Activity Report 2011

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9. Dissemination

9.1. Scientific community animation

- Pierre Michaud is a member of the ISPASS 2012 conference program committee.
- Isabelle Puaut is a member of the program committees of ECRTS 2012 and LCTES 2012. She was a member of the program committee of ECRTS 2011, RTAS 2011, DATE 2011, RTSS 2011, RTNS 2011 and ETFA 2011.
- Damien Hardy was a PC member of the 5th Junior Researcher Workshop on Real-Time Computing, in conjunction with RTNS 2011.
- André Seznec was a member of HPCA 2011, ISCA 2011, CASES 2011, ICCD 2011, and Micro Top Picks 2011 program committees. He is member of ISCA 2012 program committee. He is a member of the editorial board of the IEEE Micro.
- Erven Rohou was a member of the program committee of the PARMA Workshop 2011, and he is in the program committee of PARMA 2012 and of Computing Frontiers 2012.
- Erven Rohou was the Co-Chair of the 3rd International Workshop on GCC Research Opportunities (GROW 2011), colocated with CGO2011 in Chamonix, France.
- Erven Rohou co-organized the “Troisièmes rencontres de la communauté française de compilation”, Dinard, April 2011.
- F. Bodin was director of IRISA till 31/08/2011. IRISA (Institut de Recherche en Informatique et Systèmes Aléatoires) is a joint research unit (UMR 6074), including CNRS, University of Rennes 1, INSA Rennes and ENS Cachan (Brittany site). IRISA laboratory is associated with INRIA.

9.2. Teaching

- F. Bodin, A. Seznec, I. Puaut and E. Rohou are teaching computer architecture and compilation in the master of research in computer science at University of Rennes I.
- Erven Rohou teaches classes and labs of Computing Systems at école Polytechnique (INF422)
- I. Puaut teaches operating systems and real-time systems in the master degree of computer science of the University of Rennes I and at Ecole Supérieure d’ingénieurs de Rennes.
- Pierre Michaud and André Seznec are teaching computer architecture at the engineering degree in computer science at Ecole Supérieure d’ingénieurs de Rennes.
- I. Puaut is co-responsible of the Master of Research in computer science in Brittany (administered jointly by University of Rennes I, University of Bretagne Sud, University of Bretagne Occidentale, INSA de Rennes, ENS Cachan antenne de Bretagne, ENIB, Supélec, Telecom-Bretagne).

9.3. Workshops, seminars, invitations, visitors

- A. Seznec has presented a seminar on “What you will never have wanted to know on branch prediction” at AMD, Austin in Feburary 2011.
- A. Seznec has presented a lesson on “Microarchitecture for the dummies” at the winter school on “Hot Topics in Distributed Computing” from March 20th to March 25th 2011 in La Plagne.
- Damien Hardy has presented a seminar on “WCET Analysis of Tasks Executed on Multicore Architectures with Shared Caches” at the University of Cyprus. February, 2011.
• Isabelle Puaut, has presented a lesson on "Estimation de pires temps d’exécution (WCET - Worst-Case Execution Times)" at the "école d’été temps-réel" Brest, August 2011

• Isabelle Puaut has presented a seminar on "WCET estimation: from mono-core to multi-core architectures", at ENSTA Paris in May 2011 and at "Journées temps-réel multiprocesseur " from GDR ASR, Paris, May 2011

• Erven Rohou gave an invited talk at the Technion Computer Engineering Club, Israel Institute of Technology, Haifa, Israel.

• Erven Rohou gave an invited talk at the “Journée PEPI MACS”, organized by INRA, to foster interaction between computer scientists and biologists in need for computational power.

• Erven Rohou gave a talk at the “Quatrièmes rencontres de la communauté française de compilation” in Strasbourg, December 2011.

• Prof. Ahmed El-Mahdy, from the Egyptian-Japanese University of Science and Technology visited Inria (ALF and SYMBIOSE) to discuss collaboration options.

9.4. Miscellaneous

• I. Puaut is a member of the advisory board of the foundation Michel Métivier (http://www.fondation-metivier.org).

• I. Puaut is a member of the Technical Committee on Real-Time Systems of Euromicro, which is responsible for ECRTS, the prime European conference on real-time systems.

• Erven Rohou is a member of the working group GTInria2020 whose mission is to produce the next “Plan Stratégique”.

• A. Seznec is an elected member of the scientific committee of INRIA.

• A. Seznec has been nominated by ACM for 3 years 2011-2013 on the selection committee for the ACM-IEEE Eckert-Mauchly award.

• A. Seznec is a member of the steering committee of ISCA 2011 and ISCA 2012.
9. Dissemination

9.1. Animation of the Scientific Community

O. Berder was a member of the Program Committee of IEEE International Workshop on Cross Layer Design (IWCLD).

F. Charot was a member of the Program Committee of IEEE ASAP Conference.

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).

D. Chillet was Program Co-Chair of the Conference on Design and Architectures for Signal and Image Processing (DASIP) in Tempere, Finland, Nov. 2011. He will be the General Co-Chair of DASIP 2012 in Karlsruhe, Germany.

D. Chillet has organized and managed the special session about Low power estimations and optimizations during the Patmos 2011 conference in september 2011 at Madrid.

D. Menard and O. Sentieys were guest editors of Eurasip Journal of Advances in Signal Processing, special issue on Quantization of VLSI Digital Signal Processing Systems.

S. Pillement was a member of the Program Committee of IEEE FPL, SPL, DTIS and ERSA.

S. Pillement and E. Casseau were members of the Program Committee of DASIP.

P. Quinton is member of the steering committee of the System Architecture MOdelling and Simulation (SAMOS) workshop and a member of the scientific committee of ASAP.

O. Sentieys was a member of technical program committee of the following conferences: IEEE/ACM DATE, IEEE ISQED, IEEE VTC, IEEE DDECS, AFRICON, WUPS, FTFC. He was Track Chair at NEWCAS. He is on the editorial board of Journal of Low Power Electronics, American Scientific Publishers, and of ISRN Sensor Networks.

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 2011, he was an expert for some scientific organizations (ANR INS, ANR blanc). He is a member of Allistene working group.

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


A. Tisserand was a member of technical program committee of the following conferences: IEEE ASAP 2011, Reconfig 2011, DASIP 2011, NEWCAS 2011 and SympA 2011. He is a member of the editorial board of the International Journal of High Performance Systems Architecture, Inderscience.

C. Wolinski was a technical committee of the following conferences: IEEE/ACM DATE, IEEE FPL, IEEE ASAP, Euromicro DSD, IEEE ISQED, SPL. He is a member of Board of Directors of Euromicro Society and an Advisor of the Métivier Foundation, France.

9.2. Seminars and Invitations

O. Sentieys gave an invited talk at WPMC in November on Low-Energy Wireless Sensor Networks.

O. Sentieys gave a tutorial on PowWow at WPMC in November.
O. Sentieys gave an invited talk at GDR SoC-SiP in May on System-Level Synthesis of Ultra Low-Power WSN Node Controllers.

O. Sentieys gave a tutorial at WUPS in January on Energy efficient techniques for lower layers of WSNs.

A. Tisserand gave an invited talk at the French journée sécurité numérique GDR SoC-SiP in November on hardware arithmetic operators for elliptic curve cryptography.


A. Tisserand gave an invited lecture at the CNRS ARCHI 2011 spring school on Hardware Arithmetic Operators.

A. Tisserand gave a popularization talk at Fête de la science 2011 in Lannion on random numbers generation.

### 9.3. Teaching and Responsibilities

#### 9.3.1. Teaching Responsibilities

There is a strong teaching activity in the CAIRN team since most of the permanent members are Professors or Associate Professors.

C. Wolinski is the Director of ESIR since March 2011.

P. Quinton is the deputy-director of Ecole Normale Supérieure de Cachan, responsible of the Brittany branch of this school.

E. Cassseau is the Director of Academic Studies of ENSSAT.

D. Chillet is the Head of the Electronics Engineering department of ENSSAT.

O. Sentieys is responsible of the "Embedded Systems" branch of the SISEA Master of Research (M2R).

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 (formerly DIIC) stands for "École supérieure d'ingénieur de Rennes" and is an "École d'Ingénieurs" of the University of Rennes 1, located in Rennes.

M2R stands for Master by Research, second year.

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

O. Berder: introduction to signal processing, 38h, ENSSAT(L3)
O. Berder: microprocessors and digital systems, 19h, ENSSAT(L3)
O. Berder: wireless communications, 23h, ENSSAT(M2)
O. Berder: digital signal processing, 60h, ENSSAT(M1)
O. Berder: ad hoc networks, 58h, ENSSAT(M1-M2)
O. Berder: signal processing, 24h, IUT Lannion (L2)
E. Casseau: verification, 12h, Master by Research and ENSSAT(M2)
E. Casseau: high-level synthesis, 3h, ENSSAT(M2)
E. Casseau: hardware description language, 24h, ENSSAT(M1)
E. Casseau: design methodology of real-time systems, 24h, ENSSAT(M1)
E. Casseau: verification, 4h, ENSEIRB (M1)
E. Casseau: signal processing, 16h, ENSSAT(L3)
F. Charot: specification of applications with the signal synchronous language, 24h, ESIR(M1)
F. Charot: virtual prototyping of multiprocessor system-on-chip, 48h, ESIR(M1, M2)
D. Chillet: advanced processors architectures, 24h, Master by Research and ENSSAT(M2)
D. Chillet: low-power digital CMOS circuits, 6h, Telecom Bretagne and University of Occidental Brittany (UBO) (M2)
D. Menard: embedded software for signal processing, 14 h, Master by Research and ENSSAT(M2)
D. Menard: embedded systems, 18 h, ENSSAT(M1)
D. Menard: digital signal processors, 20 h, ENSSAT(M1)
D. Menard: digital systems, 38 h, ENSSAT(L3)
D. Menard: embedded processors, 40 h, ENSSAT(L3)
S. Pillement: embedded microprocessors, 28h, ENSSAT(M2)
S. Pillement: initiation to electronic system integration, 12h, ENSSAT(L3)
S. Pillement: computer architecture, 61h, IUT Lannion (L2)
S. Pillement: data acquisition, 21h, IUT Lannion (L2)
S. Pillement: micro-controller programming, 30h, IUT Lannion (L1)
S. Pillement: digital electronics, 43h, IUT Lannion (L1)
R. Rocher: electricity, 16h, IUT Lannion (L1)
R. Rocher: electronics, 56h, IUT Lannion (L1)
R. Rocher: telecommunications, 94h, IUT Lannion (L1)
R. Rocher: signal processing, 12h, IUT Lannion (L2)
R. Rocher: digital communications, 56h, IUT Lannion (L2)
O. Sentieys: methodologies for system-on-chip design, 6h, Master by Research and ENSSAT(M2)
O. Sentieys: VLSI integrated circuit design, 66h, ENSSAT(M1)
O. Sentieys: high-level synthesis of digital signal processors, 16h, Master by Research and ENSSAT(M2)
A. Tisserand: GPU programming, 6h, ENSSAT(M2)
A. Tisserand: hardware computer arithmetic operators, 6h, Master by Research, Univ. Rennes 1 (M2)
A. Tisserand: computer arithmetic, 12h, ENS Cachan, Antenne de Bretagne, Magister Computer Science and Telecommunications (L3)
C. Wolinski: architecture 1, 64h, ESIR(L3)
C. Wolinski: architecture 2, 28h, 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)

9.3.3. HDR and PhD

HDR: Daniel Menard, Contributions à la conception de systèmes en virgule fixe, Habilitation à Diriger des Recherches, University of Rennes 1, Nov. 2011.
HDR: Steven Derrien, Contributions à la conception d’architectures matérielles dédiées, Habilitation à Diriger des Recherches, University of Rennes 1, Dec. 2011.

PhD: Erwan Raffin, Déploiement d’applications multimédia sur architecture reconfigurable à gros grain : modélisation avec la programmation par contraintes, University of Rennes 1, Jul. 2011, C. Wolinski, F. Charot.
PhD: Ludovic Devaux, Réseaux d’interconnexion flexibles pour architectures reconfigurables dynamiquement, University of Rennes 1, Nov. 2011, S. Pillement, D. Demigny.
PhD: Hai-Nam Nguyen, Optimisation de la précision de calcul pour la réduction d’énergie des systèmes embarqués, University of Rennes 1, Dec. 2011, D. Menard, O. Sentieys.
PhD in progress: Naeem Abbas, Flexible Hardware Accelerators for Biocomputing Applications, Jan. 2009, P. Quinton, S. Derrien
PhD in progress: Karim Bigou, RNS Hardware Units for ECC, Oct. 2011, A. Tisserand
PhD in progress: Thomas Chabrier, Reconfigurable Arithmetic Units for Cryptoprocessors with Protection against Side Channel Attacks, Oct. 2009, A. Tisserand, E. Casseau
PhD in progress: Aymen Chakhari, Analytical approach for decision errors in fixed-point digital communication systems, Oct. 2010, R. Rocher, P. Scalart
PhD in progress: Antoine Floch, Pattern Recognition for Processor Instruction-Set Extension, Jan. 2009, C. Wolinski, F. Charot
PhD in progress: Clément Guy, Generic Definition of Domain Specific Analysis using MDE, Oct. 2010, S. Derrien, jointly with J.M. Jezequel and B. Combemale from Triskell EPI
Trong-Nhan Le, Global power management system for self-powered autonomous wireless sensor nodes, Jan. 2011, O. Sentieys, O. Berder


PhD in progress: Cécile Beaumin, Reconfigurable Architecture for High-Performance Video Transcoding, Oct. 2008, O. Sentieys, E. Casseau


PhD in progress: Matthieu Texier, Low-Power Embedded Multi-Core Architectures for Mobile Systems, Oct. 2009, O. Sentieys, jointly with R. David from CEA List

PhD in progress: Michel Theriault, Transmit Beam-forming for Distributed Wireless Access with Centralized Signal Processing, Oct. 2007, O. Sentieys, jointly with S. Roy from U. Laval, Canada


Ganda-Stéphane Ouédraogo, Automatic synthesis of hardware accleraor from high-level specifications in flexible radios, Oct. 2011, M. Gautier, O. Sentieys

PhD in progress: Pramod Udupa, Sampling, synchronising, digital processing and FPGA implementation of 100Gbps optical OFDM signals, Jan. 2011, O. Sentieys

PhD in progress: Chenglong Xiao, Pattern-Based Guided High-Level Synthesis, Oct. 2009, E. Casseau

PhD in progress: Hervé Yviquel, Video coding design framework based on SoC-based platforms, Oct. 2010, E. Casseau
8. Dissemination

8.1. Animation of the scientific community

David Pichardie served in the program committees of JFLA 2011, BYTECODE 2011, PxTP 2011, PSATTT 2011 and FoVeOOS 2011. Arnaud Gotlieb served in the PC of the International conferences QSI’11 and TAP’11, and the VAST’11 workshop. He co-organized the CSTVA’11 satellite workshop of the ICST’11 conference that was held in Berlin in March. He will be hold the workshop chair of ICST’11 next year. A. Schmitt is a member of the steering committee of the Journées Françaises des Langages Applicatifs (JFLA). David Cacheria served on the program committee of FOPARA 2011. Sandrine Blazy served on the program committee of the International conferences ICST’11 and on the FPS 2011 conference.

Sandrine Blazy and Thomas Jensen organize a seminar devoted to security and formal methods. The seminar is funded by DGA-MI. It takes place at INRIA twice a month. It is open to the public and attended by researchers and engineers.

8.2. Teaching

Licence :

Thomas Genet, Programmation fonctionnelle, 44h, L3, Rennes 1, France
David Cachera, Logique et calculabilité, 36h, L3, ENS Cachan Bretagne, France
David Cachera, Algorithmique avancée, 18h, L3, ENS Cachan Bretagne, France
David Cachera, Langages formels, 24h, L3, ENS Cachan Bretagne, France
Sandrine Blazy, Programmation fonctionnelle, 20h, L3, Rennes 1, France

Master :

Alan Schmitt, Méthodes Formelles pour le développement de logiciels sûrs, 36h, M1, Rennes 1, France
Frédéric Besson, Compilation, 30h, M1, Insa Rennes, France
Thomas Genet, Bases de la cryptographie, 18h, M2, Rennes 1, France
Thomas Genet, Analyse et conception objet, 48h, M1, Rennes 1, France
Thomas Genet, Validation et vérification formelle, 38h, M1, Rennes 1, France
David Cachera, Sémantique des langages de programmation, 36h, M1, Rennes 1, France
David Cachera, Préparation à l’agrégation, 60h, M2, ENS Cachan Bretagne, France
Sandrine Blazy, Méthodes Formelles pour le développement de logiciels sûrs, 48h, M1, Rennes 1, France
Sandrine Blazy, Conception de logiciels sûrs, 40h, M2, Rennes 1, France.
Sandrine Blazy, Évaluation des vulnérabilités des logiciels, 21h, M2, Rennes 1, France.
Sandrine Blazy, Veille technologique, 19h, M2, Rennes 1, France.
Thomas Jensen, Program Analysis and Semantics, 20h, M2, Rennes 1, France
Thomas Jensen, Software Security, 20h, M2, Rennes 1, France.

PhD & HdR :
HdR : Arnaud Gotlieb, Contributions to Constraint-Based Testing, Université de Rennes, 12 Décembre 2011
PhD : Mickaël Delahaye, Généralisation de chemins infaibles pour l’exécution symbolique dynamique, Université de Rennes, 26 Octobre 2011, Arnaud Gotlieb et Thomas Jensen
PhD : Nadjib Lazaar, Méthodologie et outil de test, de localisation de fautes et de correction automatique des programmes contraintes, Université de Rennes, 5 Décembre 2011, Arnaud Gotlieb and Thomas Jensen
PhD in progress: Valérie Murat, Automatic verification of infinite state systems using tree automata completion, octobre 2010, Thomas Genet and Axel Legay
PhD in progress: Yann Salmon, Optimized rewriting proof search using approximations and tree automata, octobre 2011, Thomas Genet
PhD in progress: Arnaud Jobin, Dioïdes et idéaux de polynômes en analyse statique, ENS Cachan, septembre 2008, soutenance prévue en janvier 2012, David Cachera and Thomas Jensen
PhD in progress: André Oliveira Maroneze, Compilation vérifiée et calcul de temps d’exécution au pire cas, septembre 2010, Sandrine Blazy and Isabelle Puaut
PhD in progress: Stéphanie Riaud, Transformations de programmes pertinentes pour la sécurité du logiciel, septembre 2011, Sandrine Blazy
PhD in progress: Pierre-Emmanuel Cornilleau, PCC certificates for static analysis, octobre 2009, Thomas Jensen and Frédéric Besson
PhD in progress: Zhoulai Fu, Abstract interpretation and memory analysis, octobre 2009, Thomas Jensen and David Pichardie
PhD in progress: Delphine Demange, Certified Intermediate Representations, octobre 2009, Thomas Jensen and David Pichardie.
8. Dissemination

8.1. Invited Lectures

Jean-Pierre Talpin gave a one day lecture at the 2011 SIAT International Summer School on Embedded Systems (ISSES’11) on "polychronous systems modeling and automated code generation". Jean-Pierre Talpin gave an invited talk at the Ecole d’été temps-réel 2011 (ETR’11) on "System-level co-simulation of embedded software architectures in a polychronous model of computation".

8.2. Visits

Pr. Kai Hu (Beihang University, Beijing) visited ESPRESSO in summer 2011 with the support of the University of Rennes 1.

In the context of the associate project Polycore, Jens Brandt (TU Kaiserslautern) visited ESPRESSO in June to share code generation techniques in Quartz and Signal. Loïc Besnard visited Virginia Tech in June to present the open-source release of Polychrony and explore possible uses of Polychrony in the MRCDIF environment developed at the FLVT. Jean-Pierre Talpin visited Virginia Tech in May and October to prepare our work on Quartz and Signal and jointly draft a project proposal for the USAFRL.

8.3. Conferences

Jean-Pierre Talpin is a member of the steering committee of the ACM-IEEE conference on methods and models for co-design (MEMOCODE) and of the editorial board of the EURASIP Journal on Embedded Systems. He served as technical program committee member for the following conferences:

- HLDVT’11 http://www.hldvt.com/11
- SAC’11 http://www.acm.org/conferences/sac/sac2011
- SIES’11 http://www.mrtc.mdh.se/sies2011


8.4. Teaching

- Thierry Gautier taught on formal methods for component and system synthesis at the Master 2 Graduate program of the University of Rennes 1.
8. Dissemination

8.1. Teaching, Committee Work and Organization of Scientific Events

- Eric Badouel is the secretary of the steering committee of CARI, the African Conference on Research on Computer Science and Applied Mathematics. He takes part in the programme committee and in the organizing committee of CARI 2011. He is a member of the editorial board of the ARIMA Journal. He has taught an advanced course on functional programming and the manipulations of structured documents in the Second year of the Master of Research in Computer Science, Université Cheikh Anta Diop (UCAD) in Dakar, Senegal.

- Albert Benveniste is associated editor at large (AEAL) for the journal *IEEE Trans. on Automatic Control*. He is member of the Strategic Advisory Council of the Institute for Systems Research, Univ. of Maryland, College Park, USA. He belongs to the Scientific Advisory Board of INRIA, where he is in charge of the area of Embedded Systems.\(^1\)

- Benoît Caillaud has been program committee co-chair of the International Conference on Application of Concurrency to System Design (ACSD) [29]. He has also served on the program committee of the 15th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2011).


\(^1\)Only facts related to the activities of Team S4 are mentioned. Other roles or duties concern the DistribCom or Sisthem teams, to which A. Benveniste also belongs.
TASC Project-Team

9. Dissemination

9.1. Animation of the scientific community

- Nicolas Beldiceanu:
  - Member of the program committee of CP 2011.
  - Co-chair of CPAIOR 2012.
  - Reviewer of the thesis of Nadjib Lazaar (Univ. Rennes, December 5).
  - Reviewer for IJCAI 2011 and ECAI 2012.

- Sophie Demassey:
  - Member of the program committees of CPAIOR 2011, MELO 2011 and of the doctoral program committee of CP 2011.
  - Member of the PhD committee of J. Menana (Univ. Nantes, October 28).

- Narendra Jussien:
  - Member of the program committees of MODELS 2011, ACM-SAC 2011 and LION 2011.
  - Co-chair of CPAIOR 2012.
  - Reviewer in 2011 for Journal of Scheduling, Artificial Intelligence, and Constraints.
  - Director of the series Operations Research and Constraint Programming from ISTE/Wiley.
  - Member of the PhD committees of A. Malapert (Univ. Nantes, September 9) and J. Menana (Univ. Nantes, October 28).

- X. Lorca:
  - Member of the program committee of JFPC 2011.

- Thierry Petit:
  - Member of the program committee of CPAIOR 2011.
  - Co-chair CPAIOR 2012.
  - Reviewer in 2011 for the Journal of Artificial Intelligence Research.

- Charlotte Truchet:
  - Member of AFPC board in 2011.
  - Member of the program committee of JFPC 2011.
9.2. Teaching

- **Nicolas Beldiceanu**:
  - Head of the INRIA TASC team and LINA TASC team.
  - 141 hours teaching in 2010-2011 in all years at EMN, in GIPAD, major in CS for decision support of the Master in Engineering at EMN and in the International MSc in Computer science ORO (Univ. Nantes and EMN).
  - In Charge of the Logic Programming course (EMN) and the Constraint Programming course (ORO).
  - PhD advisor of ongoing thesis of A. Letort and A. De Clerq.

