

Inria

RESEARCH CENTER

FIELD

**Networks, Systems and Services,
Distributed Computing**

Activity Report 2019

Section Dissemination

Edition: 2020-03-21

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COAST 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

- Khalid Benali was a PC member of WorldCIST (World Conference on Information Systems and Technologies) 2019, MEDES (11th International Conference on Management of Digital EcoSystems) 2019, ICCCI (11th International Conference on Computational Collective Intelligence) 2019, CEISEE (15th China-Europe International Symposium on Software Engineering Education) 2019, I3E (IFIP Conference on e-Business, e-Services and e-Society) 2019, INFORSID (INFormatique des ORganisations et Systèmes d'Information et de Décision) 2019, ISKO-Maghreb (8th. Edition of the International Symposium on: « Digital Sciences: impacts and challenges on Knowledge Organization. ») 2019, and SysCoBioTS (4th International Conference on Systems of Collaboration, Big Data, Internet of Things and Security), 2019.
- Claudia-Lavinia Ignat was a PC member of ECSCW (European Conference on Computer-Supported Cooperative Work: The International venue on Practice-centred computing and the Design of cooperation technologies) 2019, CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2019 and 2020, CollabTech (International Conference on Collaboration Technologies and Social Computing) 2019
- Olivier Perrin was a PC member of the conference program committee of ICSOC (International Conference on Services Oriented Computing) 2019, CoopIS (27th International Conference on Cooperative Information Systems) 2019, and IEEE ATC-19 (16th IEEE International Conference on Advanced and Trusted Computing).
- François Charoy was a PC Member of ICEBE (International Conference on Business Engineering) 2019, ICSOC 2019, IEEE International Conference on Business Information Systems, ISCRAM 2019, and of several workshops.
- Claude Godart is a member of the editorial board of IEEE transaction on Service Computing. In 2019, he was a PC member of BPMDS (Business Process Modeling, Development and Support), EDOC (The enterprise computing conference), ICSOC (International Conference on Services Computing), ICWS (IEEE International Conference on Web Services), SCC (IEEE International Conference on Services Computing) and WISE (Web Information Systems Engineering) conferences.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- Claudia-Lavinia Ignat is an Associate editor for the Journal of Computer Supported Cooperative Work (JCSCW) since 2011 and is Member of Editorial Board for the journal track of ECSCW conference since 2019
- François Charoy is a member of the editorial board of Service Oriented Computing and Applications (Springer)

10.1.2.2. Reviewer - Reviewing Activities

- Claudia-Lavinia Ignat reviewed papers for International Journal of Cooperative Information Systems
- Olivier Perrin reviewed papers for Elsevier Information Systems and Spring SoSyM (Software and Systems Modeling) journals.

- Francois Charoy reviewed papers for IEEE IoT, VLDB Journal and Interacting with Computers

10.1.3. Invited Talks

- In November 2019 Claudia-Lavinia Ignat was invited to give a talk at Inria Paris on “Large-scale trustworthy distributed collaborative systems”

10.1.4. Leadership within the Scientific Community

- François Charoy is steering committee member of European Society for Socially Embedded Technologies (EUSSET).
- Claudia-Lavinia Ignat was steering committee member of EUSSET until August 2019

10.1.5. Scientific Expertise

François Charoy was a member of the HCERES committee for the evaluation of the Laboratoire d’Informatique de Grenoble, Université de Grenoble Alpes

10.1.6. Research Administration

- Claudia-Lavinia Ignat is member of the Inria Evaluation Commission. She is a member of the Inria Nancy-Grand Est COMIPERS committee. She was a member of COST-GTRI commission. She is a member of the organisation committee of the Security Seminar at LORIA. Until March 2019 she was in charge of the European affairs and Delegate for International Relations for Inria Nancy-Grand Est. Until August 2019 she was member of Inria CAP Chercheurs commission. In 2019, she was a member of the CRCN recruitment jury at Inria Nancy-Grand Est and at Inria Saclay Ile de France. In 2019, she was a member of the national CRCN Inria recruitment jury and of the CRCN Inria admission jury.
- Gérard Oster is an elected member at AM2I scientist council of University of Lorraine
- Francois Charoy is an elected member of the CNU 27. He is a member of the board as assessor.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Permanent members of the Coast project-team are leading teachers in their respective institutions. They are responsible of lectures in disciplines like software engineering, database systems, object oriented programming and design, distributed systems, service computing and more advanced topics at all levels and in different of departments in the University. Most PhD Students have also teaching duties in the same institutions. Claudia-Lavinia Ignat teaches the lecture and the exercises on data replication and consistency at master level (M2 SIRAV) at University of Lorraine. As a whole, the Coast team accounts for more than 2500 hours of teaching. Members of the Coast team are also deeply involved in the pedagogical and administrative life of their departments.

- Olivier Perrin is responsible for the MIAGE of Nancy at the IDMC of University of Lorraine.
- Claude Godart is responsible for the Computer Science Department of the Polytech Nancy engineering school .
- Khalid Benali is responsible for the professional master degree speciality “Distributed Information Systems” of MIAGE and of its international branch in Morocco.
- François Charoy is responsible for the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- Gérard Oster is responsible for the 3rd (last) year of study at the TELECOM Nancy Engineering School of University of Lorraine.

10.2.2. Supervision

- PhD : Guillaume Rosinoski, Elasticity of business processes execution, January 2019, François Charoy and Samir Youssef [2]
- PhD : Amina Ahmed Nacer, Contributions au déploiement sécurisé de processus métiers dans le cloud, Université de Lorraine et Université A. Mira (Bejaïa, Algérie), February 2019, Claude Godart, Samir Youcef and Abdelkamel Tari. [1]
- PhD : Hoang Long Nguyen, Blockchain based transparency system, December 2019, Claudia-Lavinia Ignat and Olivier Perrin
- PhD in progress: Hoai Le Nguyen, Study of group performance and behaviour in collaborative editing, started in September 2015, Claudia-Lavinia Ignat and François Charoy
- PhD in progress: Victorien Elvinger, Secured Replication for Peer-to-Peer Collaborative Infrastructures, started in October 2015, François Charoy and Gérald Oster
- PhD in progress: Abir Ismaïli-Alaoui, started in September 2016, Khalid Benali and Karim Baïna (Université Mohammed V, Rabat, Morocco)
- PhD in progress: Quentin Laporte-Chabasse, Federation of Organisations over Peer to Peer Collaborative Network, started in October 2016, François Charoy and Gérald Oster
- PhD in progress: Béatrice Linot, Trust in cooperative systems, started in November 2016, Jérôme Dinet and François Charoy
- PhD in progress: Anis Ahmed Nacer, Safe Service Composition, started in March 2017, Olivier Perrin and François Charoy
- PhD in progress: Matthieu Nicolas, Optimisation of Replication Algorithms, started in October 2017, Olivier Perrin and Gérald Oster
- PhD in progress: Jean Philippe Eisenbarth, Securing the future blockchain-based security services, started in May 2019, Olivier Perrin and Thibault Cholez.
- PhD in progress: Clélie Amiot, Trust and Human/Chatbot collaboration, started in October 2019, Jérôme Dinet and François Charoy

10.2.3. Juries

Coast members were members of the following PhD defence committees:

- Sina Namaki Arraghi, PhD, IMT Mines d'Albi-Carmaux, November 2019 (François Charoy, rapporteur)
- Nicolas Schnepf, PhD, Université de Lorraine, September 2019 (François Charoy, président)
- Suhrid Satyal, PhD, University of New South Wales, June 2019 (François Charoy, rapporteur)

CTRL-A Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

Eric Rutten is co-chairing, with Bogdan Robu (Gipsa-lab), the program of the 40th Summer School of Automatic Control, Grenoble, September 2019, on the special topic of Control for Computing Systems.

<http://www.gipsa-lab.fr/summerschool/auto2019>

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

Eric Rutten is co-chairing, with Françoise Baude, Antonio Fileri, and Nicola Capodieci, the 5th International Workshop on Autonomic High Performance Computing (AHPC 2019), <http://hpcs2019.cisedu.info/2-conference/workshops/workshop09-ahpc>

as part of The 17th International Conference on High Performance Computing & Simulation (HPCS 2019), July 15 – 19, 2019 Dublin, Ireland, <http://hpcs2019.cisedu.info/>

10.1.2.2. Member of the Conference Program Committees

Eric Rutten is PC member for :

- international conferences
 - ICAC 2019 (16th IEEE International Conference on Autonomic Computing), Umeå, Sweden, June 16-20, 2019 (<http://icac2019.cs.umu.se>)
 - 17th High Performance Computing & Simulation Conference (HPCS 2019). July 15 – 19, 2019 Dublin, Ireland (<http://hpcs2019.cisedu.info/>)
 - 15th Workshop on Discrete Event Systems, WODES'20, Rio de Janeiro, May, 13th-15th, 2020. (<https://wodes2020.eventos.ufrj.br>)
 - CPS&IoT'2020 - the 8th International Conference on Cyber-Physical Systems and Internet-of-Things, Budva, Montenegro, June 8-11, 2020 (<http://embeddedcomputing.me/en/cps-iot-2020>)
 - (Associate Editor) 4th IEEE Conference on Control Technology and Applications, CCTA 2020, Montreal, August, 2020 (<http://ccta2020.ieeecss.org/>)
 - 7th International Conference on Control, Decision and Information Technologies, CoDIT'20, June 29 - July 02, 2020, Prague, Czech Republic (<https://codit2020.com/>)
 - MSR 19, Modélisation des Systèmes Réactifs 2019 LARIS Université d'Angers, France, du 13 au 15 novembre 2019 (<http://msr2019.laris.univ-angers.fr/>)

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

Eric Rutten is reviewer for

- Science of Computer Programming
- journal of Discrete Event Dynamic System (jDEDS)

10.1.4. Invited Talks

Eric Rutten was invited to give a talk at :

- Workshop on Integrating HPC and FPGAs, December 11, 2018 in Okinawa, Japan ; co-held with the International Workshop on FPGA for HPC (IWFH), the Joint Laboratory on Extreme Scale Computing (JLESC), and the Field-Programmable Technology (FPT'18).

