdR: Sébastien Gambs, Protection de la vie privée dans la Société de l’Information, Université de Rennes 1, 23 June 2014.

PhD: Romaric Ludinard, Caractérisation locale de fautes dans les systèmes large échelle, Université Rennes I, Defense: 02/10/2014, Emmanuelle Anceaume and Bruno Sericola

PhD: Radoniaina Andriatsimandefitra, Caractérisation et détection de malware Android basées sur les flux d'information, SUPELEC, Defense: 15/12/2014, Valérie Viet Triem Tong and Ludovic Mé.

PhD: Georges Bossert, Exploiting Semantic for the Automatic Reverse Engineering of Communication Protocols, SUPELEC, Defense: 17/12/2014, Guillaume Hiet and Ludovic Mé.

PhD in progress: Mounir Assaf, "Calcul de propriétés dans des programmes C de grande taille", supervised by Eric Total (50%) and Frederic Tronel (50%);

PhD in progress: Laurent Georget, "Formal validation of an information flow monitor", started in October 2014, supervised by Valérie Viet Triem Tong (25%), Frédéric Tronel (25%), Guillaume Piolle (25%) and Mathieu Jaume (25%);

PhD in progress: Erwan Godefroy, "Corrélation d'alertes dirigée par la connaissance de l'environnement", started in November 2012, supervised by Eric Total (50%), Ludovic Mé (30%), and Michel Hurfin (20%);

PhD in progress: Mouna Hkimi, "Détection d'intrusion dans les systèmes distribués", started in October 2013, supervised by Eric Total (50%) and Michel Hurfin (50%);

PhD in progress: Paul Lajoie-Mazenc, "Privacy preserving reputation system in large scale and self organizing systems", started in october 2012, supervised by Emmanuelle Anceaume (50%) and Valérie Viet Triem Tong (50%);

PhD in progress: Pierre Obame, "Dependability issues in large scale systems", started in February 2012, supervised by Emmanuelle Anceaume (50%) and Frédéric Tronel (50%);

PhD in progress: Regina Paiva Melo Marin, "Privacy protection in distributed social networks", started in November 2011, supervised by Christophe Bidan (20%) and Guillaume Piolle (80%).

PhD in progress: Simon Boche, "Réputation et respect de la vie privée dans les réseaux auto-organisé", started in September 2012, supervised by Christophe Bidan (30%), Gilles Guette (35%) and Nicolas Prigent (35%);

PhD in progress: Florian Grandhomme, "Études de protocoles de routage dynamique externe de type BGP dans un environnement réseaux tactiques adhoc mobiles : faisabilité, performances, qualité de service, et passage à l'échelle", started in October 2014, supervised by Adlen Ksentini (25%), Gilles Guette (50%) and Thierry Pless (25%);

PhD in progress: Christopher Humphries, "Visualisation d'évènements de sécurité", started in December 2011, supervised by Christophe Bidan (20%) and Nicolas Prigent (80%).

PhD in progress: Deepak Subramanian, "Multi-level Information Flow Monitoring", started in January 2013, supervised by Christophe Bidan (20%) and Guillaume Hiet (80%).

PhD in progress: Julien Lolive, "Entwining identification and privacy mechanisms", started in December 2012, supervised by Caroline Fontaine (50% - Télécom-Bretagne) and Sébastien Gambbs (50%).

PhD in progress: Solenn Brunet, "Privacy-preserving location-based services", started in October 2014, supervised by Sébastien Gambbs (50%) and Jacques Traoré (50% - Orange Labs Caen).

PhD in progress: Antoine Guellier, "Utilisation de la cryptographie homomorphe pour garantir le respect de la vie privée", started in October 2013, supervised by Christophe Bidan (50%) and Nicolas Prigent (50%).

Some members of the team also participate to the supervision of external PhD students. Sébastien Gambbs is co-supervising Raghavendran Balu (PhD student for LinkMedia, Inria Rennes) and Moussa Traore (PhD student from LAAS-CNRS, Toulouse).

### 9.2.3. Juries

- Emmanuelle Anceaume was a member of the PhD committee for the PhD of Nagham Alhadad entitled "Bridging the gap between social and digital worlds: system modeling and trust evaluation", prepared at LINA, Nantes, June 20th 2014.
- Michel Hurfin was a member of the PhD committee (reviewer) for the PhD of Linda Zeghache entitled 'Tolérance aux pannes dans les systèmes d'agents mobiles transactionnels', prepared at Université des sciences et de la Technologie Houari Boumediene (USTHB), Algeria, April 27th 2014.
- Jean-François Lalande was a member of the PhD committee for the PhD of Nicolas Moro entitled "Sécurisation de programmes assembleur face aux attaques visant les processeurs embarqués", prepared at Université Pierre et Marie Curie, Paris, November 13rd 2014.
- Eric Total was a member of the PhD committee (reviewer) for the PhD of Aurélien Wailly entitled "Architecture de bout en bout et mécanismes d'autoprotection pour les environnements Cloud", prepared at Telecom Sud Paris, Paris, September 30th 2014.
- Christophe Bidan was a member of the PhD committee (reviewer) for the PhD of Nesrine Kaaniche entitled "Cloud Data Storage Security based on Cryptographic Mechanisms", prepared at Telecom Sud Paris, Paris, December 15th 2014.
- Christophe Bidan was a member of the HDR committee (examiner) for the HDR of Julien Iguchi-Cartigny entitled "Contributions à la sécurité des Java Card", prepared at Université de Limoges, Limoges, December 4th, 2014.
- Sébastien Gambs was a member of the jury of the Gilles Kahn PhD award for 2014. This award is given each to the best French PhD thesis in computer science.
- Ludovic Mé was a member of the PhD committee (president) for the PhD of Romaric Ludinard entitled "Caractérisation locale de fautes dans les systèmes large échelle", prepared at Université de Rennes 1, Rennes, October 2nd 2014.
- Eric Total was a member of the mid-term evaluation committee of Vincent Laporte (PhD student of the university of Rennes), July 2014.
- Ludovic Mé was a member of the mid-term evaluation committee of Florent Marchand de Kerchove (PhD student of the university of Nantes), June 2014.
- Emmanuelle Anceaume was a member of the mid-term evaluation committee of Nicolo Rivetti (PhD student of the university of Nantes), June 2014.
- Sébastien Gambs was a member of the mid-term evaluation committee of George Nassopoulos (PhD student of the university of Nantes), June 2014.
- Michel Hurfin was a member of the mid-term evaluation committee of Ghada Arfaoui (PhD student of the university of Orléans, Cifre Orange Labs), January 2014.
- Christophe Bidan was a member of the mid-term evaluation committee of Mickaël Salaun (PhD student of Telecom Sud Paris), March 2014.
- Christophe Bidan was a member of the mid-term evaluation committee of Malek Belhaouane (PhD student of Telecom Sud Paris), March 2014.

### 9.3. Popularization

Guillaume Piolle has participated to two scientific popularization activities, both oriented towards secondary education pupils. In both cases, his participation consisted in presentations about the objectives, methods and results of research activities in computer security and privacy (including, but not limited to our activities in CIDRE):

- *Les cordées de la réussite* : national program aimed at facilitating access to higher education for pupils from various social backgrounds ;
- *A la découverte de la recherche* : local program aimed at providing high school pupils with insights of research issues and activities.

Nicolas Prigent made a Tutorial Presentation at OSSIR Bretagne dealing with Visualization for Security.

Sébastien Gambs has participated to the event “A la découverte de le recherche”, in which he did five presentations in high school in order to raise the awareness of teenagers on privacy issues related to information technologies and to explain them the research on this topic.

## **DIONYSOS Project-Team**

# **8. Dissemination**

## **8.1. Promoting Scientific Activities**

### **8.1.1. Scientific events organisation**

#### *8.1.1.1. Member of the organizing committee*

Pierre L'Ecuyer was a member of the following groups:

- Steering Committee for the IMACS Seminar on Monte Carlo Methods (biennial conference), since 2009.
- Steering Committee for the International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, since 2006.
- Selection committee for the INFORMS Simulation Society Distinguished Service Award, 2012-2015.

G. Rubino and B. Tuffin are members of the Steering Committee of the International Workshop on Rare Event Simulation (RESIM).

### **8.1.2. Scientific events selection**

#### *8.1.2.1. Chair of conference program committee*

- Bruno Sericola served as Program Chair of ASMTA 2014, 21th International Conference on Analytical and Stochastic Modelling Techniques and Applications, Budapest, Hungary, July 2014.
- Adlen Ksentini served as Technical Program Committee Chair of the 3rd IEEE Workshop on Telecommunication Standards: From Research to Standards, hold in conjunction with IEEE Globecom 2014.

#### *8.1.2.2. Member of the conference program committee*

Bruno Sericola served in the Program Committee of the following conferences:

- MACOM 2014, 7th International Workshop on Multiple Access Communications, Halmstad, Sweden, 27-28 August 2014.
- ACCESS 2014, 5th International Conference on Access Networks, Seville, Spain, 22-26 June 2014.

Pierre L'Ecuyer was a member of the program committee of the following events:

- SIMULTECH'2014: International Conference on Simulation and Modeling Methodologies, Technologies and Applications, Vienna, Austria, Aug. 2014.
- MCQMC'2014: Eleventh International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, Leuven, Belgium, April 2014.
- ICORES'2014: International Conference on Operations Research and Enterprise Systems, Angers, France, March 2014.

Adlen Ksentini was a member of the program committee of the following events:

- IEEE ICC 2014 Adhoc and Sensors and Wireless Networks Symposium, Sydney, Australia 2014.
- IEEE Globecom 2014 Adhoc and Sensors Symposium, Austin, USA 2014.
- IEEE WCNC 2014, Istanbul, Turkey 2014.

Yassine Hadjadj-Aoul was a member of the program committee of the following events:

- IEEE ICC 2014, Adhoc and Sensor Networking Symposium, Sydney, Australia 2014.
- IEEE Globecom 2014, Wireless networking Symposium, Austin, USA 2014.
- IEEE WCNC 2014, Mobile and Wireless Networks track, Istanbul, Turkey 2014.
- IEEE ICNC 2014, Wireless Ad hoc and sensor networks symposium, Honolulu, Hawaii, USA

Bruno Tuffin was a member of the program committee of the following events:

- 3rd Workshop on Smart Data Pricing (SDP 2014), Workshop of IEEE INFOCOM 2014, Toronto, Canada, May 2, 2014.
- 2014 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (ACM SIGSIM PADS 2014), Denver, Colorado, USA, May 18-21, 2014.
- RAWNET/WNC3 2014 - 10th International Workshop on Resource Allocation, Cooperation and Competition in Wireless Networks, Hammamet, Tunisia, June 2014.
- W-PIN+NetEcon 2014: The joint Workshop on Pricing and Incentives in Networks and Systems, Austin, TX, USA, in conjunction with ACM SIGMETRICS.
- Workshop on QoE-centric Network and Application Management (QoENAM 2014), co-located with the IEEE ICC 2014 conference, Sydney, Australia, June 2014.
- 10eme Atelier de performance, Sophia Antipolis, France, 11-13 Juin 2014.
- 10th International Workshop on Rare Event Simulation (RESIM 2014), August 27-29, 2014, Amsterdam, Netherlands.
- 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH), Vienna, Austria, 2-4 September 2014.

Gerardo Rubino was a member of the program committee of the following events:

- Networking 2014: IFIP Networking 2014 Conference, Trondheim, Norway, Jun 2–4
- Resim 2014: 10th International Workshop on Rare Event Simulation, Amsterdam, Netherlands, Aug 27–29, 2014.
- QEST 2014: 11th International Conference on Quantitative Evaluation of SysTems, Florence, Italy, Sep 8–12, 2014.
- CLEI 2014: XL Conferencia Latinoamericana de Informática (Latin-American Informatics Conference), Montevideo, Uruguay, Sep 15–19, 2014.

### **8.1.3. Journal**

#### *8.1.3.1. Member of the editorial board*

Adlen Ksentini was guest editor for the Special Issue in IEEE Wireless Communication Magazine on Research & Standards: Leading the Evolution of Telecom Network Architectures.

Bruno Sericola is an associate editor for the following journals:

- Open Operational Research Journal.
- International Journal of Stochastic Analysis.
- IISRN Probability and Statistics.

Bruno Tuffin is an associate editor for the following journals:

- INFORMS Journal on Computing, since 2007.
- Mathematical Methods of Operations Research, since November 2008.
- ACM Transactions on Modeling and Computer Simulation, since July 2009.



Pierre L'Ecuyer is an associate editor for the following journals:

- ACM Transactions on Mathematical Software, since August 2004.
- Statistics and Computing (Springer-Verlag), since June 2003.
- International Transactions in Operational Research, since May 2007.
- Cryptography and Communications - Discrete Structures, Boolean Functions and Sequences (Springer-Verlag), since December 2006.

#### 8.1.3.2. Reviewer

Bruno Tuffin has reviewed papers in 2014 for Operations Research, Telecommunication Systems, IEEE Transaction on Reliability, IEEE/ACM Transaction on Networking, Annals of Telecoms, International Transaction in Operational Research, etc. Bruno Tuffin was also a reviewer in 2014 for the Natural Sciences and Engineering Research Council of Canada (NSERC) and for CIFRE contracts (France).

César Viho has reviewed project proposals for the ANR and for CIFRE contracts for the ANRT. He has reviewed papers for the journals IEEE Transaction on Wireless Communication, IEEE Transactions on Vehicular Communications, IEEE Communications Magazine, and for the following international conferences: IWCNC'14, Globecom'14, ICTSS'14, VTC Fall 2014.

Adlen Ksentini has reviewed papers in 2014 for Transaction Paralel Distributed Systems-TPDS, Transaction on Wireless Communication - TWC, Transaction on Vehicular Technology - TVT, Wireless Communication Magazine, Elsevier Computer Communication.

Yassine Hadjadj-Aoul has reviewed papers in 2014 for Transaction on Vehicular Technology-TVT, Wireless Communication Magazine, Elsevier Computer Communication and for the following international conferences: Globecom'14, ICC'14, WCNC'14.

Gerardo Rubino has reviewed papers for IEEE Wireless Communications Magazine, Neural Computation, Journal of Applied Probability, Networking 2014, XL Latin American Computing Conference (CLEI 2014), Latin American Symposium on Computing and Society, 11th International Conference on Quantitative Evaluation of SysTems (QEST 2014).

#### 8.1.4. Seminar and talks

- W. Chan, G. Koole, and P. L'Ecuyer, "Dynamic Call Routing Policies Using Call Waiting Times and Agent Idle Times", The Optimization Days, Montreal, May 2014.
- N. Chapados and P. L'Ecuyer, "Hierarchical Bayesian State-Space Model for Call Center Arrival Rate Forecasting", The Optimization Days, Montreal, May 2014.
- R. Ibrahim, P. L'Ecuyer, H. Shen, "Service Times in Call Centers: A Data-Based Perspective", INFORMS Annual Meeting, San Francisco, Nov. 2014.
- P. L'Ecuyer, "Challenges in Stochastic Modeling of Service Systems: Illustrations with Call Centers", Rotman School of Management, University of Toronto, Nov. 2014.
- P. L'Ecuyer, Discussion of 2014 Markov Lecture of Peter W. Glynn: "Perspectives on Traffic Modeling", INFORMS Annual Meeting, San Francisco, Nov. 2014.
- P. L'Ecuyer, "Challenges in Stochastic Modeling of Call Centers", Ecole Centrale de Paris, Châtenay-Malabry, France, June 2014.
- P. L'Ecuyer, "Multiple Streams of Random Numbers for Parallel Computers: Design and Implementation", Centre d'Énergie Atomique (CEA), Saclay, France, June 2014.
- P. L'Ecuyer, "Challenges in Stochastic Modeling of Service Systems: Illustrations with Call Centers", invited plenary talk, 10th Workshop on Performance Evaluation (AEP 2014), Inria Sophia-Antipolis, France, June 2014.
- P. L'Ecuyer, "On the Distribution of Integration Error with Randomly-Shifted Lattice Rules", invited talk, Latrobe University, Melbourne, Australia, Feb. 2014.

- P. L'Ecuyer, "Static Network Reliability Estimation Under the Marshall-Olkin Copula", School of Mathematics, University of New South Wales, Sydney, Feb. 2014.
- M. Pelleau, L.-M. Rousseau, P. L'Ecuyer, and L. Delorme, "Agent Scheduling from Forecasts of Future Call Arrivals at Hydro-Quebec Call Centers", The Optimization Days, Montreal, May 2014.
- G. Rubino and B. Tuffin. "Introduction to Monte Carlo methods". One-day course/seminar at ALSTOM, France, May 2014.
- N. Stier-Moses, P. L'Ecuyer, P. Maillé, and B. Tuffin, "Revenue-Maximizing Rankings for Online Platforms with Quality-Sensitive Consumers", Yahoo Inc., June 2014.
- T. A. Ta, P. L'Ecuyer, and F. Bastin, "Staffing Optimization with Chance Constraints in Call Centers", The Optimization Days, Montreal, May 2014.
- M. Thiongane and P. L'Ecuyer, "Waiting Time Prediction in Multiskill Call Centers with Callback Options", The Optimization Days, Montreal, May 2014.
- B. Tuffin. "La neutralité du Net." Tr@nspolo: transparence politique et organisationnelle dans les sociétés numériques, Avignon, July 2014.
- B. Tuffin. "Importance Sampling and variance reduction techniques". Summer school on Modeling and Numerical Methods for Uncertainty Quantification (MNMUQ 2014), Porquerolles Island, France, 1-5 September 2014.
- A. Ksentini, "Quand les réseaux mobiles rencontrent le Cloud", au Laboratoire LIF de Marseille, Mars 2014.
- G. Rubino, "Analyzing rare events with Monte Carlo: advanced methods", Center for Uncertainty Quantification, Annual Workshop, Kaust, Saudi-Arabia, January 8, 2014.
- G. Rubino, "New developments around PSQA", at the Applied Science and Technology Research Institute, Hong Kong, June 17, 2014
- G. Rubino, "Discrete Event Simulation: generalities and the particular case of rare event analysis", in CSS'2014: the 3rd International Cybernetics Summer School, Ostrava, Czech Republic, June 2014.
- G. Rubino, "Automatic measuring of perceptual quality on the Internet", plenary talk at the First International Congress on Telematics, Computing and Communications (CITELC 2014), Mexico DF, Mexico, August 23, 2014.
- G. Rubino, "Monte Carlo y los eventos raros (Monte Carlo and rare events)", in the 3rd International AMMA Workshop, Technical University Federico Santa María, Valparaíso, Chile, December 2, 2014.

### 8.1.5. Managing research activities

- Bruno Sericola is responsible for the Inria Rennes - Bretagne Atlantique budget.
- Bruno Sericola is a member of the Inria Evaluation Committee which role is to assess the calibre of research conducted at Inria and to guarantee the quality of its hiring and internal promotions.
- Bruno Sericola is the leader of the research group MAPI (Math Appli Pour l'Info) the goal of which is to improve the collaboration between computer scientists and mathematicians.
- Adlen Ksentini was elected as secretary of the IEEE ComSoc Technical Committee on Software.
- Adlen Ksentini was elected as secretary of the IEEE ComSoc France Section.
- R. Marie and G. Rubino are members of the IFIP WG 7.3 (Working Group in Computer Performance Modeling and Analysis).
- Gerardo Rubino is a member of the Technical Committee on Multimedia Communications of IEEE.
- G. Rubino has been appointed as the Inria representative at the Scientific Committee of the IFCAM (Indo-French Center for Applied Mathematics), a joint international unit between Indian Ministry of Science and Technology and several French institutions including CNRS, Inria, École Polytechnique, École Normale Supérieure, Inria, Nice Sophia Antipolis University and University of Toulouse III.

- Gerardo Rubino is a member of the Research Commission of TELECOM Bretagne (advisory board for the research activities of the institution).
- Gerardo Rubino is a member of the CSV (Selection and Validation Committee) of the “Images et Réseaux” (Images and networks) cluster in the French Brittany Region. The cluster includes most companies and academic institutions working in networking and in image-based applications in Western France.
- César Viho is deputy director of the MATISSE (Mathematics, Electronics and Computer Sciences) doctoral school in charge of managing the recruitment of PhD students and their activities during their doctorate, in all the concerned areas of the doctoral school.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Licence L2: Probability and Statistics, 40 hours, University of Science and Technology, Hanoi, Vietnam

Licence L3: Introduction to networks, 20 hours, Istic/University of Rennes 1, France

Master M1: Computer networks, 24 hours, Esir/University of Rennes 1, France

Master M1: Simulation, 18 hours, Université de Rennes 1, France

Master M1: Wireless Networks, 48 hours, Esir/University of Rennes 1, France

Master M1: Performance and dependability evaluation of computer systems, 54 hours M1, Istic/University of Rennes 1, France

Master M1: Introduction to graph theory, 14 hours, Esir/University of Rennes 1, France

Master M1: Networks and protocols, 24 hours, Istic/University of Rennes 1, France

Master M2: Simulation, 5 hours, Telecom Bretagne, France

Master M2: Logistic and performance, 8 hours, Faculté de Sciences économiques/University of Rennes 1, France

Master M2: Multimedia transmission, 36 hours, Istic/University of Rennes 1, France

Master M2: Multimedia streaming over IP (MMR), 50 hours, Esir/University of Rennes 1, France

Master M2: Multimedia services in IP networks (RSM), 29 hours, Esir/University of Rennes 1, France

Master M2: Software Defined Networks, 4 hours, Istic/University of Rennes 1, France

Master M2: Performance evaluation, 26 hours, ESIR/University of Rennes 1, France

Master M2: Performance Evaluation, 9 hours, M2, Université de Rennes 1, France

Master M2: Algorithms on graphs, 40 hours, Istic/University of Rennes 1, France

Master M2: Multimedia Networking, 8 hours, Istic/University of Rennes 1, France

### 8.2.2. Supervision

Master: Thuy Dung Mai, Economics of CDNs, Université de Rennes 1, 2014, supervised by Bruno Tuffin.

PhD: Romaric Ludinard, “Caractérisation locale de fautes dans les systèmes large échelle”, Université de Rennes 1, 2/10/2014; advisors: Bruno Sericola and Emmanuelle Anceaume. See [10].

PhD: Leslie Murray, “New variance reduction methods in Monte Carlo rare event simulation”, University of the Republic (UDELAR), Uruguay, 17/9/2014; advisors: Héctor Cancela (UDELAR) and Gerardo Rubino. See [11].

PhD: Claudio Rizzo, “Using GRASP and GA to design resilient and cost-effective IP/MPLS networks”, University of the Republic (UDELAR), Uruguay, 5/5/2014; advisors: Franco Robledo (UDELAR) and Gerardo Rubino. See [12].

PhD in progress: Laura Aspirot, “Fluid Approximations for Stochastic Telecommunication Models”, University of the Republic (UDELAR), Uruguay, started in December 2011; advisors: Ernesto Mordecki (UDELAR) and Gerardo Rubino.

PhD in progress: Damien Le Quéré, “Conception et étude des performances d’une solution auto-configurable pour les réseaux de transport du futur”, started in January 2012; advisors: B. Sericola and A. Ksentini.

PhD in progress: Btissam Er-Rahmadi, Cifre Grant, Orange Labs, “Coopération et auto-\* dans un réseau de small cells network”, started on January 2013; advisors: C. Viho and A. Ksentini, University Rennes 1.

PhD in progress: Osama Arouk, “Cellular-based M2M communication: congestion control”, started on December 2012; advisors: C. Viho and A. Ksentini, University Rennes 1.

PhD in progress: Farouk Messaoudi, “Orchestration et la virtualisation des ressources de terminaux, la vision Global OS”, started on October 2014; advisor: A. Ksentini, University Rennes 1.

PhD in progress: Florient Grandhomme, “Etudes de protocoles de routage dynamique externe de type BGP dans un environnement réseaux tactiques adhoc mobiles : faisabilité, performances, qualité de service, et passage à l’échelle”, started on October 2014; advisors: A. Ksentini, G. Guette, University Rennes 1.

PhD in progress: Jean-Michel Sanner, Cifre Grant, Orange Labs, “SDN technologies for network services performances adaptation of carriers networks”; started on January 2013; Advisors: Y. Hadjadj-Aoul and G. Rubino, University Rennes 1.

PhD in progress, Yue Li; Cifre Grant, Orange Labs; title: “Elaboration d’une architecture réseau unifiée, ouverte et flexible”, started on October 2013; Advisors: Y. Hadjadj-Aoul and G. Rubino.

PhD in progress: Quang Pham Anh Tran, “QoE-based adaptive algorithms for wireless sensor networks”, started on October 2013; advisors: C. Viho, University Rennes 1.

### 8.2.3. Juries

- B. Sericola was a member of the juries for the recruitment of young graduate scientists and senior researchers at Inria.

Bruno Tuffin was a member of the following PhD defense committees:

- Mariem Krichen, “Modèle technico-économique pour le déploiement d’un réseau femto avec partage de ressources”, Université de Versailles Saint-Quentin, 2014, rapporteur.
- Luca Rose, “Decisional Process for Ad Hoc Networks”, SUPELEC, Gif-sur-Yvette, January 2014, rapporteur.
- Tim Bereton, “Monte Carlo Methods for Complex Stochastic Models”, The University of Queensland, Australia, 2014, rapporteur.
- Mohamed Lamine Lamali, “Qualité de Service et calcul de chemins dans les réseaux inter-domaine et multicouches”, Université de Versailles Saint-Quentin, Septembre 2014, président.
- Vladimir Fux, “Game-theory approaches to study and influence interactions among self-interested agents in wireless networks”, TELECOM Bretagne, November 2014, président.

Adlen Ksentini was a member of the following PhD defense committees:

- Malik Mubashir Hassan, “Gestion de la qualité de service dans les réseaux maillés IEEE 802.11s”, Université de Versailles Saint-Quentin, Juin 2014, rapporteur.
- Shengyang Chen, “A Cross-layer Content-aware Energy-efficient Rich Media Application Delivery Scheme in Heterogeneous Wireless Networks”, DCU, Dublin, Irlande, Octobre 2014, rapporteur.
- Petros Anaplotis, “Content-Aware Networking in Virtualised Environments for Optimised Resource Exploitation”, Université de Bordeaux, December 2014, rapporteur.

Cesar Viho was a member of the following PhD defense committees:

- Hassan Ali Ahmad, “Design and Analysis of Distributed Mobility Management in IPv6 Mobile Networks”, Telecom Bretagne, January 2014, president.
- Arnab Sinha, “Self-describing objects with tangible data structures”, IRISA/Université Rennes 1, May 2014.
- Hamza Samih, “Test basé sur les modèles appliqué aux lignes de produits”, IRISA/Université Rennes 1, December 2014, president.
- Siwar Ben Hadj Said, “Contextual Connectivity in Multi-Access Architectures”, Telecom Bretagne, December 2014, president.

Gerardo Rubino was a member of the following PhD defense committees:

- José-Manuel Martínez, “Modelos Markovianos de Sistemas Computacionales y de Telecomunicaciones: Métodos Matemáticos y Algoritmos de Implementación”, UFTSM (Universidad Técnica Federico Santa María), Valparaíso, Chile, November 11, rapporteur.
- Benoît Barbot, “Accélération pour le Model Checking Statistique”, École Normale Supérieure de Cachan, November 20, rapporteur.
- Ait Solah, “Chaînes de Markov incomplètement spécifiées : analyse par comparaison stochastique et application à l'évaluation de performance des réseaux”, Université de Versailles Saint-Quentin, October 3, rapporteur.