- **Frédéric Benhamou**:
  - Head of the Computer Science department at Univ. Nantes and of the CNRS ICT Research Institute ATLANSTIC.
  - PhD advisor of ongoing thesis of M. Pelleau.

- **Gilles Chabert**:
  - 135 hours teaching in 2010-2011 in the first three years at EMN.

- **Sophie Demassey**:
  - 158 hours teaching in 2010-2011 in all years at EMN, in GIPAD (major in CS for decision support of the Master in Engineering at EMN), and in the International MSc in Computer science ORO (Univ. Nantes, EMN).
  - In charge of the GIPAD (major in CS for decision support of the Master in Engineering at EMN).
  - PhD advisor of ongoing thesis of A. Merel and X. Libeaut.
  - Scientific advisor of the defended PhD thesis of J. Menana (Automata for Constraint Modelling and Solving, PhD Defense October 28, 2011, Univ. Nantes with the following committee: J.-C. Régis - Professor (Univ. Nice), L.-M. Rousseau - Professor (Ecole Polytechnique Montréal), P. Boizumault - Professor (Univ. Caen), B. Rottembourg (EURODECISION), N. Jussien - Professor (EMN, PhD Advisor), S. Demassey - Assistant Professor, (EMN, Scientific Advisor).)

- **Narendra Jussien**:
  - Head of the computer science department at EMN.
  - 75 hours teaching in 2010-2011 in the first year at EMN, the option GOPL (EMN), the option decision at Polytechnique Nantes.
  - In charge of the Introduction to Computer Science course.
  - PhD advisor of the ongoing thesis of A. De Clerq and C. Prud’homme.
  - PhD advisor of the defended thesis of J. Menana (see item S. Demassey for the committee).
  - PhD advisor of the defended thesis of A. Malapert (Shop and Batch Scheduling with Constraints, PhD Defense September 9, 2011, Univ. Nantes with the following committee: N. Jussien - Professor (EMN, PhD Advisor), L.-M. Rousseau - Professor (Ecole Polytechnique Montréal, PhD co-advisor), G. Pesant - Professor (Ecole Polytechnique Montréal), C. Artigues - Professor (LAAS Toulouse), C. Guéret - Assistant Professor (EMN), A. Langevin - Professor (Ecole Polytechnique Montréal).)

- **Xavier Lorca**: 
– 176 hours teaching in 2010-2011 in all years at EMN.
– In charge of the Data base course.
– In charge of the GIPAD (major in CS for decision support of the Master in Engineering at EMN) since September 2011.

• Thierry Petit:
  – Vice team leader of the LINA TASC team since July 2011.
  – 148 hours teaching in 2010-2011 in all years at EMN plus projects.
  – In charge of the 2nd year promotion in Computer Science at EMN.
  – In charge of the Data Structure and Constraint-based Scheduling courses at EMN.
  – Scientific advisor of the ongoing PhD thesis of A. De Clerq.

• Charlotte Truchet:
  – On leave from Univ. Nantes (at INRIA).
  – Vice team leader of the LINA TASC team until July 2011.
  – Advisor of the master thesis of B. Belin.
**8. Dissemination**

### 8.1. Animation of the scientific community

**Nathalie Bertrand** was PC member of QAPL’11, and co-organiser of the 2nd edition of the GIPSy Workshop in October 2011. She was invited to give a talk at the Seminar of the Centre Fédéré en Vérification in Brussels, in May 2011.

**Yliès Falcone** was a reviewer for DATE’12, ACM Tissec, Elsevier Cosrev, ICFEM’11, HSCC’11. He was invited to give a talk at LIG (Grenoble), LORIA (Nancy), LRI (Paris), NICTA (Canberra, Australia), Valence (in the context of the SEMBA project). He is in the Organization Committee of AFADL’12.

**Thierry Jéron** was PC member of Scenario’2011, ICTSS’2011, ICST’2012, TAP’2011. He was invited to give a talk in LIFC Besançon. He is member of IFIP WG 10.2. He was member of the PhD committee of Alexander Heussner (Labri Bordeaux) and reviewer of the PhD thesis of Gilles Benattar (University of Nantes), Julien Provost (LURPA, ENS Cachan) and Pierre-Christophe Bué (LIFC Besançon).

**Hervé Marchand** is Associate Editor of the IEEE Transactions on Automatic Control journal and member of the IFAC Technical Committee (TC 1.3 on Discrete Event and Hybrid Systems). He was PC member of the ICINCO’11, DCDS,11, MSR’11 Conferences and IFAC World Congress 2011. He was member of the PhD committee of Mingming REN (INSA de Lyon, July 2011).

### 8.2. Teaching and supervision

#### 8.2.1. Teaching

**Nathalie Bertrand**

- Master : Advanced model-checking, 8h, niveau M2, ISTIC, Université de Rennes 1, France.
- Agrégation : Langages formels, 16h, niveau M2, ENS Cachan antenne de Bretagne, France.

**Sébastien Chédor**

- Licence : Java (TD-TP), 40h, niveau L1, ISTIC, Université de Rennes 1, France.
- Scheme (TP), 20h, niveau L1, ISTIC, Université de Rennes 1, France.
- Java (TP), 20h, niveau L2, ISTIC, Université de Rennes 1, France.
- Programmation (TP), 20h, niveau L3, ENS-Cachan-Antenne de Bretagne, France.
- Initiation à LaTeX (Cours), 5h, niveau L3, ENS-Cachan-Antenne de Bretagne, France.

**Thierry Jéron**

- Master : Testing of timed systems, 4h, niveau M2, ISTIC, Université de Rennes 1, France.
- Testing of timed systems, 4h, niveau M2, ESIR, Université de Rennes 1, France.

**Christophe Morvan**

- Licence : Object Oriented programming with Java, 192h, niveau L2, Université de Marne-la-Vallée, France.

**Amélie Stainer**

- Licence : Java (Cours-TD-TP), 42h, niveau L1, INSA-Rennes, France.
- Scheme (TP), 14h, niveau L1, INSA-Rennes, France.
Modélisation de structures de données (TP), 20h, niveau L3, INSA-Rennes, France.
Agrégation : Modélisation (Cours), 13h, niveau M2, ENS-Cachan-Antenne de Bretagne, France.
Oraux blancs de mathématiques et de modélisation, 24h, niveau M2, ENS-Cachan-Antenne de Bretagne, France.
Préparation de leçons d’informatique, 12h, niveau M2, ENS-Cachan-Antenne de Bretagne, France.

8.2.2. PhD

PhD in progress: Sébastien Chédor, Verification and test of systems modeled by regular graphs, started in September 2009, supervised by Christophe Morvan and Thierry Jéron.

PhD in progress: Amélie Stainer, Quantitative verification of timed automata, started in October 2010, supervised by Nathalie Bertrand and Thierry Jéron.

PhD in progress: Srinivas Pinisetty, Runtime validation of critical control-command systems, started in December 2011, supervised by Hervé Marchand and Thierry Jéron.
7. Dissemination

7.1. Scientific animation

Jointly with the team Processus Stochastiques of IRMAR, ASPI organizes a working group on the Freidlin–Wentzell theory and its applications. One of the main goals of these talks is to study the theory of large deviations which describe how a metastable diffusion process evolves. Moreover, several talks are dedicated to simulation algorithms and applications (molecular dynamics, turbulence modelling).

François Le Gland has been a member of the committee for the PhD theses of Xuan-Binh Lam (université de Rennes 1, advisor: Laurent Mevel) and Christophe Avenel (université de Rennes 1, advisor: Étienne Mémin) and for the habilitation thesis of Frédéric Dambreville (université de Bretagne Occidentale).

François Le Gland is a member of the “conseil d’UFR” of the department of mathematics of université de Rennes 1.

Florent Malrieu is a member of the “conseil” of IRMAR (institut de recherche mathématiques de Rennes, UMR 6625).

Valérie Monbet is the director of the master on statistics and econometry at université de Rennes 1.

7.2. Teaching

Arnaud Guyader is a member of the committee of “oraux blancs d’agrégation de mathématiques” for ENS Cachan at Ker Lann.

François Le Gland gives a course on Kalman filtering and hidden Markov models, at université de Rennes 1, within the master SISEA (signal, image, systèmes embarqués, automatique, école doctorale MATISSE), 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, 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.

Florent Malrieu gives a course on Markov models at université de Rennes 1, within the probability and statistics track of the master on mathematics and applications.

Valérie Monbet gives several courses on data analysis, on time series and hidden Markov models, and on mathematical statistics, all at université de Rennes 1 within the master on statistics and econometry.

7.3. PhD and Habilitation Theses

Arnaud Guyader has defended his habilitation thesis [10], Contributions to nonparametric estimation and rare event simulation, at université de Rennes 2 in December 2011.

François Le Gland is currently supervising four PhD students:

- Rudy Pastel, title: Estimation of rare event probabilities and extreme quantiles. Applications in the aerospace domain, started in October 2008, expected defense in February 2012, funding: ONERA grant, co-direction: Jérôme Morio (ONERA, Palaiseau).
- Alexandre Leproux, provisional title: Monte Carlo methods for dim target tracking, started in October 2010, funding: ONERA grant, co-direction: Olivier Rabaste (ONERA, Palaiseau).
- Damien Jacquemart, provisional title: Rare event methods for the estimation of collision risk, started in October 2011, funding: DGA / ONERA grant, co-direction: Jérôme Morio (ONERA, Palaiseau).
7.4. Participation in workshops, seminars, lectures, etc.

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

Arnaud Guyader has given a talk on multilevel Monte Carlo for extreme quantiles and probabilities at the SIAM Conference on Computational Science and Engineering, held in Reno in March 2011. He has also been invited by Nicolas Hengartner to visit Los Alamos National Laboratories in April 2011.

Frédéric Cerou has been invited to give a talk on smoothed splitting methods for counting at the 16th INFORMS Applied Probability Conference, held in Stockholm in July 2011.

Florient Malrieu has been invited to give seminar talks on non–uniqueness of equilibrium states for McKean–Vlasov equations in Toulouse in March 2011, on long time behavior of McKean–Vlasov equations in Pau in March 2011, on Markov modulated ordinary differential equations in Bordeaux in March 2011, on functional inequalities for mixtures in Grenoble in March 2011, on functional inequalities and concentration inequalities for mixtures in Vannes in June 2011, on ergodicity of piecewise deterministic Markov processes in Paris in June 2011. He has also been invited to give a three hours lecture on uniform (in time) propagation of chaos for a class of McKean–Vlasov equations, at the workshop on Mean Field Limit, held at IHP (institut Henri Poincaré) Paris in March 2011.

François Le Gland has been invited to give a talk on marginalization for rare event simulation in switching diffusions, at the workshop on Numerical Methods for Filtering and for Parabolic PDE’s, held at Imperial College in September 2011. He has also presented a poster on information fusion for indoor navigation, at the DGA seminar on Information Fusion and Planning for Surveillance and Intelligence, held at ENSTA ParisTech in June 2011.

Paul Bui–Quang has been invited to give seminar talks on importance sampling in high–dimension via the Laplace method at the seminar of the BigMC ANR project in April 2011 and on the Laplace method for particle filtering at the ENSAI seminar for PhD students in May 2011.

Rudy Pastel has given talks on splitting methods for the evaluation of satellite vs. debris collision probabilities at the 3rd IEEE International Conference on Computer Modeling and Simulation (ICCMS), held in Mumbai in January 2011 and at the European Conference for Aero–Space Sciences (EUCASS), held in St. Petersburg in July 2011.
9. Dissemination

9.1. Animation of the scientific community

L. Mevel is part of the IOMAC organisation committee. He is also reviewer for numerous journals and conference boards.

9.2. Teaching

PhD: Michael Döhler, Subspace based system identification and fault detection: Algorithms for large systems and application to structural vibration analysis, Université de Rennes 1, 10/10/11, L. Mevel [11].

PhD: Xuan-Binh Lam, Uncertainty quantification for Subspace methods, Université de Rennes 1, 26/10/11, L. Mevel [12].

PhD in progress: Ambient diagnosis and early instability monitoring for helicopter rotor: Ahmed Jhinaoui, since June 2010, L. Mevel and J. Morlier (ISAE)

PhD in progress: Algorithms for monitoring and localization of damage, Luciano Marin, since October 2010, L. Mevel and D. Bernal (University of NorthEastern, Boston, USA)

PhD in progress: Aeroelastic instability early detection methods in frequency domain. Philippe Mellinger, since June 2011, L. Mevel and C. Meyer (Dassault Aviation)
IPSO Project-Team

8. Dissemination

8.1. Animation of the scientific community

8.1.1. Editorial activities

- P. Chartier is member of the editorial board of M2AN.
- P. Chartier is member of the editorial board of ESAIM Proceedings.
- A. Debussche is member of the editorial board of SINUM.
- A. Debussche is member of the editorial board of Differential and Integral Equations.
- A. Debussche is Director of the mathematics department of the antenne de Bretagne ENS Cachan.

8.1.2. Conference and workshop organisation

- The team organized a workshop on numerical methods for stiff problems, Saint-Malo (January).
- F. Méhats and F. Castella were members of the organization and scientific committees of the Conference in honor of N. Ben Abdallah, Toulouse.
- P. Chartier was member of the scientific committee of SciCADE11, Toronto, Canada, July 11-15, 2011.

8.1.3. Administrative activities

- P. Chartier was member of the Commission d’Evaluation at INRIA until june.
- P. Chartier is member of the bureau of the Comité des Projets at INRIA-Rennes.
- A. Debussche is member of the CNU, Section 26.

8.1.4. Talks in seminars and conferences, mini-courses

- P. Chartier: Seminar University of Geneva, November 2, 2011.
- P. Chartier: FOCM’11, Budapest, Hungary, July 4-6, 2011 (Invited Speaker)
- P. Chartier: Meeting on Geometric Numerical Integration, Oberwolfach, Germany, March 20-26, 2011 (Invited Speaker)
- E. Faou: November 2011: Seminar at the CNR, Pavia

E. Faou: June 2011: Seminar at Fields Institute, Toronto (Canada)

E. Faou: March 2011: Workshop on Geometric Numerical Integration, Oberwolfach (Germany)

E. Faou: February 2011: Invitation to the university of Tokyo (Japan).


F. Castella: talk at the conference in honor of N. Ben Abdallah, Toulouse.

Arnaud Debussche: September 6-11, mini course on “Stochastic Navier-Stokes equations: well posedness and ergodic properties” in the CIME summer school ”Topics in mathematical fluid-mechanics” at Cetraro, Italy.


Arnaud Debussche: March 25 2011: *One day on SPDE and applications*, université du Mans, organisez by A. Matoussi.


Arnaud Debussche: June 2011: Séminaire EDP, IECN, université de Nancy.

Arnaud Debussche: November 2011: Colloquium de Mathématiques, université de Pau.


Florian Méhats: Colloque "Asymptotic dynamics driven by solitons and traveling fronts in nonlinear PDE", Santiago (Chili).


Florian Méhats: Workshop "KAM theory and Geometric Integration", Banff (Canada).


Florian Méhats: Seminar MODANT Grenoble.

Florian Méhats: Colloque "Kinetic models of classical and quantum particle systems", Toulouse.

Florian Méhats: Seminars IHP, Orsay, Rennes.

### 8.2. Teaching

HdR : Nicolas Crouseilles, “Contributions à la simulation numérique des modèles de Vlasov en physique des plasmas”, Université de Strasbourg [9]
7. Dissemination

7.1. Animation of the scientific community

- Editorial boards of journals
  - E. Mémin is Associate Editor for the Image and Vision Computing Journal (IVC).
  - E. Mémin is Associate Editor for the Int. Journal of Computer Vision (IJCV).
- Technical program committees of conferences
  - C. Collewet: TPC member of ORASIS’11.
  - C. Herzet: TPC member of GRETSI’11, EUSIPCO 2011.
  - E. Mémin: TPC member of SSVM’11, EMMCVPR’11, ICCV’11, GRETSI’11.
- Project reviewing, consultancy, administrative responsibilities
  - E. Mémin is leading the Technological development commission (CDT) of the INRIA Rennes Bretagne Atlantique center
  - E. Mémin is a member of the personnal commission of the IRISA and INRIA Rennes Bretagne Atlantique centers
  - E. Mémin is reviewer for FET/IST projects of the European Community
  - C. Collewet is member of the IRSTEA evaluation committee
  - C. Collewet is member of the ecotechnologies department committee
- Ph.D. reviewing
  - E. Mémin: Amur Khuda Bux (LMAM, Université Paul Verlaine de Metz), Riadh Fezzani (ONERA, Université de Paris VI).

7.1.1. Other involvements

- The Fluminance is involved in the French network GDR “Structure de la Turbulence et Mélange”.
- The Flumiance group participates to the French network GDR “Contrôle Des Décolllements”.

7.2. Participation in seminars, invitations, awards

- A. Cuzol gave an invited talk on "Conditional simulation within a non linear stochastic filtering framework" at the Statistics seminar, LJJK, Grenoble.
- E. Mémin gave an invited talk at the LIMSI/CNRS on "Fluid flow analysis from images"
- R. Tatsambon Fomena was invited to the Symposium on "Advances in Control of Fluid Dynamics and Challenges facing the US Defense Department’s thrust on Unmanned Autonomous Systems" for the SIAM Conference on Control and Its Applications.
7.3. Teaching

Licence : 2ème année (classe préparatoire), Mécanique des fluides (30h Eq. TD), Dominique Heitz, INSA Rennes L2

Master : Mastere SISEA, Modélisation Statistique des Images (15h Eq TD), Patrick Héas, niveau M2, Université de Rennes I.

Master : Mastere de Statistiques et Econométrie, Analyse de données, (10h Eq. TD), Cedric Herzet, niveau M1, Université de Rennes I.

Master : Mastere INFORMATIQUE, Analyse du mouvement (15h Eq TD), Etienne Mémin, niveau M2, Université de Rennes I.

Master : Mastere INFORMATIQUE, Vision par ordinateur (15h Eq TD), Etienne Mémin, niveau M2, Université de Rennes I.

Master : 4ème année dep GMA, INSA Rennes dep GMA, INSA Rennes Mécanique des fluides (25h eq TD), Dominique Heitz, INSA Rennes

PhD & HdR:

HdR : Thomas Corpetti, Images & télédétection : analyse de séquences à basse et très haute résolution spatiale, Université de Rennes I, 20/06/2011

PhD : Christophe Avenel, Suivi de courbes libres fermées déformables par processus stochastiques, Université de Rennes I, 08/12/2011, Etienne Mémin et Patrick Pérez)

PhD in progress : Ioanna Barbu, Estimation volumique de mouvement fluides à partir de séquence d’images, 01/11/2010, Cédric Herzet et Etienne Mémin

PhD in progress : Sébastien Béyou, Filtre d’ensemble pour l’assimilation de données images, 01/11/2010, Cédric Herzet et Etienne Mémin

PhD in progress : Qui Dao, Commande des écoulements fluides par asservissement visuel, 01/10/2010, Christophe Collewet

PhD in progress : Pierre Dérian, Estimation multi-échelle de mouvements de Fluides turbulents dans des séquences d’images, 01/10/2009, Patrick Héas et Etienne Mémin

PhD in progress : Véronique Souchaud, Estimation directe de décomposition orthogonales propres à partir de séquences d’images, 01/11/2009, Cédric Herzet et Etienne Mémin
9. Dissemination

9.1. Animation of the scientific community

9.1.1. Program and organizing committees

- the team Sage organizes the international conference on Domain Decomposition methods DD21 (Rennes, June 2012). Chair J. Erhel (with T. Sassi, University of Caen); organizing committee É. Canot, G. Pichot; webmaster N. Soualem, A. Le Gentil; local coordination F. Cuyolle (with E. Blin).
- J. Erhel organized with D. Tronmeur-Dervout a mini-symposium at the international conference ParCFD (Barcelona, Spain, May 2011).
- G. Pichot organized with M. Kern a mini-symposium at the international conference SIAM on Geosciences (Long Beach, USA, March 2011).

9.1.2. 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). He was a thematic editor of the special issue after the international conference CARI’2010 (Volume 14, 2011).
- B. Philippe is managing editor of the electronic journal ETNA (Electronic Transactions on Numerical Analysis).
- J. Erhel is member of the editorial board of ETNA.
- J. Erhel is member of the editorial board of Interstices.

9.1.3. INRIA and University committees

- É. Canot is member of the CUMI (Commission des Utilisateurs de Moyens Informatiques), of INRIA-Rennes, from September 2007.
- É. Canot is member of the CHS (Commission Hygiène et Sécurité), of INRIA-Rennes, from September 2007.
- J. Erhel was member and secretary of the Comité de Gestion Local of AGOS at INRIA-Rennes, until December 2011.
- J. Erhel was member of Comité Technique Paritaire of INRIA, until November 2011. She is now member of the Comité Technique d’Etablissement Public of INRIA.
- J. Erhel is member of Comité de Concertation of INRIA.
- J. Erhel is member of Conseil d’Administration of INRIA.
- J. Erhel participated in the working group on the assistants’ activities.

9.2. Teaching and supervision

9.2.1. Teaching

- A. Abdelmoula is teaching assistant (permanent position) in computer science at the University of Tunis, Tunisia.
- J. Charrier was teaching assistant (monitrice) in mathematics at ENS-Cachan-Rennes, until August.
• D. Nuentsa Wakam was teaching assistant (moniteur) in computer science at faculty of law, University of Rennes 1, until August.
• B. Poirriez was teaching assistant (ATER) in computer science at INSA, Rennes, until August.

Master: B. Philippe taught one module "Krylov methods for solving large linear systems", 10 hours, M2, University of Annaba, Algeria.

9.2.2. PhD supervision

PhD: J. Charrier, ENS Cachan Bretagne, 12 July 2011, advisors A. Debussche with J. Erhel.
PhD: D. Nuentsa Wakam, University of Rennes 1, 7 December 2011, advisors J. Erhel with É. Canot.
PhD: B. Poirriez, University of Rennes 1, 20 December 2011, advisor J. Erhel.
PhD: M. Djouwe Tankeo, University of Rennes 1, 20 January 2012, advisors P. Richard (IPR) with É. Canot.
PhD in progress: S. Sabit, University of Rennes 1, October 2010, advisors J. Erhel with É. Canot.
PhD in progress: A. Abdelmoula, University of Rennes 1 and University of Tunis, October 2005, co-advisors B. Philippe and M. Moakher.
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: M. Oumouni, University of Rennes 1 and University of Kenitra, October 2009, co-advisors J. Erhel and Z. Mghazli.
PhD in progress: L.-B. Nguenang, University of Yaounde 1, October 2011, advisors E. Kamgnia with B. Philippe.

see also section 8.3.1.

9.2.3. internship supervision

see section 8.3.1.