<http://www.fpt18.sakura.ne.jp/workshop.html>

<https://collab.cels.anl.gov/display/HPCFPGA/HPC-FPGA>

- FETCH 2019, Ecole d'Hiver francophone sur la technologie de conception des systèmes embarqués hétérogènes, Louvain-la-Neuve, Belgique, 28-30 janvier 2019 <http://fetch-conference.org>
- Languages, Compilation, and Semantics LIP Seminar, 10th Edition, Lyon, 2019, March 21
- 15th Cloud Control Workshop, Sandhamn, Sweden June 11–13, 2019

<http://perso.ens-lyon.fr/christian.perez/journeelanguages>

<http://cloudresearch.org/workshops/15th/>

10.1.5. Leadership within the Scientific Community

Eric Rutten is co-chair of the Technical Committee on Discrete Event Systems (DESTC), a part of the IEEE Control Systems Society (CSS) Technical Activities Board (<http://discrete-event-systems.ieeeccs.org/tc-discrete/home>) ; and member of the IFAC Technical Committee 1.3 on Discrete Event and Hybrid Systems, for the 2017-2020 triennium (<http://tc.ifac-control.org/1/3>).

10.1.6. Scientific Expertise

Eric Rutten was reviewer for the ANR : *Appel à projets Générique* 2019, PRCI international

10.1.7. Research Administration

Eric Rutten is member of the LIG laboratory council, and in charge of scientific relations between Inria Grenoble Rhône-Alpes and CEA Tech.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : R. Bleuse, C language, 12h lab, L2, Univ. Grenoble Alpes

Licence : R. Bleuse, methodology of software development, 30h, L2, Univ. Grenoble Alpes

Master : S. Mocanu, Computer Networks and Cybersecurity, 16h class, 34h lab, M1, Grenoble-INP/ENSE3

Master : S. Mocanu, Industriel Computer Networks, 8h class, 8h lab, niveau (M1, M2), M2, Grenoble-INP/ENSE3

Master : S. Mocanu, Reliability, 10h class, 8h lab, M2, Grenoble-INP/ENSE3

Master : S. Mocanu, Intrusion Detection and Defense in Depth labs, niveau M2, Grenoble-ENSE3/ENSIMAG

10.2.2. Supervision

- HdR : Stéphane Mocanu ; Cyberdéfense des infrastructures critiques ; COMMUNAUTÉ UNIVERSITÉ GRENOBLE ALPES ; January 2019.
- PhD : Chabha Hireche ; Etude et implémentation d'une approche probabiliste de contrôle de mission de drone autonome ; Université de Bretagne Occidentale ; nov. 2019 ; co-advised by S. Mocanu with Catherine Dezan (U. Bretagne Occidentale), and Jean-Philippe Diguët (U. Bretagne Sud).
- PhD in progress : Neil Ayebe ; Vers un management des objets de l'IoT décentralisé et adaptable ; dec. 2017 ; co-advised by Eric Rutten with S. Bolle, T. Coupaye (Orange labs).

10.2.3. Juries

Stéphane Mocanu was member of the jury of the PhD defense of Chabha Hireche, Université de Bretagne Occidentale, nov. 2019 (examinator).

Eric Rutten was member of the following juries :

- habilitation (HdR) defense, Stéphane Mocanu, UNIVERSITÉ GRENOBLE ALPES, 16 jan. 2019 (examinator)
- PhD defense of Anis Mezni, INSA Lyon, 13 may 2019 (reviewer)
- PhD defense of Mete Özbaltan, U. Liverpool, 10 dec 2019 (reviewer)
- PhD of Romolo Marotta, Uni. Roma Sapienza, dec 2019 (reviewer)

10.3. Popularization

10.3.1. Interventions

- National events:

During the 2019 edition of Fête de la Science, Raphaël Bleuse co-hosted with Clément Mommessin (DataMove team) six one-hour popularization sessions. These sessions introduce the concept of infinity, and detail key milestones towards its construction in the modern mathematics for high-school students.

DELYS Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events: Organisation

8.1.1.1. Chair of Conference Steering Committees

- Marc Shapiro is a member of the steering committee of the yearly Workshop on Principles and Practice of Consistency (PaPoC), co-located with EuroSys.

8.1.2. Scientific Events: Selection

8.1.2.1. Member of the Conference Program Committees

Marc Shapiro, member of PC of the European Conference on Computer Systems (EuroSys) 2020, in Heraklion (Greece).

Marc Shapiro, member of PC of the European Conference on Computer Systems (EuroSys) 2019, in Dresden (Germany).

Marc Shapiro, member of Programme Committed of the ACM Symposium on Principles of Distributed Computing (PODC) 2019, in Salerno, Italy.

Marc Shapiro, member of the PC of the Workshop on Planetary-Scale Distributed Systems (W-PSDS) 2019, in Lyon.

Marc Shapiro, member of the Technical Program Committee of the Workshop on Advanced tools, programming languages, and PLatforms for Implementing and Evaluating algorithms for Distributed systems (ApPLIED) 2019, in Budapest, Hungary.

Pierre Sens, 29th International Symposium on Software Reliability Engineering (ISSRE 2019), 19th IEEE International Symposium on Network Computing and Applications (NCA 2019), 38th IEEE International Symposium on Reliable Distributed Systems (SRDS 2019), Gestion de Données – Principes, Technologies et Applications (BDA 2019).

Swan Dubois, 21st International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2019), 21èmes Rencontres Francophones pour les Aspects Algorithmiques des Télécommunications (AlgoTel'18).

Jonathan Lejeune, 22nd Innovation in Clouds, Internet and Networks (ICIN 2019)

8.1.2.2. Reviewer

Swan Dubois, 26th International Colloquium on Structural Information and Communication Complexity (SIROCCO'19).

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

Pierre Sens, International Journal of High Performance Computing and Networking (IJHPCN)

8.1.3.2. Reviewer - Reviewing Activities

Swan Dubois, Distributed Computing, Theoretical Computer Science.

Luciana Arantes, Journal of Parallel and Distributed Computing.

Pierre Sens, Journal of Parallel and Distributed Computing

8.1.4. Invited Talks

Marc Shapiro gave the keynote presentation titled “Living on the edge, safely; or: Life without consensus” at the 7th International Conference on Networked Systems, in Marrakech, Morocco, June 2019.

Marc Shapiro gave an invited talk on “The programming continuum, from core to edge,” at the Workshop on Verification of Distributed Systems (VDS), June 2019, Marrakech, Morocco.

Marc Shapiro gave two invited talks at the Dagstuhl Seminar on “Programming Languages for Distributed Systems and Distributed Data Management,” October 2019.

Marc Shapiro was invited to speak about “Living Without Consensus,” at the seminar “Taking Stock of Distributed Computing,” at Collège de France, April 2019. The seminar was organised in conjunction with the *Chaire informatique et sciences numériques* of Rachid Guerraoui.

Pierre Sens, *Probabilistic Byzantine Tolerance Scheduling in Hybrid Cloud Environments*. Research Seminar, University of Fluminense, Brazil, October 2019

Pierre Sens, *Fault tolerance in large and dynamic distributed systems*. Research Seminar, University of Fluminense, Brazil, October 2019

Luciana Arabtes, *A Communication-Efficient Causal Broadcast Protocol*. Research Seminar, University of Fluminense, PUC-Rio, Brazil, October 2019

8.1.5. Leadership within the Scientific Community

- Marc Shapiro is Vice-Chair for Research of Société informatique de France, the French learned society in Informatics.

8.1.6. Research Administration

Pierre Sens, since 2016: Member of Section 6 of the national committee for scientific research CoNRS

Franck Petit, Pierre Sens, since 2012: Member of the Executive Committee of Labex SMART, Co-Chairs of Track 4, Autonomic Distributed Environments for Mobility.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Julien Sopena is Member of “Directoire des formations et de l’insertion professionnelle” of Sorbonne Université, France

Master: Julien Sopena is responsible of Computer Science Master’s degree in Distributed systems and applications (in French, SAR), Sorbonne Universités, France

Master: Luciana Arantes, Swan Dubois, Jonathan Lejeune, Franck Petit, Pierre Sens, Julien Sopena, Advanced distributed algorithms, M2, Sorbonne Université, France

Master: Jonathan Lejeune, Designing Large-Scale Distributed Applications, M2, Sorbonne Université, France

Master: Maxime Lorrillere, Julien Sopena, Linux Kernel Programming, M1, Sorbonne Université, France

Master: Luciana Arantes, Swan Dubois, Jonathan Lejeune, Pierre Sens, Julien Sopena, Operating systems kernel, M1, Sorbonne Université, France

Master: Luciana Arantes, Swan Dubois, Franck Petit, Distributed Algorithms, M1, Sorbonne Université, France

Master: Franck Petit, Autonomic Networks, M2, Sorbonne Université, France

Master: Franck Petit, Distributed Algorithms for Networks, M1, Sorbonne Université, France

Master: Jonathan Lejeune, Julien Sopena, Client-server distributed systems, M1, Sorbonne Université, France.

