



RESEARCH CENTER
Rennes - Bretagne-Atlantique

FIELD

Activity Report 2017

Section Dissemination

Edition: 2018-02-19

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CAIRN Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Chair of Conference Program Committees

- O. Sentieys was Track Chair at IEEE NEWCAS.

9.1.2. Member of the Conference Program Committees

- D. Chillet was member of the technical program committee of HiPEAC RAPIDO, HiPEAC WRC, MCSoc, DCIS, ComPAS, DASIP, LP-EMS, ARC.
- S. Derrien was a member of technical program committee of IEEE FPL and ARC conferences and of WRC and Impact workshops.
- O. Sentieys was a member of technical program committee of IEEE/ACM DATE, IEEE FPL, ACM ENSSys, ACM SBCCI, IEEE ReConFig, FPGA4GPC.

9.1.3. Member of the Editorial Boards of Journals

- D. Chillet is member of the Editor Board of Journal of Real-Time Image Processing (JRTIP).
- O. Sentieys is member of the editorial board of Journal of Low Power Electronics and International Journal of Distributed Sensor Networks.

9.1.4. Invited Talks

- O. Sentieys gave an invited talk at FETCH (École d'hiver Francophone sur les Technologies de Conception des Systèmes embarqués Hétérogènes), Mont Tremblant, Canada, January 2017 on "Need more Energy Efficiency? Agree to Compute Inexactly".
- O. Sentieys gave an invited talk at GDR SoC², Paris, France, November 2017 on "Controlling Inexact Computations at Compile Time and Runtime".
- O. Sentieys gave an invited talk at IoT2Sustain Workshop, London, UK, July 2017 on "Challenges in Energy Efficiency of Computing Architectures: from Sensors to Clouds".
- O. Sentieys gave an invited course at ARCHI Spring School, Nancy, France, March 2017 on "Design of VLSI Integrated Circuits – A (very) deep dive into processors".

9.1.5. Leadership within the Scientific Community

- D. Chillet is member of the Board of Directors of Grets Association.
- D. Chillet is co-animator of the topics "Connected Objects" and "Near Sensor Computing" of GDR SoC².
- F. Charot and O. Sentieys are members of the steering committee of a CNRS Spring School for graduate students on embedded systems architectures and associated design tools (ARCHI).
- C. Killian was Co-Organizer of the Thematic Day on "Emerging Interconnect Technologies in Many Core Architectures" of GDR SoC², November 27, 2017.
- O. Sentieys is a member of the steering committee of a CNRS spring school for graduate students on low-power design (ECOFAC).
- O. Sentieys is a member of the steering committee of GDR SoC².

9.1.6. Scientific Expertise

- E. Casseau served as an expert for the Natural Sciences and Engineering Research Council of Canada (NSERC), program Discovery Grant 2017.
- O. Sentieys served as a jury member in the EDAA Outstanding Dissertations Award (ODA).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- E. Casseau: signal processing, 16h, ENSSAT (L3)
- E. Casseau: low power design, 6h, ENSSAT (M1)
- E. Casseau: real time design methodology, 24h, ENSSAT (M1)
- E. Casseau: computer architecture, 24h, ENSSAT (M1)
- E. Casseau: SoC and high-level synthesis, 24h, Master by Research (SISEA) and ENSSAT (M2)
- S. Derrien: component and system synthesis, 20h, Master by Research (ISTIC) (M2)
- S. Derrien: computer architecture, 12h, ENS Rennes (L3)
- S. Derrien: computer architecture, 24h, ISTIC (L3)
- S. Derrien: introduction to operating systems, 8h, ISTIC (M1)
- S. Derrien: embedded architectures, 48h, ISTIC (M1)
- S. Derrien: high-level synthesis, 6h, ISTIC (M1)
- S. Derrien: software engineering project, 40h, ISTIC (M1)
- F. Charot: processor architecture, 25h, Univ. of Science and Tech. of Hanoi (M1)
- D. Chillet: embedded processor architecture, 20h, ENSSAT (M1)
- D. Chillet: multimedia processor architectures, 24h, ENSSAT (M2)
- D. Chillet: low-power digital CMOS circuits, 6h, Telecom Bretagne (M2)
- C. Killian: digital electronics, 62h, IUT Lannion (L1)
- C. Killian: signal processing, 36h, IUT Lannion (L2)
- C. Killian: automated measurements, 56h, IUT Lannion (L2)
- C. Killian: measurement chain, 58h, IUT Lannion (L2)
- C. Killian: embedded systems programming, 12h, IUT Lannion (L2)
- C. Killian: automatic control, 18h, IUT Lannion (L2)
- A. Kritikakou: computer architecture 1, 32h, ISTIC (L3)
- A. Kritikakou: computer architecture 2, 44h, ISTIC (L3)
- A. Kritikakou: C and unix programming languages, 102h, ISTIC (L3)
- A. Kritikakou: operating systems, 96h, ISTIC (L3)
- A. Kritikakou: multitasking operating systems, 20h, ISTIC (M1)
- O. Sentieys: digital signal processing, 40h, ENSSAT (M1)
- O. Sentieys: VLSI integrated circuit design, 40h, ENSSAT (M1)
- C. Wolinski: computer architectures, 92h, ESIR (L3)
- C. Wolinski: design of embedded systems, 48h, ESIR (M1)
- C. Wolinski: signal, image, architecture, 26h, ESIR (M1)
- C. Wolinski: programmable architectures, 10h, ESIR (M1)
- C. Wolinski: component and system synthesis, 10h, Master by Research (ISTIC) (M2)

9.2.2. Teaching Responsibilities

- C. Wolinski is the Director of ESIR.
- S. Derrien was the responsible of the first year (M1) of the Master of Computer Science at ISTIC until Aug. 2017.
- O. Sentieys is responsible of the "Embedded Systems" major of the SISEA Master by Research.
- D. Chillet is the responsible of the ICT Master of University of Science and Technology of Hanoi.
- C. Killian is the responsible of the second year of the Physical Measurement DUT at IUT of Lannion.

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

ISTIC is the Electrical Engineering and Computer Science Department of the University of Rennes 1.
 ESIR stands for "École supérieure d'ingénieur de Rennes" and is an "École d'Ingénieurs" of the University of Rennes 1, located in Rennes.

9.2.3. Supervision

PhD: Benjamin Barrois, Methods to Evaluate Accuracy-Energy Trade-Off in Operator-Level Approximate Computing, Dec. 2017, O. Sentieys.

PhD: Gaël Deest, Implementation Trade-Offs for FPGA Accelerators, Dec. 2017, S. Derrien.

PhD: Xuan Chien Le, Improving performance of non-intrusive load monitoring with low-cost sensor networks, Apr. 2017, O. Sentieys, B. Vrigneau.

PhD: Rengarajan Ragavan, Error handling and energy estimation for error resilient near-threshold computing, Sep. 2017, O. Sentieys, C. Killian.

PhD: Baptiste Roux, Methodology and Tools for Energy-aware Task Mapping on Heterogeneous Multiprocessor Architectures, Nov. 2017, O. Sentieys, M. Gautier.

PhD in progress: Minh Thanh Cong, Hardware Accelerated Simulation of Heterogeneous Multicore Platforms, May 2017, F. Charot, S. Derrien.

PhD in progress: Petr Dobias, Towards efficient application execution on resilient multi-core architectures, Oct. 2017, E. Casseau.

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

PhD in progress: Aymen Gammoudi, New Visual Adaptive Real-Time OS for Embedded Multi-Core Architecture, Oct. 2015, D. Chillet, M. Khalgui.

PhD in progress: Mael Gueguen, Improving the performance and energy efficiency of complex heterogeneous manycore architectures with on-chip data mining, Nov. 2016, O. Sentieys, A. Termier.

PhD in progress: Van-Phu Ha, Application-Level Tuning of Accuracy, Nov. 2017, T. Yuki, O. Sentieys.

PhD in progress: Audrey Lucas, Software support resistant to passive and active attacks for asymmetric cryptography on (very) small computation cores, Jan. 2016, A. Tisserand.

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

PhD in progress: Thibaut Marty, Compiler support for speculative custom hardware accelerators, Sep. 2017, T. Yuki, O. Sentieys.

PhD in progress: Genevieve Ndour, Approximate Computing with High Energy Efficiency for Internet of Things Applications, Apr. 2016, A. Tisserand, A. Molnos (CEA LETI).

PhD in progress: Joel Ortiz Sosa, Study and design of a digital baseband transceiver for wireless network-on-chip architectures, Nov. 2016, O. Sentieys, C. Roland (Lab-STICC).

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

PhD in progress: Rafail Psiakis, A Self-Healing Reconfigurable Accelerator Structure for Fault-Tolerant Multi-Cores, Oct. 2015, A. Kritikakou, O. Sentieys.

PhD in progress: Simon Rokicki, Hybrid Hardware/Software Dynamic Compilation for Adaptive Embedded Systems, Oct. 2015, S. Derrien.

PhD in progress: Nicolas Roux, Sensor-aided Non-Intrusive Appliance Load Monitoring: Detecting Activity of Devices through Low-Cost Wireless Sensors, Oct. 2016, O. Sentieys, B. Vrigneau.

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

CELTIQUE Project-Team

6. Dissemination

6.1. Promoting Scientific Activities

6.1.1. Scientific Events Selection

6.1.1.1. Chair of Conference Program Committees

- CoqPL 2017 (International Workshop on Coq for PL) was chaired by Sandrine Blazy and Emilio Jesus Gallego Arias

6.1.1.2. Member of the Conference Program Committees

- TASE 2017 (Symposium on Theoretical Aspects of Software Engineering): Alan Schmitt
- Web Programming 2018: Alan Schmitt
- ProWeb 2018: Alan Schmitt
- CC 2017 (Conference on Compiler Construction) : David Pichardie
- ESORICS 2017 (European Symposium on Research in Computer Security) : David Pichardie
- ESOP 2017 (European Symposium on Programming) : David Pichardie
- CC 2018 (Conference on Compiler Construction) : David Pichardie
- CoqPL 2017 (International Workshop on Coq for PL) : Sandrine Blazy
- AFADL 2017 (Approches Formelles dans l'Assistance au Développement de Logiciels) : Sandrine Blazy
- SRC (Student Research Competition) @ PLDI 2017 : Sandrine Blazy
- VSTTE 2017 (Verified Software: Theories, Tools, and Experiments) : Sandrine Blazy
- GPCE 2017 (Generative Programming: Concepts & Experiences) : Sandrine Blazy
- IFL 2017 (International symposium on Implementation and application of Functional Languages) : Sandrine Blazy
- TFP 2017 (Trends in Functional Programming) : Sandrine Blazy
- CPP 2018 (ACM SIGPLAN Conference on Certified Programs and Proofs) : Sandrine Blazy
- Euro S&P 2018 (IEEE European Symposium on Security and Privacy) : Sandrine Blazy
- TACAS 2017 (Tools and Algorithms for the Construction and Analysis of Software : Thomas Jensen.
- FCS 2017 (Int. workshop on Foundations of Computer Security) : Thomas Jensen.
- SAS 2017 (Static Analysis Symposium) : Thomas Jensen.

6.1.1.3. Reviewer

- POPL 2018 (Symposium on Principles of Programming Languages): Alan Schmitt

6.1.2. Journal

6.1.2.1. Reviewer - Reviewing Activities

- Information & Computation: Alan Schmitt
- Science of Computer Programming: Alan Schmitt
- Discrete Mathematics & Theoretical Computer: Alan Schmitt
- Theoretical Computer Science: Alan Schmitt
- Journal of Logical and Algebraic Methods in Programming: Alan Schmitt

- ACM Transactions on Privacy and Security (TOPS): David Pichardie

6.1.3. Invited Talks

- Delphine Demange: "On-the-Fly Garbage Collection: An Exercise in Compiler Verification". Inria Scientific Days 2017. June 2017.
- Thomas Genet: "SPAN+AVISPA for Verifying Cryptographic Protocols". RESSI (Rendez-vous de la recherche et de l'enseignement de la sécurité des systèmes d'information), Grenoble, May 2017 [42].
- Thomas Genet: "Tree Automata for Reachability in Rewriting". International School on Rewriting, Eindhoven, July 2017. <http://www.win.tue.nl/~hzzantema/isr.html>.
- Thomas Jensen: Formal methods for software security, Forum Méthodes Formelles, Toulouse, France, Jan. 2017 [21].
- Thomas Jensen: Formal methods for software security, Journée inaugurale GDR Sécurité Informatique, Paris, June 2017 [22].
- Thomas Jensen. Hybrid information flow analysis against web tracking.. The 12th International Conference on Risks and Security of Internet and Systems (CRiSIS 2017), Dinard, France, Sept. 2017 [23].

6.1.4. Scientific Expertise

- Sandrine Blazy: expertise of an ERC Advanced Grant research proposal.
- Thomas Jensen is Inria representative in the European Cyber Security Organisation (ECSO) working group in Research and Innovation.

6.1.5. Research Administration

- Sandrine Blazy is member of Section 6 of the national committee for scientific research CoNRS.
- Sandrine Blazy is coordinator of the LTP (Languages, Types, Proofs) group of the French GDR GPL.
- Thomas Jensen is head of the NUMERIC department at Université Bretagne Loire.
- Thomas Jensen is director of the IT Security track and member of the executive board of the Laboratoire d'excellence "CominLabs".

6.2. Teaching - Supervision - Juries

6.2.1. Teaching

Licence : Alan Schmitt, Programmation Fonctionnelle, 36h, L3, Insa Rennes, France

Licence : Delphine Demange, Spécialité Informatique 1 - Algorithmique et Complexité Expérimentale, 36h, L1, Université Rennes 1, France

Licence : Delphine Demange, Spécialité Informatique 2 - Functional and Immutable Programming, 70h, L1, Université Rennes 1, France

Licence : Delphine Demange, Programmation de Confiance, 36h, L3, Université Rennes 1, France

Licence : David Pichardie, Graph algorithms, 24h, L3, ESIR, France

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

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

Licence : Thomas Genet, Spécialité Informatique 1 - Algorithmic and Experimental Complexity, 42h, L1, Université Rennes 1, France

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

Master : Alan Schmitt, Méthodes Formelles pour le développement de logiciels sûrs, 25h, M1, Université Rennes 1, France France

Master : Sandrine Blazy, Mechanized Semantics, 15h, M2, Université Rennes 1, France

Master : Sandrine Blazy, Semantics, 24h, M1, Université Rennes 1, France

Master : Sandrine Blazy, Software vulnerabilities, 20h, M2, Université Rennes 1, France

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

Master : David Cachera, Semantics, 24h, M1, Université Rennes 1, France

Master : David Cachera, Advanced Semantics, 20h, M2, Université Rennes 1, France

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

Master : Thomas Jensen, Program Analysis and Software Security, 21h, M2, Université Rennes 1, France

6.2.2. Supervision

PhD in progress : Timothée Haudebourg, Lightweight Formal Verification for Functional Programs, 1st october 2017, Thomas Genet and Thomas Jensen

PhD in progress : Alexandre Dang, Security by compilation, 1st september 2016, Frédéric Besson and Thomas Jensen

PhD in progress : Julien Lepiller, Binary analysis for Isolation, 1st september 2016, Frédéric Besson and Thomas Jensen

PhD in progress : Gurvan Cabon, Analyse non locale certifiée en JavaScript grâce à une sémantique annotée, 1st september 2015, Alan Schmitt

PhD in progress : Florent Sadel, Vulnerability discovery, November 2015, Sandrine Blazy, Frédéric Besson and Cédric Berthion (Amossys)

PhD in progress : Alix Trieu, Formally verified compilation and static analysis, January 2016, Sandrine Blazy and David Pichardie

PhD in progress : Yon Fernandez De Retana, Verified Optimising Compiler for high-level languages, 1st september 2015, Delphine Demange and David Pichardie

David Bühler, Structuring an abstract interpreter through value and state abstractions, defended March 2017, Sandrine Blazy and Boris Yakobowski (CEA)

Yannick Zakowski, Verification of a Concurrent Garbage Collector, defended December 2017, David Pichardie and David Cachera.

Pauline Bolignano, Formal models and verification of memory management in a hypervisor, defended May 2017, Thomas Jensen and Vincent Siles (Prove & Run).

Oana Andreescu, Static analysis of functional programs with an application to the frame problem in deductive verification, May 2017, Thomas Jensen and Stéphane Lescuyer (Prove & Run).

6.2.3. Juries

- Alan Schmitt, jury member for the selection of Inria CR (researcher) candidates, March and April 2017, Inria, Rennes, France.
- Thomas Jensen, jury member for the selection of Inria CR (researcher) candidates, March and April 2017, Inria, Rennes, France.
- Sandrine Blazy, jury member for the selection of CNRS CR and DR (researchers) candidates, February and March 2017, CNRS, Paris, France.
- Sandrine Blazy, jury member for the selection of a professor at University of Copenhagen, May 2017, Copenhagen, Denmark.
- Sandrine Blazy, jury member (reviewer) for the PhD defense of Romain Aïssat, January 2017, Paris-Sud University

- Sandrine Blazy, jury member for the PhD defense of Oana Andreescu, May 2017, Université Rennes 1
- Sandrine Blazy, jury member for the PhD defense of Ninon Eyrolles, June 2017, Université Versailles Saint-Quentin
- Sandrine Blazy, jury member (reviewer) for the HDR defense of Alain Giorgetti, December 2017, Université de Franche-Comté
- Sandrine Blazy, jury member for the PhD defense of Jordy Ruiz, December 2017, Université de Toulouse
- Sandrine Blazy, jury member for the PhD defense of Pierre Lestringant, December 2017, Université Rennes 1.
- Sandrine Blazy, jury member of the GDR GPL PhD award committee.
- David Pichardie, external reviewer for the PhD defense of Hendra Gunadi, July 2017, Australian National University, Canberra, Australia.
- David Pichardie, Licenciata discussion leader for the PhD student Marco Vassena, Chalmers University of Technology, Gothenburg, Sweden.
- Delphine Demange, jury member of the Gilles Kahn PhD award committee, December 2017, Inria Paris
- Delphine Demange, jury member for the PhD defense of Pauline Bolignano, May 2017, Université Rennes 1
- Thomas Genet, jury member (reviewer) for the PhD defense of Vivien Pelletier, October 2017, Université d'Orléans, France.
- Thomas Jensen, jury member for the HdR defense of Charlotte Truchet, November 2017, Université de Nantes, France.
- Thomas Jensen, jury member (reviewer) for the PhD defense of Zeineb Zhioua, September 2017, Télécom ParisTech, France.
- Thomas Jensen, jury member for the PhD defense of Deepak Subramanian, December 2017, CentraleSupélec, France.

6.3. Popularization

Article “JavaScript, un langage à la croissance organique”, Alan Schmitt, blog Binaire Le Monde. <http://binaire.blog.lemonde.fr/2017/05/12/javascript-un-langage-a-la-croissance-organique/>

Article “L’assistant de preuve Coq”, Sandrine Blazy, Pierre Castéran, Hugo Herbelin, Techniques et Sciences de l’ingénieur, août 2017. <https://www.techniques-ingenieur.fr/base-documentaire/technologies-de-l-information-th9/programmation-42304210/coq-assistant-de-preuve-h3310/>

Talk “Bug, Virus, Intrusion, Pirates... So many threats and no defense? Yes... maths.”, Thomas Genet, given three times in high schools close to Rennes.

CIDRE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Emmanuelle Anceaume co-chair with Maria Potop Butucaru, Christian Cachin and Shlomi Dolev the Workshop on Blockchain Technology and Theory 2017, co-located with DISC 2017.

10.1.1.2. Member of the Organizing Committees

Christophe Bidan served as a member of the organization committee of C&ESAR 2017 (24rd Computers & Electronics Security Applications Rendez-vous), November 2017, Rennes, France.

Frédéric Tronel served as a member of the organization committee of SSTIC 2017 (Symposium sur la sécurité des technologies de l'information et des communications) that took place in Rennes, France from 7th to 9th of June, where it gathered 600 participants.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

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

- Algotel 2017 (19èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications), May 2017, Quiberon, France.
- ICDCS 2017 (37th IEEE International Conference on Distributed Computing Systems), Atlanta, USA, 2017
- DEBS 2017 (11th ACM International Conference on Distributed and Event-based Systems), Barcelona, Spain 2017
- NCA 2017 (16th International Symposium on Network Computing and Applications), October 2017, Cambridge, MA, USA.
- PECS 2017 (3rd International Conference on Pervasive and Embedded Computing), Porto, Portugal, 2017
- ADSN2017 (6th International Workshop on Assurance in Distributed Systems and Networks, Atlanta, USA, 2017

Christophe Bidan served as a member of the following program committees:

- CRiSIS 2017 (12th International Conference on Risks and Security of Internet and Systems), September 2017, Dinard, France.
- C&ESAR 2017 (24rd Computers & Electronics Security Applications Rendez-vous), November 2017, Rennes, France.

Frédéric Majorczyk served as a member of the program committee of VizSec 2017 (IEEE Symposium on Visualization for Cyber Security), October 2017, Phoenix, Arizona, USA.

Guillaume Piolle served as a member of the program committee of APVP 2017 (Atelier sur la Protection de la Vie Privée), June 2017, Autrans, France.

Eric Totel served as a member of the program committee of RESSI 2017 (Les Rendez-vous de la recherche et de l'enseignement en sécurité des systèmes d'information).

Frédéric Tronel served as a member of the program committee of SSTIC 2017 (Symposium sur la sécurité des technologies de l'information et des communications) June 2017, Rennes, France.

Gilles guette served as a member of the following program committees:

- ICISSP 2017 (International Conference on Information System Security and Privacy), February 2017, Porto, Portugal.

10.1.2.2. Reviewer

- Gilles Guette - IEEE ISNCC 2017 (IEEE International Symposium on Networks, Computers and Communications).
- Michel Hurfin - NCA 2017 (16th International Symposium on Network Computing and Applications).
- Jean-François Lalande - ICISSP 2017 (3rd International Conference on Information Systems Security and Privacy).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Michel Hurfin belongs to the editorial board of the Springer open access journal of Internet Services and Applications.

10.1.3.2. Reviewer - Reviewing Activities

- Emmanuelle Anceaume - Elsevier JPDC (Journal of Parallel and Distributed Computing), Performance Evaluation, IEEE TDSC (Transactions on Dependable and Secure Computing), and IEEE TPDS (Transactions on Parallel and Distributed Systems).
- Michel Hurfin - Springer JISA (Journal of Internet Services and Applications) and Springer TOCS (Theory of Computing Systems).
- Jean-François Lalande - IARIA IJAS (International Journal on Advances in Security), and Elsevier Computer Communications (International Journal for the Computer and Telecommunications Industry).
- Guillaume Piolle - ACM TOIT (Transactions on Internet Technologies).
- Eric Totel - IEEE Transactions on Reliability.

10.1.4. Invited Talks

Emmanuelle Anceaume was invited to give

- a keynote at Algotel 2017, May 2017, entitled "Bitcoin and its distributed ledger"
- a keynote at WIFS 2017, December 2017, entitled: "A primer on blockchain technology and the bitcoin cryptocurrency"

10.1.5. Leadership within the Scientific Community

Ludovic Mé serves the Scientific Council of the LIRIMA (Laboratoire International de Recherche en Informatique et Mathématiques Appliquées).

Ludovic Mé chairs the steering Committee of the annual French conference RESSI (Rendez-Vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information). He is a member of the Steering Committee of the annual international conference RAID (International Symposium on Research in Attacks, Intrusions and Defenses).

10.1.6. Research Administration

Emmanuelle Anceaume has participated in various juries (Post-doctoral grants, delegation Inria, PEDR Inria). As a member of the CE Inria, Emmanuelle Anceaume has participated to the hiring committee CR2/CR1 of Rennes and Sophia Antipolis.

Michel Hurfin is the local representative of the "mission jeunes chercheurs" in Rennes. He is a member of the "Commission personnel" and is in charge of the PhD student recruitment campaign of Inria Rennes Bretagne Atlantique. He is a member of the councils of the doctoral school Matisse. He is a member of the advisory board of the doctoral training center of EIT Digital in Rennes.

Ludovic Mé acts as Scientific Officer for the Rennes - Bretagne Atlantic Inria Research Center. As such, he is also a member of the Evaluation Commission and of the Internal Scientific Council of Inria.

Ludovic Mé leads the expert group dedicated to the evaluation of the French laboratories working in the "computing and telecom" domain, relatively to the way they protect their scientific and technical patrimony (PPST French regulation).

Valérie Viet Triem Tong has participated in the scientific evaluation comity *Global Security and Cybersecurity* (CES 39) of the French Research Agency (ANR). Valérie Viet Triem Tong has also participated in the Inria post-doctoral grant.

10.2. Teaching - Supervision - Juries

10.2.1. Certification

The master degree program "Mastère Spécialisé en Cybersécurité" has received the [SecNumedu](#) label. This label testifies that this program meets the requirements of a charter that has been jointly established by ANSSI (Agence Nationale de la Sécurité des Systèmes d'Information) and various actors (administrations, companies, ...) of the domain. This label was awarded during the annual Forum International de la Cybersécurité (FIC) in January 2017 at Lille.

10.2.2. Teaching

- Master: Emmanuelle Anceaume, *Research in Computer Science - Distributed Algorithms*, 20 hours of lecture, M2; Université Rennes 1, France;
- Licence: Christophe Bidan, *Algorithms and Data Structures*, 36 hours of lecture including 7.5 hours of lectures, L3 - first year of the engineering degree, CentraleSupélec, France;
- Licence: Christophe Bidan, *Software Engineering*, 12 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Licence: Christophe Bidan, *Supervision of student project*, 1 project, L3 - first year of the engineer degree, CentraleSupélec, France;
- Master: Christophe Bidan is responsible for the module *Secured information systems*, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Christophe Bidan, *Applied cryptography*, 6 hours of lecture, M2 - master 2 degree, University of Rennes 1, France;
- Master: Christophe Bidan, *Applied cryptography*, 15 hours including 6 hours of lecture, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master : Christophe Bidan, *Cryptographic Protocols*, 6 hours of lecture, mastère CS (Cyber Security), CentraleSupélec, France;
- Master: Christophe Bidan, *Information systems*, 4.5 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Christophe Bidan, *Supervision of student project*, 2 projects, M1 - second year of the engineer degree, CentraleSupélec, France;
- Licence: Gilles Guette, *Algorithm and Complexity*, 28 hours, L1 - Licence, ISTIC/University of Rennes, France;
- Licence: Gilles Guette, *Network Initiation*, 57.5 hours, L3 - Licence, ISTIC/University of Rennes, France;

- Licence: Gilles Guette, *Network Initiation*, 41.5 hours, L3 - first year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Network Routing*, 32 hours, M1 - second year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Mobile Network Routing*, 5 hours, M1 - second year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Advanced Network Services*, 10 hours, M1 - second year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Network Project*, 24 hours, M1 - second year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Security*, 28 hours, M1 - second year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Network and System Security*, 12 hours, M2 - third year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Network Modeling*, 18 hours, M2 - third year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Sensors Network*, 30 hours, M2 - Master, ISTIC/University of Rennes, France;
- Master: Gilles Guette, *Supervision of student*, Contrat de professionnalisation, M2 - third year of the engineer degree, ESIR, France;
- Master: Gilles Guette, *Supervision of student internship*, M2 - ISTIC/University of Rennes, France;
- Licence: Guillaume Hiet, *Algorithms and Data Structures*, 12.5 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Computer security and privacy for the engineer*, 8 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Buffer overflow vulnerabilities*, 16 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Buffer overflow vulnerabilities*, 16 hours, M2 - Mastère Spécialisé CS (Cyber Security), CentraleSupélec, France;
- Master: Guillaume Hiet, *Pentest*, 19 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Pentest*, 3 hours, M2 - Mastère Spécialisé CS (Cyber Security), CentraleSupélec, France;
- Master: Guillaume Hiet, *Introduction to Linux*, 3 hours, M2 - Mastère Spécialisé CS (Cyber Security), CentraleSupélec, France;
- Master: Guillaume Hiet, *Java Security*, 4.5 hours, M2 - Mastère Spécialisé CS, CentraleSupélec, France;
- Master: Guillaume Hiet, *Linux Security*, 18 hours, M2 - Mastère Spécialisé CS, CentraleSupélec, France;
- Master: Guillaume Hiet, *Linux Security*, 7.5 hours, third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *LDAP*, 7.5 hours, third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Intrusion Detection*, 15 hours, M2 - Mastère Spécialisé CS, CentraleSupélec, France;
- Master: Guillaume Hiet, *Intrusion Detection*, 13.5 hours, M2 - third year of the engineer degree, M2 research degree of University of Rennes 1, CentraleSupélec, France;

- Master: Guillaume Hiet, *Security Monitoring*, 3 hours, M2, cycle "Sécurité Numérique", INHESJ, France;
- Master: Guillaume Hiet, *Computer Security*, 31.5 hours, M2, Mastère Spécialisé Architecte des Systèmes d'Information, CentraleSupélec, France;
- Master: Guillaume Hiet, *Intrusion Detection*, 16 hours, M2, University of Rennes 1, France;
- Master: Guillaume Hiet, *Intrusion Detection*, 10 hours, M2 - third year of the engineer degree, ESIR, France;
- Master: Guillaume Hiet, *Intrusion Detection*, 9 hours, M2, Université de Limoges, France;
- Master: Guillaume Hiet, *Firewall*, 6 hours, M2, University of Rennes 1, France;
- Master: Guillaume Hiet, *Supervision of student project*, 4 projects, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Supervision of student project*, 2 projects, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Hiet, *Supervision of student project*, 2 projects, M2 - Mastère Spécialisé CS (Cyber Security), CentraleSupélec, France;
- Master: Jean-François Lalande, *Legal aspects of information security*, 3.5 hours, M2 - master CyberSecurity, CentraleSupélec, France;
- Master: Guillaume Hiet, *Android Malware*, 3.5 hours, M2, Mastère Spécialisé CS (Cyber Security), France;
- Master: Jean-François Lalande, *Supervision of student project*, 2 projects, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Jean-François Lalande, *Supervision of student project*, 2 projects, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Jean-François Lalande, *Supervision of student project*, 1 projects, M2 - Mastère Spécialisé CS (Cyber Security), CentraleSupélec, France;
- Licence : Ludovic Mé, *Software Engineering*, 18 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Licence : Ludovic Mé, *Software Engineering tutorials*, 6 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Licence : Ludovic Mé, *Software Engineering and Java development*, 18 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Master : Ludovic Mé, *Information systems tutorials*, 6 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master : Ludovic Mé, *Supervision of student project*, 1 project, 38 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Licence: Guillaume Piolle, *Software engineering*, 1.5 hours, L3 - first year of the engineering degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Modelling, Algorithms and Programming*, 22 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Computer security and privacy*, 5 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Software project*, 3.5 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Relational databases*, 6 hours, M1 - second year of the engineer degree, CentraleSupélec, France;

- Master: Guillaume Piolle, *Computer networks*, 30 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Security Policies*, 4.5 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Java programming*, 4.5 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Computer networks*, 9 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Software engineering*, 12 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Network Access Control*, 9 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Web development*, 32 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Privacy protection*, 18 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Computing project*, 60 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Guillaume Piolle, *Legal aspects of information security*, 4.5 hours, M2 - master CyberSecurity, CentraleSupélec, France;
- Licence : Eric Totel, *Foundations of computer science, data structures and algorithms*, 9 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Licence : Eric Totel, *Software Modeling*, 15 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Master : Eric Totel, *Operating Systems*, 30 hours, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master : Eric Totel, *C language*, 24 hours including 6 hours of lecture, M2 - master CS (Cyber Security), CentraleSupélec, France;
- Master : Eric Totel, *C language and C++ language*, 12 hours including 6 hours of lecture, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master : Eric Totel, *Dependability* , 9 hours including 7.5 hours of lecture, M2 - third year of the engineer degree and master research, CentraleSupélec, France;
- Master : Eric Totel, *Dependability*, 3 hours of lecture, M2 - third year of the engineer degree (ingénierie des systèmes automatisés), CentraleSupélec, France;
- Master : Eric Totel, *Dependability*, 4.5 hours of lecture, M2 - post-graduate training (master Architecture des Réseaux de Communication), CentraleSupélec, France;
- Master : Eric Totel, *Intrusion Detection*, 6 hours of lecture, M2 - M2 - master CS (Cyber Security), CentraleSupélec, France;
- Master : Eric Totel, *Intrusion Detection*, 9 hours of lecture, M2 - master 2 degree, University of Rennes 1, France;
- Master : Eric Totel, *Supervision of student project*, 4 projects, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master : Eric Totel, *Supervision of student project*, 1 project, M2 - third year of the engineer degree, CentraleSupélec, France;
- Licence: Frédéric Tronel, *Software engineering*, 40 hours, L3 - first year of the engineer degree, CentraleSupélec, France;

- Licence: Frédéric Tronel, *Operating Systems*, 12 hours, L3 - first year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel is responsible of the M2 degree in *CyberSecurity* (mastère spécialisé), organized jointly by CentraleSupélec and Institut Mines Télécom (IMT) Atlantique, France;
- Master: Frédéric Tronel, *Operating systems*, 21 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel, *Compilers*, 18 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel, *Automatic reasoning*, 4.5 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel, *Assembly Language*, 6 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel, *Buffer overflow vulnerabilities (theory and practice)*, 20.5 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel, *Firewall*, 15 hours, M2 - third year of the engineer degree, CentraleSupélec, France;
- Master: Frédéric Tronel, *Calculability in distributed systems*, 6 hours, M2, jointly with University of Rennes 1 and CentraleSupélec, France;
- Master: Frédéric Tronel, *Computer network*, 8 hours, M2, jointly with University of Rennes 1 and CentraleSupélec, France;
- Licence : Valérie Viet Triem Tong, *Algorithms and Data Structures*, 36 hours of lecture including 7 hours of lectures, L3 - first year of the engineering degree, CentraleSupélec, France;
- Licence : Valérie Viet Triem Tong, *Supervision of student project*, 6 projects of 2nd year of the engineer degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Games Theory*, 18 hours, M1 - second year of the engineering degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Formal Methods*, 9 hours, M2 - third year of the engineering degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Intrusion detection using information flow control*, 9 hours, M2 / third year of the engineering degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Programming in Java*, 12 hours, M1 - international students (NplusI) second year of the engineering degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Small elements of decidability*, 7.5 hours, M2 - third year of the engineering degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Supervision of student project*, 1 project, mastere CS (Cyber Security), CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Supervision of student project*, 8 projects, M1 - second year of the engineer degree, CentraleSupélec, France;
- Master : Valérie Viet Triem Tong, *Supervision of student project*, 1 project year of the engineer degree, CentraleSupélec, France;
- Doctorant : Valérie Viet Triem Tong, *Malware analysis by OS information flow tracking*, 2 hours, Summerschool - Cyber in Berry, Bourges, France;

10.2.3. Supervision

10.2.3.1. Theses defended in 2017

- PhD: Laurent Georget, *Suivi de flux d'information correct pour les systèmes d'exploitation Linux*, Octobre 2017, supervised by Mathieu Jaume (25% - MdC LIP6), Guillaume Piolle (25%), Frédéric Tronel (25%), and Valérie Viet Triem Tong (25%);
- PhD: Deepak Subramanian, *Multi-level Information Flow Monitoring*, started in January 2013, supervised by Christophe Bidan (20%) and Guillaume Hiet (80%);
- PhD: Antoine Guellier, *Utilisation de la cryptographie homomorphe pour garantir le respect de la vie privée*, started in October 2013, supervised by Christophe Bidan (50%) and Nicolas Prigent (50%);
- PhD: Kun He, *Mise en œuvre de techniques de droit à l'oubli pour les contenus numériques*, started in October 2013, supervised by Christophe Bidan (50%) and Gaetan LeGuelvouit (50% - IRT B-Com);
- PhD: Solenn Brunet, *Privacy-preserving location-based services*, started in October 2014, supervised by Christophe Bidan (40%), Sébastien Gambs (30%) and Jacques Traoré (30% - Orange Labs Caen);
- PhD: Florian Grandhomme, *Protocole de routage externe type BGP dans un environnement réseaux tactiques adhoc mobiles : faisabilité et performances*, started in October 2014, supervised by Gilles Guette (50%), Adlen Ksentini (25% - Eurecom), and Thierry Plesse (25% - DGA MI).

10.2.3.2. Theses in progress

- PhD in progress: Mouna Hkimi, *Détection d'intrusion dans les systèmes distribués*, started in October 2013, supervised by Eric Totel (50%) and Michel Hurfin (50%);
- PhD in progress: Thomas Letan, *Contribution à la sécurité des couches basses des systèmes d'information*, started in January 2015, supervised by Guillaume Hiet (50%), Pierre Chifflier (25% - ANSSI), and Ludovic Mé (25%);
- PhD in progress: Damien Crémilleux, *Visualisation d'événements de sécurité pour la supervision*, started in October 2015, supervised by Christophe Bidan (30%), Nicolas Prigent (35%), and Frédéric Majoreczyk (35% - DGA MI);
- PhD in progress: Mourad Leslous, *Déclenchement automatique de codes jugés suspects dans les applications Android*, started in October 2015, supervised by Thomas Genet (20% - Celtique Inria project), Jean François Lalande (40% - INSA Centre Val de Loire), and Valérie Viet Triem Tong (40%);
- PhD in progress: Mounir Nasr Allah, *Contrôle de flux d'information par utilisation conjointe d'analyse statique et d'analyse dynamique accélérée matériellement*, started in November 2015, supervised by Guillaume Hiet (75%) and Ludovic Mé (25%);
- PhD in progress: Pernelle Mensah, *Adaptation de la Politique de Sécurité guidée par l'Évaluation du Risque dans les Infrastructures de Communication modernes*, started in January 2016, supervised by Eric Totel (25%), Guillaume Piolle (25%), Christine Morin (25% - Myriad Inria project), and Samuel Dubus (25% - Nokia);
- PhD in progress: David Lanoë, *Détection d'intrusion dans les applications distribuées : l'approche comportementale comme alternative à la corrélation d'alertes*, started in October 2016, supervised by Michel Hurfin (50%) and Eric Totel (50%);
- PhD in progress: Aurélien Trulla, *Caractérisation de malware Android par suivi de flux d'information et nouvelles techniques d'évasion*, started in October 2016, supervised by Jean Louis Lanet (25% - Tamis Inria project) and Valérie Viet Triem Tong (75%);
- PhD in progress: Ronny Chevalier, "Enhanced computer platform security through an intrusion-detection approach", started in November 2016, supervised by Guillaume Hiet (50%), Boris Balach-eff (25% - HP), and Ludovic Mé (25%);
- PhD in progress: Laetitia Leichtnam, *Visualisation pour la caractérisation d'événements de sécurité*, started in October 2016, supervised by Eric Totel (40%), Nicolas Prigent (30%) and Ludovic Mé (30%);

- PhD in progress : Charles Xosanavongsa, *Combining Attack Specification and Dynamic Learning from traces for correlation rule generation*, started in december 2016, supervised by Eric Totel (50%) and Ludovic Mé (50%);
- PhD in progress : Pierre Graux, *Security of Hybrid Mobile Applications*, started in october 2017, supervised by Valérie Viet Triem Tong (50%) and Jean-François Lalande (50%);
- PhD in progress : Vasile Cazacu, *Calcul distribué pour la fouille de données cliniques*, started February 2017, supervised by Emmanuelle Anceaume (50%) and Marc Cuggia (50%);
- PhD in progress : Aurélien Dupin, *Secure multi-partie computations*, started February 2016, supervised by Christophe Bidan(40%), David Pointchavalm (30% - ENS) and Renaud Dubois (30% - Thales).