### 8.3. Popularization

- In their position paper [79], Bruno Tuffin and his co-author Patrick Maillé discuss for a large audience the issues and challenges of network neutrality in response to the European parliament text voted in April 2014.
- G. Rubino makes regular presentations to high school students about the research work in general, and specific technical topics in particular. Current talks:
  - Randomness as a tool
  - Internet as a research problem
  - Great challenges in maths: the Riemann Hypothesis
  - Great challenges in math/computer science: the “P versus NP” problem

## DIVERSE Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

Benoit Combemale:

- chair for the program committee of SLE'14, the 7th International Conference on Software Language Engineering (SLE), Sweden, October 2014.
- co-chair of the demonstration track of the 17th International Conference on Model Driven Engineering Languages and Systems (MODELS), Spain, October, 2014.
- co-chair of the workshop GEMOC, co-located with the 17th International Conference on Model Driven Engineering Languages and Systems (MODELS), Spain, October, 2014.
- co-chair of the Dagstuhl seminar #14412 on *Globalizing Domain-Specific Languages*, Germany, October, 2014.
- co-chair of MDD4DRES 2014, the International School on Model-Driven Development for Distributed Realtime Embedded Systems, France, September, 2014.

Benoit Baudry:

- Co-chair of the PC, New Ideas and Emerging Results (NIER) track at ICSE'14
- Chair of the doctoral symposium, International Conference on Model Driven Engineering, Languages and Systems (MODELS)
- Member of the Steering committee, International Conference on Model Driven Engineering, Languages and Systems (MODELS)

Jean-Marc Jézéquel:

- co-chair of the Dagstuhl seminar #14412 on *Globalizing Domain-Specific Languages*, Germany, October, 2014.

#### 9.1.1.2. member of the organizing committee

Mathieu Acher has organized the SPLTea workshop (co-located with the Software Product Line Conference) and Journée ligne de produits (7th edition) in Paris (Sorbonne).

### 9.1.2. Scientific events selection

#### 9.1.2.1. responsible of the conference program committee

Jean-Marc Jézéquel has been a member of the program board:

- MODELS 2014, The 17th International Conference on Model Driven Engineering Languages and Systems Valencia, Spain, October 2014 (PB)
- ICSE 2014 The 36th International Conference on Software Engineering, Hyderabad, India, June 2014 (PB)

Benoit Baudry:

- Member of the Steering committee, International Conference on Model Driven Engineering, Languages and Systems (MODELS)

*9.1.2.2. member of the conference program committee*

Benoit Baudry:

- International Conference on Automated Software Engineering (ASE)
- International Conference on Model Driven Engineering, Languages and Systems (MODELS)
- International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ)

Mathieu Acher:

- ICSE'15 (NIER) : 37th International Conference on Software Engineering - New Ideas and Emerging Results (NIER)
- ICSE'14 (NIER) : 36th International Conference on Software Engineering - New Ideas and Emerging Results (NIER)
- ICSE'14 (SEIP) : 36th International Conference on Software Engineering - Software Engineering In Practice (SEIP)
- SPLC'14 : 18th International Software Product Line Conference
- SEAA'14 : Euromicro Conference series on Software Engineering and Advanced Applications
- FOSD'14 : Sixth International Workshop on Feature-Oriented Software Development (at ASE)
- SPLTea : First International Workshop on Software Product Line Teaching
- REVE'14 : 2nd International Workshop on Reverse Variability Engineering (at SPLC)
- JLDP'14 : Journee Lignes de Produits (Luxembourg)

Olivier Barais:

- HPCC'14, The 16th IEEE International Conference on High Performance Computing and Communications, Paris, France
- SEAA'14, The 40th Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2014) Verona, Italy 2014
- SAC'14, The 29th Symposium On Applied Computing Gyeongju, Korea.
- SPLat 2014, The 1st International Workshop on Software Product Line Analysis Tools, Convitto della Calza, sala Franciabigio
- VAO'14, The 2nd Workshop on View-Based, Aspect-Oriented and Orthographic Software Modelling, York, United Kingdom
- WEITICE'2014, the 23rd IEEE International Conference on Collaboration Technologies and Infrastructure University Campus Parma, Italy
- CIEL'14, the 3rd French Conference in Software Engineering. CNAM, Paris,
- CAL'14, the 5th French Conference in Software Architecture. Paris,

Arnaud Blouin:

- IEEE International Workshop on User Centered Design and Adaptive Systems (UCDAS), 2014

Johann Bourcier:

- PECCS 2013

Benoit Combemale:

- APSEC'14, The 21st Asia-Pacific Software Engineering Conference, Korea, 2014.
- ICMT'14, The 7th International Conference on Model Transformation, UK, 2014.
- ECMFA'14, The 10th European Conference on Modelling Foundations and Applications, UK, 2014.
- VOLT workshop on Verification Of Model Transformation (VOLT), at STAF'14, UK, 2014.
- CSP Trask at the WETICE'14, Italy, 2014.

Jean-Marc Jézéquel:

- Formal Demonstrations of ICSE 2014 The 36nd International Conference on Software Engineering, Hyderabad, India, June 1-7, 2014
- VaMoS 2014 The 8th International Workshop on Variability Modelling of Software-intensive Systems January 22-24, 2014 - Nice, France
- SLE 2014 7th International Conference on Software Language Engineering (SLE) September 15-16, 2014 Västerås, Sweden
- GPCE 2014 13th International Conference on Generative Programming: Concepts & Experiences September 15-16, 2014 Västerås, Sweden

Noël Plouzeau:

- CBSE 2014, Component Based Software Engineering, Lille, France, june 2014.

#### 9.1.2.3. reviewer

Arnaud Blouin:

- EICS'14, ACM SIGCHI symposium on Engineering interactive computing systems.
- NordiCHI'14, Nordic Conference on Human-Computer Interaction.
- IHM'14, French speaking conference on human-computer interaction.
- ASPEC'14, Asia-Pacific Software Engineering Conference.

Benoit Combemale: external reviewer for ICSE'13 (International Conference on Software Engineering).

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

Benoit Baudry is an Associate Editor of the following journal:

- Journal of Systems and Software (JSS)
- Journal on Software and System Modeling (SoSYM)

Jean-Marc Jézéquel is Associate Editor-in-Chief of

- Journal on Software and System Modeling (SoSYM)

Jean-Marc Jézéquel is an Associate Editor of the following journal:

- IEEE Computer
- Journal of Systems and Software (JSS)
- Journal of Object Technology: JOT

Noël Plouzeau is chief editor of a special issue of the TSI French research journal, dedicated to software engineering.

Benoit Combemale is a member of the editorial board of the following journal:

- Elsevier's International Journal on Computer Languages, Systems and Structures (COMLAN)

#### 9.1.3.2. reviewer

Mathieu Acher: reviewer for journals: ACM Computing Surveys, Information and Software Technology (IST), IEEE Software, Automated Software Engineering: An International Journal (ASE), Journal of Ambient Intelligence and Smart Environments (JAISE), Journal in Computers in Biology and Medicine (CBM), International Journal on Software Tools for Technology Transfer (STTT), Journal of Systems and Software (JSS), Journal of Software and Systems Modeling (SoSyM).

Olivier Barais: external reviewer for IEEE Transactions on Software Engineering, Journal of Software and Systems Modeling (SoSyM), Journal of Software System (JSS), ACM TaaS (Transactions on Autonomous and Adaptive Systems), STVR (Software Testing, Verification and Reliability).

Arnaud Blouin: external reviewer for SoSyM (Journal of Software and Systems Modeling).



Johann Bourcier: external reviewer for TaaS (Transactions on Autonomous and Adaptive Systems), and JSS (Journal of Systems and Software).

Benoit Combemale: external reviewer for IEEE Transactions on Software Engineering, Journal of Software and Systems Modeling (SoSyM).

Noël Plouzeau: external reviewer for JSS (Journal of Systems and Software).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

The DIVERSE team bears the bulk of the teaching on Software Engineering at the University of Rennes 1 and at INSA Rennes, at the levels M1 (Project Management, Object-Oriented Analysis and Design with UML, Design Patterns, Component Architectures and Frameworks, Validation & Verification, Human-Computer Interaction) and M2 (Model driven Engineering, Aspect-Oriented Software Development, Software Product Lines, Component Based Software Development, Validation & Verification, *etc.*).

Each of Jean-Marc Jézéquel, Noël Plouzeau, Olivier Barais, Johann Bourcier, Arnaud Blouin, and Mathieu Acher teaches about 200h in these domains, with Benoit Baudry and Benoit Combemale teaching about 50h, for a grand total of about 1300 hours, including several courses at ENSTB, Supelec and ENSAI Rennes.

Noël Plouzeau is the leader of the final year of the Master Pro in Computer Science at the University of Rennes 1.

Johann Bourcier is co-manager of the Home-Automation option at the ESIR engineering school in Rennes.

Mathieu Acher is in charge of teaching services of ISTIC.

The DIVERSE team also receives several Master and summer trainees every year.

### 9.2.2. Supervision

HDR: Olivier Barais: *Utilisation de la modélisation à l'exécution : objectif, challenges et bénéfices*, 2014

HDR: Olivier Beaudoux: *Vers une programmation des systèmes interactifs centrée sur la spécification de modèles exécutables*, 2014

PhD: Joao Bosco Ferreira Filho, *Variability modeling in software-intensive systems*, thèse 2011-2014, O. Barais, B. Baudry and M. Acher

PhD: Emmanuelle Rouillé, *Processus Logiciels dirigés par les intentions*, thèse CIFRE avec Sod-iFrance, 2010-2014, J.-M. Jézéquel, B. Combemale and O. Barais

PhD: Julien Richard-Foy, *A DSL factory for modular Web oriented architecture*, thèse CIFRE avec Zenexity, 2011-2014, J.-M. Jézéquel and O. Barais

PhD: Hamza Samih, *Extending model-based testing with variability and security management*, thèse CIFRE avec All4Tec, 2011-2014, B. Baudry

PhD in progress: Erwan Bousse, *Intégration et combinaison des techniques de V&V dans un contexte d'ingénierie système*, thèse, 2012-2015, B. Baudry and B. Combemale

PhD in progress: Valéria Lelli, *On Testing Interactive Systems*, thèse 2012-2015, B. Baudry and A. Blouin

PhD in progress: Kwaku Yeboah-Antwi, *Runtime emergence of software diversity*, thèse 2013-2016, B. Baudry and O. Barais

PhD in progress: Sana Ben Nasr, *Modeling variability in regulatory requirements*, thèse 2013-2016, B. Baudry and M. Acher

PhD in progress: Guillaume Bécan, *Reverse Engineering and Evolution of Variability-intensive Software Systems*, thèse 2013-2016, B. Baudry and M. Acher

PhD in progress : Mohamed Boussaa, *An Architecture for Testing Large-Scale Dynamic Distributed Systems*, thèse 2013-2016, B. Baudry and O. Barais

PhD in progress : Thomas Degueule, *Next Generation of MDE Tooling Support*, thèse 2013-2016, O. Barais and A. Blouin

PhD in progress : David Mendez Acuna, *Variability in Modeling Languages*, thèse 2013-2016, B. Baudry and B. Combemale

PhD in progress : Ivan Paez Anaya, *Proactive Adaptation in Pervasive Environment*, thèse 2012-2015, J. Bourcier, N. Plouzeau and J.-M. Jézéquel

PhD in progress : Inti Gonzalez, *Ressources reservation in Pervasive Middleware*, thèse 2012-2015, J. Bourcier, O. Barais

PhD in progress : Jacky Bourgeois, *Automatic Synchronization of Energy Production and Consumption*, thèse 2012-2015 co-tutelle avec the Open University, J. Bourcier, B. Baudry and G. Kortuem

PhD in progress : Francisco Acosta, *Automatic Deployment and Reconfigurations in Internet of Things*, thèse 2013-2016 co-encadrement avec l'équipe ACES, J. Bourcier, F. Weis

PhD in progress : Pierre Laperdrix, *Secretless moving target against browser fingerprinting*, thèse 2014-2017, B. Baudry

PhD in progress : Johan Pelay, *Langage pour une programmation incrémentale de réseau*, thèse 2014-2017 co-encadrement avec le laboratoire B-COM, O. Barais, F. Guillemin

PhD in progress : Kévin Corre, *Modélisation de la confiance dans les services sociaux et conversationnels*, thèse 2014-2017 co-encadrement avec l'équipe AtanMod, O. Barais, G. Sunye

### 9.2.3. Juries

#### 9.2.3.1. Benoit Combemale

was in the examination committee of the following PhD thesis:

- Emmanuelle Rouillé, April 2014, University of Rennes (Co-supervisor)
- Jean-Christophe Bach, September 2014, University of Nancy (Member)
- Faiez Zalila, December 2014, University of Toulouse (Member)

#### 9.2.3.2. Jean-Marc Jézéquel

was in the examination committee of the following HDR:

- Olivier Beaudoux, August 2014, ESEO, President
- Rémi Cozot, September 2014, University of Rennes, President
- Laurent Amsaleg, November 2014, University of Rennes, President
- Maud Marchal, November 2014, University of Rennes, President
- Olivier Barais, December 2014, University of Rennes, member

#### 9.2.3.3. Jean-Marc Jézéquel

was in the examination committee of the following PhD thesis:

- Emmanuelle Rouillé, April 2014, University of Rennes, Supervisor
- Cyrille Jegourel, November 2014, University of Rennes, President
- Minh Tu Ton That, October 2014, Université de Bretagne-Sud, President
- Julien Richard-Foy, December 2014, University of Rennes, Supervisor

#### 9.2.3.4. Olivier Barais

was in the examination committee of the following PhD thesis:

- Emmanuelle Rouillé, April 2014, University of Rennes, Supervisor
- Julien Richard-Foy, December 2014, University of Rennes, Supervisor
- Bosco Ferreira, December 2014, University of Rennes, Supervisor

#### 9.2.3.5. *Benoit Baudry*

was in the examination committee of the following HDR:

- Olivier Barais, December 2014, University of Rennes, member

#### 9.2.3.6. *Benoit Baudry*

was in the examination committee of the following PhD thesis:

- Hamza Samih, December 2014, University of Rennes, Supervisor
- Bosco Ferreira, December 2014, University of Rennes, Supervisor
- Jérémie Tatibouet, October 2014, University of Paris-Sud, Referee
- Boris Baldassari, June 2014, University of Lille, Referee

#### 9.2.3.7. *Mathieu Acher*

was in the examination committee of the following PhD thesis:

- Ebrahim Abbasi, February 2014, University of Namur (Belgium), Referee
- Bosco Ferreira, December 2014, University of Rennes

#### 9.2.3.8. *Johann Bourcier*

was in the examination committee of the following PhD thesis:

- Koutheir Attouchi, July 2014, University of Paris 6,

### 9.3. Popularization

Our recent work on diversity against browser fingerprinting and the associated web site <sup>0</sup> have been demonstrated in two open source forums (OWF'14 <sup>0</sup> and FOSSA'14 <sup>0</sup>). Following this, our work has been mentioned in general-audience press. In particular the Clubic magazine published a complete article about our work <sup>0</sup>, which was followed by 6000 unique visits on our web site in the following 24 hours. The work was also mentioned in Le Monde <sup>0</sup>.

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<sup>0</sup><https://amiunique.org/>

<sup>0</sup><http://www.openworldforum.paris/>

<sup>0</sup><https://fossa.inria.fr/>

<sup>0</sup><http://pro.clubic.com/webmarketing/publicite-en-ligne/actualite-742853-fingerprinting-cookies.html>

<sup>0</sup>[http://abonnes.lemonde.fr/sciences/article/2014/11/24/le-fossa-bazar-techno-participatif\\_4528568\\_1650684.html](http://abonnes.lemonde.fr/sciences/article/2014/11/24/le-fossa-bazar-techno-participatif_4528568_1650684.html)

## **DREAM Project-Team**

# **9. Dissemination**

## **9.1. Promoting Scientific Activities**

### **9.1.1. Scientific events organisation**

#### *9.1.1.1. general chair, scientific chair*

- Local chair of EGC 2014 in Rennes (R. Quiniou).
- Local chairs of PFIA 2015 in Rennes (T. Guyet, R. Quiniou).
- Organization chairs and program committee members of FST-CERGEIO workshop at EGC 2014 (T. Guyet, R. Quiniou).
- Organization chairs and program committee members of GAST workshop at EGC 2015 (T. Guyet, R. Quiniou).

#### *9.1.1.2. member of the organizing committee*

- Organization committee member of EGC 2014 in Rennes (T. Guyet, T. Bouadi, S. Benabderrahmane).

### **9.1.2. Scientific events selection**

#### *9.1.2.1. responsible of the conference program committee*

- Steering Committee of RFIA'2014 (T. Guyet).

#### *9.1.2.2. member of the conference program committee*

- Program committee member of DX'14 (Principles of Diagnosis)(M.-O. Cordier).
- Program committee member of JIAF'14 (Journées Intelligence Artificielle Fondamentale)(M.-O. Cordier).
- Program committee members of RFIA'2014 (M.-O. Cordier, T. Guyet, A. Termier).
- Program committee members of EGC 2014 and 2015 (R. Quiniou, A. Termier).
- Program committee member of BDA'2014 (A. Termier).
- Program committee member of Data Mining on Networks Workshop of ICDM 2014 (A. Termier)
- Program committee member of International Conference on Data Science and Advanced Analytics (DSAA) 2014 (A. Termier)

#### *9.1.2.3. reviewer*

- Reviewer for EDBT'2014 (A. Termier).

### **9.1.3. Journal**

#### *9.1.3.1. member of the editorial board*

- *AAI: Applied Artificial Intelligence* (M.-O. Cordier).
- *Interstices webzine* (M.-O. Cordier).
- *Revue d'Intelligence Artificielle* (T. Guyet).

#### *9.1.3.2. reviewer*

- *AAI: Applied Artificial Intelligence* (M.-O. Cordier).
- *Interstices webzine* (M.-O. Cordier).
- *Journal of Biomedical Informatics* (T. Guyet).
- *ACM Computing Surveys* (T. Guyet).

- *Data Mining and Knowledge Discovery* (A. Termier).
- *Transactions on Knowledge and Data Engineering* (A. Termier).
- *National Academy Science Letters* (A. Termier).

### 9.1.4. Scientific animation

#### 9.1.4.1. Scientific and administrative boards

- ECCAI fellow + Honorary member of AFIA (Association Française d'Intelligence Artificielle): M. - O. Cordier
- Member of "Agrocampus-Ouest" scientific board: M.-O. Cordier.
- Member of "Conseil d'administration de l'ISTIC": M.-O. Cordier.
- Head of IRISA department "Data and Knowledge Management" and member of the IRISA scientific management committee: M.-O. Cordier
- Member of the "Prix de thèse AFIA 2014" award committee (selects the best French PhD thesis in the Artificial Intelligence domain): M.-O. Cordier.
- Chair of the INRA CSS-MBIA (Commission scientifique spécialisée "Mathématiques, Biologie et Intelligence Artificielle"): M.-O. Cordier.
- Member of the CoNRS (Comité national recherche scientifique (since october 2012, until september 2014) : M.-O. Cordier
- Chair of an AERES-HCERES evaluation committee and member of two AERES-HCERES evaluation committees : M.-O. Cordier
- Member of two recruitment committees for INRA (CR1 and DR2) : M.-O. Cordier
- Chair of a recruitment committee for a professor position, member of three recruitment committees for assistant-professor positions : M.-O. Cordier
- Member of the AFIA board (since october 2011): T. Guyet.
- Member of the COREGE (Research Committee-COMITÉ de la REcherche du Grand Etablissement) of Agrocampus-Ouest: T. Guyet.
- Evaluator for the Mines-Telecom Foundation, "Futures et Ruptures" program: T. Guyet.
- Evaluator for the National Research Agency (ANR): T. Guyet.
- Member of the Payote-Network board: T. Guyet.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Many members of the EPI DREAM are also faculty members and are actively involved in computer science teaching programs in ISTIC, INSA and Agrocampus-Ouest. Besides these usual teachings DREAM is involved in the following programs:

Master: *Module DSS: Apprentissage sur des données séquentielles symboliques*, 10 h, M2, ISTIC University of Rennes (R. Quiniou).

Master: *C++ Programming*, M1, ENSAI, Rennes (T. Guyet),

Master: *Géoinformation*, M2, Agrocampus Ouest Rennes (L. Bonneau, T. Guyet, C. Largouët)

### 9.2.2. Supervision

PhDs: Yulong Zhao, “Modélisation d’agroécosystèmes dans un formalisme de type systèmes à événements discrets et simulation de scénarios utilisant des outils de model-checking. Application à l’étude des impacts des changements climatiques et des pratiques agricoles sur les flux de nutriments vers les eaux de surface.”, january 13th 2014, supervisor Marie-Odile Cordier and Chantal Gascuel

PhD in progress: Philippe Rannou, “Modèle rationnel pour humanoïdes virtuels”, october 1st 2010, co-supervisors Marie-Odile Cordier and Fabrice Lamarche

PhD in progress: Serge Vladimir Emteu Tchagou, "Stream mining techniques for online monitoring of MPSoC applications", february 1st 2012, co-supervisors Alexandre Termier, René Quiniou, Miguel Santana and Jean-François Méhaut

PhD in progress: Léon Constantin Fopa, "Mise en contexte de traces pour une analyse en niveaux d’abstraction", january 1st 2012, co-supervisors Fabrice Jouanot, Alexandre Termier and Jean-François Méhaut

PhD in progress: Behrooz Omidvar Tehrani, "Interactive Pattern Space Exploration", october 1st 2012, co-supervisors Sihem Amer-Yahia and Alexandre Termier

PhD in progress: Hamid Mirisae, "Matrix decomposition for social network analysis and itemset mining", october 1st 2012, co-supervisors Eric Gaussier and Alexandre Termier

PhD in progress: Oleg Iegorov, "Data Mining Environment for Degugging Real Time Issues on MPSoCs", january 1st 2013, co-supervisors Alexandre Termier, Vincent Leroy, Miguel Santana and Jean-François Méhaut

PhD in progress: Rémy Dautriche, "Techniques d’interaction multi-échelles pour la visualisation interactive de traces d’exécution", november 1st 2013, co-supervisors Renaud Blanch, Miguel Santana and Alexandre Termier

### 9.2.3. Juries

- Committee member of Yulong Zhao’s PhD defence (Université de Rennes 1): M.-O. Cordier , C. Largouët.
- Committee member of Sébastien Silva’s PhD defence (Université de Lorraine): M.-O. Cordier
- Committee chair of Hervé Jegou’s HDR defence (Université de Rennes 1): M.-O. Cordier
- Committee member of Alef Denguir’s PhD defence (Université de Montpellier 2): M.-O. Cordier
- Committee member and reviewer of Jeremy Sanhes’ Phd defence (Université de Nouvelle Calédonie): A. Termier
- Committee member of Christiane Kamdem-Kengne Phd defence (Université de Grenoble Alpes): A. Termier

## 9.3. Popularization

- M.-O. Cordier is editorial board member of Interstices webzine.

## DYLISS Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific events selection

##### 8.1.1.1. Members of conference program committee

- ICGI International Conference on Grammatical Inference [F. Coste, Reviewer and member of Steering Committee].
- PRIB International Conference on Pattern Recognition in Bioinformatics [A. Siegel].
- Program committee of Semantic Web Applications and Tools for Life Sciences (SWAT4LS 2014) [O. Dameron].

#### 8.1.2. Journal

##### 8.1.2.1. Member of editorial board

- Academic editor: Plos One [J. Bourdon]

##### 8.1.2.2. Reviewer

- F. Coste: Theoretical Computer Science.
- O. Dameron: Bioinformatics, Cancer informatics, Journal of Biomedical Informatics, Journal of Biomedical Semantics.
- A. Siegel : Nature, Bulletin of the Belgium Math. Society, BMC Systems Biology.

#### 8.1.3. Participation to council and advisory boards

- Scientific Advisory Board of GDR BIM " Molecular Bioinformatics"[J. Nicolas].
- Member of SCAS (Service Commun d'Action Sociale) of Univ. Rennes 1 [C. Belleannée].
- Member of the IRISA laboratory council [F. Coste].
- Member of the Inria Rennes center council [A. Siegel].
- Member of the the Operational Legal and Ethical Risk Assessment Committee (COERLE) at Inria.
- Scientific Advisory Board of Biogenouest [J. Bourdon, J. Nicolas, A. Siegel].
- Expertise for ANR call [A. Siegel]
- Expertise for national call "Biologie des systèmes appliqués au Cancer" [A. Siegel]
- Expertise for ARP "MERMED : Adaptation aux changements environnementaux en mer Méditerranée : quelles recherches et quels partenariats ?" [[website](#)] [A. Siegel]
- Recruitment committees: assistant professor (LRI, Orsay) [A. Siegel, F. Coste], assistant professor (Univ. Rennes) [F. Coste], professor (Univ. Bordeaux) [A. Siegel].

#### 8.1.4. Organization of local meetings

- **Seminar** A weekly seminar of bioinformatics is organized within the laboratory. Attendees are member of the symbiose team, biologists from Brittany and computer scientists from the laboratory. [[website](#)].
- Organization of Irisa department "Data and knowledge management"'s seminar [F. Coste].
- **Workshop. Théorie des réseaux booléens et ses applications en biologie** A one-week workshop on boolean networks was organized in Nice in Nov. 2014. It gathered 20 researchers in bioinformatics, computer science and mathematics about several aspects of boolean networks properties [[website](#)]

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Course and track responsibilities

F. Coste is coordinator of the track "From Data to Knowledge: Machine Learning, Modeling and Indexing Multimedia Contents and Symbolic Data" of the Master by research in Computer Science (2nd year), University of Rennes 1, France.

F. Coste is coordinator of the course “Extracting knowledge from symbolic data sequences” of the Master by research in Computer Science (2nd year), University of Rennes 1, France.

### 8.2.2. Teaching

- Licence: C. Belleannée, Langages formels, 22h, L3 informatique, Rennes1, France.
- Licence: C. Belleannée, bureautique et C2i, 40h, L1 informatique, Rennes1, France.
- Licence: G. Garet, Algorithmique, 22h, L3 informatique, Rennes1 France.
- Licence: G. Garet, Analyse de données, 12h, L3 Miage, Rennes1 France.
- Licence: O. Dameron, Biostatistiques, 12h, PACES, Univ. Rennes 1, France.
- Licence: O. Dameron, C2i niveau 2, 2.5h, Univ. Rennes 1, France.
- Licence: V. Picard, Probability theory, 24h, L3, ENS Rennes, France
- Licence: C. Galiez, Bureautique, 16h, L1 informatique, Rennes1 France
- Master: C. Bettembourg, principes de programmation et d’algorithmique, 18h, M1 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: C. Belleannée, Préférences Logique et contraintes, 32h, M1 informatique, Rennes1 France
- Master: G. Collet, Programmation Python, 20h, M1 BioInformatique, Univ. Rennes 1, France
- Master: O. Dameron, gestion de projets en informatique, 29.5h, M1 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: O. Dameron, principes de programmation et d’algorithmique, 12.5h, M1 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: O. Dameron, initiation systèmes et réseaux, 4h, M1 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: O. Dameron, techniques de recherche documentaire, 2h, M1 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: O. Dameron, Bases de mathématiques, probabilités et statistiques, 3h, M1 santé publique, Univ. Rennes 1, France.
- Master: C. Galiez, Compilation, 48h, M1 informatique, Rennes1 France
- Master: V. Picard, Formal methods for safe development, 16h, M1, Univ. Rennes 1, France
- Master: V. Picard, Agrégation de mathématiques option D, 15h, M1, ENS Rennes/Univ. Rennes 1, France
- Master: F. Coste, Apprentissage Supervisé, 10h, M2 Informatique, Univ. Rennes 1, France
- Master: F. Coste, Données Séquentielles Symboliques, 10h, M2 Informatique, Univ. Rennes 1, France
- Master: O. Dameron, modélisation des connaissances et bio-ontologies, 36h, M2 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: O. Dameron, organisation des oraux de stages, 8h, M2 bioinformatique et génomique, Univ. Rennes 1, France.
- Master: O. Dameron, E-santé et réseaux hospitaliers, 8h, ESIR3, Univ. Rennes 1, France.
- Master: A. Siegel, Integrative and Systems biology, 20h, M2, Univ. Rennes 1, France
- Doctorat: A. Siegel, Tilings and Symbolic Dynamics, 8h, School "Representing streams II" at Lorentz center, Leiden, Netherlands.
- Doctorat: J. Nicolas, Answer Set programming, 6h, Ecole Doctorale Matisse, Univ. Rennes 1, France

### 8.2.3. Supervision



PhD : Gaëlle Garet, *Discovery of enzymatic functions in the framework of formal languages*, 16 Dec. 2014., supervised by J. Nicolas and F. Coste. [10].