Master: Julien Sopena, Marc Shapiro, Ilyas Toumlilt, Francis Laniel. Kernels and virtual machines (*Noyaux et machines virtuelles*, NMV), M2, Sorbonne Université, France.

Licence: Pierre Sens, Luciana Arantes, Julien Sopena, Principles of operating systems, L3, Sorbonne Université, France

Licence: Swan Dubois, Initiation to operating systems, L3, Sorbonne Université, France

Licence: Swan Dubois, Multi-threaded Programming, L3, Sorbonne Université, France

Licence: Jonathan Lejeune, Oriented-Object Programming, L3, Sorbonne Université, France

Licence: Franck Petit, Advanced C Programming, L2, Sorbonne Université, France

Licence: Swan Dubois, Jonathan Lejeune, Julien Sopena, Introduction to operating systems, L2, Sorbonne Université, France

Licence: Mesaac Makpangou, C Programming Language, 27 h, L2, Sorbonne Université, France

Ingénieur 4ème année : Marc Shapiro, Introduction aux systèmes d'exploitation, 26 h, M1, Polytech Sorbonne Université, France.

Licence : Philippe Darche (coordinator), Architecture of Internet of Things (IoT), 2 × 32h, L3, Institut Universitaire Technologique (IUT) Paris Descartes, France.

Engineering School: Philippe Darche (coordinator), Solid-State Memories, 4th year, ESIEE, France.

DUT: Philippe Darche (coordinator), Introduction to Computer Systems - Data representation, 60h, Institut Universitaire Technologique (IUT) Paris Descartes, France.

DUT: Philippe Darche (coordinator), Computer Architecture, 32h, Institut Universitaire Technologique (IUT) Paris Descartes, France.

DUT: Philippe Darche (coordinator), Computer Systems Programming, 80h, Institut Universitaire Technologique (IUT) Paris Descartes, France.

8.2.2. Supervision

PhD: João Paulo de Araujo, “L'exécution efficace d'algorithmes distribués dans les réseaux véhiculaires”, funded by CNPq (Brésil), Sorbonne Univ, Apr. 2019. Advised by Pierre Sens and Luciana Arantes.

PhD: Sébastien Bouchard, “Gathering with faulty robots”, Sorbonne Univ., Sep. 2019. Advised by Swan Dubois, Franck Petit, Yoann Dieudonné (University of Picardy Jules Verne)

PhD: Marjorie Bournat, “Speculation and Graceful Degradability for Robots in Highly Dynamic Environments”, Sorbonne Univ., Jun. 2019. Advised by Swan Dubois, Franck Petit, Yoann Dieudonné (University of Picardy Jules Verne)

PhD: Damien Carver, “HACHE : Horizontal Cache cHorEgraphy - Toward automatic resizing of shared I/O caches.”, Sorbonne Univ., May 2019. Advised by Sébastien Monnet, Julien Sopena, Dimitri Refauvelet (Magency).

CIFRE PhD in progress: José Alves Esteves, “Adaptation dynamique en environnements répartis contraints”, Sorbonne Univ., since Sep. 2019. Advised by Pierre Sens and Amina Boubendir Orange Labs.

PhD in progress: Arnaud Favier, “Algorithmes de coordination répartis dans des réseaux dynamiques”, Sorbonne Univ., since Sep. 2018. Advised by Pierre Sens and Luciana Arantes.

PhD in progress: Saalik Hatia, “Efficient management of memory and storage for CRDTs”, Sorbonne Univ., since Oct. 2018. Advised by Marc Shapiro.

CIFRE PhD in progress: Guillaume Fraysse, Orange Lab - Inria, “Ubiquitous Resources for Service Availability”, since Jul. 2017. Advised by Pierre Sens, Imen Grida Ben Yahia (Orange-Lab) , Jonathan Lejeune, Julien Sopena.

PhD in progress: Francis Laniel, “Vers une utilisation efficace de la mémoire non volatile pour économiser l’énergie.” Sorbonne Univ., since Sept. 2017. Advised by Marc Shapiro, Julien Sopena, Jonathan Lejeune.

PhD in progress: Gabriel Le Boudier, “Autonomic synchronization”, Sorbonne Univ., since Sep. 2019. Advised by Franck Petit.

PhD in progress: Benoît Martin, “Protocol de cohérence hybride: de la cohérence causal à la cohérence forte”, Sorbonne Univ., since Sep. 2019. Advised by Mesaac Makpangou and Marc Shapiro.

PhD in progress: Sreeja Nair, “Just-Right Consistency for massive gee-replicated storage”, Sorbonne Univ., since Apr. 2018. Advised by Marc Shapiro.

PhD in progress: Laurent Prospero, “Abstractions, langage et runtime pour les systèmes distribués”, Sorbonne Univ., since Sep. 2019. Advised by Marc Shapiro.

CIFRE PhD in progress: Jonathan Sid-Otmane. “Étude des critères de distribution et de l’usage d’une base de données distribuée pour un OS Telco”, since Dec. 2017. Advised by Marc Shapiro, with Sofiane Imadali and Frédéric Martelli, Orange Labs.

PhD in progress: Ilyas Toumlilt, “Bridging the CAP gap, all the way to the edge”, Sorbonne Univ., since Sep. 2016. Advised by Marc Shapiro.

CIFRE PhD in progress: Dimitrios Vasilas, “Indexing in large-scale storage systems”, Sorbonne Univ., since Sep. 2016. Advised by Marc Shapiro, with Brad King, Scalify.

PhD in progress: Daniel Wladdimiro, “Adaptation dynamique en environnements répartis contraints”, Sorbonne Univ., since Sep. 2019. Advised by Pierre Sens and Luciana Arantes.

PhD in progress: Daniel Wilhelm, “Algorithmes de diffusion causale dans les systèmes répartis dynamique”, Sorbonne Univ., since Oct. 2019, Pierre Sens and Luciana Arantes.

8.2.3. *Juries*

Franck Petit was the reviewer of:

- David Ilcinkas, HDR, LaBRI, Bordeaux

Pierre Sens was the reviewer of:

- Heithem Abbes, HDR, LIPN, Villetaneuse
- Xavier Etchevers, HDR, LIG, Univ. Grenoble
- Nicolas Aussel, PhD, SAMOVAR, Telecom Sud Paris
- Paul Chaignon, PhD, LORIA, Nancy
- Jad Darrous, PhD, LIP, ENS-Lyon
- Umar Ozeer, PhD, LIG, Univ. Grenoble
- Bharati Sinha, PhD, National Institute of Technology Kurukshetra, India
- Amir Teshome Wonjiga, PhD, IRISA, Rennes

Pierre Sens was Chair of

- Julien Loudet, PhD, DAVID, UVSQ
- Asma Berriri, PhD, SAMOVAR, Telecom Sud Paris

Marc Shapiro was a reviewer for the CSD (mid-thesis committee) for Khaled Zaouk, PhD student of Yanlei Diao at École Polytechnique.

8.3. Popularization

8.3.1. Articles and contents

- Swan Dubois and Franck Petit coauthored the book entitled “*Introduction to Distributed Self-Stabilizing Algorithms*” [35], that aims at being a comprehensive and pedagogical introduction to the concept of *self-stabilization*.
- Marc Shapiro co-authored two entries for the Encyclopedia of Big Data Technologies (published by Springer, 2019):
 - “Database Consistency Models” [38].
 - “Conflict-Free Replicated Data Types CRDTs” [37].
- Marc Shapiro contributed the post “Living at the edge, safely” to the LightKone blog [6].

MIMOVE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. Member of the Organizing Committees

- R. Teixeira, member of the selection committee of the Heidelberg Laureate Forum 2019–2021.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- V. Issarny, TPC co-chair of: The International Conference on the IoT (ICIOT) at SCF'19 (June 2019, San Diego, CA, USA); and The 5th 2CM/IEEE Conference on Internet of Things Design & Implementation (IoTDI) at CPS-IoT week (April 2020, Sydney, Australia).

10.1.2.2. Member of the Conference Program Committees

- V. Issarny, member of the TPC of the following international conferences: IEEE CIC'19, ACM EUROSYS'20 (Heavy PC), ACM ESEC/FSE'19, IEEE ICDCS'20, ICSE'20, ICSE-SEIS'19 & 20, ACM/IEEE IoTDI'19, and ACM/IFIP Middleware'19.
- R. Teixeira, member of the TPC of: USENIX Symposium on Networked Systems Design and Implementation (NSDI) 2020, Passive and Active Measurement Conference (PAM) 2020, and the Buffer Sizing Workshop 2019.
- N. Georgantas, member of the TPC of the following international conferences: SAC'19&'20, SOSE'19&'20, The Web Conference'19&'20.
- N. Georgantas, member of the TPC of the following international workshops: MRT'19, IoT-ASAP'19, ARM'19, ASYDE'19.
- V. Christophides, member of the TPC of the EDBT/ICDT 2020 Joint Conference, IEEE ICDE 2020, and the 28th ACM International Conference on Information and Knowledge Management (CIKM).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- V. Issarny, member of the following editorial boards: The ACM Transaction on Autonomous and Adaptive Systems (TAAS), The ACM Transactions on the Internet of Things (TIOT), The IEEE Transactions on Services Computing (TSC), and The IEEE Transactions on Software Engineering (TSE).
- N. Georgantas, Associate editor, International Journal of Ambient Computing and Intelligence (IJACI).
- V. Christophides, Associate editor, MDPI Open Access Journal of Internet of Things (IoT) and MDPI Open Access Journal of Future Internet.