10.2.3.3. Supervision of external PhD candidates

- LL. D. (Doctor of Laws) in progress: Gustav Malis, *Droit à l'effacement des données mises à disposition par les personnes elles-mêmes*, started in March 2014, supervised by Annie Blandin (80% - IODE) and Guillaume Piolle (20%);
- PhD in progress: Oualid Koucham, *Détection d'intrusions pour les systèmes de contrôle industriels*, started in January 2015, supervised by Stéphane Mocanu (50% - Gipsa-lab), Guillaume Hiet (25%), and Jean-Marc Thiriet (25% - Gipsa-lab);
- PhD in progress : Yves Mocquard, *Population protocols*, started in september 2015, supervised by Bruno Sericola (Dyonisos Inria project) and Emmanuelle Anceaume;.

10.2.4. Juries

Ludovic Mé was a member of the PhD committee for the following PhD and HDR thesis:

- Pierre Laperdrix, *Browser Fingerprinting: Diversity to Augment Authentication and Build Client-side Countermeasures*, INSA of Rennes, 03/10/2017 (President of the Jury);

Ludovic Mé has reported the following PhD thesis:

- Pierre Parrend, *Emergent Industrial Ecosystems*, University of Strasbourg, 12/12/2017.

Christophe Bidan was a member of the PhD committee for the following PhD thesis:

- Jean Aimé Maxa, *Architecture de communication sécurisée d'une flotte de drones*, Université Toulouse 3 Paul Sabatier (UT3 Paul Sabatier), 28/06/2017;
- Eric Asselin, *Système de détection d'intrusion adapté au système de communication aéronautique ACARS*, Institut National Polytechnique de Toulouse (INP Toulouse), 28/06/2017 (reviewer);

Jean-François Lalande has reported the following PhD thesis:

- Julien Hatin, *Evaluation de la confiance dans un processus d'authentification*, 24/11/2017.

Eric Totel was a member of the PhD committee for the following PhD thesis:

- Giannakou Anna, *Self-Adaptable Security Monitoring for IaaS Cloud Environments*, 06/07/2017 (President of the Jury).
- Yacine Hebbal, *Semantic monitoring mechanisms dedicated to security monitoring in IaaS cloud*, 18/09/2017 (President of the Jury).

Valérie Viet Triem Tong has reported the following PhD thesis:

- Franck de Goer de Herve, *Rétro-ingénierie de programmes binaires en une exécution - une analyse dynamique légère basée au niveau des fonctions*, 10/20/2017.

10.3. Popularization

Valérie Viet Triem Tong has participated to the scientific television show *l'Esprit Sorcier* recorded at *Musée des Sciences et de l'Industrie* during the *Fête de la Science*. She has also participated to the scientific promotion movie about *High Security Laboratory* recorded at Nancy.

Damien Crémilleux has participated to the event “**Ma thèse en 180s**” and the “RCC challenge: my thesis 3.0” for the popularization of his work's thesis on security visualization.

HYCOMES Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

Benoît Caillaud has organized the Synchron'17 open workshop on *Synchronous Programming Languages*⁰ that took place at Inria Rennes from November 27th-30th 2017.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

Khalil Ghorbal served as a PC member in the Repeatability Evaluation Committee of HSCC (Hybrid Systems: Computation and Control) 2017.

Albert Benveniste served as a PC member of the International Modelica Conference 2017.

Benoît Caillaud has served on the Steering and Programme Committees of the ACSD'17 conference.

8.1.2.2. Reviewer

Khalil Ghorbal reviewed a paper for the IEEE Conference on Decision and Control 2017.

Albert Benveniste reviewed a paper for FoSSaCS (International Conference on Foundations of Software Science and Computation Structures) 2017.

Benoît Caillaud has reviewed one paper for the LICS'17 conference.

8.1.3. Journal

8.1.3.1. Reviewer - Reviewing Activities

Khalil Ghorbal reviewed a journal paper for the IEEE Transactions on Automatic Control.

Albert Benveniste reviewed a journal paper for the Science of Computer Programming journal.

Benoît Caillaud has reviewed papers for the IEEE Transactions on Control Systems Technology.

8.1.4. Invited Talks

Khalil Ghorbal was invited by Saman Zonouz. Rutgers University, NJ, USA.

Albert Benveniste gave an invited talk at the Laboratory for Information & Decision Systems, MIT, Cambridge, MA, USA.

8.1.5. Scientific Expertise

Albert Benveniste was a reviewer for the ERC Advanced Grant proposals 2017.

8.1.6. Research Administration

Benoît Caillaud is head of the *Language and Software Engineering Department* of IRISA (UMR 6074). The department is composed of 9 research teams and about 120 researchers and students, in Brest, Rennes and Vannes.

⁰<https://synchron17.inria.fr>

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Benoît Caillaud is teaching with Marc Pouzet a first year master degree course on *hybrid systems modeling*. The course is open to the students registered to the computer science research and innovation curriculum of the university of Rennes 1 and ENS Rennes, France.

Master : Khalil Ghorbal, *Analyse et Conception Formelles*, M1, (chargé de TD), 22h EqTD, University Rennes 1 and ENS Rennes, France

Master : Khalil Ghorbal, *Solvers Principle and Architectures*, M2, (enseignant principal), 30h EqTD, ENS Rennes, France

Master : Khalil Ghorbal, *Modeling Physics with Differential-Algebraic Equations*, M2, (enseignant principal), 25h EqTD, Ecole Polytechnique, Palaiseau, France

8.2.2. Supervision

PhD : Ayman Aljarbough, *Accelerated Simulation of Hybrid Systems: Method combining static analysis and runtime execution analysis*, University of Rennes 1, defended 13/09/2017, supervised by Benoît Caillaud.

PhD : Guillaume Baudart, *A Synchronous Approach to Quasi-Periodic Systems*, Ecole Normale Supérieure (Paris), defended 13/03/2017, co-supervised by Albert Benveniste.

8.2.3. Juries

Benoît Caillaud has been president of PhD defence jury of Mohamed Amine Aouadhi, on 29 September 2017, at LS2N, the University of Nantes, France.

Albert Benveniste participated in the jury of the PhD thesis of Guillaume Baudart.

PACAP Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

A. Seznec is member of the ACM/IEEE ISCA symposium steering committee.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Isabelle Puaut is Program Chair of the 2017 IEEE Real-Time Systems Symposium (RTSS), held in Paris, France. She is general Chair of RTSS 2018, to be held in Nashville, Tennessee.

9.1.2.2. Member of the Conference Program Committees

Sylvain Collange was PC member of Compas'2017.

Pierre Michaud was a member of the program committees of the ISCA 2017 and MICRO 2017 conferences.

Isabelle Puaut is member of the program committees of the Euromicro Conference on Real Time Systems (ECRTS) 2017 and 2018, the IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS) 2017 and 2018.

André Seznec is a member of IEEE Micro 2018 Top Picks selection committee.

André Seznec was a member of the IEEE Micro 2017 and SAMOS 2017 conference program committee.

9.1.2.3. Reviewer

Members of PACAP routinely review submissions to numerous international conferences and events.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Isabelle Puaut is Associate Editor of IEEE Transactions on Computers (IEEE TC).

André Seznec is a member of the editorial boards of IEEE Micro and ACM Transactions on Architecture and Compiler Optimization.

9.1.3.2. Reviewer - Reviewing Activities

Members of PACAP routinely review submissions to numerous international journals.

9.1.4. Invited Talks

Erven Rohou was invited to the seminar "WCET meets compilation". He presented an invited talk.

9.1.5. Leadership within the Scientific Community

Isabelle Puaut is member of the steering committee of RTNS (Real-Time Networks and Systems).

Isabelle Puaut is member of the steering committee of the Worst Case Execution Time (WCET) workshop, held in conjunction with the Euromicro Conference on Real Time Systems (ECRTS).

9.1.6. Research Administration

Isabelle Puaut is member of the Research Council (Commission Recherche) of the University of Rennes I. She is member of the working group "Habilitation à Diriger des Recherches".

Isabelle Puaut is member of the board of directors (Conseil d'Administration) of ISTIC (computer science and electrical engineering departement of University of Rennes I).

Erven Rohou is a member of the Inria CDT (Commission du Développement Technologique).

As “correspondant scientifique des relations internationales” for Inria Rennes Bretagne Atlantique, Erven Rohou is a member of the Inria COST GTRI (Groupe de Travail “Relations Internationales” du Comité d’Orientation Scientifique et Technologique).

André Seznec is an elected member of the Administration Council of Inria.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Damien Hardy, Linux and C programming, 22 hours, L3, Université de Rennes I, France

Licence: Damien Hardy, Real-time systems, 46 hours, L3, Université de Rennes I, France

Master: Damien Hardy, Operating systems, 60 hours, M2, Université de Rennes I, France

Master: Isabelle Puaut, Operating systems: concepts and system programming under Linux (SEL), 75 hours, M1, Université Rennes I, France

Master: Isabelle Puaut, Operating systems internals (NOY), 55 hours, M1, Université Rennes I, France

Master: Isabelle Puaut, Optimizing and Parallelizing Compilers (OPC), 6 hours, M2, Université Rennes I, France

Master: Isabelle Puaut, Real-time systems, 48 hours, M1, Université Rennes I, France

Master: Isabelle Puaut, Writing of scientific publications, 20 hours, M2/PhD, Université Rennes I, France

Master: Sylvain Collange, Parallel Programming, 22 hours, M1, Université Rennes I, France

Master: Sylvain Collange, GPU programming, 32 hours, M2, ESIR, France

Master: Sylvain Collange, Advanced computer architecture, 4 hours, M2, Université Rennes I, France

Master: Sylvain Collange, Advanced CUDA programming, 8 hours, M2, Université Pierre et Marie Curie Paris 6, France

Master: André Seznec, Advanced Architectures, 8 hours, M2, Université de Rennes I, France

9.2.2. Supervision

PhD: Nabil Hallou, *Runtime Optimization of Binary Through Vectorization Transformations*, Université Rennes I, Dec 2017, co-advisors E. Rohou and P. Clauss (EPI Camus Inria Strasbourg)

PhD: Andrea Mondelli, *Revisiting Wide Superscalar Microarchitecture*, Université Rennes I, Sep 2017, co-advisors P. Michaud and A. Seznec

PhD in progress: Rabab Bouziane, *Compilation techniques to exploit novel low-power architecture and technology solutions*, Université Rennes I, started Nov 2015, advisor E. Rohou and Abdoulaye Gamatié (LIRMM, Montpellier)

PhD in progress, Viet Anh Nguyen, *Worst-Case Execution Time (WCET) Estimation for Many-core Architectures*, Université Rennes I, started Jan 2015, co-advisors I. Puaut and D. Hardy.

PhD in progress, Benjamin Rouxel, *Code optimizations for WCET calculation on many-core platforms*, started Oct 2015, co-advisors I. Puaut (70 %) and S. Derrien (30 %) from the CAIRN group.

PhD in progress: Arif Ali Ana-Pparakkal, *Dynamic Function Specialization*, Université Rennes I, started Feb 2015, advisor E. Rohou

PhD in progress: Simon Rokicki, *Compilation dynamique hybride logiciel/matériel*, Université Rennes I, started Sep 2015, co-advisors E. Rohou and Steven Derrien (CAIRN)

PhD in progress: Kalitzidis Kleovoulos, *Ultrawide Issue Superscalar Processors*, Université Rennes I, started Dec 2016, advisor A. Seznec

PhD in progress: Niloofar Charmchi, *Hardware prefetching and related issues*, Université Rennes I, started Jan 2017, advisor A. Seznec

PhD in progress: Daniel Rodriguez Carvalho, *Towards a compressed memory hierarchy*, Université Rennes I, started Oct 2017, advisor A. Seznec

9.2.3. Juries

Isabelle Puaut was a member of the following committees:

- Antoine Blin, Vers une utilisation efficace des processeurs multi-cœurs dans les systèmes embarqués à criticités multiples, Université Pierre et Marie Curie (UPMC), January 2017 (reviewer)
- Laure Abdallah, Worst-case delay analysis of core-to-IO flows over many-cores architectures, Université de Toulouse, April 2017 (reviewer)
- Stefanos Skalistis, Efficient adaptive hard real-time multi-processor systems, École Polytechnique Fédérale de Lausanne (EPFL), October 2017 (reviewer)
- Fabrice Guet, Étude de l'application de la théorie des valeurs extrêmes pour l'estimation fiable et robuste du pire temps d'exécution probabiliste, Université de Toulouse, December 2017 (examiner)
- Nabil Hallou, Runtime optimization of binary through vectorization transformations, Université de Rennes I, December 2017 (examiner)
- Quentin Perret, Predictable execution on many-core processors, Université de Toulouse, April 2017 (examiner)
- Soukayna Msirdi, Modular Avionics Software Integration on Multi-Core COTS, Université de Toulouse, July 2017 (reviewer)

Erven Rohou was a member of the following committees:

- Nabil Hallou, Runtime optimization of binary through vectorization transformations, Université de Rennes I, December 2017.
- Laurent Georget, Suivi de flux d'information correct pour les systèmes d'exploitation Linux, Université de Rennes I, September 2017
- Mohammed Boussaa, Automatic Non-Functional Testing and Tuning of Configurable Generators, Université de Rennes I, September 2017.
- Thierno Barry, Sécurisation à la compilation de logiciels contre les attaques en fautes, Université de Lyon, CEA Grenoble, November 2017.
- Shixiong Xu, Data Layout Oriented Compilation Techniques in Vectorization for Multi-/Many-cores, Trinity College, Dublin, Ireland, June 2017.

Erven Rohou was an external expert in the recruitment committee of Alexandra Jimborean, Uppsala University, Sweden.

Erven Rohou was a member of the selection committee of Université de Paris-Est Marne-la-Vallée.

9.3. Popularization

Nicolas Kiss, Damien Hardy and Erven Rohou presented a poster at the "European Cyber Week", organized by the "Pôle d'Excellence Cyber".

Erven Rohou presented a poster at the Teratec Café, describing the ANTAREX H2020 project.

SUMO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Éric Badouel was the scientific chair of **CRI 2017**.
- Hervé Marchand is member of the IFAC Technical Committees (TC 1.3 on Discrete Event and Hybrid Systems) since 2005. Hervé Marchand is member of the steering committee of MSR (modélisation de systèmes réactifs) since 2012 and became president of this steering in November 2017;
- Nathalie Bertrand and Nicolas Markey are members of the steering committee of the Summer School MOVEP (“*Modelisation et Vérification des Processus Parallèles*”).

10.1.1.2. Member of the Organizing Committees

- Thierry Jéron is member of the steering committee of FMF 2017 (**Formal Methods Forum**), a forum gathering people from academia and industry and dedicated to the use of formal methods. It is held in Toulouse and, since this year, retransmitted in Grenoble, Saclay and Rennes. Two sessions took place in 2017, in January on the theme “Formal methods and cybersecurity” and in October about “Autonomous vehicles and formal methods”.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Nathalie Bertrand was PC co-chair with Luca Bortolussi of **QEST’2017**, the 14th International Conference on Quantitative Evaluation of Systems, held in Berlin in September 2017 [45].

10.1.2.2. Member of the Conference Program Committees

- Éric Badouel was member of the program committees of **VECOS 2017**, **ATAED 2017** and **CRI 2017**.
- Nathalie Bertrand was member of the PC of the following conferences: **LICS 2017**, **FCT 2017**, **MSR 2017**.
- Blaise Genest was a PC member of **ATVA 2017**;
- Thierry Jéron served on the Program Committees of the following international conferences: **SAC-SVT 2017** and **SAC-SVT 2018**.
- Hervé Marchand served on the Program Committees of **MSR 2017**, **Wodes 2018**, **CDC 2017**, **CCTA 2017**.
- Nicolas Markey was a PC member of **ATVA 2017**, **FORMATS 2017**, **SR 2017**.
- Ocan Sankur was a PC member of **SR 2017** and **SYNT 2017**.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Éric Badouel is co-editor-in-Chief of **ARIMA Journal**.

10.1.4. Invited Talks

- Nathalie Bertrand was invited to give a talk at the workshop organized for the 20 years of LSV (ENS Cachan) in May 2017. She was also invited to talk at the workshop OPCT (Open Problems in Concurrency) in June 2017 at IST Vienna (Austria).
- Hervé Marchand gave an invited talk during the conference of MSR (November 2017) titled *Contribution to the Analysis of Discrete Event Systems* as well as during the workshop “30 years of the Ramadge-Wonham Theory of Supervisory Control: A Retrospective and Future Perspectives” at the CDC conference in December 2017 titled *Opacity and Supervisory Control*.
- Nicolas Markey gave an invited talk about *Temporal logics for multi-agent systems* at MFCS 2017, Aalborg (Denmark), in August 2017 [27].

10.1.5. Leadership within the Scientific Community

- Since September 2017, Nathalie Bertrand is, together with Pierre-Alain Reynier, co-head of the *Groupe de Travail Verif* belonging to the *GDR Informatique Mathématique* (GDR-IM).

10.1.6. Research Administration

- Éric Badouel is the co-director (with Moussa Lo, UGB, Saint-Louis du Sénégal) of LIRIMA, the Inria International Lab for Africa. He is scientific officer for the African and Middle-East region at Inria European and International Partnership Department and member of the executive board of GIS SARIMA.
- Nathalie Bertrand is elected member of the *Conseil National des Universités*, section 27 (computer science).
- Nathalie Bertrand, Loïc Hélouët and Ocan Sankur organize the weekly seminar 68NQRT at IRISA (40 talks each year).
- Éric Fabre is the co-director (with Olivier Audouin, Nokia) of the joint lab of Nokia Bell Labs France and Inria. The lab has been running for 9 years and started in Nov. 2017 its 3rd phase of joint research teams. A series of 6 new teams just started, for a duration of 4 years. They cover topics like network virtualization, network management, information theory, (distributed) machine learning, network security. SUMO is involved in the joint team "Softwarization of Everything".
- Loïc Hélouët is a representative of rank-B researchers in the *Comité de Centre* of Inria Rennes. He is also part of the bureau of the *Comité de Centre*. He leads the P22 projects with Alstom transports and is responsible for Workpackage 2 of the Headwork ANR project.
- Thierry Jérón is Member Committee Substitute for COST IC1402 ARVI (Runtime Verification beyond Monitoring). He is member of the IFIP Working Group 10.2 on Embedded Systems. He is member of the COS Prospective of Inria Rennes and member of the *Comité de Centre* of Inria Rennes. Since 2016 he is *réfèrent chercheur* for the Inria-Rennes research center.
- Hervé Marchand is chairman of the CUMI in Rennes and member of the ADT commission in Rennes.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Licence: Nathalie Bertrand, Advanced Algorithms (ALGO2), 20h, L3, Univ Rennes 1, France;
- Licence: Loïc Hélouët, JAVA and algorithmics, L2, 40h, INSA de Rennes, France.
- Licence: Loïc Hélouët, practical studies (development of a small project), 8h, INSA de Rennes, France.
- Master : Nathalie Bertrand, Language Theory; Algorithms, 15h, Agrégation, ENS Rennes, France;
- Master: Éric Fabre, Models and Algorithms for Distributed Systems (MADS), 10h, M2, Univ Rennes 1, France;

- Master: Éric Fabre, Information Theory, 15h, M1, ENS Rennes, France.
- Master: Blaise Genest, Verification of Complex Systems (CSV), 10h, M2, Univ. Rennes 1, France;
- Master: Loïc Hélouët, Algorithms; complexity, 8h, Agrégation, ENS Rennes, France;
- Master: Loïc Hélouët, Nathalie Bertrand, Ocan Sankur, supervision of 3 students in M1 SIF (2017-2018).
- Master: Nicolas Markey, Verification of Complex Systems (CSV), 10h, M2, Univ Rennes 1, France;
- Master: Nicolas Markey, Algorithms for graphs, 3h, Agrégation, ENS Rennes, France;
- Master: Ocan Sankur, Lab sessions for the course on Formal Analysis and Design (ACF), 22h, M1, Univ. Rennes 1, France.

10.2.2. Supervision

10.2.2.1. Defences

- HdR: Hervé Marchand, *Contribution to the Analysis of Discrete Event Systems* [15], Univ. Rennes 1. The defence took place on 6 June 2017.
- PhD: Bruno Karelovic, *Analyse quantitative des systèmes stochastiques – Jeux de priorité et population de chaînes de Markov*, Univ. Paris 7. The defence took place on 7 July 2017. Co-directed by Blaise Genest.

10.2.2.2. PhD in progress

- Robert Nsaibirni, *A Guarded Attribute Grammar Model for User centered Distributed Collaborative Case Management: Case of the Disease Surveillance Process*, co-advised by Éric Badouel and Maurice Tchuenté (University of Yaoundé).
- Engel Lefauchaux, *Controlling information in probabilistic systems*, started September 2015, Nathalie Bertrand and Serge Haddad
- The Anh Pham, *Dynamic Formal Verification of High Performance Runtimes and Applications*, started Nov. 2016, Thierry Jéron and Martin Quinson (Myriads, Inria Rennes).
- Karim Kecir, *Régulation et robustesse des systèmes ferroviaires urbains*, planned May 2018, Loïc Hélouët and Pierre Dersin (Alstom).
- Hugo Bazille, *Information flows in quantitative dynamic systems*, started oct. 2016, Blaise Genest and Éric Fabre.
- Erij Elmajed, *Diagnosis of reconfigurable systems*, started March 2017, Éric Fabre and Armen Aghasaryan (Nokia).
- Sihem Cherrared, *Diagnosis of multi-tenant programmable networks*, started Dec. 2016, Éric Fabre, Gregor Goessler (Inria, Spades) and Sofiane Imadali (Orange).
- Victor Roussanaly, *Efficient verification of timed systems*, started Sep. 2017, Nicolas Markey and Ocan Sankur.

10.2.2.3. Master2 internship supervision

- Internship Aina Toky Rasoamanana, Feb-July 2017, Nathalie Bertrand and Nicolas Markey
- Internship Victor Roussanaly, Feb-June 2017, Nicolas Markey and Ocan Sankur

10.2.2.4. Other internship supervision

- L3 Internship of Balasubramanian A.R., May-July 2017, Nathalie Bertrand and Nicolas Markey
- L3 Internship of Thomas Mari, *Observation-based unfolding of Petri nets*, (May-July 2017)
- L3 Internship of Romain Boitard, *Design of interfaces for railway systems*, (April-June 2017)

10.2.3. Juries

10.2.3.1. Juries of PhD defences:

- Nicolas David, École Centrale Nantes, october 2017 : Nathalie Bertrand examiner;

- Thomas Geffroy, Univ. Bordeaux, december 2017: Nathalie Bertrand examiner;
- Ludovic Hofer, Univ. Bordeaux, november 2017: Blaise Genest examiner;
- Daniel Stan, École Normale Supérieure Paris-Saclay, march 2017: Nathalie Bertrand reviewer;
- Serge Tembo, Telecom Bretagne, January 2017: Éric Fabre examiner.

10.2.3.2. Other juries

- Ocan Sankur was in the computer science entrance exam jury of École Normale Supérieures and École Polytechnique.

10.3. Popularization

- Éric Badouel gave a talk at TEDx Lorient on digital democracy (coordination of citizen debates).

TAMIS Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Axel Legay was General Chair for KimFest, an event organized for the 60th Birthday of Kim. G. Larsen
- Axel Legay was General Chair for the 1st ACM SAC Conference Track on Software-intensive Systems-of-Systems
- Jean-Louis Lanet was General Chair of Crisis 2017,
- Olivier Zendra was General co-Chair for ARCHI'17, the 9th Summer school on « Architecture des systèmes matériels et logiciels embarqués, et méthodes de conception associées »

10.1.1.2. Member of the Organizing Committees

- Axel Legay coordinated KimFest, an event organized for the 60th Birthday of Kim. G. Larsen

10.1.2. Scientific Events Selection

10.1.2.1. Member of Conference Steering Committees

- Axel Legay is a member of the Steering Committee of the Security summer school organized jointly by pre-GDR security and PEC (Pole d'Excellence Cyber).
- Jean-Louis Lanet has been member of the Steering Committee of Cardis 2017
- Olivier Zendra is a founder and a member of the Steering Committee of ICOOOLPS (International Workshop on Implementation, Compilation, Optimization of OO Languages, Programs and Systems)

10.1.2.2. Chair of Conference Program Committees

- Axel Legay was Scientific chair of the 23rd International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)
- Axel Legay was the Scientific chair for the 11th International Conference on Risks and Security of Internet and Systems
- Axel Legay was the Scientific chair for the 17th International Conference on Application of Concurrency to System Design (ACSD 2017)
- Olivier Zendra was co-chair with Mario Wolzco of the Program Committee and the Organizing Committee of the 12th Workshop on Implementation, Compilation, Optimization of Object-Oriented Languages, Programs and Systems (ICOOOLPS 2017)

10.1.2.3. Member of the Conference Program Committees

- Axel Legay was a PC member of RV'17, ACSD'17, TACAS'17, CRISIS'17, CMSB'17, SETTA'17, FORMALIZE'17
- Fabrizio Biondi was a PC member of CRISIS'17, MCETECH'17, SAC'17
- Jean-Louis Lanet was PC member of Gramsec'17, Secitec'17, C2SI'17, Mcetech'17 and Afadl'17
- Olivier Zendra was PC member of ICOOOLPS'2017, ARCHI'17 and PEC 2017.

10.1.2.4. Reviewer

- Olivier Zendra was reviewer for MFCS.

- Fabrizio Biondi was a reviewer for CRISIS'17, ESORICS'17, KimFest, LATA'17, MFCS'17, RV'17, MCETECH'17

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Axel Legay is a funder and member of the editorial board of "Foundations for Mastering Changes" journal.
- Annelie Heuser was PC Member/Editorial Board for IACR Transactions On Cryptographic Hardware And Embedded Systems

10.1.3.2. Reviewer - Reviewing Activities

- Axel Legay was reviewer for TCS, TSE, Information and Computation.
- Annelie Heuser was a reviewer for Transactions on Information Forensics & Security, Journal of Cryptographic Engineering, Transactions on Embedded Computing Systems, IEEE Transactions on Very Large Scale Integration Systems
- Jean-Louis was reviewer of Computer and Security journal

10.1.4. Invited Talks

- Axel Legay was an invited speaker for the 11th International Workshop on Reachability Problems.
- Axel Legay was invited speaker for the 43rd International Conference on Current Trends in Theory and Practice of Computer Science
- Fabrizio Biondi was invited speaker for The 12th International Conference on Risks and Security of Internet and Systems
- Florian Dold was invited to the "Re-Imagining Finance" workshop at Columbia Law School in New York City in September 2017.
- Annelie Heuser was invited to a panel discussion for Malicious Software and Hardware in Internet of Things (ACM International Conference on Computing Frontiers)
- Jean-Louis Lanet was invited speaker for the INS3PECT workshop, the ROOTS conference, the Conference on Operational Planning, Technological Innovations and Mathematical Applications, the Journée AFSEC. 2017)

10.1.5. Scientific Expertise

- Axel Legay was an expert for the Wallonie Government.
- Axel Legay participated to the CR2 jury for Inria Nice Center as a member of Inria's evaluation committee.
- Olivier Zendra is a CIR expert for the MENESR.
- Olivier Zendra participated to the CR2 jury for Inria Paris Center as a member of Inria's evaluation committee.
- Olivier Zendra is a member of the editorial board and co-author of the "HiPEAC 2017 Vision" [47], as well as the HiPEAC 2019 Vision.

10.1.6. Research Administration

- Axel Legay is a member of Inria's evaluation committee.
- Axel Legay is the Representative for non-permanent staff committees (in charge of postdocs).
- Axel Legay is a member of "club équipe Française de la cyber sécurité"
- Axel Legay is the Brittany Region representative in the ECSO organization
- Olivier Zendra is a member of Inria's evaluation committee.
- Olivier Zendra is a member of Inria's workgroup on Inria's social barometer.

- Olivier Zendra was a member of Inria's CNHSCT.
- Olivier Zendra was Head of Inria Nancy's IES Committee (formerly IST).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master : Axel Legay, Introduction au Model Checking, 36, M2, Université de Bretagne Sud, France
- Master : Axel Legay, Introduction à l'analyse de risques, M2, Université de Bretagne Sud, France
- Licence : Nisrine Jafri , Programmation Java, L3, l'ISTIC, Université Rennes 1, France

10.2.2. Supervision

- PhD in progress : Kevin Bukasa, Démarrage sécurisé, 2015, Jean-Louis Lanet and Axel Legay
- PhD in progress : Mounir Chadli (Rennes 1), On Scheduling and SMC, December 2014, Axel Legay and Saddek Bensalem.
- PhD in progress : Olivier Descourbe, On Code Obfuscation, October 2016, Axel Legay and Fabrizio Biondi.
- PhD in progress : Mike Enescu, On Symbolic Execution for Malware Detection, October 2016, Axel Legay, Flavio Oquendo and Fabrizio Biondi. Terminated on October 2017.
- PhD in progress : Alexandre Gonsalvez, On Obfuscation via crypto primitives, April 2016, Axel Legay and Caroline Fontaine.
- PhD in progress : Nisrine Jafri (Rennes1), On fault Injection detection with MC of Binary code, December 2015, Axel Legay and Jean-Louis Lanet.
- PhD in progress : Razika Lounas, Validation des spécifications formelles de la mise à jour dynamique des applications Java Card, 2010, Mohamed Mezghiche and Jean-Louis Lanet
- PhD in progress: Martin Moreau (Rennes1); On the study of post-quantum cryptography mechanisms (provisory), Axel Legay, Annelie Heuser and Sylvain Guilley
- PhD in progress : Routa Moussaileb, From Data Signature to Behavior Analysis, 2017, Nora Cuppens and Jean-Louis Lanet
- PhD in progress : Tristan Ninet (Rennes 1), Vérification formelle d'une implémentation de la pile protocolaire IKEv2, December 2016, Axel Legay, Romaric Maillard and Olivier Zendra
- PhD in progress: Lamine Nouredine (Rennes1); Developing new packing detection techniques to stop malware propagation, November 2017, Axel Legay and Annelie Heuser.
- PhD in progress : Aurélien Palisse, Observabilité de codes hostiles, 2015, Jean-Louis Lanet
- PhD in progress: Emmanuel Tacheau (Rennes1); Analyse et détection de malwares au moyen de méthodes d'analyse symbolique, September 2017, Axel Legay, Fabrizio Biondi, Alain Fiocco.
- PhD in progress : Aurélien Trulla, Caractérisation de malware Android par suivi de flux d'information et nouvelles techniques d'évasion, 2016, Valerie Viet Triem Tong and Jean-Louis Lanet
- PhD in progress: Alexander Zhdanov (Rennes 1): Modular Automated Syntactic Signature Extraction (MASSE), December 2017, Axel Legay, Fabrizio Biondi, François Déchelle and Olivier Zendra.

10.2.3. Juries

- Axel Legay was a referee for the PhD defense of Xavier Devroye (University of Namur Belgium)
- Axel Legay was a referee for the PhD defense of Quentin Cappart (University of Louvain Belgium)
- Axel Legay was a referee for the PhD defense of Stefan Naujokat (University of Dortmund, Germany)

10.3. Popularization

- Axel Legay participated to the "Forum Cyberstrategia" organized by the ministry of defense, September 2017
- Axel Legay participated to the "Inria Industry days" organized by Inria, October 2017
- Axel Legay participated to the "table ronde sur l'intelligence économique", Rennes November 2017
- Fabrizio Biondi participated to the "Forum International de la Cybersécurité", January 2017
- Fabrizio Biondi participated to the "Forum Cyberstrategia" organized by the ministry of defense, September 2017
- Fabrizio Biondi participated to the "Inria Industry days" organized by Inria, October 2017
- Fabrizio Biondi participated to the "European Cyber Week" organized by IRISA and Bretagne Development Innovation, November 2017

TEA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, scientific chair

Jean-Pierre Talpin served as General Chair and Finance Chair of the 15th. ACM-IEEE Conference on Methods and Models for System Design in Vienna.

10.1.1.2. Member of the organizing committees

Jean-Pierre Talpin is a member of the steering committee of the ACM-IEEE Conference on Methods and Models for System Design (MEMOCODE).

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Jean-Pierre Talpin served the program committee of:

- ACSD'17, 17th. International Conference on Application of Concurrency to System Design
- LCTES'17, 20th. ACM SIGPLAN-SIGBED Conference on Languages, Compilers, and Tools for Embedded Systems
- SAC'18, 33rd. ACM SIGAPP Symposium on Applied Computing
- SCOPES'17, 20th. International Workshop on Software and Compilers for Embedded Systems

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Jean-Pierre Talpin is Associate Editor with the ACM Transactions for Embedded Computing Systems (TECS).

10.1.3.2. Reviews

Thierry Gautier reviewed articles for *Information Processing Letters*.

10.1.4. Invited Talks

Jean-Pierre Talpin gave a keynote speech, entitled "Compositional methods for CPS design" at the Symposium on Dependable Software Engineering (SETTA'17) in Changsha, October 25.

10.1.5. Invited Talks

Albert Benveniste and Thierry Gautier previewed a seminar at SYNCHRON'17 to be given at the Collège de France in Gérard Berry's 2017-2018 lecture course.

10.1.6. Scientific Expertise

Jean-Pierre Talpin was nominated vice-president of ANR evaluation committee CES-25

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Jean-Pierre Talpin gave a one week class "Introduction to model-checking" at Nankai University in July and at Beihang University in November.

10.2.2. Supervision

Jean-Pierre Talpin co-supervises the PhD Thesis of Simon Lunel, Liangcong Zhang and Jean-Joseph Marty

10.2.3. Juries

Jean-Pierre Talpin served as rapporteur at the HDR Thesis defense of Jérôme Hugues, entitled “Architecture in the Service of Real-Time Middleware, Contributions to Architecture Description Languages”, which took place at INP Toulouse on February 22.

Jean-Pierre Talpin served as rapporteur at the HDR Thesis defense of Maxime Pelcat, entitled “Models, methods and tools for bridging the design productivity gap of embedded signal processing systems”, which took place at Institut Poincaré in Clermond-Ferrand on July 10.

ASPI Team

8. Dissemination

8.1. Promoting scientific activities

8.1.1. Scientific events organisation

Valérie Monbet has co-organized the workshop and summer school on **Data Science and Environment**, held in Brest in July 2017. The conference gathered researchers that have an expertise in one of the two areas (data science, environmental data) and some interest for the other. Its main goal was to explore the fruitful interplay between the two areas, and ultimately to help create new connections and collaborations between the scientific communities involved. Another objective was to propose some high level courses and practices at the interaction of these two areas.

8.1.2. Participation in workshops, seminars, lectures, etc.

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

Frédéric Cérou has given an invited talk on the convergence of adaptive multilevel splitting at the workshop **Quasistationary Distributions: Analysis and Simulation** held in Paderborn in September 2017.

Patrick Héas has presented his joint work with Mamadou Lamarana Diallo and Cédric Herzet (EPI FLUMINANCE, Inria Rennes–Bretagne Atlantique) on model reduction with “multi-space” prior information, at the **European Conference on Numerical Mathematics and Advanced Applications** (ENUMATH), held in Voss, Norway, in September 2017.

Thi Tuyet Trang Chau has presented her work on non parametric state–space model for missing–data imputation, at the workshop on **Data Science and Environment**, held in Brest in July 2017.

8.1.3. Research administration

François Le Gland is a member of the *conseil d’UFR* of the department of mathematics of université de Rennes 1. He is also a member of the *conseil scientifique* for the EDF/Inria scientific partnership.

Valérie Monbet is a member of both the *comité de direction* and the *conseil* of IRMAR (institut de recherche mathématiques de Rennes, UMR 6625). She is also the deputy head of the department of mathematics of université de Rennes 1, where she is a member of both the *conseil scientifique* and the *conseil d’UFR*.

8.2. Teaching, supervision, thesis committees

8.2.1. Teaching

Patrick Héas gives a course on **Monte Carlo simulation methods in image analysis**, at université de Rennes 1, within the SISEA (signal, image, systèmes embarqués, automatique) track of the master in electronical engineering and telecommunications.

François Le Gland gives

- a 2nd year course on **introduction to stochastic differential equations**, at INSA (institut national des sciences appliquées) Rennes, within the GM/AROM (risk analysis, optimization and modeling) major in mathematical engineering,
- a 3rd year course on **Bayesian filtering and particle approximation**, at ENSTA (école nationale supérieure de techniques avancées), Palaiseau, within the statistics and control module,
- a 3rd year course on **linear and nonlinear filtering**, at ENSAI (école nationale de la statistique et de l’analyse de l’information), Ker Lann, within the statistical engineering track,
- a course on **Kalman filtering and hidden Markov models**, at université de Rennes 1, within the SISEA (signal, image, systèmes embarqués, automatique, école doctorale MATISSE) track of the master in electronical engineering and telecommunications,
- and a 3rd year course on **hidden Markov models**, at Télécom Bretagne, Brest.

Valérie Monbet gives

- a course on machine learning for biology at université de Rennes 1, within
 - the G2B (genetics, genomics, biochemistry) track of the master in molecular and cellular biology,
 - the MODE (modélisation en écologie) track of the master in biodiversity, ecology, evolution
 - and the master in scientific computing and modelling,
- a course on machine learning for environmental data, at the summer school on **Data Science and Environment**, held in Brest in July 2017,
- a course on graphical models at université de Rennes 1, within the master on applied mathematics and statistics,
- a course on MATLAB at université de Rennes 1, within the master in economics and financial engineering.

8.2.2. Supervision

François Le Gland and Valérie Monbet are jointly supervising one PhD student

- Thi Tuyet Trang Chau, provisional title: *Non parametric filtering for Metocean multi-source data fusion*, université de Rennes 1, started in October 2015, expected defense in October 2018, funding: Labex Lebesgue grant and Brittany council grant, co-direction: Pierre Ailliot (université de Bretagne Occidentale, Brest).

François Le Gland is supervising three other PhD students

- Kersane Zoubert-Ousseni, provisional title: *Particle filters for hybrid indoor navigation with smart-phones*, université de Rennes 1, started in December 2014, expected defense in 2017, funding: CEA grant, co-direction: Christophe Villien (CEA LETI, Grenoble),
- Audrey Cuillery, provisional title: *Bayesian tracking from raw data*, université du Sud Toulon Var, started in April 2016, expected defense in 2019, funding: CIFRE grant with DCNS, co-direction: Claude Jauffret (université du Sud Toulon Var) and Dann Laneuville (DCNS, Nantes).
- Ramatoulaye Dabo, provisional title: *Rare event simulation in epidemiology*, université Assane Seck de Ziguinchor (Senegal) and université de Rennes 1, started in September 2015, expected defense in 2018, co-direction: Alassane Diedhiou (université Assane Seck de Ziguinchor).