PhD : Sylvain Prigent, *Complétion combinatoire pour la reconstruction de réseaux métaboliques, et application au modèle des algues brunes Ectocarpus siliculosus*, 14 Nov. 2014, supervised by A. Siegel and T. Tonon (UMR 7150, station biologique de Roscoff) [11]

PhD : Santiago Videla, *Reasoning on the response of logical signaling networks with answer set programming*, 7 Jul. 2014, supervised by A. Siegel and T. Schaub (Potsdam univ) [12].

PhD : Valentin Wucher, *Modeling of a gene network between mRNAs and miRNAs to predict gene functions involved in phenotypic plasticity in the pea aphid*, 3 Nov. 2014, supervised by J. Nicolas and D. Tagu (Inra).[13]

PhD in progress : Aymeric Antoine-Lorquin, *Modèles grammaticaux au service de l'identification de marqueurs de régulation génétique dans les séquences biologiques*, started in Oct. 2013, supervised by C. Belleannée

PhD in progress : Clovis Galiez, *Syntactic modelling of protein structure.*, started in Oct. 2012, supervised by F. Coste and J. Nicolas.

PhD in progress : Julie Laniau, *Méthodes d'optimisation combinatoire pour reconstruire et analyser les systèmes métaboliques de microalgues*, started in Oct. 2013, supervised by A. Siegel and D. Eveillard.

PhD in progress : Vincent Picard, *Analyse dynamique d'algorithmes et dynamique symbolique pour l'étude de modèles semi-quantitatifs en biologie des systèmes*, started in Sept. 2012, supervised by A. Siegel and J. Bourdon.

PhD in progress : Jean Coquet, *Semantic-based reasoning for biological pathways analysis*, started in Oct. 2014, supervised by O. Dameron, N. Théret and J. Nicolas.

PhD in progress : Victorien Delannée, *Optimisation à différentes échelles pour étudier la variabilité de la toxicité de contaminants alimentaires*, started in Oct. 2014, supervised by A. Siegel and N. Théret.

#### 8.2.4. Juries

- *Member of Ph-D thesis jury*. M. Folschette, Ecole Centrale Nantes [A. Siegel, rapporteure]. B. Le Gloanec, Univ. Orléans [A. Siegel, présidente]. J. Scicluna, Université de Nantes [F. Coste].

#### 8.2.5. Seminars

- V. Picard. *Multivariate Normal Approximation for the Stochastic Simulation Algorithm: limit theorem and applications*. I3S MDSC Seminar. Sophia Antipolis, France (May. 2014)
- A. Siegel. *modelling and integrating heterogeneous information about the response of a biological system with ASP*. LRI, Orsay, France (Jun. 2014)
- A. Siegel. *AuReMe Integrative method for Automatic Reconstruction of Metabolic network*. LINA, Nante, France (Jul. 2014)
- A. Siegel. *Modéliser et intégrer des informations hétérogènes sur la réponse d'un système biologique*. Séminaire interdisciplinaire MEB, Marseille, France (Oct. 2014)
- G. Collet. *Genome Assembly on a Raspberry Pi*. fOSSa 2014 (Nov. 2014)
- A. Siegel. *Méthodes de programmation logique (ASP) pour apprendre et contrôler la réponse de réseaux de signalisation*. Workshop "Théorie des réseaux booléens et ses applications en biologie", Nice, France (Nov. 2014)
- A. Siegel. *Reconstruire un réseau métabolique à partir de différentes sources d'informations et données*. Journée scientifique BioGenOuest - Axe Analyse structurale et métabolomique, Nantes, France (Dec. 2014)

- A. Siegel. *Modéliser et intégrer des informations hétérogènes à large-échelle sur la réponse d'un système biologique*. Journées biologie intégrative, Lille, France (Dec. 2014)
- O. Dameron *OWL model of eligibility criteria compatible with partially-known information*. Institut des Systèmes Complexes, Paris, France (Dec. 2014)
- V. Picard. *Multivariate Normal Approximation for the Stochastic Simulation Algorithm: limit theorem and applications*. LIFL Biocomputing Seminar. Lille Univ, France (Dec. 2014)
- O. Dameron *Knowledge-based selection of candidate metabolic networks*. Séminaire Biosticker, LINA Nantes France (Dec. 2014)

#### 8.2.5.1. Internships

- Internship, from April until June 2014. Supervised by G. Collet. Student: Efflam Lemaillet. Subject: Méthode de comparaison de protéines sans alignement.
- Internship, from April until June 2014. Supervised by F. Coste. Student: Francisco Dorr. Subject: Compressing (genomic) sequences by grammar inference.
- Internship, from April until June 2014. Supervised by O. Dameron and N. Theret. Student: Dominique Mias-Lucquin. Subject: Analysis of TGF- $\beta$  signalling network trajectories
- Internship, from April until June 2014. Supervised by O. Dameron and G. Collet. Student: Loïc Bourgeois. Subject: Metabolic pathway representation in RDF : converting Reactome into BioPAX
- Internship, from Feb. until June 2014. Supervised by J. Nicolas. Student: Hugo Bazille. Subject: Protein design: a NP-hard problem in bioinformatics
- Internship, from March until Sep. 2014. Supervised by C. Belleannée. Student: Malo Le Boulch. Subject:
- Internship, from March until June 2014. Supervised by C. Belleannée. Student: Lea Flechon. Subject: Identification in silico du site de fixation à l'ARNm de la protéine PTBP1 : découverte de motifs par utilisation d'un outil existant via des données CLIP-seq publiques
- Internship, from April until June 2014. Supervised by V. Picard and A. Siegel. Student: Thibault Etienne. Subject: Simulation stochastique quantitative pour la modélisation de systèmes écologiques
- Internship, from January until June 2014. Supervised by A. Siegel and N. Theret. Student: Victorien Delannée. Subject: Modélisation du métabolisme des xénobiotiques de type amines hétérocycliques aromatique (AHA)
- Internship, October 2014. Supervised by F. Coste. Ph D. student: Meriem Zekri. Subject: Modelling GPCR proteins with Protomata-Learner

### 8.3. Popularization

- *Revue Math/info Tangente* Nous avons participé à un numéro spécial de cette revue destinée aux lycées avec un article de bioinformatique sur les langages des molécules du vivant illustrant l'intérêt de la modélisation par langages formels dans ce cadre. [J. Nicolas, C. Belleannée, F. Coste] [41]
- *Rencontre Inria Industrie* "Bio-informatique et outils numériques pour les produits de santé" Lyon (Feb. 2014) [F. Coste, A. Antoine-Lorquin, A. Siegel, S. Videla]
- *FrenchTech Rennes* Popularization of genome assembly on a Raspberry Pi at a FrenchTech event in Rennes (Dec. 2014) [G. Collet].
- *Bioinfo-fr.net* Bioinfo-fr.net is a french web site where researchers, engineers and students talk about bioinformatics. We have written 6 articles for this web site on diverse subjects: metabolic networks, genome assembly, phylogenetics, network visualization. [G. Collet, S. Prigent, O. Dameron]. [more info].
- *Fête de la science (LINA, Nantes)* During the 17th of October, 250 students discovered bioinformatics, genome assembly, metabolomics and algorithmic by practicing games and tutorials made by our team with the help of Julien Gras, Erwan Delage and Stephanie Noguét (LINA) [J. Bourdon, D. Eveillard, Y. Guitton].
- *Organization of Sciences en Cour[ts]*. Popularization Festival where PhD students explain their thesis via short films. [S. Prigent, C. Bettembourg, G. Garet] [more info].
- *GNU/Linux Magazine* Article "La bioinformatique avec Biopython", Hors-série 73, pp 84–97. 2014. [O. Dameron] [40]

## ESTASYS Exploratory Action

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

#### 8.1.1.1. General chair, Scientific chair

- Axel Legay has been tutorial chair for the *European Joint Conferences on Theory and Practice of Software (ETAPS)*

#### 8.1.1.2. Member of the organizing committee

- Axel Legay was a member of the organization committee for the *European Joint Conferences on Theory and Practice of Software (ETAPS)*

### 8.1.2. Scientific events selection

#### 8.1.2.1. Responsible of the conference program committee

- Axel Legay has been the Program Chair for *Formal Modelling and Analysis of Timed Systems* conference
- Axel Legay has been the Program Chair for *From Programs to Systems – The Systems Perspective in Computing* workshop organized in honour of Joseph Sifakis
- Axel Legay has been the Program Chair for *Software Product Line Analysis Tools* workshop

#### 8.1.2.2. Member of the conference program committee

- Axel Legay was PC member of MEMOCODE, FORMATS, FORMALIZE, SPLC, ASE, FACS, FORTE.
- Louis-Marie Traonouez was PC member of FORMATS
- Rudolf Fahrenberg was PC member of MFCS

### 8.1.3. Journal

#### 8.1.3.1. Member of the editorial board

- Axel Legay is a member of the editorial board of the newly created journal for masterminding changes (FOMACS).

### 8.1.4. Teaching

#### Software Verification

Axel Legay: Software Verification, 40 hours, Royal Holloway, University of London

Axel Legay: Modélisation et Vérification Formelle par Automates, 12 hours, University of Rennes 1.

Rudolf Fahrenberg: Modélisation et Vérification Formelle par Automates, TP 12 hours, University of Rennes 1.

Louis-Marie Traonouez: Verification et Test des Systemes Embarques, 20 hours, ESIR Rennes.

### 8.1.5. Supervision

PhD : Cyrille Jegourel, Rare event techniques for Statistical Model checking, Novembre 2011, Axel Legay

### 8.1.6. Juries

Axel Legay has been a member of the PhD jury for Hoa Lee (Trento), Maxime Cordy (Namur), and Cyrille Jegourel (Rennes).

## **FLUMINANCE Project-Team**

# **9. Dissemination**

## **9.1. Promoting Scientific Activities**

Dominique Heitz

- Member of IRSTEA "Comité directeur des Systèmes d'Information"
- Responsible of the IRSTEA ACTA Team
- Reviewer for AIAA, Exp. in Fluids, Fluid Dynamics Research

Cédric Herzet

- Technical program committees of ICASSP 2014
- Project reviewer for the "Fond National de la Recherche Scientifique" (FNRS), Belgique
- Organizer of a monthly local seminar dedicated to sparse representations.
- Reviewing for ICASSP, IEEE trans. Signal Processing, IEEE Trans. Image Processing

Etienne Mémin

- invited speaker CIMI (Centre International de Mathématiques et d'Informatique - Trimestre EDP & Probabilités - Weather Forecast, jan. 2014
- Associate editor of the Journal of Computer Vision (IJCV)
- Associate editor of the journal of Image and Vision Computing (IVC)
- Reviewing for Tellus-A, IEEE Im. Proc., IEEE trans. Pat. Anal. Mach. Intel. , Im. Vis. Comp., Exp in Fluids, ICIP' 14, Nonlinear Proc. in Geophysics., Journ. of Comp. Phys, Fluid Dynamics Research.
- Responsible of the "Commission Développement Technologique" Inria Rennes
- member of the "Commission Personnel" Inria-IRISA Rennes

## **9.2. Teaching - Supervision - Juries**

### **9.2.1. Teaching**

Licence : Dominique Heitz, Mécanique des fluides, 30h, niveau L2 INSA Rennes

Master : Dominique Heitz, Mécanique des fluides, 25h, niveau M1, Dep GMA INSA Rennes

Master : Cédric Herzet, Analyse de données, Mastere de Statistiques et Econométrie, 10h, niveau M1, Université de Rennes I

Master : Etienne Mémin, Analyse du mouvement, Mastere Informatique, 15h, niveau M2, Université de Rennes 1.

Master : Etienne Mémin, Vision par ordinateur , 15h, niveau M2, ESIR Université de Rennes 1.

### **9.2.2. Supervision**

PhD : Ioana Barbu, Tridimensional estimation of turbulment fluid velocity, Université de Rennes I, defended 15/12/2014, encadrants: Cédric Herzet, Etienne Mémin

PhD : Xuan Quy Dao, Fluid Flow control by visual servoing, Université de Rennes I, defended 16/12/2014, encadrant: Christophe Collewet

PhD : Yin Yuang, Study of variational ensemble methods for image assimilation, Université de Rennes I, defended 16/12/2014, encadrant: Etienne Mémin

PhD in progress : Benoit Pinier, Scale similarity and uncertainty for Ocean-Atmosphere coupled models, started 01/10/2014, supervisors: Roger Lewandowski, Etienne Mémin

PhD in progress : Valentin Resseguier, Oceanic models under uncertainty and image assimilation, started 01/10/2013, Bertrand Chapron (Ifremer), Etienne Mémin

PhD in progress : Cordelia Robinson, Variational assimilation for 3D wake reconstruction, started 01/10/2011, supervisors: Dominique Heitz, Etienne Mémin

### 9.2.3. Juries

Dominique Heitz

- Yin Yang, Study of variational ensemble methods for image assimilation, Université Rennes 1, Rennes, 16/12/2014, Examiner.

Cedric Herzet

- Ioana Barbu, Tridimensional estimation of turbulment fluid velocity, Université de Rennes I, 15/12/2014. Supervisor.

Etienne Mémin

- Emmanuelle Autret, Analyse des champs de température de surface de la mer à partir d'observations satellite multi-sources, 07/10/2014, President
- Ioana Barbu, Tridimensional estimation of turbulment fluid velocity, Université de Rennes I, 15/12/2014. Supervisor.
- Xuan Quy Dao, Fluid Flow control by visual servoing, Université de Rennes I, 16/12/2014, Examiner
- Denis Fortun, Aggregation framework and patch based image representation for optical flow, Université de Rennes I, 10/07/2014, President
- Gilles Tissot, Réduction de modèles et contrôle d'écoulement, Université de Poitiers, 02/10/2014, Examiner
- Yin Yang, Study of variational ensemble methods for image assimilation, Université Rennes 1, Rennes, 16/12/2014. Supervisor.
- Pascal Zille, Modèles multi-échelles pour l'analyse d'images : application à la turbulence, Université de Lyon, 07/11/2014, Examiner

## 9.3. Popularization

Etienne Mémin

- E. Mémin. Ou vont les nuages ?, Un jour, une brève, Mathématiques de la planète terre, (Brève)
- Invited paper in the journal "Revue française de photogrammétrie et de Télédétection", Outils méthodologiques d'analyse d'images MSG : estimation du mouvement, suivi de masses nuageuses et détection de fronts, with T. Corpetti, V. Dubreuil, E. Mémin, O. Planchon, C. Thomas.
- Invited paper in the journal de la Société Française de Statistique, Image data assimilation with filtering methods, with Anne Cuzol.

## GENSCALE Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

- Workshop on Computational Optimization (WCO14), Warsaw, Poland, Sep 7-11, 2014 [A. Mucherino, co-chair]

### 9.1.2. Scientific events selection

#### 9.1.2.1. member of the conference program committee

- International Workshop on Algorithms for Computational Biology (ACB 2014) [D. Lavenier]
- IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2014) [D. Lavenier]
- European Conference on Computational Biology (ECCB'14) [D. Lavenier]
- International Conference on Field Programmable Logic (FPL 2014) [D. Lavenier]
- 4th Annual RECOMB Sattelite Workshop on Massively Parallel Sequencing (RECOMB-Seq 2014) [D. Lavenier, P. Peterlongo]
- International Conference on ReConFigurable Computing and FPGAs (ReConFig 2014) [D. Lavenier]
- IX Southern Programmable Logic Conference (SPL2014) [D. Lavenier]
- Many Faces of Distances (MFD14) [A. Mucherino]
- SeqBio 2014: Workshop on string algorithms [C. Lemaitre]

#### 9.1.2.2. reviewer

- IWOCA 2014 [P. Peterlongo]

### 9.1.3. Journal

#### 9.1.3.1. reviewer

- Advances in Bioinformatics [D. Lavenier]
- Algorithms for Molecular Biology [D. Lavenier]
- Bioinformatics [D. Lavenier]
- BMC Bioinformatics [D. Lavenier]
- BMC Genomics [D. Lavenier, F. Legeai]
- Briefing in Bioinformatics [D. Lavenier]
- Frontiers in Bioengineering and Biotechnology [P. Peterlongo]
- IEEE Transactions on Computational Biology and Bioinformatics [D. Lavenier]
- INS, CAMWA (Elsevier), ITOR (Wiley), IJNS (World Scientific)[A. Mucherino]
- Integrative Biology [D. Lavenier]
- International Journal of Computer Science [P. Peterlongo]
- Journal of the Brazilian Computer Society [R. Andonov]
- Plos One [D. Lavenier]
- Nucleic Acids Research [D. Lavenier, P. Peterlongo]

### 9.1.4. Invited talks

- P. Peterlongo, Gen2Bio, Saint-Malo, France, Apr. 2014. Title: SNPs discovery.
- D. Lavenier, Los Alamos National Lab, New Mexico, USA, June 2014. Title: GATB: Genome Assembly and Analysis Tool Box.
- A. Mucherino, BAS, Sofia, Bulgaria, June 2014.
- D. Lavenier, Asprom seminar, Paris, France, Sept. 2014. Title: Parallel computation in genomics.
- P. Peterlongo, R-SYST, Inra, Rennes, France, Oct. 2014. Title: Comparing and combining multiple metagenomic datasets.

## 9.2. Administrative duties

- Member of the administrative council of ISTIC [R. Andonov]
- ANR Evaluation Committee Generic Call [R. Andonov]
- Member of the Scientific Council of Computational Biology Institute of Montpellier [D. Lavenier]
- Permanent expert for the MEI (International Expertise Mission), French Research Ministry [D. Lavenier]
- Member of the local Inria Rennes CDT (Technologic Transfer Commission) [D. Lavenier]
- Member of the steering committee of the INRA BIPAA Platform (BioInformatics Platform for Agroecosystems Arthropods) [D. Lavenier]
- Member of the steering committee of The GenOuest Platform (Bioinformatics Platform of BioGenOuest) [D. Lavenier]
- Member of the local Inria CORDIS committee for PhD grants [C. Lemaitre]
- Representative of the environmental axis of UMR IRISA [C. Lemaitre]
- Inria center referee of Scientific mediation [P. Peterlongo]
- Member of the redaction committee Ouest Inria [P. Peterlongo]
- Recruitment committees: 1 professor [D. Lavenier], 2 assistant professors [C. Lemaitre, P. Peterlongo], 1 engineer (IE) [F. Legeai, chair]
- Scientific Responsible for International Relationships at ISTIC [A. Mucherino]
- Member of "Commission Affaires Internationales" at University of Rennes 1 [A. Mucherino]
- AGOS first secretary [P. Peterlongo]

## 9.3. Teaching - Supervision - Juries

### 9.3.1. Teaching

Licence : C. Lemaitre, Statistics for biology, 11h, L3, Univ. Rennes 1, France

Licence : D. Lavenier, Architecture and System, 30 h, L3, ENS Rennes, France.

Licence : A. Mucherino, Java basis, 80h, L1, Univ. Rennes 1, France.

Licence : A. Mucherino and R. Andonov, Graph Algorithms, 90h, L3, Univ. Rennes 1, France.

Master : A. Mucherino and R. Andonov, Operational Research, 95h, M1, Univ. Rennes 1, France.

Master : R. Andonov, Advanced Algorithms, 15h, M1, Univ. Rennes 1, France.

Master : A. Mucherino, Introduction to Computational Systems and Networks, 42h, M1, Univ. Rennes 1, France.

Master : A. Mucherino, Object Oriented Programming, 40h, M1, Univ. Rennes 1, France.

Master : A. Mucherino, P. Peterlongo and R. Andonov, Algorithms on Sequences and Structures, 36h, M2, Univ. Rennes 1, France.

Master : D. Lavenier, Intensive Computation of Genomic Data, 15 h, M1, ESEO Angers, France.

Master : D. Lavenier, Project, 12 h, M1, ENS Rennes, France.

Master : C. Lemaitre, P. Peterlongo, Text algorithmics for Bioinformatics, 43 h, M1, Univ. Rennes 1, France.

Master : C. Lemaitre, Dynamical systems for biological networks, 20h, M2, Univ. Rennes 1, France.

### 9.3.2. Supervision

PhD in progress : Mathilde Le Boudic-Jamin, *Structure et comparaison d'objets 3D: applications aux structures protéiques*, Univ. Rennes 1, started in October 2011, supervised by R. Andonov

PhD in progress : F. Moreews, Bioinformatics workflows, 01/2012, D. Lavenier and S. Lagarrigue

PhD in progress : G. Benoit, New algorithms for comparative metagenomics, 01/11/2014, D. Lavenier and C. Lemaitre

PhD in progress : A. Limasset, Algorithm for Genomics, 09/2014, D. Lavenier and P. Peterlongo

### 9.3.3. Juries

- *President of Ph-D thesis jury.* Anne Jeannin-Girardon, Université de Bretagne Occidentale, Brest [D. Lavenier]
- *Member of Ph-D thesis juries.* Germano Abud de Rezende, UNICAMP, Campinas, Sao Paulo, Brazil [A. Mucherino].
- *Referee of Ph-D thesis.* Guillaume Martin, Montpellier AgroSup, [D. Lavenier]
- *Member of Ph-D thesis committees.* J. Boutte, University of Rennes [D. Lavenier], P. Nouhaud, University of Rennes [C. Lemaitre and F. Legeai], C. Mercier, University of Grenoble [C. Lemaitre], S. Guizard, University of Tours [C. Lemaitre], A. Radulescu, university of Nantes [P. Peterlongo], H. Lopez, University of Lyon [C. Lemaitre], V Wucher, university of Rennes [F. Legeai], D. Eoche-Bosy, University of Rennes [F. Legeai], A. Marchant, University Paris XI [F. Legeai].



## HYBRID Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, scientific chair

- Anatole Lécuyer was General co-Chair of IEEE Symposium on 3D User Interfaces 2014.
- Bruno Arnaldi was Chair and Organizer of Journées de l'AFRV 2014, Reims, France
- Maud Marchal was Chair and Organizer of a Workshop on Bimanual Haptics at Eurohaptics 2014.

#### 9.1.1.2. Member of the organizing committee

- Anatole Lécuyer was Award Chair of Eurohaptics 2014.
- Ferran Arguelaguet was Demo Chair of ICAT-EGVE 2014.

### 9.1.2. Scientific events selection

#### 9.1.2.1. Responsible of the conference program committee

- Anatole Lécuyer was Program co-Chair of IEEE Symposium on 3D User Interfaces 2014.

#### 9.1.2.2. Member of the conference program committee

- Anatole Lécuyer was Member of the conference program committee of Eurohaptics 2014, and IEEE Haptics Symposium 2014.
- Bruno Arnaldi was Member of the conference program committee of IEEE Virtual Reality 2014
- Maud Marchal was Member of the conference program committee of IEEE Virtual Reality 2014, IEEE Symposium on 3D User Interfaces 2014, Eurohaptics 2014, International Symposium on Biomedical Simulation 2014 and MICCAI Symposium on Deep Brain Stimulation 2014.
- Ferran Arguelaguet was Member of the conference program committee of IEEE Virtual Reality 2014, IEEE Symposium on 3D User Interfaces 2014, ACM Virtual Reality Software and Technology 2014 and ACM Symposium on Spatial User Interfaces 2014.

#### 9.1.2.3. Reviewer

- Anatole Lécuyer was reviewer for Eurohaptics 2014, and IEEE Haptics Symposium 2014.
- Valérie Gouranton was Reviewer for Conference on Computer Animation and Social Agents 2014.
- Maud Marchal was Reviewer for IEEE Virtual Reality 2014, IEEE Symposium on 3D User Interfaces 2014, Eurohaptics 2014, International Symposium on Biomedical Simulation 2014, MICCAI International Conference 2014, GRAPP 2014, and International Conference on Robots and Intelligent Systems 2014.
- Ferran Arguelaguet was Reviewer for EuroHaptics 2014.

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

- Anatole Lécuyer is Associate Editor of Frontiers in Virtual Environments.
- Maud Marchal is Associate Editor of Computer Graphics Forum, Review Editor of Frontiers in Virtual Environments and Member of the Editorial Board of Revue Francophone d'Informatique Graphique.
- Ferran Arguelaguet is Review Editor of Frontiers in Virtual Environments.

#### 9.1.3.2. Reviewer

- Anatole Lécuyer was Reviewer for ACM Transactions on Applied Perception, and International Journal on Human Computer Studies.
- Valérie Gouranton was Reviewer for Revue d'Intelligence Artificielle.
- Maud Marchal was Reviewer for IEEE Transactions on Visualization and Computer Graphics and IEEE Transactions on Haptics.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Anatole Lécuyer:

Master MNRV: "Haptic Interaction", 9h, M2, ENSAM, Laval, FR

Ecole Doctorale Matisse : "Haptic Interaction" and "Brain-Computer Interfaces", 5h, M2-PhD, University of Rennes 1, FR

Master SIBM: "Haptic and Brain-Computer Interfaces", 4,5h, M2, University of Rennes 1, FR

Bruno Arnaldi:

Master INSA Rennes: "VAR: Virtual and Augmented Reality", 12h, M2, INSA Rennes, FR

Master INSA Rennes: "Virtual Reality", 6h, M2, INSA Rennes, FR

Master INSA Rennes: Projects on "Virtual Reality", 20h, M1, INSA Rennes, FR

Valérie Gouranton:

Licence: "Introduction to Virtual Reality", 12h, L2 and responsible of this lecture, INSA Rennes, FR

Licence: Project on "Virtual Reality", 12h, L3 and responsible of this lecture, INSA Rennes, FR

Master INSA Rennes: "Virtual Reality", 16h, M2, INSA Rennes, FR

Master INSA Rennes: Projects on "Virtual Reality", 30h, M1, INSA Rennes, FR

Maud Marchal:

Master INSA Rennes: "Modeling and Engineering for Biology and Health Applications", 48h, M2 and responsible of this lecture, INSA Rennes, FR

Master SIBM: "Biomedical simulation", 3h, M2, University of Rennes 1, FR

Ferran Argelaguet:

Master STS Informatique MITIC: "Techniques d'Interaction Avancées", 26h, M2, ISTIC, University of Rennes 1, FR

### 9.2.2. Supervision

HdR : Maud Marchal: "3D Multimodal Interaction with Physically-Based Virtual Environments", Université Rennes 1, November 20th 2014

PhD : Fabien Danieau, "Contribution to the study of haptic feedback for improving the audiovisual experience", Université Rennes 1, February 13th 2014, Supervised by M. Christie, P. Guillotel, J. Fleureau, N. Mollet, and A. Lécuyer

PhD : Anthony Talvas, "Bimanual haptic interaction", INSA Rennes, December 1st 2014, Supervised by A. Lécuyer and M. Marchal

PhD : Thi Thuong Huyen Nguyen, "New 3D techniques for collaborative interaction and navigation that preserve users' immersion", Université Rennes 1, November 20th 2014, Supervised by T. Duval

PhD : Jérôme Ardouin, "Contribution to the study of visualization of real and virtual environments with an extended field-of-view", December 17th 2014, Supervised by M. Marchal, E. Marchand and A. Lécuyer

PhD in progress: Jean-Baptiste Barreau, "Virtual Reality and Archaeology", Started in February 2014, Supervised by V. Gouranton and B. Arnaldi

PhD in progress: Benoit Le Gouis, "Multi-scale physical simulation", Started in October 2014, Supervised by B. Arnaldi, M. Marchal and A. Lécuyer

PhD in progress: Lorraine Perronet, "Neurofeedback applications based on EEG, fMRI and VR", Started in January 2014, Supervised by C. Barillot and A. Lécuyer

PhD in progress: Jérémy Lacoche, "Plasticity for user interfaces in mixed reality", Started in September 2013 at b<>com Research Institute, Supervised by T. Duval, B. Arnaldi, É. Maisel and J. Royan

PhD in progress: Morgan Le Chénéchal, "Activity and perception for distant collaboration in virtual environments", Started in September 2013 at b<>com Research Institute, Supervised by B. Arnaldi, T. Duval, V. Gouranton and J. Royan

PhD in progress: Lucas Royer, "Visualization tools for needle insertion in interventional radiology", Started in September 2013 at b<>com Research Institute, Supervised by A. Krupa, M. Marchal and G. Dardenne

PhD in progress: Andéol Evain, "BCI-based Interaction", Started in September 2013, Supervised by N. Roussel, G. Casiez, F. Argelaguet and A. Lécuyer

PhD in progress: Guillaume Claude, "Synthesis and Simulation of Process Models ", Started in September 2013, Supervised by V. Gouranton and B. Arnaldi

PhD in progress: François Lehericey, "Collision Detection HPC", Started in October 2013, Supervised by V. Gouranton and B. Arnaldi

PhD in progress: Merwan Achibet, "Dexterous manipulation in virtual environments", Started in November 2012, Supervised by A. Lécuyer and M. Marchal.