10.1.4. Invited Talks

- R. Teixeira “Passive Measurements of Residential Internet Performance”, Google Networking Summit, 2019.
- R. Teixeira, “Lightweight, General Inference of Streaming Video Quality from Encrypted Traffic”, Workshop em ciencia de dados LNCC, Brazil, 2019.
- N. Georgantas, “Enabling Emergent Mobile IoT Systems: Middleware Interoperability & QoS Analysis”, Eclipse IoT Day Paris Saclay 2019.

- V. Christophides, “Detecting Outliers in IoT Data Streams”, IRT SystemX, 2019.

10.1.5. Leadership within the Scientific Community

- V. Christophides, Member of the Executive Board of the EDBT Association.

10.1.6. Scientific Expertise

- V. Issarny, member of: the FWP expert panel for PhD fellowships on strategic basic research, and the expert panel of the 2019 FET open call.
- V. Issarny, member of: the ARCEP Scientific Council (appointed), and The ACM Europe Council (Elected).
- N. Georgantas, member of: the EDITE Doctoral School selection committee for PhD fellowships, 2018 & 2019 .

10.2. Teaching - Supervision - Juries

10.2.1. Supervision

PhD: Sara el Aouad, “Personalized, Aspect-based Summarization of Movie Reviews”, Sorbonne Université, April 26, 2019, R. Teixeira, V. Christophides, C. Diot.

PhDs in progress:

- Yifan Du (Since October 2017): "In-network collaborative crowd-Xing", Sorbonne University, V. Issarny and F. Sailhan (CNAM)
- Grigoris Piperagkas (Since October 2018): "Leveraging universal social networking and the IoT for urban-scale participatory systems", Sorbonne University, V. Issarny and R. Angarita (ISEP).
- William Aboucaya (Since October 2019): "Version control for urban participatory systems", Sorbonne University, V. Issarny and R. Angarita (ISEP).
- Dimitris Tsolovos (Since March 2017): "A privacy-by-design middleware for urban-scale mobile crowdsensing", UVSQ, N. Ancaux (Inria PETRUS @ Saclay) and V. Issarny.
- Patient Ntumba (Since August 2018): “Dynamic management of IoT data stream analytics in the edge-fog-cloud continuum”, Sorbonne University, N. Georgantas and Vassilis Christophides.

10.2.2. Juries

- V. Issarny, member of the following juries: Christian Cabrera (11/19, PhD, Trinity College Dublin, Ireland), Gilles Tredan (06/19, HDR, University of Toulouse), and Nic Volanschi (11/19, HDR, University of Bordeaux).

Myriads Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Member of the Organizing Committees

- Guillaume Pierre is a member of the ACM/IFIP Middleware steering committee.

9.1.2. Scientific Events: Selection

9.1.2.1. Chair of Conference Program Committees

- Guillaume Pierre is co-chair of the Intelligent Systems and Infrastructure track of the TheWebConf 2020 conference.
- Anne-Cécile Orgerie is co-chair of the Architecture and Networking track of the IEEE/ACM CCGrid 2019 conference.
- Anne-Cécile Orgerie is global co-chair of the Cluster and Cloud Computing track of the EuroPar 2019 conference.

9.1.2.2. Member of the Conference Program Committees

- Guillaume Pierre was a PC member of the TheWebConf 2019 conference.
- Guillaume Pierre was a PC member of the ACM/IEEE CCGRID 2019 conference.
- Guillaume Pierre was a PC member of the ACM/IFIP Middleware 2019 conference.
- Guillaume Pierre was a PC member of the Conpas 2019 conference.
- Guillaume Pierre was a PC member of the InterCloud-HPC 2019 workshop.
- Mozhdeh Farhadi was a PC member of the CIFS 2019 workshop.
- Anne-Cécile Orgerie was a PC member of the IEEE HiPC 2019 conference.
- Anne-Cécile Orgerie was a PC member of the ICA3PP 2019 conference.
- Anne-Cécile Orgerie was a PC member of the IEEE/ACM CCGrid 2019 conference.
- Anne-Cécile Orgerie was a PC member of the ICPP 2019 conference.
- Anne-Cécile Orgerie was a PC member of the AlgoTel 2019 conference.
- Anne-Cécile Orgerie was a PC member of the IEEE IC2E 2019 conference.
- Cédric Tedeschi was a PC member of the ICPP 2019 conference.
- Cédric Tedeschi was a PC member of the IEEE ICWS 2019 conference.
- Cédric Tedeschi was a PC member of the Conpas 2019 conference.
- Nikos Parlavantzas was a PC member of the UCC 2019 conference.
- Nikos Parlavantzas was a PC member of the CloudCom 2019 conference.
- Nikos Parlavantzas was a PC member of the ISPDC 2019 conference.
- Nikos Parlavantzas was a PC member of the CrossCloud 2019 workshop.
- Nikos Parlavantzas was a PC member of the VHPC 2019 workshop.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Anne-Cécile Orgerie is member of the editorial board of International Journal of Distributed Sensor Networks, SAGE Publishing.

9.1.3.2. Reviewer - Reviewing Activities

- Guillaume Pierre reviewed one article for the IEEE Networking Letters.
- Guillaume Pierre reviewed one article for the Software: Practice and Experience journal.
- Cédric Tedeschi reviewed one article for the TPDS journal.
- Nikos Parlavantzas reviewed one article for the Applied Computing and Informatics journal.
- Marin Bertier reviewed one article for the Journal of Supercomputing.
- Martin Quinson reviewed one article for the Journal of Computational Design and Engineering.

9.1.4. Invited Talks

- Guillaume Pierre gave a keynote speech at the IEEE CloudNet 2019 conference: “From Cloud to Fog: The Tao of IT Infrastructure Decentralization.”
- Anne-Cécile Orgerie gave a seminar at LORIA lab in September 2019.
- Anne-Cécile Orgerie gave a seminar at the scientific council of INS2I in September 2019.
- Anne-Cécile Orgerie gave a talk at the Cloud Control Workshop in June 2019.
- Martin Quinson gave a talk at the "Algorithmes et programmation" workshop, at Centre International des Rencontres Mathématiques (CIRM) in May 2019.

9.1.5. Leadership within the Scientific Community

- Anne-Cécile Orgerie is vice-chair of ASF, the French Chapter of ACM SIGOPS.

9.1.6. Scientific Expertise

- 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.

9.1.7. Research Administration

- Anne-Cécile Orgerie is an 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.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Bachelor: Marin Bertier, Networks, Département Informatique L3, Insa Rennes.

Bachelor: Marin Bertier, Language C, Département Informatique L3, Insa Rennes.

Bachelor: Marin Bertier, Language C, Département Mathématique L3, Insa Rennes.

Bachelor: Jean-Louis Pazat, Introduction à la programmation, L1, Département STPI, INSA de Rennes.

Bachelor: Jean-Louis Pazat, Calcul Hautes Performances, Département Informatique L3, Insa Rennes.

Bachelor: Jean-Louis Pazat, Calcul Hautes Performances, Département Mathématiques L3, Insa Rennes.

Bachelor: Guillaume Pierre, Systèmes Informatiques, L3 MIAGE, Univ. Rennes 1.

Bachelor: Guillaume Pierre, Systèmes d’exploitation, L3 Informatique, Univ. Rennes 1.

Bachelor: Martin Quinson, Architecture et Systèmes, 60 hETD, L3 Informatique, ENS Rennes.

Bachelor: Martin Quinson, Pedagogy, 15 hETD, L3 Informatique, ENS Rennes.