Valérie Monbet is supervising two other PhD students

- Audrey Poterie, provisional title: *Régression d'une variable ordinale par des données longitudinales de grande dimension : application à la modélisation des effets secondaires suite à un traitement par radiothérapie*, université de Rennes 1, started in October 2015, expected defense in 2018, funding: INSA grant, co-direction: Jean-François Dupuy (INSA Rennes) and Laurent Rouvière (université de Haute Bretagne, Rennes).
- Marie Morvan, provisional title: *Modèles de régression pour données fonctionnelles. Application à la modélisation de données de spectrométrie dans le proche infra rouge*, université de Rennes 1, started in October 2016, expected defense in 2019, funding: MESR grant, co-direction: Joyce Giacomci (université de Haute Bretagne, Rennes) and Olivier Sire (université de Bretagne Sud, Vannes).

Mathias Rousset is supervising one PhD student

- Yushun Xu, provisional title: *Variance reduction of overdamped Langevin dynamics simulation*, université Paris-Est, started in October 2015, expected defense in 2018, co-direction: Pierre-André Zitt (université Paris-Est).

Patrick Héas has been supervising two post-doctoral fellows

- Hassan Maatouk, title: *Compressing the model by exploiting observations*, EPI ASPI, Inria Rennes–Bretagne Atlantique, started in September 2016, ended in September 2017, funding: ANR GERONIMO, co-supervision: Cédric Herzet (EPI FLUMINANCE, Inria Rennes–Bretagne Atlantique).
- Mamadou Lamarana Diallo, title: *Model reduction with “multi-space” prior information*, EPI FLUMINANCE, Inria Rennes–Bretagne Atlantique, started in October 2016, ended in October 2017, funding: ANR GERONIMO, co-supervision: Cédric Herzet (EPI FLUMINANCE, Inria Rennes–Bretagne Atlantique).

8.2.3. Thesis committees

François Le Gland has been a member of the committee for the HDR of Christian Musso (université du Sud, Toulon).

Mathias Rousset has been a member of the committee for the PhD thesis of G r me Faure (CERMICS Ecole des Ponts Paris-Tech and CEA DAM, advisor: Gabriel Stoltz and Jean–Bernard Maillet).

I4S Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Selection

10.1.1.1. Member of the Conference Program Committees

J. Dumoulin is

- member of the scientific committee of the GI Division (Geosciences Instrumentation and Data Systems) of EGU (European Geosciences Union) for infrastructure instrumentation and monitoring since April 2013. (<http://www.egu.eu/gi/structure/>)
- member of the scientific committee of QIRT (quantitative Infrared Thermography) since February 2014 (<http://www.qirt.org/>)
- organizer and chair of a session at EGU 2017 (<http://www.egu2017.eu/>).

Q. Zhang is

- member of the international program committee of the 18th IFAC Symposium SYSID that will take place in Stockholm, Sweden, July 9-11, 2018.
- member of the international program committee of the 10th IFAC Symposium SAFEPROCESS that will take place in Warsaw, Poland, 29-31 August 2018.
- member of IFAC Technical Committee on Modelling, Identification and Signal Processing.
- member of IFAC Technical Committee on Fault Detection, Supervision and Safety of Technical Processes.
- member of IFAC Technical Committee on Adaptive and Learning Systems.

L. Mevel is

- member of the EWSHM scientific committee.
- member of the IOMAC scientific committee.

V. Le Cam is

- member of the IWSHM scientific committee.
- head and general secretary of the EWSHM scientific committee.

M. Doehler is member of IFAC Technical Committee on Modelling, Identification, and Signal Processing.

10.1.1.2. Reviewer

V. Le Cam was session chairman for IWSHM 2017 in Stanford

L. Mevel was session chairman for IWSHM 2017 in Stanford

Q. Zhang was reviewer for CDC 2017, ACC 2018.

M. Doehler was session organizer at a COST workshop (<http://www.cost-tu1402.eu/>), session chairman at IOMAC 2017, and reviewer for ACC 2018.

J. Dumoulin was reviewer for QIRT ASIA 2017 and session chairman at EGU 2017 in GI division

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

L. Mevel is member of the editorial board of the journal Mathematical Problems in Engineering, and of the journal Shock and Vibration.

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

J. Dumoulin is member of the editorial board of the journal Quantitative Infrared Thermography, and of the journal Geoscientific Instrumentation and Data Systems.

10.1.2.2. Reviewer - Reviewing Activities

L. Mevel was reviewer for Mechanical Systems and Signal Processing, journal of Sound And Vibration, Sensors, Advanced Engineering Informatics, Structural Control and Health Monitoring, Advances in Structural Engineering

M. Doehler was reviewer for Automatica, Mechanical Systems and Signal Processing, Journal of Sound and Vibration, Journal of Testing and Evaluation

J. Dumoulin was reviewer for Quantitative Infrared Thermography Journal, GI Journal (EGU), SFT conference, ASME New NDE Journal

F. Gillot was reviewer for Structural and Multidisciplinary Optimization, Applied Mathematical Modelling, Shock and Vibration, Applied Sciences

10.1.3. Invited Talks

M. Doehler and L. Mevel, "Méthodes statistiques pour l'analyse vibratoire des structures," Journée scientifique Évaluation non destructive dans le génie civil de l'énergie, Nantes, France

M. Doehler, "Subspace-based methods for damage assessment," Wölfel Engineering, Würzburg, Germany

J. Dumoulin, "Infrared thermography in civil engineering: from non destructive testing in laboratory to outdoor thermal monitoring", QIRT ASIA 2017, Daejeon, South Korea

N. Le Touz, J. Dumoulin and J-M. Piau, " Etude et développement d'un modèle EF de transfert de chaleur multi-physique : application à l'étude de routes solaires hybrides", Journée thématique du groupe rayonnement de la société Française de Thermique sur "Méthodes numériques pour la résolution de l'équation de transfert radiatif : développements récents, modèles, et objectifs", Paris, France

V. Le Cam, "Internet of Things and new challenges for Transportation and Structural Monitoring", plenary talk given to Committee of Transport Ministry, on 25 January 2017, to CEA List, on 16th March 2017, and to assembly of COFREND (500 people) on 30th May 2017

10.1.4. Research Administration

V. Le Cam is member of the scientific council of WEN (West Electronic Network) since 2014, which is a cluster of about 200 companies, academics and research laboratories active in electronics. During 2017, he has been involved amongst others in meetings and selection of R&D projects, PhD and post-doc funding, international mobility.

M. Doehler was reviewer of a research proposal submitted to the Polish National Science Centre (national research agency).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

J. Dumoulin

- Licence Professionnelle TAM : thermographie infrarouge active, 16h, Université Paris-Est, France
- Master 2 MMMRI (Maintenance et Maîtrise des Risques Industriels), contrôle non destructif par thermographie infrarouge active, 12h, Université Paris-Est, France
- Master 2 ITII, BTP, module Maintenance et réhabilitation des ouvrages, Transferts thermiques dans les Structures : Des principes physiques à l'application sur site réel, 12 h, Ecole Centrale de Nantes(ECN), France.
- Conference course, 2h, IR inspection of infrastructures: Scope of application, technical solutions and analysis methods, QIRT ASIA 2017, Daejeon, South Korea

V. Le Cam

- Master 2 Civil engineering, Structural Monitoring, 4h, Université de Nantes, France
- Licence 3 Professional SEICOM, 3h of theoretical lessons and 20H of practical lessons on Embedded and Smart Systems, Université de Nantes, France
- ESEO, 16h, practical lessons on embedded and smart systems under Linux, France
- Master 2 Electrical Engineering (GEII), 4h on electronic systems and Structural Monitoring, Université Bretagne Sud, France

M. Doehler

- Master 1 informatique, 24 TD projet recherche, Université de Rennes 1 & ENS Rennes, France
- Cycle préparatoire intégré, STPI, mathématiques, 96h TD, INSA Rennes, France
- Conference course, 2h, Advanced Operational Modal Analysis using Stochastic Subspace Identification and its Applications, IOMAC 2017, Ingolstadt, Germany

X. Chapeleau

- Licence Pro Mesures physiques, Mesures optiques, 15h, IUT de St Nazaire, Université de Nantes, France

T. Toullier

- Master 1, TP Capteurs (12h), contrôle, commandes, École Centrale de Nantes, France
- Foundation Master, TD Programming and Data Analysis (14h), École Centrale de Nantes, France

F. Gillot

- Master 1, Conception optimale robuste de systèmes mécaniques (10h), École Centrale de Lyon, France
- Master 1, Dynamique des systèmes biologiques humains (4h), École Centrale de Lyon, France
- Formation initiale des ingénieurs de l'École Centrale de Lyon, TP, TD, BE, niveau L3, (50h), France

10.2.2. Supervision

PhD : Antoine Bassil, *Fibre-optic sensor for fatigue monitoring*, D. Leduc, O. Abraham and X. Chapeleau. Ecole doctorale SPIGA, Université de Nantes, since November 2016.

PhD : Delwar Hossain Bhuyan, *Damage localisation for civil structures*, L. Mevel, F. Schoefs, Y. Lecieux and M. Doehler. Ecole doctorale MathSTIC, Université de Rennes 1, defended in 2017.

Guillaume Gautier's post-doctoral project on morphosense sensors, L. Mevel, 2015-2017.

Shubamoy Sen's post-doctoral project on seismic event monitoring, L. Mevel, 2016-2017.

Guillaume Gautier's post-doctoral project on seismic event monitoring, L. Mevel, 2017-2018.

Ludovic Gavérina post-doctoral project on in-situ measurement of thermal resistance of building envelopes, J. Dumoulin, march 2017- february 2019.

PhD : Nassif Berrabah, *Electrical cable ageing monitoring*, Q. Zhang, Ecole doctorale MathSTIC, Université de Rennes 1, defended in 2017.

PhD : Nicolas Le Touz, *Design and study of positive energy transport infrastructures: from thermo-mechanical modeling to the optimization of such energy systems* J. Dumoulin. Ecole Centrale Nantes (ECN) since december 2015.

PhD : Thibault Toullier, *Simultaneous characterization of the radiative properties and temperatures of envelopes of structures in natural environment by multispectral infrared thermography* L. Mevel, J. Dumoulin and M. Doehler. Ecole doctorale MathSTIC, Université de Rennes 1, since November 2016.

PhD : Saeid Allahdadian, *Methods for vibration-based damage assessment*, M. Doehler and C. Ventura. University of British Columbia, Canada, defended in 2017.

PhD : Eva Viefhues, *Statistical damage localization for civil structures*, L. Mevel and M. Doehler. Ecole doctorale MathSTIC, Université de Rennes 1, since November 2016.

PhD : Francesco Giordano, *Value of information for strain monitoring of infrastructure*, M. Doehler and MP. Limongelli and F. Bourquin. Politecnico Milano, Italy, since November 2017.

PhD : David Pallier, *Sensor Enhancement to Augmented Usage and Reliability*, S. Pillement, IETR, V. Le Cam, Ecole doctorale MathSTIC

J. Dumoulin is associate professor at Laval University, Canada.

M. Doehler is associate researcher at BAM, Germany.

10.2.3. Juries

Jean Dumoulin was invited jury member for the PhD defense of Yingying YANG at I2M in Bordeaux.

10.3. Popularization

The Hybrid solar road Mock-up (presented at the French Pavillon during COP21) has been invited and presented at:

- Forum National des Travaux Publics, Carroussel du Louvre (Paris), February 2017
- Innovation day des Travaux Publics, Casino du Lyon Vert (Lyon), December 2017
- Fête de la science, Ecole d'architecture de Nantes, October 2017

IPSO Project-Team

6. Dissemination

6.1. Promoting Scientific Activities

6.1.1. Scientific Events Organisation

6.1.1.1. Member of the Organizing Committees

- F. Castella organized the workshop "Multiscale numerical methods", Saint-Malo, december 13-15 2017. [15 participants]
- N. Crouseilles co-organized the weekly seminar "Mathematic and applications", ENS Rennes.
- N. Crouseilles co-organized the Nantes-Rennes meeting at the university of Nantes, january 19 2017. [50 participants]
- N. Crouseilles organized the IPL FRATRES meeting at Inria Rennes, november 27-28 2017. [30 participants]
- N. Crouseilles and M. Lemou co-organized (with C. Cheverry and K. Pravda-Starov) the international workshop "Analysis of transport equations: Vlasov and related models", Rennes, may 16-19 2017. [50 participants]
- E. Faou organizes a work-group on "Mathematics of deep learning" (Inria, IRMAR and Technicolor), Rennes, France.
- E. Faou organized the mini-symposium "Methods for the nonlinear Schrödinger equations, solitary waves and discrete patterns", with T. Matsuo (University of Tokyo), at the Scicade international conference, Bath (UK), september 11-15 2017.
- E. Faou co-organized the conference ANSIVAL on the occasion of the 60th birthday of M. Dauge (IRMAR), Rennes, France, february 8-10 2017. [70 participants]

6.1.2. Journal

6.1.2.1. Member of the Editorial Boards

- P. Chartier is associate editor of M2AN (2007-).
- A. Debussche is editor in chief of Stochastic Partial Differential Equations: analysis and computations (2013-).
- A. Debussche is associate editor of Differential and Integral Equations (2002-).
- A. Debussche is associate editor of Potential Analysis (2011-).
- A. Debussche is associate editor of ESAIM:PROC (2012-).
- A. Debussche is associate editor of Journal of Evolution Equation (2014-).
- A. Debussche is associate editor of Applied Mathematics & Optimization (2014-).
- A. Debussche is associate editor of SIAM JUQ (2017-).
- A. Debussche is member of the editorial board of the collection "Mathématiques & Applications de la SMAI", Springer.

6.1.2.2. Reviewer - Reviewing Activities

The members of the IPSO team are reviewers for almost all the journals in which they publish.

6.1.3. Invited Talks

National conferences

- A. Crestetto gave talk at Congrès SMAI 2017, La Tremblade, june 5-9 2017.
- The members of the team gave several seminars in french institutions (Marseille, Cergy, Toulouse, Nancy, CEA Cadarache, ...).

International conferences

- P. Chartier was invited speaker at FoCM 2017, workshop on "Geometric Integration and Computational Mechanics" (july 10-12), Barcelona, Spain.
- P. Chartier was invited speaker at "Mathematical and Computational Methods for Quantum and Kinetic Problems", (june 12-14), Beijing, China.
- P. Chartier was invited speaker at "Kinema 2017: Numerical Modelling of Kinetic Magnetized Plasmas", spring school, Institut d'études scientifiques de Cargèse, (april 3-7), Cargèse, France.
- A. Crestetto gave talk at the workshop "NumKin 2017" (october 23-27), IPP Garching, Germany.
- A. Crestetto gave a talk at the Oberseminar (july 11), Würzburg, Germany.
- N. Crouseilles gave a talk at the workshop on "Mathematical and Computational methods for Quantum and Kinetic Problems, (june 12-14), Beijing, China.
- A. Debussche gave a talk at "Stochastic PDEs: Analysis and Computation", (march 27-31), Warwick, England.
- A. Debussche gave a talk at "Probabilistic Perspectives in Nonlinear PDEs", (june 5-9), International Centre for Mathematical Sciences (ICMS), Edinburgh, Scotland.
- A. Debussche gave a talk at FoCM2017, workshop on "Stochastic Computation", (july 10-12), Barcelona, Spain.
- A. Debussche gave a talk at "2017 Fields Medal Symposium", (october 16-19), Toronto, Canada.
- E. Faou gave a talk at the mini-symposium "Modelling, theory and approximation of nonlinear waves", Scicade international conference, (september 11-15), University of Bath, UK.
- E. Faou gave a talk at the conference "Asymptotic analysis of evolution equations", (july 3-7), CIRM, Marseille.
- E. Faou gave a talk at the seminar at the University of Cambridge, (june 2017), UK.
- E. Faou gave a talk at the workshop "Mathematical questions in wave turbulence theory", (may 15-19), San Jose, California.
- E. Faou gave a talk at the workshop "Modern Numerical Methods for Quantum Mechanics", (march 20-22) Polish Academy of sciences, Warsaw, Poland.
- M. Lemou gave a talk at International workshop "Geometric Transport Equations in General Relativity", (february 20-24), ESI, Vienna, Austria.
- M. Lemou gave a course in the summer school "Applied and Stochastic Analysis for Partial Differential Equations". Institute of Natural Science, Shanghai Jiao Tong University, (july 12-22), Shanghai, China.
- M. Lemou gave a talk at WPI workshop on "Quantum Dynamics and Uncertainty Quantification", (june 20-25), Vienna, Austria,
- M. Lemou gave a talk at the workshop on "Mathematical and Computational methods for Quantum and Kinetic Problems, (june 12-14), Beijing, China.
- M. Lemou gave a course at "Kinema 2017: Numerical Modelling of Kinetic Magnetized Plasmas", spring school, Institut d'études scientifiques de Cargèse, (april 3-7), Cargèse, France.
- M. Lemou gave a talk at the workshop on "Kinetic Theory and Fluid Mechanics : theoretical and computational aspects", (november 6-10), Toulouse, France.

- F. Méhats gave a talk at SIAM Conference on "Analysis of Partial Differential Equations", (december 10-12), Baltimore, USA.
- F. Méhats gave a talk at the workshop on "Mathematical and Computational methods for Quantum and Kinetic Problems, (june 12-14), Beijing, China.
- F. Méhats gave a talk at the conference "Advances in Mathematics for Technology", (october 9-11) Catania, Italy.

6.1.4. Scientific Expertise

- P. Chartier is member of the promotion committees DR1 and DR0 Inria.
- N. Crouseilles was reviewer for ANR project.
- A. Debussche participated to the report projet EUR Centre Henri Lebesgue.
- A. Debussche was reviewer for ERC projects, "Philip Leverhulme" (GB) fundation, Austrian Science Foundation.
- A. Debussche was president of the visiting committee HCERES of the Centre d'Analyses et de Mathématique Sociales (Paris, EHESS).

6.1.5. Research Administration

- P. Chartier is scientific vice-deputy of the Inria Rennes center.
- P. Chartier is member of the Inria evaluation committee.
- P. Chartier is member of the Inria Scientific Committee (COSI).
- P. Chartier is member of the Bureau du Comité des Projets (BCP).
- A. Crestetto is member of the mathematic department council of the university of Nantes.
- A. Crestetto is member of the scientific council of "UFR Sciences et Techniques" of the university of Nantes.
- N. Crouseilles is member of the scientific council of ENS Rennes.
- N. Crouseilles is member of the mathematic laboratory (IRMAR) council.
- N. Crouseilles is member of the Fédération de Fusion council (University of Rennes representative).
- A. Debussche is member of the scientific council of the Fédération Denis Poisson.
- A. Debussche is member of the administrative council of ENS Paris-Saclay.
- A. Debussche is scientific vice-deputy and international relations of ENS Rennes.
- A. Debussche is vice-head of the Centre Henri Lebesgue.
- A. Debussche is vice-head of the Lebesgue agency for Mathematic and Innovation.
- E. Faou is member of the scientific council of the Pôle Universitaire Léonard de Vinci.
- E. Faou is member of the CNU section 26.
- E. Faou is head of organization of the semester *scientific computing* sponsored by the Labex Lebesgue (2 international summer schools, 7 workshops and international conferences).
- M. Lemou is member of the scientific council of the Center Henri Lebesgue.
- M. Lemou is member of the scientific council of ENS Rennes.
- M. Lemou is the head of the numerical analysis team of IRMAR laboratory. [46 members].
- F. Méhats was head of the mathematic laboratory IRMAR (2015-2017). [250 members].

6.2. Teaching - Supervision - Juries

6.2.1. Teaching

- Master : F. Castella, "Equations de transport et Phenomenes de Propagation", 48h, M1, university of Rennes 1, France.

- Master : F. Castella, "Analyse Numerique Generale", 48h, M1, university of Rennes 1, France.
- Master : P. Chartier, "Semi-lagrangian methods for Vlasov-Poisson equations", 18h, M2, university of Rennes 1, France.
- Master : A. Crestetto, "Méthodes numériques pour les fluides incompressibles", 64h, M2, university of Nantes, France.
- Master : A. Crestetto, "Compléments de modélisation pour l'agrégation", 26h, M2, university of Nantes, France.
- Master : N. Crouseilles, "Analyse numérique", 30h, M1, ENS Rennes, France.
- Master : A. Debussche, "Distribution et analyse fonctionnelle", 30h, M1, ENS Rennes, France.
- Master : A. Debussche, "Introduction aux EDP Stochastiques", 48h, M2, university of Rennes 1, France.
- Master : A. Debussche, "Compléments pour l'agrégation", 26h, M2, ENS Rennes, France.
- Master : M. Lemou, "Equations aux dérivées partielles elliptiques", 30h, M1, ENS de Rennes.
- Master : F. Méhats, "Equations hyperboliques", 30h, M2, university of Rennes 1, France.

6.2.2. Supervision

- PhD : R. Horsin, Comportement en temps long d'équations de type Vlasov: Etudes mathématiques et numériques, university of Rennes 1, december 1st 2017, E. Faou and F. Rousset (university Paris Sud).
- PhD : V. Doli, Phénomènes de propagation de champignons parasites de plantes, par couplage de diffusion spatiale et de reproduction sexuée, december 23th 2017, F. Castella and F. Hamelin (IGEPP, Agrocampus).
- PhD in progress : M. Malo, Equations cinétiques non collisionnelles : stabilité, oscillations, september 2015, M. Lemou and F. Méhats.
- PhD in progress : J. Bernier, Mathematical and numerical analysis of nonlinear transport equations, (2016-), september 2016, N. Crouseilles and E. Faou.
- PhD in progress : M. Tusseau, Sur l'équation de Schrödinger non linéaire hautement oscillante avec potentiel aléatoire, september 2013, A. Debussche and F. Méhats.
- PhD in progress : M. Jugal Nguepedja Nankep, Modèles spatiaux stochastiques de systèmes multi-échelle de particules en interactions, september 2014, A. Debussche.
- PhD in progress : A. Rosello, Approximation-diffusion pour des équations cinétiques pour les modèles de type "spray", september 2017, A. Debussche.

6.2.3. Juries

- A. Crestetto was member of the jury of the thesis of T. Blanc, "Etude mathématique de problèmes paraboliques fortement anisotropes", Marseille, december 4th 2017.
- N. Crouseilles was member of the jury of the thesis of A. Finot, "Analyse mathématique des modèles cinétiques en présence d'un champ magnétique intense", Marseille, january 26th 2017.
- N. Crouseilles was member of the jury of the thesis of T. Hardy, "Traitement des conditions aux limites spéculaires pour l'étude du transfert radiatif dans des matériaux à géométrie complexe", Nantes, january 31th 2017.
- E. Faou was member of the jury of the thesis of S. Dieckmann, "Dynamics of patterns in equivariant Hamiltonian partial differential equations", Bielefeld (Germany), april 2017.
- E. Faou was member of the jury of the thesis of P. Krämer, "Numerical integrators for Maxwell-Klein-Gordon and Maxwell-Dirac systems in highly to slowly oscillatory regimes", Karlsruhe (Germany), august 2017.
- M. Lemou was member of the jury of the thesis of R. Horsin Blanc, "Comportement en temps long d'équations de type Vlasov: Etudes mathématiques et numériques", Rennes, december 1st 2017.
- M. Lemou was member of the jury (reviewer) of the thesis of T. Blanc, "Etude mathématique de problèmes paraboliques fortement anisotropes", Marseille, december 4th 2017.
- F. Méhats was member of the jury of the thesis of A. Finot, "Analyse mathématique des modèles cinétiques en présence d'un champ magnétique intense", Marseille, january 26th 2017.

DYLISS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Selection

10.1.1.1. Member of the Conference Program Committees

- SWAT4HCLS (2017) Semantic Web and Tools for Health Care and Life Sciences (O. Dameron)
- BBCC (2017): Bioinformatica e Biologia Computazionale in Campania (O. Dameron)
- JOBIM (2017): French conference of Bioinformatics (A. Siegel)
- SIIM (2017) Symposium sur l'Ingénierie des Informations Médicales (O. Dameron)

10.1.1.2. Review

- ISMB/ECCB 2017.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- O. Dameron is an associate editor of the Journal of Biomedical Semantics
- J. Bourdon in an academic editor of PLoS One

10.1.2.2. Reviewer - Reviewing Activities

- Briefings in Bioinformatics, (O. Dameron)
- Journal of Biomedical Semantics (O. Dameron)
- Journal on Data Semantics (O. Dameron)
- Molecular Cancer (J. Nicolas),
- Plos One (J. Nicolas)

10.1.3. Invited Talks

10.1.3.1. French seminars

Paris, Hopital Lariboisière (Seminar, 2017) – SANOFI (Gentilly, 3 Invited seminars, 2017) – Clermont-Ferrand (Insect team, 2017) – Nantes (Université of Nantes, 2017).

10.1.3.2. Workshops and meetings

Conference on Boolean networks (Marseille, 2017) – BioSS Meeting on artificial intelligence (Gif, 2017)

10.1.4. Leadership within the Scientific Community

- Member of the steering committee of the International Conference on Grammatical Inference.
- The team was involved in the foundation of a national working group on the symbolic study of dynamical systems named bioSS [\[web access\]](#). The group gathers more than 170 scientists, from computer science to biology. Three meetings were organized this year. The group is supported by two French National Research Networks: bioinformatics (GDR BIM : bioinformatique moléculaire) and informatics-mathematics (GDR IM : Informatique Mathématique). It gathered twice in 2017: for a general meeting in Montpellier (Mar. 2017) and for a workshop focused on links between systems biology and artificial intelligence in Orsay (June 2017).

10.1.5. Scientific Expertise

10.1.5.1. International responsibilities

- Evaluation panel of the "Europe-USA Call Strengthening Transnational Research in Molecular Plant Sciences" launched by ERA-CAPS.

10.1.5.2. National responsibilities

- **Institutional boards for the recruitment and evaluation of researchers.** Inria National evaluation board (A. Siegel, nominated member). National Council of Universities, section 65 (O. Dameron, nominated member).
- **Evaluation committees of French laboratories or doctoral schools.** Bioinformatics groups of Institut Curie (Paris, presidency of the committee, A. Siegel) – Doctoral school of Nice University (N. Théret).
- Presidency of the expert panel for the call *Systems biology applied to Cancer* of the National Cancer Plan 2017 (A. Siegel).
- **Recruitment committees.** Inria Senior Researchers (national committee, A. Siegel) – Inria Junior Researchers (Nice, National Committee, A. Siegel)
- **Scientific Advisory boards** GDR BIM "Molecular Bioinformatics" (J. Nicolas).

10.1.5.3. National scientific boards

- Scientific Advisory Board of the French National Research Network GDR BIM *Molecular Bioinformatics* (J. Nicolas).
- Operational Legal and Ethical Risk Assessment Committee (COERLE) at Inria (J. Nicolas).
- Animation of the BioSS working group (A. Siegel).
- Board of directors of the French Society for biology of the extracellular matrix (N. Théret).

10.1.5.4. Prospective working groups

- "Big & Open Data" foresight working group of PROSPER network (F. Coste).
- "Prospectives in predictive toxicology" working group at INRA (A. Siegel)

10.1.5.5. Local responsibilities

- Scientific Advisory Board of Biogenouest (J. Bourdon, N. Théret)
- IRISA laboratory (computer science department of Univ. Rennes 1) council (A. Siegel)
- Responsibility of the IRISA laboratory "Health-biology" cross-cutting axis (O. Dameron)⁰
- SCAS (Service Commun d'Action Sociale) of Univ. Rennes 1 (C. Belleannée)
- Scientific committee of Univ. Rennes 1 school of medicine (O. Dameron, A. Siegel).

⁰ <http://www.irisa.fr/en/page/crosscutting-axis>

10.2. Teaching - Supervision - Juries

10.2.1. Teaching track responsibilities

- Coordination of the doctoral school "Life, Agronomy and Health" of University of Rennes 1 [N. Th  ret]
- Coordination of the master degree "Bioinformatics and genomics", Univ. Rennes1 [O. Dameron]
- Coordination of the sub-domain "From Data to Knowledge: Machine Learning, Modeling and Indexing Multimedia Contents and Symbolic Data", Master in Computer Science, University of Rennes 1, France [F. Coste].

10.2.2. Course responsibilities

- "Atelier bioinformatique", Licence 2 informatique, Univ. Rennes 1 [O. Dameron]
- "Bioinformatique pour la g  nomique", 2nd year school of medicine, Univ. Rennes 1 [O. Dameron]
- "Bases de math  matiques et probabilit  " and "M  thodes en informatique", Master1 in public health, Univ. Rennes 1 [O. Dameron]
- "Big data and Semantic Web", Master 2 in public health, Univ. Rennes 1 [O. Dameron]
- "Int  gration: Remise    niveau en informatique", Master 1 in bioinformatics, Univ. Rennes 1 [O. Dameron]
- "Programmation en Python", Master 1 in Public Health, Univ. Rennes 1 [O. Dameron]
- "Programmation imp  rative en Python", Master 1 in bioinformatics, Univ. Rennes 1 [O. Dameron]
- "Syst  me informatique GNU/Linux", Master 1 in bioinformatics, Univ. Rennes 1 [O. Dameron]
- "Semantic Web and bio-ontologies", Master 2 in bioinformatics, Univ. Rennes 1 [O. Dameron]
- "e-Sant   et r  seaux hospitaliers", last year in engineering school ESIR, Univ. Rennes 1, [O. Dameron]
- "Equilibre Dynamique de la communication Cellulaire" Master 2 in Sciences cellulaire et Mol  culaire du Vivant, Univ. Rennes 1 [N. Theret]

10.2.3. Teaching

Licence: C. Belleann  e, Langages formels, 20h, L3 informatique, Univ. Rennes1, France.

Licence: C. Belleann  e, Algorithmique et Programmation Fonctionnelle, 60, L1 informatique, Univ. Rennes1, France.

Licence: J. Coquet, Module Programmation Scientifique 1, 20h, L1 informatique, Rennes1, France.

Licence: O. Dameron, Biostatistiques, 12h, 1st year school of medicine, Univ. Rennes 1, France

Licence: O. Dameron, C2i niveau 2, 2.5h, 2nd year school of medicine, Univ. Rennes 1, France

Licence: O. Dameron, Bioinformatique pour la g  nomique, 5h, 2nd year school of medicine, Univ. Rennes 1, France

Licence: C. Frioux, Programmation scientifique Python, 12h, L1, Rennes1, France.

Licence: C. Frioux, LaTeX, 12h, L3 ENSAI, France.

Licence: C. Frioux, Outils bureautiques pour le statisticien , 6h, L3 ENSAI, France.

Licence: C. Frioux, Algorithmique et programmation Python, 6h, L3 ENSAI, France.

Licence: L. Bourneuf, Ing  nieurerie Syst  mes et R  seaux, 10h, L3 INFO, France.

Licence: L. Bourneuf, Algorithmique des graphes, 8h, L3 INFO, France.

Licence: L. Bourneuf, Algorithmique des graphes, 2h, L3 MIAGE, France.

Master: L. Bourneuf, Principes de Programmation et d'Algorithmique, 6h, M1 BIG, France.

Master: L. Bourneuf, Projet, 10h, M1 BIG, France.

Master: C. Belleannée, Programmation logique avec contraintes et algorithmes génétiques, 40h, M1 informatique, Univ. Rennes1, France.

Master: C. Belleannée, Algorithmique du texte et bioinformatique, 10h, M1 informatique, Univ. Rennes1, France

Master: F. Coste, Apprentissage Automatique Supervisé, 10h, M2 Informatique, Univ. Rennes 1, France

Master: O. Dameron, Object-oriented programing, 20h, M1 bioinformatique et génomique, Univ. Rennes 1, France

Master: O. Dameron, Gestion de projet en informatique, 12h, M1 bioinformatique et génomique, Univ. Rennes 1, France

Master: O. Dameron, Ontologies biomédicales, 6h, Engineering school Institut Mines-Télécom Bretagne-Atlantique Brest, France

Master: O. Dameron, Internship jury, 25h, M1 bioinformatique et génomique, Univ. Rennes 1, France

Master: O. Dameron, Internship jury, 7.5h, M2 bioinformatique et génomique, Univ. Rennes 1, France

Master: O. Dameron, Intégration : remise à niveau en informatique, 14h, M1 bioinformatique, Univ. Rennes 1, France

Master: O. Dameron, Programmation impérative en Python, 39.5h, M1 bioinformatique, Univ. Rennes 1, France

Master: O. Dameron, Système informatique GNU/Linux, 12h, M1 bioinformatique, Univ. Rennes 1, France

Master: O. Dameron, Programmation en Python, 24h, M1 in Public Health, Univ. Rennes 1 [O. Dameron]

Master: O. Dameron, Semantic Web and bio-ontologies, 14h, M2 bioinformatique, Univ. Rennes 1, France

Master: O. Dameron, Bases de mathématiques et probabilités, 15h, M1 santé publique, Univ. Rennes 1, France

Master: A. Siegel, Integrative and Systems biology, 20h, M2, Univ. Rennes 1, France

Master: A. Siegel, Introduction to integrative biology, 2h, M2, Univ. Rennes 1, France

10.2.4. Supervision

PhD : Victorien Delannée, *Intégrer les échelles moléculaires et cellulaires dans l'inférence de réseaux métaboliques. Application aux xénobiotiques.*, started in Oct. 2014, defended in Nov. 2017, supervised by A. Siegel and N. Théret [14].

PhD : Julie Laniau, *Structure de réseaux biologiques : rôle des noeuds internes vis-à-vis de la production de composés*, started in Oct. 2013, defended in Oct. 2017, supervised by A. Siegel and D. Eveillard. [15]

PhD : Jean Coquet, *Semantic-based reasoning for biological pathways analysis*, started in Oct. 2014, defended in Dec. 2017, supervised by O. Dameron and N. Théret [12]

PhD in progress : Lucas Bourneuf, *Justifiable graph decomposition to assist biological network understanding*, started in Oct. 2016, supervised by J. Nicolas.

PhD in progress : Clémence Frioux, *Using preferences in Answer Set Programming to decipher interactions within the species of an ecosystem at the genomic scale*, started in Oct. 2015, supervised by A. Siegel.

PhD in progress : Yann Rivault, *Analyse de parcours de soins à partir de bases de données médico-administratives en utilisant des outils du Web Sémantique: identification de complications et de leurs déterminants suite à la pose chirurgicale de dispositif médical implantable en ambulatoire*, started in Oct. 2015, supervised by O. Dameron and N. Lemeur.

PhD in progress : Juliette Talibart, *Learning grammars with long-distance correlations on proteins*, started in Nov. 2017, supervised by F. Coste and J. Nicolas.

PhD in progress : Mael Conan, *Predictive approach to assess the genotoxicity of environmental contaminants during liver fibrosis*, started in Oct. 2017, supervised by S. Langouet and A. Siegel.

PhD in progress: Marine Louarn, *Intégration de données génomiques massives et hétérogènes, application aux mutations non-codantes dans le lymphome folliculaire*, started in Oct. 2017, supervised by A. Siegel, T. Fest (CHU) and O. Dameron.

PhD in progress : Méline Wery, *Methodology development in disease treatment projects.*, started in Oct. 2017, supervised by O. Dameron, C. Bettembourg (Sanofi) and A. Siegel.

10.2.5. Juries

- *Member of Ph-D thesis juries.* J. Mercier, Univ. Evry/CEA [A. Siegel, reviewer]. C. Franay, INRA Toulouse [A. Siegel, reviewer]. W. Bedhiafi, Univ. Pierre et Marie Curie Paris + UTM Tunis [O. Dameron]. V. Delannée, Univ. Rennes 1 [N. Theret, O. Dameron]. J. Coquet, Univ. Rennes 1 [O. Dameron, N. Theret]. P. Finet, Univ. Rennes 1 [O. Dameron]
- *Member of habilitation thesis juries.* E. Remy, Univ. Marseille [A. Siegel, president].
- *Member of medicine doctorate juries* G. Lebailly, Univ. Rennes 1 [O. Dameron].

10.2.6. Internships

- Internship, from Jun 2017 until Jul 2017. Supervised by J. Nicolas. Student: Alexis Baudin. Subject: Recherche d'attracteurs dans les réseaux booléens synchrones en ASP.
- Internship, from Jan until Jun 2017. Supervised by A. Siegel. Student: Mael Conan. Subject: Modélisation et caractérisation de la réponse au stress de la cyanobactérie marine *Synechococcus* sp. WH7803.
- Internship, from Apr 2017 until Jul 2017. Supervised by Nathalie Théret and Olivier Dameron. Student: Kevin Courtet. Subject: Integration of genic regulatory interaction network by miRNAs from patients' macrophages with cystic fibrosis.
- Internship, from Apr 2017 until Jul 2017. Supervised by J. Got. Student: Nicolas Guillaudeux. Subject: Vérifications du réseau métabolique entier de *Tisochrysis lutea*.
- Internship, from Apr 2017 until Jul 2017. Supervised by J. Nicolas and F. Coste. Student: AliHassan Kachalo. Subject: Annotation automatique en familles des séquences d'une superfamille d'enzymes, les HAD (haloacides déhalogénases) par Analyse de Concepts Formels (FCA).
- Internship, from Apr 2017 until Jul 2017. Supervised by C. Frioux and C. Trottier. Student: Claire Lippold. Subject: Exploration et caractérisation du microbiome associé à *Ectocarpus subulatus* str. BFT.
- Internship, from Jan 2017 until Jun 2017. Supervised by O. Dameron and A. Siegel. Student: Marine Louarn. Subject: Analysis and integration of heterogeneous large-scale genomics data.
- Internship, from Apr 2017 until Jul 2017. Supervised by N. Théret and J. Nicolas. Student: Aurelie Nicolas. Subject: Modeling of interaction networks from extracellular matrix components using formal concept analyses.
- Internship, from Apr 2017 until Jul 2017. Supervised by C. Belleannée. Student: Dimitri Pedron. Subject: Annotation et prédiction de transcriptome: validation d'ORF alternatifs prédits. Application au gène CREM chez l'humain, la souris et le chien.
- Internship, from Feb 2017 until Jun 2017. Supervised by F. Coste. Student: Manon Ruffini. Subject: Better scoring schemes for the recognition of functional proteins by protomata

- Internship, from Feb 2017 until Jun 2017. Supervised by J. Nicolas. Student: MarieSalmon, Subject: Biclustering: quantitative formal concept analysis in Answer Set Programming
- Internship, from Jan 2017 until Jun 2017. Supervised by A. Siegel and O. Dameron. Student: Meline Wery Subject: Formalizing and computing signatures of phenotypes within a biological network
- Internship, from May 2017 until Jul 2017. Supervised by C. Belleannée. Student: Mohamed Zemmouri Subject: Analyse de texte en bioinformatique : Modélisation grammaticale d'un site ADN, et recherche du site, même dégénéré, sur l'intégralité du génome humain

10.3. Popularization

10.3.1. General audience paper

We have written a contribution to the collaborative book edited by CNRS on the main issues of data-mining. Our contribution was specifically related to modeling issues arising in ecology with the development of NGS technologies [32].

10.3.2. Science en Cour[t]s

(<http://sciences-en-courts.fr/>) Many of our on-going and former Ph-D students (A. Antoine-Lorquin, C. Bettembourg, J. Coquet, V. Delannée, G. Garet, S. Prigent) have been heavily involved in organization of a local Popularization Festival where Ph.D. students explain their thesis via short movies. The movies are presented to a professional jury composed of artists and scientists, and of high-school students. Previous years films can be viewed on the festival web-site⁰ In this context, the following scientific film has been created by the team members in 2017 *Helene et les cartons*⁰.