9.3. Scientific popularization

9.3.1. Articles for the general public

• J. Erhel wrote a paper entitled “Un algorithme pour mettre en rang une équipe de football”, in Intestices, July, [50]. See http://interstices.info/
• J. Erhel and J.-R. de Dreuzy wrote a paper entitled "des pollutions suivies à la trace", in Intestices, September, [49]. See http://interstices.info/algo-football
SERPICO Team

9. Dissemination

9.1. Animation of the scientific community

- **Technical program committees of conferences**

- **Journal reviewing**

- **PhD and HdR jury**
  - Charles Kervrann: L. Pizarro supervised by J. Weickert, (PhD, reviewer, University of Saarland, Germany), N. Noury supervised by M.O. Berger and F. Sur (PhD, reviewer, University of Henri Poincaré - Nancy 1), B. Cinquin supervised by J. Salamero and M. Réfrégiers (PhD, member of the jury, University of Paris-Diderot), J. Delon (HdR, member of the jury, ENS Cachan).
  - Patrick Bouthemy: M. Primet supervised by L. Moisan (PhD, reviewer, University of Paris 5), C. Guilmart supervised par S. Herbin (PhD, reviewer, ENS Cachan), A. Dame supervised by E. Marchand (PhD, president of the jury, University of Rennes 1), C. Wang supervised by N. Paragios (PhD, member of the jury, Ecole Centrale Paris), R. Perrier supervised by P. Sturm (PhD, member of the jury, Inria Grenoble Rhône-Alpes), T. Corpetti (HdR, member of the jury, University of Rennes 1).

- **Participations in seminars, invitations, awards**
  - Charles Kervrann was invited to give a talk entitled “Change detection methods in fluorescence live cell imaging for sub-cellular trafficking analysis” at the “BioImage Informatics II” conference, Janelia Farm, Howard Hughes Medical Institute, Ashburn, VA, November 2011.
  - P. Bouthemy gave a talk entitled “Conditional mixed-state MRF for simultaneous motion detection and background image reconstruction” at the seminar "Hidden Markov Models and extensions” of GDR ISIS, March 2011.

- **Responsibilities**
  Charles Kervrann:
member of the IEEE BISP “Biomedical Image and Signal Processing” committee
member of executive board of the GdR 2588 (“Microscopie Fonctionelle du Vivant”) CNRS
member of the executive board of the project committee of the Inria Rennes - Bretagne Atlantique centre
member of the 2011 CORDIS post-doctoral fellowships committee (Inria Rennes - Bretagne Atlantique centre)
member of the Scientific Council of the INRA Rennes Research Centre
deputy-head of the GIS Europia (http://gis-europia.univ-rennes1.fr/) (imagery platform, University of Rennes 1)

Pierre Hellier
consultancy work for Syneika startup
member of the Inria committee for communication and the Inria committee for technological development

Patrick Bouthemy
Director of the Inria Rennes - Bretagne Atlantique centre until 30/09/2011
deputy member of the board of directors and member of the Selection and Validation Committee of the Images & Réseaux competitiveness cluster
member of the board of AFRIF (Association Francaise pour la Reconnaissance et l’Interprétation des Formes) and of Association GRETSI (Groupement de Recherche en Traitement du Signal et des Images)

• Other activities
  – SERPICO is involved in the french network GdR ISIS “Information, Signal and Images” CNRS and in the french network GdR 2588 “Microscopie Fonctionelle du Vivant” CNRS.
  – SERPICO organized the GdR 2558-ISIS/GIS Europia meeting on “Image Processing in Biological Imaging” at the Inria Rennes - Bretagne Atlantique centre on November 2011.

9.2. Teaching

Charles Kervrann:
Master 2 Recherche SISEA: “Geometric modelling for shapes and images”, 5 hours, University of Rennes 1
Engineer Degree ENSAI: “Statistical models and image analysis”, 20 hours, Ecole National de la Statistique et de l’Analyse de l’Information, Bruz

Patrick Bouthemy:
Master 2 Recherche SISEA : “Analysis of image sequences”, 14 hours, University of Rennes 1
Engineer Degree and Master 2 Recherche IRIV : “Motion analysis”, 11 hours, ENSPS, University of Strasbourg

PhD & HdR:
PhD in progress : Philippe Roudot, “Lifetime estimation of moving vesicles in FLIM microscopy”, started in October 2010, supervised by Charles Kervrann and Francois Waharte (UMR 144 CNRS PICT Institut Curie)
PhD in progress : Denis Fortun, “Optical flow computing, aggregation methods and statistical methods: application to time-lapse fluorescence microscopy”, started in October 2010, supervised by Charles Kervrann
9. Dissemination

9.1. Animation of the scientific community

9.1.1. Administrative functions: scientific committees, journal boards, jury

- Scientific Advisory Board of ITMO Genetics Genomics and Bioinformatics [J. Nicolas].
- Scientific Advisory Board of GDR BIM "Molecular Bioinformatics" [J. Nicolas].
- Member of the Evaluation Committee of Inria [A. Siegel]
- Member of the IRISA laboratory council [F. Coste]
- Member of the administrativ council of ISTIC [R. Andonov]
- ANR committees [D. Lavenier / Modèles numériques]
- Member of ReNaBi steering committee and coordinator for ReNaBi-GO (Grand Ouest). This regional centre includes the platforms of Nantes, Rennes and Roscoff [O. Collin]
- Scientific Advisory Board of Biogenouest [J. Bourdon, O. Collin, J. Nicolas].
- Steering committee of the International Inference community (ICGI) [F. Coste]
- Recruitment committees: engineer, junior research, assistant professor, scientific study officer [O. Collin, A. Siegel, P. Peterlongo, D. Lavenier, R. Andonov]
- Member of the “new paradigm computation” group (OMNT, Observatoire des micro et nanotechnologies) [D. Lavenier]
- Member of the Editorial Board of The Scientific World JOURNAL, bioinformatics domain [D. Lavenier]
- Member of the International Expert Committee (MEI, Research Ministry) [D. Lavenier]
- Member of SCAS (Service Commun d’Action Sociale) of Univ. Rennes 1 [C. Belleannée]

9.1.2. Conference program committees

- International Symposium on String Processing and Information Retrieval (SPIRE 2011)
- International Conference on Field Programmable Logic and Applications (FPL)
- International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA)
- International Conference on Contemporary Computing (ICCC)
- Southern Programmable Logic Conference (SPL)
- ACM International Conference on Computing Frontiers (UCHPC Workshop) (CF)
- International Conference on ReConFigurable Computing and FPGAs (ReConFig)
- ParCo: Parallel Computing with FPGAs (ParaFPGA)
- ICCS: Workshop on Emerging Parallel Architectures (WEPA)
- International Conference on DNA Computing and Molecular Programming (DNA 17)
- Conference d’apprentissage (CAP’11).

9.1.3. Meeting organization and scientific animation
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. A thematic day meeting on modeling issues was also organized by the team [web site: http://www.irisa.fr/symbiose/seminaires/].

GenOuest annual meeting GenOuest annual meeting The 9th annual meeting of GenOuest computing center took place October 2011, the 18th. This session was dedicated to ontologies in life science. There were 65 attendees [web site: http://www.genouest.org/spip.php?article850].

SeqBI A workshop entitled “Algorithmique, combinatoire du texte et applications en bio-informatique” took place at Inria Rennes the 10th and 11th of January 2011. It was funded by GDR BIM. 50 people coming from all France attended to this workshop. [web site: http://www.irisa.fr/symbiose/people/ppeterlongo/seqbi/].

9.1.4. Jury of PhD Theses

Referee of Habilitation thesis jury F. Clermidy, Université de Grenoble [D. Lavenier]
Member of Ph-D thesis jury T. Riaz, Université Joseph Fourrier Grenoble [P. Peterlongo]. N. Philippe, Université de Montpellier [D. Lavenier]. S. Laroum, Université d’Angers [D. Lavenier], A. Ben Hassena, ENSSAT [F. Coste].
Referee of Ph-D thesis C. Rezvoy, ENS Lyon [D. Lavenier]. C. Teodorov, Université Rennes 1 [D. Lavenier], N. Terrapon, Université de Montpellier [J. Nicolas], F. Cliquet, Université de Nantes [J. Nicolas], O. Gaci, Université du Havre [R. Andonov].

9.2. Teaching

Licence : Imperative Programming and scientific computation, 36h, L2, Univ. Rennes 1, France.
Licence : Programming, 20h, L2 Univ. Rennes 1, France.
Licence : Algorithmic methods, 96h, L3, Istit, Rennes France
Licence : Graph algorithms, 20h, L3, Istit, Rennes France
Licence : Programming, 78h, L3, Univ. Rennes 1, France.
Licence : Web programming, 26h, L3, Univ. Rennes 1, France.
Licence : Network provisioning, 20h, L3, Univ. Rennes 1, France.
Licence : Operations research, 30h, L3, Univ. Rennes 1, France.
Licence : Architectures and Systems, 64h, L3, ENS Cachan, Rennes, France
Licence : Database, 21h, L3, Istit Univ. Rennes 1 France
Licence : Architectures, 50h, L3, Istit Univ. Rennes 1 France
Master : Compilation, 32h, M1, Univ. Rennes 1, France.
Master : Operations research, 100h, M1, Univ. Rennes 1, France.
Master : Logic Programming, 32h, M1, Istit Univ. Rennes 1 France
Master : Dynamical systems for biological networks, 16h, M2, Univ. Rennes 1, France
Master : Programmation Objet, 15h, M2, Univ. Rennes 1, France
Master : Sequence algorithms, 29h, M2, Univ. Rennes 1, France
Master : Bioinformatics, 12h, M2, ESEO Angers, France
Master : Symbolic sequential data, 10h, Univ. Rennes 1, France
Master : Bioinformatics, 3h, M2, Istit Univ. Rennes 1 France
Master : Numerical and combinatorial optimization, 12h, M2, Univ. Rennes 1, France.
Master: Modelling of protein structures, 15h, M2, Univ. Rennes 1, France.


PhD defense: Guillaume Rizk, *Parallélisation sur matériel graphique : contributions au repliement d'ARN et à l'alignement de séquences* [2], supervised by D. Lavenier, defended on April 12th 2011 [online manuscript: http://tel.archives-ouvertes.fr/tel-00634901/]

PhD in progress: Oumarou Abdou-Arbi, *Analyse Automatisée et générique des réseaux métaboliques en nutrition*, started in October 2010, supervised by A. Siegel and T. Tabsoba (Burkina-Faso).

PhD in progress: Geoffroy Andrieux, *Discrete approach modeling of biological signaling pathway*, started in October 2010, supervised by N. Théret (Inserm) and M. Le Borgne.

PhD in progress: Andres Aravena, *Introduire des approches combinatoires dans des modèles probabilistes pour la découverte d'événements de régulation d'un système biologique à partir de données hétérogènes*, started in July 2011, supervised by A. Maass (CMM, University of Chile) and A. Siegel.

PhD in progress: Guillaume Chapuis, *Bioinformatique parallèle*, started in October 2010, supervised by D. Lavenier.


PhD in progress: Gaëlle Garet, *Discovery of enzymatic functions in the framework of formal languages*, started in October 2011, supervised by J. Nicolas and F. Coste.

PhD in progress: Mathilde Le Boudic-Jamin, *Through Flexible Protein-Protein Docking*, started in October 2011, supervised by R. Andonov.


PhD in progress: Sylvain Prigent, *Modélisation par contraintes pour le contrôle génomique et physiologique de l'adaptation des algues brunes à la salinité de l'eau*, started in October 2011, supervised by A. Siegel and T. Tonon (UMR 7150, station biologique de Roscoff).

PhD in progress: Santiago Videla, *Applying logic programming to the construction of robust predictive and multi-scale models of bioleaching bacteria*, started in November 2011, supervised by A. Siegel.

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Editorial board of journals

- C. Barillot is Associate Editor of IEEE Transactions on Medical Imaging (IEEE-TMI).
- C. Barillot is Associate Editor of Medical Image Analysis (MedIA).
- C. Barillot is Associate Editor of ISRN Signal Processing.
- C. Barillot is Associate Editor of Current Medical Imaging Reviews.
- C. Barillot serves in the peer review committee of the Journal of Computer Assisted Tomography.
- C. Barillot serves in the peer review committee of Neuroimage.

9.1.2. Workshop/Symposium Organization

- C. Barillot was co-chairman of the MICCAI workshop on Mesh Processing in Medical Image Analysis (MeshMed 2011), Toronto, ON, Sept. 18th, 2011 (http://www2.imm.dtu.dk/projects/MeshMed/)

9.1.3. Peer Reviews of journals

- Reviewing process for IEEE TMI (PH, SP, PJ, BG), IEEE TIP (SP, CB), IEEE TBE (SP), IEEE TITB (SP), Medical Image Analysis (CB, SP), NeuroImage (CB, IC), Academic Radiology (PJ), Artificial Intelligence in Medicine (CB), Computer Methods and Programs in Biomedicine (CB), International Journal of Computer Assisted Radiology and Surgery (PJ, SP), Machine Vision and Applications (SP), Pattern recognition letters (SP), American Journal of Physical Anthropology (SP), Journal of Anatomy (SP)

9.1.4. Technical Program Committees (TPC) of conferences

- B. Gibaud was TPC member for CARS 2011
- P. Jannin was area chair and TPC member for SPIE Medical Imaging 2011 and CARS 2011 and TPC member for MICCAI 2011
- O. Commowick was TPC member MICCAI 2011, IEEE ISBI 2011
- S. Prima was TPC member of MICCAI 2011, IEEE ISBI 2011

9.1.5. Scientific societies

- P. Jannin is General Secretary of ISCAS
- B. Gibaud is member of the AIM
- B. Gibaud is member of the Board of Directors of EuroPACS
- C. Barillot is member of the Board of Directors of IPMI (Information Processing in Medical Imaging)
9.2. Teaching

Teaching on 3D Medical Imaging (visualization, segmentation, fusion, management, normalization) and Image Guided Surgery in the following tracks:

- Master 2 SIBM, University of Angers-Brest-Rennes: 26h (C. Barillot, O. Commowick, S. Prima, B. Gibaud, P. Jannin, X. Morandi, I. Corouge, E. Bannier, JY Gauvrit)
- Master 1 SIBM, University of Rennes: 24h (S. Prima, B. Gibaud, P. Jannin), P. Jannin is responsible for one semester.
- Master "Rayonnements ionisants et application ", Univ. de Nantes: 4h (C. Barillot)
- Master "Méthodes de traitement de l’information biomédicale et hospitalière", University of Rennes 1: 9h (B. Gibaud)
- Master "Équipements biomédicaux", UTC Compiègne: 3h (B. Gibaud)
- Master " Signaux et Images en Médicine ", University Paris XII Val de Marne: 3h (B. Gibaud)
- European School for Medical Physics:3h (B. Gibaud, P. Jannin)

9.3. Participation to seminars, scientific evaluations, awards

- C. Barillot was elected in 2011 as a Miccai Fellow by the Medical Image Computing and Computer Assisted Intervention http://www.miccai.org/FellowList
- C. Barillot served as external reviewer for the recruitment commission of University of Caen
- C. Barillot served in the panel committee of ANR Blanc program (SIMI3 panel)
- B. Gibaud served as expert for ANR (’Blanc’ Program)
- C. Barillot served as expert for the APHP-DHU program 2011
- C. Barillot is elected-member of the Scientific Board of CNRS-INS2I
- C. Barillot is permanent member of the Administrative Council of the pôle de compétitivité "Images & Réseaux"
- Sylvain Prima is a member of the CUMIR committee (Commission des Utilisateurs des Moyens Informatiques pour la Recherche) and of the working group “voyages”.
- C. Barillot is member of the CRBSP (Comité Recherche Biomédicale et santé publique), CHU Rennes
- E. Bannier: Atelier SFNR Club des Techniques Avancées (CluTAV) sur l’IRM de perfusion "ARM sans produit de contraste a 3T, Techniques et perspectives", CHU Rennes, 19/05/2011
- E. Bannier: Seminar "Imagerie fonctionnelle et psychiatrie", Centre Hospitalier Guillaume Régnier, Rennes, 16/06/2011

9.4. Dissemination toward non specialists
The VisAGeS team was chosen to represent INRIA at the annual Festival des Sciences 2011 in Pont-Péan and Rennes (14-15-16 October). Sylvain Prima was responsible for the organisation of the event, assisted by Isabelle Corouge and Elise Bannier for the organisation, and by most people of the team for the event itself.

- "Neurinfo, une plateforme de recherche équipée pour la clinique", Sciences Ouest Magazine, no286, March 2011 (http://www.espace-sciences.org/node/41170)
6. Dissemination

6.1. Animation of the scientific community

6.1.1. Program committees

- PC member for ANT-2011: 2nd Int. Conf. on Ambient Systems, Networks and Technologies, M. Banâtre.
- PC member for SAHNS 2011: Third Int. Workshop on Specialized Ad Hoc Networks and Systems, M. Banâtre.
- PC member for ruSMART 2011: The 4th conference on Smart Spaces (Aug 2011), M. Banâtre.
- PC member for the Fifth Int. Conf. on Mobile Ubiquitous Computing, Systems, Services and Technologies UBICOMM 201, M. Banâtre.
- PC member for the 8 th Int Conference on Intelligent environments - IE’12, Guanajuato, Mexico, June 2012. , M. Banâtre.
- PC member of the 14th International Symposium on Wireless Personal Multimedia Communications (WPMC’11), F. Weis.

6.1.2. Organizing and reviewing activities

Michel Banâtre is expert to the European Commission (FP7 program): reviewer member for SM4All and CONSERN projects.

6.2. Teaching

Master : Ambient Computing and Distributed Operating Systems, M. Banâtre, P. Couderc and F. Weis, 18 hours, M2, University of Rennes - DIIC 3, France
Master : Ambient Computing and Mobile Communications, M. Banâtre and F. Weis, 6 hours, M2, university of Rennes, France
Master : Distributed Systems, M. Banâtre, 18 hours, M2, Ecole des mines de Nantes, France
Master : Wireless LANs, F. Weis, 4 hours, M2, Telecom Bretagne, France
Master : Mobile communications and ambient computing, M. Banâtre, 8 hours, M2, ENSEIRB Bordeaux, France
Master : Mobile communications and ambient computing, M. Banâtre, 4 hours, M1, Ecole Centrale de Paris, France
Master : Mobile communications and ambient computing, M. Banâtre and F. Weis, 6 hours, M2, Ecole Centrale de Paris, France

PhD in progress : M. Dominici, Context Management in Smart Homes, 01/11/09, M. Banâtre and F. Weis
PhD in progress : B. Pietropaoli, Proximate interactions and data fusion in Smart Homes, 01/10/10, M. Banâtre and F. Weis
PhD in progress : Minh Ho, Indoor localization mechanisms for ambient computing systems, 01/11/08, M. Banâtre and F. Weis
PhD in progress : Arnab Sinha, Pervasive control systems for smart waste management solutions, 14/12/10, M. Banâtre and P. Couderc
ASAP Project-Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Awards not including best papers.

A.-M. Kermarrec received the Monpetit Award from the French Academy of Science in 2011.

9.1.2. Editorial activity, committees, event organization.

A.-M. Kermarrec was an elected member of the INRIA Evaluation Committee until September 2011. She has been a member of the “bureau du CP” since November 2009.

Anne-Marie Kermarrec has been a member of the scientific board of SPECIF (Société des Personnels Enseignants et Chercheurs en Informatique de France) since October 2011.

A.-M. Kermarrec is a nominated member of the ACM Software System Award Committee since October 2009 and the chair of the committee since October 2011.

A.-M. Kermarrec and François Taiani organized the second GOSSPLE workshop in December 2011.

A.-M. Kermarrec was co-chair of the program committee of the ACM/IFIP/USENIX International Middleware Conference, Lisbon, December 2001.

A.-M. Kermarrec served in the steering committee of the Eurosys Social Network Systems (SNS), and is a member of the steering committee of the Winter School Hot topics in distributed computing.

A.-M. Kermarrec is a member of the IEEE Internet Computing Editorial Board.

A.-M. Kermarrec served in the program committees for the following conferences:


EDBT 2011 (Demo): International Conference on Extending Database Technology (Demo track), Uppsala, Sweden, March 2011.


IPDPS 2012: International Parallel & Distributed Processing Symposium, Shanghai, China, May 2012.


ICDCS 2012: International Conference on Distributed Computing, Macau, China, June 2012.


VLDB 2012 (Demo): International Conference on Very Large Data Bases (Demo track), Istanbul, Turkey, August 2012.
A. Mostefaoui served in the program committees for the following conferences:


F. Taiani has served on the program committees of the following events.

LADC 2011 1st Workshop on Exception Handling in Contemporary Software Systems (EHCoS’11), held in conjunction with the 5th Latin-American Symposium on Dependable Computing.
GCM 2011 2nd International Workshop on Green Computing Middleware (GCM’2011), held in conjunction with the ACM/IFIP/USENIX 12th International Middleware Conference.
ARM 2011 10th International Workshop on Adaptive and Reflective Middleware (ARM’11), held in conjunction with the ACM/IFIP/USENIX 12th International Middleware Conference.
MW4SOC 2011 6th Workshop on Middleware for Service Oriented Computing (MW4SOC’11), held in conjunction with the ACM/IFIP/USENIX 12th International Middleware Conference.
M-MPAC 2011 3rd International Workshop on Middleware for Pervasive Mobile and Embedded Computing (M-MPAC 2011), held in conjunction with the ACM/IFIP/USENIX 12th International Middleware Conference.
C4E 2011 Workshop on Clouds for Enterprises 2011 (C4E 2011) held in conjunction with 13th IEEE Conference on Commerce and Enterprise Computing (CEC’11)
WASA-NGI-IV 2011 4th Int. Workshop on Architectures, Services, and Applications for the Next Generation Internet (WASA-NGI-IV), held in conjunction with the IEEE Local Computer Networks (LCN) conference
Middleware 2011 12th ACM/IFIP/USENIX International Middleware Conference 2011
DSN 2011 The 41th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2011)
DAIS 2011 11th Int. IFIP Conference on Distributed Applications and Interoperable Systems (DAIS’11)
EWDC 2011 13th European Workshop on Dependable Computing Special theme: Resilience of Evolving Software Systems (EWDC)
NOTERE 2011 11éme édition de la Conférence Internationale sur les NOuvelles Technologies de la REpartition (NOTERE)

F. Taiani organized the 1st Workshop on Middleware and Architectures for Autonomic and Sustainable Computing (MAASC), held in conjunction with the 11éme édition de la Conférence Internationale sur les NOuvelles Technologies de la REpartition.

M. Bertier served in the program committees of CFSE 2011 The 8th Conférence Française en Système d’Exploitation, mai 2011, Saint Malo, France.

He also is a member of the organizing committee of CFSE 2011 and RENPAR 2011
D. Frey served in the program committees of the following conferences


He also served as a referee for the following journals

- IEEE Transactions on Parallel and Distributed Systems.

S. Weiss was a referee for the Journal of Parallel and Distributed Computing (JPDC).

A. Boutet has been a member of the “Commission de formation” of INRIA Rennes since 2011.

9.1.3. Invited talks and seminars.

Anne-Marie Kermarrec was invited to give a seminar at EPFL, Switzerland, June 2011.

Anne-Marie Kermarrec was invited to give a talk at the Workshop on Social network, in conjunction with DISC, Roma, September 2011.

Anne-Marie Kermarrec was invited to give a seminar at the University of Pisa, September 2011.

Anne-Marie Kermarrec was invited to give a seminar University of Santa Barbara (UCSB), Technicolor Labs (Palo Alto), Facebook (Palo Alto) and University of San Diego (UCSD), USA, August 2011.