Master: Marin Bertier, Operating Systems, Département Informatique M1, INSA de Rennes

Master: Marin Bertier, Distributed systems, Département Informatique M2, INSA de Rennes

Master: Anne-Cécile Orgerie, Cloud & Big Data, 30 hETD, M1, ENS Rennes.
Master: Anne-Cécile Orgerie, Green ICT, 4.5 hETD, M2, Telecom SudParis Evry.
Master: Anne-Cécile Orgerie, Green ICT, 3 hETD, M2, ENSSAT Lannion.
Master: Anne-Cécile Orgerie, Green IT, 6 hETD, M1, INSA Rennes.
Master: Nikos Parlavantzas, Clouds, M1, INSA Rennes.
Master: Nikos Parlavantzas, Performance Evaluation, M1, INSA Rennes.
Master: Nikos Parlavantzas, Project in Large-Scale Systems, M2, INSA Rennes.
Master: Nikos Parlavantzas, Big Data and Applications, M1, INSA Rennes.
Master: Jean-Louis Pazat, Parallel Computing, M1 Département Informatique Insa Rennes.
Master: Jean-Louis Pazat, Internet Of Things, M1 & M2 Département Informatique Insa Rennes.
Master: Guillaume Pierre, Distributed Systems, M1, Univ. Rennes 1.
Master: Guillaume Pierre, Service technology, M1, Univ. Rennes 1.
Master: Guillaume Pierre, Techniques de développement pour le cloud, M2, Univ. Rennes 1.
Master: Guillaume Pierre, Advanced Cloud Infrastructures, M2, Univ. Rennes 1.
Master: Martin Quinson, Préparation à l'Agrégation de Science Industrielle (Programming and Software Engineering, 20h ETD; Operating Systems and C programming, 20 hETD; Networking, 20h ETD), ENS Rennes.
Master: Martin Quinson, Scientific Outreach, M2, 30 hEDT, ENS Rennes.
Master: Cédric Tedeschi, Concurrency in Systems and Networks, M1, Univ. Rennes 1.
Master: Cédric Tedeschi, Service Technology, M1, Univ. Rennes 1.
Master: Cédric Tedeschi, Parallel Programming, M1, Univ. Rennes 1.
Master: Cédric Tedeschi, Systems, L3, Univ. Rennes 1.

9.2.2. Supervision

Defended PhD: Genc Tato, "Locality-aware Lazy Overlay Networks for WANs," defended on December 19th 2019, supervised by Marin Bertier, Cédric Tedeschi.
Defended PhD: The Anh Pham, "Dynamic Formal Verification of High Performance Runtimes and Applications," defended on December 6th 2019, supervised by Martin Quinson, Thierry Jéron.
Defended PhD: Amir Teshome Wonjiga, "User-Centric Security Monitoring in Cloud Environments", defended on June 3rd 2019, supervised by Louis Rilling and Christine Morin.
PhD in progress: Adrien Gougeon, "Designing an energy-efficient communication network for the dynamic and distributed control of the electrical grid", started in September 2019, supervised by Anne-Cécile Orgerie and Martin Quinson.
PhD in progress: Paulo Rodrigues De Souza Junior, "fog computing service roaming techniques", started in December 2018, supervised by Guillaume Pierre and Daniele Miorandi (U-Hopper srl, Italy).
PhD in progress: Davaadorj Battulga, "Scalable data pipelines for fog computing applications", started in September 2018, supervised by Cédric Tedeschi and Daniele Miorandi (U-Hopper srl, Italy).
PhD in progress: Mulugeta Tamiru, "Automatic optimization of autonomous management systems", started in September 2018, supervised by Guillaume Pierre and Erik Elmroth (Elastisys AB, Sweden).
PhD in progress: Mozhdeh Farhadi, "Fog computing-enabled IoT situation-aware services", started in June 2018, supervised by Guillaume Pierre and Daniele Miorandi (U-Hopper srl, Italy).

PhD in progress: Hamidreza Arkian, “Stream processing operator placement”, started in June 2018, supervised by Guillaume Pierre and Erik Elmroth (Elastisys AB, Sweden).

PhD in progress: Mehdi Belkhiria, “Dynamic Stream Processing for Maritime Traffic Surveillance,” started in December 2017, supervised by Cédric Tedeschi.

PhD in progress (*co-tutelle*): Yasmina Bouizem, “Energy-efficient, fault-tolerance mechanisms for containerized cloud applications,” started in December 2017, supervised by Didi Fedoua (Tlemcen University, Algeria), Djawida Dib (Tlemcen University, Algeria), Christine Morin and Nikos Parlavantzias.

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

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

PhD in progress: Loïc Guegan, “Simulating Internet of Things”, started in October 2017, supervised by Martin Quinson and Anne-Cécile Orgerie.

PhD in progress: Dorra Boughzala, “Simulating Energy Consumption of Continuum Computing between Heterogeneous Numerical Infrastructures in HPC”, started in December 2017, supervised by Laurent Lefèvre (Avalon team in Lyon), Anne-Cécile Orgerie and Martin Quinson.

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

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

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), supervised by Jean-Louis Pázat.

9.2.3. Juries

- Guillaume Pierre chaired the PhD committee of Alexandre Veith, ENS Lyon, September 23rd 2019.
- Guillaume Pierre chaired the PhD committee of Jad Darrous, ENS Lyon, December 17th 2019.
- Martin Quinson chaired the PhD committee of Pierre Huchant, Ecole Nationale Supérieure d’Électronique, Informatique, Télécommunications, Mathématique et Mécanique de Bordeaux (ENSEIRB-MATMECA), March 29th 2019.
- Anne-Cécile Orgerie is a member of the jury for *Agrégation externe de Sciences Industrielles de l’Ingénieur option ingénierie informatique*.
- Martin Quinson is a member of the jury for *Capes d’informatique*.
- Anne-Cécile Orgerie was a member of the PhD committee of Ayham Kassab, Université de Franche-Comté, November 14th 2019.
- Anne-Cécile Orgerie was a member of the PhD committee of Gustavo Rostirolla, Université Toulouse 3, November 25th 2019.
- Louis Rilling was a member of the PhD committee of Guillaume Averlant, INSA Toulouse, October 2nd 2019.
- Louis Rilling was a guest of the PhD committee of Mohammad Mahdi Bazm, Université de Nantes, July 8th 2019.

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- Martin Quinson is on the scientific board of the Blaise Pascal foundation, boosting the scientific outreach in the domains of Maths and Computer Science.

9.3.2. Education

- Guillaume Pierre shared his experience as the coordinator of a H2020 Maria Skłodowska Curie Action project with CCRRDT, the Brittany Region’s consultative committee for research and technological development. January 14th 2019.
- “L codent L créent” is an outreach program to send PhD students to teach Python to middle school students in 8 sessions of 45 minutes. Tassadit Bouadi (Lacodam), Camille Maumet (Empenn) and Anne-Cécile Orgerie (Myriads) are coordinating the local version of this program, initiated in Lille. The first session in Rennes occurred in April 2019, and a new session has started for 2019-2020. The program is currently supported by: Fondation Blaise Pascal, ED MathSTIC, Université Rennes 1 and Fondation Rennes 1.
- “J’peux pas, j’ai informatique” is an outreach program to deconstruct IT stereotypes. Organized over one day, this program welcomes 110 college students (5ème) each year and is coordinated by Anne-Cécile Orgerie. The next event is planned in April 2020.
- Martin Quinson participated to the DIU EIL (Enseigner l’Informatique au Lycée), training existing maths and engineering teachers so that they can teach Informatics in their colleges.
- Martin Quinson is in charge of a M2 lecture on scientific vulgarization at ENS Rennes. The students are asked to come up with new activities (or improve existing ones) on their research field.
- Martin Quinson gave a doctoral teaching on December 13 on scientific outreach targeting either schools or science forums at IRISA laboratory.

9.3.3. Internal action

- Anne-Cécile Orgerie, Martin Quinson and Matthieu Simonin: organize experimenter meetings for the large-scale systems department of IRISA: <https://xug.gitlabpages.inria.fr/meetings/>

9.3.4. Creation of media or tools for science outreach

- Martin Quinson is working on a set of new outreach activities with his Master 2 class at ENS Rennes since several years. The most promising activities are then tested on field in schools during another lecture at ENS Rennes, at Licence 3 level. All available resources are freely available at <https://github.com/InfoSansOrdi/pedago-rennes/>.

SPIRALS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Simon Bliudze

- co-chair International Workshop on Methods and Tools for Rigorous System Design (MeTRiD)

Laurence Duchien

- general chair European Conference on Software Engineering (ECSA)

Walter Rudametkin Ivey

- Atelier sur la Protection de la Vie Privée (APVP)

10.1.1.2. Member of the Organizing Committees

Pierre Bourhis

- Atelier sur la Protection de la Vie Privée (APVP)
- Knowledge Comparison Workshop (KOCOON)

Clément Quinton

- publicity chair International Systems and Software Product Line Conference (SPLC)
- proceedings chair European Conference on Software Engineering (ECSA)

Romain Rouvoy

- poster & demonstration chair International Symposium on Reliable Distributed Systems (SRDS)

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Laurence Duchien

- co-chair International Systems and Software Product Line Conference (SPLC)

10.1.2.2. Member of the Conference Program Committees

Simon Bliudze

- International Conference on Coordination Models and Languages (Coordination)
- International Conference on Formal Methods in Software Engineering (FormaliSE)
- International Conference on Formal Aspects of Component Software (FACS)
- International Conference on Verification and Evaluation of Computer and Communication Systems (VECoS)
- International Symposium on Model-Based Safety and Assessment (IMBSA)
- Workshop on Formal Approaches for Advanced Computing Systems (FAACS)
- International Workshop on Foundations of Coordination Languages and Self-Adaptive Systems (FOCLASA)
- Embedded Systems and the Internet of Things track at Euromicro Software Engineering and Advanced Applications conference (ES-IoT@SEAA)

Pierre Bourhis

- International Conference on Database Theory (ICDT)
- ACM SIGMOD International Conference on Management of Data (PODS)
- International Joint Conferences on Artificial Intelligence (IJCAI)
- Conférence sur la Gestion de Données – Principes, Technologies et Applications (BDA)