⁰<https://www.youtube.com/embed/3DRgLLITKUc>

⁰<https://www.youtube.com/embed/yheO8Y0nWu0>

FLUMINANCE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- J. Erhel organizes with J-R. de Dreuzay and T. Le Borgne the international conference CWMR (Saint-Malo, France, June 2018).
- E. Mémin organizes the national colloquium on data assimilation (Rennes, september 2018).

10.1.1.2. Member of the Organizing Committees

Jocelyne Erhel

- organizes with J-R. de Dreuzay and T. Le Borgne (OSUR) the international conference CWMR (Saint-Malo, France, June 2018).
- organizes with T. Faney and A. Michel (IFPEN) a workshop on reactive transport (Paris, France, February 2018).

Etienne Mémin

- "Data Science & Environment", workshop + summer school, 3-7 July 2017, Brest, France

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Jocelyne Erhel

- international advisory committee of the parallel CFD conferences (Glasgow, UK, May 2017).
- program committee of the international conference PARENG 2017 (Pecs, Hungary, May 2017).
- program committee of the workshop Visualization in Environmental Sciences 2017 (co-event of EuroVis)

Cedric Herzet

- Co-organisateur & co-chair of the special session: « Compressed sensing et inversion » of the GretsI 2017

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Jocelyne Erhel

- member of the editorial board of ETNA.
- member of the editorial board of ESAIM:Proceedings and Surveys.

Etienne Mémin

- Associate editor for the Int. Journal of Computer Vision (IJCV)
- Associate editor for the Image and Vision Computing Journal (IVC)

10.1.3.2. Reviewer - Reviewing Activities

Jocelyne Erhel: Reviewer for the journals ADWR, ARIMA, JCAM, MATCOM

Dominique Heitz: Reviewer for Exp. in Fluids, SIGGRAPH, ICPMS, Im. Vis. Comp.

Cédric Herzet: Reviewer for IEEE Tr. on Signal Processing, IEEE Tr. on Information Theory, GrestI 2017, ICASSP 2017

Etienne Mémin: Reviewer for Tellus-A, Journ. of Fluid Mech., Im. Vis. Comp., Exp. in Fluids, Nonlinear Proc. in Geophysics., Journ. of Comp. Phys.

10.1.4. Invited Talks

Dominique Heitz

- 2nd Workshop on Data Assimilation & CFD Processing for PIV and Lagrangian Particle Tracking, Delft, Nederland, 13-14, December, 2017.
- Journée Technique 41- Association Française de Vélomimétrie Laser, Meudon, France, May 11, 2017.

Cédric Herzet

- Séminaire, LIMSIS Model Reduction from Partial Observations Jan. 2017
- Séminaire, IMT Atlantique, nov. 2017
- Séminaire, UMR Lab-sticc, Brest, avril 2017

Roger Lewandowski

- Colloquium Univ. Pisa, May 2017.

Etienne Mémin

- AFVL, Meudon, Stratégies d'assimilation de données pour la reconstruction d'écoulements, France, March 2017
- Imperial College, Math. for Planet Earth Centre for doctoral training, Stochastic representation of fluid flow dynamics, November 2017.
- Imperial College, London (UK), Math. for Planet Earth Centre for doctoral training, Stochastic representation of fluid flow dynamics, Nov. 2017.
- Center for Earth System Research and Sustainability, Hamburg (Ger.), Stochastic representation of fluid flow dynamics, Dec. 2017.
- Université de Grenoble, Comodo workshop, Stochastic representation of fluid flow dynamics, Dec. 2017.

10.1.5. Leadership within the Scientific Community

- J. Erhel is scientific coordinator of the website Interstices (since June 2012). <https://interstices.info>.

10.1.6. Scientific Expertise

- J. Erhel is a member of the scientific council of IFPEN, since April 2016.
- C. Herzet was reviewer for ANR.

10.1.7. Research Administration

Jocelyne Erhel

- correspondent of Maison de la Simulation for Inria Rennes.
- correspondent of AMIES for Inria Rennes, from September 2015.
- member of the Inria national committee for secondment, 2016.
- coordination of the working group for a team creation at Inria Rennes.
- member of the Inria local committee for health and safety (réfèrent chercheur) from January 2016.
- member of the Inria administrative commission (CAP) for researchers, from January 2016.

Dominique Heitz

- Responsible of the Irstea ACTA Team
- Member of Pôle Cristal scientific council
- Member of Irstea OPAALE research unit Executive Committee
- Member of Irstea center of Rennes Executive Committee

Roger Lewandowski

- Elected president of the SMAI-GAMNI thematic group on Advances of Engineering Numerical Methods
- Correspondant SMAI

Etienne Mémin

- Responsable of the "Commission Développement Technologique" Inria Rennes
- Member of the "Commission Personnel" Inria-IRISA Rennes

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Jocelyne Erhel, Optimisation, 24h, niveau L3, ENSAI Rennes

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

Master: Jocelyne Erhel, arithmétique flottante, 4h, niveau M1, INSA Rennes

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

Master : Cédric Herzet, « Smart Sensing », 24h, master international « Smart Sensing and Big Data », ENSAI

Master : Cédric Herzet, Représentations parcimonieuses et compressed sensing, niveau M2, niveau M2, INSA, 10h

Master: Roger Lewandowski, Euler and the Navier-Stokes equations, M2, master « fondamentale mathematics ».

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

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

10.2.2. Supervision

PhD in progress: Pierre-Marie Gibert, University of Lyon, October 2015, co-advisors D. Tromeur-Dervout and Jocelyne Erhel.

PhD in progress: Bastien Hamlat, University of Rennes 1, October 2016, co-advisors Jocelyne Erhel and A. Michel.

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

PhD in progress : Musaab Khalid Osman Mohammed, Motion analysis techniques for flood images, started february 2015, Lionel Penard (Irstea/Lyon) and Etienne Mémin

PhD in progress : Pranav Chandamouli, Turbulent complex flows reconstruction via data assimilation in large eddy models, started october 2015, Dominique Heitz, Etienne Mémin.

PhD in progress : Romain Schuster, Large-scale fluid motion estimation, started october 2016, Dominique Heitz, Etienne Mémin.

PhD in progress : Long Li, Data assimilation and stochastic transport for the upper ocean dynamics, started november 2017, Etienne Mémin.

PhD in progress : Yacine Ben Ali, Variational assimilation of RANS models for wind engineering, started november 2017, Dominique Heitz, Etienne Mémin.

PhD in progress : Dinh Duong Nguyen, Regular and singular solutions of Navier-Stokes equations with eddy viscosity, started in september 2017 , Roger Lewandowski.

10.2.3. Juries

Johan Carlier

- Kevin Chatelain, PhD, Polytech'Orléans, (examineur)

Jocelyne Erhel

- Martin Bachet, PhD, Univ. PSL Mines ParisTech (rapporteur)
- Daniel Jara Heredia, PhD, Univ. Rennes (présidente)
- Antoine Plet, PhD, ENS Lyon (présidente)
- Tangi Migot, PhD, INSA Rennes (examinatrice)

Dominique Heitz

- Robin Yegavian, PhD Ecole Polytechnique (Rapporteur)

Cédric Herzet

- Jean-François Determe PhD université catholique de Louvain, Belgique(Examineur)

Roger Lewandowski

- Charles Pelletier, PhD Univ. Grenoble Alpes(Rapporteur)

Etienne Mémin

- Olivier Barrois, PhD Univ. Grenoble Alpes(Rapporteur)
- Jean-Matthieu Haussaire, PhD Univ. Paris-Est (Examineur),

10.3. Popularization

Jocelyne Erhel

- présidente du jury du rallye de mathématiques du CNED, 2017 and 2018.
- First prize of the second Mathematics of Planet Earth international competition. Module "Simulating the melting of ice caps", authors M. Nodet and J. Erhel.

Dominique Heitz

- Interview dans L'Usine Nouvelle, No 3479, pp. 30-31, 2016

GENSCALE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- RCAM 2017: Workshop “Recent Computational Advances in Metagenomics” [P. Peterlongo]

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- JOBIM 2017: French symposium of Bioinformatics [C. Lemaitre, P. Peterlongo]
- BIBM 2017: IEEE International Conference on Bioinformatics and Biomedicine [D. Lavenier]
- BIOKDD 2017: Workshop on Biological Knowledge Discovery and Data Mining [D. Lavenier]
- IWBBIO 2017: International Work-Conference on Bioinformatics and Biomedical Engineering [D. Lavenier]

10.1.2.2. Reviewer

- RECOMB 2017 [R. Andonov, C. Lemaitre, P. Peterlongo]
- ECCB 2017 [P. Peterlongo]

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

- Bioinformatics [D. Lavenier]
- BMC Bioinformatics [D. Lavenier, C. Marchet]
- Briefing in Bioinformatics [D. Lavenier]
- Plos One [C. Lemaitre]
- Transactions on Computational Biology and Bioinformatics [C. Lemaitre]
- Genomics [F. Legeai]

10.1.4. Invited Talks

- D. Lavenier, *Dealing with mass of genomic data. From optimized data structures to advanced memory architectures*, BIATA 2017, Bioinformatics: from algorithms to application, St. Petersburg, Russia, Aug. 2017
- D. Lavenier, *DNA Mapping using Processing-in-Memory Architecture*, Cristal, Univ. Lille, Oct 2017
- C. Lemaitre, *Looking for genomic variants in the De Bruijn Graph.*, Institute for Advanced Biosciences, University of Grenoble Alpes, Grenoble, France, Dec. 2017
- C. Marchet, *De novo Clustering of Gene Expressed Variants in Transcriptomic Long Reads Data Sets*, at From RNA-Seq data to bioinformatics analysis using Nanopore sequencers, Evry, Dec 2017.

10.1.5. Leadership within the Scientific Community

- P. Peterlongo. Animator of the metagenomic scientific axes of the GDR BIM (National Research Group in Biology, Informatic and Mathematic)
- P. Peterlongo. Member of the SFBI board.

10.1.6. Scientific Expertise

- Expert for the MEI (International Expertise Mission), French Research Ministry [D. Lavenier]
- Member of the Scientific Council of BioGenOuest [D. Lavenier]
- Member of the Scientific Council of the Computational Biology Institute of Montpellier [D. Lavenier]

10.1.7. Research Administration

- Member of the CoNRS, section 06, [D. Lavenier]
- Member of the CoNRS, section 51, [D. Lavenier]
- Member of the steering committee of the INRA BIPAA Platform (BioInformatics Platform for Agroecosystems Arthropods) [D. Lavenier]
- Member of the steering committee of The GenOuest Platform (Bioinformatics Platform of BioGenOuest) [D. Lavenier]
- Representative of the environmental axis of UMR IRISA [C. Lemaitre]
- AGOS first secretary [P. Peterlongo]
- Organisation of the weekly seminar "Symbiose" [P. Peterlongo]
- In charge of the bachelor's degree in the computer science department of University of Rennes 1 (90 students) [R. Andonov]
- Member of the Council of Administration of ISTIC [R. Andonov]
- Representative of non-permanent members in the Inria Rennes center committee [S. Letort]

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : C. Lemaitre, Statistics for biology, 30h, L3, Univ. Rennes 1, France.

Licence : R. Andonov, S. Francois, Graph Algorithms, 80h, L3, Univ. Rennes 1, France.

Licence : L. Lecompte, Systems, 16h, L3, Univ. Rennes 1, France.

Licence : S. Francois, Programming, 22h, L3 Miage, Univ. Rennes 1, France.

Master : R. Andonov, S. Francois, Operational research, 82h, M1 Miage, Univ. Rennes 1, France.

Master : L. Lecompte, Python for ecologists, 21h, M1, Univ. Rennes 1, France.

Master : C. Lemaitre, P. Peterlongo, Algorithms on Sequences, 52h, M2, Univ. Rennes 1, France.

Master : L. Lecompte, C. Lemaitre, P. Peterlongo, Algorithms on Sequences for Bioinformatics, 50h, M1, Univ. Rennes 1, France.

Master : C. Lemaitre, P. Peterlongo, Experimental Bioinformatics, 24h, M1, ENS Rennes, France.

Master : C. Guyomar, Statistical learnings, 30h, M2, Univ. Rennes, France.

Master : F. Legeai, RNA-Seq, Metagenomics and Variant discovery, 12h, M2, AgroCampusOuest, National Superior School Of Agronomy, Rennes, France.

Master : R. Andonov, Advanced Algorithmics, 25h, Univ. Rennes 1, France.

Training : P. Durand, G. Rizk, GATB Programming Day, 16h (April 26-27), Grenada, Spain.

Training : P. Durand, G. Rizk, GATB Programming Day, 8h (June 6), Montpellier, France.

Training : G. Rizk, GATB Programming Day, 8h (October 24), Rennes, France.

10.2.2. Supervision

PhD : G. Benoit, Large scale de novo comparative metagenomics, Univ Rennes, 29/11/2017, D. Lavenier and C. Lemaitre. [11]

PhD : A. Limasset, Nouvelles approches pour l'exploitation des données de séquençage haut débit, Univ Rennes, 12/07/2017, D. Lavenier and P. Peterlongo. [12]

PhD : P. Hoan Son, Novel Pattern Mining Techniques for Genome-wide Association Studies, 22/12/2017, D. Lavenier and A. Termier.

PhD in progress : C. Guyomar, Bioinformatic tools and applications for metagenomics of bacterial communities associated to insects, 01/10/2015, J.C. Simon, C. Mougél, C. Lemaitre and F. Legeai.

PhD in progress : C. Marchet, Nouvelles méthodologies pour l'assemblage de données de séquençage polymorphes, 01/10/2015, P. Peterlongo.

PhD in progress : S. François, Combinatorial Optimization Approaches for Bioinformatics, 01/10/2016, R. Andonov.

PhD in progress : L. Lecompte, Structural Variant detection in long-read sequencing data, 01/09/2017, D. Lavenier and C. Lemaitre.

PhD in progress : W. Delage, Assemblage de novo local pour la détection de variations complexes pour le diagnostic des maladies rares, 01/10/2017, J. Thévenon and C. Lemaitre.

10.2.3. *Juries*

- *Member of Ph-D thesis juries.* Arnaud Meng, University Pierre et Marie Curie [C. Lemaitre], Damien Courtine, University of Brest [D. Lavenier].
- *Referee of Ph-D thesis.* Pierre Pericard, University of Lille [D. Lavenier], Louise-Amelie Schmitt, Bordeaux University [P. Peterlongo], Kamil Salikov, University Paris Est [P. Peterlongo]
- *Member of Ph-D thesis comitees.* L. Ishi Soares de Lima, University of Lyon [C. Lemaitre], Cervin Guyomar, University of Rennes [P. Peterlongo], Pierre Marijon, University of Lille [P. Peterlongo], Pierre Charrier, Oniris Nantes [P. Peterlongo], Victor Gaborit, Inserm Nantes [P. Peterlongo], Guillaume Gautreau, University Paris Saclay [P. Peterlongo].
- *President of a jury for the recruitment of a INRA bioinformatics engineer* [Fabrice Legeai].

10.3. Popularization

- Participation to operation "A la découverte de la recherche" in high schools [P. Peterlongo]
- Intervention for "Imagine For Margo" [P. Peterlongo]
- Bioinformatics introduction to secondary school pupils [F. Legeai]

SERPICO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Charles Kervrann is head of the organizing committee of the “Quantitative BioImaging” (QBI’2019) conference (Rennes, January 2019).
- Patrick Bouthemey was co-organizer of the BioImage Computing (BIC) workshop in conjunction with ICCV’2017 (Venice, Italy).

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Charles Kervrann: senior PC (Program Committee) of “BioImage Informatics 2017” conference, member of the scientific committee of the “Imaging the Cell 2017” conference (Rennes), member of the scientific committee of RFIAP’2018 (Marne-la-Vallée), Associated Editor for the ISBI’2018 conference, member of the scientific committee of the JIONC workshop (GdR Ondes, since 2014).
- Patrick Bouthemey: Associate Editor for the ISBI’2017 conference, member of the program committee of the IPTA’2017 conference.

10.1.2.2. Reviewer

- Charles Kervrann: reviewer for ICIP’2017, ICASSP’2017, ISBI’2017, and SSVM’2017, PBIC’2017.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Charles Kervrann is Associate Editor of the IEEE Signal Processing Letters journal.
- Patrick Bouthemey is co-editor in chief of the open access journal Frontiers in ICT, specialty Computer Image Analysis.

10.1.3.2. Reviewer - Reviewing Activities

- Charles Kervrann: BMC Bioinformatics, Int. J. Computer Vision, SIAM J. on Imaging Sciences, Machine Vision and Applications.

10.1.4. Invited Talks

- Charles Kervrann: Invited talk at II SLAS “HCS – High Contents Screening” conference (Madrid, Spain), “Connecting The Dots – Intelligent Trackers” workshop (LAL-Orsay), and GdR ImaBio (with V. Briane, University of Montpellier; with E. Moebel, Inria Rennes); Invited seminars at IDIAP (Martigny, Switzerland).
- Patrick Bouthemey: Invited speaker at 5ème colloque de la Société Française des Microscopies (Bordeaux).
- Frédéric Lavancier: Invited talks at GdR ImaBio-FBI “BioImage Informatics” (Rennes).

10.1.5. Leadership within the Scientific Community

- Charles Kervrann is member of the IEEE BISP “Biomedical Image and Signal Processing” (<https://signalprocessingsociety.org/get-involved/bio-imaging-and-signal-processing>) committee (expert committee for ISBI, ICASSP and ICIP conferences). He is member of the executive board of the GdR MIV/ImaBio (2588 - Microscopie Fonctionnelle du Vivant) CNRS. He is member of the scientific committee of the Interdisciplinary MiFoBio School CNRS (<http://gdr-miv.fr/mifobio2018/>).
- Patrick Bouthemy is member of the board of AFRIF (Association Française pour la Reconnaissance et l’Interprétation des Formes).

10.1.6. Scientific Expertise

- Charles Kervrann was expert for the international project evaluation in the framework of Luxembourg NRF (National Research Fund – RESCOM program). He was expert for the national project evaluation in the framework of DIM ELICIT Institut Pasteur - Région Ile-de-France in 2017. He was member of the selection committee for a Professor position at the University of Bordeaux (Section CNU 26, Mathematics) in 2017.
- Patrick Bouthemy was member of the evaluation committee of the ANR-DGA MALIN Challenge, member of the HCERES visiting committee of the DI-ENS (Département d’Informatique - Ecole Nationale supérieure Paris) (November 2017). He is member of the Research Committee of IMT Atlantique. He was member of the committee for professor promotion at IMT Atlantique in 2017.

10.1.7. Research Administration

- Charles Kervrann is member of the executive board of the project committee of the Inria Rennes - Bretagne Atlantique centre since 2010. He is Co-head of the “BioImage Informatics” node (ANR France-BioImaging project, National Infrastructure en Biologie et Santé) since 2011.
- Patrick Bouthemy has been head of Excellence Lab (Labex) CominLabs (<http://www.cominlabs.ueb.eu>) since April 2014. He is deputy member of the board of directors and member of the selection and validation committee of the Images & Réseaux competitiveness cluster (<http://images-et-reseaux.com/>). He is deputy member of the board of directors of IRT (Technological Research Institute) b<>com (<https://b-com.com/>). He is the Inria representative in the steering committee of the DGA-Inria collaboration.
- Frédéric Lavancier is an elected member of CNU section 26.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Charles Kervrann:

- Engineer Degree: Genomics and Informatics, 4.5 hours, Ecole Nationale Supérieure des Mines de Paris.
- Master: From Bioimage Processing to BioImage Informatics, 5 hours, coordinator of the module (30 hours), Master 2 Research IRIV, Telecom-Physique Strasbourg and University of Strasbourg.
- Master: Geometric Modeling for Shapes and Images, 6 hours, Master 2 Research SISEA, University of Rennes 1.
- Engineer Degree and Master 2 Statistics and Mathematics: Statistical Models and Image Analysis, 37 hours + 15 hours (TP, Emmanuel Moebel), 3rd year, Ecole Nationale de la Statistique et de l’Analyse de l’Information (ENSAI), Rennes.

Patrick Bouthemy:

- Master: Analysis of Image Sequences, 18 hours, Master 2 Research SISEA, ISTIC & University of Rennes 1.
- Master: Video Indexing, 3 hours, Master 2 Research Computer Science, ISTIC & University of Rennes 1.
- Engineer Degree and Master 2 Research IRIV: Motion Analysis, 12 hours, Telecom-Physique Strasbourg & University of Strasbourg.

Frédéric Lavancier:

- Master: Linear Models, 36 hours, Master 2 Mathematics & Engineering, option Statistics, University of Nantes.
- Master: Time Series, 36 hours, Master 2 Mathematics & Engineering, option Statistics, University of Nantes.

10.2.2. Supervision

- Arnaud Poinas, inference for inhomogeneous determinantal point processes, started in September 2016, supervised by Bernard Delyon and Frédéric Lavancier.
- Vincent Briane, statistical tests for particle trajectory analysis: application to intracellular imaging, started in October 2014, supervised by Charles Kervrann and Myriam Vimond (ENSAI-CREST).
- Bertha Mayela Toledo Acosta, methods and algorithms for 3D image registration and correlative microscopy, started in October 2014, supervised by Patrick Bouthemy and Charles Kervrann.
- Emmanuel Moebel, new strategies for the nonambiguous identification and enumeration of macromolecules in cryo-electron tomograms, started in November 2015, supervised by Charles Kervrann.
- Juan Manuel Perez Rua, hierarchical motion-based video analysis with applications to video post-production, started in January 2015, supervised by Patrick Bouthemy in collaboration with Tomas Crivelli and Patrick Pérez (Technicolor).
- Ancageorgiana Caranfil, data assimilation methods for cell division mechanisms and molecule trafficking analysis, started in December 2016, supervised by Charles Kervrann and Yann Le Cunff.
- Sandeep Manandhar, optical flow methods for 3D fluorescence imaging, started in October 2016, supervised by Patrick Bouthemy and Charles Kervrann.
- Yunjiao Lu, intracellular dynamics and super-resolution imaging: analysis of bacteria wall at the molecular scale, started in October 2017, supervised by Charles Kervrann and Rut Carballido-Lopez.
- Antoine Salomon, statistical aggregation for image analysis in fluorescence microscopy and super-resolution, started in November 2017, supervised by Charles Kervrann.
- Léo Maczyta, motion saliency in video sequences, started in October 2017, supervised by Patrick Bouthemy and Olivier Lemeur.

10.2.3. Juries

Referee of PhD thesis: F. Zhou (University of Oxford, supervised by J. Rittscher) [P. Bouthemy], R. Giraud (University of Bordeaux, supervised by N. Papadakis) [P. Bouthemy], C. Jiang (University of Bourgogne, supervised by C. Demonceaux) [P. Bouthemy], A. Samacoïts (Institut Pasteur - UPMC, supervised by C. Zimmer) [C. Kervrann].

President of PhD thesis jury: F. Deslandes (INRA, supervised by B. Laroche), I. Ahmet (University of Rennes 1, supervised by T. Furon).

VISAGES Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Christian Barillot is member of the Board of Directors of IPMI conference series (Information Processing in Medical Imaging)
- Gilles Edan did organized the 25th anniversary workshop of the "Société Française de Neurologie" in Rennes on Nov. 30th

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Christian Barillot was area chair of SPIE-MI and ISBI 2017
- Emmanuel Caruyer was Program Committee member of the CDMRI MICCAI workshop.

10.1.2.2. Reviewer

- ISBI (Emmanuel Caruyer, Olivier Commowick), ISMRM (Élise Bannier), MICCAI (Emmanuel Caruyer, Olivier Commowick, Christian Barillot), IPMI (Olivier Commowick, Christian Barillot).

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- Christian Barillot is member of Editorial Boards of Medical Image Analysis, Current Medical Imaging Reviews, ISRN Signal Processing
- Christian Barillot is Editor-in-Chief of Frontiers in ICT: Computer Image Analysis.

10.1.3.2. Reviewing Activities

- Am J Neuroradiol (Élise Bannier), Comput Biol Med (Christian Barillot), Comput Meth Prog Bio (Christian Barillot), Front Neurosc (Pierre Maurel), Hum Brain Mapp (Emmanuel Caruyer), JMRI (Isabelle Corouge), IEEE TMI (Pierre Maurel, Olivier Commowick), Med Image Anal (Olivier Commowick), Med Phys (Christian Barillot) Neuroimage (Christian Barillot, Isabelle Corouge, Emmanuel Caruyer, Olivier Commowick), Pattern Recog Lett (Christian Barillot).

10.1.4. Leadership within the Scientific Community

- Gilles Edan was elected Fellow of the European Academy of Neurologie. Member of the EAN teaching committee in 2015
- Christian Barillot is member of the Scientific Council of the INS2I⁰ Institute of CNRS since 2011 and is Chairman of the Board since 2015
- Christian Barillot is member of the C3N committee (CNRS)
- Christian Barillot is member of the scientific board of "GIS France Grilles"
- Christian Barillot is member of the scientific board of the Neuroscience and psychiatry institute of AVIESAN

⁰<http://csins2i.irisa.fr>

10.1.5. Scientific Expertise

- Christian Barillot provided an expertise for the Royal Netherlands Academy of Arts and Sciences (KNAW)
- Christian Barillot provided expertise for the Austrian Science Fund (FWF), the NSERC / CRSNG Canada, the Wellcome Trust (UK)
- Christian Barillot provided an expertise for the KU Leuven, the University of British Columbia, Vancouver, Canada
- Christian Barillot provided expertise for the IDEX Université Grenoble Alpes
- Emmanuel Caruyer provided expertise for the Inria Associate Team program.

10.1.6. Invited Talks

- Emmanuel Caruyer gave an invited lecture, "Validating tractography pipelines: the help of simulated phantoms" during the 2017 School on Brain Connectomics, Oct. 9th-13th at the University of Verona, Italy.
- Emmanuel Caruyer gave an invited lecture, "Validating tractography pipelines with the help of simulated phantoms" during the Computational Brain Connectivity Mapping winter school workshop, Nov. 20th-24th in Juan-les-Pins, France.
- Yao Chi and Isabelle Corouge - "Infrastructures pour le traitement et la gestion de données d'imagerie biologique et médicale", Gen2bio National congress, Nantes, March 2017

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Emmanuel Caruyer, Introduction to algorithms (33h), L3 SIF, ENS Rennes, France
- Antoine Legouhy, Introduction to statistical modeling and R language (18h), L2 Biology, Univ. Rennes, France
- Antoine Legouhy, Introduction to numerical analysis and Python language (40h), L1 Biology, Univ. Rennes, France
- Corentin Vallée, Introduction to Machine learning (12h), M1 Fundamental and Applied Microbiology, Univ. Rennes, France
- Corentin Vallée, Machine learning (24h), M1 Molecular and Cellular biology, Univ. Rennes, France
- Corentin Vallée, Machine learning (24h), M1 Bioinformatics, Univ. Rennes, France
- Christian Barillot, Élise Bannier, Emmanuel Caruyer, Olivier Commowick, Isabelle Corouge, Jean-Yves Gauvrit, Master SIBM, University of Angers-Brest-Rennes (26h)
- Christian Barillot is responsible for one semester
- Jean-Yves Gauvrit is the coordinator for the Master
- École Supérieure d'Ingénieur de Rennes (ESIR): Pierre Maurel, General image processing (60h), Algorithmics and complexity (60h), Medical imaging (60h)
- ENS Rennes: Pierre Maurel, Introduction to image processing (24h)
- ISTIC – Université of Rennes 1: Emmanuel Caruyer, Software Engineering (12h)

10.2.2. Supervision

- PhD in progress: Sudhanya Chatterjee, "Image-based Tissue Compartment Characterization of Neural Circuits with in-vivo MRI", Inria, from Nov 2015, Christian Barillot, Olivier Commowick, Jean-Christophe Ferré, Simon Warfield.

- PhD in progress: Cédric Meurée, “Quantitative Analysis Of Arterial Spin Labeling MRI For Robust Parametric Information Of Perfusion Maps”, Inria / Siemens, from Mar 2014, Christian Barillot, Pierre Maurel.
- PhD in progress : Antoine Legouhy, "Longitudinal brain atlas creation, application to development studies", CNRS, from Nov 2016, Christian Barillot, François Rousseau, Olivier Commowick.
- PhD in progress : Corentin Vallée, "Joint estimation of neuronal activation, resting-state and basal metabolism from Arterial Spin Labeling", Univ. Rennes, from Nov 2016, Christian Barillot, Isabelle Corouge, Pierre Maurel.
- PhD in progress: Haykel Snoussi, “Diffusion MRI detection of early occurring spine lesions in relapsing-remitting multiple sclerosis with late physical impairment”, from Nov 2015, Christian Barillot, Gilles Edan, Emmanuel Caruyer
- PhD in progress: Pierre-Yves Jonin, “Relationships between context-free and context-rich memory: cognitive and neural substrates”, Inria/Inserm/CNRS from Oct 2014, Christian Barillot (co-supervisor)
- PhD in progress: Maia Proisy, “Perfusion in neonates and in pediatric diseases”, Univ. Rennes 1/CHRU Rennes, from Oct 2014, Jean-Christophe Ferré (supervisor)
- PhD in progress: Anne Kerbrat, “Quantitative MR imaging in MS for Brain and Spine”, Univ. Rennes 1/CHRU Rennes, from Oct 2014, Gilles Edan (supervisor)
- PhD in progress: Stephanie Leplaideur, “As part of an fMRI substudy of a national research study on balance disorder rehabilitation”, Univ. Rennes 1/CHRU Rennes, from Oct 2017, Isabelle Bonan (supervisor)

10.2.3. *Juries*

- Olivier Commowick, PhD committee : Renaud Hedouin, Inria, Rennes; June 12th, 2017.
- Christian Barillot, PhD committee: Renaud Hedouin, Inria, Rennes; June 12th, 2017.
- Christian Barillot, PhD committee: Lorraine Perronnet, Inria, Rennes; September 7th, 2017;
- Christian Barillot, PhD committee: Chunfeng LIAN, Rouen, January 27, 2017
- Christian Barillot, PhD review: Mehdi Hadj-Hamou, Nice Sophia Antipolis, January 17, 2017
- Christian Barillot, PhD review: Marco Pizzolato, Nice Sophia Antipolis, March 31, 2017
- Christian Barillot, HDR review: Julien Lefevre, Marseille, March 30, 2017
- Christian Barillot, PhD review: Riccardo Pascuzzo, Mathematics Dept., Politecnico di Milano, Italy, Dec. 2017

10.3. Popularization

10.3.1. *My thesis in 180 seconds*

- Lorraine Perronnet and Cédric Meurée participated in the 2017 edition of the French edition of the Three Minutes Thesis competition" :
 - Lorraine Perronnet : "Combinaison de l'ElectroEncéphaloGraphie et de l'Imagerie par Résonance Magnétique fonctionnelle pour la rééducation du cerveau par Neurofeedback"
 - Cédric Meurée : "Amélioration de la résolution d'images d'IRM de perfusion"

10.3.2. *La semaine du cerveau (The Brain Week), from 13/03/2017 to 19/03/2017, Rennes*

- Antoine Legouhy et Corentin Vallée : "PhD students processing MRI acquisition"
- Christophe Paya : "Discover brain anatomy with 3D models"
- Isabelle Corouge : "Neurinfo: An MRI dedicated to research"
- Pierre Maurel : "Let's play to the brain quizz in 3D immersion (using oculus rift)"

- Emmanuel Caruyer : "Medinria: Computer science serving cerebral imaging"

10.3.3. Journées Française de Radiologie 2017, 13-16 Octobre, Paris

- Stand FLI-IAM (Michael Kain, Yao Chi, Aneta Morawin, Mathieu Simon, Ines Fahkfahk, Arnaud Touboulic, Christian Barillot)
- Journée du Réseau d'Entraide en IRM Multicentrique (REMI) co-organisée par Elise Bannier

10.3.4. 50 ans Inria, Paris

- Stand "MedInria" (Olivier Commowick, Pierre Maurel), Nov 7-8, 2017

10.3.5. Journée du Président de la Société Française de Neurologie, Rennes, 7 Décembre 2017

- Organised by Gilles Edan

ASAP Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

- George Giakkoupis was a co-organizer of the Workshop on Decentralized Machine Learning, Optimization and Privacy, Lille, France, Sep 2017.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

- François Taïani served on the TPC of the 18th ACM/IFIP/Usenix International Conference on Middleware (Middleware 2017).
- François Taïani served on the TPC of the 37th IEEE International Conference on Distributed Computing Systems (ICDCS 2017), in the Distributed Operating Systems and Middleware track.
- François Taïani served on the TPC of the 16th Workshop on Adaptive and Reflective Middleware (ARM 2017).
- François Taïani served on the TPC of the 1st Workshop on Scalable and Resilient Infrastructures for Distributed Ledgers (SERIAL 2017)
- George Giakkoupis served as a program committee member for the 31st IEEE International Parallel and Distributed Processing Symposium (IPDPS), Orlando, Florida, USA, May 2017.
- George Giakkoupis served as a program committee member for the 44th International Colloquium on Automata, Languages, and Programming (ICALP), Warsaw, Poland, July 2017.
- George Giakkoupis served as a program committee member for the 31st International Symposium on Distributed Computing (DISC), Vienna, Austria, Oct 2017.
- Davide Frey served as a program committee member for the 11th ACM International Conference on Distributed and Event-Based Systems (DEBS 2017), Barcelona, Spain, Jun 2017.
- Davide Frey served as a program committee member for the International Symposium on Computer Architecture and High Performance Computing, SBAC PAD 2017.
- Pierre-Louis Roman served in the program committee of the 7th IEEE International Symposium on Cloud and Service Computing (SC2 2017), Kanazawa, Japan, November 2017.
- Pierre-Louis Roman served in the program committee of the 10th IEEE International Conference on Service-Oriented Computing and Applications (SOCA 2017), Kanazawa, Japan, November 2017.

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

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

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

8.1.3.2. Reviewer - Reviewing Activities

- David Bromberg was reviewer for Journal of Internet Services and Applications
- Davide Frey was a reviewer for PPNA Peer-to-Peer Networking and Applications.
- Davide Frey was a reviewer for Transactions on Cloud Computing.
- Davide Frey was a reviewer for Transactions on Sensor Networks.

8.1.4. Invited Talks

- Anne-Marie Kermarrec gave a keynote talk at DISC 2017, Vienna, Austria
- Davide Frey gave an Invited talk at the “Session d’information sur les appels à projets 2017 Big Data” at Business France, Paris, on January 6, 2017.
- David Bromberg gave an invited talk on “Dolmen: Towards the programmatic assembly of large-scale distributed systems” as a UFG Seminar, UFG - Instituto de Informática, Goiania, Brazil, February 20, 2017
- David Bromberg gave an invited talk on “Dolmen: Towards the programmatic assembly of large-scale distributed systems” as a UFG Seminar, Department of Computer Science, University of São Paulo, Sao Paulo, Brazil, February 22, 2017
- David Bromberg gave an invited talk on “Interoperability in distributed systems: past, present and future” at DISCOTEC/DIEBS, University of Neuchatel, June 21, University of Neuchatel, 2017

8.1.5. Leadership within the Scientific Community

- François Taïani has been a member of the Steering Committee of IFIP WG 6.1 International Conference on Distributed Applications and Interoperable Systems (DAIS) since 2013.
- François Taïani has been a member of the Steering Committee of the ACM/IFIP/USENIX International Conference on Middleware (Middleware) since 2014.
- Anne-Marie Kermarrec is a member of the ARCEP Prospective Board since 2015

8.1.6. Research Administration

- François Taïani has been a member of the Scientific Orientation Committee (COS) of IRISA (UMR 6074) since 2013.
- Anne-Marie Kermarrec was chair of the ERC Consolidator Grant Panel in 2017
- Davide Frey is “correspondant scientifique Europe” at the DPEI for Inria Rennes.
- Davide Frey is an associate member of the COST-GTRI of Inria.
- David Bromberg is responsible of International relationships of IRISA
- David Bromberg is member of the scientific committee of the Media & Networks competitiveness cluster
- David Bromberg is scientific correspondent for ICT Digital in Rennes

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Engineering School: David Bromberg, tools and programming languages for the Web, 48h, 2nd year of Engineering School (M1), ESIR / Université of Rennes 1, France.
- Engineering School: David Bromberg, Distributed software architecture, 24h, 2nd year of Engineering School (M1), ESIR / Université of Rennes 1, France.
- Pôle Universitaire Français: David Bromberg, Distributed software architecture, 60h, (M2), PUF / Université of Bordeaux, Vietnam.
- Engineering School: David Bromberg, Network security, 48h, 2nd year of Engineering School (M1), ESIR / Université of Rennes 1, France.
- Engineering School: David Bromberg, Cloud for the Internet of Things, 60h, 3rd year of Engineering School (M2), ESIR / Université of Rennes 1, France.
- Engineering School: David Bromberg, Internet of Things projects, 50h, 2nd year of Engineering School (M1), ESIR / Université of Rennes 1, France.

- University of Rennes 1: David Bromberg, Software engineering for the cloud, 4h, (M1), Université of Rennes 1, France.
- Engineering School: Francois Taiani, Synchronization and Parallel Programming, 48h, 2nd year of Engineering School (M1), ESIR / Univ. Rennes I, France.
- Engineering School: Francois Taiani, Distributed Systems, 24h, 3rd year of Engineering School (M2), ESIR / Univ. Rennes I, France.
- Engineering School: Francois Taiani, Parallel Algorithms for Big Data, 24h, 3rd year of Engineering School (M2), ESIR / Univ. Rennes I, France.
- Engineering School: Francois Taiani, Introduction to Operating Systems, 24h, 1st year of Engineering School (L3), ESIR / Univ. Rennes I, France.
- Master: Francois Taiani, Programming Technologies for the Cloud, 28h, M2, Univ. Rennes I, France.
- Master: Davide Frey, Scalable Distributed Systems, 10 hours, M1, EIT/ICT Labs Master School, Univ. Rennes I, France.
- Master: Davide Frey, Big-Data Storage and Processing Infrastructures, 10 hours, M2-SIF, Univ. Rennes I, France.

8.2.2. Supervision

PhD: Stéphane Delbruel, Towards a Decentralized Embryomorphic Storage System [12], University of Rennes 1, 27 January 2017, Francois Taiani and Davide Frey.

PhD: Resmi Ariyattu Chandrasekharannair, Towards Decentralized Federations for Plug-based Decentralized Social Networks [11], University of Rennes 1, 5 July 2017, Francois Taiani.

PhD in progress : Pierre-Louis Roman, Epidemic Distributed Convergence for Decentralized Social Networking, Oct 2014, Francois Taiani and Davide Frey.

PhD in progress : Olivier Ruas, Dynamic Learning and Recommendations in Very Large Distributed Computing Infrastructures, Oct 2015, Anne-Marie Kermarrec and Francois Taiani.

PhD in progress: Simon Bouget, EMILIO: Emergent Middleware for Extra-Large-Scale Self Adaptation, Sep 2014, Francois Taiani and David Bromberg (since Sep 2015).

PhD in progress: Adrien Luxey, Towards New Solutions to Build Large Scale Distributed Applications in the Cloud, Oct 2016, David Bromberg.

PhD in progress: Louison Gitzinger, “Combattre les menaces à la confidentialité des données des utilisateurs sur Android.”, Oct 2017, David Bromberg.