Anne-Marie Kermarrec was invited to give a technical seminar at Google Zurich in November 201.

Marin Bertier was invited to give a talk at "Journée PucesCom", Rennes, June 2011.

François Taiani was invited to deliver a 6-hour lecture on “Cloud Computing in the biogeosciences” at the 2nd Summer School on Biogeodynamics and Earth System Sciences (BESS) organized by Istituto Veneto di Scienze, Lettere ed Arti, the University of Padua and the Natural Environment Science Research Council (NERC, UK) in Venice, Italy, in June 10-17.

Armando Castañeda was invited to give a talk at Workshop on Theoretical Computer Science, Mexico, 18/11/2011.

9.2. Teaching

Master: Anne-Marie Kermarrec, P2P Systems and Applications, 15h, M2, Université of Rennes, France.

Master: Anne-Marie Kermarrec, Gossip-based computing, 5 hours, M2, University of San Sebastian, Spain.

Master: Michel Raynal: Distributed Algorithms and Computability, 20h, Université de Rennes 1, France.

Master: Michel Raynal: Introduction to Distributed Algorithms 10h, Université de Rennes 1, France.

Master: Michel Raynal: Advanced Synchronization, 14h, Université de Rennes 1, France.

Master: Marin Bertier, Algorithmique distribuée, 16h, niveau M2, INSA de Rennes, France.

Master: Marin Bertier, Système d’exploitation, 56h, niveau M1, INSA de Rennes, France.

Master: Marin Bertier, Parallélisme, 20h, niveau M1, INSA de Rennes, France.

Licence: Marin Bertier, Programmation C, 26h, niveau L3, INSA de Rennes, France.

Licence: Marin Bertier, Unix, 20h, niveau L3, INSA de Rennes, France.

Licence: Marin Bertier, Programmation Scheme, 36h, niveau L1, INSA de Rennes, France.
Licence: Damien Imbs, computer literacy classes, 64h, first year, university of Rennes 1.
Licence: Damien Imbs, Systems and networks 1, 8h, third year, university of Rennes 1.
Master: Damien Imbs, Operating systems, 36h, first year, university of Rennes 1.
Licence: Stéphane Weiss, Bureautique, 26,67h, niveau L1, Université de Rennes 1, France.
Licence: Stéphane Weiss, Systèmes et Réseaux: Systèmes, 98h, niveau L3, ISTIC Université de Rennes 1, France.
Licence: Stéphane Weiss, Programmation Web, 18,67h, niveau L3, ISTIC Université de Rennes 1, France.

Anne-Marie Kermarrec gave a talk at the Spring School on Distribute Computing, Marrakesh, May 2011.

9.2.1. PhD & HdR

9. Dissemination

9.1. Animation of the Community

9.1.1. Animation

9.1.1.1. International

Aspect-oriented Software Association (AOSA): Mario Südholt has been elected the chair of this international organization (headquartered in California) in Apr. 2011.

COST Action: Jean-Marc Menaud is a management committee member of the European COST Action IC0804: Energy efficiency in large scale distributed systems from 2009 to 2013.

DSAL: Jacques Noyé has co-organized the 6th international workshop on “Domain-Specific Aspect Languages” (DSAL 2011) co-located with AOSD 2011 in Porto de Galinhas, Pernambuco, Brazil.

VTDC: Adrien Lèbre has been the general chair of the 5th international workshop on “Virtualization Technologies in Distributed Computing” (VTDC 2011) co-located with HPDC 2011 in San José, CA, United-States.


OW2: Jean-Marc Menaud has been a member of the OW2 board committee since 2010.

9.1.1.2. France

CNRS GDR GPL: Pierre Cointe is a member of the scientific committee of the GDR GPL (Génie de la Programmation et du Logiciel).

CNRS GDR ASR: Jean-Marc Menaud is a member of the scientific committee of the CNRS GDR ASR (Architectures, Systèmes, Réseaux) and in charge of the System action.

ACM/SIGOPS: Jean-Marc Menaud was the vice-chair of the French ACM/SIGOPS Chapter (ASF) from Mar. 2008 to Mar. 2011.

COMIN Labs laboratory of Excellence: Jean-Marc Menaud has been the co-coordinator of the focus on Energy and resource efficiency in ICT since Jun. 2011. Mario Südholt has been co-coordinating the Security focus of COMIN Labs.


France Grille: Adrien Lèbre gave a lecture at the Cloud Computing days organized by France Grille in Lyon, France, Oct. 21, 2011.


9.1.1.3. PdL Region

Quartier de la création de Nantes: Pierre Cointe organized with Bertrand Stiegler (Ars Industrialis) a workshop on Web Sciences and Software Studies (May 27, 2011).

Regional Doctoral School STIM: Thomas Ledoux co-organized JDOC, an event promoting contact between PhD students of the Doctoral School (Apr. 14, 2011), and the Welcome Day event for all the new PhD students (Nov. 3, 2011).
9.1.2. Steering, Journal, Conference Committees

P. Cointe is a member of AITO and the ECOOP steering committee. He was a member of the NOTERE 2011 program committee.

A. Lèbre was a member of the program committee of the 11th IEEE International Conference on Scalable Computing and Communications (ScalCom 2011), the IEEE International Conference on Cloud and Green Computing (CGC 2011), the 20th EUROMICRO Conference on Parallel, Distributed and Network-based and Processing (special session on Cloud Computing), the 5th Workshop on System-level Virtualization for High Performance Computing (HPCVirt 2011, co-located with the EUROPAR conference), and the 4th IEEE Worshop on Real-Time Service Oriented Architecture and Applications (RTSOAA 2011, co-located with SOCA 2011).

T. Ledoux was a member of program committees for the following conferences: 2nd International Workshop on Green Computing Middleware (GCM’11), 10th International Workshop on Adaptive and Reflective Middleware (ARM’11), 1st Workshop on Middleware and Architectures for Autonomic and Sustainable Computing (MAASC’11), International Conference on Green Computing ICGREEN 2011, International Conference on ICT as Key Technology against Global Warming (ICT- GLOW’11). He was also a member of the program committee for the book “Achieving Federated and Self-Manageable Cloud Infrastructures: Theory and Practice” (IGI Global, 2012).

J.-M. Menaud is a member of the (RenPar/CFSE/Sympa) steering committees. He has served on the program committee of the IEEE/ACM Inter. Conference on Green Computing and Communications (GreenCom2011), the first International Workshop on Autonomic Systems enabling Green Computing (ASGC 2011) as part of The Tenth International Conference on Networks (ICN 2011), the first International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (ENERGY 2011), the first International Conference on ICT as Key Technology for the Fight against Global Warming (IT-GloW ’11), the 6th Workshop on Virtualization in High-Performance Cluster and Grid Computing (VHPC ’11) as part of Euro-Par 2011 and the 5th Workshop on System-level Virtualization for High Performance Computing (HPCVirt 2011) as part of EuroSys 2011.

J-C. Royer is a member of the editorial board of the journal TSI. He was a member of the program committee of CAL 2011, CNSI 2011 and SSNE 2011.

M. Südholt is a member of the steering committees of the international conferences AOSD and Software composition. He is also a member of the editorial board of the international journal “Transactions of AOSD”, which is published by Springer Verlag.

N. Tabareau was a member of the program committee of the workshop LOLA (Syntax and Semantics of Low-Level Languages) 2011, satellite of LICS 2011.

9.1.3. Thesis Committees

P. Cointe was a reviewer of Julien Mercadel’s PhD (University of Bordeaux, Oct. 10).

T. Ledoux has taken part in two PhD evaluation committees: Roméo Said (UBS, 23 Feb.), Loris Bouzonnet (LIG-IMAG, 16 Sep.)

A. Lèbre was member of two PhD committees: Jérôme Gallard (Rennes, 6 May) and Alexandra CARPEN AMARIE (Rennes, 15 Dec.).

J.-M. Menaud was reviewer of one PhD: Alain-B. TCHANA (Oct. 29, 2011) in Toulouse.

J-C. Royer was reviewer of three PhDs: Mario Sanchez Puccini in Bogota, Anthony Hock-Koon in Nantes, Carlos Parra in Lille and member of Angel Núñez’s PhD committee.

M. Südholt has served as a reporting jury member for the PhD of Slim Kallel (TU Darmstadt, Germany, and ENIS, Sfax, Tunisia) in May 2011.
9.1.4. Evaluation Committees and Expertise

P. Cointe was a member of the AERES visiting committee for MIPS (Mulhouse, Nov. 15-16, 2011). He served in four selection/hiring committees (EMN, Polytech’Nantes and University of Nantes) for associate and full professor positions.

J.-M. Menaud acted as an expert for the ANR International White Program 2011 call.

J.-C. Royer acted as an expert for the ANR blanc SIMI 2 2011 call.

M. Südholt has served as an expert to the Cofecub French-Brazilian exchange program.

N. Tabareau was a member of the selecting committee for the position of assistant professor (MC298) at École Normale Supérieure (ENS) de Cachan, Ker Lann and assistant professor (MC04867) at Laboratoire Informatique de Nantes Atlantique (LINA).

9.2. Collective Duties

P. Cointe: He is the head of the LINA computer science laboratory (UMR 6241) http://www.lina.univ-nantes.fr/. As such he was involved in the CominLabs (labex) proposal.

He is a member of the board of the Doctoral School MATISSE in Rennes as well as the selection and evaluation committee and the board of the cluster Images & Réseaux. He is the chair of the STIC-MATHS committee working for the Pays de la Loire Council (CCRRDT) and the PRES L’UNAM.

T. Ledoux: He is a member of the board of the Regional Doctoral School STIM. He is a member of the board of the Follow-up committee of the PhD theses at LINA. He is a member of the administrative committee of the INRIA Rennes-Bretagne Atlantique. Finally, he is the Apprenticeship program manager in Software engineering at Ecole des Mines de Nantes.

J.-M. Menaud is the deputy of the computer science department at Ecole des Mines de Nantes, in charge of the scholarship program.

M. Südholt: is a member of the council of the Laboratoire Informatique de Nantes Atlantique (LINA, UMR 6241). He also serves on the selection and evaluation committee of the competitiveness cluster Images & Réseaux. Finally, he is a member of the governing board of AOSD-Europe, the European Network of Excellence in AOSD.

A. Lèbre is involved in the direction committee of the Grid’5000/Aladdin platform. In addition, He is in charge of the Virtualization working group since 2008.

9.3. Teaching

9.3.1. Steering and Main Lecturing Activities

Members of the team has been responsible for or contributing to the following main study programs:

- The team is a main contributor (of approx. 1000 hours in 2010-2011) to the informatics education (2600 hours in total) within the four-year engineering program at École des Mines de Nantes.

The team is steering, chairing and the main contributor to a fourth-year informatics specialization for a total teaching volume of 800 hours of which Ascola is contributing 210 hours.

- The team has designed and set up a three-year Apprenticeship engineering program for a total teaching volume of 1800 hours (816 in informatics). The first year of the formation started in Oct. 2011; Ascola is contributing 95 hours in 2011-2012.

- The team is steering and teaching a 48-hour module on AOSD in an MSc program that is organized jointly by University of Nantes and École des Mines de Nantes.

- Members of the team have taught different courses at different study levels in Rennes that are mainly organized by University of Rennes and the research institutes Irisa and Inria.
9.3.2. Habilitations (HdR) and PhD Supervision

Jean-Marc Menaud has defended his habilitation (HDR, Habilitation à Diriger des Recherches) on Jun. 22, 2011 [13].

This year 5 PhD theses have been defended by students of the ASCOLA team:

- Hien Nguyen Van [15]
- Angel Núñez [16]
- Abdelhakim Hannousse [12]
- Dong Ha Nguyen [14]
9. Dissemination

9.1. Animation of the scientific community

9.1.1. Animation of the local scene

In 2009, the AtlanMod team initiated a regular series of events called Les Jeudis des Modèles\(^4\). This event has successfully continued during 2011. Two/three times per year approximately, an international expert from the model engineering community is invited to come and present a subject of research or innovation of interest to the scientific and industrial community. These events typically attract between 30 and 60 researchers, students and industrials. In fact, Les Jeudis des Modèles event has become a regional rendez-vous of the model engineering community, attracting people from Rennes, Vannes, La Rochelle, and many other places beyond Nantes. Among others, we have invited Patrick Albert (IBM), Nicolas Rouquette (NASA/JPL), Ed Merks (Macro Modeling), Ivar Jacobson (IJ company), Sridhar Iyengar (IBM) and Jon Whittle (Professor at Lancaster University). It should be noted that these visits allow us to organize different meetings between the researchers of the AtlanMod team and the various industrials attending the main presentation.

Besides this, as part of our commitment to the Eclipse community, we co-organized (together with the Obeo company) an Eclipse DemoCamp event to celebrate the new Eclipse Indigo version release. The Eclipse DemoCamps are an opportunity to showcase all of the technology being built by the Eclipse community and, for the team, an excellent opportunity to meet other Eclipse enthusiasts in the region and show them the Eclipse tools developed by the team.

9.1.2. Organization

In 2011, the AtlanMod team has coorganized the following events:

- J. Cabot has been PC Chair (together with Eelco Visser) of the Int. Conf. on Model Transformation 2011\(^5\)
- M. Tisi has coorganized the 3rd International Workshop on Model Transformation with ATL\(^6\) (MtATL 2011) co-located with the TOOLS conferences in Zurich.
- J. Cabot has coorganized the OCL and Textual Modeling Workshop (OCL’11)\(^7\) co-located with the TOOLS conference in Zurich.

9.1.3. Editorial Bords

Participation to editorial boards of scientific journals:

- Jordi Cabot: Journal of Object Technology

\(^4\) [http://www.emn.fr/z-info/jmodeles/](http://www.emn.fr/z-info/jmodeles/)
\(^6\) [http://www.emn.fr/z-info/atlanmod/index.php/MtATL2011](http://www.emn.fr/z-info/atlanmod/index.php/MtATL2011)
\(^7\) [http://gres.uoc.edu/OCL2011/](http://gres.uoc.edu/OCL2011/)
9.1.4. Reviewing of International Journals

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


9.1.5. Program Committee members

Participation to conference program committees:

- Jordi Cabot:
  - National: French national conference on MDE, Spanish national conference on MDE.
- Robert Tairas:
- Massimo Tisi:

9.2. PhD Juries

- Jordi Cabot: Islam Abdelhalim. PhD confirmation report. University of Surrey (UK)

9.3. Research Evaluation Committees

- Jordi Cabot: Reviewer for Spanish CICYT Research Projects Call, Reviewer for the National UK Projects Call, Reviewer for National Argentinian Projects Call

9.4. Involvement in the Open Source Community via Eclipse

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 and EclipseCon Europe), organization of events targeting the local community, 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 M2M ATL (Frédéric Jouault) and MDT MoDisco (Hugo Bruneliere, also including AM3) projects, the Eclipse reference projects concerning respectively model-to-model transformation and model-driven reverse engineering;
- Commitment to other projects directly under Eclipse.org: EMFT EMF Facet (Hugo Bruneliere), GMT AMW (Frédéric Jouault);
- Creation and development of new incubation projects under Eclipse Labs: EMFToCSP (Jordi Cabot, Carlos Gonzalez) and Virtual EMF (Caue Clasen, Jordi Cabot);
- Organization of an official Eclipse DemoCamp in Nantes, on the 30th of June 2011, for locally promoting the Eclipse Indigo release including the MoDisco, ATL and EMF Facet team’s projects (Hugo Bruneliere, in collaboration with the Obeo and Mia-Software companies);
- Publication of a technical paper on MoDisco in the international JavaTech Journal issue dedicated to this same Eclipse Indigo release (Hugo Bruneliere);
- Presentation of talks during the two main Eclipse events (Hugo Bruneliere): at EclipseCon North America 2011 about MoDisco, at EclipseCon Europe 2011 about Virtual EMF.

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. This collaborative approach, allowing the industrialization of our research prototypes using open source and Eclipse as the medium, has also been presented this year to the OW2 open source community (*The open source community for infrastructure software*) during their main annual event OW2Con 2011, as part of the Session Open Source Innovation Catalyst (Hugo Bruneliere).

### 9.4.1. Teaching

During the period 2010/11 the members of the AtlanMod team have been in charge of a 360-hour diploma on MDE.

Apart from this, individual members have also had teaching duties in other courses:

- License: J. Cabot is in charge of a 24-hour course on MDE in the CS degree at the Ecole des Mines de Nantes.
- License: M. Tisi. Programmation, 15h, L1, Ecole des Mines de Nantes
- License: M. Tisi. Bases de données, 20h, L2, Ecole des Mines de Nantes
- License: M. Tisi. Structures de données, 17,5h, L2, Ecole des Mines de Nantes
- License: M. Tisi. Programmation Impérative, 22,5h, L1, Ecole des Mines de Nantes
- License: Programmation Par Objets, 9h, L1, Ecole des Mines de Nantes

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8 [http://www.mines-nantes.fr/fr/Formations/Formation-specialisee/MDE](http://www.mines-nantes.fr/fr/Formations/Formation-specialisee/MDE)


9. Dissemination

9.1. Animation of the scientific community

Ludovic Mé acts as a

- external reviewer for RAID (14th International Symposium on Recent Advances in Intrusion Detection).
- member of a DGA’s scientific committee.

Christophe Bidan acts as a

Sébastien Gambs acts as a

- member of the scientific committee of the “2nd workshop on games, logic and security (GIPSy 2011)” held in October 2011 in Rennes, France (http://www.irisa.fr/prive/pinchina/GIPSy/gipsy11.html).
- member of the technical program committee of the “4th International Workshop on Security and SOCial Networking (SESOC 2012)” held in March 2012 in Lugano, Switzerland (http://www.sesoc.org/home.htm).

Guillaume Hiet acts as a

- member of the program committee of the “14th International Symposium on Recent Advances in Intrusion Detection (RAID 2011)” held in September 2011 in Menlo Park, California (http://www.raid-symposium.org/raid2011/).
- external reviewer for the TSI journal (Technique et Science Informatiques).

Michel Hurfin acts as a

- member of the program committee of the “3rd IEEE International Symposium on UbiSafe Computing” held in November 2011 in Changsha, China (http://trust.csu.edu.cn/conference/ubisafe2011).
- member of the program committee of the “11st African Conference on research In Computer Science and Applied Mathematics (CARI 2012)” held in October 2012 in Algiers, Algeria (http://www.cari-info.org/).
- external reviewer for the Information and Computation Journal.
- member of the COST-GTAI (reviewer for both ARCs and ADT submissions).
Guillaume Piolle acts as a

- member of the scientific committee of the “2nd workshop on games, logic and security (GIPSy 2011)” held in October 2011 in Rennes, France (http://www.irisa.fr/prive/pinchina/GIPSy/gipsy11.html).
- external reviewer for CDP 2011 (Computers, Privacy & Data Protection), FPS 2011 (Workshop on Foundations & Practice of Security), RAID 2011 (Symposium on Recent Advances in Intrusion Detection), and SecureComm 2011 (Conference on Security and Privacy in Communication Networks).

Nicolas Prigent acts as a

- member of the program committee of the “Symposium sur la Sécurité des Technologies de l’Information et des Communications (SSTIC 2012)” held in June 2012 in Rennes, France (http://www.sstic.org/2012/news/).
- member of the organization committee of the “Symposium sur la Sécurité des Technologies de l’Information et des Communications (SSTIC 2012)” held in June 2012 in Rennes, France (http://www.sstic.org/2012/news/).
- external reviewer for CT-RSA 2011 (Cryptographers’ Track of the RSA Conference).

Eric Totel acts as a

- external reviewer for RAID 2011 (Recent Advances in Intrusion Detection), FPS 2011 (Foundations & Practice of Security), SecureComm 2011 (Conference on Security and Privacy in Communication Networks), and SAR-SSI 2011 (Conference on Network Architectures and Information Systems Security).

Frédéric Tronel acts as a

- external reviewer for RAID 2011 (Recent Advances in Intrusion Detection).
Valérie Viet Triem Tong acts as a

- member of the program committee of the “6th Conference on Network Architecture and Information Systems Security (SAR-SSI 2011)” held in May 2011 at “Ile De Ré”, La Rochelle, France (http://sarssi-conf.org/index.htm)
- external reviewer for the journal “Security and Communication Networks” (Special Issue on Defending Against Insider Threats and Internal Data Leakage).

9.2. Teaching

Ludovic Mé is Professor at Supélec:

- Master: “Information systems”, 6 hours, M1 - second year of the engineer degree, Supélec, France
- Master: “Security policies”, 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France
- Master: “Intrusion detection”, 9 hours of lecture, M2 - Master research, Rennes, France
- Master: “Intrusion detection”, 6 hours of lecture, M2 - Master SSI, Université de Limoges, France
- Master: “Intrusion detection”, 8 hours of lecture, M2 - Master Pro SSI, université de Rennes 1, France
- Master: “Intrusion detection”, 9 hours of lecture, M2 - Master SSI, Supélec & Télécom Bretagne, France
- Master: “Security of information systems”, 12 hours of lecture, M2- post-graduate training (master Architecture des Réseaux de Communication), Supélec, France
- Master: Ludovic Mé is responsible for the module “Secured information systems”, M2 - third year of the engineer degree, Supélec, France
- Master: Ludovic Mé is responsible for the module “Security of data and Infrastructure information systems”, M2 - Master research, Rennes, France (until June 2011)
- Doctorat: “Introduction to security issues in Computer science”, 9 hours of lecture, Université de Rennes 1, Doctoral School Matisse, France.