PhD in progress: Jonathan Mercier-Ganady, "Hybrid Brain-Computer Interfaces", Started in October 2012, Supervised by M. Marchal and A. Lécuyer

### 9.2.3. Juries

#### 9.2.3.1. Selection committees

- Anatole Lécuyer was Member of Selection committee of Full-time Professor Position at IUT Orsay.
- Bruno Arnaldi was Member of Selection committee of Full-time Professor Position at University of Rennes 1 and Member of Selection committee of Assistant Professor at Université Lille 1.
- Valérie Gouranton was Member of Selection committee of Assistant Professor at INSA Rennes, Research Fellow (CR2) Inria Rennes Bretagne Atlantique
- Maud Marchal was Member of Selection committee of Assistant Professor at Université Lille 1.

#### 9.2.3.2. PhD and HDR juries

- Anatole Lécuyer was Member of PhD jury of Huyen Nguyen (INSA de Rennes).
- Bruno Arnaldi was Member of PhD jury of Jérôme Ardouin (INSA de Rennes), Antony Talvas (INSA de Rennes) and Huyen Nguyen (INSA de Rennes), Member of HDR Jury of Richard Kulpa (University of Rennes 2).
- Maud Marchal was Member of PhD juries of Guillaume Kazmitcheff (Université Lille 1) and Emmanuelle Chapoulie (Université Nice - Sophia Antipolis).

## 9.3. Popularization

- Massive media coverage of the "Mind-Mirror" system : following a press conference and press release organized in May 2014. This ended up with numerous appearances in the media (TV, Press, Radio).

- Other regular and numerous appearances of the team results and activity at: French TV (e.g., France5, France 3, France 2) or newspapers and journals (e.g., articles in "Archeologia" (Feb 2014) and "Science et Avenir" (Aug 2014) on "Virtual Reality and Archaeology").
- "Journées Science et Musique" 2014 (Rennes, Oct 2014) : organization of this event, and presentation of several demos of the team in Immersia room, Rennes.
- "Journée Nationales d'Archéologie" 2014 (Rennes, June 2014) : organization of this event, and presentation of several demos, Rennes.
- Participation at "Forum Libération" (Rennes, April 2014) : presentation of Anatole Lécuyer.
- Participation at "LE WEB 2014" Conference (Paris, Dec 2014) : demos of the FLYVIZ system.

## **HYCOMES Team**

# **8. Dissemination**

## **8.1. Promoting Scientific Activities**

### **8.1.1. Scientific events selection**

#### *8.1.1.1. Member of the conference program committee*

Benoît Caillaud has served on the program committee of the ACSD 2014 conference

#### *8.1.1.2. Reviewer*

Benoît Caillaud has been reviewing for the ACSD 2014, ACC 2014, CONCUR 2014, DATE 2014 and TACAS 2015 conferences.

### **8.1.2. Journal**

#### *8.1.2.1. Reviewer*

Benoît Caillaud has been reviewing for the following journals: ACM Transactions on Embedded Computing, Acta Informatica and Emperical Software Engineering.

## **8.2. Teaching - Supervision - Juries**

### **8.2.1. Teaching**

Master : Benoît Caillaud has taught an invited course on hybrid systems modeling in the first year master curriculum in computer science of ENS Rennes. This was a joint course with Marc Pouzet, representing a total of 27 hours EqTD.

### **8.2.2. Supervision**

PhD in progress : Ayman Aljarbouh, Accelerated simulation of hybrid systems, started December 2013, supervised by Benoît Caillaud

PhD in progress : Guillaume Baudart, Time-based protocols for LTTA, started December 2013, co-supervised by Albert Benveniste and Marc Pouzet (Parkas Inria project-team, ENS, Paris).

## I4S Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

V. Le Cam was general chair of the 7th European Workshop on Structural Health Monitoring in Nantes, from 8 to 11, July 2014.

L. Mevel was scientific chair of the 7th European Workshop on Structural Health Monitoring in Nantes, from 8 to 11, July 2014.

#### 9.1.1.2. member of the organizing committee

M. Doehler was member of the organizing committee of 7th European Workshop on Structural Health Monitoring in Nantes, from 8 to 11, July 2014.

M. Le Pen was member of the organizing committee of 7th European Workshop on Structural Health Monitoring in Nantes, from 8 to 11, July 2014.

Q. Zhang is member of the national organization committee of the IFAC Symposium SAFEPROCESS 2015 (<http://safeprocess15.sciencesconf.org/>).

### 9.1.2. Scientific events selection

#### 9.1.2.1. responsible of the conference program committee

V. Le Cam has been nominated head of the EWSHM scientific committee in 2014 (<http://ewshm2014.com>).

#### 9.1.2.2. member of the conference program committee

L. Mevel

- has been nominated as member of the EWSHM scientific committee in 2014 (<http://ewshm2014.com>).
- has organized with M. Doehler one invited session at EWSHM 2014 (<http://ewshm2014.com>)
- is member of the IOMAC scientific committee (<http://www.iomac.dk>)

J. Dumoulin is

- member of the scientific committee of the GI Division (Geosciences Instrumentation and Data Systems) of EGU for infrastructure instrumentation and monitoring since April 2013.
- member of the committee of QIRT (quantitative Infrared Thermography) since February 2014 (<http://qirt2014.scientific-event.com>)
- organizer of invited sessions at EWSHM 2014 (<http://ewshm2014.com>) and TRA 2014 (<http://www.traconference.eu>).
- organizer of some invited sessions at EGU 2014 (<http://www.egu2014.eu>).

Q. Zhang is

- member of IFAC Technical Committee on Modelling, Identification and Signal Processing (TC 1.1, <http://tc.ifac-control.org/6/4/>).
- Member of IFAC Technical Committee on Fault Detection, Supervision and Safety of Technical Processes (TC 6.4, <http://tc.ifac-control.org/6/4/>).
- Member of the international program committee of the IFAC Symposium SYSID 2015 (<http://sysid2015.info/>).
- Member of the international program committee of the IFAC Symposium SAFEPROCESS 2015 (<http://safeprocess15.sciencesconf.org/>).

### 9.1.2.3. reviewer

L. Mevel, M. Doehler were reviewers for many conferences in 2014 (IFAC WC, CDC, EWSHM, ...).

J. Dumoulin was reviewer for EWSHM 2014 (<http://ewshm2014.com>) and for the European Signal Processing Conference (EUSIPCO - <http://www.eusipco2014.org/>).

## 9.1.3. Journal

### 9.1.3.1. member of the editorial board

L. Mevel is member of the editorial board of journal of Simulation in Engineering.

L. Mevel is member of the editorial board of journal of Shock and Vibration.

Q. Zhang is member of the editorial board of the journal of Intelligent Industrial Systems.

### 9.1.3.2. reviewer

L. Mevel was reviewer for Mechanical Systems and Signal Processing, journal of Sound And Vibration, Applied Maths and Computation, Operational Research, journal of CSNDT.

M. Doehler was reviewer for Journal of Electrical Power and Energy Systems and Mechanical Systems and Signal Processing.

L. Mevel and M. Doehler were reviewers for the journal of Smart Materials and Structures.

J. Dumoulin was reviewer for IEEE Transactions on Instrumentation and Measurement, Quantitative Infrared Thermography Journal, Optics and Lasers in Engineering journal, Journal Cultural Heritage, International Journal of Architectural Heritage, Journal of Geophysics and Engineering, Research in Nondestructive Evaluation

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence Professionnelle TAM : J. Dumoulin, thermographie infrarouge active, 8h, Université Paris-Est, France

Master 2 MMMRI, (Maintenance et Maîtrise des Risques Industriels), J. Dumoulin, contrôle non destructif par thermographie infrarouge active, 12h, Université Paris-Est, France

Master Système Communicant Mobile, V. Le Cam, embedded systems under Linux Operating System, 12h, Polytech Nantes, France

Master Civil engineering, V. Le Cam, Structural Monitoring, 4h, Université de Nantes, France

Licence 3 SEICOM, V. Le Cam, 3h, SHM and smart grids, Université de Nantes, France

Licence 3 SEICOM, V. Le Cam, 8h, TP, SHM and smart grids, Université de Nantes, France

ESEO, V. Le Cam, 8h, TP, embedded systems under Linux Operating System, France

### 9.2.2. Supervision

PhD : Jordans, Broons, *Développement d'outils numériques pour l'audit énergétique des bâtiments*, Université Paris-Est, A. Nassiopoulos, Frédéric Bourquin (IFSTTAR) and Karim Limam (Université de La Rochelle), Ecole doctorale Science Ingénierie et Environnement (SIE), 01/12/14.

PhD : Ahmed Jhinaoui, *Subspace-based identification and vibration monitoring algorithms for rotating systems*, Université de Rennes 1, L.Mevel and J. Morlier (ISAE), Ecole doctorale MATISSE, defended on May 28th, 2014

PhD : Philippe Mellinger, *Estimation des incertitudes en identification modale avec et sans entrées connues : Théorie, validation et application*, Université de Rennes 1, L. Mevel and C. Meyer (Dassault Aviation), Ecole doctorale MATISSE, defended on December 16th, 2014

PhD : Nassif Berrabah, *Electrical cable aging monitoring*, Q. Zhang, Ecole doctorale MATISSE, Université de Rennes 1, since November 2014

PhD : Delwar Hossain Bhuyan, *Damage localisation on offshore platforms*, L. Mevel and M. Doehler, Ecole doctorale MATISSE, Université de Rennes 1, since November 2014

PhD : Mohamed Oumri, *Diagnostic of defaults in electric networks*, Q. Zhang, Université de PARIS-SUD, 2014. Thesis happened jointly with SISYPHE project at Inria Rocquencourt

Liangquan Zhang's post-doctoral project on hybrid system monitoring, Q. Zhang, 2014-2015.

### 9.2.3. *Juries*

J. Dumoulin was part of the jury of A. Crinière at Ecole Centrale de Nantes.

L. Mevel was member of Julie Bessac's PhD defense committee at IRMAR, University of Rennes 1, October 20th, 2014.

L. Mevel was member of Fabien Menant's PhD defense committee at IFSTTAR, Nantes, Ecole Centrale de Nantes, November 4th, 2014.

Q. Zhang was member of Mariem Sahnoun's PhD defense committee at Université de Lyon 1, December 4th, 2014

## 9.3. Popularization

Qinghua Zhang has published the following work:

Q. Zhang: Encyclopedia article '*Nonlinear system identification – an overview*', in Encyclopedia of Systems and Control, Springer, 2014, (<http://www.springerreference.com/docs/html/chapterdbid/364854.html>) [57].



## IPSO Project-Team

## 7. Dissemination

### 7.1. Promoting Scientific Activities

#### 7.1.1. Scientific events organisation

##### 7.1.1.1. Member of the organizing committee

- F. Castella organised, jointly with P. Chartier, a meeting held in Saint-Malo (25 participants) in the framework of the european ANR project Lodiquas.

#### 7.1.2. Scientific events selection

##### 7.1.2.1. Member of the conference program committee

- A. Debussche was member of the scientific committee of the conference *Stochastic Partial Differential Equations and Applications - IX*, Trento, Italy, january 7-11, 2014.

#### 7.1.3. Journal

##### 7.1.3.1. Member of the editorial board

- N. Crouseilles is member of the editorial board of Hindawi review "International Journal of Analysis"  
<http://www.hindawi.com/journals/analysis/>
- M. Lemou is associate editor in the journal "Annales de la faculté des sciences de Toulouse"
- A. Debussche is editor in Chief of "Stochastic Partial Differential Equations: analysis and computations".
- A. Debussche is member of the editorial board of "Potential Analysis".
- A. Debussche is member of the editorial board of the "Journal of Evolution Equations".
- A. Debussche is member of the editorial board of "Differential and Integral Equations".
- A. Debussche is member of the editorial board of "ESAIM: Proceedings".
- A. Debussche is member of the editorial board of the collection: "Mathématiques et Applications", SMAI, Springer.
- P. Chartier is member of the editorial board of M2AN (Mathematical Modelling and Numerical Analysis).
- P. Chartier is member of the editorial board of ISRN Mathematical Analysis.

### 7.2. Teaching - Supervision - Juries

#### 7.2.1. Teaching

Master 2 lectures: N. Crouseilles, Numerical methods for kinetic equations.

Master 1 lectures: M. Lemou, Theory of distributions, University of Rennes 1 and ENS Cachan (Ker Lann), 24 hours.

Master 2: M. Lemou was the manager of Master 2 courses in "Analysis and Applications", university of Rennes 1.

E. Faou gave a series of lectures on *Stochastic methods for PDEs*, Heriot-Watt University, Edinburgh, UK, october 2014.

E. Faou gave a series of lectures on *Geometric Numerical Integration for PDE*, KIT, Karlsruhe, Germany, August 2014.

E. Faou gave a series of lectures on *Stochastic computation* and on *Geometric Numerical Integration for PDE*, Chinese Academy of Sciences, Beijing, May 2014

A. Debussche gave a mini-course on *Introduction aux EDPS* in the school *EDP avec conditions aleatoires*, Toulouse, April 22-25, 2014.

Licence 3: P. Chartier gave a lecture on ODEs at ENS Rennes, september-december, 24 hours.

### 7.2.2. Supervision

N. Crouseilles and M. Lemou co-advise H. Hivert's PhD (first year in Rennes university), ENS grant.

N. Crouseilles and M. Lemou co-advise (with R. Raghurama and M. Lemou) A. Ruhi's PhD (third year in IISc), Indian grant.

M. Lemou and F. Méhats co-advise P. Carcaud's PhD: University of Rennes 1. Thesis defense on june 2nd 2014.

P. Chartier and F. Méhats co-supervise the PhD thesis of G. Leboucher.

P. Chartier and F. Castella co-supervise the PhD thesis of J. Sauzeau.

A. Debussche and F. Méhats co-supervise the PhD thesis of M. Tusseau.

E. Faou co-supervises the PhD thesis of R. Horsin.

A. Debussche and E. Faou co-supervised the thesis of M. Kopec, ENS Rennes.

### 7.2.3. Juries

N. Crouseilles: member of the PHD jury of P. Glanc, 20 january 2014 (Strasbourg); co-advicing (with M. Mehrenberger) of Pierre Glanc PhD (Strasbourg University), Inria-Cordi grant.

N. Crouseilles: member of the PHD jury of Ch. Steiner, 11 december 2014 (Strasbourg); co-advicing (with M. Mehrenberger) of Christophe Steiner PhD (Strasbourg University), ministry grant.

N. Crouseilles: member of the PHD jury of M. Kuhn, 29 september 2014 (Strasbourg); co-advicing (with S. Genaud) of Matthieu Kuhn PhD (Strasbourg University and Inria IPSO), ANR "E2T2" grant.

N. Crouseilles: member of the Master 2 jury of P. Pereira, 26 november 2014 (Lisboa, Portugal).

F. Méhats was referee of the thesis of L. Hari (Cergy, supervised by T. Duyckaerts and C. Ferma-  
nian).

F. Méhats was referee of the thesis of X. Zhao (Singapore, supervised by W. Bao).

P. Chartier was referee of the PhD thesis of Philipp Bader, University of Valencia, june.

## **KerData Project-Team**

# **9. Dissemination**

## **9.1. Promoting Scientific Activities**

### **9.1.1. Scientific events organisation**

Gabriel Antoniu

- Program Chair of the IEEE Cluster 2014 conference, Madrid, September 2014.

Luc Bougé

- Vice-Chair of the Euro-Par Steering Committee. Chair of the Euro-Par Workshop Advisory Board.
- Co-Chair of the PhD Forum of the IPDPS 2014 Conference, Phoenix, May 2014.
- Chair of the PhD Student Mentoring Program of the IEEE Cluster 2014 conference, Madrid, September 2014.

Shadi Ibrahim

- PhD Consortium Co-Chair for the 2014 CloudCom conference, Singapore, December 2014.
- Workshop Co-Chair for the 2014 ScalCom conference, Indonesia, December 2014.

Alexandru Costan

- Program Co-Chair of the BigDataCloud 2014 International workshop held in conjunction with the Euro-Par 2104 conference, Porto, August 2014.
- Submission Chair of the IEEE Cluster 2014 conference, Madrid, September 2014.

### **9.1.2. Scientific events selection**

Gabriel Antoniu

- Program Chair of the IEEE Cluster 2014 conference (Madrid, 22–26 September 2014).
- Member of the following Program Committees: ACM HPDC 2014, ACM/IEEE CC-Grid'2014, IEEE Big Data 2014, ACM/IEEE SC'14 (Technical Program Member - Posters Committee), BigDataCloud 2014 workshop (held in conjunction with the Euro-Par 2014 conference).

Shadi Ibrahim

- Program Committee Chair of the PhD Consortium for the 2014 CloudCom.
- Member of the following Program Committees: IEEE Cluster 2014, IEEE SCC 2014, IEEE CloudCom 2014, ICPADS 2014, HPCC 2014, ICA3PP 2014, NPC 2014, MEDES 2014, ISPDC 2014, PICom-2014, SCRAMBL workshop 2014, CLOUD COMPUTING 2014.
- Other reviews: HPDC 2014, Euro-par 2014, Big Data 2014, SC14 Posters and Student Research Competition.

Alexandru Costan

- Member of the following Program Committees: ICPP 2014, IEEE CloudCom 2014, IEEE CloudCom PhD Forum 2014, ISPDC 2014, ARMS-CC workshop 2014, IEEE Cluster 2014, BigDataCloud Workshop 2014
- Other reviews: ACM HPDC 2014, EuroPar 2014, ARMS-CC, IEEE Cluster 2014, IEEE/ACM CCGrid 2014, SC14.

### 9.1.3. Journal

Luc Bougé

- Member of the Editorial Board of Scientific Programming.

Shadi Ibrahim

- Guest editors for a Special Issue on *Advanced Techniques for Cloud Data Management* in the International Journal Transactions on Large-Scale Data and Knowledge Centered Systems (TLDKS), Springer.
- Other reviews: IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Computers, IEEE Transactions on Cloud Computing, ACM Transactions on Internet Technology, Future Generation Computer Systems, IEEE Systems Journal, Journal of Supercomputing, Cluster Computing, Springer Transactions on Large-Scale Data and Knowledge-Centered Systems.

Alexandru Costan

- Other reviews: IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Cloud Computing, Future Generation Computer Systems, Concurrency and Computation - Practice and Experience, Computers and Geosciences

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Gabriel Antoniu

Master (Engineering Degree, 5th year): Big Data, 24 hours (lectures), M2 level, ENSAI (*École Nationale Supérieure de la Statistique et de l'Analyse de l'Information*), Bruz, France.

Master: Grid, P2P and cloud data management, 18 hours (lectures), M2 level, ALMA Master, Distributed Architectures module, University of Nantes, France.

Master: Scalable Distributed Systems, 10 hours (lectures), M2 level, SDS Module, M2RI Master Program, ENS Rennes, France.

Master: Scalable Distributed Systems, 17 hours (lectures), M1 level, SDS Module, EIT ICT Labs Master School, France.

Luc Bougé

Bachelor: Introduction to programming concepts, 24 hours (lectures), L3 level, Informatics program, ENS Rennes, France.

Master: Introduction to object-oriented high-performance programming, 24 hours (lectures), M1 level, Mathematics program, ENS Rennes, France.

Shadi Ibrahim

Master: Hadoop, 48 hours (Project), M1 Level, ENS Rennes, France

Master: Cloud1, Map-Reduce, 16 hours (lectures, lab sessions), M2 Level, École des Mines de Nantes, Nantes, France.

Master (Engineering Degree, 5th year): Big Data, 12 hours (lab sessions), M2 level, ENSAI (*École Nationale Supérieure de la Statistique et de l'Analyse de l'Information*), Bruz, France.

Alexandru Costan

Bachelor: Object-oriented programming, 18 hours (lectures), L3, ENS Rennes

Bachelor: Java programming, 28 hours (lab sessions), L2, INSA Rennes

Bachelor: Databases, 68 hours (lectures and lab sessions), L2, INSA Rennes, France

Bachelor: Practical case studies, 24 hours (project), L3, INSA Rennes

Master: Big Data and Applications, 36h hours (lectures, lab sessions, project), M1, INSA Rennes

Matthieu Dorier

Bachelor: Ruby Programming, 15 hours (lectures, lab sessions), L3 level, ENS Rennes.

Master: Initiation to Unix Systems, 2 hours (lab sessions), M1 level, ENS Rennes.

Lokman Rahmani

Bachelor: Java Programming, 18 hours (lab sessions), L3 level, MIAGE program, University Rennes 1, France.

Master: Distributed Programming, 48 hours (lab sessions), M1 level, GL program, University Rennes 1, France.

### 9.2.2. Supervision

PhD defended: Matthieu Dorier, *Addressing the Challenges of I/O Variability in Post-Petascale HPC Simulations*, thesis started in October 2011 co-advised by Gabriel Antoniu and Luc Bougé. Defended on December 9, 2014.

PhD defended: Radu Tudoran, *High-Performance Big Data Management Across Cloud Data Centers*, thesis started in October 2011, co-advised by Gabriel Antoniu and Luc Bougé. Defended on December 10, 2014.

PhD in progress: Álvaro García Recuero, *Scalable, Power-efficient Big Data Analysis on Geographically Distributed Clouds*, thesis started in October 2013, co-advised by Shadi Ibrahim and Gabriel Antoniu.

PhD in progress: Lokman Rahmani, *Big Data Management for Next-Generation High-Performance Computing Systems*, thesis started in October 2013 co-advised by Gabriel Antoniu and Luc Bougé.

PhD in progress: Luis Eduardo Pineda Morales, *Efficient Big Data Management for Geographically Distributed Workflows*, thesis started in January 2014, co-advised by Alexandru Costan and Gabriel Antoniu.

PhD in progress: Tien-Dat Phan, *Green Big Data Processing in Large-scale Clouds*, thesis started in October 2014, co-advised by Shadi Ibrahim and Luc Bougé.

PhD in progress: Orçun Yildiz, *Energy-Efficient Big Data Management in Petascale Supercomputers and Beyond*, thesis started in September 2014, co-advised by Shadi Ibrahim and Gabriel Antoniu.

### 9.2.3. Juries

Gabriel Antoniu served as a member of Inria's Junior Researcher (CR2) Admissibility Jury for the Rennes and Grenoble Research Centers and of Inria's Junior Researcher Admission Jury (CR1 and CR2, all centers).

Luc Bougé served as a jury member for several PhD and HDR defenses, in many cases as the jury chairman.

### 9.2.4. Miscellaneous

Gabriel Antoniu served as a member of Inria's Evaluation Committee.

Shadi Ibrahim served as a member of Inria's Post-Doc Evaluation Committee since 2014.

Shadi Ibrahim served as a member of jury for L3 internship at ENS Rennes, September 2014.

Shadi Ibrahim is giving a Tutorial on *Green Big Data Processing using Hadoop: An introductory tutorial* at the Middleware 2014 conference, Bordeaux, France, December 2014 (with Anne-Cécile Orgerie).

Matthieu Dorier served as a member of jury for L3 internship at ENS Rennes, September 2014.

### 9.3. Popularization

- Gabriel Antoniu  
Microsoft Research, Redmond. Invited presentation at the Workshop on *E-Science in the Cloud*. Subject: Big Data management in the Cloud (A-Brain and Z-CloudFlow projects). Audience: engineers, students and researchers, from academia and industry (April 2014).  
ORAP Forum. Invited Speaker. *Big Data: Concepts-clés et enjeux* (April 2014).  
Radio France. Invited interview about Big Data at the *Labo des savoirs*. Available on line at <http://labodessavoirs.fr/chroniques-et-reportages/un-nouveau-paradigme/>.  
Institut Français de Bio-informatique, Grand-Ouest, Rennes. Invited presentation at the *12e Rencontres des plates-formes de Bioinformatique du Grand Ouest* about the team's experience with the Microsoft Azure cloud platform (November 2014).
- Shadi Ibrahim  
Parallel and Distributed Computing Centre (PDCC), Nanyang Technological University (NTU), Singapore. Invited seminar. Subject: *Consistency Management for Big Data Applications in the Clouds* (January 2014).
- Alexandru Costan  
EIT ICT Labs, Rennes. Invited presentation at the Workshop on *Trusted Clouds* about *KerData Team: Scalable Data Management on Clouds and Beyond* (March 2014).
- Matthieu Dorier  
Inria, Grenoble. Invited seminar about *Damaris: data management for scientific simulations on post-Petascale supercomputers* (June 2014).

## LAGADIC Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

- Paolo Robuffo Giordano co-organized the Workshop “On the centrality of decentralization in multi-robot systems: holy grail or false idol?” at ICRA 2014, Hong Kong, China

#### 9.1.1.2. member of the organizing committee

- Paolo Robuffo Giordano co-organized the 7-th International Workshop on Human-Friendly Robotics, Pontedera, Italy

### 9.1.2. Scientific events selection

#### 9.1.2.1. member of the conference program committee

- François Chaumette: ICRA’14, ICRA’15
- Eric Marchand: ICRA’14, RFIA’14 (area chair), ICIP’14
- Patrick Rives: RFIA’14
- Paolo Robuffo Giordano: RSS’14, ICRA’14, DARS’14, RSS’15
- Marie Babel: ICIP’14, ICRA’15

#### 9.1.2.2. reviewer

- François Chaumette: ICRA’14, RSS’14, IROS’14, , WAFR’14, ICRA’15
- Eric Marchand: ICRA’14, ICIP’14, IROS’14, ICRA’15
- Patrick Rives: ICRA’15, IROS’14, MVIRO’14, RFIA’14, ECCV’14, ASROB’14
- Paolo Robuffo Giordano: ICRA’14, IROS’14, MSC’14, IFAC WC’14, ICRA’15
- Alexandre Krupa: ICRA’14, IROS’14, IPCAI’14, ICRA’15, ISBI’15

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

- Eric Marchand and Paolo Robuffo Giordano are Associate Editors of the IEEE Trans. on Robotics.
- Eric Marchand is a Guest Editor (with Peter Corke and Jana Kosecka) of a Special Issue of the Int. Journal of Robotics Research on Robot Vision.
- François Chaumette is in the Editorial Board of the Int. Journal of Robotics Research.