8.2.3. Juries

- François Taiani served as external examiner on the PhD defense committee of Gowri Sankar Ramachandran on 12 June 2017 at KU Leuven (Belgium)
- François Taiani as served examiner on the PhD defense committee of Nicolas Keriven on 12 October 2017 at University of Rennes 1 (France)
- François Taiani served as reviewer on the PhD defense committee of Joachim Queireix on 21 November 2017 at Université de Bordeaux (France)
- François Taiani served as chair on the PhD defense committee of Florian Grandhomme on 23 November 2017 at Université de Rennes 1 (France)
- François Taiani served as chair on the PhD defense committee of Orçun Yildiz on 8 December 2017 at École Normale Supérieure de Rennes (France)
- Anne-Marie Kermarrec served as an examiner in the HDR defense of Christian Grothoff on October 18, 2017.

8.3. Popularization

- Davide Frey published an article on the Telecom ParisTech Magazine. Issue 185.
- Pierre-Louis Roman gave an Invited talk at the Regional council of notaries of Brittany, Rennes, France, December 15, 2017. Title “Demystifying the blockchain and its utility for notaries” (talk in French).

ASCOLA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- J. Noyé has co-organized with M. Aksit the symposium Modularity 2017, colocated with <Programming> 2017 (Brussels).
- A. Lebre has been Publicity Chair of the Big Graph Processing workshop (co-located with ICDCS'17).
- A. Lebre has co-organized the CNRS Rescom Summer School 2017 edition (70 persons).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- A. Lebre and A. Simonet were co-program chair of ICFEC'17.
- S. Ibrahim was program co-chair of the 17th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP-2017), Helsinki, Finland, August, 2017.
- S. Ibrahim was program co-chair of the 1st Workshop on the Integration of Extreme Scale Computing and Big Data Management and Analytics (EBDMA 2017), co-located with CCGrid'17, Madrid, Spain, May 2017.

10.1.2.2. Member of the Conference Program Committees

- H. Coullon was member of the program committees of the following conferences: CloudCOM'17, ICFEC'17, ICCS'17, SAC PAPP'17, Compas'17
- S. Ibrahim was member of the program committees of SC'17, Cluster'17, HiPC'17, CCGrid'17, ISPA'17, I-SPAN'17, CloudCom'17, FCST'17, PDSW-DISCS@SC'17, NetBOS@ICNP'17, HPBDC@IPDPS'17, SCRAMBL@CCGrid'17.
- A. Lebre was member of the program committees of HPDC'17, SC'17, CCGRID'17, CloudCom'2017, and NoF'17.
- T. Ledoux was member of the program committees of the following workshops: ARM'17@Middleware, CrossCloud'17@EuroSys
- J.-M. Menaud was member of the program committees of SDS'17, Xgreen2017, AICT'17, CEIS'17, EEEP'17, Energy'17, SMARTGREENS'17
- J.-C. Royer was member of the program committees of CAREMAS, ICIS'2017, SCAI'2017 and WETICE'2017.
- M. Südholt was a member of the program committees of CloudCom'17, ProWeb'17, and Programming'17
- C. Zhou was member of the program committees of FCST'17, ICA3PP'17, EBDMA'@CCGrid'17.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- A. Lebre is an Associate Editor of the IEEE Transactions on BigDat
- S. Ibrahim is a Guest Editor of IEEE Transactions on Big Data – Special Issue on the Integration of Extreme Scale Computing and Big Data Management and Analytics. a Journal.

- M. Südholt is an Associate Editor of the journals Programming and Modularity (Springer).

10.1.3.2. Reviewer - Reviewing Activities

- H. Coullon has been a reviewer for the following journals: Annals of Telecommunication, Future Generation Computer Systems, Transactions on BigData.
- H. Coullon has been a reviewer for the following conferences: Cluster'17, HPDC'17.
- A. Lebre has been reviewer for the following journals: IEEE Transactions on Network and Service Management, and Journal of Parallel and Distributed Computing.
- A. Lebre has been reviewer for Europar 2017.
- T. Ledoux has been a reviewer for the journal IEEE Transactions on Services Computing.
- J. Noyé has been a reviewer for the Journal of Object Technology.
- S. Ibrahim has been a reviewer for the following journals: IEEE Transactions on Parallel and Distributed Systems, and IEEE Transactions on Big Data.

10.1.4. Invited Talks

- S. Ibrahim has been invited to present a talk at the ResCom summer school (Le Croisic) : “ Big Data Processing in the Cloud: Hadoop and Beyond”.
- S. Ibrahim has been invited to present a talk at CGCL (Huazhong University of Science and Technology, China, 02/11/2017): “Scalable Big Data Management on clouds and HPC systems”.
- S. Ibrahim has been invited to present a talk at ShenZhen University (China, 09/11/2017): “Scalable Big Data Management on clouds and HPC systems”.
- A. Lebre has been invited to present a talk at the 11th edition of the CloudControl Workshop serie (Sweden) : “Enos: a Holistic Framework for Conducting Scientific Evaluations of OpenStack”.
- A. Lebre has been invited to present a talk at the ResCom summer school (Le Croisic) : “ Utility Computing: From Mainframes to Clouds and Beyond!”.
- T. Ledoux has been invited for a talk about *frugal* Cloud by the GDS EcoInfo (CNRS) (Grenoble, France, 02/03/2017)
- T. Ledoux has been invited to present the CoMe4ACloud project at the 4th Grenoble Workshop on Autonomic Computing and Control (Grenoble, France, 10/23/2017)
- M. Südholt has been invited to present a talk at the IMT Cybersecurity day on “Privacy and sharing of genomic data.”

10.1.5. Scientific Expertise

- S. Ibrahim is Leading the *Resource Management and Scheduling for Data-Intensive HPC Workflows* activity within the JLESC, Joint Inria-Illinois-ANL-BSC-JSC-RIKEN/AICS Laboratory for Extreme-Scale Computing.
- S. Ibrahim is member of Grid'5000 Sites Committee – Responsible for the Rennes site.
- A. Lebre is member of the executive committee of the GDR CNRS RSD “Réseau et Système distribué” and Co-leader of the transversal action Virtualization and Clouds of this GDR since 2015.
- A. Lebre is leading the OpenStack “Fog/Edge/Massively Distributed Clouds” Special Interest Group (further information at: https://wiki.openstack.org/wiki/Massively_Distributed_Clouds).
- A. Lebre is member of the executive and architect committees of the Grid'5000 GIS (Groupement d'intérêt scientifique).
- J.-M. Menaud is the organizer of "Pôle Science du Logiciel et des Systèmes Distribués" in Laboratoire des Sciences du Numérique à Nantes (LS2N) since June 2015.
- J.-M. Menaud member of the thesis committee Gilles Kahn Award, sponsored by the French Academy of Sciences awarded by the SiF

10.1.6. Research Administration

J. Noyé is deputy head of the Automation, Production and Computer Sciences department of IMT Atlantique.

10.2. Teaching - Supervision - Juries

10.2.1. Supervision

- PhD: Md Sabbir Hasan, "Smart management of renewable energy in Clouds: from infrastructure to application", INSA Rennes, 05 March 2017, advisor: T. Ledoux
- HdR : Adrien Lebre, "Contributions to Large Scale Distributed Systems: The infrastructure view-point", University of Nantes, 1 Sept 2017.
- PhD: Emile Cadorel, director: J-M. Menaud, advisor: H. Coullon
- PhD: Fatima-zahra Boujdad, advisor: Mario Südholt
- PhD: Maverick Chardet, advisors: H. Coullon and A. Lebre
- PhD: Yewan Wang, director: J-M. Menaud.
- PhD: Mohammad Mahdi Bazm: codirectors: Mario Sudholt, J-M. Menaud.
- Postdoc: Dimitri Pertin, advisor: H. Coullon
- Postdoc: Chi Zhou, advisor: S. Ibrahim

10.2.2. Juries

- S. Ibrahim was member of the PhD Committee of Thomas Lambert, "Etude de l'effet de la replication de fichiers d'entree sur l'efficacite et la robustesse d'un ensemble de calcul", University of Bordeaux, September 2017.
- A. Lebre was member of the PhD Committee of Ismael Cuadrado-Cordero, "Microclouds: An Approach for a Network-Aware Energy-Efficient Decentralized Cloud", University of Rennes 1, Feb 2017.
- A. Lebre was member of the PhD Committee of Luis Pineda, "Efficient Support fo Data-Intensive Scientific Workflows on Geo-Distributed Clouds", University of Rennes 1, May 2017.
- A. Lebre was member of the PhD Committee of Aymen Jlassi, "Optimisation de la gestion des ressources sur une plateforme inforamtique de type Big-data basée sur le logiciel Hadoop", University of Tours, Dec 2017.
- T. Ledoux was a member of the PhD committee of Xuan Sang Le, "Software/FPGA Co-design for Edge-computing: Promoting Object-oriented Design", Univ. Bretagne Occidentale, May 2017
- J.-M. Menaud was reviewer of the PhD of Ines de Courchelle, "Vers une meilleure utilisation des énergies renouvelables : application à des bâtiments scientifiques", (Nov. 20, 2017), Toulouse ; Boris Teabe (Oct 12, 2017) "Performance et qualité de service de l'ordonnanceur dans un environnement virtualisé", Toulouse ; Alexis Martin (Jan. 13, 2017) "Infrastructure pour la gestion générique et optimisée des traces d'exécution pour les systèmes embarqués", Grenoble.
- J-C. Royer was member of the PhD comittee of Walid Benghabrit, "A Formal Model for Accountability", IMT Atlantique, October 27 2017 and Gwendal Daniet, "Efficient Persistence, Query and Tranformation of Large Models", IMT Atlantique, November 14, 2017.
- M. Südholt was a member of the PhD committee of Pauline Bolignano, "Formal Models and Verification of Memory Management in a Hypervisor", Inria, May 2017.

DIONYSOS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Pierre L'Ecuyer is member of the Steering Committee of MCQMC.

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

Y. Hadjadj-Aoul is co-chairing the Steering Committee of the International Conference on Information and Communication Technologies for Disaster Management (ICT-DM) from December 2016 and member of the steering committee since 2016.

Y. Hadjadj-Aoul is co-chairing **ISNCC'2018**, "*The 5th International Symposium on Networks, Computers and Communications*" (Co-sponsored by IEEE), Roma, Italy (May 2018)

Yann Busnel has been member of the Organization Committee of AlgoTel 2017 (19èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications), which held in Quiberon in June 2017.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Patrick Maillé and Bruno Tuffin were co-chairs of the International Workshop on Advanced Internet Charging and QoS technologies (ICQT'17), Tokyo, Japan, in November 2017
- Yassine Hadjadj-Aoul was co-chair of ISNCC'2017, "*The 4th International Symposium on Networks, Computers and Communications*" (Co-sponsored by IEEE), Marrakech, Morocco (May 2017)

10.1.2.2. Member of the Conference Program Committees

Yann Busnel was a member of the Program Committee of the following events:

- NCA 2017: 16th IEEE International Symposium on Network Computing and Applications, Boston, USA, October 2017.
- CoRes 2017: 2èmes Rencontres Francophones sur la Conception de Protocoles, l'Évaluation de Performance et l'Expérimentation des Réseaux de Communication, Quiberon, France, May 2017.

Pierre L'Ecuyer was a member of the Program Committee of the following events:

- MCM'2017: Eleventh International Conference on Monte Carlo Methods and its Applications, Montreal, Canada, July 2017.
- ICORES 2017: International Conference on Operations Research and Enterprise Systems, Porto, Portugal, Feb. 2017.

Patrick Maillé was a member of the Program Committee of the following events:

- 15th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, Telecom ParisTech, Paris, France, 15th - 19th May, 2017.
- NetEcon 2017: the 12th Workshop on the Economics of Networks, Systems and Computation, Cambridge, MA, USA, June 2017.

Bruno Sericola was a member of the Program Committee of the following event:

- ASMTA 2017: International Conference on Analytical and Stochastic Modelling Techniques and Applications, Newcastle-upon-Tyne, United Kingdom, 10-12 July 2017.

Gerardo Rubino was a member of the Program Committee of the following events:

- 11th International Conference on Monte Carlo Methods and Applications (MCM 2017), Montreal, Canada, July 3-7, 2017.
- XLIII Latin-American Conference in Computer Science (CLEI 2017), Córdoba, Argentina, September 4-8, 2017.
- IX International Congress of Computer Science and Telecommunications (COMTEL 2017), Lima, Peru, October 11-13, 2017.

Bruno Tuffin was a member of the Program Committee of the following events:

- 6th Workshop on Smart Data Pricing (SDP 2017), Workshop of IEEE INFOCOM 2017, Atlanta, GA, USA, May 2017.
- The Third International Symposium on Ubiquitous Networking (UNET 2017), Casablanca, Morocco, May 10-12, 2017.
- NetEcon 2017: the 12th Workshop on the Economics of Networks, Systems and Computation, Cambridge, MA, USA, June 2017.
- 11th International Conference on Monte Carlo Methods and Applications (MCM 2017), Montreal, Canada, July 3-7, 2017.
- 7th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH), Madrid, Spain, 29-31 July 2017.
- 14th International Conference on Economics of Grids, Clouds, Systems & Services (GECON'2017), Biarritz-Anglet-Bayonne, France, Sept. 19-21, 2017.
- The International Conference on Wireless Networks and Mobile Communications (WINCOM'17), Rabbat, Morocco, November 1-4, 2017.
- IEEE Globecom 2017, Singapore, Dec. 4-8, 2017
- 11th EAI International Conference on Performance Evaluation Methodologies and Tools (Value-Tools 2017), Venice, Italy, December 5-7, 2017

Yassine Hadjadj-Aoul was a member of the Program Committee of the following events:

- IEEE Globecom 2017, Singapore, Dec. 4-8, 2017
- IEEE ICC 2017, Paris, France, May. 21-25, 2017
- IEEE WCNC 2017, San Francisco, USA, March 19-22
- IEEE Symposium on Computers and Communications (ISCC 2017), Heraklion, Crete, Greece, July 3-6, 2017
- IEEE International Symposium on Networks, Computers and Communications (ISNCC 2017), Marrakech, Morocco, May 16-18, 2017

10.1.2.3. Reviewer

Yann Busnel served as a reviewer for several major international conferences, such as DaWak 2017 (19th International Conference on Big Data Analytics and Knowledge Discovery).

Bruno Sericola served as a reviewer for several major international conferences.

Yassine Hadjadj-Aoul served as a reviewer for several major international conferences.

Gerardo Rubino served as a reviewer for several major international conferences, including those at which he served as a member of the Committee Program.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Bruno Tuffin is the Simulation Area Editor for *Inform's Journal on Computing*.

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

- ACM Transactions on Mathematical Software, since August 2004.
- Statistics and Computing (Springer-Verlag), since June 2003.
- International Transactions in Operational Research, since May 2007.

Bruno Tuffin is an associate editor for the following journal:

- ACM Transactions on Modeling and Computer Simulation, since November 2008.

Bruno Sericola is an associate editor for the following journals:

- International Journal of Stochastic Analysis, since April 2010.
- Performance Evaluation, since April 2015.

Bruno Sericola is Editor in Chief of the books series “Stochastic Models in Computer Science and Telecommunications Networks”, ISTE/WILEY, since March 2015.

10.1.3.2. Reviewer - Reviewing Activities

Yann Busnel served as a reviewer for several major international journals, such as TPDS (IEEE Transactions on Parallel and Distributed Systems).

In addition to the reports done during his associate editor and conference TPC member duties, Bruno Tuffin has reviewed papers in 2017 for IEEE JSAC, ACM TOIT, Telecom Policy, IEEE/ACM TON.

Bruno Sericola served as a reviewer for several major international journals.

Yassine Hadjadj-Aoul served as a reviewer for several major international journals, such as TVT (IEEE Transaction on Vehicular Technology) and IEEE JSAC.

César Viho reviewed papers for the journals IEEE Transaction on Wireless Communication, IEEE Transactions on Vehicular Communications, IEEE Communications Magazine, and for the following international conferences: IWCNC, Globecom, and CCNC.

Gerardo Rubino served as a reviewer for several major international journals.

10.1.4. Invited Talks

Yann Busnel made several invited and keynote talks in 2017:

- *Analyse et traitement de flux de données à large échelle*, Invited talk at Journées non thématiques RESCOM 2017, Nice, France, January 2017.
- *Analyse et traitement de flux de données à large échelle* Invited talk at Journées ARC du GRD MACS 2017, Paris, France, May 2017.
- *Ordonnancement dynamique pour un équilibrage de charge quasi-optimal dans les systèmes de traitement de flux*, Plenary talk at AlgoTel 2017, Quiberon, France, June 2017.
- *Comment créer un cloud social sécurisé pour ses données ? Le projet SocioPlug !* invited talk at 23ème Technoférence du Pôle Images & Réseaux, Nantes, France, December 2017.

B. Tuffin gave a keynote talk “Network Neutrality: Modeling, Challenges, and its Impact on Clouds” at the 14th International Conference on Economics of Grids, Clouds, Systems & Services (GECON 2017), Keynote talk, Bayonne Anglet, France, September 19-21, 2017.

B. Tuffin gave the following seminar presentation:

- B. Tuffin. Neutralité du Net: introduction, modélisation et défis. ENS Rennes, Feb. 7, 2017.
- B. Tuffin. La fausse neutralité du net ? ENS-ENSSIB, Lyon, Mars 2017.

Yassine Hadjadj-Aoul led a panel on “Intelligence defined network for future smart cities” during the 4th International Symposium on Networks, Computers and Communications (ISNCC 2017).

Raymond Marie gave a seminar at the Polytechnic University of Hong Kong during a two-week stay as a guest.

G. Rubino made several invited and keynote talks in 2017. Two around Monte Carlo techniques:

- “Rare events in simulation: issues and techniques”, plenary talk, for the micro-simulation community (see [36]).
- “Dependability Analysis through Monte Carlo Methods: The Case of Rare Events”, a tutorial (see [33]).

and two around transient analysis of Markovian processes:

- “On the derivation of closed-form expressions of the solutions to (possibly infinite) some simple linear systems of ODEs”, keynote for researchers in dynamical systems and differential equations (see [35]).
- “New results on the transient analysis of some fundamental queuing systems”, keynote oriented to modeling (see [34]).

10.1.5. Leadership within the Scientific Community

Yann Busnel is a member of the CSV (the technical committee) of the Images and Networks Cluster of Brittany, France.

Yann Busnel is a member of the Steering Committee of the RESCOM research group at GDR CNRS RSD.

Yassine Hadjadj-Aoul is a founding member of Special Interests Group “IEEE Sig on Big Data with Computational Intelligence”, under the IEEE COMSOC Big Data TC (since June 2017).

Yassine Hadjadj-Aoul is a member of the GT ARC (Automatique et Réseaux de Communication) scientific committee (since Nov. 2017)

Gerardo Rubino is one of the three French representatives at the Scientific Committee of the IFCAM (Indo-French Centre for Applied Mathematics), managing the cooperation in mathematics of the two countries, and federating at the French side, among several other participants, Inria and CNRS.

Gerardo Rubino is a member of the CSV (the technical committee) of the Images and Networks Cluster of Brittany, France.

10.1.6. Scientific Expertise

César Viho has reviewed project proposals for the ANR and for CIFRE contracts for the ANRT.

Gerardo Rubino has participated as an expert for several institutions abroad, and for different tasks (recruitments, promotions, prizes): the University of Vienna, Austria, the University of New South Wales, Australia, the UTFSM, Chile.

10.1.7. Research Administration

- Bruno Tuffin is the co-director of the common lab ALSTOM-Inria since 2014.
- Bruno Tuffin was a member of Inria-MITACS selection committee.
- Bruno Tuffin was a member of Inria Rennes’ “Inria delegation” selection committee.
- Bruno Tuffin was a member of Inria Rennes’ post-doc selection committee.
- Yann Busnel is head of “Network System, Cybersecurity and Digital law” Research Department at IMT Atlantique.
- Yann Busnel is member of Development Council of Computer Sciences Master at University of Nantes.
- Bruno Sericola is responsible for the Inria Rennes-Bretagne Atlantique budget.
- 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 director of the MathSTIC (Mathematics, Electronics and Computer Sciences) doctoral school in charge of managing the recruitment of around 1100 PhD students and their activities during their doctorate, in all the concerned areas of the UBL (Université Bretagne Loire).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Bruno Tuffin, MEPS (performance evaluation), 35h, M1, Univ Rennes, France
Master: Bruno Tuffin, GTA (Game Theory and Applications), 15h, M2, Univ Rennes, France
Master: Patrick Maillé, GTA (Game Theory and Applications), 15h, M2, Univ Rennes, France
Master: Patrick Maillé, Simulation and queuing theory, 25h, M2, IMT Atlantique, France
Licence: Patrick Maillé, Techniques and models in networks, 20h, L3, IMT Atlantique, France
Master: Patrick Maillé, Performance Evaluation, 30h, M1, IMT Atlantique, France
Licence: Yann Busnel, Introduction to Network, 15h, 1st year ENS Rennes, France
Master: Yann Busnel, Big Data and Stream Processing, 9h, IMT Atlantique, Rennes, France
Master: Bruno Sericola, Mathematics, 12h, M2, Istic/University of Rennes 1, France.
Master: Bruno Sericola, Logistic and performance, 12h, M2, Faculté de sciences économiques, Univ of Rennes 1, France
Master: Bruno Sericola, MEPS (performance evaluation), 36h, M1, Univ Rennes, France
Master pro 2nd year: Yassine Hadjadj-Aoul, Multimedia streaming over IP (MMR), 48 hours, Esir/University of Rennes 1, France
Master pro 2nd year: Yassine Hadjadj-Aoul, Multimedia services in IP networks (RSM), 29 hours, Esir/University of Rennes 1, France
Master pro 2nd year: Yassine Hadjadj-Aoul, Software Defined Networks, 6 hours, Istic/University of Rennes 1, France
Master 2nd year: Yassine Hadjadj-Aoul, Video streaming over IP, 8 hours, Istic/University of Rennes 1, France
Master: Yassine Hadjadj-Aoul, Introduction to networking (IR), 26 hours, Esir/University of Rennes 1, France
Master: Yassine Hadjadj-Aoul, Mobile and wireless networking (RMOB), 20 hours, Esir/University of Rennes 1, France
Master 2nd year: Yassine Hadjadj-Aoul, Overview of IoT technologies: focus on LPWAN, 2 hours, INSA, France
Master pro 2nd year: Sofiéne Jelassi, Supervision of heterogeneous networks, 32 hours, Istic/University of Rennes 1, France
Master pro 2nd year: Sofiéne Jelassi, Cloud & SDN virtualization, 32 hours, Istic/University of Rennes 1, France
Master pro 2nd year: Sofiéne Jelassi, Multimedia networks, 32 hours, Istic/University of Rennes 1, France
Master 2nd year: Sofiéne Jelassi, Software defined networking, 6 hours, Istic/University of Rennes 1, France
Master M1: César Viho, Networks: from Services to protocols, 36 hours, Istic/University of Rennes 1, France
Master M2: César Viho, Algorithms on graphs, 40 hours, Istic/University of Rennes 1, France
Bachelor L2: César Viho, Network architecture and components, 16 hours, Istic/University of Rennes 1, France
Supelec Rennes 3rd year: Gerardo Rubino, Dependability Analysis, 15 hours.
UDELAR, Uruguay: Gerardo Rubino, post-graduate course on dependability, 21 hours.

10.2.2. Supervision

PhD in progress: Ajit Rai, “Availability prediction with logistics”, started in May 2015; advisors: B. Tuffin & G. Rubino, University Rennes 1.

Joshua Peignier, Estelle Varloot. “Game-theoretic tools to analyze classical vs collaborative economies”, Project Master R&I, 2016-2017. Advisors: P. Maillé and B. Tuffin.

PhD in progress: Alassane Samba, “Technologies Big Data et modèles prédictifs pour la QoS des réseaux”, IMT Atlantique. Advisors: Y. Busnel, G. Simon and P. Dooze (Inria). Defense in 2018.

PhD in progress: Richard Westerlynck, “Analyse répartie et extraction de tendances à grande échelle pour les données massives en santé”, IMT Atlantique. Advisors: Y. Busnel and M. Cuggia (PUPH, CHU Rennes). Defense in 2020.

PhD in progress: Vasile Cazacu, “Calcul distribué pour la fouille de données cliniques”, IMT Atlantique. Advisors: E. Anceaume (CNRS Rennes), Y. Busnel and M. Cuggia (PUPH, CHU Rennes). Defense in 2020.

PhD in progress: Corentin Hardy, “Device-Assisted Distributed Machine-Learning on Many Cores”, started in April 2016; advisors: Bruno Sericola and Erwan Le Merrer from Technicolor, University Rennes 1.

PhD in progress: Yves Mocquard, “Analyse de flux de données massifs dans les systèmes distribués large échelle”, started on September 2015; advisors: Bruno Sericola and Emmanuelle Anceaume from team Cidre, University Rennes 1.

PhD in progress: Ali Hodroj, “Enhancing content delivery to multi-homed users in broadband mobile networks”, started in November 2015; advisors: Bruno Sericola, Marc Ibrahim and Yassine Hadjadj-Aoul, University Rennes 1 and St Joseph University of Beyrouth.

PhD in progress: Jean-Michel Sanner; Cifre Grant, Orange Labs, “SDN technologies for network services performances adaptation of carriers networks”; started on January 2013;

PhD in progress: Hamza Ben Ammar, “Socially-aware network and cache resources optimization for efficient media content delivery in Content Centric Networks”, started in October 2015; advisors: Yassine Hadjadj-Aoul, Adlen Ksentini and Soraya Ait Chellouche, University Rennes 1.

PhD in progress: Imad Alawe, “Mobile SDN architecture”, started in October 2015; advisors: César Viho, Yassine Hadjadj-Aoul, University Rennes 1, Philippe Bertin, B-COM and Davy Darche, TDF.

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

PhD in progress: Imane Taibi, “Big data analysis for network monitoring and troubleshooting”; started on Nov. 2017; Advisors: G. Rubino, Inria, and Yassine Hadjadj-Aoul, University Rennes 1, and Chadi Ibrahim, Inria.

PhD in progress: Mohamed Rahali, “Machine learning-based monitoring and management for hybride SDN networks”; started on Oct. 2017; Advisors: G. Rubino, Inria, and Sofiène Jelassi, University of Rennes 1.

PhD in progress: Nicolás Jara, “Fault tolerant design of dynamic WDM optical networks”, Technical University Federico Santa María (UTFSM) and university of Rennes 1, France. Advisors: R. Vallejos (Chile) and G. Rubino (France). Defense in 2018.

PhD in progress: Laura Aspirot, “Fluid Approximations for Stochastic Telecommunication Models”, University of the Republic, Uruguay. Advisors: E. Mordecki (Uruguay) and G. Rubino (France). Defense in 2018.

PhD in progress: Jorge Graneri, “Mathematical Models for Semantic Memory”, University of the Republic, Uruguay. Advisors: E. Mizraji (Uruguay) and G. Rubino (France). Started end 2016.

10.2.3. *Juries*

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

- Kodjo Séna Apeke. Modélisation ubiquiste pour l’interaction d’échelles. Application à la prédiction de la réponse d’une tumeur sous traitement en radiothérapie. Université de Bretagne Occidentale, 2017.

Bruno Sericola was member of the final selecting board for the recruitment of CNRS researchers in 2017.

Yassine Hadjadj-Aoul was a member of the PhD defense committee of Souheir Eido, IMT Atlantique, Brest (2017)

Yassine Hadjadj-Aoul and Gerardo Rubino were members of the PhD jury of Yue Li. Title: “Elaboration d’une architecture réseau unifiée, ouverte et flexible”. Defense: September 29, 2017.

César Viho was a member of the following juries:

- Recruitment of young graduate scientists and senior researchers at Inria.
- Recruitment of young Associate Professors and senior Professors at ISTIC-Université Rennes 1.

10.3. Popularization

- B. Tuffin. La simulation de Monte-Carlo. Interstices. 2017. https://interstices.info/jcms/int_69164/la-simulation-de-monte-carlo
- G. Rubino makes regular presentations to high school students about the research work in general, and specific technical topics in particular. Current talks:
 - Randomness as a tool
 - Internet as a research problem
 - Great challenges in maths: the Riemann Hypothesis
 - Great challenges in math/computer science: the “P versus NP” problem

DIVERSE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Benoit Combemale has been general chair for SLE 2017, the major international conference in the area of software language engineering.
- Benoit Combemale has been main organizer of the Dagstuhl Seminar #17342 on “The Software Language Engineering Body of Knowledge” (SLEBoK).
- Mathieu Acher has been program committee co-chair of SPLC 2017, the major international conference in the area of variability and software product line engineering.

10.1.1.2. Member of the Organizing Committees

Arnaud Blouin:

- Publicity co-chair, EICS’17, 2017

Mathieu Acher:

- Publicity chair, ICSR’18
- Co-organizer of REVE’17 (international workshop on reverse engineering variability)

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Mathieu Acher:

- PC member ICSR 2017
- PC member VaMoS 2017
- PC member SAC 2017
- PC member SEAA 2017
- PC member GramSec’17

Olivier Barais:

- PC member SEAA 2017
- PC member SAC 2017
- PC member ICWE 2017

Benoit Baudry:

- PC member ICSE 2017
- PC member ASE 2017

Arnaud Blouin:

- PC member of the ACM Student Research Competition (SRC) at MODELS 2017

Benoit Combemale:

- PC member for MODELS'17
- PC member for ICMT'17
- PC member for the GEMOC'17 workshop at MODELS'17
- PC member for the MDEbug'17 workshop at MODELS'17
- PC member for the EXE'17 workshop at MODELS'17
- PC member for the MiSE'17 workshop at ICSE'17
- PC member for the MoMo'17 workshop at Modularity'17

Jean-Marc Jézéquel:

- PC member ICSE 2017
- PC member SPLC 2017 Vision track
- PC member SEAMS 2017

Johann Bourcier:

- PC member for the SEsCPS'17 workshop at ICSE'17

10.1.2.2. Reviewer

Arnaud Blouin was an external reviewer for ICSE 2017, EICS 2017, MODELS 2017, ICSA 2017, SEAMS 2017. Olivier Barais was a reviewer for ICSE 2017, Sosym 2017, JSS, JISA.

Johann Bourcier was a reviewer for ASE 2017, ICSE 2017 and Models 2017.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Benoit Baudry:

- SOSYM
- STVR

Benoit Combemale:

- Springer Journal on Software and System Modeling (SoSYM),
- Elsevier Journal on Computer Languages, Systems and Structures (COMLAN),
- Elsevier Journal on Science of Computer Programming (SCP), Advisory Board member of the Software Section.

Jean-Marc Jézéquel is Associate Editor in Chief of the Journal of Software and Systems Modeling: SoSyM, and member of the Editorial Board of:

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

10.1.3.2. Reviewer - Reviewing Activities

Arnaud Blouin: JSS, Ingénierie des Systèmes d'Information

Johann Bourcier was reviewer for the following magazine : IEEE Communication Magazine.

10.1.4. Invited Talks

Benoit Baudry:

- Software technology and DevOps. Scientific days of Orange
- Reconciling Diversity and Privacy at the Dagstuhl Seminar on Online Privacy and Web Transparency
- Software diversification as an obfuscation technique, at the International Workshop on Obfuscation: Science, Technology, and Theory

Benoit Combemale:

- From Model (driven) Engineering, to Language (driven) Engineering. Invited talk at CEA DAM, France.
- Towards Language-Oriented Modeling. Invited talk at UQAM (Montreal, Canada).
- Sound, yet Flexible, Modeling: A Language Engineering Point Of View. Keynote at FlexMDE'17.
- Modeling For Sustainability – Or How to Make Smart CPS Smarter? Invited talk at CWI (Amsterdam, The Netherlands).
- Model Simulation, Graphical Animation, and Omniscient Debugging with Sirius Animator. Invited talk at SiriusCon'17.

10.1.5. Leadership within the Scientific Community

Benoit Baudry:

- Steering committee member for the ACM/IEEE MODELS conference

Benoit Combemale:

- Steering committee member for the ACM SLE conference
- Founding member and member of the advisory board of the GEMOC initiative.

Arnaud Blouin:

- Founding member and member of the GL-IHM (software engineering and human-computer interaction) working group (action spécifique GDR-GPL 2017)

10.1.6. Scientific Expertise

Arnaud Blouin: external ANR (French national research agency) reviewer 2017 Olivier Barais: International collaborations foreign minister. Expert Olivier Barais: AutoActive proposal board of expert (Norwegian project) Olivier Barais: AutoActive proposal board of expert (Norwegian project)

Johann Bourcier : scientific reviewer for CIR (Credit Impot Recherche).

10.1.7. Research Administration

Benoit Baudry is in the scientific advisory board of the SVV lab, University of Luxembourg.

Jean-Marc Jézéquel is the Director of IRISA, a 800+ people joint labs of CNRS, ENS Rennes, INSA Rennes, Inria, Telecom Bretagne, CentraleSupélec, the University of Rennes 1 and the University of South Brittany. He is also the head of Research of the French CyberSecurity Excellence Cluster, as well as the EIT Digital Rennes Satellite Node Director.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

The DIVERSE team bears the bulk of the teaching on Software Engineering at the University of Rennes 1 and at INSA Rennes, for the first year of the Master of Computer Science (Project Management, Object-Oriented Analysis and Design with UML, Design Patterns, Component Architectures and Frameworks, Validation & Verification, Human-Computer Interaction) and for the second year of the MSc in software engineering (Model driven Engineering, Aspect-Oriented Software Development, Software Product Lines, Component Based Software Development, Validation & Verification, *etc.*).

Each of Jean-Marc Jézéquel, Noël Plouzeau, Olivier Barais, Johann Bourcier, Arnaud Blouin, Mathieu Acher and Benoit Combemale teaches about 200h in these domains, with Benoit Baudry and teaching about 50h, for a grand total of about 1500 hours, including several courses at ENSTB, Supélec, and ENSAI Rennes engineering school.

Olivier Barais is deputy director of the electronics and computer science teaching department of the University of Rennes 1. Mathieu Acher is in charge of teaching duties management of this department. Noël Plouzeau is the head of the final year of the Master in Computer Science at the University of Rennes 1. Johann Bourcier is at the board of the ESIR engineering school.

The DIVERSE team also hosts several MSc and summer trainees every year.

10.2.2. Supervision

- PhD : Mohamed Boussaa, *Automatic non-functional testing and tuning of configurable generators*, 06/09/2017, B. Baudry, O. Barais
- PhD : Marcelino Rodriguez Cancio, *Automatic computation diversification*, 19/12/2017, B. Baudry and B. Combemale
- PhD: Pierre Laperdrix, *Browser Fingerprinting: Exploring Device Diversity to Augment Authentication and Build Client-Side Countermeasures*, 03/11/17, B. Baudry, G. Avoine
- PhD in progress: Alejandro Gomez Boix, *Distributed counter-measure against browser fingerprinting*, 2016, B. Baudry, D. Bromberg
- PhD in progress: Nicolas Harrand, *Automatic diversity for code obfuscation*, 2016, B. Baudry
- PhD in progress: Johan Pelay, *Langage pour une programmation incrémentale de réseau*, 2016, O. Barais, F. Guillemin
- PhD in progress: Quentin Plazar, *Bridging the gap between SAT and SNP*, 2015, M. Acher, A. Goetib
- PhD in progress: Paul Temple, *Lerning variability models*, 2015, M. Acher, J.-M. Jézéquel
- PhD in progress: Manuel Leduc, *Formal and Executable Specification of domain-specific language families*, 2016, O. Barais, B. Combemale
- PhD in progress: Youssou NDiaye, *Modelling and evaluating security in user interfaces*, 2016, N. Aillery, O. Barais, A. Blouin, A. Bouabdallah
- PhD in progress: Jean-Émile Dartois, *Performance resources modeling for container based applications*, 2016, O. Barais
- PhD in progress: Oscar Luis, *Automatic test amplification*, 2016, B. Baudry
- PhD in progress: Alexandre Rio, *Activity modeling for better renewable energy usage*, 2016, O. Barais, Y. Morel
- PhD: in progress, Kevin Corre, *Modélisation de la confiance dans les services sociaux et conversationnels*, 2014, O. Barais, G. Sunye
- PhD: in progress, Gwendal Le Moulec, *Towards the automatic synthesis of virtual reality applications*, 2015, B. Arnaldi, A. Blouin, V. Gouranton
- PhD: in progress, Ludovic Mouline, *A modeling Framework for context representation*, 2015, J. Bourcier, O. Barais, F. Fouquet, Y. Le Traon
- PhD: in progress, Erwan Picard, *Legal aspect of online profiling*, 2015, M.Boizard, B. Baudry

10.2.3. Juries

10.2.3.1. Benoit Baudry

was in the examination committee of the following PhD thesis:

- Pierre Laperdrix, September 2017, Univ Rennes I, Supervisor
- Marcelino Rodriguez-Cancio, December 2017, Univ Rennes I, Supervisor
- Xavier Devroey, June 2017, Univ Namur, Referee

10.2.3.2. Olivier Barais

was in the examination committee of the following HDR:

- Mohammed Boussa, 2017, Univ RennesI, Supervisor
- hamza ouarnoughi, 2017, Univ Brest, Reviewer
- Ternava Xhevahire, 2017, Univ Nice, Reviewer
- Colin AY GALINC, 2017, Univ Grenoble, Reviewer
- Fadwa Rekik, May 2017, Univ Paris Saclay, Reviewer

10.2.3.3. Benoit Combemale

was in the examination committee of the following PhD thesis:

- Ulyana Tikhonova, November 2017, TU/e, The Netherlands, Reviewer
- Cyril Cecchinél, November 2017, Univ. Nice, Examiner
- Rodriguez Cancio, December 2017, Univ Rennes 1, Supervisor

10.3. Popularization

IT industry forums . Pierre Laperdrix presented his work on the mitigation of browser fingerprinting at the Mozilla Festival ⁰. The results of STAMP ⁰ have been presented at EclipseCon ⁰, the Paris Open Source Summit ⁰, OW2'con ⁰ and the cloud computing world expo ⁰.

Science festivals . Jean-Marc Jézéquel and Benoit Baudry have presented overviews of research issues in Cybersecurity to general public audiences in several events, such as the 2017 Pint of Science ⁰ and the science en bobine festival ⁰.

⁰<https://mozillafestival.org/>
⁰<https://www.stamp-project.eu>
⁰<https://www.eclipsecon.org/europe2017/>
⁰<http://www.opensourcesummit.paris/>
⁰<https://www.ow2con.org>
⁰<http://www.cloudcomputing-world.com/>
⁰<https://pintofscience.fr/>
⁰<https://sciencesenbobines.org/rennes-35/>

KERDATA Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Luc Bougé: Chair of the Steering Committee of the **Euro-Par** Series of conferences since August 2017.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Gabriel Antoniu:

- Program Chair of the IEEE Cluster 2017 international conference.
- Vice-Chair of the Program Committee of the ACM/IEEE CCGrid 2017 international conference (Hybrid and Mobile Clouds Area), Madrid, May 2017.

Alexandru Costan:

- Program Co-Chair of the ScienceCloud 2017 international workshop held in conjunction with HPDC 2017, Washington, USA.
- Posters Chair of the IEEE Big Data 2017.
- Submissions Chair of the IEEE Cluster 2017.
- Track Chair of the IEEE ScalCom 2017 (Tools for Big Data track)

9.1.2.2. Member of Conference Program Committees

Gabriel Antoniu: IEEE/ACM SC'17 (Papers), ACM HPDC 2017.