Christophe Bidan is Professor at Supélec:

- Licence: “Programming models”, 13 hours, L3 - first year of the engineer degree, Supélec, France
- Licence: “Foundations of computer science, data structures and algorithms”, 40 hours including 18 hours of lecture, L3 - first year of the engineer degree, Supélec, France
- Master: “Information system”, 6 hours, M1 - second year of the engineer degree, Supélec, France
- Master: “Software engineering”, 22 hours, M1 - second year of the engineer degree, Supélec, France
- Master: “Supervision of student project”, 9 hours, M1 - second year of the engineer degree, Supélec, France
- Master: “Introduction to security threat”, 4.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France
- Master: “Cryptography”, 44 hours including 18 hours of lecture, M2 - third year of the engineer degree, Supélec, France
- Master: “Audit technique Web”, 3 hours, M2 - third year of the engineer degree, Supélec, France
Sébastien Gambs is Associate Professor at Université de Rennes 1:

Master : “Protection of Privacy”, 32 hours including 16 hours of lectures, M2 - Master Pro SSI, Université de Rennes 1, France
Master : “Topics on Authentication”, 16 hours of lectures, M2 - Master Pro SSI, Université de Rennes 1, France
Master : Supervision (50%) of the master thesis of Christophe Potin from February to September

Guillaume Hiet is Associate Professor at Supélec:

Licence : “Programming models and languages”, 4 hours, L3 - first year of the engineer degree, Supélec, France
Licence : “Foundations of computer science, data structures and algorithms”, 16 hours, L3 - first year of the engineer degree, Supélec, France
Master : “Introduction to SSI”, 9 hours of lecture, M1 - second year of the engineer degree, Supélec, France
Master : “Supervision of student project”, 9 hours, M1 - second year of the engineer degree, Supélec, France
Master : “Supervision of student project - Computer and electronic”, 1 project, M1 - second year of the engineer degree, Supélec, France
Master : “Introduction to UNIX/Linux”, 9 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Security in UNIX/Linux”, 4.5 hours including 1.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Intrusion detection sensors”, 3 hours, M2 - third year of the engineer degree, Supélec, France
Master : “Alert correlation”, 3 hours, M2 - third year of the engineer degree, Supélec, France
Master : “Securing an application vulnerable to buffer overflows”, 8 hours, M2 - third year of the engineer degree, Supélec, France
Master : “Supervision of student project”, 3 hours, M2 - third year of the engineer degree, Supélec, France
Master : “Introduction to UNIX/Linux”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France
Master : “Securing Linux (LDAP authentication, ACL and disk encryption)”, 6 hours, M2 - post-graduate training (master Cyber Security), Supélec, France
Master : “Security of Passwords”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France
Master : “Security of Java”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France
Master : “Intrusion detection sensors”, 3 hours, M2 - post-graduate training (master Cyber Security), Supélec, France
Master : “Preparation for the ICTF competition in computer security”, 12 hours, M2 - post-graduate training (master Cyber Security), Supélec, France
Master : “Securing UNIX/Linux”, 7 hours of lecture, M2 - post-graduate training CQP, Supélec, Gif-sur-Yvette, France
Master : “Intrusion detection”, 10 hours of lecture, M2 - post-graduate training CQP, Supélec, Gif-sur-Yvette, France
Master : “Intrusion detection (Introduction)”, 20 hours including 8 hours of lecture, M2 - Master Pro SSI, Université de Rennes 1, France
Master : “Intrusion detection (Introduction)”, 10 hours including 4 hours of lecture, M2 - ESIR (Ecole supérieure d’ingénieur de Rennes), Université de Rennes 1, France
Supervision (100%) of the master thesis (and engineering internship) of Mounir Assaf (Supélec) from February to September
Supervision (50%) of the master thesis of Vincent Laporte (ENS) from February to June
Michel Hurfin contributes to the transfer of knowledge towards students:

Master: “Distributed protocols”, 7.5 hours of lecture, M2 - post-graduate training (master Architecture des Réseaux de Communication), Supélec, France

Guillaume Piolle is Associate Professor at Supélec:

Licence: “Models and programming languages”, 9 hours, L3 - first year of the engineer degree, Supélec, France

Licence: “Foundations of computer science, data structures and algorithms”, 18 hours, L3 - first year of the engineer degree, Supélec, France

Licence: “Software engineering”, 18 hours, L3 - first year of the engineer degree, Supélec, France

Master: “C++ /Qt”, 12 hours, M2 - third year of the engineer degree, Supélec, France

Master: “Network access protection”, 3 hours, M2 - third year of the engineer degree, Supélec, France

Master: “Web technologies”, 8.25 hours, M2 - post-graduate training, Supélec, France

Master: “Privacy and data protection on Internet”, 9 hours, M2 - post-graduate training, URFIST Ouest (Unité Régionale de Formation à l’Information Scientifique et Technique) – Université Rennes 2, France.

Master: “Supervision of student project”, 9 hours, M1 - second year of the engineer degree, Supélec, France

Nicolas Prigent is Associate Professor at Supélec:

- Licence: “Programming”, 20 hours, L3 - first year of the engineer degree, Supélec, France
- Master: “Network programming”, 15 hours, M2 - third year of the engineer degree, Supélec, France
- Master: “Network programming”, 11 hours, M2 - post-graduate training, Supélec, France
- Master: “Programming and data bases”, 15 hours, M2 - third year of the engineer degree, Supélec, France
- Master: “Computer security”, 4 hours, M2 - third year of the engineer degree, Supélec, France
- Master: “Programming”, 6 hours of lecture, M2 - third year of the engineer degree, Supélec, France
- Master: “Operating systems”, 12 hours of lecture, M2 - third year of the engineer degree, Supélec, France
- Master: “Computer science (computability and complexity)”, 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France
- Master: “Operating systems (MS Windows)”, 2 hours of lecture, M2 - post-graduate training, Supélec, France
- Master: “Data bases”, 3 hours of lecture, M2 - post-graduate training, Supélec, France
- Master: “Security”, 17 hours including 9 hours of lecture, M2 - post-graduate training, Supélec, France

Eric Totel is Associate Professor at Supélec:

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

Licence: “Foundations of computer science, data structures and algorithms”, 6 hours, L3 - first year of the engineer degree, Supélec, France
Master : “Computer systems’ architecture”, 30 hours, M1 - second year of the engineer degree, Supélec, France
Master : “C language”, 24 hours including 6 hours of lecture, M2 - master SSI (Sécurité des systèmes d’information), Supélec, France
Master : “C language”, 12 hours including 3 hours of lecture, M2 - post-graduate training (master Architecture des Réseaux de Communication), Supélec, France
Master : “C language and C++ language”, 12 hours including 6 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Description and specification languages”, 12 hours including 3 hours of lecture, M2 - post-graduate training (master Architecture des Réseaux de Communication), Supélec, France
Master : “Dependability”, 6 hours including 4.5 hours of lecture, M2 - third year of the engineer degree and master research, Supélec, France
Master : “Dependability”, 3 hours of lecture, M2 - third year of the engineer degree (ingénierie des systèmes automatisés), Supélec, France
Master : “Dependability”, 4.5 hours of lecture, M2 - post-graduate training (master Architecture des Réseaux de Communication), Supélec, France
Master : “Supervision of student project”, 4 projects, M1 - second year of the engineer degree, Supélec, France
Master : “Supervision of student project”, 1 project, M2 - third year of the engineer degree, Supélec, France

Frédéric Tronel is Associate Professor at Supélec:

Licence : “LISP”, 3 hours, L3 - first year of the engineer degree, Supélec, France
Licence : “Software engineering”, 18 hours, L3 - first year of the engineer degree, Supélec, France
Master : “Operating systems”, 10.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Compilation”, 21 hours including 9 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Computation and automated reasoning”, 6 hours including 4.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Knowledge of the threat: buffer overflow attack”, 15 hours including 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Knowledge of the threat: buffer overflow attack”, 12 hours including 6 hours of lecture, M2 - third year of the engineer degree, Télécom Bretagne, France
Master : “Theory and practice of firewalls”, 6 hours, M2 - third year of the engineer degree, Supélec, France
Master : “Theory and practice of firewalls”, 4.5 hours, M2 - post-graduate training, Supélec, France
Master : “Theory and practice of firewalls”, 3 hours, M2 - master SSI (Sécurité des systèmes d’information), Supélec, France
Master : “Tools for virtualization of operating systems”, 1.5 hours of lecture, M2 - third year of the engineer degree, Supélec, France
Master : “Tools for virtualization of operating systems”, 1.5 hours of lecture, M2 - post-graduate training, Supélec, France
Master: “Linux for embedded systems”, 9 hours including 3 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Computability in distributed systems”, 7.5 hours including 6 hours of lecture, M2 Master research Rennes, France

Valérie Viet Triem Tong is Associate Professor at Supélec:

Licence: “Programming”, 9h, L3 - first year of the engineer degree, Supélec, France

Master: “Computer security”, 13h30 hours including 4h30 of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Game Theory”, 20h of lecture, M1 - second year of the engineer degree, Supélec, France

Master: “Foundations of computer science”, 10h30 hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Spontaneous networking”, 3h hours of lecture, M2 - third year of the engineer degree, Supélec, France

Master: “Supervision of student project”, 4 projects, M1 - second year of the engineer degree, Supélec, France

Master: Valérie Viet Triem Tong is responsible for the module “Security of data and Infrastructure information systems”, M2 - Master research, Rennes, France (since September 2011)

Master: “Supervision of student training”, 1 training period (6 months), M2 - Supélec, France

Four PhD defenses in 2011 and eleven thesis in progress:

PhD: Mohamed Ali Ayachi, “Contributions à la détection de comportements malhonnêtes dans les réseaux ad hoc AODV par analyse de la confiance implicite”, université de Rennes 1, February 24th 2011, supervised by Christophe Bidan and Nicolas Prigent.

PhD: Jean-Marie Borello, “Etude du métamorphisme viral : modélisation, conception et détection”, université de Rennes 1, April 1st 2011, supervised by Ludovic Mé (90%) and Eric Filiol (10% - ESIEA Laval).

PhD Jonathan Christopher Demay, “Génération et évaluation de mécanismes de détection des intrusions au niveau applicatif”, Supélec, July 1st 2011, supervised by Ludovic Mé, Eric Totel, and Frédéric Tronel.


PhD in progress: Radoniaina Andriatsimandefitra, “Protection de l’information dans l’environnement Android”, started in October 2011, supervised by Ludovic Mé (20%) and Valérie Viet Triem Tong (80%).

PhD in progress: Mounir Assaf, “Vérification de propriétés de sécurité par analyse statique sur des programmes C de grande taille”, started in November 2011, supervised by Ludovic Mé (20%), Eric Totel (40%), and Frédéric Tronel (40%).

PhD in progress: Georges Bossert, “Méthodologie d’évaluation des systèmes de détection d’intrusions”, started in October 2010, supervised by Ludovic Mé (20%) and Guillaume Hiet (80%).
PhD in progress : Olivier Ferrand, “Contournements des anti-virus et protection contre ces contournements”, started in June 2011, supervised by Eric Filiol (50% - ESIEA Laval) and Ludovic Mé (50%).

PhD in progress : Stéphane Geller, “Administration de politiques de sécurité reposant sur le contrôle des flux d’information”, started in October 2009, supervised by Ludovic Mé (20%) and Valérie Viet Triem Tong (80%).

PhD in progress : Ahmed Gmati, “Redefining the concept of privacy in privacy-preserving data mining”, started in December 2010, supervised by Sébastien Gambs (50%) and Michel Hurfin (50%).

PhD in progress : Geoffroy Guéguen, “Métamorphisme viral et grammaires formelles”, université de Rennes 1, started in March 2011, supervised by Sébastien Josse (50% - ESIEA Laval) and Ludovic Mé (50%).

PhD in progress : Christophe Hauser, “Détection d’intrusions dans les systèmes distribués”, started in October 2009, in coordination with Queensland University of Technology, Brisbane, Australia (Prof. Andrew Clarke), supervised by Ludovic Mé (20%) and Frédéric Tronel (80%).

PhD in progress : Christopher Humphries, “Visualisation d’événements de sécurité”, started in December 2011, supervised by Christophe Bidan (20%) and Nicolas Prigent (80%).

PhD in progress : Regina Marin, “Privacy protection in distributed social networks (Protection de la vie privée dans les réseaux sociaux distribués)”, started in November 2011, supervised by Christophe Bidan (20%) and Guillaume Piolle (80%).

PhD in progress : Thomas Demongeot, “Protection des données utilisateur dans les web services”, Telecom Bretagne, started in September 2008, supervised by Eric Totel (50%) and Valérie Viet Triem Tong (50%).

Some members of the team also participate to the supervision of external PhD students. Sébastien Gambs is co-supervising Ai Thanh Ho (PhD student from the Université de Montréal, Canada), Mohammad Nabil Al-Aggan (PhD student from ASAP, INRIA Rennes), Miguel Nunez del Prado Cortez (PhD student from LAAS-CNRS, Toulouse), and Moussa Traore (PhD student from LAAS-CNRS, Toulouse). Christophe Bidan and Nicolas Prigent are co-supervising Akli Redjedal (PhD student from CIDER/IRISA, Rennes). Some members of the team have participated to PhD committees:

- Ludovic Mé was a member of the PhD committee (reviewer) for the PhD of Thibault Cholez entitled “Supervision des réseaux pair à pair structurés appliquée à la sécurité des contenus”, université Henri Poincaré Nancy, June 2011.

- Ludovic Mé was a member of the PhD committee (reviewer) for the PhD of Sophie Gastellier-Prevost entitled “Vers une détection des attaques de phishing et pharming côté client”, Télécom SudParis, November 2011.

- Ludovic Mé was a member of the PhD committee for the PhD of Samer Wazan entitled “Gestion de la confiance dans les infrastructures à clés publiques”, université de Toulouse - IRIT, December 2011.

- Christophe Bidan was a member of the PhD committee (reviewer) for the PhD of Claire Sondes Larafa entitled “Services AAA dans les réseaux ad hoc mobiles”, Télécom SudParis, October 2011.

- Michel Hurfin was a member of the PhD committee (reviewer) for the PhD of Adrienne Tankeu Choitait entitled “Approches outillées pour le développement des systèmes interactifs intégrant les aspects sûreté de fonctionnement et utilisabilité”, université de Toulouse - IRIT, December 2011.
Knowledge dissemination is also an objective of the team:

- Ludovic Mé gave an invited talk entitled “Pourquoi nos logiciels sont-ils vulnérables ?” during the “Assises nationales de la recherche stratégique” organized by the CSFRS (Conseil Supérieur de la Formation et de la Recherche Stratégiques) in June 2011 in Paris.
- To prepare the forthcoming introduction of a new teaching speciality entitled “Informatique et Sciences du Numérique (ISN)” in high schools, Sébastien Gambs and Nicolas Prigent trained teachers and taught a course on the security topic.
- Sébastien Gambs has participated to the event “à la découverte de la recherche” (7 interventions in high schools)
- Under the supervision of the association “Math.en.Jeans”, Sébastien Gambs has interacted with high school students of Rennes and Auray about the topic “definition and quantification of anonymity”.

In January 2011, Guillaume Piolle has been awarded by the Commission nationale de l’informatique et des libertés (CNIL). His thesis entitled “Agents utilisateurs pour la protection des données personnelles : modélisation logique et outils informatiques” (Université Jean Fourier de Grenoble) has received the prize “CNIL informatique et libertés, mention spéciale du jury.”
9. Dissemination

9.1. Animation of the scientific community

9.1.1. International memberships

- 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.

9.1.2. Organization of conferences

- G. Rubino is a member of the Steering Committee of the international conference QEST (Quantitative Evaluation of SysTems).
- César Viho co-organized (together with Laurent Toutain from TELECOM Bretagne) an international school about "Communicating objects". The school was an initiative of the Irisa "Networks, Telecom and Services" department, and was sponsored by MATISSE doctoral school.
- Bruno Tuffin will be the co-coordinator of the "Analysis" track at the Winter Simulation Conference (WSC’12), Berlin, Germany, December 9-12, 2012. It will be the first time this event will leave North America.
- Bruno Tuffin was the TPC cho-chair for NetGCoop 2011, Oct. 12-14, Paris.

9.1.3. Program committees

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


Gerardo Rubino serves in the Program Committee of the following conferences:

- ETS, 1st European Teletraffic Seminar, Poznan, Poland, 14-16 February 2011
- LANC 2011, 6th Latin America Networking Conference, in cooperation with IFIP/ACM, Quito, Ecuador, 12–14 October, 2011
- CLEI 2012, XXXVIII Conferencia Latinoamericana de Informática (Latin-American Informatics Conference), Medellín, Colombia, October 1–5, 2012.

Bruno Tuffin served as TPC member for

- IEEE International Conference on Communications (IEEE ICC 2011), June 5-9 2011, Kyoto, Japan.
- 7th Euro-NGI conference on Next Generation Internet Networks (NGI 2011), June 27-29 2011, Kaiserslautern, Germany.
- 8th International Workshop on Economics of Grids, Clouds, Systems and Services (GECON’2011).
Adlen Ksentini served as TPC member for

- IEEE Global Communication Conference, GLOBECOM 2011 Wireless Network Symposium, December 2011, Houston, Texas, USA
- IEEE International Conference on Communication, ICC 2011 Wireless Network Symposium, June 2011, Kyoto, Japan
- IEEE International Conference on Selected Topics in Mobile and Wireless Networking, October 2011, Shanghai, China

9.1.4. Editorial activity

- Raymond Marie is Associate Editor for Performance Evaluation.
- Bruno Sericola is a member of the Editorial Advisory Board of the Open Operational Research Journal.
- Bruno Sericola is a member of the Editorial Advisory Board of the International Journal of Stochastic Analysis.
- Bruno Tuffin is associate Editor for INFORMS Journal on Computing.
- Bruno Tuffin is associate Editor for Mathematical Methods of Operations Research.
- Bruno Tuffin is associate Editor for ACM Transactions on Modeling and Computer Simulation.
- Bruno Tuffin is a Co-guest Editor of a special issue of Telecommunication Systems Journal on Socio-Economic Issues of Next Generation Networks, to appear in 2011.
- Adlen Ksentini is Associate Editor of Hindawei International Journal of Digital Multimedia Broadcasting

9.1.5. Managing research activities

- Gerardo Rubino is a member of the Research Commission of TELECOM Bretagne (advisory board for the research activities of the institution).
- Gerardo Rubino is an exterior member of the Specialist Commission of the University of Versailles Saint-Quentin-en-Yvelines, Section 27 (since 2001).
- 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 (and Bruno Tuffin his substitute). The cluster groups most companies and academic institutions working in networking and on image-based applications in Western France.
- Gerardo Rubino is the INRIA representative at the GIS SISCOM, an association composed of the four main academic institutions in Western France in the area of information and communication sciences: the European University of Brittany-UEB, the Institut TELECOM, the CNRS and INRIA, to promote the excellence of the ICT research in Brittany.
- 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.
- César VIHO is responsible of the “Network, Telecommunication and Services” department of Irisa composed of 4 research teams. He is member of the Conseil de laboratoire and of the Conseil d’Orientations scientifiques (COS) of Irisa. He is in charge of administrative issues management of PhD students of Irisa and Inria. In the context of international relations of Irisa, he is responsible of relations with Africa area universities and research centers.
- Adlen Ksentini is the coordinator of the Special Interest Group (SIG) of the Communication Software Technical Committee (IEEE Communication Society)

### 9.1.6. Other activities

- B. Tuffin, Pricing in telecommunication networks: from congestion control and incentives design to competition among providers. ETICS Workshop, Versailles, France, June 2011.
- R. Marie made in November several seminar presentations in Brazil (Federal University of Minas Gerais, Federal University of Rio de Janeiro, Federal University Fluminense).
- G. Rubino gave several talks to High School students about research activity on applied mathematics and computer science. Topics were the following: rare event analysis, probabilistic tools for deterministic problems and research problems associated with Internet technologies.

### 9.2. Teaching

- Licence L3: Introduction to networks, 20 hours, Istic/University of Rennes 1, France
- Master M1: Introduction to networks, 24 hours, Esir/University of Rennes 1, France
- Master M1: Wireless networking, 46 hours, Esir/University of Rennes 1, France
- Master M1: Networks and protocols, 24 hours, Istic/University of Rennes 1, France
- Master M1: Computer networks, 24 hours, Esir/University of Rennes 1, France
- Master M1: Algorithms and graphs, 48 hours, Esir/University of Rennes 1, France
- Master M1: Performance and dependability evaluation of computer systems, 54 hours, Istic/University of Rennes 1, France
- Master M2: Validation and tests, 6 hours, Istic/University of Rennes 1, France
- Master M2: Quality of service and multimedia, 6 hours, Istic/University of Rennes 1, France
- Master M2: Multimedia transmission, 18 hours, Istic/University of Rennes 1, France
- Master M2: Performance evaluation, 26 hours, Istic/University of Rennes 1, France
- Master M2: Network security, 14 hours, Istic/University of Rennes 1, France
- Master M2: Dependability analysis, 12 hours, Supelec, Rennes, France
- Master M2: Simulation, 5 hours, Telecom Bretagne, Rennes, 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

PhD: Ghareeb Majd, Quality-aware multipath video-streaming in overlay networks, Université de Rennes 1, 22 September 2011, Adlen Ksentini and César Viho

### 9.3. Standardization activities

**Participants:** Anthony Baire, César Viho.
The Dionysos team dedicates a significant effort towards standardization and certification in the telecommunications area. We participate in several working groups of the main telecommunication standardization institutes like the IETF (Internet Engineering Task Force), ETSI (European Telecommunication Standardization Institute), etc. We are also active in the main mailing-lists treating new generation networks and protocols. Several proposals of drafts and contributions to the definition of standards and RFCs (Request For Comments) have been published. Our contributions focus today mainly on IPv6 and related protocols such as 6LowPAN and RPL.

9.3.1. IPv6 Ready Logo Program

Participants: Anthony Baire, César Viho.

Dionysos team has also a major role in the world-wide certification process for IPv6 products launched by the IPv6 Forum, the “IPv6 Ready Logo Program”. For details, see http://www.ipv6ready.org. This project aims to provide the means needed to test existing IPv6 products to be deployed in the market. Dionysos leads the technical part of this Program by defining the certification process itself, specifying required tests, and developing some of the interoperability tests needed. This work is done together with the IPv6 Forum, the ETSI in Europe, the WIDE-project in Japan and the TTA (Telecommunications Technology Association) in Korea.

In 2010 we started a collaboration with the IPSO alliance in order to address the usage of IPv6 on smart objects based on the IEEE 802.15.4 link layer (eg. sensor networks). These network have special constraints (limited power, packet loss, ...) and new protocols are designed at IETF (6LowPAN, RPL) to allow using IPv6 with these constraints.
9. Dissemination

9.1. Animation of the scientific community

C. Jard has been in 2011 member of the Program Committee of the following international conferences: NOTERE and FMOODS/FORTE. He is also member of the editorial board of the Annales des Télécommunications and the steering committee of MSR series of conferences. C. Jard supervises a CNRS national transverse program on formal approaches for embedded systems (AFSEC). C. Jard is the director of the research of the Brittany extension of the ENS Cachan (director of the pluridisciplinary institute called the Hubert Curien Research College). He is member of the scientific council of the European University of Brittany and member of the executive board of the CominLabs (french excellence initiative in ICST). He is expert of the AERES, the national evaluation agency and expert for the French ministry of research, he has also served as an expert in several programs of the ANR. He was recently nominated to the National Council of Universities (CNU). In 2011, C. Jard was president of the PhD or Habilitation jurys of V. Gripon (Telecom Bretagne), L. Paulevé (Ecole Centrale Nantes), S. Brault (University of Rennes 2), P. Niebert (University of Marseille).

A. Benveniste is the Scientific Director of the CominLabs Excellence Center (Laboratoire d’Excellence, part of the program Investissements d’Avenir of the french government). He is member of the Strategic Advisory Council of the Institute for Systems Research, Univ. of Maryland, College Park, USA. He is president of the Scientific Committee of the Common Bell Labs INRIA Laboratory. He is member of the Scientific Council of France Telecom. Albert Benveniste has been elected to the French Academy of Technologies.

Eric Fabre is associate editor (AE) for the journal IEEE Trans. on Automatic Control. He participated to the Alcatel Lucent Open Days in Lannion, where he presented the results of the joint lab on the distributed optimal power allocation in photonic networks. Eric Fabre was reviewer of Jingxian Lu’s PhD thesis (Univ. of Bordeaux 1).

L. Hélouët is the co-organizer of a weekly Seminar (68NQRT) at IRISA-INRIA Rennes on theoretical aspects of computer science. In 2011, L. Hélouët was member of the jury of Gilles Benattar at IrccYn Nante, and of Mario S. Alvim at Ecole Polytechnique.