#### 9.1.3.2. reviewer

- François Chaumette: IEEE Trans. on Robotics (7), Int. Journal of Robotics Research (1), IEEE Trans. on Automatic Control (1), Robotics and Autonomous Systems (1)
- Eric Marchand: IEEE Trans. on Robotics (8), Int. Journal of Robotics Research (4), Autonomous Robots (1)
- Patrick Rives: Int. Journal of Robotics Research (1), Journal of Control (1)
- Paolo Robuffo Giordano: IJRR (2), T-CST (2), JHRI (1), TAC (1), TRO (1)
- Alexandre Krupa: Robotics and Autonomous Systems (1)

### 9.1.4. Selection committees

- François Chaumette was in the selection committee for an Assistant Professor position at the “Université Picardie-Jules Verne” in Amiens. He also served in the jury for the selection of research scientists (SRP/ARP) at Inria.
- Marie Babel was in the selection committee for research scientists (CR2) at Inria Rennes-Bretagne Atlantique. She also served in the selection committee for an Assistant Professor position in robotics at the “Université de Lorraine”.
- Paolo Robuffo Giordano and François Chaumette were in the selection committee for an Assistant Professor position in robotics at the “Université de Rennes 1”.
- Eric Marchand was in the selection committee for a Professor position in image processing at Insa in Rennes.
- Patrick Rives as a member of the Inria evaluation committee was in the selection committee for research scientists (CR2) at Inria Nancy-Grand Est and Inria Bordeaux-Sud-Ouest, and also in the selection committees for senior research scientists (DR2, DR1, and DR0).

#### **9.1.5. Participation in seminars, invitation**

- François Chaumette and Paolo Robuffo Giordano were invited to give a talk during the final workshop of the FP7 Regpot project at Dubrovnik, Croatia, in September 2014.
- Alexandre Krupa was invited to give a talk in the tutorial session on Mechatronics for medical robotics at the IEEE/ASME Conf. on Advanced Intelligent Mechatronics, Besançon, France, July 2014 [59].

#### **9.1.6. Animation at the international level**

- François Chaumette served in the 2014 IEEE RAS Fellow Nomination Committee and in the 2014 IEEE RAS Chapter of the year Award Committee. He was also a member of the jury in charge of the 2014 IEEE ICRA Best Vision paper award.
- Paolo Robuffo Giordano served as External Reviewer for the EU FP7 Project “SHERPA”

#### **9.1.7. Animation at the national level**

- François Chaumette and Patrick Rives are members of the scientific council of the “GdR Robotique” and JNRR. They have both served in the jury to select the best French Ph.D. thesis in robotics.
- Patrick Rives is a member of the Inria evaluation committee.
- Eric Marchand is in the board of the “Association Française pour la Reconnaissance et l’Interprétation des Formes (AFRIF)”. He is secretary of this association.
- Alexandre Krupa is a member of the Inria Cost-GTAI in charge of the evaluation of the ADTs (“Actions de développements technologiques”)

#### **9.1.8. Animation at the regional and local levels**

- Eric Marchand is in the board of the “Images et réseaux” competitiveness cluster.
- Alexandre Krupa is a member of the GestChir project at the IRT B-Com in Rennes.
- Eric Marchand is a member of the scientific council of the “École supérieure d’ingénieurs de Rennes” (ESIR).
- François Chaumette is the president of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes-Bretagne Atlantique and Irisa. He is also a member of the Head team of Inria Rennes-Bretagne Atlantique.
- Eric Marchand is a member of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes-Bretagne Atlantique and Irisa. He is particularly in charge of Irisa Ph.D. students.
- Marie Babel is a member of the “Comité de centre” of Inria Rennes-Bretagne Atlantique.



- Fabien Spindler is a member of the “Commission développement durable” of Inria Rennes-Bretagne Atlantique.
- Alexandre Krupa is a member of the CUMIR (“Commission des Utilisateurs des Moyens Informatiques pour la Recherche”) of Inria Rennes-Bretagne Atlantique.
- Paolo Robuffo Giordano was invited to give a talk to the M.Sc. students at the ENS Rennes in October 2014.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Marie Babel:

- Master INSA3: “Statistical Signal Processing”, 24 hours, M2, INSA Rennes
- Master INSA1: “Assembly language compilation oriented”, 30 hours, L3, INSA Rennes
- Master INSA2: “Computer science project”, 30 hours, M1, INSA Rennes
- Master INSA2: “Image analysis”, 18 hours, M1, INSA Rennes
- Master INSA1: “Remedial math courses”, 24 hours, L3, INSA Rennes
- Master INSA1: “Risk Management for Information Systems”, 8 hours, L3, INSA Rennes

François Chaumette:

- Master ESIR3: “Visual servoing”, 8 hours, M2, Ecole supérieure d’ingénieurs de Rennes

Vincent Drevelle:

- Master CTS: “Instrumentation, localization, GPS“, 6 hours, M2, Université de Rennes 1
- Master Info: “Mobile robotics“, 22 hours, M2, Université de Rennes 1

Alexandre Krupa:

- Master SIBM (Signals and Images in Biology and Medicine): “Medical robotics guided from images”, 4.5 hours, M2, Université de Rennes 1, Brest and Angers
- Master FIP TIC-Santé: “Ultrasound visual servoing”, 6 hours, M2, Télécom Physique Strasbourg

Eric Marchand:

- Master Esir2: “Colorimetry”, 24 hours, M1, Esir Rennes
- Master Esir2: “Computer vision: geometry”, 24 hours, M1, Esir Rennes
- Master Esir3: “Special effects”, 24 hours, M2, Esir Rennes
- Master Esir3: “Computer vision: tracking and recognition”, 24 hours, M2, Esir Rennes
- Master MRI: “Computer vision”, 24 hours, M2, Université de Rennes 1
- Master MIA: “Augmented reality”, 4 hours, M2, Université de Rennes 1

Paolo Robuffo Giordano:

- Master in Robotics: “Analysis and Control of Multi-Robot Systems”, 16 hours, M2, Department of Computer and System Sciences, University of Rome “La Sapienza”

### 9.2.2. Supervision

Ph.D.: Bertrand Delabarre, “Contributions to dense visual tracking and visual servoing using robust similarity criteria”, defended on December 2014, supervised by Eric Marchand [8]

Ph.D.: Jérôme Ardouin, “Contribution to the study of visualization of real and virtual environment with an extended field of view”, defended on December 2014, supervised by Anatole Lecuyer (Hybrid group in Rennes), Maud Marchal (Hybrid group) and Eric Marchand

Ph.D.: Carlo Masone, “Planning and Control for Robotic Tasks with a Human-in-the-Loop”, defended on July 2014, supervised by Paolo Robuffo Giordano with Prof. Dr.-Ing. Frank Allgöwer (University of Stuttgart) and Prof. Dr. Heinrich H. Bühlhoff (Max Planck Institute for Biological Cybernetics)

Ph.D.: Volker Grabe, “Towards Robust Visual-Controlled Flight of Single and Multiple UAVs in GPS-Denied Indoor Environments”, defended on March 2014, supervised by Paolo Robuffo Giordano with Prof. Dr. Andreas Schilling (University of Tübingen) and Prof. Dr. Heinrich H. Bühlhoff (Max Planck Institute for Biological Cybernetics)

Ph.D.: Rafik Sekkal, “Visual techniques for 2D object detection and tracking”, defended on February 2014, supervised by Marie Babel [9]

Ph.D. in progress: Manikandan Bakthavatchalam, “Utilisation des moments photométriques en asservissement visuel”, started in October 2011, supervised by François Chaumette

Ph.D. in progress: Tawsif Gokhool, “Représentations valides à long terme pour la navigation et l’apprentissage des modèles 3D”, started in February 2012, supervised by Patrick Rives

Ph.D. in progress: Romain Drouilly, “Représentation hybride métrique, topologique et sémantique d’environnement 3D pour la localisation temps réel”, started in May 2012, supervised by Patrick Rives

Ph.D. in progress: Le Cui, “Nano-manipulation par asservissement visuel”, started in October 2012, supervised by Eric Marchand

Ph.D. in progress: Riccardo Spica, “Autonomous vision-based two-hand manipulation strategies for humanoid robots”, started in December 2012, supervised by Paolo Robuffo Giordano and François Chaumette

Ph.D. in progress: Lucas Royer, “Visual tool for percutaneous procedures in interventional radiology”, started in September 2013, supervised by Alexandre Krupa, Maud Marchal (Hybrid group at Inria Rennes-Bretagne Atlantique and Irisa) and Guillaume Dardenne (IRT B-Com)

Ph.D. in progress: Pierre Chatelain, “Multi-modal visual servoing for intra-operative imaging”, started in September 2013, supervised by Alexandre Krupa and Nassir Navab (Technische Universität München)

Ph.D. in progress: Vishnu Karakkat Narayanan, “Semi-autonomous navigation of a wheelchair by visual servoing and user intention analysis”, started in September 2013, supervised by Marie Babel and Anne Spalanzani (e-Motion group at Inria Rhône-Alpes)

Ph.D. in progress: Suman Raj Bista, “Visual navigation of a humanoid robot”, started in October 2013, supervised by Paolo Robuffo Giordano and François Chaumette

Ph.D. in progress: Nicolas Cazy, “Model predictive visual servoing of a humanoid robot”, started in October 2013, supervised by Paolo Robuffo Giordano, François Chaumette and Pierre-Brice Wieber (Bipop group at Inria Rhône-Alpes)

Ph.D. in progress: Renato José Martins, “Robust navigation and control of an autonomous vehicle”, started in November 2013, supervised by Patrick Rives and Samuel Siqueira Bueno (CTI)

Ph.D. in progress: Aly Magassouba, “Audio-based control”, started in December 2013, supervised by François Chaumette and Nancy Bertin (Panama group at Inria Rennes-Bretagne Atlantique and Irisa)

Ph.D. in progress: Jason Chevie, “Control of a flexible needle by visual servoing using B-mode ultrasound images”, started in September 2014, supervised by Alexandre Krupa and Marie Babel

Ph.D. in progress: Quentin Bateux, “Visual servoing from global descriptors”, started in October 2014, supervised by Eric Marchand

Ph.D. in progress: Fabrizio Schiano, “Collective control with onboard sensors for multiple quadrotor UAVs”, started in October 2014, supervised by Paolo Robuffo Giordano

Ph.D. in progress: Pedro Patlan-Rosales, “Robotic insertion of a biopsy needle by visual servoing using elastography images”, started in October 2014, supervised by Alexandre Krupa

Ph.D. in progress: Noël Mériaux, “Landing by visual servoing”, started in October 2014, supervised by François Chaumette, Eric Marchand and Patrick Rives

Ph.D. in progress: Lesley-Ann Dufлот, “Soft tissue deformation tracking using optical coherence tomography (OCT) and ultrasound imaging”, started in November 2014, supervised by Alexandre Krupa and Brahim Tamadazte (Minarob group at FEMTO-ST, Besançon)

Master internship: Clément Leboulenger from Insa Rennes, “Haptic guidance for vision-based semi-autonomous wheelchair navigation”, supervised by Marie Babel and Maud Marchal (Hybrig group at Inria Rennes-Bretagne Atlantique)

Master internship: Quentin Bateux from Insa Rouen, “Visual servoing from histograms”, supervised by Eric Marchand

Master internship: Jason Chevie from Normale Sup Cachan, “3D deformable target tracking in ultrasound images”, supervised by Alexandre Krupa and Marie Babel

Bachelor internship: David Roszczypala from Univ. Rennes 1, “Target tracking by visual servoing”, supervised by François Chaumette

Bachelor internship: Olivier Bordron from Normale Sup Rennes, “Active SfM with a human-in-the-loop”, supervised by P. Robuffo Giordano

Bachelor internship: Quentin Delamare from Normale Sup Rennes, “Learning-based flight control for quadrotor UAVs”, supervised by Paolo Robuffo Giordano

### 9.2.3. *Juries*

- Marie Babel: Jesus-Arturo Escobedo-Cabello (Ph.D., reviewer, Inria, Grenoble)
- François Chaumette: Dorra Larnaout (Ph.D., reviewer, CEA, Saclay), Ivan Markovic (Ph.D., Zagreb), Mohammed Rédha Benachenhou (Ph.D., reviewer, IRCCyN, Nantes), Dao Xuan Quy (Ph.D., Inria, Rennes), Guillaume Sabiron (Ph.D., president, Onera, Toulouse), Omar Tahri (HdR, Institut Pascal, Clermont-Ferrand), Xavier Savatier (HdR, reviewer, Irseem, Rouen)
- Eric Marchand: Ali Mekkonen (Ph.D., reviewer, Laas, Toulouse), Maxime Boucher (Ph.D., Evry), Olivier Le Meur (HdR, Irisa, Rennes), Rémi Cozot (HDR, president, Irisa, Rennes), Valérie Renaudin (HdR, president, Irstea), Clément Deymier (Ph.D., president, Institut Pascal, Clermont-Ferrand), Mihir Jain (Ph.D., president, Irisa, Rennes)
- Patrick Rives: R. Marie (Ph.D., Mis Amiens), E. Wirbel (Ph.D., president, Ecole des Mines de Paris), J.C. Devaux (Ph.D., reviewer, Ibisc Evry), G. Bernardes Vitor (Ph.D., reviewer, Unicamp Brazil), Xavier Savatier (HdR, president, Irseem, Rouen)

### 9.2.4. *Patent*

- Paolo Robuffo Giordano obtained the US Patent N. 8,634,969 “Teleoperation Method And Human Robot Interface For Remote Control of a Machine by a Human Operator” with Prof. Dr. Heinrich H. Bühlhoff (Max Planck Institute for Biological Cybernetics)

## 9.3. Popularization

- Due to the visibility of our experimental platforms, the team is often asked to present its research activities to students, researchers or industry. Our panel of demonstrations allows us to highlight recent results concerning the positioning of an ultrasound probe by visual servoing, the construction of a tower by combining 3D model-based visual tracking and visual servoing techniques to pick up cubes that are assembled, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications.
- Marie Babel and François Pasteau gave a press conference in December 2014, organized at Pôle Saint Hélier (Rennes)
- Marie Babel gave a talk on "A driving assistance solution" in October 2014, during the "Semaine des Télécoms - Robotique et objets connectés" organised at Insa Rennes
- Fabien Spindler is a member of the editorial board of "Ouest Inria", the internal journal at Inria Rennes-Bretagne Atlantique.

## LINKMEDIA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, Scientific chair

Vincent Claveau was co-chair of the demonstration track at the Conf. Extraction et Gestion de Connaissances.

Guillaume Gravier is president of the steering committee of the ISCA/IEEE Workshop on Speech, Language and Audio in Multimedia series.

Patrick Gros is member of the steering board of the Content-Based Multimedia Indexing workshop series.

Pascale Sébillot is a member of the permanent steering committee of Conf. francophone en Traitement Automatique des Langues Naturelles.

Pascale Sébillot was a member of the steering committee of Conf. on Recherche d'Information et Applications.

#### 9.1.1.2. Member of the organizing committee

Laurent Amsaleg and Li Weng organized a two-morning seminar on large-scale indexing at Irisa / Inria Rennes.

Andrei Bursuc and Hervé Jégou organized a micro-workshop in computer vision at Irisa / Inria Rennes.

Vincent Claveau was member of the organizing committee of the Conf. Extraction et Gestion de Connaissances.

Vincent Claveau, as ARIA financial head, participated in the financial organization of the Conférence en Recherche d'Information et Applications.

Vincent Claveau, as ARIA financial head, participated in the financial organization of the École d'été en Recherche d'Information et Applications.

Vincent Claveau was co-organizer and co-chair of a round table held during the Conf. francophone en Traitement automatique des langues naturelles.

### 9.1.2. Scientific events selection

#### 9.1.2.1. Responsibility in conference program committee

Vincent Claveau was area chair at the Conf. francophone en Traitement Automatique des Langues Naturelles.

Guillaume Gravier was president of the program committee for Journées d'Études sur la Parole.

Guillaume Gravier was president of the program committee for ISCA/IEEE Workshop on Speech, Language and Multimedia.

Hervé Jégou was area chair for European Conf. on Computer Vision.

#### 9.1.2.2. Membership of conference program committee

Laurent Amsaleg was a PC member of: Intl. Workshop on Content-Based Multimedia Indexing; IEEE Intl. Conf. on Multimedia and Expo; Intl. Conf. on MultiMedia Modeling; Intl. Conf. on Signal Image Technology and Internet Systems.

Vincent Claveau was a PC member of: Conférence en Recherche d'Information et Applications; IEEE/WIC/ACM Intl. Conf. on Web Intelligence.

Teddy Furon was a PC member of: IEEE Workshop on Information Forensics and Security.

Guillaume Gravier was a PC member of: ACM Intl. Conf. on Multimedia; Intl. Workshop on Content-Based Multimedia Indexing; Intl. Congress on Image and Signal Processing; Intl. Conf. on Computational Linguistics, Demo track; IEEE Intl. Conf. on Multimedia and Expo; ACM Intl. Conf. on Multimedia Information Retrieval; Annual Conf. of the Intl. Speech Communication Association; IEEE Intl. Workshop on Multimedia Signal Processing; Intl. Conf. on Language Resources and Evaluation.

Patrick Gros was a PC member of: Intl. Conf. on Creative Content Technologies; Conférence de Recherche d'information et Applications; European Signal Processing Conf.; International Symposium on Multimedia; Conf. on Machine Learning and Data Mining; Reconnaissance des Formes et Intelligence Artificielle.

Hervé Jégou was a PC member of: Computer Vision and Pattern Recognition; British Machine Vision Conf.; ACM Intl. Conf. on Multimedia Information Retrieval.

Ewa Kijak was a PC member of: Intl. Workshop on Content-Based Multimedia Indexing.

Christian Raymond was a PC member of: Annual Conf. of the Intl. Speech Communication Association; Intl. Conf. on Machine Learning and Applications.

Pascale Sébillot was a PC member of: Workshop on Distributional Semantics; Colloque Intl. Francophone sur l'Écrit et le Document; Congrès National de Reconnaissance des Formes et Intelligence Artificielle; Intl. Conf. on Language Resources and Evaluation.

#### *9.1.2.3. Reviewer*

Laurent Amsaleg reviewed projects for the Agence National de la Recherche.

Guillaume Gravier reviewed projects for the Agence National de la Recherche.

Christian Raymond reviewed for Conférence Traitement Automatique du Langage Naturel, Journées d'Étude sur la Parole,

### **9.1.3. Journal**

#### *9.1.3.1. Member of the editorial board*

Vincent Claveau is member of the editorial committee of: Journal Traitement Automatique des Langues; Special issue of the Journal I3.

Teddy Furon is associate editor of IEEE Transactions on Information Forensics and Security

Hervé Jégou is associate editor of Computer Vision and Image Understanding

Christian Raymond is member of the editorial board of Revue Discours.

Pascale Sébillot is: editor of the Journal Traitement Automatique des Langues; member of the editorial committee of the Journal Traitement Automatique des Langues.

#### *9.1.3.2. Reviewer*

Laurent Amsaleg reviewed for Multimedia Tools and Applications, Mathematical Problems in Engineering.

Vincent Claveau was member of the reading committee for Multimedia Tools and Applications, for several issues of the Journal Traitement Automatique des Langues, for a special issue in Journal Documents Numériques

Teddy Furon reviewed for IEEE Trans. on Audio Speech and Language processing, IEEE Trans. on Information Forensics and Security, Elsevier Designs, Codes, and Cryptography journal, EURASIP Journal on Information Security.

Guillaume Gravier reviewed for IEEE Trans. on Audio Speech and Language, IEEE Transactions on Circuits and Systems for Video Technology, Intl. Journal of Multimedia Information Retrieval, Journal of Computer Science and Technology, Multimedia Tools and Applications, Traitement Automatique des Langues.

Hervé Jégou reviewed for IEEE Trans. Pattern Analysis and Machine Intelligence, IEEE Trans. Robotics, Computer Vision and Image Understanding.

Ewa Kijak reviewed for IEEE Transactions on Image Processing, Intl. Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, Journal of Applied Remote Sensing.

Pascale Sébillot was member of the reading committee for several issues of the Journal *Traitement Automatique des Langues*.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Master: Laurent Amsaleg, High-dimensional indexing, 13h, M2R, University Rennes 1, France
- Master: Vincent Claveau, Data-Based Knowledge Acquisition: Symbolic Methods, 20h, M1, INSA de Rennes, France
- Master: Vincent Claveau, Text Mining, 36h, M2, Univ. Rennes 1, France
- Master: Vincent Claveau, Machine Learning for symbolic and sequential data, 7h, M2, Univ. Rennes 1, France
- Master: Vincent Claveau, Information Retrieval, 15h, M2, ENSSAT, France
- Master: Vincent Claveau, Information Retrieval, 13h, M2, Univ. Rennes 1, France
- Licence: Teddy Furon, Probabilities, 40h, L1, Agrocampus Rennes, France
- Licence: Guillaume Gravier, Databases, 30h, L2, INSA Rennes, France
- Licence: Guillaume Gravier, C Programming, 10h, L3, INSA Rennes, France
- Master: Guillaume Gravier, Data analysis and probabilistic modeling, 30h, M2, University Rennes 1, France
- Master: Patrick Gros, Workshop on Mathematics, 12h, M2, Univ. Rennes 1, France
- Master: Ewa Kijak, Image analysis and classification, 30h, M1, ESIR, France
- Master: Ewa Kijak, Image processing, 64h, M1, ESIR, France
- Master: Ewa Kijak, Supervised learning, 15h, M2R, University Rennes 1, France
- Master: Ewa Kijak, Statistical data mining, 17h, M2, University Rennes 1, France
- Master: Ewa Kijak, Indexing and multimedia databases, 15h, M2, ENSSAT, France
- Master: Ewa Kijak, Computer vision, 8h, M2, ESIR, France
- Master: Ewa Kijak, Automatic video summarization, Project with Technicolor, 15h, M2, ESIR, France
- Master: Pascale Sébillot, Advanced Databases and Modern Information Systems, 70h, M2, INSA de Rennes, France
- Master: Pascale Sébillot, Data-Based Knowledge Acquisition: Symbolic Methods, 18h, M1, INSA de Rennes, France
- Master: Pascale Sébillot, Logic Programming, 12h, M1, INSA de Rennes, France

### 9.2.2. Supervision

- HdR: Laurent Amsaleg, A Database Perspective on Large Scale High-Dimensional Indexing, Université de Rennes 1, defended on November 2014
- HdR: Hervé Jégou, On visual recognition and similarity search, Université de Rennes 1, defended on October, 2014
- PhD: Mihir Jain, Enhanced image and video representation for visual recognition, Université de Rennes 1, defended on April, 2014, Hervé Jégou, Patrick Bouthemy and Patrick Gros
- PhD in progress: Abir Ncibi, Structuring TV steams, started November 2011, Vincent Claveau and Patrick Gros
- PhD in progress: Mohammed-Haykel Boukadida, Video summarization based on constraint programming, started January 2012, Patrick Gros

PhD in progress: Petra Bosilj, Content based image indexing and retrieval using hierarchical image representations, started October 2012, Ewa Kijak and Sebastien Lefèvre (with OBELIX, IRISA team)

PhD in progress: Bingqing Qu, Structure discovery in collections of recurrent TV programs, started Oct. 2012, Guillaume Gravier

PhD in progress: Anca Roxana Simon, Hierarchical semantic structuring of video collections, started October 2012, Guillaume Gravier and Pascale Sébillot

PhD in progress: Raghavendran Balu, Privacy-preserving data aggregation and service personalization using highly-scalable data indexing techniques, started Oct. 2013, Teddy Furon and Laurent Amsaleg

PhD in progress: Raheel Kareem Qader, Phonology modeling for emotional speech synthesis, started January 2014, Gwénolé Lecorvé and Pascale Sébillot (with EXPRESSION, IRISA Team)

PhD in progress: Rémi Bois, Navigable directed multimedia hypergraphs: construction and exploitation, started October 2014, Guillaume Gravier and Pascale Sébillot

PhD in progress: Ahmet Iscen, Continuous memories for representing sets of vectors and image collections, started September 2014, Hervé Jégou and Teddy Furon

PhD in progress: Grégoire Jadi, Opinion mining in multimedia data, started October 2014, Vincent Claveau, Béatrice Daille (LINA, Nantes) and Laura Monceaux (LINA, Nantes)

PhD in progress: Vedran Vukotič, Deep neural architectures for automatic representation learning from multimedia multimodal data, started October 2014, Guillaume Gravier and Christian Raymond

### 9.2.3. *Juries*

Vincent Claveau

PhD, K. Abdulahhad, LIG - Univ. Joseph Fourier, Grenoble

PhD, M. Dupuch, INSERM, Paris

PhD, R. Harastani, LINA - Univ. de Nantes

Teddy Furon

HDR, Patrick Bas, Université de Lille

PhD, reviewer, Antonino Simone, University of Eindhoven

PhD, Farzad Farhadzadeh, Université de Genève

Guillaume Gravier

PhD, Alberto Pimentel, Universidade Federal de Minas Gerais

PhD, Nadia Derbas, reviewer, Université de Grenoble

Patrick Gros

HDR, reviewer, Sid-Ahmed Berrani, Univ. Rennes 1

PhD, Mohammed Derbel, Univ of Tours

Pascale Sébillot

HDR, reviewer and president, Xavier Tannier, Paris-Sud university

PhD, president, Guiyao Ke, South-Brittany university

PhD, president, Mohamed Hatmi, Nantes university

### 9.3. Community animation

Vincent Claveau is treasurer of the Association pour la Recherche d'Information et Applications.

Vincent Claveau is deputy head of the GDR MADICS.



Guillaume Gravier is president of the Association Francophone de la Communication Parlée.

Guillaume Gravier is co-founder and general chair of the ISCA SIG Speech, Language and Audio in Multimedia.

Guillaume Gravier is member of the Community Council of the Mediaeval Multimedia Evaluation series.

Pascale Sébillot is a member of the Conseil National des Universités.

## **9.4. Popularization**

Laurent Amsaleg. Lettre d'information Émergence, issue 32, 11/07/2014, "Un outil pour fouiller plus vite les disques durs saisis".

Laurent Amsaleg. Sciences Ouest, issue 324, October 2014, "Ils repèrent les contenus illicites".

Vincent Claveau co-organized and co-animated a round table held during the TALN conference about the evolution of NLP, from the points of view of education, research and industry.

Hervé Jégou was invited panelist at Intl. Conf. on Multimedia Retrieval, April 2014.

Hervé Jégou gave an invited tutorial on large-scale image search at Intl. Conf. on Multimedia Retrieval, April 2014.

Hervé Jégou gave a tutorial on efficient matching at Conf. on Computer Vision and Pattern Recognition, June 2014.

Hervé Jégou was invited speaker at Conf. on Computer Vision and Pattern Recognition, June 2014.

Pascale Sébillot: Invited speaker (3h) NLP tackling large volumes of potentially damaged textual data: what is different?, IST Inria seminar on "Big data: new information partitions", October 2014.