Luc Bougé: ISC HPC 2017.

Alexandru Costan: IEEE/ACM SC'17 (Posters), ACM/IEEE CCGrid 2017, IEEE/ACM UCC 2017, ARMS-CC 2017 workshop (held in conjunction with PODC 2016), IEEE Big Data 2017, MLDS 2017, EBDMA 2017, ISPDC 2017, CSCS 2017.

9.1.2.3. Reviewer

Luc Bougé: ISC 2017, SC 2017, BigData 2017, IPDPS 2017, etc.

Alexandru Costan: HPDC 2017, SC 2017, IPDPS 2017

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Gabriel Antoniu: Future Generation Computer Systems: Special Issue on Mobile, hybrid, and heterogeneous clouds for cyberinfrastructures (Guest Editor, 2017).

Luc Bougé: Concurrency and Computation: Practice and Experience, Special Issues on the Euro-Par conference.

Alexandru Costan: Soft Computing Journal, Special Issue on Autonomic Computing and Big Data Platforms

9.1.3.2. Reviewer - Reviewing Activities

Gabriel Antoniu: Concurrency and Computation: Practice and Experience.

Luc Bougé: IEEE Transactions on Distributed Parallel Systems.

Alexandru Costan: IEEE Transactions on Parallel and Distributed Systems, Future Generation Computer Systems, Concurrency and Computation Practice and Experience, IEEE Communications, IEEE Transactions on Storage, Information Sciences, IEEE Transactions on Big Data.

Chi Zhou: IEEE Transactions on Big Data, IEEE Transactions on Cloud Computing and ACM TAAS.

9.1.4. Keynote Talks and Invited Talks

Gabriel Antoniu:

BigStorage and WALL ITN Joint Meeting: *Týr: Storage-based Convergence Between HPC and Big Data*, Mainz, January 2017.

Huawei Seminar: *Convergence of HPC and Big Data*, Huawei European Research Center, Munich, October 2017.

Luc Bougé:

Dagstuhl School on Challenges and Opportunities of User-Level File Systems for HPC: *Are objects the right level of abstraction to enable the convergence between HPC and Big Data at storage level?*, joint talk with María Pérez, Universidad Politécnica de Madrid ([slides](#)).

ENS Rennes: *Map-Reduce: Very-Large Scale Programming for Big Data on Clouds*, November 2017.

Alexandru Costan:

Huawei Seminar: *Low-Latency Stream Storage*, Huawei Research Munich, October 2017.

BigStorage Summer School: *Making Cities Smarter: A Storage-based View on Stream Processing Engines*, Heraklion, July 2017.

UPB Scientific Days: *Science Driven, Scalable Data-Intensive Processing on Clouds*, University Politehnica of Bucharest, June 2017.

9.1.5. Leadership within the Scientific Community

Gabriel Antoniu:

- Scientific leader of the KerData project-team.
- Topic leader for Inria for the *Data storage, I/O and in situ processing* topic, supervising collaboration activities in this area within the [JLESC](#), Joint Inria-Illinois-ANL-BSC-JSC-RIKEN/AICS Laboratory for Extreme-Scale Computing.
- Co-leader the [BDEC](#) working group dedicated to exploring convergence-related challenges for hybrid architectures combining HPC systems, clouds and fog/edge computing infrastructures with [Geoffrey Fox](#) and [Ewa Deelman](#).
- Work package leader within the [BigStorage](#) H2020 ETN project for the *Data Science* work package.

Luc Bougé: Vice-President of the [French Society for Informatics](#) (SIF), in charge of the Teaching department.

Alexandru Costan: Leader of the *Smart Cities* Working Group within the [BigStorage](#) H2020 ETN project.

9.1.6. Scientific Expertise

Gabriel Antoniu served as a project evaluator for the project proposals submitted within the Activity "Post-doctoral Research Support" provided from the European Regional Development Fund to the The State Education Development Agency (SEDA) of the Republic of Latvia.

Luc Bougé: Member of the jury for the *Agrégation de mathématiques* and the *CAPES of mathématiques*. These national committees select permanent mathematics teachers for secondary schools and high-schools, respectively.

9.1.7. Research Administration

Gabriel Antoniu: Vice Executive Director of JLESC, Joint Inria-Illinois-ANL-BSC-JSC-RIKEN/AICS Laboratory for Extreme-Scale Computing for Inria.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Gabriel Antoniu

- Master (Engineering Degree, 5th year): Big Data, 24 hours (lectures), M2 level, ENSAI (*École nationale supérieure de la statistique et de l'analyse de l'information*), Bruz, France.
- Master : Cloud Computing, 15 hours (lectures and lab sessions), M2 level, ENSAI (*École nationale supérieure de la statistique et de l'analyse de l'information*), Bruz, France.
- Master: Scalable Distributed Systems, 12 hours (lectures), M1 level, SDS Module, EIT ICT Labs Master School, France.
- Master: Infrastructures for Big Data, 12 hours (lectures), M2 level, IBD Module, SIF Master Program, University of Rennes, France.
- Master: Cloud Computing and Big Data, 10 hours (lectures), M2 level, Cloud Module, MIAAGE Master Program, University of Rennes, France.
- Master: Big Data Processing, 6 hours (lectures), M2 level, Health Big Data Master, University of Rennes, Faculty of Medecine, France.

Luc Bougé

- Bachelor: Introduction to programming concepts, 36 hours (lectures), L3 level, Informatics program, ENS Rennes, France.
- Master: Introduction to compilation, 24 hours (exercice and practical classes), M1 level, Informatics program, Univ. Rennes I, France.

Alexandru Costan

- Bachelor: Software Engineering and Java Programming, 28 hours (lab sessions), L3, INSA Rennes.
- Bachelor: Databases, 68 hours (lectures and lab sessions), L2, INSA Rennes, France.
- Bachelor: Practical case studies, 24 hours (project), L3, INSA Rennes.
- Master: Big Data Storage and Processing, 28h hours (lectures, lab sessions), M1, INSA Rennes.
- Master: Algorithms for Big Data, 28h hours (lectures, lab sessions), M2, INSA Rennes.
- Master: Big Data Project, 28h hours (project), M2, INSA Rennes.

9.2.2. Supervision

Luis Eduardo Pineda Morales: *Efficient Big Data Management for Geographically Distributed Workflows*, INSA Rennes, defended on May 24, 2017. Co-advised by Alexandru Costan and Gabriel Antoniu. Manuscript: <https://tel.archives-ouvertes.fr/tel-01645434>.

Tien Dat Phan: *Energy-efficient Straggler Mitigation for Big Data Applications on the Clouds*, ENS Rennes, defended on November 30, 2017. Co-advised by Shadi Ibrahim and Luc Bougé.

Orçun Yildiz: *Efficient Big Data Processing on Large Scale Shared Platforms: Managing I/Os and Failures*, ENS Rennes, defended on December 8, 2017. Co-advised by Shadi Ibrahim and Gabriel Antoniu.

9.2.2.1. PhD in progress

Pierre Matri: *Predictive Models for Big Data*, thesis started in March 2015, co-advised by María Pérez (Universidad Politécnica de Madrid) and Gabriel Antoniu.

Mohammed-Yacine Taleb: *Energy-impact of data consistency management in Clouds and Beyond*, thesis started in August 2015, co-advised by Gabriel Antoniu and Toni Cortés (Barcelona Supercomputing Center).

Ovidiu-Cristian Marcu: *Efficient data transfer and streaming strategies for workflow-based Big Data processing*, thesis started in October 2015, co-advised by Alexandru Costan and Gabriel Antoniu.

Nathanaël Cheriére: *Resource Management and Scheduling for Big Data Applications in Large-scale Systems*, thesis started in September 2016, co-advised by Gabriel Antoniu and Matthieu Dorier.

Paul Le Noac'h: *Workflow Data Management as a Service for Multi-Site Applications*, thesis started in November 2016, co-advised by Alexandru Costan and Luc Bougé.

9.2.3. *Juries*

Gabriel Antoniu: Referee for the PhD thesis of Jonathan Martí at the Barcelona Supercomputing Center (March 2017).

9.2.4. *Miscellaneous*

9.2.4.1. *Responsibilities*

Gabriel Antoniu: in charge of the IBD module of the SIF Master of Rennes and of the Cloud module of the MIAGE Master of the University of Rennes 1.

Luc Bougé: Co-ordinator between ENS Rennes and the Inria Research Center and the IRISA laboratory.

Luc Bougé: In charge of the Bachelor level (L3) and of the student seminar series at the Informatics Department of ENS Rennes.

Alexandru Costan: In charge of communication at the Computer Science Department of INSA Rennes.

Alexandru Costan: In charge of the organization of the IRISA D1 Department Seminars.

9.2.4.2. *Tutorials*

Gabriel Antoniu gave a tutorial on in situ processing at the BigStorage Summer School in Heraklion (July 2017).

9.3. *Popularization*

Gabriel Antoniu:

ORAP Forum, Paris: ORAP is a French national forum intended for all stakeholders in the HPC area (industry and academia). Invited talk: *Convergence of HPC and Big Data: a storage-oriented perspective* in March 2017.

Available resources: [Video](#) and [Slides](#).

Plenary Meeting of Inria's Department for International and European Relations:

Convergence of HPC and Big Data: Where Are We Going?, Inria, Rocquencourt, October 2017.

Luc Bougé:

Doctoral Program, Rennes. Invited presentation to the PhD students about *Preparing your applications after your PhD* (November 2017).

Master Program, Rennes. Invited presentation to the M2 students about *Informatics as a scientific activity: Toward a responsible research* (November 2017).

MYRIADS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Martin Quinson was the main organizer of the research school SUD gathering the SimGrid user community, held on 20-24 November, in Le Bono, Brittany.
- Guillaume Pierre was a co-organizer of the NetV IRISA/Technicolor Workshop on Network Virtualization (Rennes, February 1st 2017)

10.1.1.2. Member of the Organizing Committees

Guillaume Pierre is general chair for the ACM/IFIP/Usenix Middleware 2018 conference. Christine Morin and Benjamin Camus are respectively sponsor and publicity & web chairs for this conference.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Anne-Cécile Orgerie was Program vice co-chair for GreenCom 2017: IEEE International Conference on Green Computing and Communications.
- Anne-Cécile Orgerie was co-chair of the Track on Performance Modeling and Evaluation for ICA3PP 2017: International Conference on Algorithms and Architectures for Parallel Processing.

10.1.2.2. Member of the Conference Program Committees

- Christine Morin served as program committee member for the following conferences: ACM International Conference on High Performance Distributed Systems (**HPDC**) 2017, IEEE International Conference on Distributed Computing Systems (**ICDCS**) 2017, ACM/IEEE **SC** 2017, IEEE **Big Data** 2017, IEEE **CloudCom** 2017, IEEE/ACM *International Symposium on Cluster, Cloud and Grid Computing* (**CC-GRID**) 2017, *IEEE Conference on Network unction Virtualization and Software Defined Networks* (**NFV-SDN**) 2017, **ComPas** 2017 and workshop: **Resilience** 2017.
- Anne-Cécile Orgerie served as a program committee member for the following conferences: PDP 2017, ICC 2017, I-SPAN 2017, Compas 2017, CBDCom 2017, SC'17, SD3C 2017, and ISPA 2017.
- Guillaume Pierre served as a program committee member of ACM SAC 2017, ISFEC 2017, ISPDC 2017, CloudCom 2017, and HotWeb 2017.
- Nikos Parlavantzas served as a program committee member of ISPDC 2017, VHPC 17, and CLOSER 2017.
- Cédric Tedeschi served as a program committee member for ICCS 2017, Closer 2017 and Compas 2017.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Christine Morin is associate editor in the IEEE's Transactions on Parallel and Distributed Systems' Editorial Board.

10.1.3.2. Reviewer - Reviewing Activities

- Anne-Cécile Orgerie served as a reviewer for SIMPAT Simulation Modelling Practice and Theory in 2017.
- Cédric Tedeschi served as a reviewer for TPDS in 2017.

10.1.4. Invited Talks

- Anne-Cécile Orgerie gave a talk for the seminar organized at CEA *maison de la simulation* in December 2017 on modeling and simulating the energy consumption of HPC infrastructures.
- Anne-Cécile Orgerie gave a talk for the Inria Scientific Days in June 2017 on measuring the energy consumption and improving the energy efficiency of computing infrastructures.
- Anne-Cécile Orgerie gave a talk for a seminar organized by ENS Rennes for high school students in March 2017 on greening ICT.
- Anne-Cécile Orgerie gave a talk for a seminar organized by the Seine-et-Marne DSDEN during a training day for teachers of primary, secondary and high schools on ICT and sustainability in March 2017 on the energy consumption of ICT.
- Anne-Cécile Orgerie gave a talk for a public conference organized by ArmorScience, an association based in Lannion, in February 2017 on reducing the energy impacts of ICT.
- Anne-Cécile Orgerie gave a talk for a seminar at ENSSAT in Lannion in the Informatics department in February 2017 on saving energy in large-scale distributed systems.
- Anne-Cécile Orgerie gave a talk for the IRISA-Technicolor Workshop on Network Virtualization on February 2017 on greening the networks.
- Guillaume Pierre gave invited talks at the RESCOM summer school on virtualization and containerization (Le Croisic, France, June 2017), the 11th Cloud Control Workshop (Sweden, June 2017), in a seminar of the DIMA team at TU Berlin (November 2017), and a guest lecture at INSA Rennes (France, November 2017).

10.1.5. Leadership within the Scientific Community

- Anne-Cécile Orgerie is co-responsible for the Green axis of the CNRS GDR RSD (Network and Distributed Systems working group).
- Anne-Cécile Orgerie is secretary of the ASF: the French chapter of ACM SIGOPS.
- Cédric Tedeschi is a member of the steering committee of the Compas conference.

10.1.6. Scientific Expertise

Christine Morin was a member of the junior researcher selection committee at Inria Rennes Bretagne Atlantique.

Christine Morin was a member of the selection committee for an assistant-professor position at the University of Lyon.

Guillaume Pierre and Martin Quinson were members of the selection committee for a professor position at the University of Rennes 1.

Anne-Cécile Orgerie was the coordinator of the scientific challenge on “Digitizing Energy” for the Inria’s scientific strategic plan 2018-2022.

Anne-Cécile Orgerie was a member of the selection committee for two assistant professor positions at IMT-Atlantique in Nantes.

Anne-Cécile Orgerie was a member of the admission jury for the *second concours* to recruit normalien students at Ecole Normale Supérieure of Rennes.

Jean-Louis Pazat is the coordinator of experts in Information Technology for the evaluation of international bilateral collaborations at the ministry of research and education.

Nikos Parlavantzas acted as an expert reviewer for ANR and SNSF projects.

10.1.7. Research Administration

- Christine Morin is a member of the board of the Project-Team Committee of Inria Rennes Bretagne Atlantique.
- Christine Morin is a member of the University of Rennes 1 board of directors and of the International Affairs Commission and its board.
- Anne-Cécile Orgerie is officer (chargée de mission) for the IRISA cross-cutting axis on Green IT.
- Martin Quinson is the leader of the “Large Scale Systems” department of IRISA.
- Louis Rilling is a member of the scientific board of the research component (“club recherche”) of “Pôle d’Excellence Cyber”.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Christine Morin is responsible for the "Advanced Cloud Infrastructures" (ACI) teaching unit of the Master in Computer Science (SIF) of the University of Rennes 1 and of the EIT Digital Master School at the University of Rennes 1.

Christine Morin:

- Master 1: FreeRoom project (spanning the two semesters) co-supervised with Cédric Tedeschi, Adrien Capaine, and Paul Couderc, University of Rennes 1, France.
- Master 2: Advanced Computing Infrastructures" (ACI), 15 hours ETD, EIT Digital Master School, University of Rennes 1, France.

Anne-Cécile Orgerie:

- Master 1: Cloud & Big Data - 12 hours of lecture and 12 hours of practical sessions at ENS Rennes
- Master 2: Green ICT - 3 hours of invited lecture at Telecom SudParis
- Master 2: Green ICT - 15 hours of lecture at IMT-Atlantique Nantes

Guillaume Pierre (at the University of Rennes 1):

- License 3 MIAAGE: Systèmes (25 hours ETD)
- License 3 informatique: Organisation et utilisation des systèmes d’exploitation 2 (67 hours ETD)
- Master 1: Service Technologies (24 hours ETD)
- Master 1: Approche algorithmique des applications et systèmes répartis (32 hours ETD)
- Master 2: Techniques de développement logiciel dans le Cloud (39 hours ETD)
- Master 2: Advanced Cloud Infrastructures (10 hours ETD)

Martin Quinson (at ENS Rennes):

- Licence 3: Programming and Software Engineering (30 hours ETD); ARCSYS - architecture et systèmes (60 hours ETD); Pedagogy (15 hours ETD).
- Agrégation Science Industrielle: Programming and Software Engineering (20 hours ETD); Operating Systems and C programming (20 hours ETD); Networking (20 hours ETD).
- Master 2: Pedagogy and Scientific Mediation for Computer Science (30 hours EDT)

Jean-Louis Pazat (at INSA Rennes):

- Licence 3: Parallel and Multicore Programming (36 hours ETD)
- Master 1: Parallel and Distributed Programming (36 hours ETD)
- Master 1: Scientific Parallel Programming (36 hours ETD)
- Licence 3: Networks and SOA (20 hours ETD)
- Master1 / Master 2: Introduction to IoT (24 hours ETD)
- Master2: Student Project in Cloud Computing (12 hours ETD)

Nikos Parlavantzas (at INSA Rennes):

- Master 2: Project in Large-Scale Systems (26 hours ETD)
- Master 1: Clouds (20 hours ETD)
- Master 1: Performance Evaluation (32 hours ETD)
- Master1/2: Introduction to IoT (8 hours ETD)
- Master 1: Operating Systems (36 hours ETD)
- Master 1: Big Data and Applications (15 hours ETD)
- Master 1: Parallel and Distributed Programming (12 hours ETD)
- Licence 3: Multicore Programming (12 hours ETD)
- Licence 3: Networks and SOA (14 hours ETD)
- Master 1: Software Development Project (30 hours ETD)

Cédric Tedeschi (220 hours ETD at Univ. Rennes 1):

- Master 1: Cooperation and concurrency in Systems and Networks
- Master 1: Parallel programming
- Master 2: Internet of Services and Infrastructures

E-learning

MOOC : Christine Morin, *Défis technologiques des villes intelligentes participatives*, 1 week in March 2017 and 1 week in November 2017, FUN (<http://www.fun-mooc.fr/courses/inria/41009S02/session02/about>), Inria MOOC-Lab, leaders, engineers, students, continuing education, respectively 3857 and 3022 registered participants for the March and November sessions.

SPOC : Christine Morin, Technological challenges of participatory smart cities, 1 week, eitdigitalx, EIT Digital professional school, leaders and engineers, continuing education, unknown number of registered participants

Pedagogical resources : Christine Morin, cloud-based urban data management , video and quizz, Master, <https://www.eitdigital.eu/news-events/news/article/eit-digital-professional-school-launches-a-smart-cities-course-for-companies-and-cities/>

10.2.2. Supervision

HdR: Cédric Tedeschi, Distributed Chemically-Inspired Runtimes for Large Scale Adaptive Computing Platforms, defended on April 11th, 2017.

PhD: Anna Giannakou, Self-adaptable security monitoring for IaaS Cloud environments, defended on July 6th, 2017, Louis Rilling, Christine Morin, Jean-Louis Pazat.

PhD: Yunbo Li, Resource allocation in a Cloud partially powered by renewable energy sources, defended on June 12th, 2017, Anne-Cécile Orgerie, Jean-Marc Menaud (Ascola).

PhD: Sabbir Hasan, SLA Driven Cloud autoscaling for optimizing energy footprint, defended on May 3rd, 2017, Thomas Ledoux (Ascola), Jean-Louis Pazat.

PhD: Ismael Cuadrado Cordero, Energy-efficient and network-aware resource allocation in Cloud infrastructures, defended on February 9th, 2017, Christine Morin, Anne-Cécile Orgerie.

PhD in progress: Mehdi Belkhiria, Dynamic Stream Processing for Maritime Traffic Surveillance, started in December 2017, advised by Cédric Tedeschi and Christine Morin

PhD in progress: Ali Jawad Fahs, “Decentralized Fog Computing Infrastructure Control”, started in October 2017, Guillaume Pierre.

PhD in progress: Clément El Baz, Reactive security monitoring in clouds, started in October 2017, Louis Rilling, Christine Morin.

PhD in progress: Loic Guegan, Simulating Internet of Things, started in October 2017, advised by Martin Quinson and Anne-Cécile Orgerie

PhD in progress (*co-tutelle*): Yasmina Bouizem, Energy-efficient, fault-tolerance mechanisms for containerized cloud applications, started in November 2016, Didi Fedoua (Tlemcen University, Algeria), Djawida Dib (Tlemcen University, Algeria), Christine Morin, Nikos Parlavantzas.

PhD in progress: The Anh Pham, Dynamic Formal Verification of High Performance Runtimes and Applications, started in November 2016, Martin Quinson, Thierry Jéron.

PhD in progress: Arif Ahmed, “Scalable Decentralized Edge Cloud Infrastructures”, started in October 2016, Guillaume Pierre.

PhD in progress: Baptiste Goupille-Lescar, Designing agile, distributed cyber-physical systems with advanced collaboration capabilities, started in January 2016, Eric Lenormand (Thales), Christine Morin, Nikos Parlavantzas.

PhD in progress: Pernelle Mensah, Security policy adaptation driven by risk evaluation in modern communication infrastructures, started in December 2015, Samuel Dubus (Alcatel-Lucent), Christine Morin, Guillaume Piolle (Cidre), Eric Totel (Cidre).

PhD in progress: Genc Tato, Locality-aware Lazy Overlay Networks for WANS, started in December 2015, Marin Bertier, Cédric Tedeschi.

PhD in progress: Amir Teshome, Definition and enforcement of Service-Level Agreements for Cloud security monitoring, started in October 2015, Louis Rilling, Christine Morin.

PhD in progress: Issam Rais, Multi criteria scheduling for large scale High Performance Computing environments, started in October 2015, Anne-Cécile Orgerie, Anne Benoît (ROMA), Laurent Lefèvre (Avalon).

PhD in progress: David Guyon, Supporting energy-awareness for cloud users, started in September 2015, Anne-Cécile Orgerie, Christine Morin.

PhD in progress: Bruno Stevant, Resource allocation strategies for service distribution at the Internet edge to optimize end-to-end latency, started in December 2014 (part-time), Jean-Louis Pazat.

10.2.3. Juries

- Christine Morin was a member in the HdR committee of Cédric Tedeschi, University of Rennes 1, April 11th, 2017.
- Christine Morin chaired the PhD committee of Sabbir Hasan, Insa Rennes, May 3rd, 2017.
- Christine Morin was an external reviewer in the PhD committee of Jiajun Cao, Northeastern University, September 2017.
- Christine Morin was the external reviewer in the PhD committee of Faiza Samreen, Lancaster University, November 23rd, 2017.
- Christine Morin chaired the PhD committee of Pedro Silva, ENS Lyon, December 11th, 2017.
- Anne-Cécile Orgerie was a member in the PhD committee of Millian Poquet, Université de Grenoble, December 19th, 2017.
- Anne-Cécile Orgerie was a member in the PhD committee of Inès de Courchelle, Université de Toulouse 3, November 20th, 2017.
- Jean-Louis Pazat chaired the PhD committee of Jean-Baptiste Barreau, INSA de Rennes, July 10, 2017.
- Jean-Louis Pazat was an external reviewer in the PhD committee of Riadh Karchoud, December 14, 2017.
- Guillaume Pierre was a member in the PhD committee of George Ioannidis, Ecole Polytechnique Fédérale de Lausanne, December 4th, 2017.

10.3. Popularization

Martin Quinson is a member of the ISO national working group (Info Sans Ordi – CS without computer), that aims at inventing, improving and spread unplug activities. These outreach activities are meant to introduce fundamental concepts of Computer Science in schools without the need of any electrical devices. In 2017, the group produced a special issue to the *Tangente* magazine (read by maths teachers in France). Martin Quinson authored two articles in this special issue.

Martin Quinson is on the scientific board of the Blaise Pascal foundation, boosting the scientific outreach in the domains of Maths and Computer Science. He participated this year to a working group aiming at the development of an online game that teaches maths to pupils.

Martin Quinson was in the scientific organizing committees for several outreach events toward the popularization of Maths and Computer Science this year: «Maths Vivantes» had a very general audience: a booth on a public space of Rennes for one afternoon (March). «Maths C2+» invited about 20 pupils invited at ENS Rennes for 3 days (March). «Metier en tout Genre» invited several dozen of high-school students for one day on the Rennes university campus (November).

TACOMA Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- Co-organizer of a local IoT conference, Technoconference 22, IoT et si on connectait le monde: enjeux d'aujourd'hui et de demain, October 5th 2017 - Rennes, P. Couderc.

9.1.2. Scientific Events Selection

9.1.2.1. Reviewer

- Mobile Networks and Applications, JM. Bonnin
- IEEE transactions on Mobile Computing, JM. Bonnin
- Simulation Modeling Practice and Theory, JM. Bonnin
- Computer Standards & Interfaces, an international journal on Engineering Science and Technology, JM. Bonnin

9.1.2.2. Member of the Conference Program Committees

- PC member for VTC, NGNS, CARI, ICON, ICIN, JM Bonnin

9.1.3. Invited Talks

- Invited talk at DATE 2017: "Which interaction models between objects for smarter spaces?", JM Bonnin
- Invited talk at ENOVA (16/03/2017) Strasbourg: "BMS et charge intelligente de véhicule électrique: une introduction au protocole ISO/IEC 15118", JM Bonnin
- Invited tutorial at Digicosme (Saclay) summer school: "Foster digital innovation in Smart Cities", JM Bonnin
- Invited talk at UTS (22/08/2017): "Fostering digital innovation in Smart Cities and Cooperative autonomous vehicle", JM Bonnin
- Invited talk at Technoconference, IoT et si on connectait le monde: enjeux d'aujourd'hui et de demain: "Développement d'applications pervasives dans un environnement IoT", F. Weis

9.1.4. Leadership within the Scientific Community

- Jean-Marie Bonnin is member of the scientific council of the GIS ITS
- Jean-Marie Bonnin is member of the scientific council the Id4Car cluster
- Jean-Marie Bonnin is an elected member of the Scientific Council of IMT
- Jean-Marie Bonnin is a scientific advisor of the YoGoKo startup

9.1.5. Scientific Expertise

- Evaluation committee for the Belgium government, JM. Bonnin
- Expert for ANR, F. Weis and JM Bonnin
- Evaluation committee for the CADO (PME Business) challenge (Id4Car, I&R), JM Bonnin
- Expert for CSV board of "Pôle Images et Réseaux", P. Couderc

9.1.6. Research Administration

- Head of the Networks, Telecommunication and service department at IRISA, JM. Bonnin

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

L2/L3: network computing (lectures, tutorials, labs), 250 hours, F. Weis, Univ. Rennes 1

Master: Wireless LANs, F. Weis, 20 hours, M2, IMT Atlantique

Master: Supervision of a Master 1 project related to the smart building (in collaboration with Myriads), 22 hours, P. Couderc, Univ. Rennes 1

Master 1: Network programming (lectures, tutorial, labs), 78 hours, Y. Maurel

L3/M2: network communications protocol for building automation (lectures, labs), 80 hours, Y. Maurel

Master 2: Software engineering (lectures, tutorial, labs), 82 hours, Y. Maurel

9.2.2. Supervision

PhD in progress: Adrien Capaine, Vers une plate-forme de LED connectées comme vecteur de services contextuels dans le cadre des bâtiments intelligents, 01/05/15, Frédéric Weis and Yoann Maurel

PhD in progress: Zaineb Lioune, Une Architecture pour des Services e-Santé évolutifs dans le cadre des Maisons Intelligentes, 01/09/14, Frédéric Weis, Tayeb Lemlouna and Philippe Roose

PhD in progress: Indra Ngurah, Car-based Data Collection for Low Energy Devices (Car-based DC4LED), 01/05/16, Jean-Marie Bonnin

PhD in progress: Christophe Couturier, Frugal networking for cooperative autonomy, 01/11/16, Jean-Marie Bonnin

PhD in progress: Alexandre Rio, Modélisation des activités de site consommateur d'énergie, 01/10/16, Olivier Barais and Yoann Maurel

PhD in progress: Rodrigo Silva, Mécanisme de décision multi-critères pour le placement de flux en environnement hétérogène et changeant, 1/11/15, Jean-Marie Bonnin

9.2.3. Juries

Adrien Carteron, "Une approche événementielle pour le développement de services multi-métiers dédiés à l'assistance domiciliaire", Univ. Bordeaux, F. Weis, PhD referee

Amina BOUDENDIR, "Virtual Network Functions modeling for Dynamic Network-as-a-Service: Architecture principles and deployment", JM Bonnin, PhD referee

Ikbel Daly, JM Bonnin, PhD referee

9.3. Popularization

Under the leitmotif "testing and learning about digital mobility solutions in Rennes", Rennes Metropole will open the doors of its city from March 14 – 18, 2018 for a new type of inclusive and collaborative event experience, dedicated to transforming mobility services: inOut! Composed of two distinct but complementary parts, inOut will combine debates among professionals from established and incumbent companies, start-ups, academics, students and live experiences on the city territory including the citizens of Rennes and its surroundings. More than just a recurrent annual event, inOut is set to continue throughout the year as a unique incubator on a human scale, where new mobilities are invented [IN]door and are tested [OUT]doors with users in real time. It's a one-of-a-kind co-creation platform providing industrial partners, start-ups, incumbent and new mobility players the opportunity to invent new mobility services, to experiment and test new use cases and business models, in close proximity to and with the citizens. Through a series of controversial debates, the event invites professionals, academics and local authorities from all over the world to separate hype from reality and discuss enablers and potential blocking points of these new mobilities.

We have been strongly involved in the creation of InOut and Jean-Marie Bonnin is responsible of the "Expert Committee" of the event.

This autumn the work done to design the InOut concept provided the basis to build the answer of Rennes Metropole to the AMI "Territoire Innovant de Grande Ambition".

HYBRID Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific events organisation

10.1.1.1. General chair, Scientific chair

- Bruno Arnaldi was General Chair of IGRV 2017 (journées du GDR IG-RV, Journées de l'AFRV, Journées de l'AFIG), Rennes, France.
- Anatole Lécuyer and Guillaume Moreau were General co-Chairs of IEEE Symposium on Mixed and Augmented Reality 2017 (IEEE ISMAR), Nantes, France.
- Maud Marchal was Program Chair of IEEE Symposium on 3D User Interfaces 2017 (IEEE 3DUI).
- Jean-Marie Normand was Deputy General Chair of IEEE Symposium on Mixed and Augmented Reality 2017 (IEEE ISMAR), Nantes, France.

10.1.1.2. Member of the organizing committees

- Anatole Lécuyer was Member of the organization committee of IGRV 2017.
- Ferran Argelaguet was Member of the organization committee of ISMAR 2017 and IGRV 2017.
- Ronan Gaugne was Member of the organization committee of ISMAR 2017 and IGRV 2017.
- Valérie Gouranton was Member of the steering committee of ISMAR 2017 and IGRV 2017.
- Maud Marchal was Member of the organization committee of IGRV 2017.
- Florian Noviale was Member of the organization committee of ISMAR 2017 and IGRV 2017.

10.1.2. Scientific events selection

10.1.2.1. Member of the conference program committees

- Anatole Lécuyer was Member of the conference program committee of IEEE Conference on Virtual Reality 2017.
- Ferran Argelaguet was Member of the conference program committee of IEEE Symposium on 3D User Interfaces 2017, and ACM Symposium on Spatial User Interfaces 2017 and IHM 2017.
- Maud Marchal was Member of the conference program committee of Eurographics 2017, the best paper committee of "Journées Françaises de l'Informatique Graphique" 2017, the best Phd award committee of GDR-IGRV/EGFR/AFRV.
- Guillaume Moreau was Member of the program committee of IEEE Symposium on 3D User Interfaces 2017, Area Chair of IAPR Machine Vision Applications 2017.
- Jean-Marie Normand was Member of the program committee of Augmented Human 2017, Area Chair of IAPR Machine Vision Applications 2017.

10.1.2.2. Reviewer

- Ferran Argelaguet was Reviewer for IEEE VR 2017, ACM CHI 2017, ACM VRST 2017, ACM UIST 2017, WorldHaptics 2017.
- Maud Marchal was Reviewer for IEEE VR 2017, Eurographics 2017, IEEE ICRA 2017.
- Valérie Gouranton was Reviewer for IEEE VR 2017.
- Guillaume Moreau was Reviewer for IEEE 3DUI 2017, IEEE VR 2017, ACM AH 2017.
- Jean-Marie Normand was Reviewer for IEEE 3DUI 2017, IEEE VR 2017, IEEE ISMAR 2017, ACM CHI 2017, ACM MM 2017.

10.1.3. Journal

10.1.3.1. Member of the editorial boards

- Anatole Lécuyer is Associate Editor of the IEEE Transactions on Visualization and Computer Graphics (since Dec 2017), Frontiers in Virtual Environments, and Presence journals. He is also Guest Editor of a Special Issue of IEEE Computer Graphics and Applications on "Virtual and Augmented Reality".
- Ferran Argelaguet is Review Editor of Frontiers in Virtual Environments.
- Maud Marchal is Review Editor of Frontiers in Virtual Environments.
- Guillaume Moreau is Associate Editor of a Special Issue of the Transactions of the Institute of Electronics, Information and Communication Engineers and for Applied Sciences.
- Jean-Marie Normand is Review Editor of Frontiers in Virtual Environments.

10.1.3.2. Reviewer - Reviewing activities

- Ferran Argelaguet was Reviewer for ACM Transactions on Graphics, IEEE Transactions on Visualization and Computer Graphics, International Journal on Human Computer Studies.
- Ronan Gaugne was Reviewer for Digital Applications in Archaeology and Cultural Heritage.
- Maud Marchal was Reviewer for IEEE Transactions on Visualization and Computer Graphics, IEEE Transactions on Haptics, The Visual Computer and Computers and Graphics Journal.
- Guillaume Moreau was reviewer for IEEE Transactions on Visualization and Computer Graphics and Computers, Environments and urban Systems.
- Jean-Marie Normand was Reviewer for Frontiers in Robotics and AI, IEEE Computer Graphics and Applications, IEEE Transactions on Visualization and Computer Graphics.

10.1.4. Invited talks

- Anatole Lécuyer was Keynote Speaker at EuroVR 2017.
- Guillaume Moreau was Keynote Speaker at "Journées de l'Association Française d'Histotechnologie".

10.1.5. Leadership within the scientific community

- Bruno Arnaldi is Member of Executive Committee of AFRV (French Association for Virtual Reality).
- Ronan Gaugne is Member of the Selection and Validation Committee for the French cluster "Pôle Images et Réseaux".
- Valérie Gouranton is Member of Executive Committee of AFRV.
- Maud Marchal is Member of Executive Committee of Eurographics French Chapter.

10.1.6. Scientific expertise

- Valérie Gouranton was Member of a selection committee for French ANR.
- Ronan Gaugne was Expert for "Atlantist2020 Région Pays de la Loire".
- Maud Marchal was Expert for "Haute Ecole Spécialisée de Suisse Occidentale" (Switzerland).
- Jean-Marie Normand was Expert for French ANR.

10.1.7. Research administration

- Bruno Arnaldi is Deputy Director of IRISA, and co-Head of the Scientific Council of University of Rennes (ENS Rennes, ENSC Rennes, IEP Rennes, INSA Rennes, University Rennes 1, and University Rennes 2).
- Maud Marchal is Co-Head of the Master of "Research in Computer Science" (SIF) at University Rennes 1.

- Valérie Gouranton is Head of cross-cutting Axis "Art, Heritage & Culture" at IRISA.
- Jean-Marie Normand is Head of the Minor "Virtual Reality" at ECN.