G. Aucher was an organizer of the workshop Gipsy which took place in Rennes from the 25th to the 27th of October 2011 (http://www.irisa.fr/prive/pinchina/GIPSy/gipsy11.html). In 2011, he served as a reviewer in the following international journals: Journal of Logic and Computation, Studia Logica, Mathematical Social Science, Journal of Applied Non-classical Logic, Logique et analyse. He was a program committee member of the international conferences IJCAI 2011 (International Joint Conference in Artificial Intelligence) and LORI 2011 (Logic, Rationality and Interaction) and served as external reviewer for the international conference TARK 2011 (Theoretical Aspects of Rationality and Knowledge). He was invited to give talks at the Beth Foundation Symposium at the 14th Congress of Logic, Methodology and Philosophy of Science in Nancy on the 20th of July 2011 and at the Institute of Philosophy of Language in Lisbon on the 8th of November 2011.

9.2. Teaching

C. Jard is a full-time professor at the ENS Cachan and teaches mainly at the Master level, in Computer Science and Telecom, and in Maths. He supervises the third year of the cursus (the research master’s degree). He is also in charge of the competitive examination for the entry of new students in computer science in the French ENS schools. He teaches the following courses: L. Héléouët teaches algorithms (graphs, sorting algorithms, classical problems) to maths students preparing the aggregation at ENS Cachan, antenne de Bretagne. He is also involved in the INS project, which aim is to give the basic knowledge in computer science to teachers from

1Only facts related to the activities of DistribCom team are mentioned. Other roles or duties concern the S4 team, to which A. Benveniste also belongs.
other disciplines at the baccalaureat level. In this context, he supervises a development project by 5 teachers from Rennes academy. He is the co-supervisor (with C. Jard) of Rouwaida Abdallah’s Thesis. Eric Fabre teaches Numerical optimization methods, and Distributed algorithms and systems in the Master of computer science (M2), University Rennes 1. He teaches also Information theory and coding at ENS Cachan, magister Math, Info., Telecom, 2nd year.

Guillaume Aucher teaches Algorithms for graphs (L3 MIAGE, 20h TD) and Imperative programming in Java (L1 Computer Science, 20hTD+20hTP), both at the Univ. of Rennes 1.

François Schwarzentruber is a lecturer at ENS Cachan - Britany extension. He teaches an introductory course about algorithms to first year students of ENS (L3) and a course about conception and verification of programs to second year students (M1). He is also involved in the preparation of the computer science option of the competitive examination ‘agregation de maths’.

PhD & HdR

PhD : Bartosz Grabiec, Supervision de systèmes répartis utilisant des dépliants avec contraintes de modèle temporisés, ENS Cachan, 4 Octobre 2011, C. Jard.

PhD in progress : Ajay Kattepur, QoS in Web services, september 2009, A. Benveniste, C. Jard.

PhD in progress : Rouwaida Adballah, Implémentation de scénarios, march 2010, L. Hélouët, C. Jard.

PhD in progress : Cyrille Jégourel, Statistical Model Checking, January 2011, Axel Legay.

PhD in progress : Valérie Murat, Tree automata, January 2011, Axel Legay.


PhD in progress : Aurore Junier, Network calculus applied to network stability analysis, sept. 2010, C. Jard, A. Bouillard.

PhD in progress : Bastien Maubert, Logical foundations of games with imperfect information, sept. 2010, S. Pinchinat, G. Aucher.
KERDATA Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Leaderships, Steering Committees and community service

Euro-Par Conference Series. L. Bougé serves as a Vice-Chair of the Steering Committee of the Euro-Par annual conference series on parallel computing. G. Antoniu served as a Local Topic Chair for the Parallel and Distributed Data Management topic of Euro-Par 2011, held in Bordeaux.


IEEE HPCS 2012 Conference. G. Antoniu serves as a Special Session and Workshop Chair for the 2012 International Conference on High Performance Computing and Simulation to be held in Madrid, Spain, in July 2012.

ACM HPDC 2012 Conference. G. Antoniu serves as a Publicity Co-Chair for the 21st International ACM Symposium on High-Performance Parallel and Distributed Computing to be held in Delft, the Netherlands in June 2012.

ScienceCloud 2012 Workshop. G. Antoniu serves as a Co-Chair for the ScienceCloud international workshop to be held in conjunction with the ACM HPDC 2012 international conference.

MapReduce ANR Project. G. Antoniu serves as a coordinator for the MapReduce ANR project (see Section 8.2).

A-Brain Microsoft-INRIA Project. G. Antoniu and B. Thirion (PARIETAL Project-Team, INRIA Saclay – Île-de-France) co-lead the AzureBrain Microsoft-INRIA Project started in October 2010 in the framework of the Microsoft Research - INRIA Joint Center (2010-2013).

DataCloud@work Associate Team. G. Antoniu serves as a coordinator for the DataCloud@work Associate Team, a project involving the KerData and MYRIADS INRIA Teams in Rennes and the Distributed Systems Group from Politehnica University of Bucharest (2010–2012).

SCALUS Marie-Curie Initial Training Networks project. G. Antoniu coordinates the involvement of the INRIA RENNES – BRETAGNE ATLANTIQUE Research Center in the SCALUS Project of the Marie-Curie Initial Training Networks Programme (ITN), call FP7-PEOPLE-ITN-2008 (2009-2013).

CoreGRID ERCIM Working Group. G. Antoniu coordinates the involvement of the INRIA RENNES – BRETAGNE ATLANTIQUE Research Center in the CoreGRID ERCIM Working Group.

Agrégation of Mathematics. L. Bougé serves as a Vice-Chair of the National Selection Committee for High-School Mathematics Teachers, Informatics Track.

9.1.2. Editorial boards, direction of program committees

L. Bougé is a member of the Editorial Advisory Board of the Scientific Programming Journal.

9.1.3. Program Committees


L. Bougé served in the Program Committee for the following conferences: NPC 2011, IEEE Cluster 2011.
9.1.4. Evaluation committees, consulting

L. Bougé was the chair of the national evaluation committee for the 2011 Scientific Excellence Award (Prime d’excellence scientifique, PES) targeted to the researchers on an academic teaching position in France (around 420 applications.)

G. Antoniu is a member of INRIA’s Evaluation Committee.

G. Antoniu is a member of INRIA’s Committee for Science and Technology Orientation - International Relations Working Group (COST-GTRI).

9.2. Invited talks

9.2.1. Keynotes and special invited talks

G. Antoniu was invited to give a keynote talk entitled Scalable cloud storage for data-intensive applications: the BlobSeer approach at the MapReduce workshop held in San José (USA) in June 2011 in conjunction with the ACM HPDC 2011 international conference.

G. Antoniu was invited to give an invited talk at Microsoft TechDays 2011 (with Pierre-Louis Xech and Thierry Priol) and was interviewed (with Thierry Priol) for a live Web TV broadcast on MS TechDays TV (Palais des Congrès, Paris, February 2011).

9.2.2. Invited talks at international workshops


G. Antoniu gave an invited talk entitled Update on Damaris: How to Make CM1 Scale Linearly up to 10K Cores And What Comes Next at the 6th workshop of the Joint Laboratory for Petascale Computing held in November 2011 at NCSA/UIUC, Urbana-Champaign, IL, USA.


9.3. Administrative responsibilities

G. Antoniu serves as the Scientific Correspondent for the International Relations Office of the INRIA RENNES – BRETAGNE ATLANTIQUE Research Center.

G. Antoniu serves as the Scientific Leader of the KerData research team.

L. Bougé chairs the Computer Science and Telecommunication Department (Département Informatique et Télécommunications, DIT) of the Brittany Extension of ENS CACHAN. He leads the Master Program (Magistère) in Computer Science at the Brittany Extension of ENS CACHAN.

9.4. Miscellaneous

L. Bougé is a member of Scientific Committee of INRIA RENNES – BRETAGNE ATLANTIQUE (Comité des projets), standing for the ENS CACHAN partner.

G. Antoniu is a member of Scientific Committee of INRIA RENNES – BRETAGNE ATLANTIQUE (Comité des projets), standing for the KerData research team.

9.5. Teaching

9.5.1. Academic courses

Gabriel Antoniu:
Master (Engineering Degree, 5th year): Grid and cloud computing, 18 hours (lectures), M2 level, Ecole Supérieure d’Informatique, Electronique, Automatique, Paris, France.
Master: Grid, P2P and cloud data management, 18 hours (lectures), M2 level, University of Nantes, ALMA Master, Distributed Architectures module, France.
Master: Peer-to-Peer Applications and Systems, 10 hours (lectures), M2 level, ENS Cachan - Brittany, M2RI Master Program, PAP Module, France.
Doctorate: MapReduce processing, 2 hours (lectures), SCALUS Spring School on Distributed Data Management held in Barcelona, Spain, February 2011.

Luc Bougé:

Licence (Magistère): Introduction to programming, 36 hours, level L3, Magistère of Informatics and Telecommunication (MIT), ENS Cachan/Rennes, France
Licence (Magistère): Object-oriented programming in Java, 18 hours, level L3, Magistère of Informatics and Telecommunication (MIT), ENS Cachan/Rennes, France
Licence (Magistère): Introduction to research, 18 hours, L3, Magistère of Informatics and Telecommunication (MIT), ENS Cachan/Rennes, France
Master (Magistère): Object-oriented programming in C++, 36 hours, level M1, Magistère of Mathematics and Applications, ENS Cachan/Rennes, France

9.5.2. HDR and PhD theses supervision

PhD: Alexandra Carpen-Amarie, BlobSeer as a data-storage facility for Clouds: self-adaptation, integration, evaluation, ENS Cachan/Rennes, defended on December 15, 2011, supervisors: Luc Bougé (30 %) and Gabriel Antoniu (70 %). Repository: [ 7 ].
PhD: Diana Moise, Optimizing data management for MapReduce applications on large-scale distributed infrastructures, ENS Cachan/Rennes, defended on December 16, 2011, supervisors: Luc Bougé (30 %) and Gabriel Antoniu (70 %). Repository: [ 8 ].
PhD in progress: Viet-Trung Tran, Scalable array-oriented active storage, ENS Cachan/Rennes, started October 2009, supervisors: Luc Bougé (30 %) and Gabriel Antoniu (70 %).
PhD in progress: Houssem-Eddine Chihoub, Storage architecture and adaptive consistency for clouds, ENS Cachan/Rennes, started October 2010, supervisors: Gabriel Antoniu (70 %) and Mariá Pérez (Universidad Politecnica de Madrid, 30 %).
PhD in progress: Bunjamin Memishi, Fault-Tolerance in Scalable File Systems, Universidad Politecnica de Madrid, started October 2010, supervisors: Gabriel Antoniu (30 %) and Mariá Pérez (Universidad Politecnica de Madrid, 70 %).
PhD in progress: Radu Tudoran, AzureBrain: Perform genetic and neuroimaging data analysis in Azure clouds, ENS Cachan/Rennes, Started October 2011, supervisors: Luc Bougé (30 %) and Gabriel Antoniu (70 %).
PhD in progress: Matthieu Dorier, Scalable I/O and visualization for post-petascale HPC simulations, ENS Cachan/Rennes, started October 2011, supervisors: Luc Bougé (30 %) and Gabriel Antoniu (70 %).
MYRIADS Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Leadership, Steering Committees and community service

Ch. Morin served as the scientific chair of the first Contrail summer school held in Presqu’île de Giens, France from June 27 to July 1st, 2011 (http://contrail-project.eu/summerschool-2011).

N. Parlavantzas was a member of the Organizing Committee of RenPar’20 conference.

J.-L. Pazat served as the Chair of the Organizing Committee of the RenPar, CFSE and Sympa federated conference series. He is the chairman of the Steering Committee of RenPar (http://www.renpar.org).

Th. Priol is a member of the Editorial Board of the *International Journal of Intelligent Engineering Informatics* and of the *International Journal of Web Services Research*. He is program vice-chair for ICPP 2012, in charge of the topic “Programming Models, Languages and Environments”. He is the Chairman of the ServiceWave Steering Committee.

C. Tedeschi coordinated the organization of the RenPar’20/SympA’14/CFSE 8 joint French-speaking conferences held in Saint-Malo, France, in May 2011.

9.1.2. Program Committees


N. Parlavantzas served in the Program Committees of RTOAA 2011 and INFOCOMP 2011 international conferences.


C. Tedeschi is a member of the Program Committees of ICCS 2011, ICCS 2012, AINA 2012 and Closer 2012 international conferences, and was the PC chair of RenPar’20 french-speaking conference.

9.1.3. Evaluation committees, consulting

J.-P. Banâtre is the INRIA representative in the Contrail General Assembly.

Ch. Morin has served as a member for a selection committee of Lille 1 University and of Ensimag, Grenoble to appoint an assistant Professor in Computer Science. She acted as a referee for the HDR Committee of Jean-Marc Menaud (Ecole des Mines de Nantes), Eric Renault (University of Paris 6) and was a member of the HDR Committee of Laurent Réveillère (University of Bordeaux 1) and as a member for the PhD Committee of Anne-Cécile Orgerie (ENS Lyon). She was a member of the selection committee for the PES (scientific excellence award) for junior and senior researchers at INRIA. She was a member of the IRISA selection committee for the PhD grants. She acted as an expert to review proposals for the French Research Agency (ANR). She acted as expert to review a proposal for a CIFRE PhD grant for the ANRT. She is a member of the cloud computing expert group in the Software & Service Architectures and Infrastructures unit of the European Commission.

Th. Priol acts as an expert to review FP7 proposals and projects for the European Commission. He is member of the Scientific Advisory Board for the Contrail and VENUS-C FP7 projects. He was also member of the AERES panel of experts to evaluate Institut Télécom.
9.1.4. Conferences, seminars, invitations


S. Costache gave a talk entitled "Virtualization Techniques for Optimal Execution of Applications under Time Constraints", at the PhD Student Day at EDF R&D, Paris, France, November 2011. She gave a seminar entitled "An Economic Approach for Application QoS Management in Clouds" at ORNL and Tennessee Technical University in the framework of the SER-OS associated team, December 2011.

D. Dib gave a talk entitled "Adaptation dynamique des fonctionnalités d’un système d’exploitation large échelle" at the Adapt workshop, Saint-Malo, May 2010.


H. Fernandez gave a talk on "Chemically-inspired Workflow Management Systems", at the Vrije University Amsterdam (VUA) on November 17, 2011 during his visit at VUA in the context of the S-Cube Project.

Y. Jégou gave a talk entitled "Open Computing Infrastructures for Elastic Services: Contrail Approach" at the 2nd WoSS Workshop in Timisoara, Romania in June 2011. He gave a lecture on XTREEMOS at the first Contrail summer school on Grid and Cloud computing held in Presqu’île de Giens, France in June 2011. He presented the exploitation of the OFV application format in Contrail at the Open World Forum meeting, Paris in September 2011. He gave a talk entitled "Contrail Cloud Federations" at the OCCI working-group meeting, Lyon in September 2011. He presented XTREEMOS system and Contrail project at SC’11, Seattle, USA (November 2011).


Ch. Morin gave a talk entitled "From Grids to Federated Clouds: Virtualization of Large-scale Distributed Computing Infrastructures" at a workshop organized for the third anniversary of the INRIA - Alcatel Lucent Bell Labs joint laboratory, Rocquencourt, France, in January 2011. She presented a talk entitled "Le centre INRIA Rennes : un acteur européen dans le domaine des grilles et des clouds" at the AERES evaluation of the INRIA Rennes Bretagne Atlantique research center in February 2011. She was invited to give a seminar entitled "Building Large Scale Dynamic Computing Infrastructures over Clouds" at UC Berkeley and at the Lawrence Berkeley National Laboratory, Berkeley, USA in May 2011. She gave an invited talk entitled "Open Computing Infrastructures for Elastic Services: Contrail Approach" at the 5th international workshop on Virtualization Technologies in Distributed Computing (VTDC), co-located with HPDC 2011, San Jose, USA, June 2011. She gave a talk entitled "Introduction to Contrail school & Contrail FP7 project" at the first Contrail summer school on Grid and Cloud computing held in Presqu’île de Giens, France in June 2011. She gave a talk entitled "Open Computing Infrastructures for Elastic Services: The Contrail European Project Approach" at the Advanced Computing for Science department seminar at Lawrence
Berkeley National Laboratory, Berkeley, USA, in November 2011. She presented Contrail project at SC’11, Seattle, USA (November 2011).

Yann Radenac gave a talk entitled "XtreemOS and COOP: concepts, use cases and limits" at the COOP bi-annual project meeting, Rennes, France, April 2011.


9.1.5. Administrative Responsibilities

C. Morin is a member of the Project-Team Committee of INRIA - Rennes Bretagne Atlantique (Comité des projets).

Jean-Louis Pazat is the leader of the “Large Scale Systems” department of IRISA. He is member of the Steering committee (conseil d’administration) of Insa Rennes. He is a member of the Computer Science Department committee and member of the IRISA-INSA Lab committe. He is the local coordinator for the international exchange of students at the computer science department of Insa.

T. Priol is Scientific Deputy Director at INRIA, responsible for monitoring all research, development, transfer and partnership activities in the thematic areas of Networks and Telecommunication, Distributed and High Performance Computing, Distributed Systems and Services. He was the Research Director of EIT ICT Labs till October 2011.

P. Riteau was elected member of the INRIA Rennes - Bretagne Atlantique Center Council (Comité de Centre).

C. Tedeschi was elected as a member of the administration council of the EECS departement of the University of Rennes 1.


Piyush Harsh animates the Interoperability Working Group created on the OpenNebula ecosystem by INRIA and UCM.

Christine Morin participated in the "A la découverte de la recherche" action presenting her researcher profession to a class at lycée Jean Macé (high school) in Rennes, France (March 2011).

9.2. Teaching

Christine Morin is responsible for a graduate teaching Module Distributed Systems: from networks to Grids of the Master Program in Computer Science, UNIVERSITY RENNES 1.
Christine Morin:

- Master : Grid Computing (as part of the Distributed Systems: from networks to Grids teaching unit), 6.5 ETD, M2RI, University of Rennes 1, France
- Master : Cluster single system image operating systems, 4.5 ETD, M2, Institut Telecom Sud Paris, France
- Master : Energy management in computing infrastructures (as part of the Eco-STIC module), 4.5 ETD, M1, Supelec, France
- Master : XtremOS in the Clouds, 2 ETD, M1, University of Westminster, UK.

Nikos Parlavantzas (at INSA Rennes):

- 4th year: Operating Systems (40 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):

- 4th year: Advanced Operating Systems (31 hours ETD)
- 4th year: Parallel Programming (39 hours ETD)
- 4th year: Networking and SOA (39 hours ETD)
- 4th year: Software development project (60 hours ETD)

Cédric Tedeschi (at the University of Rennes 1):

- Licence 3: Organization of Operating System (77 hours ETD)
- Licence 3: Algorithmic methods (22 hours ETD)
- Master 1: Multitask Operating Systems (65 hours ETD)
- Master 2: Muti-users systems (50 hours ETD)
- Master 2: Internet of Services (6 hours ETD)

PhD & HdR:

- PhD : Jérôme Gallard, Flexible Management of Distributed Computing Infrastructures, University of Rennes 1, May 6, 2011, Christine Morin
- PhD : Mohamed Zouari, Software architecture for dynamic adaptation; application to data replication, University of Rennes 1, June 28, 2011, Françoise André, Mayte Segarra-Montesinos
- PhD : Pierre Riteau, Dynamic Execution Platforms over Federated Clouds, University of Rennes 1, December 2, 2011, Thierry Priol, Christine Morin
- PhD in progress : Eugen Feller, Energy aware resource management in IaaS clouds, December 2009, Christine Morin
- PhD in progress : Djawida Dib, Dynamic adaptation in distributed systems, October 2010, Christine Morin, Nikos Parlavantzas
- PhD in progress : Stefania Costache, An economical approach for resource management in private clouds, May 2010, Christine Morin, Nikos Parlavantzas
PhD in progress: Erwan Daubert, Environmental adaptation of services in large scale distributed architectures, October 2009, Françoise André, Jean-Louis Pazat, Olivier Barais (Triskell)

PhD in progress: Guillaume Gauvrit, Distributed Dynamic Adaptation of SBAs, October 2008, Françoise André, Jean-Louis Pazat

PhD in progress: André Lage, Dynamic Adaptation of Services on Distributed Infrastructures, October 2008, Nikos Parlavantzas, Jean-Louis Pazat

PhD in progress: Chen Wang, Using Chemical Metaphor to Express Workflow and Service Orchestration October 2009, Jean-Louis Pazat

PhD in progress: Héctor Fernández, Chemistry-inspired Workflow Management for Autonomic Service Composition, April 2009, Thierry Priol, Cédric Tedeschi

PhD in progress: Marco Obrovac, Large Scale Runtime of the Chemical Programming Model for Service Orchestration, January 2010, Thierry Priol, Cédric Tedeschi
TRISKELL Project-Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Journals

9.1.1.1. Jean-Marc Jézéquel

is an Associate Editor of the following journals:

- IEEE Computer
- Journal on Software and System Modeling: SoSyM
- Journal of Systems and Software: JSS
- Journal of Object Technology: JOT

9.1.2. Examination Committees

9.1.2.1. Jean-Marc Jézéquel

was in the examination committee of the following PhD thesis and “Habilitation Diriger les Recherches”:

- Pierre Duquesne, January 2011, Université de Rennes 1 (president);
- Mariano Belaunde, January 2011, Université de Rennes 1 (adviser);
- Benoît Caillaud (HDR), March 2011, Université de Rennes 1 (president);
- Jannik Laval, June 2011, Université de Lille 1 (referee);
- Mathieu Acher, September 2011, Université de Nice (referee);
- Yves Le Gloahec, October 2011, Université de Bretagne Sud (referee);
- Hakim Hannousse, November 2011, Ecole des Mines de Nantes (member);
- Stéphane Lecomte, November 2011, Université de Rennes 1 (president);
- Grégory Nain, December 2011, Université de Rennes 1 (adviser);
- Maha Driss, December 2011, Université de Rennes 1 (adviser), co-tutelle with Tunisia;
- Mickael Clavreul, December 2011, Université de Rennes 1 (adviser);

9.1.2.2. Benoît Baudry

was in the examination committee of the following PhD thesis:

- Xavier Dumas, March 2011, Telecom Bretagne (member)
- Hakim Belhaouari, September 2011, Université de Pau et Pays de l’Adour (referee)
- Bastien Amar, October 2011, Université Paul Sabatier (referee)
- Ha Nguyen, October 2011, Université de Nantes (referee)
- Vincent Aranega, November 2011, Université de Lille 1 (referee)

9.1.2.3. Olivier Barais

was in the examination committee of the following PhD thesis

- Grégory Nain, December 2011, Université de Rennes 1 (co-adviser)
- Mickael Clavreul, December 2011, Université de Rennes 1 (co-adviser)
9.1.3. Conferences

9.1.3.1. Jean-Marc Jézéquel

has been a member of the program committee of the following conferences:

- ECOOP 2011, Lancaster, UK, 25th - 29th July 2011
- VaMoS 2011 Namur, Belgium, 24th - 26th January 2011

9.1.3.2. Benoit Baudry

has been a member of the program committee of the following conferences:

- MODELS 2011 The 14th International Conference on Model Driven Engineering Languages and Systems Wellington, NZ, October 2011
- IEEE ICST’11 The 4th International Conference on Software Testing Verification and Validation, Berlin, Germany, March 2011
- SC’11, International Conference on Software Composition, Zurich, CH, June 2011
- TAP’11, 5th International Conference on Tests & Proofs, Zurich, CH, June 2011
- AGTIVE’11, Applications of Graph Transformation With Industrial Relevance, Budapest, Hungary, October 2011
- AST workshop on Automated Software Testing, at ICSE’11, Honolulu, USA, May 2011
- MoDeVVa 2011, 8th international workshop on Model design and Validation at MODELS’10, Wellington, NZ, October 2011
- Mutation’11 workshop at ICST’11, Berlin, Germany, March 2011
- CSTVA’11 workshop at ICST’11, Berlin, Germany, March 2011
- Revvert’11 workshop at ICST’11, Berlin, Germany, March 2011
- SEKE’11, International Conference on Software Engineering and Knowledge Engineering, Miami, USA, July 2011

9.1.3.3. Olivier Barais

has been a member of the program committee of the following conferences:

- The 37th EUROMICRO Conference on Software Engineering and Advanced Applications SEAA2011, August 30 to September 2, 2011, Oulu, Finland
- 4nd Workshop on Context-aware Adaptation Mechanisms for Pervasive and Ubiquitous Services, (CAMPUS’11), 9th June 2011, Reykjavik, Iceland

9.1.3.4. Noël Plouzeau

has been a member of the program committee of the following conferences and workshops:

- Component Based Software Engineering (CBSE), july 2011.