## MIMETIC Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, scientific chair

Scientific Chair: Franck Multon, "Maintien de l'équilibre debout en situation dynamique chez l'être humain", special day of the French Society of Biomechanics, co-organized with Pierre-Brice Wieber and Thomas Robert, Paris, May 16th 2014

### 9.1.2. Scientific events selection

#### 9.1.2.1. Responsible of the conference program committee

Richard Kulpa, Symposium "Réalité virtuelle et équilibre", SOFPEL (Société Francophone Posture Equilibre Locomotion), Rennes, 5 décembre 2014

#### 9.1.2.2. Member of the conference program committee

Franck Multon, ACM VRST 2014, Edinburgh, UK, November 2014

Franck Multon, ACM Motion in Games MIG 2014, Los Angeles, US, November 2014

Franck Multon, Computer Animation and Social Agents CASA 2014, Houston, May 2014

#### 9.1.2.3. Reviewer

Franck Multon, IEEE VR 2015, ACM SIGGRAPH Asia 2014

Armel Crétual, EuroGraphics'15

Richard Kulpa, IEEE 3DUI

Georges Dumont, ASME-DECT 2014, IDMMME-Virtual concept 2014

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

Franck Multon, Presence, MIT Press

Armel Crétual, Journal of Electromyography and Kinesiology, Elsevier

#### 9.1.3.2. Reviewer

Franck Multon, Frontiers in Neuroscience, PlosOne,

Armel Crétual, Transactions on Visualization and Computer Graphics, Journal of Electromyography and Kinesiology, Gait & Posture, Medical & Biological Engineering & Computing

Charles Pontonnier, IEEE Transactions on Visualization and Computer Graphics, International Journal of Virtual Reality

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

#### 9.2.1.1. Master level

Master : Franck Multon, "Images et Mouvement - IMO", leader of the module, 20H, Master 2 research in computer sciences, University Rennes1, France

Master : Franck Multon, "Santé et Performance au Travail : étude de cas", leader of the module, 30H, Master 1 M2S, University Rennes2, France

Master : Franck Multon, "Analyse Biomécanique de la Performance Motrice", leader of the module, 30H, Master 1 M2S, University Rennes2, France

Master : Franck Multon, "Modélisation et Simulation du Mouvement", leader of the module, 30H, Master 2 M2S, University Rennes2, France

Master: Marc Christie, "Multimedia Mobile", leader of the module, Computer Science, University of Rennes 1, France

Master : Armel Crétual, "Méthodologie", leader of the module, 20H, Master 1 M2S, University Rennes2, France

Master : Armel Crétual, "Biostatistiques", leader of the module, 15H, Master 2 M2S, University Rennes2, France

Master: Charles Pontonnier, "Numerical methods", leader of the module, Mechanics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Numerical simulation of mechanical systems", leader of the module, Mechanics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Analytical Mechanics" , Mechanics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Design and control of mobile robots", leader of the module, Electronics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Design, simulation and control of mechanical systems", leader of the module, Lecturers training in mechatronics, École Normale Supérieure de Rennes, France

Master : Richard Kulpa, "Contrôle moteur", leader of the module, Master 1 M2S, Université Rennes 2, France

Master : Richard Kulpa, "Boucle analyse-modélisation-simulation du mouvement", leader of the module, Master 2 M2S, Université Rennes 2, France

Master : Richard Kulpa, "Méthodes numériques d'analyse du geste", leader of the module, Master 2 M2S, Université Rennes 2, France

Master : Richard Kulpa, "Cinématique inverse", leader of the module, Master 2 M2S, Université Rennes 2, France

Master: Fabrice Lamarche, "Compilation pour l'image numérique", 29h, Master 1, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Synthèse d'images", 12h, Master 1, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Synthèse d'images avancée", 28h, Master 1, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Modélisation Animation Rendu", 36h, Master 2, ISTIC, University of Rennes 1, France

Master: Fabrice Lamarche, "Jeux vidéo", 26h, Master 2, ESIR, University of Rennes 1, France

Master : Georges Dumont, Mechanical simulation in Virtual reality, 36H, Master Mechatronics, Rennes 1 University and École Normale Supérieure de Rennes, France

Master : Georges Dumont, Responsible of the second year of the master Mechatronics, Rennes 1 University and École Normale Supérieure de Rennes, France

Master : Georges Dumont, Mechanics of deformable systems, 40H, Master FES, École Normale Supérieure de Rennes, France

Master : Georges Dumont, oral preparation to agregation competitive exam, 20H, Master FES, École Normale Supérieure de Rennes, France

Master : Georges Dumont, Vibrations in Mechanics, 10H, Master FES, École Normale Supérieure de Rennes, France

Master : Georges Dumont, Multibody Dynamics, 9H, Master FES, École Normale Supérieure de Rennes, France

Master : Georges Dumont, Finite Element method, 12H, Master FES, École Normale Supérieure de Rennes, France //

#### 9.2.1.2. Licence level

Licence : Franck Multon, "Ergonomie du poste de travail", Licence STAPS L2 & L3, University Rennes2, France

Licence : Marc Christie, "Système d'information Tactiques", Computer Science, University of Rennes 1, France

Licence : Marc Christie, "Programmation Impérative 1", leader of the module, University of Rennes 1, France

Licence : Armel Créteil, "Analyse cinématique du mouvement", 100H, Licence 1, University Rennes 2, France

Licence: Charles Pontonnier, "Numerical control", leader of the module, Electronics, École Inter-Armes de Saint-Cyr Coëtquidan, France

Licence : Richard Kulpa, "Biomécanique (dynamique en translation et rotation)", Licence 2, Université Rennes 2, France

Licence : Richard Kulpa, "Méthodes numériques d'analyse du geste", Licence 3, Université Rennes 2, France

Licence : Richard Kulpa, "Statistiques et informatique", Licence 3, Université Rennes 2, France

Licence: Fabrice Lamarche, "Initiation à l'algorithmique et à la programmation", 56h, License 3, ESIR, University of Rennes 1, France

License: Fabrice Lamarche, "Programmation en C++", 46h, License 3, ESIR, University of Rennes 1, France

Licence: Fabrice Lamarche, "IMA", 24h, License 3, ENS Rennes, ISTIC, University of Rennes 1, France

#### 9.2.2. Supervision

PhD : Antoine Marin, Le mouvement segmentaire au service du déplacement dans la marche : analyse couplée des deux niveaux, University Rennes 2, 15th of December 2014, Armel Créteil

PhD : Mickael Ropars, Contribution clinique et biomécanique au diagnostic d'hyperlaxité de l'épaule, University Rennes 2, 7th of April 2014, Isabelle Bonan & Armel Créteil

PhD : Marion Morel, Suivi et étude des interactions pour l'analyse des tactiques durant un match de basket-ball, UPMC - University Rennes 2, septembre 2014, Catherine Achard & Séverine Dubuisson & Richard Kulpa

PhD : Pierre Touzard, Suivi longitudinal du service de jeunes joueurs de tennis élite : identification biomécanique des facteurs de performance et de risque de blessures, University Rennes 2, septembre 2014, Benoit Bideau & Richard Kulpa & Caroline Martin

PhD : Steve Tonneau, Synthèse et planification de mouvement pour des personnages virtuels en environnements contraints, INSA Rennes, 2011-2015, Franck Multon & Julien Pettré

PhD : Pierre Plantard, Estimation des efforts musculaires à partir de données in situ pour l'évaluation ergonomique d'un poste de travail, 2013-2016, Franck Multon & Anne-Sophie LePierres

PhD: Philippe Rannou, Modèle rationnel pour les humains virtuels autonomes, University of Rennes 1, Fabrice Lamarche & Marie Odile Cordier

PhD: Carl-Johan Jorgensen, Peuplement automatisé d'environnements urbains pour l'étude et la validation d'aménagements, University of Rennes 1, Fabrice Lamarche & Kadi Bouatouch

PhD: Ana Lucia Cruz Ruiz, Design of a modular and multiscale musculoskeletal model as a support to motion analysis-synthesis, Ecole normale supérieure, Georges Dumont

PhD: Kevin Jordao, Peuplement massif de maquettes numériques immenses, University Rennes1, Julien Pettré

PhD: Julien Bruneau, Foules immersives, University Rennes1, Julien Pettré

### **9.2.3. Juries**

PhD : Antoine Marin, Le mouvement segmentaire au service du déplacement dans la marche : analyse couplée des deux niveaux, Université Rennes2, December 15th, Franck Multon, examinateur

PhD : Benjamin Goislard de Monsabert, Individualisation des paramètres musculaires pour la modélisation musculo-squelettique de la main : application à la compréhension de l'arthrose, Université Aix-Marseille, Franck Multon, président

PhD : Simon Courtemanche, Analyse et Simulation des Mouvements Optimaux en Escalade, Université de Grenoble, Franck Multon, rapporteur

PhD : Chenggang Wang, Disassembly sequences generation and evaluation. Integration in virtual reality environment, Université de Grenoble, Georges Dumont, rapporteur

PhD : Thi Thuong Huyen Nguyen, Proposition of new metaphors and techniques for 3D interaction and navigation preserving immersion and facilitating collaboration between distant users, Insa de Rennes, Georges Dumont, examinateur

HDR : Didier Pradon, Modélisation et caractérisation des activités locomotrices des sujets cérébrolésés, UVSQ, Franck Multon, président

HDR : Christine Aevodo, Assistance fonctionnelle : exploiter les fonctions résiduelles du système sensori-moteur déficient, Franck Multon, Université de Montpellier 2, rapporteur

## MYRIADS Project-Team

# 7. Dissemination

## 7.1. Promoting Scientific Activities

### 7.1.1. Program committees

Roberto-Gioacchino Cascella was program committee member of the ORMaCloud 2014 workshop co-located with ACM HPDC, VTC 2015-Spring and VTC 2015-Fall (track "wireless Networks and Security") and in IEEE TrustCom 2015 (track "privacy"). He co-organized the Contrail Business Day held in Roma, Italy on January 23, 2014. He was General co-chair of 2nd edition of DIHC workshop, co-located with Euro-Par 2014, held in Porto, Portugal, on August 26th, 2014.

Eugen Feller was program committee member of PDP (2014, 2015) and IEEE Cluster 2014.

Yvon Jégou was program committee member of IEEE TrustCom 2014 conference and ORMaCloud workshop co-located with ACM HPDC 2014.

Christine Morin was program committee member of the *International Symposium on Parallel and Distributed Computing* (ISPDC) 2014, *IEEE International Parallel & Distributed Processing Symposium* (IPDPS) 2014, *IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing* (CC-GRID) in 2014 and 2015, CLOSER 2014, Resilience (workshop on Resiliency in High Performance Computing in Clusters, Clouds, and Grids) co-located with EuroPar 2014, VTDC (International Workshop on Virtualization Technologies in Distributed Computing) co-located with ACM HPDC in 2015, ScienceCloud co-located with ACM HPDC in 2014 and 2015, OrmaCloud co-located with ACM HPDC 2014, CrossCloud (workshop on cloud interoperability and federation) co-located with INFOCOM in 2014, Distributed Cloud Computing (DCC) workshop co-located with SIGCOMM in 2014, VHPC 2014 and 2015 (workshop on Virtualization in High-Performance Cloud Computing) co-located with EuroPar, Euromicro International Conference on Parallel, Distributed, and Network-Based Processing) (PDP 2015). She is also a member of the SC'15 technical poster committee.

She co-organized the Contrail Business Day held in Roma, Italy on January 23, 2014. She was a member of the scientific committee for the Inria Scientific Days held in Lille in June 2014. She was General co-chair of 2nd edition of DIHC workshop, co-located with Euro-Par 2014, held in Porto, Portugal, on August 26th, 2014. She was *Tutorial Chair* and a mentor in the PhD student mentoring track of the IEEE Cluster conference held in Madrid, Spain, in September 2014.

Anne-Cécile Orgerie was program committee member of FedICI workshop co-located with EuroPar 2014, of VTC2014-Fall, of CCGrid 2015, and of the PhD student mentoring track of Cluster 2014. She was also general co-chair for ExtremeGreen workshop co-located with CCGrid 2014, general co-chair and organizer for GreenDays@Rennes, and co-organizer of the Inria booth at SuperComputing 2014.

Nikolaos Parlavantzas was program committee member of DAIS 2014 and CSB 2014.

Guillaume Pierre was program committee member of Middleware 2014, IC2E 2014, MobileCloud 2014, ComPAS 2014, CloudDP 2014, DADS track of SAC2015, IC2E 2015, AINA 2015 and CSCS20-2015. He was also workshop chair of EuroSys 2014.

Cédric Tedeschi was a program committee member of ICWS 2014, ICCS 2014, and CloSer 2014.

### 7.1.2. Evaluation committees, consulting

Yvon Jégou is a member of the Grid 5000 executive committee. He is a member of the *Comité de Sélection et de Validation (CSV)* of the *Images & Réseaux* cluster.

C. Morin acted as an expert to review ERC starting grant proposals for the European Commission. She is a member of the ModaClouds European project Advisory Board. She is a member of the scientific council of ENS Cachan. She was a member of the jury for the 2014 Inria prizes. She was a consultant for SAFRAN.

Anne-Cécile Orgerie is expert at the HCERES for evaluating the doctoral schools.

Nikolaos Parlavantzas acted as an expert to review proposals for Alpes Grenoble Innovation Recherche (AGIR) 2014.

## **7.2. Teaching - Supervision - Juries**

### **7.2.1. Teaching**

Christine Morin is responsible for the Internet of Services: Programming Models & Things and Clouds (ISI) teaching unit of the Master in research in Computer Science of the University of Rennes 1.

Christine Morin:

- Master : Internet of Services: Programming Models & Things and Clouds (ISI), 12 hours ETD, M2RI, University of Rennes 1, France.
- Master : Energy management in computing infrastructures (as part of the Eco-STIC module), 4.5 hours ETD, M1, Supelec, France.

Anne-Cécile Orgerie (at ENS de Rennes):

- License 3: ARCSYS2 - architecture et systèmes 2 (60 hours ETD)

Nikolaos Parlavantzas (at INSA Rennes):

- 4th year: Operating Systems (40 hours ETD)
- 4th year: Big Data and Applications (25 hours ETD)
- 4th year: Networking and SOA (12 hours ETD)
- 4th year: Advanced Operating Systems (12 hours ETD)
- 4th year: Parallel programming (12 hours ETD)
- 4th year: Software Development Project (30 hours ETD)
- 5th year: Component-based Software Engineering (16 hours ETD)

Jean-Louis Pazat is responsible for the following graduate teaching Modules: Advanced operating Systems, Parallel Computing, Networking and SOA.

Jean-Louis Pazat (at INSA Rennes for 2012-2013):

- 4th year: Advanced Operating Systems (32 hours ETD)
- 4th year: Parallel Programming (48 hours ETD)
- 4th year: Networking and SOA (48 hours ETD)
- 4th year: Software development project (60 hours ETD)

Guillaume Pierre (at the University of Rennes 1):

- License 3: Systèmes (25 hours ETD)
- License 3: Organisation et utilisation des systèmes d'exploitation 2 (67 hours ETC)
- Master 2: Techniques de développement logiciel dans le Cloud (39 ETD)
- Master 1: Service Technologies (24 ETD)
- Master 2: Approche algorithmique des applications et systèmes répartis (32 ETD)

Cédric Tedeschi (at the University of Rennes 1 for 2013-2014):

- Master 1: Multitask Operating Systems (65 hours ETD)
- Master 1: Concurrency in Systems and Networks (70 hours ETD)
- Master 1: Parallel Programming (36h ETD)
- Master 1: Service Technologies (30h ETD)
- Master 2 (research): Internet of Services (6 hours ETD)

#### **E-learning**

Cédric Tedeschi is responsible for the Operating Systems class within the eMiage online teaching program.

### **7.2.2. Supervision**

PhD : Djawida Dib, Optimizing PaaS Provider Profit under SLA constraints, defended on July 7th 2014, Christine Morin, Nikolaos Parlavantzas.

PhD in progress : Ancuta Iordache, Multi-resource optimization for application hosting in heterogeneous clouds, started in February 2013, Guillaume Pierre.

PhD in progress: Yunbo Li, Resource allocation in a Cloud partially powered by renewable energy sources, started in October 2013, Anne-Cécile Orgerie, Jean-Marc Menaud (Ascola).

PhD in progress: Ismael Cuadrado Cordero, Energy-efficient and network-aware resource allocation in Cloud infrastructures, started in October 2013, Christine Morin, Anne-Cécile Orgerie.

PhD in progress: Édouard Outin, A multi-objective adaptation system for the management of a Distributed Cloud, started in October 2013, Olivier Barais (Triskell), Yvon Jégou, Jean-Louis Pazat.

PhD in progress: Sabbir Hasan, SLA Driven Cloud autoscaling for optimizing energy footprint, started in December 2013, Thomas Ledoux (Ascola), Jean-Louis Pazat.

PhD in progress: Anna Giannakou, A Self-adaptable Security Supervision System for Clouds, started in March 2014, Christine Morin, Jean-Louis Pazat, Louis Rilling.

PhD in progress: Bruno Stevant, Resource allocation strategies for service distribution at the Internet edge to optimize end-to-end latency, started in December 2014, Jean-Louis Pazat.

### **7.2.3. Juries**

- Christine Morin is a reviewer of the HdR committee of Brice Goglin, University of Bordeaux (April 15th, 2014).
- Christine Morin is a member (chair) of the PhD defense committee of Arnab Sinha, Université de Rennes 1 (May 28th 2014).
- Christine Morin is a reviewer in the PhD defense committee of Jonathan Lejeune, University of Paris 6 (September 19th, 2014).
- Christine Morin is a member (chair) of the PhD defense committee of Alessandro Ferreira Leite, University of Paris 11 (December 2nd, 2014).
- Christine Morin is a reviewer of the HdR committee of Jacques Jorda, University of Toulouse 3 - Paul Sabatier (December 11th, 2014).
- Guillaume Pierre is a member of the PhD defense committee of Wubin Li, University of Umea (April 25th 2014).
- Guillaume Pierre is a member of the PhD defense committee of Cassidy Clark, TU Delft (May 14th 2014).
- Guillaume Pierre is a member of the PhD defense committee of Pierpaolo Cincilla, Université Paris 6 (September 15th 2014).
- Anne-Cécile Orgerie is a member of the PhD defense committee of Guillaume Le Louët, Ecole des Mines de Nantes (May 12th 2014)



- Nikolaos Parlavantzas is a member of the PhD defense committee of Chrysostomos Zeginis, University of Crete (October 20th, 2014)
- Jean-Louis Pazat is a reviewer for the PhD thesis of the PhD thesis of Alessandro Leite (December 2, 2014)
- Jean-Louis Pazat is the president of the Habilitation defense of Olivier Barais, Université de Rennes 1 (December 8th 2014)

### **7.3. Popularization**

- Roberto-Gioacchino Cascella presented a demonstration of the VEP-S system at the EIT ICT Labs result day, Helsinki, Finland, December 2014.
- Christine Morin gave a talk entitled "Contrail Project Overview" at the Contrail Business Days, Roma, Italy, January 2014.
- Christine Morin was invited to give a talk on Myriads activities on cloud computing at the EIT ICT Labs meeting on future clouds, Rennes, France, March 2014.
- Christine Morin gave a talk entitled "Contrail: Interoperability and Dependability in a Cloud Federation" at the first workshop of the Joint Laboratory for Extreme Scale Computing, Sophia-Antipolis, France, June 2014.
- Christine Morin was invited to give a talk entitled "Contrail: Toward a Trusted Cloud Market Place" at the EIT ICT Labs Symposium on Future Cloud Computing, Rennes, France, June 2014.
- Christine Morin was invited to give a talk entitled "Contrail: Toward a Trusted Cloud Market Place" at the Inria Scientific Days, Lille, France, June 2014.
- Christine Morin gave an invited talk entitled "Snooze: A Scalable Energy-Efficient IaaS Cloud Management System" at the Next-GWiN 2014 Workshop, Rennes, France, October 2014.
- Christine Morin gave a talk entitled "Checkpointing as a Service in Heterogeneous Clouds" at the second workshop of the Joint Laboratory for Extreme Scale Computing, Chicago, USA, November 2014.
- Guillaume Pierre organized the 2nd ConPaaS workshop (Rennes, May 26th 2014) and gave the opening presentation
- Guillaume Pierre organized the EIT ICT Labs Future Cloud Symposium (Rennes, June 23-24th 2014).
- Anne-Cécile Orgerie gave a talk entitled "Green IT : maîtrise de la consommation énergétiques des équipements informatiques", at Rencontres de la recherche, Fondation Rennes 1, Rennes, September 19, 2014.
- Anne-Cécile Orgerie gave a talk entitled "Toward Energy-Efficient Cloud Computing" at the Inria-Technicolor Workshop, Rennes, December 4, 2014.
- Anne-Cécile Orgerie gave a tutorial entitled "Green Big Data Processing using Hadoop: An Introductory" with Shadi Ibrahim from KerData team, at the ACM/IFIP/USENIX Middleware conference, Bordeaux, December 2014.
- Arnab Sinha presented a demonstration of the VEP-S system at the EIT ICT Labs result day, Helsinki, Finland, December 2014.
- Cédric Tedeschi gave a talk about workflow activities within the DALHIS associate team at the Berkeley Inria Stanford workshop, Paris, June 2014.

### **7.4. Miscellaneous**

Roberto-Gioacchino Cascella is a member of the Inria "Commission locale formation".

Christine Morin is a member of the Project-Team Committee of INRIA RENNES – BRETAGNE ATLANTIQUE (Comité des projets), *Référent Chercheur* for INRIA RENNES – BRETAGNE ATLANTIQUE. She is a member of the Irisa/Inria "Commission Personnel" being in charge of post-docs and "délégations". She is correspondent for North America relationships in the Inria Direction of International Relationships. She was the coordinator of Contrail European project. She participated in a researchers-journalists exchange organized by the AJSPI (*Association des Journalistes Scientifiques de la Presse d'Information*). In this context, she hosted Sophy Caulier, free-lance journalist in Myriads team, January 13-17, 2014 and she was hosted March 24-28, 2014 as an intern by Guillaume Mézières, editor in chief of *Le laboratoire des Savoirs* hosted at Radio Prun in Nantes. She contributed to a radio programme (<http://labodessavoirs.fr/emissions-du-labo/un-monde-plurilingue/>).

Anne-Cécile Orgerie is in charge (chargée de mission) of the "Green IT" transversal axis of IRISA.

Nikolaos Parlavantzias is the local coordinator for the international exchange of students at the computer science department of Insa.

Guillaume Pierre is the local coordinator of the EIT ICT Labs master school in Rennes. He is the local coordinator of the Erasmus exchange program between Université de Rennes 1 and Politehnica University Bucharest.

Jean-Louis Pazat is the leader of the "Large Scale Systems" department of IRISA. He is the leader of the computer Science Lab at INSA (IRISA-INSA). He is the co-leader of the Operating Systems Activity in the CNRS ASR research Group (*Groupement de Recherche*). He is the coordinator for reviews of international bilateral cooperation projects at the Ministry of Research and Higher Education in the STIC domain.

Thierry Priol is the director of the Inria European Partnership department.

Cédric Tedeschi is a member of the administration council of the EECS department of the University of Rennes 1.

## PANAMA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

Rémi Gribonval is a member of the IEEE Technical Committee on Signal Processing Theory and Methods (2012–2014), and a member of the Awards sub-committee.

Rémi Gribonval is a member of the program committee of the GRETSI.

Rémi Gribonval is a member of the Steering Committee of the SPARS international workshop (chairman until 2013).

Rémi Gribonval is in charge of the Action "Parcimonie" within the French GDR ISIS on Signal & Image Processing.

Rémi Gribonval organized a mini-symposium on "Dictionary learning and applications" at the international conference Curves & Surfaces in Paris.

Rémi Gribonval organized a session "Mathematical for Image Processing" at the SMAI-MODE conference in Rennes.

Rémi Gribonval was co-organizer of a one-day seminar in Lyon on sparse representations and compressive sensing for medical imaging sponsored by the GDR ISIS (french research groups in signal and image processing) and GDR STIC-SANTE.

Frédéric Bimbot is the Head of the "Digital Signals and Images, Robotics" in IRISA (UMR 6074).

Frédéric Bimbot is a member of the International Advisory Council of ISCA (International Speech Communication Association).

Frédéric Bimbot was a member of the Scientific Committee of Journées d'Analyse Musicale 2014 of the SFAM (Société Française d'Acoustique Musicale).

Rémi Gribonval and Frédéric Bimbot are the scientific coordinators of the Science and Music Day (Journée Science et Musique) organized by IRISA.

Nancy Bertin is a member of the IEEE Technical Committee on Audio and Acoustic Signal Processing (2013–2015).

## 9.2. Teaching

### 9.2.1. Teaching

Licence : N. Bertin, "Discovery of selected topics in audio signal processing research", 9 hours, L3, École Supérieure de Réalisation Audiovisuelle (ESRA), France.

Master : N. Bertin, "Audio rendering, coding and source separation", 9 hours, M2, Université Rennes 1, France.

Master : N. Bertin, "Audio indexing and classification", 9 hours, M2, Université Rennes 1, France.

Master : N. Bertin, "Fundamentals of Signal Processing", 24 hours, M1, Ecole Normale Supérieure de Bretagne, Rennes, France.

Master : R. Gribonval, "Sparse representations for inverse problems in signal and image processing", 10 hours, M2, Université Rennes 1, France.

Master : R. Gribonval, "Signal and image representations", 8 hours, M2, Université Rennes 1, France.

Master: R. Gribonval, coordination of the ARD module "Acquisition et Représentation de Données", M2, Université Rennes 1, France.

Laurent Albera gives lectures in Mathematics and in Signal Processing, and he supervises end of school year projects, mainly at the university of Rennes 1:

Licence: L. Albera, "Mathematics for electronics", 6 hours, L2, Université Rennes 1, France.

Licence: L. Albera, "Mathematics for electronics", 21 hours, L3, Université Rennes 1, France.

Licence: L. Albera, "Mathematics", 53 hours, L3, Ecole Supérieure d'Ingénieurs de Rennes, France

Master: L. Albera, "Cardiac source localization from ECG signals", project supervision (with Ansys), M2, Ecole Supérieure d'Ingénieurs de Rennes, France.

Master : L. Albera, "Blind equalization", 4.5 hours, M2, Université Rennes 1, France.

Master : L. Albera, "Inverse problems", 3 hours, M2, Université Rennes 1, France.

Laurent Albera is responsible of the "Signal Processing" branch of the SISEA (Signal, Images, Embedded Systems and Control) Master 2 of University of Rennes 1.

## 9.3. Popularization

### 9.3.1. *Journée science et musique*

**Participants:** Anaik Olivero, Jules Espiau de Lamaestre, Pierre Machart, Gilles Puy, Nancy Bertin, Frédéric Bimbot, Rémi Gribonval, Corentin Guichaoua, Srdan Kitic, Stéphanie Lemaile, Nicolas Keriven, Ewen Camberlein, Romain Lebarbenchon, Luc Le Magoarou, Nathan Souviraà -Labastie.

PANAMA coordinated the organization of a public event called "Journée Science et Musique" (Day of Music and Science). This yearly event organized by the METISS/ PANAMA Team since 2011 aims at sharing with the wide audience the latest innovations and research projects in music. The motivation for hosting this event is to explain and promote the technology behind audio-processing that people face in their daily lives. The event is free to everyone and people have the possibility to attend talks by selected speakers or meet numerous experts that demonstrate current projects in which people can interactively participate. Edition 2014 hosted 260 visitors.

### 9.3.2. *Radio and press*

Nancy Bertin and Rémi Gribonval co-authored a popularization article about compressed acoustic holography (with L. Daudet and F. Ollivier). It was accepted by the journal "Pour la Science" for publication in 2015.