10.2. Teaching - Supervision - Juries

Anatole Lécuyer:

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

Ecole Centrale de Nantes : "Haptic Interaction and Brain-Computer Interfaces", 4.5h, M1-M2, Ecole Centrale de Nantes, FR

Master SIBM: "Haptic and Brain-Computer Interfaces", 4.5h, M2, University of Rennes 1, FR

Master CN: "Haptic Interaction and Brain-Computer Interfaces", 9h, M1 and M2, University of Rennes 2, FR

Master VRI: "Pseudo-Haptics and Brain-Computer Interfaces", 6h, M2, University of Rennes 1, FR

Bruno Arnaldi:

Master INSA Rennes: "VRI: Virtual Reality and Multi-Sensory Interaction Course", 4h, M2, INSA Rennes, FR

Master INSA Rennes: "CG: Computer Graphics", 10h, M2, INSA Rennes, FR

Master INSA Rennes: "Virtual Reality", courses 6h, projects 16h, M1 and M2, INSA Rennes, FR

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

Ferran Argelaguet:

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

Master INSA Rennes: "Modeling and Engineering for Biology and Health Applications", 12h, M2, INSA Rennes, FR

Maud Marchal:

Master of Research in Computer Science: "Haptic rendering and physically-based simulation", 4h, M2, University of Rennes 1, FR

Master INSA Rennes: "Computer Graphics", 26h, M1 and responsible of this lecture, INSA Rennes, FR

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

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

Valérie Gouranton:

Licence: "Introduction to Virtual Reality", 22h, L2 and responsible of this lecture, INSA Rennes, FR

Licence: Project on "Virtual Reality", 16h, L3 and responsible of this lecture, INSA Rennes, FR

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

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

Master CN: "Virtual Reality", 6h, M1, University of Rennes 2, FR

Ronan Gagne:

INSA Rennes: Projects on "Virtual Reality", 47h, L3/M1/M2, Insa Rennes, FR

Master CN: "Virtual Reality", 3h, M1, University of Rennes 2, FR

Jean-Marie Normand:

Virtual Reality Minor, "Computer Graphics", 24h, M1/M2, Ecole centrale de Nantes, FR

Virtual Reality Minor, "Fundamentals of Virtual Reality", 14h, M1/M2, Ecole centrale de Nantes, FR

Virtual Reality Minor, "Computer Vision and Augmented Reality", 24h, M1/M2, Ecole centrale de Nantes, FR

Virtual Reality Minor, "Projects on Virtual Reality", 20h, M1/M2, Ecole centrale de Nantes, FR

10.2.1. Supervision

10.2.1.1. PhD (defended)

- Jean-Baptiste Barreau, "Techniques of production, exploration and analysis of virtual archaeological environments", INSA Rennes, July 10th 2017, Supervised by Valérie Gouranton and Bruno Arnaldi
- Lorraine Perronnet, "Combining electroencephalography and functional magnetic resonance imaging for neurofeedback", University of Rennes 1, January 8th, 2017, Supervised by Anatole Lécuyer, Fabien Lotte (POTIOT, Inria), Maureen Clerc (Athena, Inria) and Christian Barillot (Visages, Inria)
- Benoit Le Gouis, "Contribution to the study of haptic rendering and perception of virtual deformable objects", INSA Rennes, November 21th 2017, Supervised by Bruno Arnaldi, Maud Marchal and Anatole Lécuyer

10.2.1.2. PhD (in progress)

- Gwendal Le Moulec, "Automatic generation of VR applications", Started in October 2015, Supervised by Valérie Gouranton, Bruno Arnaldi and Arnaud Blouin (Diverse, Inria)
- Anne-Solène Dris-Kerdreux, "Training in virtual reality for construction applications", Started in November 2015, Supervised by Valérie Gouranton and Bruno Arnaldi
- Antoine Costes, "Haptic texturing", Started in November 2015, Supervised by Anatole Lécuyer, Philippe Guillotel (Technicolor), Fabien Danieau (Technicolor) and Ferran Argelaguet
- Guillaume Cortes, "Improving tracking in VR", Started in November 2015, Supervised by Anatole Lécuyer and Eric Marchand (Lagadic, Inria)
- Hakim Si-Mohammed, "BCI and HCI", Started in October 2016, Supervised by Anatole Lécuyer, Géry Casiez (Mjolnir, Inria), Nicolas Roussel (Mjolnir, Inria) and Ferran Argelaguet
- Gautier Picard, "Collaborative VR", Started in October 2016, Supervised by Valérie Gouranton, Bernard Gibaud (Inserm) and Bruno Arnaldi
- Hadrien Gurnel, "Prise en compte de la déformation d'organe pour l'assistance robotisée d'insertion d'aiguille", Started in October 2016, Supervised by Alexandre Krupa (Lagadic, Inria) and Maud Marchal
- Rebecca Fribourg, "Perception and interaction with and via avatars", Started in September 2017, Supervised by Ferran Argelaguet, Ludovic Hoyet (Mimetic, Inria) and Anatole Lécuyer
- Guillaume Bataille, "Natural interactions with IoT using VR/AR", Started in October 2017, Supervised by Valérie Gouranton, Danielle Pelé (Orange Labs) and Bruno Arnaldi
- Xavier de Tinguy, "Haptic manipulation in virtual environments", Started in September 2017, Supervised by Maud Marchal, Claudio Pacchierotti (Lagadic, Inria) and Anatole Lécuyer
- Flavien Lecuyer, "Interactive digital introspection methods for archeology", Started in September 2017, Supervised by Valérie Gouranton, Grégor Marchand (CNRS) and Bruno Arnaldi
- Etienne Peillard, "Improving Perception and Interaction in Augmented Reality", Started in October 2017, Supervised by Guillaume Moreau, Ferran Argelaguet, Anatole Lécuyer and Jean-Marie Normand

- Antonin Bernardin, "Interactive physically-based simulation of dexterous manipulation for robot understanding", Started in September 2017, Supervised by Maud Marchal and Christian Duriez (Defrost, Inria)
- Romain Lagneau, "Data-driven models for dexterous manipulation of robots", Started in Septembre 2017, Supervised by Maud Marchal and Alexandre Krupa (Lagadic, Inria)
- Romain Terrier, "Presence of self and others in a collaborative virtual environment", Started in October 2017, Supervised by Valérie Gouranton, Thomas Boggini (b<>com) and Bruno Arnaldi
- Mathis Fleury, "Neurofeedback based on fMRI and EEG", Started in November 2017, Supervised by Anatole Lécuyer and Christian Barillot (Visages, Inria)

10.2.2. *Juries*

10.2.2.1. *Selection committees*

- Anatole Lécuyer was Member of selection committee of Assistant Professor Position at Ecole Centrale de Nantes.
- Valérie Gouranton was Member of selection committee of Assistant Professor Position at INSA Rennes, of Inria Junior Research Scientist (CR2 Inria) at Inria Rennes-Bretagne Atlantique
- Maud Marchal was Member of selection committee of Assistant Professor Position at Ecole Centrale de Nantes.
- Guillaume Moreau was Member of selection committee at Ecole Centrale de Nantes: Assistant Professor (2x), Full Professor (2x).

10.2.2.2. *PhD and HDR juries*

- Anatole Lécuyer was Referee of PhD theses of Paul Issartel (Univ Paris Saclay), Cephise Louison (Univ Méditerranée) and Joan Sol Roo (Univ Bordeaux).
- Bruno Arnaldi was Referee of PhD thesis of Damien Clergeaud (Univ Bordeaux).
- Maud Marchal was Referee of PhD thesis of Fanny Morin (Univ Grenoble Alpes).
- Guillaume Moreau was Referee of PhD thesis of Judicaël Menant (INSA Rennes), and Member of PhD committee of Abdelkader Bellarbi (Univ Paris-Saclay).
- Jean-Marie Normand was Member of the committee of Barteld Postma (Univ. Paris Saclay).

10.3. Popularization

The results of the team have been disseminated in various media coverages in 2017:

- "XENIUS" TV channel Arte (02/17) : presentation of Immersia activity in Cultural Heritage applications
- "Sciences et Avenir" magazine (02/17) : article on "BCI, VR and videogames"
- France-Info radio (07/17) : 4-min interview of Anatole Lécuyer on Virtual Reality
- 20-minutes magazine (10/17) : article on Immersia activity
- Virgin Radio (10/17) : interview of Ronan Gaugne on Immersia
- France 3 Bretagne (10/17) : presentation of "Journée Science et Musique" in Immersia
- France 3 Centre (11/17) : presentation of INTROSPECT project

The team has also participated to several dissemination events in 2017 (chronological order):

- "Ma Thèse en 180 secondes" (Rennes, 03/17) : Lorraine Perronnet presented her PhD.
- "Semaine du Cerveau 2017" (Rennes, 03/17) : presentation and demo of BCI by Nataliya Kosmyna.
- Pint of Science (05/17): presentation on virtual incarnation by Ferran Argelaguet.
- "Journées Science et Musique 2017" (Rennes, 10/17) : co-organization of this event, and presentation of several demos.
- "Journées du Pôle Aerospace Valley" (Agen, 12/17) : presentation by Guillaume Moreau.

LACODAM Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Organization co-chair (T. Guyet) of the first conference on “usage of the medico-administrative database of french insured for health research” (<http://www.rennes-donnees-sante-2017.fr/>)

Organization chair (T. Guyet) of GAST workshop at EGC 2018 and at EGC 2017 (<https://gt-gast.irisa.fr/>)

Organization co-chair (T. Guyet) of the technical track “Knowledge Extraction from Geographical Data” of the 33rd ACM/SIGAPP Symposium On Applied Computing

Webmaster (L. Galárraga) of the ICDE 2018 conference (<https://icde2018.org/>)

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

AAAI Conference on Artificial Intelligence 2017, 2018 (T. Guyet)

Conférence Nationale sur les Applications Pratiques de l’Intelligence Artificielle (APIA) 2017 (C. Largouët)

IEEE International Conference on Data Science and Advanced Analytics (DSAA) 2017 (A. Termier)

European Conference Dedicated to the Future Use of ICT in the Agri-food Sector, Bioresource and Biomass sector (EFITA) 2017 (A. Termier, C. Largouët)

Extraction et Gestion de Connaissances (EGC) 2018 (T. Guyet, R. Quiniou, A. Termier).

European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (EMLCPKDD) 2017 (E. Fromont)

International Conference on Data Mining (ICDM) 2017 (A. Termier)

Conference on Intelligent Data Analysis (IDA) 2017 (E. Fromont)

International Joint Conference on Artificial Intelligence (IJCAI) 2017 (T. Guyet, A. Termier)

Symposium on Information Management and Big Data (SimBig) 2017 (T. Guyet)

10.1.2.2. Reviewer

Y. Dauxais, C. Gautrais: IJCAI 2017, ICDM 2017, EGC 2018

E. Fromont: ECMLPKDD 2017, AAAI 2017, IDA2017, ECMLPKDD demo track 2017

L. Galárraga: The Web Conference 2018, WebDB workshop 2017, AKBC workshop 2017

T. Guyet: IJCAI 2017, ICDM 2017, AAAI 2018, AAAI 2017

R. Quiniou: IJCAI 2017, ICDM 2017, AAAI 2018

A. Termier: EuroPar 2017

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

E. Fromont: Machine Learning and Data Mining ECMLPKDD special issue

T. Guyet: Revue d’Intelligence Artificielle (RIA)

10.1.3.2. Reviewer - Reviewing Activities

E. Fromont: Data Mining and Knowledge Discovery, Machine Learning Journal
 L. Galárraga: Data Mining and Knowledge Discovery, Artificial Intelligence Review, Semantic Web Journal
 C. Gautrais: Data Mining and Knowledge Discovery
 T. Guyet: Journal of Biomedical Informatics, Journal of Intelligent Information Systems, Artificial Intelligence Review
 C. Largouët: Natural Computing, International Journal of Agricultural and Environmental Information Systems (IJAEIS)
 A. Termier: Knowledge and Information Systems, The Very Large DataBases Journal

10.1.4. Invited Talks

E. Fromont gave an invited talk for the Machine Learning seminar of the KULEUVEN University in May 2017, Ostende, Belgium.
 A. Termier gave an invited talk at KU Leuven on 09/06/2017.
 E. Fromont gave an invited talk "Big Data and Business" summer school organised by the IRIXYS consortium and ATOS, Chiemsee, Germany.
 A. Termier gave an invited talk at the esaconnect event of ESA agriculture school (Angers), on 26/10/2017.
 L. Galárraga gave an invited talk at the LTCI Data Science Seminar (<https://ltci.telecom-paristech.fr/data-science-seminar/>) at Télécom ParisTech on 16/11/2017.
 T. Guyet gave an invited talk at the SPECIF Campus association (<https://www.specifcampus.fr/les-supports-de-la-journee-du-24-novembre-2016/>) on 24/11/2017.

10.1.5. Leadership within the Scientific Community

A. Termier is the representative of Inria for the #DigitAg Convergence Institute

10.1.6. Scientific Expertise

Evaluation of one project proposal for IFREMER: T. Guyet
 Evaluation of two projects proposals for ANR: A. Termier
 Comité d'évaluation scientifique ANR CE23 - Données, Connaissances, Big data, Contenus multimédias, Intelligence Artificielle: E. Fromont
 Groupe de travail national "infrastructure de recherche pour l'Intelligence Artificielle" (demandé par Allistene): E. Fromont

10.1.7. Research Administration

Member of INRA CEI (Engineers Evaluation Committee): T. Guyet
 Member of the scientific board of department EA of INRA: A. Termier
 Member of the scientific board of Agrocampus Ouest - COREGE: C. Largouët

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

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

A. Termier, DMV Module: Data Mining and Visualization, 18h, Master 2, Istic, Univ. Rennes 1
 L. Bonneau and C. Largouët, DataViz with R, 10h, Master Datascience, Agrocampus Ouest Rennes
 L. Bonneau and C. Largouët, Computer Science for BigData, 30h, Master Datascience, Agrocampus Ouest Rennes
 C. Largouët, Scientific Programming, Master 1, Agrocampus Ouest Rennes
 C. Largouët, Data Management, Master 1, Agrocampus Ouest Rennes

10.2.2. Supervision

PhD in progress: Maël Guillemé, “New data mining approaches for improving energy consumption in factory”, 03/10/2016, A. Termier, V. Masson, L. Rozé and R. Quiniou

PhD in progress: Clément Gautrais, “Mining massive data from client purchases”, 01/10/2015, A. Termier, P. Cellier, T. Guyet and R. Quiniou

PhD in progress: Yann Dauxais, “Query-language for care-pathway mining and analysis”, 01/02/2015, D. Gross-Amblard, T. Guyet, A. Happe

PhD in progress: Colin Leverger, “Cluster resources optimization through forecasting and management of metric time series”, 01/10/2017, T. Guyet, S. Malinowski, R. Marguerie, A. Termier

PhD in progress: Alban Siffer, “DataMining approaches for cyber attack detection”, 05/2016, P.-A. Fouque, A. Termier, C. Largouët

PhD in progress: Kevin Fauvel, “Using data mining techniques for improving dairy management”, 10/2017, V. Masson, P. Faverdin, A. Termier

PhD in progress: Raphaël Gauthier, “Modelling of nutrient utilization and precision feeding of lactating sows”, 11/2017, C. Largouët, J.-Y. Dourmad

10.2.3. Juries

Committee member of Georges Nassopoulos’ PhD defense on 22/05/2017 (Université de Nantes): R. Quiniou

Committee member of Chemseddine NABTI’s PhD defense (Université Claude Bernard Lyon 1): A. Termier

Reviewer of Vladimir Dzyuba’s Phd (KU Leuven): A. Termier

Committee member of Hoang Son Pham’s PhD defense (Université de Rennes 1): A. Termier

Thesis advisory committee member of Jean Coquet (Univ. Rennes 1): A. Termier

Thesis advisory committee member of Mathilde Chen (INRA): A. Termier

Thesis advisory committee member of Benoit Bellot (INRA/IGEPP): T. Guyet

Thesis advisory committee member of Zhi Cheng (UNC/PPME): T. Guyet

Thesis advisory committee member of Vanel Siyou (Univ. Blaise Pascal/LIMOS): T. Guyet

Committee member of Asma Dachraoui’s PhD defense on 31/01/2017 (ABIES/AgroParisTech): T. Guyet

Member of the associate professor hiring committee on 12/05/2017 (LINK/AgroParisTech) : T. Guyet

Committee member of Jordy Salmon-Monviola’s PhD defense on 05/04/2017 (AgroCampus Ouest): V. Masson

Committee member (as co-supervisor) of Damien Fourure on 12/12/2017 (Univ. Saint-Etienne) : E. Fromont

Committee member of Van-Tinh TRAN, (University of Lyon) on 11/07/2017 : E. Fromont

Committee member of Maxime Gasse, (University of Lyon) on 13/01/2017: E. Fromont

Committee member of Pauline Wauquier, (University of Lille 3) on 29/05/2017 : E. Fromont

Committee member of Ouadie Gharroudi, (University of Lyon) on 21/12/2017 : E. Fromont

Thesis advisory committee member of Mohamed Ali Hammal on 30/04/2017 (University of Lyon), Maxime CHABERT on 11/04/2017 and 2/06/2017 (University of Lyon), Tuan Nguyen on 21/06/2017 (Université Savoie Mont Blanc), Jean-Jacques Ponciano on 17/05/2017 (Univ. Saint-Etienne), Julien Tissier, Jordan Fréry, Carlos Arango, Dennis Diefenbach on 12/07/2017 (Univ. Saint-Etienne): E. Fromont

10.3. Popularization

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

C. Largouët and L. Galárraga participated in a science diffusion talk at the educational institution "Assomption" on 20/10/2017.

L. Galárraga participated as AI specialist in a discussion forum at the general election assembly of the "Pôle Images et Réseaux" on 23/11/2017.

T. Guyet gave a public talk about Artificial Intelligence and Data Mining in MDA Rennes (FranceIA events) on 01/03/2017.

A. Termier gave a public talk about Artificial Intelligence at the Esaconnect event on 26/10/2017 <https://www.chaire-mutations-agricoles.com/evenements/esaconnect-2017/programme/panorama-de-lintelligence-artificielle-en-2017-alexandre-termier/link>.

A. Termier was interviewed for the December podcast of the Interstices webzine.

LAGADIC Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Marie Babel was the Scientific Chair of the workshop “Serious game et réalité virtuelle : de la conception à l’utilisation” organized in Inria Rennes on December 15th 2017.

10.1.1.2. Member of the Organizing Committees

- Marie Babel and Patrick Rives were in the Organizing Committee of JNRR 2017 (“Journées Nationales de la Recherche en Robotique”) held in Biarritz in November 2017
- Alexandre Krupa co-organized with Christoph Hennersperger (Technical University of Munich) and Danail Stoyanov (University College London) the Workshop on “Medical Imaging Robotics” at IROS 2017, Vancouver, Canada (<http://robotic-imaging.com>)
- Claudio Pacchierotti was the Publicity Chair of the 2017 IEEE World Haptics conference held in Munich, Germany. He also co-organized the workshop on “Wearable haptic systems: design, applications, and perspectives,” at this conference.
- Paolo Robuffo Giordano was Editor-in-Chief of the IEEE Int. Symposium on Multi-Robot and Multi-Agent Systems (MRS 2017)

10.1.1.3. Chair of Conference Program Committees

- Julien Pettré was Program Chair for the 2017 ACM Motion in Games Conference, Barcelona, 8-10 November 2017

10.1.1.4. Member of the Conference Program Committees

- François Chaumette: ICRA 2018 (Associate Editor)
- Claudio Pacchierotti: WHC 2017 (Associate Editor)
- Julien Pettré: Eurographics 2017, ACM SCA 2017
- Patrick Rives: ICINCO 2017 (Program Committee Membership)
- Paolo Robuffo Giordano: IROS 2018 (Associate Editor), ICRA 2018 (Associate Editor), RSS 2018, ISRR 2017

10.1.1.5. Reviewer

- Marie Babel: ICRA 2017 (1)
- François Chaumette: CDC 2017 (1)
- Vincent Drevelle: IROS 2017 (1)
- Alexandre Krupa: IROS 2017 (1), Surgetica 2017 (1), ICRA 2018 (1)
- Eric Marchand: IROS 2017 (3), ICRA 2018 (2)
- Claudio Pacchierotti: WHC 2017, ICRA 2017, IROS 2017, Haptics 2018, also Senior Reviewer for IEEE Robotics & Automation Society Young Reviewers Program (from 2016)
- Julien Pettré: ACM SIGGRAPH (2), ACM SIGGRAPH Asia 2017 (2), Eurographics 2018 (1), IEEE VR 2018 (1), ACM SCA 2017 (2)
- Patrick Rives: ICRA 2017 (3), CVPR 2017 (2), ICCV 2017, Icinco 2017 (3), IV 2017 (1), PPINV 2017 (3)
- Paolo Robuffo Giordano: ACC 2017 (1), HFR 2017(2), ICRA 2018(2), IROS 2017(2)

- Paolo Salaris: ACC 2017 (1), RSS 2017 (2), IROS 2017 (1)
- Fabien Spindler: IROS 2017 (1)

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- François Chaumette: Editorial Board of the Int. Journal of Robotics Research, Funding Senior Editor of the IEEE Robotics and Automation Letters, Editorial Board of the Springer Tracts in Advanced Robotics, Board Member of the Springer Encyclopedia of Robotics, Senior Editor of the IEEE Trans. on Robotics (from December 2017).
- Alexandre Krupa and Eric Marchand are Associate Editors of the IEEE Robotics and Automation Letters.
- Julien Pettré: Editorial board of Collective Dynamics, Associate Editor for Computer Animation and Virtual Worlds

10.1.2.2. Reviewer - Reviewing Activities

- Marie Babel: IEEE RAL (1), IEEE THMS (1)
- François Chaumette: Journal of Intelligent & Robotics Systems (1), Int. Journal of Robotics Research (1)
- Alexandre Krupa: Int. Journal of Robotics Research (1)
- Eric Marchand: Int. Journal of Robotics Research (1)
- Claudio Pacchierotti: TOH (5), RAL (8), TBME (1), TMECH(1), IJMRCAS(1), Plos One (1)
- Julien Pettré: Plos One (1), Wiley's Computer Animation and Virtual Worlds (1), Current Directions in Psychological Science (1), Elsevier's Computer and Graphics (1), IEEE TVCG (1), Journal of Motor Behavior (1).
- Patrick Rives: IEEE-Robotics and Automation Letters (1)
- Paolo Robuffo Giordano: L-CSS(1), RAL (1), TRO (1), TSMC (1)
- Paolo Salaris: IEEE-Robotics and Automation Letters (1), IEEE Trans. on Control, Systems Technology (1), Int. Journal of Robotics Research (1), Int. Journal of Control, Automation and Systems IJCAS (1)

10.1.3. Invited Talks

- Marie Babel:
 - “Assistance and Service Robotics in a Human Environment Workshop” at IEEE IROS 2017 workshop about “Smart wheelchairs: the tomorrow's vehicles?”.
 - “Navigation en milieu humain : comprendre pour mieux assister” at JNRR 2017
- François Chaumette: “Visual servoing with and without image processing”, University of Zhejiang, December 2017.
- Vincent Dreville: “Set-membership interval methods for observation robotics”, ENSTA Bretagne, Brest, France, October 2017.
- Eric Marchand: “The dense approach for visual servoing”, “Journées scientifiques” Inria, Sophia Antipolis, June 2017.
- Claudio Pacchierotti: “Wearable haptics for VR and AR”. Max-Planck Institute for Intelligent Systems, Stuttgart, Germany, 2017.
- Julien Pettré:
 - “Microscopic crowd modeling and simulation: an holistic approach”, Univ. Pompeu Fabra (Barcelona), May 2017

- “Pedestrian Dynamics: Modeling, Validation and Calibration”, Brown University ICERM workshop, August 2017
- “Velocity-based algorithms for crowd simulation”, workshop “Piétons et foules”, Univ. Orsay, December 2017
- Paolo Robuffo Giordano:
 - “A New Look at Shared Control for Complex Robotics Systems”. Ecole Normale Supérieure (ENS), Rennes, France, December 2017
 - “Blending Human Assistance and Local Autonomy for Advanced Telemanipulation”. Humanoids 2017 Workshop on Towards Robust Grasping And Manipulation Skills For Humanoids, November 2017
 - “Recent Results on Shared Control for Human- assisted Telemanipulation”. IROS 2017 Workshop on Human in-the-loop robotic manipulation: on the influence of the human role, September 2017
 - “Shared Control Architectures for Single and Multiple Robots”. LS2N, Nantes, France, July 2017
 - “Graph-Theoretical Tools for Sensor-based Multi-Robot Applications”. Robolog 2017 workshop, IRISA, France, June 2017
 - “Collective Control, State Estimation and Human Interaction for Quadrotors in Unstructured Environments”. ICRA 2017 Workshop on Human Multi-Robot System Interaction, June 2017
 - “Recent results in Collective Control, State Estimation and Human Interaction for Quadrotors in Unstructured Environments”. Aerial Robotics workshop, Paris, France, March 2017
- Fabien Spindler: “ViSP integration in ROS ecosystem”, “Journée technique : retour d’expériences autour de ROS” organized by “Réseau métier des roboticiens et mécatroniciens”, Cité Scientifique de l’Université de Lille, August 2017.

10.1.4. Leadership within the Scientific Community

- François Chaumette is a 2016-2019 elected member of the Administrative Committee of the IEEE Robotics and Automation Society. He is also a member of the Scientific Council of the CNRS INS2I and vice-president of the Tremplin-ERC ANR program.
- Claudio Pacchierotti is the Chair of the IEEE Technical Committee on Haptics.
- Philippe Martinet is vice-president of the “GdR Robotique”. François Chaumette and Patrick Rives are members of its scientific council.

10.1.5. Scientific Expertise

- Marie Babel served as an expert for the International Mission of the French Research Ministry (MEIRIES).
- François Chaumette served as a Panel member for the ERC PE7 consolidator grants. He also served in the selection committee for a Professor position at UTC (Compiègne). He was also involved in the evaluation of a research proposal submitted to the Research Foundation of Flanders, and for an Associate Prof. position at the City University of Hong Kong.
- Claudio Pacchierotti was a member of the jury for the EuroHaptics Best PhD thesis award, for the Robotics Made in Italy Video Contest, and served for Hans Fischer Senior Fellowship at the Institute for Advanced Study of the Technical University of Munich (TUM-IAS).
- Paolo Robuffo Giordano was reviewer of ERC Starting Grants and Consolidator Grants for the EU, of ANR projects, and of NWO projects (Dutch funding agency).
- Patrick Rives served as member of the “Comité d’Evaluation” of the ANR Challenge “Malin” and of the ANR Challenge “Rose”.

10.1.6. Research Administration

- François Chaumette serves as the president of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes-Bretagne Atlantique and Irisa. He is also a member of the Head team of Inria Rennes-Bretagne Atlantique.
- Eric Marchand served as secretary in the board of the “Association Française pour la Reconnaissance et l’Interprétation des Formes” (AFRIF). He is also in charge of the Irisa Ph.D. students in the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes-Bretagne Atlantique and Irisa. He is in the board of the “Pôle Images et Réseaux” and in the board of “Ecole doctorale Matisse”.
- Alexandre Krupa is a member of the CUMIR (“Commission des Utilisateurs des Moyens Informatiques pour la Recherche”) of Inria Rennes-Bretagne Atlantique.
- Paolo Salaris is member of the “Comité de Suivi Doctoral (CSD)” of Inria Sophia Antipolis.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Marie Babel:

Master INSA2: “Robotics”, 26 hours, M1, INSA Rennes
 Master INSA1: “Architecture”, 30 hours, L3, INSA Rennes
 Master INSA2: “Computer science project”, 30 hours, M1, INSA Rennes
 Master INSA2: “Image analysis”, 18 hours, M1, INSA Rennes
 Master INSA1: “Remedial math courses”, 50 hours, L3, INSA Rennes

François Chaumette:

Master ESIR3: “Visual servoing”, 8 hours, M2, Ecole supérieure d’ingénieurs de Rennes

Vincent Drevelle:

Master ESIR2: “Real-time systems and RTOS”, 24 hours, M1, Esir Rennes
 Master GLA: “Terrain information systems”, 14 hours, M2, Université de Rennes 1
 Master Info: “Artificial intelligence”, 24 hours, M1, Université de Rennes 1
 Master Elec: “Connected and geolocalized embedded applications”, 24 hours, M2, Université de Rennes 1
 Licence Info: “Computer systems architecture”, 24 hours, L1, Université de Rennes 1
 Licence and Master Elec: “Electronics project”, 38 hours, L3 and M1, Université de Rennes 1
 Portail Info-Elec: “Discovering programming and electronics”, 14 hours, L1, Université de Rennes 1
 LabFab School Mobility: “Build your robot”, 30 hours, DU
 Licence Miage: “Computer programming”, 78 hours, L3, Université de Rennes 1
 Master Elec: “Instrumentation, localization, GPS”, 4 hours, M2, Université de Rennes 1
 Master Elec: “Data fusion”, 20 hours, M2, Université de Rennes 1

Alexandre Krupa:

Master SIBM (Signals and Images in Biology and Medicine): “Medical robotics guided from images”, 4.5 hours, M2, Université de Rennes 1, Brest and Angers
 Master FIP TIC-Santé: “Ultrasound visual servoing”, 6 hours, M2, Télécom Physique Strasbourg
 Master INSA3: “Modeling and engineering for Biology and Health applications”, 12 hours, M2, INSA Rennes
 Master ESIR3: “Ultrasound visual servoing”, 9 hours, M2, Esir Rennes

Eric Marchand:

Master Esir2: “Colorimetry”, 24 hours, M1, Esir Rennes

Master Esir2: “Computer vision: geometry”, 24 hours, M1, Esir Rennes

Master Esir3: “Special effects”, 24 hours, M2, Esir Rennes

Master Esir3: “Computer vision: tracking and recognition”, 24 hours, M2, Esir Rennes

Master MRI: “Computer vision”, 24 hours, M2, Université de Rennes 1

Master MIA: “Augmented reality”, 4 hours, M2, Université de Rennes 1

Julien Pettré:

INSA1: “Programmation Informatique”, 40 hours, INSA Rennes

10.2.2. Supervision

- Ph.D.: Renato José Martins, “Robust navigation and control of an autonomous vehicle”, defended in October 2017, supervised by Patrick Rives and Samuel Siqueira Bueno (CTI) [12]
- Ph.D.: Jason Chevie, “Flexible needle steering using ultrasound visual servoing”, defended in December 2017, supervised by Alexandre Krupa and Marie Babel [11]
- Ph.D. in progress: Fabrizio Schiano, “Collective control with onboard sensors for multiple quadrotor UAVs”, to be defended in January 2018, supervised by Paolo Robuffo Giordano
- Ph.D. in progress: Pedro Patlan-Rosales, “A robotic control framework for quantitative ultrasound elastography”, to be defended in January 2018, supervised by Alexandre Krupa
- Ph.D. in progress: Quentin Bateux, “Visual servoing from global descriptors”, started in October 2014, supervised by Eric Marchand
- Ph.D. in progress: Lesley-Ann Duflot, “Visual servoing using shearlet transform”, started in November 2014, supervised by Alexandre Krupa and Brahim Tamadazte (Minarob group at FEMTO-ST, Besançon)
- Ph.D. in progress: Firas Abi Farraj, “Shared Control Architectures for Visual Servoing Tasks”, started in October 2015, supervised by Paolo Robuffo Giordano
- Ph.D. in progress: Salma Jiddi, “Analyses géométrique et photométrique pour des applications de réalité mixte”, started in October 2015, supervised by Eric Marchand and Philippe Robert (Technicolor)
- Ph.D. in progress: Ide Flore Kenmogne Fokam, “Cooperative localization in multi-robot fleets using interval analysis”, started in October 2015, supervised Vincent Drevelle and Eric Marchand
- Ph.D. in progress: Bryan Penin “Model predictive visual servoing for UAVS”, started in October 2015, supervised by Paolo Robuffo Giordano and François Chaumette
- Ph.D. in progress: Guillaume Cortes, “Motion Capture”, started in October 2015, supervised Eric Marchand and Anatole Lécuyer (Hybrid group).
- Ph.D. in progress: Muhammad Usman, “Robust Vision-Based Navigation for Quadrotor UAVs”, started in October 2015, supervised by Paolo Robuffo Giordano
- Ph.D. in progress: Louise Devigne, “Contribution d’une aide technique robotique à l’évaluation de pathologies neurologiques : Application à la navigation d’un fauteuil roulant”, started in November 2015, supervised by Marie Babel and Philippe Gallien (Pôle Saint Hélier)
- Ph.D. in progress: Quentin Delamare, “Algorithmes d’estimation et de commande pour des quadrirotors en interaction physique avec l’environnement”, started in September 2016, supervised by Paolo Robuffo Giordano and Antonio Franchi (LAAS)
- Ph.D. in progress: Axel Lopez Gandia, “Data assimilation for synthetic vision-based crowd simulation algorithms”, started in October 2016, supervised by Julien Pettré and François Chaumette

- Ph.D. in progress: Aline Baudry, “Contribution à la modélisation des fauteuils roulants pour l’amélioration de leur navigation en mode semi-autonome”, started in October 2016, supervised by Marie Babel and Sylvain Guégan (Mechanical Engineering Dpt/LGCGM at Insa Rennes)
- Ph.D. in progress: Hadrien Gurnel, “Shared control of a biopsy needle from haptic and ultrasound visual feedback”, started in October 2016, supervised by Alexandre Krupa, Maud Marchal (Hybrid group at Inria Rennes-Bretagne Atlantique and Irisa) and Laurent Launay (IRT b<>com)
- Ph.D. in progress: Dayana Hassan, “Plate-forme robotisée d’assistance aux personnes à mobilité réduite”, started in November 2016, supervised by Paolo Salaris, Patrick Rives, and Frank Anjeaux (Axyn robotique)
- Ph.D. in progress: Agniva Sengupta, “Localization and characterization of objects with unknown shapes”, started in January 2017, supervised by Alexandre Krupa and Eric Marchand
- Ph.D. in progress: Xavier De Tinguy de la Giroulière, “Conception de techniques d’interaction multi-sensorielles pour la manipulation dextre d’objets en réalité virtuelle”, started in September 2017, supervised by Maud Marchal, Anatole Lécuyer (Hybrid group) and Claudio Pacchierotti
- Ph.D. in progress: Rahaf Rahal, “Mixed tactile-force feedback for safe and intuitive robotic teleoperation”, started in October 2017, supervised by Paolo Robuffo Giordano and Claudio Pacchierotti
- Ph.D. in progress: Nicolas Le Borgne, “Contrôle partagé et navigation assistée d’un fauteuil roulant en extérieur”, started in October 2017, supervised by Marie Babel
- Ph.D. in progress: Florian Berton, “Design of a virtual reality platform for studying immersion and behaviours in aggressive crowds”, started in November 2017, supervised by Julien Pettré

10.2.3. External Ph.D. and HdR Juries

- François Chaumette: Abed Malti (HdR, reviewer, Tlecem University, Algeria), Guillaume Laurent (HdR, reviewer, Femto ST, Besançon), Sylvain Lanneau (Ph.D., member, LS2N, Nantes)
- Eric Marchand: Angélique Loesch (Ph.D., reviewer, Univ. Clermont Auvergne, CEA), Pierre Rolin (Ph.D., reviewer, Univ. de Nancy), Hristina Hristova (Ph.D., president, Univ. de Rennes 1)
- Paolo Robuffo Giordano: Alexandre Boeuf (Ph.D., reviewer, LAAS, Toulouse), Valerio Modugno (Ph.D., reviewer, University of Rome La Sapienza, Italy), Mohamed Sorour (Ph.D., reviewer, LIRMM, Montpellier)

10.3. Popularization

- Due to the visibility of our experimental platforms, the team is often requested to present its research activities to students, researchers or industry. Our panel of demonstrations allows us to highlight recent results concerning the positioning of an ultrasound probe by visual servoing, grasping and dual arm manipulation by Romeo, vision-based shared control using our haptic device for object manipulation, the control of a fleet of quadrotors, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications. Some of these demonstrations are available as videos on VispTeam YouTube channel (<https://www.youtube.com/user/VispTeam/videos>). This year there were among others, demonstrations organized for the new year’s lab greetings, for the Inria industry journey focused on data and applications in Paris, for the “Semaine de l’Informatique Graphique et de la Réalité virtuelle”, and for the Science and music journey.
- Marie Babel participated as a member in a panel discussion during the Digital Tech Conference organized in Rennes in December 2017.
- Julien Pettré wrote a vulgarization paper [68], explaining how crowd simulation is used in the field of visual effects for the movie and the video-game industries. The crowd simulation topic was presented during the “Pint of Science FR 2017” event, which organizes mini conferences animated by researchers in public places such as cafes and bars.

LINKMEDIA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Laurent Amsaleg was appointed general co-chair of ACM Intl. Conf. on Multimedia 2019.

Laurent Amsaleg was general chair of Intl. Conf. on Multimedia Modeling 2017.

Laurent Amsaleg and Vincent Claveau were general co-chairs of the Workshop on Computational Journalism collocated with EGC 2017.

Teddy Furon was general co-chair of IEEE Intl. Workshop on Information Forensics and Security 2017.

Teddy Furon was a co-chair of the GdR-ISIS national workshop “Comment concilier Big Data, identification des personnes, traçabilité des contenus et respect de la vie privée ?”, 2017.

Ewa Kijak and Vincent Claveau organized and chaired a special session on Social Networks and User-Generated Content Verification at the IEEE Intl. Workshop on Information Forensics and Security.

10.1.1.2. Member of the Organizing Committees

Guillaume Gravier was special session chair at Intl. Conf. on Multimedia Modeling 2017.

Guillaume Gravier was nominated special session co-chair of IEEE Intl. Workshop on Content-Based Multimedia Indexing 2018.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Yannis Avrithis was area chair of the ACM Intl. Conf. on Multimedia 2017.

Yannis Avrithis was area chair of the European Signal Processing Conf 2017.

Guillaume Gravier was appointed area chair of ACM Intl. Conf. on Multimedia 2019.

10.1.2.2. Member of Conference Program Committees

Laurent Amsaleg was a PC member of: Base de Données AvancéesA; IEEE Intl. Workshop on Content-Based Multimedia Indexing, IEEE Intl. Conf. on Multimedia and Exhibition; Intl. Conf. on Similarity Search and Applications; ACM Intl. Conf. on Multimedia Retrieval.

Yannis Avrithis was a PC member of: IEEE Conf. on Computer Vision and Pattern Recognition; Intl. Conf. on Computer Vision; ACM Intl. Conf. on Multimedia; European Signal Processing Conf.; IEEE Intl. Conf. on Multimedia and Expo; IEEE Intl. Conf. on Acoustics, Speech, and Signal Processing.

Vincent Claveau was a PC member of: ACL demonstration track; EMNLP demonstration track; International Semantic Web Conference; Intl. Conf. on Multimedia Modeling; IEEE Intl. Workshop on Information Forensics and Security; Conférence en Recherche d’Information et Applications; TextMine workshop.

Teddy Furon was a PC member of ACM Information Hiding and Multimedia Security.

Guillaume Gravier was a PC member of: ACM Intl. Conf. on Multimedia; IEEE Intl. Conf. on Multimedia and Exhibition; ACM Intl. Conf. on Multimedia Retrieval; Annual Conf. of the Intl. Speech Communication Association; European Conf. on Information Retrieval; IEEE Intl. Conf. on Acoustics, Speech and Signal Processing; IEEE Intl. Symposium on Multimedia; Multimedia Modeling Conf.

Ewa Kijak was a PC member of: ACM Intl. Conf. on Multimedia; ACM Intl. Conf. on Multimedia Retrieval; Intl. Workshop on Content-Based Multimedia Indexing; IEEE Intl. Workshop on Information Forensics and Security.

Christian Raymond was a PC member of: Annual Conf. of the Intl. Speech Communication Association; IEEE Intl. Conf. on Acoustics Speech and Signal Processing; IEEE Intl. Conf. on Machine Learning And Applications; Conf. en Traitement Automatique des Langues Naturelles.

Pascale Sébillot was a PC member of: European Conf. on Information Retrieval; Annual Meeting of the Association for Computational Linguistics; Intl. Joint Conf. on Artificial Intelligence; Intl. Conf. on Multimedia Modeling; Conf. Traitement Automatique des Langues Naturelles; Traitement Automatique du Langage et Analyse de Documents.

10.1.2.3. Reviewer

Ewa Kijak reviewed for ACM Intl. Conf. on Multimedia.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Laurent Amsaleg was guest editor for the special issue of the Multimedia tools and applications Journal, best papers from the MMM2017 conference.

Vincent Claveau is editor of the journal Recherche d'Information, Document, Web Sémantique

Vincent Claveau is member of the editorial board of the journal Traitement Automatique des Langues.

Guillaume Gravier is associate editor of IEEE Trans. on Multimedia.

Guillaume Gravier was editor of the Working Notes Proc. of the MediaEval Multimedia Benchmark.

Christian Raymond is member of the editorial board of the electronic Journal Discours.

Pascale Sébillot is editor of the Journal Traitement Automatique des Langues.

Pascale Sébillot is member of the editorial board of the Journal Traitement Automatique des Langues.

10.1.3.2. Reviewer - Reviewing Activities

Laurent Amsaleg was a reviewer for: IEEE Trans. on Circuits and Systems for Video Technology; IEEE Trans. on Multimedia, Pattern Recognition Letters; IEEE Trans. on Information Forensics & Security; IEEE Trans. on Image Processing; IEEE Trans. on Information Systems; IEEE Trans. on Knowledge and Data Engineering.

Yannis Avrithis was a reviewer for Multimedia Tools and Applications, Elsevier Neurocomputing.

Vincent Claveau reviewed for reviewed for Multimedia Tools and Applications, Elsevier Information Sciences, Traitement Automatique des Langues.

Teddy Furon reviewed for IEEE Trans. on Information Forensics and Security, IEEE Trans. on Image Processing, and IEEE Trans. on Signal Processing.

Guillaume Gravier reviewed for Information Science, Multimedia Tools and Applications, IEEE Trans. on Multimedia.

Christian Raymond was a reviewer for Multimedia Tools and Applications.

Pascale Sébillot reviewed for Traitement Automatique des Langues.

10.1.4. Invited Talks

Laurent Amsaleg gave an invited talk at East China Normal University, Shanghai.

Yannis Avrithis gave an invited talk at Deep Learning in Vision, Language, and Multimedia Workshop on September 25 in Rennes.

Vincent Claveau gave an invited talk at Intelligence artificielle et Recherche d'Information : Journée commune AFIA - ARIA.

Guillaume Gravier gave an invited talk at Katholieke Universiteit Leuven.