9.1.3.5. Benoit Combemale

has been a member of the program committee of the following conferences and workshops:

- The Eighteenth Asia-Pacific Software Engineering Conference (APSEC 2011)
- The Industry Track of Software Language Engineering (ITSLE 2011)
- The Seventh European Conference on Modelling Foundations and Applications (ECMFA 2011)
- The Seventh Educators’ Symposium @ MODELS 2011
- 7ièmes Journées sur l’Ingénierie Dirigée par les Modèles (IDM 2011)
- The MDE track of INFORSID 2011.
9.1.3.6. Gerson Sunyé

has been a member of the program committee of the following conference:

- The 23rd International Conference on Software Engineering and Knowledge Engineering (SEKE 2011).

9.1.3.7. Johann Bourcier

has been a member of the program committee of the following workshop:

- The Workshop on Software Product Line Development in Dynamic Adaptive Environments at ECOOP 2011

9.1.4. Workshops, Tutorials and Keynotes

J.-M. Jézéquel gave an invited talk on Hyper-agility of Human-Computer Interactions at IHM 2011 (Conférence Francophone sur l’Interaction Homme-Machine), on Hyper-agility of SOA at the Dagstuhl seminar on Models at runtime, and an invited seminar at the University of Luxembourg.

Benoit Combemale gave two invited talks on Model Typing for Model Transformation Reuse and Model Validation & Verification at King’s College London. He was invited to participate at the 2011 Bellairs CAMPaM (Computer Automated Multi-Paradigm Modelling) workshop (a workshop taking the Dagstuhl seminar format).

Benoit Baudry gave a keynote on mutation analysis from objects to the cloud at the Mutation workshop associated with ICST’2011. He also gave an invited talk at King’s College London on Model Validation & Verification and at Université de Luxembourg on search-based software engineering for adaptive systems.

9.2. Miscellaneous

- J.-M. Jézéquel is Deputy Director of MATISSE Doctoral School. He is head of the Language and Software Engineering Department at Irisa. He is appointed to the board of the Committee of Projects of INRIA Rennes, and to the executive board of the Labex CominLabs. He is a member of the Steering Committee of the AOSD Conference series. He is a member of the Scientific Committee of the GDR GPL of CNRS. He belongs to the evaluation committee of the SIO division of DGA (Direction Générale de l’Armement). He is a Member of the Architecture Board of the MDDi Eclipse project. He participated to the creation of IFIP WG 10.2 on Embedded Systems. He is a member of the Advisory Board of the NSF REMODD Project (Repository for Model Driven Development).

- Benoit Baudry is on the steering committee of the IEEE International Conference on Software Testing Verification and Validation. He has been the local organizing chair for AOSD’10.

9.3. Teaching

The Triskell 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, Benoit Combemale, Johann Bourcier and Arnaud Blouin teaches about 200h in these domains, with Benoit Baudry teaching about 50h, for a grand total of about 1400 hours, including several courses at ENSTB, Supelec and ENSAI Rennes.

Olivier Barais is the overall responsible for the Master2 Pro in Computer Science at the University of Rennes. Benoit Combemale has published and presented an article on teaching MDE at the 7th international Educators’ Symposium at MODELS 2011 (the international symposium about software modeling in education) [43]. In this work, we report our experience on the dissemination in education of the research results in MDE. Benoit Combemale will be also co-chair of the 8th Educators’ Symposium at MODELS 2012.
Jean-Marc Jézéquel, Benoit Combemale, and Didier Vojtisek have disseminated from research to teaching their experience in MDE by writing a book in French published by Ellipses [48].

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

PhD & HdR:

PhD: Mickael Clavreul, Composition of models and meta-models: Separation of correspondences and interpretations for unifying existing model composition approaches, Université Rennes1, 12/05/11, J.-M. Jézéquel and Olivier Barais [13]

PhD: Maha Driss, Approche multi-perspective centrée exigences de composition de services Web, Université Rennes1 and Université de Sfax, 12/08/11, J.-M. Jézéquel [14]

PhD: Grégory Nain, EnTiMid: a component model to integrate smart devices in service based applications, Université Rennes1, 12/07/11, J.-M. Jézéquel and Olivier Barais [15]

PhD: Mariano Belaunde, Le Développement Agile de Services de Télécommunication Intégrés via des techniques d’ingénierie des modèles, Université Rennes1, 20/01/11, J.-M. Jézéquel [12]

PhD in progress: Olivier Bendavid, Security for Future Internet, October 2010, Benoit Baudry and J.-M. Jézéquel

PhD in progress: Slim Benhassem, Dynamic adaptation of multimodal interactions in the context of ubiquitous environments, December 2008, J.-M. Jézéquel and Arnaud Blouin

PhD in progress: Juan-Jose Cadavid Gomez, Assisting Metamodeling with Search Based Techniques, 10/02/09, Benoit Baudry and J.-M. Jézéquel

PhD in progress: Stephen Creff, Une variabilité multidimensionnelle pour une évolution incrémentale des lignes de produits dirigées par les Modèles, May 2009, J.-M. Jézéquel

PhD in progress: Erwan Daubert, Adaptation environnementale de services sur des plates-formes distribuées large échelle, November 2009, Olivier Barais

PhD in progress: Joao Bosco Ferreira-Filho, Variability Management in Model-driven Software and System Engineering, October 2011, Benoit Baudry and Olivier Barais

PhD in progress: François Fouquet, Un modèle pour les systèmes distribués dynamiquement adaptables, October 2009, J.-M. Jézéquel and Noël Plouzeau

PhD in progress: Clément Guy, Generic Definition of Domain Specific Analysis using Model-Driven Engineering (MDE), October 2010, J.-M. Jézéquel and Benoit Combemale

PhD in progress: Aymeric Hervieu, Génération de test sur les lignes de produits logicielles, October 2010, Benoit Baudry

PhD in progress: Paul Istoan, Methodology for the derivation of product behavior in a Software Product Line, November 2009, J.-M. Jézéquel

PhD in progress: Tam Le Nhan, Model-Driven Software Engineering for Cloud Computing, October 2010, J.-M. Jézéquel and Gerson Sunyé

PhD in progress: Jonathan Marchand, Engineering Semantics in Modeling Languages, October 2011, Benoit Baudry and Benoit Combemale

PhD in progress: Antonio Mattos, Synthesis of Service-oriented Architectures by Model Transformation, December 2011, Noël Plouzeau and Olivier Barais


PhD in progress: Suresh Pillay, Validating Web Service Composition, October 2011, Benoit Baudry and Benoit Combemale

PhD in progress: Julien Richard-Foy, A DSL Factory for Modular Web Components, October 2011, J.-M. Jézéquel and Olivier Barais

PhD in progress: Hamza Samih, *Extension du model-based testing pour la prise en compte de la variabilité et la sécurité dans les systèmes complexes*, November 2011, Benoit Baudry

PhD in progress: Nicolas Sannier, *Ingénierie des modèles pour la gestion des référentiels d’exigences de sûreté pour les systèmes de contrôle-commande*, October 2010, Benoit Baudry
9. Dissemination

9.1. Animation of the scientific community

9.1.1. Journal editorial board

- Revue I3 (M.-O. Cordier).

9.1.2. Conference program committees and organizations

- Program committee member RFIA’2012 (M.-O. Cordier and T. Guyet).
- President of the organization committee of JIGOT 2011 (T. Guyet).
- Program committee member EGC 2011 (R. Quiniou).

9.1.3. Scientific and administrative boards

- ECCAI fellow + Honoric member of AFIA (Association Française d’Intelligence Artifiicielle): M.-O. Cordier
- Member of the AFIA board: T. Guyet.
- Member of “Agrocampus-Ouest” scientific board: M.-O. Cordier.
- Member of “Conseil d’administration de l’ISTIC”, “Comité scientifique de l’ISTIC”, “Direction scientifique de l’Irisa”: M.-O. Cordier
- Member of the selection committee for the “Prix de thèse AFIA 2011” (selecting 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 COREGE (Research Committee-COmité de la REcherche du Grand Etablissement) of Agrocampus-Ouest: T. Guyet.
- External evaluator for the portuguese FCT (Portuguese Foundation For Science and Technology): T. Guyet.

9.2. Teaching

Many members of the DREAM team 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: Module OCI : Interfaces graphiques en C++/GTKMM, M2, ISTIC University of Rennes (T. Guyet).
Master: Géoinformation, M2, Agrocampus Ouest Rennes (L. Bonneau, T. Guyet, K. Sedki)

PhD in progress: Tassadit Bouadi, “Analyse interactive de résultats de simulation et découverte de connaissances. Application à l’aide à la décision dans le domaine agroécologique pour l’amélioration de la qualité des eaux des bassins versants”, January 1st 2010, co-supervisors Marie-Odile Cordier, René Quiniou and Chantal Gascuel, ANR project Acassya grant

PhD in progress: 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.”, October 1st 2010, supervisor Marie-Odile Cordier and Chantal Gascuel

PhD in progress: Philippe Rannou², “Modèle rationnel pour humanoïdes virtuels”, October 1st 2010, co-supervisors Marie-Odile Cordier and Fabrice Lamarche

²Philippe Rannou is not a member of DREAM but a member of the IRISA research group MIMETIC
LAGADIC Project-Team

9. Dissemination

9.1. Animation of the scientific community

- Editorial boards of journals
  - Eric Marchand is Associate Editor of the IEEE Trans. on Robotics
  - François Chaumette is in the Editorial Board of the Int. Journal of Robotics Research. He is also Associate Editor of the Int. Journal of Optomechatronics.

- Technical program committees of conferences
  - François Chaumette: ICRA’11, IROS’11, ICRA’12.
  - Eric Marchand: CVPR’11, Orasis’11, IROS’11, RFIA’12, ICRA’12
  - Alexandre Krupa: Orasis’11

- Selection committees
  - François Chaumette was in the selection committee for a Professor position at Ecole Centrale de Nantes, for an Assistant Prof. position at University of Cergy-Pontoise (“Chaire CNRS”), and for an Assistant Prof. position at University of Amiens.
  - Eric Marchand was in the selection committee for an Assistant Prof. position at Insa Lyon (“Chaire CNRS”), and for an Assistant Prof. position at Université de Rennes 1.

- Ph.D. and HdR jury
  - François Chaumette: Hector Becerra (Ph.D., reviewer, University of Zaragosa, Spain), Paolo Salaris (Ph.D., University of Pisa, Italy), Felipe Belo (Ph.D., University of Pisa, Italy), Viviane Cadenat (HdR, Laas, reviewer)

- François Chaumette is a member of the Scientific Council of the GdR on Robotics.
- Eric Marchand was elected in the board of the “Images et réseaux” cluster.
- Eric Marchand was elected in the scientic commission of the École supérieure d’ingénieurs de Rennes.
- Alexandre Krupa is a member of the Inria Cost-GTAI in charge of the evaluation of the ARC and ADT from October 2011.
- François Chaumette is a member of the executive board of the project committee of Inria Rennes-Bretagne Atlantique.
- François Chaumette is a member of the animation committee of Inria’s thematic domain “Perception, cognition, interaction”.
- Fabien Spindler is a member of the “Comité de centre” and of the “Commission développement durable” of Inria Rennes-Bretagne Atlantique.
- Alexandre Krupa is a member of the CUMIR of Inria Rennes-Bretagne Atlantique (Comission des Utilisateurs des Moyens Informatiques).

9.2. Teaching

François Chaumette:

Master ESIR3: “Visual servoing”, 10 hours, M2, Ecole supérieure d’ingénieurs de Rennes
Master Erasmus Mundus : “Visual servoing”, 3 hours, M2, Ecole Centrale de Nantes
5th IEEE Latin American Summer School on Robotics: “Visual servoing”, 3 hours, M2, Universidad de Chile, Santiago.
Alexandre Krupa:
  Master SIBM (Signals and Images in Biology and Medicine): “Medical robotics guided from images”, 3 hours, M2, Université de Rennes 1, Brest and Angers

Eric Marchand:
  Master ESIR2: “Colorimetry”, 24 hours, M1, Ecole supérieure d’ingénieurs de Rennes
  Master ESIR2: “Computer vision”, 24 hours, M1, Ecole supérieure d’ingénieurs de Rennes
  Master ESIR3: “Special effects”, 24 hours, M2, Ecole supérieure d’ingénieurs de Rennes
  Master ESIR3: “Computer vision: geometry”, 24 hours, M2, Ecole supérieure d’ingénieurs de Rennes
  Master ESIR3: “Computer vision: tracking and recognition”, 24 hours, M2, Ecole supérieure d’ingénieurs de Rennes
  Master Erasmus Mundus : “computer vision”, 12 hours, M1, Ecole Centrale de Nantes

PhD & HdR:
  Ph.D. in progress: Tao Li, “Commande d’un robot de télé-échographie par asservissement visuel échographique”, started in October 2009, supervised by Alexandre Krupa
  Ph.D. in progress: Laurent Coutard, “Appontage pas asservissement visuel”, started in November 2009, supervised by François Chaumette
  Ph.D. in progress: Pierre Martin, “Augmented reality on smartphones”, started in February 2010, supervised by Eric Marchand
  Ph.D. in progress: Antoine Petit, “3D model-based tracking of complex object in a spatial context”, started in December 2011, supervised by Eric Marchand
  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: Bertrand Delabarre, “An information theoretic approach for navigation in robotics”, started in October 2011, supervised by Eric Marchand
METISSL Project-Team

9. Dissemination

9.1. Animation of the scientific community

Frédéric Bimbot is the Head of the "Digital Signals and Images, Robotics" in IRISA (UMR 6074).
Frédéric Bimbot has been appointed in the Comité National de la Recherche Scientifique - Section 07.
As the General Chairman of the Interspeech 2013 Conference in Lyon (1200 participants expected), Frédéric Bimbot chairs the Steering and Organisation Committees of the conference.
Frédéric Bimbot is the Scientific Leader of the Audio Processing Technology Domain in the QUAERO Project.
Rémi Gribonval was a plenary speaker at the international conference SPARS’11 on Signal Processing with Adaptive/Structured Representations.
Rémi Gribonval is the organizer, together with Francis Bach, Mike Davies and Guillaume Obozinski, of a NIPS 2011 workshop on sparse representations, Granada, Spain, December 16, 2011.
Rémi Gribonval is in charge of the Action "Parcimonie" within the French GDR ISIS on Signal & Image Processing.
Rémi Gribonval and Emmanuel Vincent are associate editors of the special issue on Latent Variable Analysis and Signal Separation of the Journal Signal Processing published by Elsevier.
Rémi Gribonval and Emmanuel Vincent are members of the International Steering Committee for the ICA conferences.
Emmanuel Vincent is an Associate Editor for the IEEE Transactions on Audio, Speech, and Language Processing (2011–2014).
Emmanuel Vincent is a Guest Editor of the special issue on Speech Separation and Recognition in Multisource Environments of the journal Computer Speech and Language published by Elsevier.
Emmanuel Vincent was elected a member of the IEEE Technical Committee on Audio and Acoustic Signal Processing (2012–2014).
Emmanuel Vincent was a General Chair of the PASCAL 'CHiME' Speech Separation and Recognition Challenge and the 1st International Workshop on Computational Hearing in Multisource Environments, held in Florence on September 1, 2011, as a satellite event of Interspeech 2011.
Emmanuel Vincent is part of the organizing committee of the third community-based Signal Separation Evaluation Campaign (SiSEC 2011), whose first edition had been initiated by Metiss. The results of the campaign will be presented during a panel session at the 10th Int. Conf. on Latent Variable Analysis and Signal Separation (LVA/ICA 2012). Datasets, evaluation criteria and reference software are available at http://sisec.wiki.irisa.fr/.
Emmanuel Vincent was nominated a titular member of the National Council of Universities (CNU section 61, 2012–2015).
Nancy Bertin and Frédéric Bimbot designed and animated a scientific stand (opened during 10 weeks) on speaker recognition at the "Palais de la Découverte", Paris, in the context of the programme "un chercheur, une manip".

9.2. Teaching

Rémi Gribonval gave a series of tutorial lectures on sparse decompositions and compressed sensing at the Machine Learning Summer School MLSS’11.
Rémi Gribonval gave lectures about sparse representations for inverse problems in signal and image processing
for a total of 10 hours as part of the SISEA Masters in Signal & Image Processing, University of Rennes I.
Rémi Gribonval was the coordinator of the ARD module of the Masters in Computer Science, Rennes I.
Rémi Gribonval gave lectures about signal and image representations, time-frequency and time-scale analysis,
filtering and deconvolution for a total of 8 hours as part of the ARD module of the Masters in Computer
Science, Rennes I.
Emmanuel Vincent gave lectures about audio rendering, coding and source separation for a total of 6 hours as
part of the CTR module of the Masters in Computer Science, Rennes I.
Emmanuel Vincent taught general tools for signal compression and speech compression for 10 hours within
the DT SIC RTL course at the Ecole Supérieure d’Applications des Transmissions (ESAT, Rennes).
Emmanuel Vincent gave a tutorial on Music Source Separation at DAFx 2011 (14th Int. Conf. on Digital
Nancy Bertin gave 6 hours of lecture in speech and audio description within the FAV module of the Masters
in Computer Science, Rennes I.
MIMETIC Team

9. Dissemination

9.1. Animation of the scientific community

9.1.1. Scientific Community Animation

- F. Multon: **Leader** of the Mimetic research team
- F. Multon: **Member** of the European Society of Biomechanics, the ACM association, the IEEE association, the Computer Society association, the Eurographics association, the European Society of Biomechanics, the French "Societe de Biomecanique", the French "Association Francaise de Realite Virtuelle". **Reviewer** of Journal of Biomechanics, CASA internation conference, Computer Methods in Biomedical Engineering journal, Computer & Graphics journal, Eurographics 2011, IEEE International Symposium on Robot and Human Interactive Communication conference, IEEE TVCG journal. **Program Committee member** of ACM SIGGRAPH Asia (Sketches and posters), Motion in Games Conference MIG2011, SKILLS conference, **Scientific expert** for "Pole Productique de Bretagne", and Auteo association, in ergonomics, **Guest editor** of Presence - Mit Press, VR & Sports special issue: Benoit Bideau, Richard Kulpa, Franck Multon, **Program chair** of Simulation of Sports Motion co-located with CASA2011, **Session chairman** of "Modélisation musculo-squelettique" in ACAPS'2011 conference and "Analyses Biomécanique de la performance motrice" in ACAPS'2011.


- F. Lamarche: **Reviewer** for Computer Animation and Virtual Worlds. **PhD Committee** of Hakim Soussi.


- A. Crétual: **Reviewer** of Medical & Biological Engineering & Computing, Journal of Electromyography and Kinesiology, **Editorial Board** of Journal of Electromyography and Kinesiology, **PhD Committee** of Caroline Moreau

9.1.2. Courses in Universities

- M. Christie: User interaction (U. of Nantes), Programming on tactile surfaces and Android (U. of Nantes)
- R. Kulpa: Biomechanics and scientific programming, University Rennes 2, Computer Animation IUT Bordeaux 1.
• F. Lamarche: Computer Animation ESIR IN, AI for Video Games ESIR IN, Real Time Rendering and Computer Animation MASTER GL, IFSIC - MIT, ENS CACHAN/RENNES.

• F. Multon: Master of Computer Science Ifsic : Image and Motion; MASTER OF PHYSICAL EXERCISE University Rennes2

• A. Crétual: Master course on Sports or pathological Gesture analysis, Univ. Rennes 2
9. Dissemination

9.1. Animation of the scientific community

- C. Guillemot is associate editor of the Eurasip International Journal on Image Communication.
- C. Guillemot is member of the award committee of the Eurasip Image communication journal.
- 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 has been a member of the technical program committees of the international conferences IEEE-MMSP 2011, EUSIPCO 2011, and of the International Workshop on Acoustics and Video Coding and Communication, held jointly with IEEE-ICME 2011, Barcelona.
- C. Guillemot is member of the << commission personnels >> in charge of the postdoc recruitments.
- C. Labit is member of the GRETSA association board.
- C. Labit is president of the Rennes-Atalante Science Park and of the start-up incubator Emergys.
- C. Labit is member of the GRETSI association board.
- O. Le Meur has been member of the technical program committee of the international workshop on << Multimedia Quality of Experience: Modeling, Evaluation, and Directions >>, held in conjunction with the IEEE Int. Symp. on Multimedia (ISM2011, http://ism.eecs.uci.edu/ ).
- A. Roumy has been a member of the technical program committee of the international conference EUSIPCO 2011.

9.2. Standardization and Patents

- Submission of an Internet-draft to the IETF/Reliable Multicast Transport (RMT) Working Group: In March 2011, Qualcomm submitted a new FEC scheme to the RMT working group, << Universal Object Delivery (UOD) >> using RaptorQ, that aims at adding Unequal Erasure Protection (UEP) capabilities to their RaptorQ AL-FEC solution. This approach has been analyzed and compared to a new approach, we proposed (Generalized Object Encoding (GOE)), via simulations and modeling. A new Internet-Draft has been presented in July 2011 during the IETF meeting.
- Presentation of several contributions to the ISO/ITU HEVC (High efficiency Video Coding) initiative [44],[45],[49],[46],[48],[47],[43].

9.3. Teaching

- J.J. Fuchs gives the following courses:
  - Master Research 2 SISEA: Optimization and sparse representations
  - Master of Science in Electronics and Telecommunications in the Joint International Program of the University of Rennes 1 and the SouthEast University of China (Nanjing): Advanced Signal Processing in the International
• C. Guillemot gives the following courses:
  – Engineering degree, Enic, Villeneuve-d’Ascq: Video communication (13.5 hours)
  – Master Recherche 2 Informatique (Computer Science), Univ. of Rennes 1: Image and video compression, (12 hours)
  – Master Recherche 2 SISEA, University Rennes 1, Image and video compression, (22 hours)
• L. Guillot gives the following courses:
  – Engineering degree, DIIC, University Rennes 1, Video streaming;
  – Master, Network Engineering, university of Rennes 1;
• O. Le Meur gives the following courses:
  – Engineering degree Diic3-INC, Visual communication, 65 hours, Univ. of Rennes 1, France
  – Engineer degree ESIR2, Image Processing, video analysis and compression, 54 hours, Univ. of Rennes 1, France
  – Master 2 Psychologie de la cognition, Psychologie des processus cognitifs, Mesure et modélisation: Selective visual attention: from experiments to computational models, 9 hours, University of Paris 8
  – Master 2 MITIC: Acquisition/Image Processing/Compression, 15 hours, Univ. of Rennes 1, France
• A. Roumy gives the following courses:
  – Magistère program: Information Theory, Computer science and telecommunications, 9 hours, Ecole Normale Supérieure de Cachan, Ker Lann campus, France
  – Engineering degree, DIIC, Video streaming, 3 hours, Univ. of Rennes 1, France.
  – Master 2 MITIC, Acquisition/Image processing/Compression, 11 hours, Univ. rennes 1.