Nancy Bertin, Jules Espiau and Rémi Gribonval (with L. Daudet, A. Bordenave and Inria audiovisual department) participated in the realization of a pedagogical video presenting the ANR ECHANGE project results on acoustic holography <http://videotheque.inria.fr/videotheque/embed/25816>.

Jules Espiau and Pierre Machart were interviewed in a one-hour scientific radio show on Radio Prune (radio of the Nantes region) at the occasion of the "Journée Science et Musique".

## SAGE Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific committees and review of conferences

- J. Erhel is a member of the international advisory committee of the parallel CFD conferences (Trondheim, Norway, May 2014).
- J. Erhel was reviewer for the CARI conference.

### 8.1.2. Organization of workshops

- J. Erhel organized with Klaus Johannsen, from University of Bergen, the session "High-performance computing, visualization and scientific workflow", at the international conference "Computational Methods in Water Resources (CMWR, Stuttgart, Germany, May 2014).
- G. Pichot organized two workshops in Rennes (April, 28-30, 2014 and June, 24-26, 2014) funded by the Brittany council (see 7.1.1) and Inria to prepare the Future and Emerging Technology (FET) Open proposal, called GEOPRISM, submitted in september 2014.
- G. Pichot organized with A. Fumagalli (Politecnico di Milano, Italy) a mini-symposium session (6 countries, 7 speakers) at the SIAM Annual Meeting AN14, within the SIAM Geosciences track, on *Modeling and Numerical Issues for fractured porous media.*

### 8.1.3. Editorial Boards

- B. Philippe is one of the four chief-editors of the electronic journal ARIMA (revue Africaine de la Recherche en Informatique et Mathématiques Appliquées).
- B. Philippe is managing editor of the electronic journal ETNA (Electronic Transactions on Numerical Analysis).
- J. Erhel and G. Pichot are editors of the proceedings of Domain Decomposition XXI (LNCSE, Springer) [29]
- J. Erhel is member of the editorial board of ETNA.
- J. Erhel is member of the editorial board of ESAIM:Proceedings.

### 8.1.4. Steering committees

- J. Erhel is a member of the steering committee of the Réseau National des Systèmes Complexes.
- J. Erhel is the scientific coordinator of the website Interstices (since June 2012). See <http://www.interstices.info>.

### 8.1.5. Review of papers

- É. Canot was reviewer for the journals EABE, ASME-JHT.
- J. Erhel was reviewer for the journals ADWR, ETNA, SISC.
- M. Oumouni was reviewer for the journal JOMP.
- G. Pichot was reviewer for the journal ADWR.

### 8.1.6. Review of proposals

- J. Erhel was reviewer for proposals submitted to ACSPRF, ANR (ASTRID call), Shell-NWO-FOM.

### 8.1.7. Inria, IRISA and University committees

- É. Canot is member of the CLHSCT (Comité Local Hygiène Sécurité Conditions de Travail), of Inria-Rennes, from September 2010.
- J. Erhel was member of the Comité Technique d'Établissement Public of Inria, until December 2014.
- J. Erhel was member of Conseil d'Administration of Inria, until December 2014.
- G. Pichot is responsible for the domain "environment" at IRISA.
- G. Pichot is member of the Conseil de département MAM of Polytech Lyon.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

- S. Khalfallah is teaching assistant (permanent position since September 2012) in mathematics at the University of Kairouan, Tunisia.
- L. Lenôtre is teaching assistant (contrat doctoral avec mission d'enseignement) in mathematics at the University of Rennes 1.
- É. Canot and J. Erhel: Master M2; title: Cours de modélisation et calcul scientifique; 12 hours; INSA, Rennes, France.
- É. Canot and G. Lecourt: Master M2; title: TP de modélisation et calcul scientifique; 12 hours; INSA, Rennes, France.
- É. Canot: Master M2; one week; ENIT, Tunis, Tunisia.

### 8.2.2. Supervision

PhD: S. Sabit, University of Rennes 1, May 2014, advisors J. Erhel with É. Canot.

PhD in progress: S. Khalfallah, University of Rennes 1 and University of Tunis, October 2009, co-advisors J. Erhel and A. ben Abda.

PhD in progress: L. Lenôtre, University of Rennes 1, October 2012, co-advisors A. Lejay (Inria Nancy) and G. Pichot, with J. Erhel.

PhD in progress: S. Mansour, University of Rennes 1 with LIU and AUB (Beiruth, Lebanon), January 2013, co-advisors É. Canot, M. Muhieddine and N. Nassif.

PhD in progress: L.-B. Nguenang, University of Yaoundé 1, October 2011, advisors E. Kamgnia with B. Philippe.

PhD in progress: M. ben Refifa, University of Tunis, October 2013, advisors Rachida Bouhlila with J. Erhel and É. Canot.

### 8.2.3. Juries

- PhD: S. Moufawad, University of Paris 6, Mathematics, December 2014. Reviewer J. Erhel.
- PhD: V. Vostrikov, University of Pau, Mathematics, December 2014. Reviewer and chair J. Erhel.
- PhD: S. Scialò, Politecnico di Torino, 2014. Reviewer G. Pichot.

## 8.3. Popularization

- J.-R. de Dreuzy, J. Erhel and G. Pichot presented a poster entitled "Une eau souterraine très sollicitée", at Rencontres de la Transition Ecologique en Bretagne, January 2014 [39].
- J. Erhel gave a talk entitled "la terre se met aux maths", at lycée Descartes, Rennes, in March 2014 [38].
- J. Erhel participated in the panel on "Parle-t-on d'informatique comme on parle des autres sciences?", congrès SIF, Poitiers, France, Feb 2014
- The text "Henry Darcy et sa loi" from J. Erhel was published in the book brèves de maths [37]
- É. Canot, J. Erhel and L. Lenôtre, with M.-O. Cordier, N. Lacaux, C. Lafon and J. Stainer, were in charge of the two stands Inria and Interstices at Village des sciences, Chartres de Bretagne, Sep 2014.
- J. Erhel and M.-O. Cordier, with Espace des Sciences de Rennes, invited J.-P. Delahaye to celebrate the ten years of Interstices and to give a conference about the bitcoin, Rennes, October 2014.
- L. Lenôtre gave a talk at Conf'Lunch, Inria Rennes, December 2014.

## SERPICO Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. Member of the organizing committee

Charles Kervrann was member of the organizing committee of the international Quantitative BioImaging 2015 (QBI) conference, Institut Pasteur, January 2015 (180 participants).

Perrine Paul-Gilloteaux was member of the organizing committees:

- Second edition of the European Bio-Image analyst Symposium: EUBIAS Taggathon workshop organized on the 8th and 9th of December 2014 for the creation of a webtool [biii.info](http://biii.info) referencing bio image analysis workflows (20 participants invited over 2 days), and of the EuBIAS community meeting for bio-image analysts on the 5th and 6th of January (118 participants).
- Microscopy school MiFoBio'2014 (Seignosse, October 2014): Organization of advanced modules and round tables with Alain Dieterlen (Laboratoire MIPS-uha Mulhouse).

Patrick Bouthemey was member of the “comité de pilotage” for the organization of RFIA'2014.

Frédéric Lavancier is head of the workshop “Spatio-temporal models and statistics”, IRMAR University of Rennes 1, LMJL University of Nantes, ENSAI, University of Rennes 2, INRA Rennes, Inria Rennes.

### 9.1.2. Scientific events selection

#### 9.1.2.1. Member of the conference program committee

Charles Kervrann: Associated editor for the conference ISBI'2015, PC member for ISBI'2014, member of scientific committee of “Journées d'Imagerie Optique Non-Conventionnelle” (JIONC'2014).

Patrick Bouthemey: Area chair for the conference ICIP'2014, PC member for ICPRAM'2014.

Thierry Pécot: Associated editor for the conference ISBI'2015.

#### 9.1.2.2. Reviewer

Charles Kervrann: reviewer for ICIP'2014, ICASSP'2014, SSVM'2015, RFIA'2014, EUSIPCO'2014, EMM-CPRV'2015.

Patrick Bouthemey: reviewer for ECCV'2014, ISBI'2014, ISBI'2015, RFIA'2014.

Perrine Paul-Gilloteaux: reviewer for ISBI'2015, expert for the project evaluation in the framework of France-Brazil cooperation COFECUB (Comité Français d'Évaluation de la Coopération Scientifique et Universitaire avec le Brésil).

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

Charles Kervrann is guest editor of the special issue entitled “Advanced Signal Processing in Microscopy and Cell Imaging” of the IEEE Selected Topics in Signal Processing Journal (publication in 2015).

#### 9.1.3.2. Reviewer

Charles Kervrann: reviewer in 2014 for Bioinformatics, Digital Signal Processing, IEEE Transactions on Image Processing, Journal Mathematical Imaging and Vision, Medical Image Analysis, Traitement du Signal.

Patrick Bouthemey: reviewer in 2014 for IEEE Transactions on Image Processing, IEEE Transactions on Medical Imaging, Medical Image Analysis.

Frédéric Lavancier : reviewer since September 2014 for Bernoulli, Climate Dynamics, Metrika, Statistics and Probability Letters.

Perrine Paul-Gilloteaux: reviewer for PLoS One.

#### 9.1.4. Participations in seminars, invitations, awards

Charles Kervrann was invited to give a talk entitled “Tracking and motion analysis in fluorescence microscopy” at the microscopy school MiFoBio’2014 (Seignosse, October 2014), “Localization, classification and estimation of membrane dynamics in TIRFM image sequences” at the Quantitative BioImaging 2015 (QBI 2015) (Institut Pasteur, Paris January 2015), “Patch-based methods and algorithms for breaking the signal-to-noise ratio in fluorescence microscopy” at the Max-Planck Institute Munich (Biochemistry Department, Martinsried, Germany, December 2014), “Conditional Random Fields for tubulin-microtubule segmentation in cryo-electron tomography” at the special session on Electron Microscopy, Image Processing Problems and Applications in Biology: From Structure to Dynamics of the IEEE International Conference on Image Processing (ICIP’2014) (Paris, October 2014), “Approximate Bayesian computation, stochastic algorithms and non-local means for complex noise models” at the special session on Photon-Limited Image Reconstruction of the IEEE International Conference on Image Processing (ICIP’2014) (Paris, October 2014).

Frédéric Lavancier was invited to give a talk entitled “Inference for union of interacting discs” at JSTAR, Rennes, October 2014.

Thierry Pécot was invited to give a talk entitled “Space-time representation imaging and cellular dynamics of molecular complexes and MobyLe platform”, at EuBIAS meeting, Institut Curie, Paris in January 2015 and at the BioGenouest meeting - Imaging Platforms on February 2014.

Thierry Pécot and Charles Kervrann organized a practical on “Image processing methods for motion analysis of particles” for microscopy school MiFoBio’2014 (Seignosse, October 2014).

Perrine Paul-Gilloteaux was invited to give a talk entitled “Microscopy images life cycle management in biology: knowledge mining from an image database” at the INRA seminar “Open Data” on the Curie image data base including development realized in collaboration with SERPICO for automatic processing on clusters from the database (Saint Martin des Combes, December 2014).

Perrine Paul-Gilloteaux (with F. Waharte) organized a practical on “Molecular dynamics in microscopy based on fluorescence image correlation” for microscopy school MiFoBio’2014 (Seignosse, October 2014).

#### 9.1.5. Responsibilities

Charles Kervrann:

Member of the IEEE BISP “Biomedical Image and Signal Processing” committee.

Member of executive board of the GdR MIV (2588 - Microscopie Fonctionnelle du Vivant) CNRS,

Member of the scientific committee of the Interdisciplinary MiFoBio School CNRS (<http://www.mifobio.fr>).

Member of the executive board of the project committee of the Inria Rennes - Bretagne Atlantique centre.

Member of the Scientific Council of the INRA Rennes Research Centre.

Patrick Bouthemy:

Head of Excellence Lab CominLabs since April 2014.

Deputy member of the board of directors and member of the Selection and Validation Committee of the Images & Réseaux competitiveness cluster.

Deputy member of the board of directors of IRT (Technological Research Institute) B-com.

President of AFRIF (Association Française pour la Reconnaissance et l’Interprétation des Formes) and member of the board of the GRETSI (Groupement de Recherche en Traitement du Signal et des Images).



## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Charles Kervrann:

Master: From BioImage Processing to BioImage Informatics, 5 hours, coordinator of the module (30 hours), Master 2 Research IRIV, Telecom-Physique Strasbourg & University of Strasbourg.

Master: Geometric Modeling for Shapes and Images, 6 hours, Master 2 Research SISEA, University of Rennes 1.

Engineer Degree and Master 2 Statistics and Mathematics: Statistical Models and Image Analysis, 37 hours + 15 hours (TP, Hoai Nam Nguyen), 3rd year, Ecole Nationale de la Statistique et de l'Analyse de l'Information (ENSAI), Rennes.

Patrick Boutheymy:

Master: Analysis of Image Sequences, 18 hours, Master 2 Research SISEA, ISTIC & University of Rennes 1.

Master: Video Indexing, 9 hours, Master 2 Research Computer Science, ISTIC & University of Rennes 1.

Engineer Degree and Master 2 Research IRIV: Motion Analysis, 12 hours, Telecom-Physique Strasbourg & University of Strasbourg.

### 9.2.2. Supervision

*PhD defense*: Philippe Roudot (May 2014), Lifetime estimation of moving vesicles in FLIM microscopy, started in October 2010, supervised by Charles Kervrann and Francois Waharte (UMR 144 CNRS-Institut Curie, STED team) (see [9]).

*PhD defense*: Denis Fortun (July 2014), Optical flow computing, aggregation methods and statistical methods: application to time-lapse fluorescence microscopy, started in October 2010, supervised by Charles Kervrann and Patrick Boutheymy (see [8]).

*PhD in progress*: Antoine Basset, Event detection and recognition in video-microscopy and applications in cell biology, started in October 2012, supervised by Patrick Boutheymy and Charles Kervrann in collaboration with Jérôme Boulanger and Jean Salamero (UMR 144 CNRS-Institut Curie, STED team).

*PhD in progress*: Hoai Nam Nguyen, Methods and algorithms for tissue microarrays image analysis, started in October 2013, supervised by Charles Kervrann and Vincent Paveau (Innopsys company).

*PhD in progress*: Vincent Briane, Statistical methods and models for image registration, started in October 2014, supervised by Charles Kervrann and Myriam Vimond (ENSAI-CREST)

*PhD in progress*: Bertha Mayela Toledo Acosta, Methods and algorithms for 3D image registration, started in October 2014, supervised by Patrick Boutheymy.

*PhD in progress*: Christophe Biscio, Statistical aspects of determinantal point processes, started in October 2012, supervised by Frédéric Lavancier.

### 9.2.3. Juries

*Member of a jury for the recruitment of an assistant professor*: University of Paris Descartes (Section CNU 26) [C. Kervrann].

*Referee of Habilitation thesis*: B.M. Jedynek (University of Lille) [Patrick Boutheymy].

*Chair of Habilitation jury*: O. Le Meur (University of Rennes 1) [Patrick Boutheymy].

*Referee of PhD thesis:* F.Z. Benamar (University of Picardie and University Mohammed V Agdal Rabat, supervised by D. Aboutajdine and E.M. Mouaddib [Patrick Bouthemy], P R. Kumar (University of Nice Sophia-Antipolis, supervised by M. Thonnat and G. Charpiat) [P. Bouthemy], S. Rigaud (University of Pierre et Marie Curie, supervised by D. Rococeanu and L.J. Hwee) [P. Bouthemy], M. Maggioni (Tampere University of Technology, supervised by A. Foi) [C. Kervrann], J. Gul-Mohammed (University of Pierre et Marie Curie, supervised by T. Boudier) [C. Kervrann], G. Trigui (University of Paris Sud, supervised by B. Dubreucq and A. Trubuil) [C. Kervrann].

*Chair of PhD thesis juries:* P.-H. Conze (Insa Rennes, supervised by L. Morin and P. Robert) [C. Kervrann], B. Delabarre (PhD, committee president, University of Rennes 1, supervised by E. Marchand) [P. Bouthemy], N. Morsli (Université de Grenoble, supervised by J.-F. Coeurjolly) [F. Lavancier]

## SIROCCO Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organization

#### 9.1.1.1. Member of the organizing committee

- C. Guillemot has been keynote chair of IEEE-ICIP 2014 and area chair of Eusipco 2014.
- C. Guillemot is member of the IEEE IVMSP technical committee.
- C. Guillemot is member of the award committee of the Eurasip Image communication journal.
- C. Guillemot is member of the committee in charge of the IEEE Brillouin-Glavieux award.
- C. Labit is member of the GRETSI association board.
- C. Labit has been president of the organization committee of 2013 Grets-EEA Signal-Image-Vision thesis prize
- A. Roumy is member of the GRETSI association board.
- A. Roumy is local liaison officer for Eurasip.

### 9.1.2. Scientific events selection

#### 9.1.2.1. Member of the conference programme committee

- C. Guillemot has been a member of technical program committees of international conferences of the field (EUSIPCO 2014, IEEE-ICIP 2014, EUVIP-2014).
- O. Le Meur has been a member of the technical program committees of the international conferences DICTA 2014, QoMex 2014, EUVIP 2014, ICME 2014.
- O. Le Meur co-organized a special session on Visual saliency: emerging models and applications in multimedia processing? at ICME 2014.

### 9.1.3. Journal

- C. Guillemot is associate editor of the Eurasip International Journal on Image Communication.
- C. Guillemot is associate editor of the IEEE Trans. on Image Processing.
- C. Guillemot is associate editor of the International Journal on Mathematical Imaging and Vision.
- C. Guillemot is senior member of the editorial board of the IEEE Journal on selected topics in signal processing.

### 9.1.4. Scientific animation

- C. Guillemot is member of the Selection and Evaluation Committee of the “Pôle de Compétitivité” Images and Networks of the Region of Ouest of France.
- C. Guillemot is member as scientific expert of the CCRRDT (Regional Committee of Research and Technological Development) of the Brittany region.
- C. Guillemot is member of the “bureau du Comité des Projets” as well as of the “commission personnels” in charge of the postdoc and delegation recruitments.
- C. Labit is the Vice-president of the Scientific Board, in charge of Research and Innovation, for the University of Rennes1 (since June 1st, 2008)
- C. Labit is president of the Rennes-Atalante Science Park and of the start-up incubator Emergys (since April, 2007).

- C. Labit is member of the ICT strategic steering committee (CPS-7) of the National Research Agency (ANR).
- A. Roumy is a member of the Selection and Evaluation Committee (CDT Commission Développement Technologique) for the Inria technological development grants.
- A. Roumy is titular member of the National Council of Universities (CNU section 61, 2012-2015).

## 9.2. Patents and Standardization

### 9.2.1. Patents

- Four patents have been filed jointly by Technicolor and Inria in the area of video analysis and compression.
- One patent has been filed jointly by Thomson Video Networks, Univ. Rennes 1 and Inria in the area of UHD HEVC-based video coding.

## 9.3. Teaching - Supervision - Juries

### 9.3.1. Teaching

Master: C. Guillemot, Image and video compression, 8 hours, M2 computer science, Univ. of Rennes 1, France.

Master: C. Guillemot, Image and video compression, 8 hours, M2 SISEA, Univ. of Rennes 1, France.

Master: O. Le Meur, Selective visual attention, 13 hours, M2, Univ. of Paris 8, France.

Master: O. Le Meur, Acquisition/Image Processing/Compression, 22 hours, M2 MITIC, Univ. of Rennes 1, France.

Master: A. Roumy, Magistère program, Information Theory, Computer science and telecommunications, 18 hours, Ecole Normale Supérieure de Cachan, Ker Lann campus, France.

Engineering degree: C. Guillemot, Video communication, 12 hours, Télécom Lille 1, Villeneuve-d'Ascq, France.

L1: L. Guillo, Programming, Univ. of Rennes 1, France.

Engineering degree: C. Labit, Entrepreneurship and innovation, 3 hours, ESIR, Rennes, France.

Engineer degree: O. Le Meur, Image Processing, video analysis and compression, 54 hours, ESIR2, Univ. of Rennes 1, France.

Engineer degree: O. Le Meur, Visual communication, 65 hours, ESIR3, Univ. of Rennes 1, France.

Engineering degree: A. Roumy, Image processing and numerical analysis, 51 hours, ECAM Rennes, France.

### 9.3.2. Invited Talks

- O. Le Meur gave a talk at UESTC (University of Electronic Science and Technology of China), School of Electronic Engineering, Chengdu, China. Prof. Bing ZENG and Prof. Hongliang LI. Title of the talk: exemplar-based inpainting methods, July 2014.
- O. Le Meur gave a talk at Sichuan University, Chengdu, China. Prof. Qionghua WANG. Title of the talk: exemplar-based inpainting methods, July 2014.
- O. Le Meur gave a talk at the National Research Group (GdR), Information Signal Image viSion (ISIS). Special session on visual attention. Title of the talk: Modelling the visual scanpath, 19th June 2014.

### 9.3.3. Supervision

PhD : M. Bevilacqua, Image and video super-resolution using neighbor embedding algorithms, Univ. of Rennes 1, defense on the 4th of June 2014, A. Roumy and C. Guillemot (contract with Alcatel/Lucent)

PhD : S. Cherigui, Techniques de codage d'images basees representations parcimonieuses de scenes et prediction spatiale multi-patches, University of Rennes 1, defense on the 18th of June 2014, C. Guillemot (contract with Technicolor)

PhD : M. Ebdelli, Video inpainting techniques : application to object removal and error concealment, Univ. of Rennes 1, defense on the 20th of June 2014, C. Guillemot and O. Le Meur.

PhD in progress : J. Aghaei Mazaheri, Sparse representations and dictionary learning for satellite image compression, Oct. 2011-Sept. 2014, C. Guillemot and C. Labit (contract with Astrium)

PhD in progress : M. Bevilacqua, Image and video super-resolution using neighbor embedding algorithms, Feb. 2011-Jan. 2014, A. Roumy and C. Guillemot (contract with Alcatel/Lucent)

PhD in progress : B. Huang, Video compression with generalized lifting, Apr. 2012-March 2015, C. Guillemot (Cifre contract with Orange)

PhD in progress : D. Khaustova, Objective evaluation of 3D video quality, Dec. 2011-Nov. 2014, O. Le Meur (Cifre contract with Orange)

PhD in progress : M. Alain, Spatio-temporal linear embedding for epitome-based video compression, Oct. 2012-Sept. 2015, C. Guillemot (Cifre contract with Technicolor)

PhD in progress : N. Dhollande, HEVC codec optimization based on content pre-analysis, Oct. 2012-Sept. 2015, O. Le Meur and C. Guillemot (Cifre contract with Thomson Video Networks)

PhD in progress : M. Le Pendu, HDR video compression, Dec. 2012-Nov. 2015, C. Guillemot (Cifre contract with Technicolor)

PhD in progress : Julio-Cesar Ferreira, multi-view super-resolution, Oct. 2013-March 2015, C. Guillemot, G. Carrijo, E. Da Silva (Co-tutelle with University of Uberlandia, Brazil).

PhD in progress: D. Gommelet, LDR-compatible HDR video compression, Oct. 2014- Sept. 2017, C. Guillemot and A. Roumy (Cifre contract with Envivio).

#### 9.3.4. Juries

- C. Guillemot has been member (rapporteur) of the jury of the PhD committee of:
  - J.J. Micallef, Univ. of Malta, Jan. 2014
  - E. Mora, Telecom Paris Tech, Feb. 2014
  - Tuan Tran Thai, ISAE/Univ. of Toulouse, June 2014
- C. Guillemot has been member (president) of the jury of the PhD committee of:
  - E. Vidal, Univ. of valenciennes, Apr. 2014
  - W. Lu, INSA of Rennes, July 2014
- O. Le Meur has been member (as examiner) of the jury of the PhD committee of:
  - Hamed Rezazadegan Tavakoli, University of Oulu, Finland, 2014.
- A. Roumy has been member (as examiner) of the jury of the PhD committee of:
  - A. UNSAL, Eurecom Telecom ParisTech, Nov. 2014.

#### 9.4. Popularization

- A. Roumy participated in the in-service training for teacher in Computer Science (Informatique et Science du Numérique (ISN), level bac -1 to bac+2) and gave a 3h course on video and image compression.
- As part of a seminar dedicated to teachers of secondary and preparatory schools, Laurent Guillo presented a possible use of Agility methods for pupils' projects and he animated the related workshop, ENS Rennes, October 2014.

## SUMO Project-Team

## 9. Dissemination

### 9.1. Administrative duties

Éric Badouel is secretary of the Permanent Committee of CARI, co-Director of LIRIMA, and the Scientific Manager for Africa and Middle-East region at Inria DRI.

Nathalie Bertrand is secretary and committee member of Gilles Kahn PhD prize.

Éric Fabre is the co-director of the joint research lab of Alcatel-Lucent Bell Labs France and Inria, together with Olivier Audouin on Bell Labs' side. This lab has currently five active joint research teams. Éric Fabre is also member of the Scientific Committee of the joint lab of Alstom and Inria.

Blaise Genest is member of the *Comité de Centre* of Inria Rennes, and of the CNRS CRFP of Bretagne.

Loïc Héliouët was member of the hiring committee a associate professor at INSA Rennes. Loïc Héliouët is currently *réfèrent chercheur* (advisor) for Inria Rennes sharing this responsibility with Christine Morin.

Thierry Jéron is member of the IFIP Working Group 10.2 on Embedded Systems. He is vice-chairman of the project committee of Inria Rennes - Bretagne Atlantique. He gave an invited lecture on "Model-based conformance test generation for timed systems" at WODES'2014. He was member of 3 committees to hire Inria junior scientists (CR2 at Lille and Saclay and CR1)

### 9.2. Promoting Scientific Activities

#### 9.2.1. Scientific events organisation

##### 9.2.1.1. general chair, scientific chair

Nathalie Bertrand is an elected steering committee member for the international conference QEST (Quantitative Evaluation of Systems).

Thierry Jéron was member of the steering committee of Movep 2014 in Nantes (July 2014).

Hervé Marchand is member of the IFAC Technical Committees (TC 1.3 on Discrete Event and Hybrid Systems) since 2005. He is member of the steering committee of MSR (Modélisation de systèmes réactifs).

#### 9.2.2. Scientific events selection

##### 9.2.2.1. chair/member of conference program committee

Éric Badouel has served in the Programme Committee of BPM'2014 Demos and CARI'2014.

Nathalie Bertrand was PC co-chair of QAPL'14 with L. Bortolussi. She was on the program committee of workshops PRUV'14 and QAPL'14, and of the international conferences QEST'14, TACAS'14.

Loïc Héliouët was member of the program committee of SAM'2014.

Thierry Jéron was PC member of ICTSS 2014, PECCS 2014, SAC-SVT 2014, TAP 2014, WODES 2014, and the forthcoming TAP 2015.

Hervé Marchand was PC member of the WODES conference and IFAC World Congress in 2014 and PC member of the forthcoming DCDS 2015 conference.

#### 9.2.3. Journal

##### 9.2.3.1. reviewer

Éric Badouel is reviewer for AMS (MathSciNet) and reviewed papers for Science of Computer Programming, Fundamenta Informaticae, Theoretical Computer Science, and Transaction on Petri Nets and Other Models of Concurrency.

Nathalie Bertrand has written reviews for Logical Methods in Computer Science, Information Processing Letters, Information and Computation.

Éric Fabre is a regular reviewer for the Ministry of Education and Research, through the Credit Impot Recherche program (support to industrial research through tax reductions). He reviewed for several journals and conferences: Automatica, Journal of discrete event dynamical systems, CDC, ACC,...

Hervé Marchand was this year reviewer for Automatica and Journal of discrete event dynamical systems.

Thierry Jérón was reviewer for Annals of telecommunications, Evolving Systems, Science of Computer Programming and Software Testing, Verification and Reliability.