Guillaume Gravier gave an invited talk at Universidad de Chile, Santiago de Chile.

Guillaume Gravier gave an invited talk at East China Normal University, Shanghai.

Pascale Sébillot gave an invited tutorial at symposium on Propriété intellectuelle et données dans l'environnement numérique, Rennes.

10.1.5. Leadership within the Scientific Community

Laurent Amsaleg is a member of the Steering Committee of SISAP for the 2016–2020 term.

Vincent Claveau is finance head of the Association pour la Recherche d'Informations et ses Applications (ARIA).

Guillaume Gravier is co-founder and general chair of the ISCA SIG Speech, Language and Audio in Multimedia.

Guillaume Gravier is member of the Community Council of the Mediaeval Multimedia Evaluation series.

Guillaume Gravier was president of the Scientific Evaluation Committee of the National Research Agency for the theme 'Knowledge, data, content, big data, HPC, simulation' up to July 2017.

Since September 2017, Guillaume Gravier is president of the Scientific Evaluation Committee of the National Research Agency for the theme 'Knowledge, data, content, big data - AI'.

Pascale Sébillot is a member of the permanent steering committee of Conf. Francophone en Traitement Automatique des Langues Naturelles.

10.1.6. Scientific Expertise

Laurent Amsaleg was an expert evaluator for the French National Research Agency (ANR).

Yannis Avrithis was an expert evaluator for the French National Research Agency (ANR).

Vincent Claveau was an expert for was an expert for the Idex UCA-Jedi

Teddy Furon is scientific adviser for the company LAMARK.

10.1.7. Research Administration

Vincent Claveau is deputy head of the GdR MaDICS, a CNRS inter-lab initiative to promote research about Big Data and Data Science.

Guillaume Gravier is a member of the Board of the technology cluster Images & Réseaux.

Guillaume Gravier is a member of the Board of the Comité des Projets of Inria - Rennes Bretagne Atlantique.

Pascale Sébillot is a member of the Conseil National des Universités 27th section (computer science).

Pascale Sébillot is the director of the Computer Science Laboratory, INSA Rennes.

Pascale Sébillot is the deputy director of the Scientific Advisory Committee of IRISA UMR 6074.

Pascale Sébillot is a member of the theses advisory committee of the MathSTIC doctoral school.

Pascale Sébillot is a member of the board of the MathSTIC doctoral school.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

For reseachers, all activities are given. For professors and assistant professors, only courses at the M. Sc. level are listed.

Licence: Teddy Furon, Probabilities, 40h, L1, Agrocampus Rennes, France

Licence: Guillaume Gravier, Databases, 30h, L2, INSA Rennes, France

Licence: Guillaume Gravier, Probability and statistics, 16h, L3, INSA Rennes, France
 Licence: Guillaume Gravier, Natural Language Processing, 12h, L3 & M1, INSA Rennes, France
 Master: Laurent Amsaleg, Multidimensional indexing, 13h, M2, University Rennes 1, France
 Master: Yannis Avrithis, Deep Learning for Vision, 30h, M2, Univ. Rennes 1, France
 Master: Vincent Claveau, Data-Based Knowledge Acquisition: Symbolic Methods, 20h, L3, INSA Rennes, France
 Master: Vincent Claveau, Text Mining, 18h, M2, Univ. Rennes 1, France
 Master: Vincent Claveau, Information Retrieval, 15h, M2, ENSSAT, France
 Master: Vincent Claveau, Information Retrieval, 13h, M2, Univ. Rennes 1, France
 Master: Teddy Furon, Rare events, 20h, M2, Insa Rennes, France
 Master: Guillaume Gravier, Data analysis and probabilistic modeling, 30h, M2, University Rennes 1, France
 Master: Ewa Kijak, Image processing, 67h, M1, ESIR, France
 Master: Ewa Kijak, Supervised machine learning, 15h, M2R, University Rennes 1, France
 Master: Ewa Kijak, Supervised machine learning, 45h, M1, ESIR, France
 Master: Ewa Kijak, Image indexing, 17h, M2, University Rennes 1, France
 Master: Ewa Kijak, Indexing and multimedia databases, 15h, M2, ENSSAT, France
 Master: Ewa Kijak, Computer vision, 22h, M2, ESIR, France
 Master: Ewa Kijak, Image and text mining, 12h, M2, ENSAI, France
 Master: Simon Malinowski, Short-term time series prediction, 29h, M1, Univ. Rennes 1
 Master: Simon Malinowski, Supervised Learning, 24h, M2, Univ. Rennes 1
 Master: Christian Raymond, Dialogue, 4H, M2, University Rennes 1, France
 Master: Christian Raymond, Dialogue, 5H, M1, INSA Rennes, France
 Master: Pascale Sébillot, Advanced Databases and Modern Information Systems, 70h, M2, INSA Rennes, France
 Master: Pascale Sébillot, Logic Programming, 12h, M1, INSA Rennes, France
 Master: Pascale Sébillot, Natural Language Programming, 6h, M1, INSA Rennes, France

10.2.2. Supervision

PhD: Rémi Bois, Navigable directed multimedia hypergraphs: construction and exploitation, defended December 2017, Guillaume Gravier and Pascale Sébillot
 PhD: Ahmet Iscen, Continuous memories for representing sets of vectors and image collections, defended September 2017, Teddy Furon
 PhD: Raheel Kareem Qader, Phonology modeling for emotional speech synthesis, defended March 2017, Gwénolé Lecorvé and Pascale Sébillot (with EXPRESSION, IRISA team)
 PhD: Vedran Vukotić, Deep neural architectures for automatic representation learning from multimedia multimodal data, defended September 2017, Guillaume Gravier and Christian Raymond
 PhD in progress: Ricardo Carlini Sperandio, Unsupervised motif mining in multimedia time series, started August 2015, Laurent Amsaleg and Guillaume Gravier
 PhD in progress: Clément Dalloux, Clinical text mining and indexing, started Dec. 2016, Vincent Claveau, Natalia Grabar (STL, Lille), Olivier Dameron (with DYLISS project-team)
 PhD in progress: Mikail Demirdelen, User-adapted multi-document multimedia synthesis, started Oct. 2016, Guillaume Gravier and Pascale Sébillot

PhD in progress: Cheikh Brahim El Vaigh, Incremental content to data linking leveraging ontological knowledge in data journalism, started Oct. 2017, Guillaume Gravier, Pascale Sébillot and François Goasdoué (with CEDAR, Inria team)

PhD in progress: Mathieu Laroze, Active learning on adaptive representations for object detection in high-resolution imaging, started June 2016, Romain Dambreville, Chloe Friguet, Ewa Kijak and Sebastien Lefevre (with OBELIX, IRISA team)

PhD in progress: Cédric Maigrot, Detecting fake information on social networks, started October 2015, Laurent Amsaleg, Vincent Claveau and Ewa Kijak

PhD in progress: Antoine Perquin, Universal speech synthesis through embeddings of massive heterogeneous data, started Oct. 2017, Laurent Amsaleg, Gwénolé Lecorvé, Damien Lolive (with EXPRESSION, IRISA team)

PhD in progress: Oriane Simeoni, Invariance and supervision in visual learning, started Oct. 2016, Yannic Avrithis and Guillaume Gravier

PhD in progress: Hanwei Zhang, Deep learning in adversarial contexts, started Oct. 2017, Laurent Amsaleg, Teddy Furon, Ewa Kijak

10.2.3. *Juries*

Guillaume Gravier

PhD, reviewer, Aparna Nurani Venkitasubramanian, Katholieke Universiteit Leuven

PhD, reviewer, Heider Sanchez, Universidad de Chile

PhD, reviewer, Mateusz Budnik, Univ. Grenoble Alpes

PhD, reviewer, Nhi Tran, CNAM

PhD, president, Gaël Le Lan, Univ. du Maine

Ewa Kijak

PhD, member, Yanwei Cui, Université Bretagne Sud

Pascale Sébillot

PhD, reviewer, Dialekti Valsamou, Université Paris Sud

PhD, reviewer, Anaïs Ollagnier, Aix-Marseille Université

PhD, president, Joseph Lark, Université de Nantes

PhD, member, Yoann Dupont, Université Sorbonne Nouvelle - Paris 3

10.3. Popularization

Vincent Claveau

participated to the collective book "Les Big Data à découvert", CNRS éditions

got an interview published in CNRS - Le journal about detecting fake news and image forgeries (joint work with C. Maigrot and E. Kijak).

MIMETIC Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Anne-Hélène Olivier, Workshop VHCIE 2017, IEEE VR 2017, Los Angeles, United-States, March 2017
- Anne-Hélène Olivier, Workshop Interactions, Rennes, June 2017

10.1.1.2. Member of the Organizing Committees

Ludovic Hoyet, co-organiser of the French Computer Graphics - Virtual Reality days, October 2017, Rennes, France

Marc Christie, steering committee of Motion in Games 2017

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Ludovic Hoyet: co-chair of French Computer Graphics days 2017, October 2017, Rennes, France

Antonio Mucherino: Workshop on Computational Optimization (WCO17), in the framework of the "Federated Conference on Computer Science and Information Systems" (FedCSIS17), co-chair with Stefka Fidanova and Daniela Zaharie Web: <https://fedcsis.org/2017/wco>

10.1.2.2. Member of the Conference Program Committees

Ludovic Hoyet, ACM Motion in Games MIG 2017, Barcelona, Spain, Nov. 2017

Ludovic Hoyet, ACM Symposium on Applied Perception 2017, Cottbus, Germany, Sept. 2017

Ludovic Hoyet, International Conference on Computer Graphics Theory and Applications 2018, Madeira, Portugal, Jan. 2018

Anne-Hélène Olivier, ACM Motion in Games MIG 2017, Barcelona, Spain, October 2017

Anne-Hélène Olivier, IEEE VR 2018 TVCG Conference paper, Reutlingen, Germany, March 2018

Franck Multon, ACM Motion in Games MIG 2017, Barcelona, Spain, Nov. 2017

Franck Multon, Computer Animation and Social Agents CASA 2017, Seoul, Korea, May 2017

Franck Multon, IEEE Conference on Automatic Face and Gesture Recognition FG'2017, Washington DC, US, June 2017

Franck Multon, Affective Computing and Intelligent Interaction ACII 2017, San Antonio, United States, October 2017

Richard Kulpa, International Conference on Computer Graphics Theory and Applications (GRAPP), 2017

Marc Christie, Motion In Games (MIG) 2017

10.1.2.3. Reviewer

Ludovic Hoyet, ACM Siggraph, Los Angeles, United-States, July 2017

Ludovic Hoyet, IEEE VR 2018, Reutlingen, Germany, March 2018

Ludovic Hoyet, Pacific Graphics, Taipei, Taiwan, October 2017

Anne-Hélène Olivier, IEEE VR 2018 TVCG Conference paper, Reutlingen, Germany, March 2018

Anne-Hélène Olivier, ACM Motion in Games MIG 2017, Barcelona, Spain, October 2017

Anne-Hélène Olivier, ACM VRST 2017, Gothenburg, Sweden, November 2017
 Richard Kulpa, IEEE International Conference on Automatic Face and Gesture Recognition, 2018
 Richard Kulpa, Siggraph CHI, 2018
 Richard Kulpa, GRAPP, 2018
 Marc Christie Eurographics 2017
 Marc Christie ACM Siggraph CHI 2017
 Marc Christie Siggraph 2017
 Marc Christie IEEE VR 2017
 Franck Multon IEEE VR 2017
 Franck Multon ACM VRST 2017
 Franck Multon ACM MIG 2017
 Franck Multon ACM VRST 2017

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Franck Multon, Presence, MIT Press
 Franck Multon, Computer Animation and Virtual Worlds CAVW, John Wiley
 Antonio Mucherino, Guest Editor of Optimization Letters, Springer
 Armel Crétual, Editorial board of Journal of Electromyography and Kinesiology
 Marc Christie, Associate Editor of the Visual Computer

10.1.3.2. Reviewer - Reviewing Activities

Franck Multon, Medical & Biological Engineering & Computing, Computer and Graphics, IEEE Journal of Biomedical and Health Informatics, IEEE Transactions on Visualization and Computer Graphics, Journal of Computer Science and Technology, Computer Animation and Virtual Worlds, ROBOMECH journal
 Ludovic Hoyet, ACM Transactions on Graphics, IEEE Transactions on Visualization and Computer Graphics, Computers & Graphics, Computer Graphics Forum
 Anne-Hélène Olivier, Gait and Posture, Motor Control
 Antonio Mucherino, Journal of Global Optimization, Springer, Discrete Applied Mathematics, Elsevier
 Armel Crétual, Journal of Electromyography and Kinesiology, Clinical Biomechanics, Gait & Posture, Journal of Orthopaedic Research, Medical & Biological Engineering & Computing, PlosOne
 Richard Kulpa, Human Movement Science, 2017, Sport Medicine (SMOA), 2017, CGVCVIP, 2017
 Marc Christie, IEEE TVCG, The Visual Computer, CGF

10.1.4. Invited Talks

Anne-Hélène Olivier, VenLab, Brown University, Providence USA, August 2017
 Anne-Hélène Olivier, IFSTTAR Marne la Vallée, November 2017
 Antonio Mucherino, Institute of Computer Technology, TU Vienna, Austria. Invited by N. TaheriNejad. April 2017.
 Antonio Mucherino, Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan. Invited by J-H. Lin. June 2017.

10.1.5. Scientific Expertise

Franck Multon, ANR expert, member of the ANR CPDS 4 "Santé Bien-être" through the Allistene national Alliance to design the next ANR call for projects, CRSNG (Canada)

Armel Crétual, 5 projects evaluated for UEFISCDI (The Executive Agency for Higher Education, Research, Development and Innovation Funding, Romania)

Marc Christie, expert for CIR (credit impot recherche – two cases in 2017), expert for ANR (CE 27)

10.1.6. Research Administration

Franck Multon is member of the University Rennes2 Research steering committee "commission recherche", and Academic Council "CAC",

Franck Multon is member of the M2S Lab steering committee,

Franck Multon is member of the UFR-APS steering committee in University Rennes2

Ludovic Hoyet is an elected member of the Board of Managers for the French Computer Graphics Association (Association Française d'Informatique Graphique) since Oct. 2017

Ludovic Hoyet participated in the local MESR PhD Grant Auditions 2017

Georges Dumont is president of the elected group at scientific council of École Normale Supérieure de Rennes, member of the scientific council of École Normale Supérieure de Rennes

Georges Dumont is scientific head of Immerstar platforms (Immersia + Immermove) jointly for Inria and Irisa Partners

Richard Kulpa is member of the University Rennes2 Research steering committee "commission recherche", Academic Council "CAC" and Committee of International Affairs "CAI"il "CAC",

Benoit Bideau is director of the M2S Lab

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Doctorat : Ludovic Hoyet & Anne-Hélène Olivier, Evaluations en informatique graphique et réalité virtuelle : concepts généraux et cas pratiques, 2.25h, Journée Jeunes Chercheurs du GDR IG-RV 2017, France

Master : Franck Multon, co-leader of the IEAP Master (1 and 2) "Ingénierie et Ergonomie de l'Activité Physique", STAPS, University Rennes2, France

Master : Franck Multon, "Santé et Performance au Travail : étude de cas", leader of the module, 30H, Master 1 M2S, University Rennes2, France

Master : Franck Multon, "Analyse Biomécanique de la Performance Motrice", leader of the module, 30H, Master 1 M2S, University Rennes2, France

Master: Charles Pontonnier, "Numerical methods", leader of the module, 36H, Mechanics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Numerical simulation of mechanical systems", leader of the module, 18H, Mechanics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Analytical Mechanics", 40H, Mechanics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Robotics: practical views", 24H, International cadets seminar, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Design and control of legged robots", leader of the module, 38H, Electronics, École Spéciale Militaire de Saint-Cyr Coëtquidan, France

Master: Charles Pontonnier, "Design, simulation and control of mechanical systems", leader of the module, 24H, Lecturers training in mechatronics, École Normale Supérieure de Rennes, France

Master: Charles Pontonnier, "Musculoskeletal modeling and ergonomics", 3H, Master 1 M2S, University Rennes2, France

Master : Georges Dumont, Responsable of the second year of the master Mechatronics, Rennes 1 University and École Normale Supérieure de Rennes, France

Master : Georges Dumont, Mechanical simulation in Virtual reality, 36H, Master Mechatronics, Rennes 1 University and École Normale Supérieure de Rennes, France

Master : Georges Dumont, Mechanics of deformable systems, 40H, Master FE, École Normale Supérieure de Rennes, France

Master : Georges Dumont, oral preparation to agregation competitive exam, 20H, Master FE, École Normale Supérieure de Rennes, France

Master : Georges Dumont, Vibrations in Mechanics, 10H, Master FE, École Normale Supérieure de Rennes, France

Master : Georges Dumont, Multibody Dynamics, 9H, Master FE, École Normale Supérieure de Rennes, France

Master : Georges Dumont, Finite Element method, 12H, Master FE, École Normale Supérieure de Rennes, France

Master : Ludovic Hoyet, Motion for Animation and Robotics, 9h, University Rennes 1, France

Master : Ludovic Hoyet, Motion Analysis and Gesture Recognition, 12h, INSA Rennes, France

Master : Anne-Hélène Olivier, "Biostatistiques", 7H, Master 2 APPCM, University Rennes2, France

Master : Anne-Hélène Olivier, "Evaluation fonctionnelle des pathologies motrices", 9H Master 2 APPCM, University Rennes2, France

Master : Anne-Hélène Olivier, "Maladie neurodégénératives : aspects biomécaniques", 2H Master 1 APPCM, University Rennes2, France

Master : Anne-Hélène Olivier, "Biostatistiques", 7H, Master 1 EOPS, University Rennes2, France

Master : Anne-Hélène Olivier, "Méthodologie", 4H, Master 1 EOPS/APPCM, University Rennes2, France

Master : Anne-Hélène Olivier, "Contrôle moteur : Boucle perceptivo-motrice", 3H, Master IIEAP, Université Rennes 2, France

Master: Antonio Mucherino, "Programmation Parallèle", M1 en Informatique, 16H, University of Rennes, France

Master: Fabrice Lamarche, "Compilation pour l'image numérique", 29h, Master 1, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Synthèse d'images", 12h, Master 1, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Synthèse d'images avancée", 28h, Master 1, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Modélisation Animation Rendu", 36h, Master 2, ISTIC, University of Rennes 1, France

Master: Fabrice Lamarche, "Jeux vidéo", 26h, Master 2, ESIR, University of Rennes 1, France

Master: Fabrice Lamarche, "Motion for Animation and Robotics", 9h, Master 2 SIF, ISTIC, University of Rennes 1, France.

Master : Armel Crétual, "Méthodologie", leader of the module, 20H, Master 1 M2S, University Rennes2, France

Master : Armel Crétual, "Biostatistiques", leader of the module, 30H, Master 2 M2S, University Rennes2, France

Master : Richard Kulpa, "Boucle analyse-modélisation-simulation du mouvement", 27h, leader of the module, Master 2, Université Rennes 2, France

Master : Richard Kulpa, "Méthodes numériques d'analyse du geste", 27h, leader of the module, Master 2, Université Rennes 2, France

Master : Richard Kulpa, "Cinématique inverse", 3h, leader of the module, Master 2, Université Rennes 2, France

Master: Marc Christie, "Multimedia Mobile", Master 2, leader of the module, 32h, Computer Science, University of Rennes 1, France

Master: Marc Christie, "Projet Industriel Transverse", Master 2, 32h, leader of the module, Computer Science, University of Rennes 1, France

Master: Marc Christie, "Outils pour la Conception d'IHM", Master 2, 32h, leader of the module, Computer Science, University of Rennes 1, France

Licence : Franck Multon, "Ergonomie du poste de travail", Licence STAPS L2 & L3, University Rennes2, France

Licence: Charles Pontonnier, "Numerical control", leader of the module, Electronics, École Inter-Armes de Saint-Cyr Coëtquidan, France

Licence : Anne-Hélène Olivier, "Analyse cinématique du mouvement", 100H , Licence 1, University Rennes 2, France

Licence : Anne-Hélène Olivier, "Anatomie fonctionnelle", 7H , Licence 1, University Rennes 2, France

Licence : Anne-Hélène Olivier, "Effort et efficacité", 12H , Licence 2, University Rennes 2, France

Licence : Anne-Hélène Olivier, "Locomotion et handicap", 12H , Licence 3, University Rennes 2, France

Licence : Anne-Hélène Olivier, "Biomécanique spécifique aux APA", 8H , Licence 3, University Rennes 2, France

Licence : Anne-Hélène Olivier, "Biomécanique du vieillissement", 12H , Licence 3, University Rennes 2, France

Licence: Antonio Mucherino, "Informatique 1", 80H, L1, University of Rennes, France

Licence: Fabrice Lamarche, "Initiation à l'algorithmique et à la programmation", 56h, License 3, ESIR, University of Rennes 1, France

License: Fabrice Lamarche, "Programmation en C++", 46h, License 3, ESIR, University of Rennes 1, France

Licence: Fabrice Lamarche, "IMA", 24h, License 3, ENS Rennes, ISTIC, University of Rennes 1, France

Licence : Armel Crétual, "Analyse cinématique du mouvement", 100H, Licence 1, University Rennes 2, France

Licence : Richard Kulpa, "Biomécanique (dynamique en translation et rotation)", 48h, Licence 2, Université Rennes 2, France

Licence : Richard Kulpa, "Méthodes numériques d'analyse du geste", 48h, Licence 3, Université Rennes 2, France

Licence : Richard Kulpa, "Statistiques et informatique", 15h, Licence 3, Université Rennes 2, France

Licence : Marc Christie, "Programmation Impérative 1", leader of the module, University of Rennes 1, France

10.2.2. Supervision

PhD: Antoine Muller, Contributions méthodologiques à l'analyse musculo-squelettique de l'humain dans l'objectif d'un compromis précision performance (Methodological contributions to the musculoskeletal analysis of humans with a trade-off between performance and precision), Ecole normale supérieure, Georges Dumont & Charles Pontonnier

PhD: Marion Morel, Suivi et étude des interactions pour l'analyse des tactiques durant un match de basket-ball, UPMC - University Rennes 2, septembre 2014, Catherine Achard & Séverine Dubuisson & Richard Kulpa

PhD in progress (beginning september 2017): Simon Hilt, Haptique Biofidèle pour l'Interaction en réalité virtuelle, Ecole normale supérieure, Georges Dumont & Charles Pontonnier

PhD in progress (beginning september 2017): Pierre Puchaud, Développement d'un modèle musculo-squelettique générique du soldat en vue du support de son activité physique, Ecole normale supérieure, Charles Pontonnier & Nicolas Bideau & Georges Dumont

PhD in progress: Rebecca Fribourg, Enhancing Avatars in Virtual Reality through Control, Interactions and Feedback, Sept. 2017, Ferran Argelaguet & Ludovic Hoyet & Anatole Lécuyer

PhD in progress: Florian Berton, Design of a virtual reality platform for studying immersion and behaviours in aggressive crowds, Nov. 2017, Ludovic Hoyet & Anne-Hélène Olivier & Julien Petré

PhD in progress: Sean D. Lynch, Perception visuelle du mouvement humain dans les interactions lors de tâches locomotrices, M2S - University Rennes 2, september 2015, Anne-Hélène Olivier & Richard Kulpa

PhD in progress: Amaury Louarn, A topology-driven approach to retargeting of filmic style in 3D environments, University of Rennes 1, Oct. 2017, Marc Christie & Fabrice Lamarche & Franck Multon

PhD in progress: Florence Gaillard, Evaluation en situation écologique des capacités fonctionnelles des membres supérieurs d'enfants hémiplégiques, University Rennes 2, decembre 2015, Armel Crétual & Isabelle Bonan

PhD in progress: Karim Jamal, Les effets des stimulations sensorielles par vibration sur les perturbations posturales secondaires à des troubles de la cognition spatiale après un Accident vasculaire Cérébrale, University Rennes 2, septembre 2016, Isabelle Bonan & Armel Crétual

PhD in progress: Lyse Leclercq, Intérêt dans les activités physiques du rétablissement de la fonction inertielle des membres supérieurs en cas d'amputation ou d'atrophie, University Rennes 2, septembre 2017, Armel Crétual

PhD in progress: Sean D. Lynch, Perception visuelle du mouvement humain dans les interactions lors de tâches locomotrices, M2S - University Rennes 2, septembre 2015, Anne-Hélène Olivier & Richard Kulpa

PhD in progress: Pierre Touzard, Suivi longitudinal du service de jeunes joueurs de tennis élite : identification biomécanique des facteurs de performance et de risque de blessures, University Rennes 2, septembre 2014, Benoit Bideau & Richard Kulpa & Caroline Martin

PhD in progress: Yacine Said Bouhalia, Approche transversale pour l'analyse et la reconnaissance de gestes 2D et 3D, INSA of Rennes, septembre 2015, Richard Kulpa & Franck Multon & Eric Anquetil

PhD in progress: Charles Faure, Stratégies coopératives et compétitives dans des tâches d'interactions physiques multiples, Université Rennes 2 - ENS Rennes, septembre 2016, Benoit Bideau & Richard Kulpa

PhD in progress: Théo Perrin, Evaluation de l'influence des feedbacks sur la capacité d'apprentissage dans le cadre d'interactions complexes entre joueurs et influence de ces feedbacks en fonction de l'activité sportive, Université Rennes 2 - ENS Rennes, septembre 2017, Benoit Bideau & Richard Kulpa

10.2.3. Juries

PhD: Alexandra PIMENTA DOS SANTOS, Dynamical synthesis and analysis of healthy and pathological human walking, Université Pierre et Marie Curie, November 2017, Franck Multon, President

PhD: Galo Xavier MALDONADO TORO, Analysis and Generation of Highly Dynamic Motions of Anthropomorphic Systems: Application to Parkour. Université Fédérale Toulouse Midi-Pyrénées. November 2017, Franck Multon, Rapporteur.

PhD: 2017, Channarong Trakunsaranakom, Proposal for tangible, intuitive and collaborative design of manufactured products through virtual and augmented reality environments, Université de Grenoble-Alpes. 2017 june 21st, Georges Dumont Rapporteur.

PhD: 2017, Jingtao Chen, Biomechanical analysis of different aspects in virtual reality, Université de Grenoble-Alpes, 2017 january 30, Georges Dumont, Rapporteur.

PhD: 2017, Anne-Laure Kervellec, Introduction d'un logiciel dans la rééducation : optimisation et évaluation de l'engagement, Université Rennes 2, January 5th 2017, Armel Crétual, Examineur

HDR: Sophie SAKKA, Entre l'humain et l'humanoïde. Ecole Centrale de Nantes. December 2017, Franck Multon, President.

10.3. Popularization

Ludovic Hoyet, Journées de la Science 2017. Présentation et démo "Ma main à 6 doigts: Avatar et Réalité Virtuelle" à des classes de primaire et lycée.

Ludovic Hoyet, démonstrations pour les 50 ans d'Inria à Paris, "Ma main à 6 doigts: Avatar et Réalité Virtuelle".

PANAMA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

Antoine Deleforge was elected member of the IEEEAudio and Acoustic Signal Processing Technical Committee.

Rémi Gribonval is a member of the IEEE Technical Committee on Signal Processing Theory and Methods (2012–2017), and a member of the Awards sub-committee.

Rémi Gribonval is a member of the program committee of the GRETSI.

Rémi Gribonval is a member of the EURASIP Special Area Team (SAT) on Signal and Data Analytics for Machine Learning (SiG-DML) since 2015.

Rémi Gribonval has been a member of the Steering Committee of the SPARS international workshop (chairman until 2013) until 2017.

Frédéric Bimbot is the Head of the "Digital Signals and Images, Robotics" department in IRISA (UMR 6074).

Frédéric Bimbot is a member of the International Advisory Council of ISCA (International Speech Communication Association).

Rémi Gribonval and Frédéric Bimbot are the scientific coordinators of the Science and Music Day (Journée Science et Musique) organized by IRISA.

Nancy Bertin and Frédéric Bimbot are the coordinators of the Science and Music Young Researcher Award (Prix Jeune Chercheur Science et Musique).

Antoine Deleforge organized and will co-chair with Ivan Dokmanic and Robin Schleibler a special session on "Geometry-Aware Auditory Scene Analysis" at ICASSP 2018, Calgary, Canada.

N. Bertin, A. Deleforge, and R. Gribonval co-organized a special session entitled "From Source Position to Room Properties : Learning Methods for Audio Scene Geometry Estimation", at the 2017 LVA/ICA Conference, Grenoble, February 2017

Antoine Deleforge is Area Chair in Bayesian Inference for the 14th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA 2018).

R. Gribonval was an invited speaker at the Learning Theory Workshop during the conference on Foundations of Computational Mathematics (Barcelona, July 2017) and the Les Houches Workshop on Statistical Physics (Les Houches, February 2017).

R. Gribonval has been a member of the jury of the **GDR ISIS / GRETSI / Club EAA thesis prize in signal and image processing** from 2014 to 2017.

R. Gribonval is the scientific organizer of the **13th Peyresq summer school in signal and image processing**, jointly organized in July 2018 by **GRETSI** and **GDR ISIS**.

R. Gribonval has joined in 2017 the Scientific Advisory Board of the Acoustics Research Institute from the Austrian Academy of Sciences in Vienna.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Bachelor : N. Bertin, "Discovery of selected topics in audio signal processing research", 6 hours, L3, École Supérieure de Réalisation Audiovisuelle (ESRA), France.

Master : N. Bertin, "Vocal and Audio Interactions", 4 hours, M2, Université Rennes 1, France.

Master : N. Bertin, "Fundamentals of Signal Processing", 24 hours, M1, Ecole Normale Supérieure (ENS) de Bretagne, Rennes, France.

Master : N. Bertin, "Sparse representations and compressive sensing", 15 hours, M2, Ecole Nationale de la Statistique et de l'Analyse de l'Information (ENSAI), Rennes, France.

Master : N. Bertin, "Sparsity in Signal and Image Processing", 12 hours, M2, Institut National des Sciences Appliquées (INSA) de Rennes, France.

Master : R. Gribonval, "High dimensional statistical learning", 12 hours, M2, Université Rennes 1, France.

Master: R. Gribonval, coordination of the HDL module "High dimensional statistical learning" within the SIF M2, 20 hours, Université Rennes 1, France.

Master : R. Gribonval, "Sparsity in Signal and Image Processing", 4 hours, M2, Institut National des Sciences Appliquées (INSA) de Rennes, France.

Master : R. Gribonval, coordination of the module "Sparsity in Signal and Image Processing", 48 hours, M2, Institut National des Sciences Appliquées (INSA) de Rennes, France.

Bachelor : A. Deleforge, "Discovery of selected topics in audio signal processing research", 6 hours, L3, École Supérieure de Réalisation Audiovisuelle (ESRA), France.

Master : A. Deleforge, "Sparsity in Signal and Image Processing", 4 hours, M2, Institut National des Sciences Appliquées (INSA) de Rennes, France.

Master : A. Deleforge, "Vocal and Audio Interaction", 6 hours, M2, Université Rennes 1, France.

Master : F. Bimbot, coordination of the VAI module "Vocal and Acoustic Interactions" within the SIF M2, 20 hours, Université de Rennes 1, France

10.3. Popularization

10.3.1. Journée Science et Musique

Participants: Antoine Deleforge, Rémi Gribonval, Frédéric Bimbot, Romain Lebarbenchon, Clément Gaultier, Nancy Bertin, Ewen Camberlein, Stéphanie Lemaile, Corentin Louboutin, Corentin Guichaoua, Cásio Fraga Dantas, Valentin Gillot, Antoine Chatalic, Yann Traonmilin.

with contributions and support from: Valérie Gouranton, Ronan Gaugne, Evelyne Orain, Agnès Cottais, Catherine Jacques-Orban and many more.

PANAMA coordinated the organization of a public event called "Journée Science et Musique" ("Music and Science Day"). This yearly event organized by the METISS/ PANAMA Team since 2011 aims at sharing with the wide audience the latest innovations and research projects in music. The motivation for hosting this event is to explain and promote the technology behind audio-processing that people face in their daily lives. The event is free to everyone and people have the possibility to attend talks by selected speakers or meet numerous experts that demonstrate current projects in which people can interactively participate. Edition 2017 hosted more than 800 visitors and was a partner of the "Festival des Sciences" and "Festival Maintenant" in Rennes.

SIROCCO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Conference Program Committees

- C. Guillemot has been a member of the VISAPP 2017 international program committee.
- C. Guillemot has been a member of the international program committee of the CVPR 2017 workshop on light fields for computer vision.
- O. Le Meur has been a member of technical program committees of international conferences: QoMEX 2017, Mutual Benefits of Cognitive and Computer Vision (MBCC) 2017 workshop in conjunction with ICCV 2017, IPTA 2017, ICMR 2017.
- A. Roumy has been a member of the technical program committee of the CVPR 2017 workshop on New Trends in Image Restoration and Enhancement.
- A. Roumy has been a member of the technical program committee of the (Groupement de Recherche en Traitement du Signal et des Images) GRETSI 2017 workshop.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- C. Guillemot is senior area editor of the IEEE Trans. on Image Processing.
- C. Guillemot is associate editor of the International Journal on Mathematical Imaging and Vision.
- O. Le Meur is member of the editorial board of the IET Image Processing Journal
- A. Roumy is associate editor of the Springer Annals of Telecommunications.

10.1.3. Invited Talks

- C. Guillemot gave a seminar at IST-Lisboa on Light field image processing (10th May 2017).
- C. Guillemot gave an invited talk in the context of the IEEE distinguished lecturer program, at UPM Madrid on Light field image processing (29th June 2017).
- C. Guillemot gave an invited talk in the context of the IEEE distinguished lecturer program University Autonoma de Barcelona on Light field image processing (30th June 2017).
- C. Guillemot gave an invited talk in the context of the IEEE distinguished lecturer program on "Light field image processing: analysis, representation, compression and editing", at the VISVA 2017 summer school, Singapore (8th July 2017).
- C. Guillemot gave a Keynote ("Towards dense multi-view imaging") at the Hot3D workshop jointly held with IEEE-ICME, Hong Kong, 10 July 2017.
- C. Guillemot gave a seminar at MidSweden University in light field image processing (15th Nov. 2017).
- O. Le Meur gave an invited talk at the AFIG (Association Française d'informatique Graphique). The title of the presentation was: "un nouveau regard sur l'attention visuelle".
- O. Le Meur gave an invited talk at the NEUROSTIC workshop (GDR-ISI). The title of the presentation was: "Modèles de saillance visuelle et mouvements oculaires. Un nouveau départ?".
- O. Le Meur was a captstone speaker at EuroRV3 workshop. The title of the presentation was: "The computational modelling of visual attention : saliency model vs saccadic model"

- O. Le Meur gave an invited talk at ENSTA. The title of the presentation was: "Saccadic model, a promising framework for modelling overt visual attention".
- T. Maugey gave an invited talk at EPFL (Lausanne, Switzerland) on "Massive Random Access », May 2017.
- T. Maugey gave an invited talk at the scientific day of the L2TI (University Paris XIII), December 2017.
- A. Roumy gave an introductory talk on Interactive video compression at the Comité des projets, Rennes, May 2017.
- A. Roumy gave a talk on Challenges in data compression for the IoT, at the IoTsustain Workshop, UCL, London, July 2017.

10.1.4. Leadership within the Scientific Community

- C. Guillemot is member of the IEEE IVMSPP technical committee
- C. Guillemot is senior member of the steering committee of IEEE Trans. on Multimedia (2016-2018).
- C. Guillemot has been appointed member of the IEEE Signal Processing Society Nominations and Appointments Committee for a two year term (2018-2019).
- A. Roumy is a member of the Executive board of the National Research group in Image and Signal Processing (GRETSI).

10.1.5. Scientific Expertise

- C. Guillemot served in the HCERES panel which evaluated the CEDRIC laboratory at CNAM (Oct. 2017).

10.1.6. Research Administration

- C. Guillemot is a member of Inria's evaluation committee.
- C. Guillemot is member of the "bureau du Comité des Projets".
- A. Roumy served as a member of Board of Examiners (Comité de sélection) for an Associate Professor position (Maitre de Conférences) at ENSSAT-IRISA, Lannion (61MCF1758).
- A. Roumy served as a member of Board of Examiners (Comité de sélection) for an Associate Professor position (Maitre de Conférences) in Digital Communication at CentraleSupélec, Rennes.
- A. Roumy served as a jury member for the selection of Inria CR (researcher) candidates, March and May 2017, Inria, Rennes, France
- A. Roumy is a member of the technological development and technology transfer committee at Inria Rennes
- A. Roumy was a member of Inria's PhD grant committee (CORDI-S).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master: C. Guillemot, Image and video compression, 10 hours, M2 SISEA, Univ. of Rennes 1, France.
- Undergraduate: L. Guillo, "Scientific programming ", 20 hours, University Rennes 1, "Physique, chimie et structure de la matière (PCSTM), 1st year", France.
- Master: O. Le Meur, Selective visual attention, 6 hours, M2, Univ. of Paris 8, France.
- Master: O. Le Meur, Acquisition/Image Processing/Compression, 22 hours, M2 MITIC, Univ. of Rennes 1, France.

- Engineer degree: O. Le Meur, Image Processing, video analysis and compression, 54 hours, ESIR2, Univ. of Rennes 1, France.
- Engineer degree: O. Le Meur, Visual communication, 65 hours, ESIR3, Univ. of Rennes 1, France.
- Professional training: O. Le Meur, Image Processing and OpenCV, 42 hours, Technicolor Rennes.
- Master: T. Maugey, course on 3D models in a module on "advanced video", 4 hours, M2 SISEA, Univ. of Rennes 1, France.
- Engineering degree: A. Roumy, Sparse methods in Image and Signal processing, 13 hours, INSA Rennes, 5th year, Mathematical engineering, France.
- Engineering degree: A. Roumy, Image processing, 28 hours, ECAM Rennes, 4th year, France.
- Master: A. Roumy, Foundations of Smart Sensing, 18 hours, ENSAI Bruz, Master of Science in Statistics for Smart Data, France.
- Master: A. Roumy, High dimensional statistical learning, 9 hours, University Rennes 1, Research in Computer Science (SIF) master, France.
- Master: A. Roumy, Information Theory, 15 hours, University Rennes 1, Research in Computer Science (SIF) master, France.

10.2.2. *Juries*

- C. Guillemot has been member (rapporteur) of the PhD committee of:
 - A. Purica, Telecom ParisTech, June 2017
 - G. Nieto, Univ. Grenoble-Alpes, Oct. 2017
- C. Guillemot has been member of the PhD jury of:
 - A. Aldahdooh, Univ. Nantes, Aug. 2017
 - C. Peyrard, Univ. Lyon, Sept. 2017
 - S. Puri, Univ. Nantes, Nov. 2017
 - B. Pasdeloup, IMT-Atlantique, Dec. 2017
- O. Le Meur has been member (rapporteur) of the jury of the PhD committee of:
 - Benoit Arbelot, Univ. Grenoble Alpes, Mar. 2017
 - Celine Craye, Univ. Paris-Saclay, Apr. 2017
 - Yashas Rai, Univ. of Nantes, Aug. 2017
- Thomas Maugey has been member of the jury of the PhD committee of:
 - A. Dricot TelecomParisTech, Mar. 2017
- A. Roumy has been member of the PhD jury of:
 - V. Gouldieff, CentraleSupelec, Rennes, October 2017.