Laurence Duchien

- International Conference on Software Architecture (ICSA)
- International Workshop Series on Conducting Empirical Studies in Industry (CESI) in conjunction with the ICSE conference
- International Workshop on Software Qualities And Their Dependencies (SQADE) in conjunction with the ESEC/FSE conference
- Belgium-Netherlands Software Evolution Workshop

Pierre Laperdrix

- USENIX Workshop on Offensive Technologies (WOOT)

Philippe Merle

- International Conference on Cooperative Information Systems (CoopIS)
- International Conference on Evolving Internet (INTERNET)
- International Conference on Cloud Computing, GRIDs, and Virtualization (CLOUD COMPUTING)
- International Conference on Advanced Service Computing (SERVICE COMPUTATION)
- International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM)
- Workshop on CrossCloud Infrastructures & Platforms (CrossCloud)
- International Workshop on Adaptive and Reflective Middleware (ARM)

Clément Quinton

- International Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)
- ACM Symposium on Applied Computing (SAC) SA-TTA Track
- International Systems and Software Product Line Conference (SPLC)
- SPLC Demonstration and Tools Track
- International Workshop on Software Product Line Teaching (SPLTea)
- Women in Software Architecture (WSA ECSA)

Romain Rouvoy

- International Conference on Service Oriented Computing (ICSOC)
- ACM Symposium on Applied Computing (SAC) DADS Track
- International Conference on Ambient Systems, Networks and Technologies (ANT)
- ACM International Conference on Distributed and Event-based Systems (DEBS)
- International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP)
- International Workshop on Advances in Mobile App Analysis (A-Mobile)
- Eurosys Doctoral Workshop

Lionel Seinturier

- IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)
- ACM Symposium on Applied Computing (SAC) SA-TTA Track
- International Conference on Software Technologies (ICSOFT)
- International Conference on Service Oriented Computing (ICSOC)
- ACM International Conference on Management of Emergent Digital EcoSystems (MEDES)
- International Conference on Computational Collective Intelligence (ICCCI)

Walter Rudametkin Ivey

- International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS) Track D: Security and Privacy

10.1.3. Journal*10.1.3.1. Member of the Editorial Boards*

Lionel Seinturier is editor for software engineering of the ISTE-Wiley Computer Science and Information Technology book collection.

10.1.3.2. Reviewer - Reviewing Activities

Simon Bliudze: Science of Computer Programming (SCICO), Journal of Logical and Algebraic Methods in Programming (JLAMP)

Laurence Duchien: Journal of Systems and Software (JSS).

Pierre Laperdrix: IEEE Access, Emerald Journal of Intellectual Capital.

Philippe Merle: ACM Computing Surveys (CSUR), Elsevier Future Generation Computer Systems (FGCS), IEEE Transactions on Services Computing (TSC), IEEE Access, Wiley Software Practice and Experience (SPE).

Clément Quinton: Elsevier Information and Software Technology (IST), Science of Computer Programming (SCICO).

Romain Rouvoy: Elsevier Information and Software Technology (IST), Elsevier Journal of Systems and Software (JSS), ACM Transactions on Internet of Things (TOIT), ACM Computing Surveys (CSUR), IEEE Transactions on Software Engineering (TSE).

Walter Rudametkin Ivey: ACM Transactions on the Web (TWEB), IEEE Transactions on Services Computing (TSC), IEEE Communications Magazine.

Lionel Seinturier: ACM Transactions on Software Engineering and Methodology (TOSEM), Springer Journal of Internet Services and Applications (JISA), Wiley Journal of Software Evolution and Process (JSME).

10.1.4. Invited Talks

Simon Bliudze gave a tutorial on the Rigorous Component-based Design in BIP at the 6th International Symposium on Model-Based Safety and Assessment (IMBSA) and an invited lecture on Component-Based Design of Concurrent Software in BIP for a group of Master 2 students at the Aristotle University of Thessaloniki (Greece).

Pierre Bourhis gave an invited talk on Reasoning on Leak of Information for Database Views at the Emerging Challenges in Databases and AI Research Seminar in Santa Cruz, Chile.

Romain Rouvoy gave an invited talk on "Enabling In situ Location Privacy" during the IRIXYS workshop organized in Lyon in June 2019. He was also a keynote speaker during the national days of the GDR GPL in June 2019 with a talk entitled "Quels défis pour le développement durable des logiciels ?".

10.1.5. Leadership within the Scientific Community

Romain Rouvoy is the co-head of the "Groupe de Travail Génie Logiciel pour les Systèmes Cyber-physiques" of the GDR GPL.

10.1.6. Scientific Expertise

Laurence Duchien was member of the Hcéres committee for the UMR Laboratoire d'Informatique de Grenoble (LIG). She was expert for Canada NSERC, and DGRI (Ministère de la Recherche) program PHC. She was chair of the recruitment committee for Professor in Computer Science at ENS Lyon. She was member of the recruitment committee for two associate professor positions at the University of Luxembourg.

Romain Rouvoy was vice-chair of the recruitment committee for research scientists at Inria Lille - Nord Europe. He was member of the recruitment committee for associate researchers at University of Luxembourg. He was member of scientific committee 25 - Infrastructures (networks, high performance computing and storage), software sciences and technologies of the French Research Agency (ANR). He was scientific expert for DRRT IDF.

Lionel Seinturier was chair of the recruitment committee for Professor in Computer Science at CNAM Paris. He was member of the promotion committee to Tenured Associate Professor, Department of Electrical and Computer Engineering, University of Waterloo, Canada. He was member of the IEEE Technical Council on Software Engineering Distinguished Educational Award Committee. He was scientific expert for Chile CONICYT, Belgium Innoviris, DRRT IDF.

10.1.7. Research Administration

Simon Bludze was member of steering committees of International Interaction and Concurrency Experience workshop (ICE) and the International Symposium on Formal Approaches to Parallel and Distributed Systems (4PAD). He is lead guest editor for a special issue on Verification and Evaluation of Computer and Communication Systems (VECoS) of Innovations in Systems and Software Engineering: A NASA Journal (ISSE, Springer) and guest editor for a special issue on Methods and Tools for Rigorous System Design (MeTRiD) of the International Journal on Software Tools for Technology Transfer (STTT, Springer).

Laurence Duchien is member of the CNRS CoCNRS section 6 committee, and of the "bureau" of this committee. She is chairing the scientific and technical council of the PICOM business and research cluster for the retail industry. She is member of the scientific councils of IMT Atlantique (Nantes), Labex CIMI (Toulouse), IRT SystemX (Saclay). She is member of the steering committees of the European Conference on Software Architecture (ECSA) and of the Systems and Software Product Lines Conference (SPLC). She was guest editor for a special issue on the Configurable Systems of Springer Empirical Software Engineering journal. She was member of the committee for the Women in Science and Engineering Award from IEEE TCSE. She was member of a panel on soft skills for PhD students on humanities and social sciences for MESHs Lille. She is in charge of the Career development & Intersectoral secondments in the PEARL Project ("Programme for EARly-stage Researchers in Lille") at I-SITE Université Lille Nord Europe.

Philippe Merle is elected member of the Inria scientific board (CS), elected member of the Inria technical committee (CTI), elected member of the Inria national committee on "hygiène, de sécurité et des conditions de travail" (CNHSCT), president of the CUMI (Comité des Utilisateurs des Moyens Informatiques), permanent secretary of the CLHSCT (Comité Local d'Hygiène, de Sécurité et de Conditions de Travail), and elected member of the centre committee for the Inria Lille - Nord Europe research center. He is member of the steering committee of the Inria's continuous integration service. He is member of SPI doctoral school council of University of Lille.

Romain Rouvoy is an elected member of the "bureau" of the French chapter of the ACM Special Interest Group in Operating Systems (SIGOPS / ASF) and elected member of the administrative council of SpecifCampus. He is a member of the steering committee of DAIS (International Conference on Distributed Applications and Interoperable Systems).

Walter Rudametkin Ivey is member of the CDT (Comité de Développement Technologique) of the Inria Lille - Nord Europe research center.

Lionel Seinturier is member of the BSC (Bureau Scientifique du Centre) for the Inria Lille - Nord Europe research center. Until August 2019, he was Scientific Advisor for the evaluation of ICT research laboratories

at the Hcéres. Since December 2019, he is chair of CNU27, the Computer Science section of the "Conseil National des Universités".

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Simon Bliudze is, in addition to his tenure junior research position at Inria, chargé d'enseignement at École Polytechnique, Palaiseau, France, in the Department of Computer Sciences (DIX).

- INF411: Les bases de la programmation et de l'algorithmique, 40h, 2nd year of the Engineering cycle
- INF442: Traitement des données massives, 40h, 2nd year of the Engineering cycle

Pierre Bourhis is, in addition to his tenure junior research position at CNRS, chargé d'enseignement spécialité Sciences des données at École Polytechnique, Palaiseau, France, in the Department of Computer Sciences (DIX).

- Info553: Bases de données, 18h, Cycle Polytechnique
- Modal Graphe Géant, 36h

Laurence Duchien teaches at the Université de Lille in the FST faculty. She is project leader for doctoral studies at Université de Lille.

- Software engineering project, 60h, Level M2, Master MIAGE FI
- Software engineering project, 50h, Level M2, Master MIAGE FC/FA
- Research initiation, 20h, Level M2, Master of Computer Science

Clément Quinton teaches at the Université de Lille in the FST faculty.