PhD & HdR:

PhD : Ana Charpentier, Identification de copies de documents multimédia grâce aux codes de Tardos, University of Rennes 1, 21 Oct. 2011, T. Furon and C. Fontaine
PhD : Jonathan Taquet, Techniques avancées pour la compression d’images médicales, University of Rennes 1, 21 Oct. 2011, C. Labit (HDR)
PhD : Mehmet Turkan, New texture synthesis methods: application to image prediction and inpainting, University of Rennes 1, 19 Dec. 2011, C. Guillemot (HDR)

PhD and HDR committees outside the team:

• J.J. Fuchs has been member of the jury of the PhD thesis of:
  – P. Sudhakara Murthy, University of Rennes 1, 21/02/2011
  – S. Yameogo, University of Rennes 1, 30/09/2011
  – Q. Duong, University of Rennes 1, 15/11/2011
• C. Guillemot has been member of the jury of the PhD thesis of:
  – L. Blondé, INSA-University of Rennes 1, 19/01/2011
  – Ho Lee, Liris, University Claude Bernard Lyon 1, 22/06/2011
  – V. Thirumalai, EPFL, Lausanne, 07/12/2011
• C. Labit has been member of the jury of the PhD thesis of:
  – M. Moinard, TelecomParistech, 01/07/2011
• O. Le Meur has been member of the jury of the PhD thesis of:
  – Matia Pizzoli, University of Rome, Nov. 2011.
• A. Roumy has been examiner of the PhD thesis of:
TEXMEX Project-Team

9. Dissemination

9.1. Animation of the scientific community

• Laurent Amsaleg
  – was a program committee member of CIVR 2010;
  – was a program committee member of ACM Multimedia 2011;
  – was a program committee member of ICMR 2011;
  – was a program committee member of MMM 2011;
  – was a program committee member of VLDB 2011 PhD Forum;
  – was a reviewer for IET Information Security;
  – was a reviewer for EURASIP Journal on Advances in Signal Processing;
  – was the publicity chairman of ACM Multimedia 2011;
  – was a member of the “commission de spécialistes, Toulon”;
  – was a member of the “commission de spécialistes, Nantes”.

• Vincent Claveau
  – was a program committee member of WI’11 (International conference on Web Intelligence), Grenoble, France, July 2011;
  – was a program committee member of TALN’11 (17e conférence nationale Traitement automatique des langues naturelles), Montpellier, France, July 2011;
  – was a program committee member of RECITAL’11, Montpellier, France, July 2011;
  – was a program committee member of SIIM, (Symposium sur l’Ingénierie de l’Information Médicale), Toulouse, France, June 2011;
  – was a program committee member of Conférence en Recherche d’Information et Applications, CORIA 2011, Avignon, France, March 2011;
  – is a member of the editorial board of the journal TAL, Traitement Automatique des Langues;
  – was a reviewing committee member for the journal Multimedia Tools and Applications (MTAP).

• Teddy Furon
  – was a program committee member of Information Hiding 2011, Prague, Czech Republic;
  – was a program committee member of CMS 2011, Ghent, Belgium;
  – was a program committee member of ISPA 2011, Dubrovnik, Croatia;
  – was a program committee member of IEEE ICME 2011, Barcelona, Spain;
  – was a program committee member of EUSIPCO 2011, Barcelona, Spain;
  – was a program committee member of IEEE WIFS 2011, Foz do Iguazu, Brazil;
  – was an evaluator for the French ANR, 2011;
  – was an associate editor of EURASIP Journal on Information Security, 2011;
  – was an associate editor of IET Journal of Information security, 2011;
- was a member of the technical committee of IEEE Information Forensics and Security sub-society, 2011.

- Guillaume Gravier
  - was a technical chair of CBMI 2011, Madrid, Spain;
  - was a program committee member of MediaEval 2011;
  - is vice-president of the French Speech Communication Association (AFCP);
  - is the scientific leader of the French ANR project ETAPE targeting an evaluation campaign on speech technologies for multimedia;
  - co-founded in 2011 the Speech and Language in Multimedia (SLIM) Special Interest Group of the Intl. Speech Communication Association (ISCA).

- Patrick Gros
  - was a co-organizer of the International ACM Workshop on Automated Media Analysis and Production for Novel TV Services (AIEMPro 2011) that took place during the ACM International conference on Multimedia in Scottsdale, Arizona, USA, in December 2011;
  - was a program committee member of the ninth International Workshop on Content Based Multimedia Indexing (CBMI) Which was held in Madrid, Spain, France in June 2011;
  - is a member of the steering board of the Content Based Multimedia Indexing (CBMI) workshop series;
  - was a program committee member of RFIA’12, 18ème conférence en Reconnaissance des Formes et Intelligence Artificielle, Lyon, France, January 2012;
  - was a scientific committee member of the “Conférence en Recherche d’Information et Applications (CORIA) 2011 - Avignon, March 2011;
  - was a program committee member of the Second International Conference on Creative Content Technologies CONTENT, Roma, Italy, September 2011.

- Hervé Jégoù
  - was a program committee member of CVPR 2011;
  - was a program committee member of ICCV 2011;
  - was an evaluator for the French ANR, 2011;
  - was an expert for the program “Futur et Rupture” of the Institut Télécom;
  - was reviewer for several journals, in particular for the International Journal of Computer Vision, IEEE Transactions on Pattern Analysis and Machine Intelligence and IEEE Transactions on Multimedia.

- Annie Morin
  - was a vice -president of the CNU, Conseil national des Universités, in Computer Science;
  - was a member of ITI (Information technology Interfaces) 2011 conference.

- François Poulet
  - was a program committee member of VINCI’11, Visual INFORMATION Communications International, Hong-Kong, China, August 2011;
  - was a program committee member of AusDM’11, Australasian Data Mining Conference, Ballarat, Australia, December 2011;
  - was a program committee member of EGC’11, Extraction et Gestion de Connaissances, Brest, France, January 2011;
was a reviewer of ESANN 2001, European Symposium of Artificial Neural Network, Bruges, Belgique, April 2011;
was a reviewer of NeuroComputing;
was a reviewer of EJOR, European Journal of Operational Research;
was co-organizer of the 9th workshop Visualisation et Extraction de Connaissances, (AVEC-EGC’11), Brest, France, January 2011.

Christian Raymond
- is a member of the editorial board of the e-journal "Discours", http://discours.revues.org;
- was a reviewing committee member for the journal CSL, Computer Speech and Language;
- was a reviewing committee member of Interspeech (12th Annual Conference of the International Speech Communication Association), Florence, Italy;
- was a reviewing committee member of ICMLA (The tenth International Conference on Machine Learning and Applications), Honolulu Hawaii, USA.

Pascale Sébillot
- was a member of the program committee of CORIA 2011 (8e conférence en recherche d’information et applications), Avignon, France, March 2011;
- was a member of the program committee of TALN 2011 (18e conférence francophone Traitement automatique des langues naturelles), Montpellier, France, June-July 2011;
- was a member of the program committee of TIA 2011 (9e conférence Terminologie et intelligence artificielle), Paris, France, November 2011;
- is an editorial committee member of the Journal TAL (Traitement automatique des langues; since July 2009);
- was a member of the reading committee of several issues of the Journal TAL (Traitement automatique des langues) in 2011.

Laurent Ughetto
- was a program committee member of the Rencontres Francophones sur la Logique Floue et ses Applications (LFA’11).

9.2. Invited talks and prizes

9.2.1. Invited talks

- Teddy Furon. Talk at GdR ISIS French national day on fingerprinting, July 2011
- Hervé Jégou. Talk at GdR ISIS French national day on fingerprinting, July 2011
- Hervé Jégou. Invited talk at INESC Porto, Portugal, July 2011
- Hervé Jégou, Invited talk at CVUT Pragu at the 29th Pattern Recognition and Computer Vision Colloquium, Czech Republic, October 13th 2011
- Hervé Jégou, Talk at the Trecvid Workshop, Gaithersburg, USA, December 2011

9.2.2. Prizes

- Gwénotlé Lecorvé was awarded the best Ph.D. award of the French Speech Communication Association.
- Hervé Jégou was awarded an Outstanding Reviewer Award at CVPR ’11.
TEXMEX has participated to the Trecvid copy detection task in 2011. This joint submission [61] with LEAR project-team was ranked roughly 3rd out of 21 participants. On the “No-False alarm” profile, our submission was best for 23 of the 56 transformation types for the optimal NDCR measure.

TRECVID semantic indexing task: Hervé Jégou has contributed to the Quaero submission [63], jointly with LIG (main contributor) and Karlsruhe Institute of Technology. This submission was ranked 3rd out of 19 participants.

TEXMEX was ranked first on the diachronic task (identification of writing year of OCR newspapers) at the DEFT evaluation campaign.

9.3. Teaching

9.3.1. Main teaching activities and responsibilities

Laurent Amsaleg: Managing Large Collections of Digital Data, 14h, M2 R, University Rennes 1, France.
Laurent Amsaleg: Advanced Databases, 8h, Master, ENSAI, France.
Vincent Claveau: Symbolic Sequential Data, Master by research in computer science 2nd year (8 students, 7 hours), University of Rennes 1, France.
Vincent Claveau: Multimedia Databases, engineer diploma 3rd year, (14 students, 10 hours), ENSSAT - University of Rennes 1, Lannion, France.
Patrick Gros: coordinates 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, Rennes. He is responsible of the Math workshop of the master (10h).
Camille Guinaudeau: Analysis of audiovisual documents and flows for indexing (7h), Master by research in computer science 2nd year (M2), University of Rennes 1, France.
Annie Morin: Data Analysis L3 MIAGE ISTIC University of Rennes 1 (38 hours, 60 students).
Annie Morin: Short term forecast M1 MIAGE ISTIC University of Rennes 1 (40 hours, 20 students).
Annie Morin: Statistical Data Mining M2 MIAGE ISTIC University of Rennes 1 (38 hours, 20 students).
Annie Morin: Statistical Process control and Reliability M2 Micro Electronics ISTIC University of Rennes 1 (37 hours, 10 students).
Annie Morin: Statistical Process control and Reliability International M2 Telecom and Electronics, South East University, Nanjing, China (40 hours, 15 students).
Ewa Kijak is head of the Image engineering track of ESIR, the engineering formation of University of Rennes 1, France.
Ewa Kijak: Image processing (50h), Image analysis and classification (24h), engineer diploma 2nd year (M1), ESIR - University of Rennes, France.
Ewa Kijak: Computer vision: Image indexing and retrieval (10h), engineer diploma 3rd year (M2), ESIR - University of Rennes, France.
Ewa Kijak: Multimedia Databases (10h), engineer diploma 3rd year (M2), ENSSAT - University of Rennes 1, Lannion, France.
Ewa Kijak and Camille Guinaudeau: Digital Documents Indexing and Retrieval (22h and 10h), Professional Master in Computer Science 2nd year (M2), ISTIC, University of Rennes 1, France.
François Poulet is in charge of the Master in computer science, M2, MITIC, Computer Science Methods and Information and Communication Technologies, ISTIC, University of Rennes 1.
François Poulet: Managing Large Collections of Digital Data. Master by research in computer science, M2, ISTIC, University of Rennes 1, 10h EqTD.
François Poulet: Supervised Learning. Master by research in computer science, M2, ISTIC, University of Rennes 1, 16h EqTD.
François Poulet: Introduction to Data Mining. Professional Master in Computer Science, M2, ISTIC, University of Rennes 1, 15h EqTD.
François Poulet: Mining Symbolic Data. Professional Master in Computer Science, M2, ISTIC, University of Rennes 1, 25h EqTD.
François Poulet: Applications and Problem Solving. Professional Master in Computer Science, M2, ISTIC, University of Rennes 1, 10h EqTD.
François Poulet: Learning Methods for Multimedia Data. Professional Master in Computer Science, M2, ISTIC, University of Rennes 1, 26h EqTD.
François Poulet: Algorithms and Functional Programming. Computer Science Licence, L1, ISTIC, University of Rennes 1, 60h EqTD.
Pascale Sébillot was course co-director of the Research in Computer Science specialism of the Master’s in Computer Science (2nd year), University of Rennes 1, till September 12, 2011.
Pascale Sébillot: Advanced Databases and Modern Information Systems, 69 hours, M2, INSA de Rennes, France.
Pascale Sébillot: Data-Based Knowledge Acquisition 2: Symbolic Methods, 18 hours, M1, INSA de Rennes, France.

9.3.2. PhD

PhD : Romain Tavenard, Indexation de séquences de descripteurs, University Rennes 1, defended July 4th 2011, Laurent Amsaleg & Patrick Gros.
PhD : Camille Guinaliaudeau, Structuration automate de flux télévisuels, INSA de Rennes, defended December 7th, 2011, Guillaume Gravier and Pascale Sébillot.
PhD in progress : Juan David Cruz-Gomez, Algorithque de réseaux socio-sémantiques pour la Visualisation par point de vue de communautés en ligne, since December 2009, Cécile Bothorel (Télécom Bretagne), François Poulet.
PhD in progress : Thanh-Toan Do, Challenging the security of CBIR systems, 2nd year, Laurent Amsaleg, Ewa Kijak, Teddy Furon.
PhD in progress : Thanh-Nghi Doan, Image Classification, since November 2010, François Poulet.
PhD in progress : Khaoala Elagouni, Indexation automatique d’images et de vidéos par reconnaissance automatique de textes incrustés et traitement automatique des langues, October 10th, 2009, Pascale Sébillot, Christophe Garcia (LIRIS, Lyon) and Franck Mamalet (Orange Labs, Rennes).
PhD in progress : Gylfi Gudmundsson, Towards parallel and distributed CBIR systems, 2nd year, Laurent Amsaleg.
PhD in progress : Mihir Jain, Video description and indexing, since February 2011, Hervé Jégou and Patrick Gros.
PhD in progress : Ludivine Kuznik, Structuration et navigation dans des archives documentaires, April 18th, 2011, Guillaume Gravier, Pascale Sébillot and Jean Carrive (INA).
8. Dissemination

8.1. Scientific Community Animation

- B. Arnaldi: Director of IRISA (UMR 6074), Vice-President of Scientific Committee of INSA, Member of the Selection Committee (CSV) of the Competitiveness Cluster "Media and Networks" (http://www.images-et-reseaux.com/) since 2005, Member of the Management Committee of "Méthier action of Rennes 1 University Foundation", Vice-President of AFRV, Responsible of the organization of scientific presentation during the annual days of the association AFRV, Chair of the white ANR SIMI2 committee.

- G. Dumont: Head of Media and Interaction department of IRISA (UMR 6074), Leader of WP9 of VISIONAIR european project [2011-2014], member of its Directory Board and member of its scientific committee, Member of the Selection Committee (CSV) of the Competitiveness Cluster "Media and Networks" (http://www.images-et-reseaux.com/), Member of Executive Board of international Journal IJJDeM. Member of the international scientific committee of ASME WINVR2011, of CASA2011, Reviewer for ASME WINVR2011, CASA2011, Improve2011, Haptics Symposium 2012 and JIMSS, Member of the AFRV, Reviewer for one PhD Defense.

- T. Duval: Member of ACM, AFIHM, AFRV and IEEE, Reviewer for IEEE VR 2011, JVRC 2011 and IJM 2011, Member of the International Program Committee of JVRC 2011.

- V. Gouranton: member of AFRV, reviewer of IEEE Virtual Reality 2011 conference, co-leader of ANR CORVETTE.

- A. Lécuyer: Associate editor of ACM Transactions on Applied Perception, Associate editor of International Journal on Human-Computer Studies, Secretary of the French Association for Virtual Reality, Secretary of the IEEE Technical Committee on Haptics, Member of Selection Committee of ANR CONTINT Call for Project, Co-organizer of Course at ACM SIGGRAPH ASIA 2011 "Walking through virtual environments" (Co-organizers: F. Steinicke from Munster Univ., Germany, and B. Mohler from MPI, Germany), Program Committee member of international conferences in 2011: IEEE VR, IEEE 3DUI, JVRC, Augmented Human, VRIC, Reviewer of journals in 2011: IEEE TVCG, ACM TAP Reviewer of conferences in 2011: Eurographics.


8.2. Teaching

- Bruno Arnaldi
  Master MR2I Computer sciences : Virtual and Augmented Reality (VAR) (with E. Marchand), level M2, Rennes 1 University and INSA of Rennes, France
  Master MR2I Computer sciences : Responsible for the Track Images and Interactions, level M2, Rennes 1 University and INSA of Rennes, France

- Georges Dumont
  Master2, mechatronics : Mechanical simulation in Virtual reality, 36h, level M2, Rennes 1 University and École Normale Supérieure de Cachan, France
Master2, formation des enseignants du supérieur : Mechanics of deformable systems, 20h, level M2, école Normale Supérieure de Cachan, France
Master2, formation des enseignants du supérieur : Vibrations in Mechanics, 6h, level M2, école Normale Supérieure de Cachan, France
Master2, formation des enseignants du supérieur : Multibody Dynamics, 6h, level M2, école Normale Supérieure de Cachan, France
Master2 mechatronics : Responsible of the second year of the master, Rennes 1 University and école Normale Supérieure de Cachan, France

- Thierry Duval
  Master : Man-Machine Interfaces and Design of Interactive Applications, 32h, M2 (GL, Mitic, Miage), University of Rennes 1, France
  Master : Collaborative Virtual Environments, 32h, M2 (GL, Mitic), University of Rennes 1, France
  Master : Introduction to Computer Graphics, 20h, M1, University of Rennes 1, France

- Ronan Gaugne
  Master : Projects on Virtual Reality, 30h, M1, INSA of Rennes, FR.
  Master : Projects on Virtual Reality, 16h, M2, INSA of Rennes, FR.

- Valérie Gouranton
  Licence : Introduction to Virtual Reality, 6h, L2, INSA of Rennes, FR and responsible of this lecture.
  Licence : Project on Virtual Reality, 16h, L3, INSA of Rennes, FR and responsible of this lecture.
  Master : Virtual Reality, 8h, M2, INSA of Rennes, FR.
  Master : Projects on Virtual Reality, 40h, M1, INSA of Rennes, FR.
  Master co-responsible of M2 Computer Science of RENNES 1 University, INSA of Rennes, ENS CACHAN, Supelec, UBO, ENIB, ENSTA Bretagne, Télécom Bretagne, UBS.

- Anatole Lécuyer
  Master MNRY : Haptic Interaction, 7 hours, M2, University of Angers, France
  Master SIBM : Brain-Computer Interfaces and Haptic Interfaces, 3 hours, M2, University of Rennes 1, France

- Maud Marchal
  Licence : Programming Language C, 16h, L3, INSA Rennes, France;
  Master : Algorithms and complexity, 31h, M1, INSA Rennes, France; Object-Oriented Modeling and Programming, 43h, M1, INSA Rennes, France; Software Quality, 29h, M2, INSA Rennes, France; Modeling and Engineering in Biology and Health Applications, 48h, M2, INSA Rennes, France; Medical Simulation, 3h, M2, Master SIBM University of Rennes 1, France;

- Quentin Avril
  Licence : Sensibilisation Réalité Virtuelle, 20h eq. TD, L1, INSA de Rennes, France
  Master : Images Numériques, 28h eq. TD, M1, Université de Rennes1, France
Master : Modélisation, Animation et Rendu 3D, 11h eq. TD, M2, Université de Rennes1, France

- Charles Pontonnier
  Master : Conception de systèmes mécatroniques, 20h, M1 Mécatronique, Antenne de Bretagne de l’ENS Cachan, France
  Master : Mécanique des milieux continus, 24h, M2 Formation à l’Enseignement Supérieur, Antenne de Bretagne de l’ENS Cachan, France
  Master : Résistance des matériaux, 24h, M2 Formation à l’Enseignement Supérieur, Antenne de Bretagne de l’ENS Cachan, France
  Master : Travaux pratiques d’automatique, 24h, M2 Formation à l’Enseignement Supérieur, Antenne de Bretagne de l’ENS Cachan, France
  Master : Travaux pratiques d’analyse de systèmes mécaniques, 15h, M2 Formation à l’Enseignement Supérieur, Antenne de Bretagne de l’ENS Cachan, France

PhD : Zhaoguang Wang, Interactive project review of deformable parts through haptic interfaces in Virtual Reality, ENS Cachan, advised by Georges Dumont, Defense date 2011/06/22 [3].

PhD : Quentin Avril, Détection de Collision pour Environnements Large Echelle : Modèle Unifié et Adaptatif pour Architectures Multi-coeur et Multi-GPU, INSA of Rennes, Defense date 2011/09/16, advised by Bruno Arnaldi, co-advised by Valérie Gouranton [1].

PhD in progress : Gabriel Cirio, Multimodal feedback and interaction techniques for physically based and large virtual environments, INSA de Rennes, will be defended on 2011/12/02, advised by Anatole Lécuyer, co-advised by Maud Marchal.

PhD in progress: Laurent George, The use of Brain computer interface for implicit human-computer interaction with Virtual Environments, start date 2009/11/01, advised by Anatole Lécuyer.

PhD in progress : Léo Terziman, Realistic walking navigation in virtual environments for training, start date 2009/10/01, advised by Anatole Lécuyer and Bruno Arnaldi.

PhD in progress : Jérôme Ardouin, See and Interact at 360 degree, start date 2011/01/14, advised by Anatole Lécuyer.

PhD in progress : Loeiz Glondu, Modélisation et simulation physique d’outils d’exploration pour des interactions en environnement virtuel, start date 2009/10/01, advised by Georges Dumont, co-advised by Maud Marchal.

PhD in progress : Fabien Danieau, Haptic interaction for multimedia, start date 2011/01/03, advised by Anatole Lécuyer.

PhD in progress : Anthony TALVAS, Two-handed haptic perception and interaction with virtual worlds, start date 2011/10/01, advised by Anatole Lécuyer, co-advised by Maud Marchal.

PhD in progress : Fleury Cédric, Outils pour l’exploration collaborative d’environnements virtuels 3D, start date 2008/10/01, advised by Bruno Arnaldi, co-advised by Thierry Duval and Valérie Gouranton.

PhD in progress : Thi Thuong Huyen Nguyen, Proposition de nouvelles techniques d’interaction 3D et de navigation 3D préservant l’immersion de l’utilisateur et facilitant la collaboration entre utilisateurs distants, start date 2011/10/01, advised by Thierry Duval.

PhD in progress : Saraos-Luna Andrès, Travail d’équipe entre individus réels ou virtuels pour réaliser un travail collaboratif adaptatif dans un environnement virtuel possiblement physicalisé, start date 2010/10/01, advised by Bruno Arnaldi, co-advised by Valérie Gouranton.