## 9.3. Teaching - Supervision - Juries

### 9.3.1. Teaching

#### Christophe Morvan

License: Compilation, System, Advanced Algorithmics Université de Paris-Est, Marne-la-Vallée, France.

#### Nathalie Bertrand

Agreg: Responsible of computer science organization, 16h (eq. TD), M2, Ecole Normale Supérieure de Rennes, France.

#### Loïc Hérouët

Licence: JAVA programming, 35h, INSA Rennes, France.

Agreg: Algorithms, M2, ENS Rennes, France.

Master: Initiation to research, M1, ENS Rennes, France.

#### Éric Fabre

Master: "ASR: introduction to distributed systems and algorithms," 12h (eq. TD), M2, Univ. Rennes 1, France.

Master: "Information theory," 30h (eq. TD), M1, Ecole Normale Supérieure de Rennes, France.

Master: Preparation of Agrégation, 6h (eq. TD), M1, Ecole Normale Supérieure de Rennes, France.

Master: Initiation to research, 12h (eq. TD), M1, ENS Rennes, France.

Licence : "Information theory for computer scientists," 4.5h (eq. TD), L3, Ecole Normale Supérieure de Cachan, France.

### 9.3.2. Supervision

HdR: Christophe Morvan, Familles de graphes de présentation finie, propriétés et applications, Université de Paris-Est Marne-La-Vallée, 19 novembre 2014.

PhD: Sébastien Chédor, *Diagnostic, opacité et test de conformité pour des systèmes récursifs*, Université Rennes 1, 7th january 2015, supervised by Thierry Jérón and Christophe Morvan.

PhD: Mohamadou Lamine Diouf, *Opacité des artefacts d'un système workflow*, Rennes I University and University Cheikh Anta Diop (UCAD) in Dakar, 10th October 2014, supervised by Éric Badouel.

PhD in progress: Srinivas Pinisetty, *Runtime validation of critical control-command systems*, started in December 2011, supervised by Thierry Jérón and Hervé Marchand. Defense scheduled 23rd of January 2015.

PhD in progress: Bruno Karelavic, *Approximated analysis for checking Stochastic Models and Games*, started in November 2012, supervised by Blaise Genest and Wieslaw Zielonka.

PhD in progress : Paulin Fournier, *Parameterized verification of networks of probabilistic processes*, started in september 2012, supervised by Nathalie Bertrand and Thierry Jérón.

PhD in progress: Mathieu Pichene, Stochastic models to model apoptosis, started in December 2014, supervised by Blaise Genest.

PhD in progress: Karim Kecir, *Supervision of urban railway systems with advanced regulation techniques*, starting early 2015 (currently in pre-thesis period before a CIFRE convention is agreed by the ANRT), supervised by Loïc Hérouët.

### 9.3.3. *Juries*

Nathalie Bertrand was member of the private and public PhD defenses committee of Aaron Bohy, *Antichain based algorithms for the synthesis of reactive systems*, Université Mons, Belgium, 30/05/2014 and 10/06/2014.

This year, Thierry Jérôme has been:

- member of the PhD defense jury of Axel Belinfante, *JTorX: Exploring Model-based Testing*, University of Twente, Netherlands, 18/09/2014.
- member and president of the PhD defense jury of Hernan Ponce de Léon, *Testing concurrent systems through event structures*, LSV, ENS Cachan, 7/11/2014.
- member and president of the PhD defense jury of Anaïs Guignard, *Validation fonctionnelle de contrôleurs logiques: contribution au test de conformité et à l'analyse en boucle fermée*, Lurpa, ENS Cachan, 4/12/2014.

Éric Fabre participated to the Habilitation committee (HDR) of Samy Abbes, University Paris Diderot (Paris 7), "Asynchronous Probabilistic Processes," Sept. 2014.



## TACOMA Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events selection

#### 8.1.1.1. member of the conference program committee

- PC member for Ehpwas 2014: 2nd IEEE Int. Workshop on E-Health , 2014, F. Weis
- Member of the scientific committee of MC 2014 (Materiality in its contemporary form) Grenoble, February 2014, M. Dominici

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

L2/L3: network computing (lectures, tutorials, labs), 250 hours, F. Weis, University Rennes 1

Master : Ambient Computing and Mobile Communications, F. Weis, 6 hours, M2, university of Rennes 1

Master : Wireless LANs, F. Weis, 8 hours, M2, Telecom Bretagne

Master: Mobile and Pervasive Computing , P. Couderc, M2, University of Rennes 1

### 8.2.2. Supervision

PhD: Arnab Sinha, Pervasive control systems for smart waste management solutions, 14/12/10, M. Banâtre and P. Couderc, defended in April 2014

PhD in progress: Francisco Javier Acosta Padilla, Auto-adaptation for IoT, 31/01/13, Frédéric Weis and Johann Bourcier

### 8.2.3. Juries

Paul Couderc was in the following PhD examination committees:

Arnab Sinha, Pervasive control systems for smart waste management solutions, University Rennes 1 (co-director)

Tony Ducrocq, Auto-organisation des réseaux sans-fil multi-sauts dans les villes intelligentes, University Lille 1 (examiner)

Frédéric Weis was in the following PhD examination committees:

Ozan Gunalp, Déploiement continu des applications pervasives en milieux dynamiques, University Grenoble (PhD referee)

### 8.2.4. Internship

Master 1 Internship, 3 months: "Enhancing a Web Administration GUI for Smart Home using the Wisdom Framework", CHAABI Abdelhak

Master 1 Internship, 3 months: "Integration of Netatmo, Philipps Hue and Fibaro sensors into a Smart-Home platform", Bahram Salim

Master 1 Internship, 4 months: "Implementation of motion control for an RFID experimentation testbed", Victor Petit

## TASC Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

- **Gilles Chabert**: Organization of a workshop on constraints, intervals and geometry in Mine de Nantes on June 2014 (<http://ibex-lib.org/workshop-23-06-14>).
- **Éric Monfroy**: Co-chair of the **ACM SAC CSP**. tracks 2014 and 2015.
- **Thierry Petit**: Chairman of the 10th Edition of JFPC conference, June 11-13 2014, Angers, **JFPC 2014**.

#### 9.1.1.2. member of the organizing committee

- **Éric Monfroy**: Member of the organizing committee of **JFPC 2014**.

### 9.1.2. Scientific events selection

#### 9.1.2.1. member of the conference program committee

- **Nicolas Beldiceanu**: Member of the senior program committee of **CP 2014**.
- **Nicolas Beldiceanu**: Member of the program committee of **CPAIOR 2014**.
- **Nicolas Beldiceanu**: Member of the program committee of **CPAIOR 2015**.
- **Nicolas Beldiceanu**: Member of the program committee of **IJCAI 2015**.
- **Xavier Lorca**: Member of the program committee of JFPC 2015 (in Bordeaux).
- **Xavier Lorca**: Member of the program committee of **IJCAI 2015**.
- **Éric Monfroy**: Member of the program committee of **EvoCOP 2015**.
- **Thierry Petit**: Member of the program committee of **CPAIOR 2014**.
- **Thierry Petit**: Member of the program committee of **IEEE-ICTAI 2014** (Special track on SAT-CSP).
- **Thierry Petit**: Member of the program committee of **ECAI 2014**.
- **Charles Prud'homme**: Member of the program committee of **JFPC 2014**.
- **Florian Richoux**: Member of the Program Committee of **LION 9**.
- **Florian Richoux**: Member of the Program Committee of **SAC 15**.
- **Florian Richoux**: Member of the program committee of **JFPC 2014**.
- **Charlotte Truchet**: Member of the program committee of **ParSearchOpt 2014**.
- **Charlotte Truchet**: Member of the program committee of **JFPC 2014**.

#### 9.1.2.2. reviewer

- **Nicolas Beldiceanu** reviewer at **AAAI 2014**.
- **Gilles Chabert** reviewer at **SIAM Journal of Scientific Computing**.

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

- **Nicolas Beldiceanu**, **Constraints** (Springer).
- **Thierry Petit**, **Constraints** (Springer).
- **Florian Richoux**, **Encyclopedia of Computer Graphics and Games** (Springer).

### 9.1.3.2. reviewer

- **Xavier Lorca**: Reviewer for **Constraints (Springer)**.
- **Éric Monfroy**: Reviewer for IEEE TEC (Elsevier).
- **Éric Monfroy**: Reviewer for Information Sciences (Elsevier).
- **Florian Richoux** reviewer at **journal IEEE Transactions on Computational Intelligence and AI in games**.
- **Florian Richoux** reviewer at **Annals of Mathematics and Artificial Intelligence, Springer**.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Master: **Nicolas Beldiceanu**, Constraint (**Master ORO**), 30h, M2, Nantes University, France.
- Master: **Nicolas Beldiceanu**, Logic Programming, 32h, M2, Mines Nantes, France.
- Master: **Nicolas Beldiceanu**, Gipad end project, 8h, M2, Mines Nantes, France.
- Licence: **Nicolas Beldiceanu**, Programming with Java, 42h, L3, Mines Nantes, France.
- Licence: **Nicolas Beldiceanu**, IPIPIP project, 12h, L1, Mines Nantes, France.
- Master: **Gilles Chabert**, Non-linear programming, 20h, M2, Mines Nantes, France.
- Master: **Gilles Chabert**, Non-linear optimization, 20h, M1, Mines Nantes, France.
- Master: **Gilles Chabert**, Non-linear optimization, 24h, M1, Nantes University, France.
- Licence: **Gilles Chabert**, Variational calculus, 12h, L3, Mines Nantes, France.
- Licence: **Gilles Chabert**, Numerical methods, 21h, L3, Mines Nantes, France.
- Licence: **Gilles Chabert**, Numerical methods, 15h, L3, Mines Nantes, France.
- Licence: **Gilles Chabert**, Supervisions of projects, 66h, L3, Mines Nantes, France.
- Gilles Chabert**, Member of the selection committee for a position of associate professor at **ISTIA** (Angers University).
- Master: **Xavier Lorca**, Head of the major of the Master in Engineering, Computer Science for Decision Support, M2, Mines Nantes, France.
- Master: **Xavier Lorca**, Graph Theory, Algorithms, 22h, M1, Mines Nantes, France.
- Master: **Xavier Lorca**, Artificial Intelligence and Constraint Programming, 22h, M2, Mines Nantes, France.
- Master: **Xavier Lorca**, IT System and Software Development, 45h, M2, Mines Nantes, France.
- Master: **Xavier Lorca**, Decision support systems, 45, M2, Mines Nantes, France.
- Master: **Xavier Lorca**, Supervisions of projects, L2, M1, M3, Mines Nantes, France.
- Licence: **Éric Monfroy**, Responsible of the L2 in Computer Science, Nantes University, France.
- Licence and Master: **Éric Monfroy**, Responsible of the pole "Fondements Théoriques", CS Department, Nantes University, France.
- Licence: **Éric Monfroy**, Algorithm 2, 16h, L2, Nantes University, France.
- Licence: **Éric Monfroy**, Logic, 40h, L2, Nantes University, France.
- Licence: **Éric Monfroy**, Language theory, 96h, L3, Nantes University, France.
- Licence: **Éric Monfroy**, Computer architecture, 40h, L3, Nantes University, France.
- Master: **Éric Monfroy**, supervision of 5 M2-MIAGE students (alternants), M2, Nantes University, France.
- Master: **Éric Monfroy**, seminar about problem modelisation (ORO Master), 2, M2, Nantes University, France.

Master: **Thierry Petit**, Director of the Combinatorial Optimization degree, GIPAD, M2, Mines Nantes, France.

Master: **Thierry Petit**, Director of the Artificial Intelligence and Constraint Programming degree, GIPAD, M2, Mines Nantes, France.

Master: **Thierry Petit**, Discrete optimization, 9h, M2, Mines Nantes, France.

Master: **Thierry Petit**, Constraint Programming in **CHOCO**, 20h, M2, Mines Nantes, France.

Licence: **Thierry Petit**, Data structures, 20h, L2, Mines Nantes, France.

Licence: **Thierry Petit**, Java Programming, 40h, L2, Mines Nantes, France.

Licence: **Thierry Petit**, HMI, 13h, L2, Mines Nantes, France.

Licence: **Thierry Petit**, FIL project supervisor, 12h, L2, Mines Nantes, France.

Licence: **Thierry Petit**, IPIPIP project, 12h, L1, Mines Nantes, France.

Licence: **Thierry Petit**, Introduction to Constraint Programming, 4h, L2, Worcester Polytechnic Institute, USA.

Master: **Florian Richoux**, Constraint Programming, 12h, M2, University of Nantes, France.

Master: **Florian Richoux**, Prediction of Parallel Speed-ups for Las Vegas Algorithms, 2h, M2, University of Tokyo, Japan.

Licence: **Florian Richoux**, Design Patterns in Object-Oriented Programming, 86h, L3, University of Nantes, France.

Licence: **Florian Richoux**, Algorithm and Data Structures, 45h, L2, University of Nantes, France.

Licence: **Charlotte Truchet**, Algorithms and Programming, 46h, L1, University of Nantes, France.

Master: **Charlotte Truchet**, Local Search, 10h, M2, Mines Nantes.

### **E-learning**

Pedagogical resources: **Nicolas Beldiceanu**, global constraint course, exercises (available in two formats: pdf and interactively on the web) M2, [http://imedia.emn.fr/global\\_constraints\\_course/](http://imedia.emn.fr/global_constraints_course/)

### **9.2.2. Supervision**

PhD: Bruno Belin, Interactive conception of sustainable urban environments with constraints, Nantes University, November 27, 2014, **Charlotte Truchet**, **Marc Christie**, **Frédéric Benhamou**.

PhD: Jean-Guillaume Fages, Graph Theory in Constraint Programming, Theory and application to several graph covering problems, Nantes University, October 23, 2014, **Xavier Lorca**, **Nicolas Beldiceanu**.

PhD: **Charles Prud'homme**, Controlling Propagation and Search within a Constraint Solver, Nantes University, February 28, 2014, **Xavier Lorca**, **Narendra Jussien**, **Rémi Douence**.

PhD in progress: Anicet Bart, Mixed Constraint Solving, October 2014, **Charlotte Truchet**, **Éric Monfroy**.

PhD in progress: Alban Derrien, Constraint propagation with limited time complexity, October 2012, **Thierry Petit**, **Nicolas Beldiceanu**.

PhD in progress: Gilles Madi Wamba, Integrating time automata and constraint programming for modeling vm assignment in a data centre, October 2014, **Nicolas Beldiceanu**, **Didier Lime**, **Oliver H. Roux**.

PhD in progress: Ignacio Sala Donoso, Packing curved shapes, May 2013, **Gilles Chabert**, **Nicolas Beldiceanu**.

PhD in progress: Nicolás Sebastián Gálvez Ramírez, CP for Software Engineering, November 2014, **Éric Monfroy**, co-tutelle with Chile also involving Carlos Castro, Frédéric Saubion.

PhD in progress: Alejandro Reyes Amaro, New parallel algorithms for combinatorial optimization, October 2013, [Florian Richoux](#), [Éric Monfroy](#).

### 9.2.3. Juries

- [Nicolas Beldiceanu](#), Member of the committee of the HdR of [Xavier Lorca](#), Élément de flexibilité et d'efficacité en programmation par contraintes, (Nantes University, November 6, 2014).
- [Nicolas Beldiceanu](#), Member of the committee of the HdR of [Thierry Petit](#), Concilier expressivité et efficacité en programmation par contraintes, (Nantes University, December 4, 2014).
- [Nicolas Beldiceanu](#), Member of the PhD committee of the thesis of Jean-Guillaume Fages, Graph Theory in Constraint Programming, Theory and application to several graph covering problems, (Nantes University, October 23, 2014).
- [Frédéric Benhamou](#), Member of the PhD committee of the thesis of Bruno Belin, Interactive conception of sustainable urban environments with constraints, (Nantes University, November 27, 2014).
- [Gilles Chabert](#), Member of the PhD committee of the thesis of Aymeric Bethencourt, Interval Analysis for swarm localization. Application to underwater robotics. (ENSTA Bretagne, September 30, 2014).
- [Xavier Lorca](#), Member of the PhD committee of the thesis of Jean-Guillaume Fages, Graph Theory in Constraint Programming, Theory and application to several graph covering problems, (Nantes University, October 23, 2014).
- [Xavier Lorca](#), Member of the PhD committee of the thesis of Charles Prud'homme, Controlling Propagation and Search within a Constraint Solver, (Nantes University, February 28, 2014).
- [Charlotte Truchet](#), Member of the PhD committee of the thesis of Bruno Belin, Interactive conception of sustainable urban environments with constraints, (Nantes University, November 27, 2014).
- [Éric Monfroy](#), Member of the HDR committee of the Habilitation thesis of [Xavier Lorca](#), Élément de flexibilité et d'efficacité en programmation par contraintes, (Nantes University, November 6, 2014).
- [Éric Monfroy](#), Member of the HDR committee of the Habilitation thesis of [Adrien Goeffon](#), Modèles d'abstraction pour la résolution de problèmes combinatoires, (Angers University, November 17, 2014).
- [Éric Monfroy](#), Member of the HDR committee of the Habilitation thesis of [Thierry Petit](#), Concilier expressivité et efficacité en programmation par contraintes, (Nantes University, December 4, 2014).
- [Éric Monfroy](#), Member of the PhD committee of the thesis of Xavier Dupont, (Caen University, December 18, 2014).
- [Éric Monfroy](#), Member of the Magister committee of the Magister thesis of N. Galvez, (UTFSM, Chile, November 19, 2014).

## 9.3. Popularization

- A user guide is now available for [CHOCO](#): 164 pages describing how to use [CHOCO](#), together with a new website, see <http://www.choco-solver.org>. The next topics on the way will include:
  - Dealing with strong consistencies.
  - Designing an even more efficient free search strategy.
  - Providing a light explanation framework.
- Within the context of the [global constraint catalog](#):
  - On-line interactive exercises completed (see [http://imedia.emn.fr/global\\_constraints\\_course/](http://imedia.emn.fr/global_constraints_course/)).
  - Effort for providing more [TikZ](#) illustrations has been continued (about 1000 figures are currently available and 60 figures remain to be redesigned to [TikZ](#)) by [Nicolas Beldiceanu](#).

- Reorganization of the production of the pdf version (and enhancing look and navigation within the pdf) by **Mats Carlsson**.
- Update of the web version (see <http://sofdem.github.io/gccat/>) by **Sophie Demassey**.
- A strong effort has also been made in 2014 to improve the dissemination of **IBEX** and the collaboration of programmers. This includes:
  - Course on **IBEX** by **Gilles Chabert** at **MACS 2015**.
  - Creation of a new web site, see <http://www.ibex-lib.org/>.
  - Documentation writing (low-level interval arithmetic operations, contractors), see <http://www.ibex-lib.org/doc/>.
  - Migration of the code from SVN+sourceforge to github ([github.com/ibex-team/ibex-lib](https://github.com/ibex-team/ibex-lib)).
  - Support via the new forum (<http://ibex-lib.org/forum>).
  - Bug/issue tracking system, private wiki for developers.
  - Introduction of Travis for continuous integration.
- Within the context of *Artificial Intelligence and real time strategy games*,
  - Interview by Inria Bretagne of **F. Richoux** on his work about Game AI, see [emergences.inria.fr/emergences-2014/newsletter-n30/L30-STARCRAFT](http://emergences.inria.fr/emergences-2014/newsletter-n30/L30-STARCRAFT).
  - **F. Richoux** has been invited to write a short article about his work about Game AI in the “Bulletin de l’Association Française pour l’Intelligence Artificielle”. It should appear on January 2015.
- Presentation at the workshop **les femmes dans le monde académique** by **Charlotte Truchet**.
- A the 2014 edition of the Fête de la Science (Nantes University):
  - One talk on *Challenges around optimizations problems* was given by **Xavier Lorca**.
  - A session discussing and answering questions around the work of professor and researcher in computer science with young persons (18 years old) was spent by **N. Beldiceanu**.

## TEA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. member of the organizing committee

Jean-Pierre Talpin is a member of the steering committee of the ACM-IEEE Conference on Methods and Models for System Design (MEMOCODE).

#### 9.1.1.2. responsable of the conference program committee

Jean-Pierre Talpin co-chaired the program committee of the 12th. ACM-IEEE MEMOCODE conference and the 5th. IEEE RTSS workshop AVICPS.

#### 9.1.1.3. member of the conference program committee

Jean-Pierre Talpin served the program committee of the 12th. ACM EMSOFT'14, ACM LCTES'14, and SCOPES'14 conferences, as well as the MODELS workshop ACVI'14.

Thierry Gautier served as program committee member for the 2014 Electronic System Level Synthesis Conference, ESLsyn 2014 (<http://www.ecsi.org/eslsyn>) and for the 12th ACM-IEEE International Conference on Formal Methods and Models for System Design, MEMOCODE'14 (<http://memocode.irisa.fr>).

### 9.1.2. Journal

#### 9.1.2.1. member of the editorial board

Jean-Pierre Talpin is Associate Editor with the ACM Transactions for Embedded Computing Systems (TECS); he is also Associate Editor with the Springer journal on Frontiers of Computer Science (FCS) and Associate Editor with EURASIP journal of embedded systems.

#### 9.1.2.2. reviewer

Jean-Pierre Talpin reviewed for Acta Informatica and Science of Computer Programming.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Supervision

- *PhD advisory of Chan Ngo* by Jean-Pierre Talpin, Paul Le Guernic and Thierry Gautier, entitled "*Vérification formelle d'un générateur de code pour les spécifications polychrones*", defended in December 2014.
- *PhD advisory of Sun Ke* by Jean-Pierre Talpin, Paul Le Guernic and Thierry Gautier, entitled "*Conception conjointe de modules synchrones et de réseaux flot-de-données polychrones*", since 2011.
- *PhD co-advisory of Imré Frotier de la Messelière* by Jean-Pierre Talpin and Pierre Jouvelot (Mines ParisTech), entitled "*Conception et implémentation d'applications musicales innovantes pour les nouvelles technologies multimédia*", since October 2013.

### 9.2.2. Juries

Jean-Pierre Talpin served as Referee at the Thesis Defence of Vincent Gaudel (UBO), entitled "*Des patrons de conception pour assurer l'analyse d'architectures : un exemple avec l'analyse d'ordonnancement*", December 2014.

## VISAGES Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific events organisation

##### 9.1.1.1. General chair, scientific chair

- C. Barillot co-Chair of Miccai 2014, Boston MA - Sept 14-18 2014

#### 9.1.2. Scientific events selection

##### 9.1.2.1. Chair of conference program committee

- C. Barillot Program Committee Chair of Miccai 2014, Boston MA - Sept 14-18 2014

##### 9.1.2.2. Member of the conference program committee

- C. Barillot was area chair of SPIE Medical Imaging: Image Processing, IEEE ISBI, TPC member of ESMRMB.

##### 9.1.2.3. Reviewer

- O. Commowick was TPC member of MICCAI'2014, IEEE ISBI'2014.

#### 9.1.3. Journal

##### 9.1.3.1. Member of the editorial board

- C. Barillot is member of Editorial Boards of IEEE Transactions on Medical Imaging, Medical Image Analysis, Current Medical Imaging Reviews, ISRN Signal Processing and is Editor-in-Chief of Frontiers in ICT: Computer Image Analysis.

##### 9.1.3.2. Reviewer

- IEEE TIP (CB), IEEE TMI (OC, PM), Medical Image Analysis (CB, SP, OC), NeuroImage (CB, OC), Neuroimage clinical (CB), Computer Methods and Programs in Biomedicine (CB), Comput. Med Im & Graph (CB), Comp Meth & Prog in Biomed (CB), IEEE Signal Proc. Let. (CB), Sensors (CB), Magnetic Resonance in Medicine (EC), Plos-ONE (CB, EC), IJCT (CB), IJSISE (CB), IICVR (CB), Journal of Mathematical Imaging and Vision (PM), Neurobiology of Aging (IC).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Teaching on 3D Medical Imaging (visualization, segmentation, fusion, management, normalization) in the following tracks:

Master 2 SIBM, University of Angers-Brest-Rennes: 26h (C. Barillot, O. Commowick, S. Prima, I. Corouge, E. Bannier, J.-Y. Gauvrit):

C. Barillot is responsible for one semester.

J.-Y. Gauvrit is the coordinator for the Master.

Master 1 SIBM, University of Rennes: 5h (S. Prima)

Ecole Supérieure d'Ingénieur de Rennes (ESIR): 60h in medical imaging (P. Maurel)

Other topics:

Ecole Supérieure d'Ingénieur de Rennes (ESIR): 60h in general image processing (P. Maurel) and 60h in algorithmics and complexity (P. Maurel)

ENS Cachan-Bretagne: 24h in introduction to image processing (P. Maurel)



### 9.2.2. Supervision

PhD Hrishikesh Deshpande, Dimensionality Reduction and Statistical Learning for Computational Modeling of Natural Evolution of Brain Pathologies, Inria, from December 2012, Christian Barillot, Pierre Maurel

PhD Renaud Hédouin, Biomarker discovery in brain imaging by using diffusion MRI, Inria/Inserm, from November 2013, Christian Barillot, Olivier Commowick

PhD Yogesh Karpate, Quantitative analysis of MRI in Multiple Sclerosis in the context of the clinically isolated syndrome, INSERM, from December 2011, Christian Barillot, Olivier Commowick

PhD Lea Itmi, Quantitative Analysis Of Arterial Spin Labeling MRI For Robust Parametric Information Of Perfusion Maps, Inria / Siemens, from Mar 2014, Christian Barillot, Pierre Maurel

PhD Lorraine Perronnet, Neurofeedback Using Virtual Reality And Combining Eeg-Mri For Brain Rehabilitation, Inria/CominLabs Hemisfer project, from Dec 2013, Christian Barillot, Maureen Clerc (Inria Sophia-Antipolis), Anatole Lecuyer (HYBRID project), Fabien Lotte (Inria Bordeaux)

PhD Hélène Raoult, "Angio-RM morphologique et dynamique sans injection de produit de contraste dans l'exploration des pathologies neurovasculaires", CHRU Rennes, Nov. 2011, defended in October 2014, Elise Bannier, Jean-Yves Gauvrit

### 9.2.3. Juries

- C. Barillot: PhD, Reviewer, Maxime Taquet, University of Louvain, Jan 2014
- C. Barillot: PhD, President, Celine Louarpe, Univ. Pierre et Marie Curie, Jan 2014
- C. Barillot: PhD, Reviewer, Viviana Siless, Université Paris Sud, July 2014
- C. Barillot: HDR, President, François Rousseau, June 2014
- C. Barillot: PhD, Reviewer, Zehan Wang, Imperial College, London, Nov. 2014
- C. Barillot: PhD, Reviewer and President, Erin Stretton, Mines Paris-Tech, Nov. 2014
- C. Barillot: PhD, President, Aurélie Emilien, Univ. of Bordeaux, Dec. 2014

## 9.3. Popularization

- Conférence/débat public "Le partage de données d'imagerie en santé: Noeud FLI-IAM", Journées Françaises de Radiologie
- Conférence/débat public "Les biomarqueurs d'imagerie" Collège de France
- Conférence/débat public Technoférence "E-santé", Pôle Image et Réseaux
- Exposition Stand démonstration Inria, Journées Françaises de Radiologie
- Presse écrite "Equipe de recherche Visages et ses projets innovants", Revue CAPITAL
- Site web de vulgarisation "Projet Hemisfer", lettre d'information Emergences Inria
- Site web de vulgarisation : reportage photo Serimedis/inserm
- Site web de vulgarisation Emergence Inria: <http://emergences.inria.fr/emergences-2014/newsletter-n30/L30-SHANOIR>