- Introduction to Computer Science, 46.5h, Level L1, Licence of Computer Science
- Object-oriented programming, 36h, Level L2, Licence of Computer Science
- Object-oriented design, 42h, Level L3, Licence of Computer Science
- Design of distributed applications, 42h, Level M1, Master of Computer Science
- Advanced design of distributed applications, 37.5h, Level M2, Master MIAGE
- Infrastructure and frameworks for the Internet, 33.75h, Level M2, Master of Computer Science
- Software product lines, 7.5h, Level M2, Master of Computer Science
- Suivi de stages et de projets, 30h, Licence and Master of Computer Science

Romain Rouvoy teaches at the Université de Lille in the FST faculty. He heads the **Master of Computer Science** program at the Université de Lille.

- Design of distributed applications, 12h, Level M1, Master of Computer Science
- Object-oriented design, 4h, Level L3, Licence of Computer Science
- Suivi de projets, 20h, Level M2, Master of Computer Science

Walter Rudametkin Ivey teaches at the Université de Lille in the Polytech engineering school.

- GIS4 Programmation par Objets, 32h
- GIS4 Architectures Logicielles, 26h
- GIS2A3 (apprentissage) Projet programmation par Objet, 24h
- IMA2A4 (apprentissage) Conception Modélisation Objet, 24h
- IMA3 Programmation Avancée, 62h
- GBIAAL4 Bases de données, 22h
- GIS5 Suivi de projets, 42h
- GIS2A (apprentissage) Suivi d'apprentis, 28h

Lionel Seinturier teaches at the Université de Lille in the FST faculty. Until July 2019, he headed the Computer Science Department at the Faculty of Science and Technology of the Université de Lille.

- Conception d'Applications Réparties, 50h, Level M1, Master MIAGE
- Infrastructures et Frameworks Internet, 70h, Level M2 E-Services IAGL TIIR, Master of Computer Science

10.2.2. Supervision

- PhD: Antoine Vastel, Cartographie de la qualité d'expérience pour l'accès à l'internet mobile, Université de Lille, October 2019, Romain Rouvoy & Walter Rudametkin. [14]
- PhD: Benjamin Danglot, Automatic Unit Test Amplification for DevOps, Université de Lille, November 2019, Martin Monperrus & Lionel Seinturier. [11]
- PhD: Lakhdar Meftah, Cartography of the Quality of Experience for Mobile Internet Access, Université de Lille, December 2019, Romain Rouvoy, co-supervision with Isabelle Chrisment (Inria Madynes). [13]
- PhD: Sarra Habchi, Une supervision de contexte sensible à la confidentialité pour les développements logiciels en crowdsourcing, Université de Lille, December 2019, Romain Rouvoy. [12]
- PhD in progress: Mohammed Chakib Belgaid, Développement durable des logiciels vers une optimisation énergétique de bout en bout des systèmes logiciels, January 2018, Romain Rouvoy & Lionel Seinturier.
- PhD in progress: Vikas Mishra, Collaborative Strategies to Protect Against Browser Fingerprinting, October 2018, Romain Rouvoy & Walter Rudametkin & Lionel Seinturier.
- PhD in progress: Marion Tommasi, Collaborative Data-centric Workflows: Towards Knowledge Centric Workflows and Integrating Uncertain Data, October 2018, Pierre Bourhis & Lionel Seinturier.
- PhD in progress: Antonin Durey, Leveraging Browser Fingerprinting to Fight Fraud on the Web, October 2018, Romain Rouvoy & Walter Rudametkin & Lionel Seinturier.
- PhD in progress: Sacha Brisset, Automatic Spotting and fixing of Recurrent user Experience issues. Detecting and Fixing Anomalies by applying Machine Learning on user Experience Data, November 2018, Lionel Seinturier & Romain Rouvoy & Renaud Pawlak & Yoann Couillec.
- PhD in progress: Zakaria Ournani, Eco-conception des logiciels : modélisation de l'efficacité énergétique des logiciels et conception d'outils pour mesurer et réduire leur consommation d'énergie, November 2018, Romain Rouvoy.
- PhD in progress: Zeinab Abou Khalil, November 2017, Laurence Duchien & Clément Quinton, co-supervision with Tom Mens (University of Mons, Belgium).
- PhD in progress: Guillaume Fieni, GreenData : Vers un traitement efficace et éco-responsable des grandes masses de données numériques, October 2017, Romain Rouvoy & Lionel Seinturier.
- PhD in progress: Trinh Lê Khánh, Design of Correct-by-Construction Self-Adaptive Cloud Applications using Formal Methods, October 2019, Philippe Merle & Simon Bliudze.

10.2.3. Juries

Simon Bliudze

- Wajeb Saab (École polytechnique fédérale de Lausanne, Switzerland), examiner
- Rim El Ballouli (Université Grenoble Alpes), examiner

Laurence Duchien

- Stepan Shevtsov (Linnaeus University, Sweden and KU Leuven, Belgium), reviewer
- HDR, Marius Bilasco (Université de Lille), chair
- Thibault Raffailac (Université de Lille), chair

Romain Rouvoy

- Hanyang Cao (Université de Bordeaux), reviewer
- Mousa Hayam (INSA Lyon), reviewer
- Stefan Contiu (Université de Bordeaux), reviewer
- Adrien Luxey (Université de Rennes 1), reviewer

Lionel Seinturier

- HDR, Thomas Polacsek (Université de Toulouse), reviewer
- Xinxu Tao (Université Grenoble Alpes), reviewer
- Benjamin Benni (Université Nice Sophia Antipolis), reviewer

10.3. Popularization

10.3.1. Interventions

Pierre Laperdrix gave a talk in May at the RuhrSec IT security conference organized by the Ruhr University Bochum. The aim of the conference is to popularize different topics to an audience of non-experts so that they are familiar with the latest trends in computer security.

STACK Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

- A. Lebre co-organized the TILECS workshop (Towards an Infrastructure for Large-Scale Experimental Computer Science), Grenoble, July 2019.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- S. Ibrahim was the program chair of the IEEE BigDataSE 2019.
- S. Ibrahim was the program chair of the Smart Data-2019.
- S. Ibrahim was the track co-chair for the Cloud Computing Track of CCGrid 2019.

10.1.2.2. Member of the Conference Program Committees

- H. Coullon was a member of the program committees of CCGrid 2019 and ICCS 2019.
- S. Ibrahim was a member of the program committees of SC'19, Poster track of SC 2019, ICPP 2019, Cluster 2019, ICA3PP 2019, PDSW@SC'19, and HPBDC@IPDPS'19.
- A. Lebre was a member of the program committees of ICC 2019, IC2E 2019, CCGRID 2019, Cluster 2019, and CloudCom 2019.
- T. Ledoux was a member of the program committees of the conference Compas'19, of the 1st Workshop on Service Quality and Quantitative Evaluation in new Emerging Technologies @ IC2E'19, CrossCloud'19@CCGrid, and ARM'19@Middleware.
- J.-M. Menaud was a member of the program committees of SMARTGREENS'19, SOFTCOM 19.
- M. Südholt was a member of the program committees of CCGrid'19 and CloudCom'19.

10.1.2.3. Member of the Conference Steering Committees

- A. Lebre is a member of the steering committee of the international conference of Fog and Edge Computing (ICFEC).
- M. Südholt is a member of the steering committee of the international conference Programming.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- A. Lebre is an Associate Editor of the IEEE Transactions on BigData.
- A. Lebre is an Associate Editor of the IEEE Transactions on Cloud Computing.
- S. Ibrahim is an Associate Editor of Springer Frontiers of Computer Science journal.
- M. Südholt is an Associate Editor of the journal Programming.

10.1.3.2. Reviewer - Reviewing Activities

- S. Ibrahim has been a reviewer for the following journals: Future Generation Computer Systems, IEEE Internet Computing.
- A. Lebre has been a reviewer for the IEEE Transactions on Cloud Computing journal.
- T. Ledoux has been a reviewer for the following journals: Journal of Systems Architecture - Elsevier and Future Generation Computer Systems.
- M. Südholt has been a reviewer for the journal Transactions of Software Engineering (IEEE TSE).

10.1.4. Invited Talks

- H. Coullon has given a talk to the WIDE Inria team, “Distributed Software Management: Efficiency, Software Engineering and Verification”, Rennes, France, Aug. 2019.
- H. Coullon has given a talk to the joint LaMHa/LTP working group of the GDR GPL, “Efficient and Safe Distributed Software Commissioning”, Paris, France, Nov. 2019.
- H. Coullon has given a talk to the Department of Computer Science at the University of Tromsø, the Arctic University of Norway, “Efficient and Safe Distributed Software Commissioning and Reconfiguration”, Norway, Dec. 2019.
- A. Lebre has given a talk to the Inria Business Club in Paris, France, May 2019.
- A. Lebre has given a talk to the TILECS Workshop in Grenoble, France, July 2019.
- A. Lebre has given a talk to the Journées Clouds in Toulouse, France, Sept 2019.
- A. Lebre has given a talk to the Inria/Interdigital Workshop in Rennes, France, Dec. 2019.

10.1.5. Scientific Expertise

- A. Lebre is a member of the scientific committee of the joint lab between Inria and Nokia Bell Labs.

10.1.6. Research Administration

- A. Lebre is a 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 a member of the executive and architect committees of the Grid’5000 GIS (Groupement d’intérêt scientifique).
- A. Lebre is a member of the executive committee of the <I/O> Lab, a joint lab between Inria and Orange Labs.
- J. Noyé is the Deputy Head of the Automation, Production and Computer Sciences department of IMT Atlantique.
- J.-M. Menaud is organizer of "Pôle Science du Logiciel et des Systèmes Distribués" in Laboratoire des Sciences du Numérique à Nantes (LS2N). He is involved in the GIS VITTORIA (VIRtUal inTEgrative Oncology Research and InnovATIOn).
- J.-M. Menaud is involved in the GIS PERLE (Pôle d’Excellence de la Recherche Ligérienne en Energie).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- S. Ibrahim is the co-coordinator of the international Master’s program in Cloud Computing and Services at University of Rennes 1.
- T. Ledoux is the head of the apprenticeship program in Software Engineering FIL (<http://www.imt-atlantique.fr/formation/ingenieur-par-apprentissage/ingenieurs-specialite-ingenierie-logicielle>). This 3-year program leads to the award of a Master degree in Software Engineering from the IMT Atlantique.
- H. Coullon is responsible for the Computer Science domain of the new apprenticeship program in Industry 4.0 (FIT) of IMT Atlantique. This 3-year program leads to the award of a Master degree in Industry 4.0 from the IMT Atlantique.

10.2.2. Supervision

- PhD: Mohammad Mahdi Bazm, co-director: J.M. Menaud, director: M. Südholt, “Architecture d’isolation unifiée et mécanismes de lutte contre les canaux auxiliaires pour infrastructures cloud décentralisées”, Defended July 2019, the8th.

- Phd: Linh Thuy Nguyen, director: A. Lebre, “Fast delivery of Virtual Machines and Containers: Understanding and optimizing the boot operation”, defended on Sept 2019, the 24th.
- Phd: Jad Darrous, advisor: S. Ibrahim, director: C. Perez (Avalon), “Scalable and Efficient Data Management in Distributed Clouds: Service Provisioning and Data Processing” Defended Dec 2019, the 17th.
- Phd: Dimitri Saingre, advisor: T. Ledoux, director: J-M. Menaud.
- Phd: Maverick Chardet, advisor: H. Coullon, director: C. Perez (Avalon).
- Phd: Emile Cadorel, advisor: H. Coullon, director: J-M. Menaud.
- Phd: Jolan Philippe, advisors: H. Coullon, M. Tisi (NaoMod), director: G. Sunye (NaoMod).
- Phd: Yewan Wang, advisor: J.-M. Menaud.
- Phd: Maxime Belair, advisor: J.-M. Menaud.
- Phd: Fatima-zahra Boujdad, advisor: M. Südholt.
- Phd: Wilmer Garzon, advisor: M. Südholt.
- Phd: Sirine Sayadi, advisor: M. Südholt.
- Postdoc: David Guyon, advisor: S. Ibrahim.
- Postdoc: Thomas Lambert, advisor: S. Ibrahim.
- Postdoc: Jonathan Pastor, advisor: J.-M. Menaud.
- Postdoc: Rémy Pottier, advisor: J.-M. Menaud.
- Postdoc: Simon Robillard, advisor: H. Coullon.
- Postdoc: Hamza Sahli, advisor: T. Ledoux.
- Postdoc: Alexandre Van Kempen: A. Lebre (until June 2018).
- Engineer: Ronan-Alexandre Cherrueau, advisor: A. Lebre.
- Engineer: Brice Nédelec, advisor: T. Ledoux.
- Engineer: Dimitri Pertin, advisor: H. Coullon (Sept, Oct 2019).
- Engineer: Javier Rojas Balderrama, advisor: M. Simonin/A. Lebre.
- Engineer: Charlène Servantie, advisor: H. Coullon.

10.2.3. Juries

- H. Coullon was a reviewer of the Master thesis committee of Jolan Philippe, “Systematic development of efficient programs on parallel data structures”, Northern Arizona University USA, Feb. 05, 2019.
- H. Coullon was a reviewer of the PhD committee of Alexandre Da Silva Veith, “Quality of Service Aware Mechanisms for (Re)Configuring Data Stream Processing Applications on Highly Distributed Infrastructure”, Univ. Lyon, Sept. 32, 2019.
- H. Coullon was a reviewer of the PhD committee of KsanderEJAAOUANI, “Conception du modèle de programmation INKS pour la séparation des préoccupations algorithmiques et d’optimisation dans les codes de simulation numérique ; application à la résolution du système Vlasov/Poisson 6D”, Univ. Stasbourg, Nov. 25, 2019.
- S. Ibrahim was a member of the PhD committee of Chaopeng GUO, “Energy-efficient Resource Provisioning for Cloud Databases”, Université Paul Sabatier, Jun. 14, 2019.
- A. Lebre was a member of the PhD Committee of Ali Reza Zamani Zadeh Najari, “Scheduling Edge And In-Transit Computing Resources For Stream Processing Applications”, University of Rutgers (USA), May 2019.
- A. Lebre was a member of the PhD Committee of Luke Bertot “Improving the simulation of IaaS Clouds”, University of Strasbourg (France), June 2019.

- A. Lebre was a reviewer and member of the PhD Committee of Loic Perennou, “Virtual Machine Experience Design: A Predictive Resource Allocation Approach for Cloud Infrastructures”. Conservatoire National des Arts et Metier Paris (France), Oct 2019.
- A. Lebre was a member of the PhD Committee of Genc Tato “Lazy and Locality-Aware Building blocks for Fog Middleware: A Service Discovery Use Case”, University of Rennes (France), Dec 2019.
- T. Ledoux was a member of the PhD committee of Xinxu Tao, “Reliability of changes in cloud environment at PaaS level”, Univ. Grenoble Alpes, Jan. 29, 2019.
- T. Ledoux was a member of the PhD committee of Amir Teshome Wonjiga, “User-centric security monitoring in cloud environments”, Univ. Rennes 1, Jun. 03, 2019.
- T. Ledoux was a reviewer of the PhD committee of Umar Ozeer, “Autonomic Resilience of Distributed IoT Applications in the Fog”, Univ. Grenoble Alpes, Dec. 11, 2019.
- J.-M. Menaud was a member of the PhD committee of Léo Grange, “Gestion de centre de données avec sources d’énergies renouvelables intermittentes et incertaines”, Univ. Toulouse, Oct. 3, 2019.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- S. Ibrahim, Online publication <http://emergences.inria.fr/2019/newsletter-n59/159-Kerstream>: *Un intergiciel post-Hadoop pour gérer les flux de données.*

10.3.2. Articles and contents

As a follow-up of the aLIFE workshop (Nantes, Jan. 2018), organized in partnership with colleagues from IMT Atlantique and gathering both academic and industrial partners, Hélène Coullon and Jacques Noyé have participated to a booklet publication [29] summarizing the workshop discussions and proposing a shared vision of what software research could bring to Industry 4.0 initiatives.

WHISPER Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

Gilles Muller is the elected representative member of the system community in the steering committee of the COMPAS conference and also the head of the committee.

10.1.1.2. Member of the Organizing Committees

Gilles Muller was one the co-organizers of the 10th PLOS Workshop that was associated with SOSP.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

Julia Lawall was program chair of the 34th IEEE/ACM International Conference on Automated Software Engineering (ASE 2019) with Darko Marinov (University of Illinois).

10.1.2.2. Member of the Conference Program Committees

- Julia Lawall: ICSE 2020 New Ideas and Emerging Results, 2019 USENIX Annual Technical Conference (USENIX ATC 2019, ERC), Innovations in Software Engineering Conference (ISEC 2020), The 18th Belgium-Netherlands Software Evolution, Workshop (BENEVOL 2019), 45th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2019), ACM SIGPLAN Workshop on Partial Evaluation and Program Manipulation (PEPM)
- Gilles Muller, Usenix ATC 2019, SOSP 2019, Supercomputing - system track 2019
- Pierre-Évariste Dagand: ICFP 2019, PLOS 2019

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Julia Lawall: Science of Computer Programming

10.1.3.2. Reviewer - Reviewing Activities

- Julia Lawall: IEEE Transactions on Software Engineering
- Pierre-Évariste Dagand: Journal of Functional Programming

10.1.4. Invited Talks

- Julia Lawall: Automation in the Maintenance of the Linux Kernel The Coccinelle Experience. Collège de France, February 6.
- Julia Lawall: Coccinelle: 10 Years of Automated Evolution in the Linux Kernel, keynote Linaro Connect conference, September 27.
- Julia Lawall: 10 Years of Automated Evolution in the Linux Kernel, keynote MASCOTS conference, October 23.
- Julia Lawall: Fast and Precise Retrieval of Forward and Back Porting Information for Linux Device Drivers. Lund University, Tsinghua University, University of Illinois, National University of Singapore.
- Julia Lawall: Julia's adventures with Why3. CNAM.

- Lucas Serrano: SPINFER: Semantic patch inference for the Linux kernel. Singapore Management University.
- Gilles Muller: *Research problems in thread scheduling for multicore general purpose operating systems*, WOS Workshop (Rennes), University of Utah, University of New South Wales, University of Sydney, ENS Lyon.
- Pierre-Évariste Dagand: *Programming with dependent types*, Collège de France.

10.1.5. Scientific Expertise

Julia Lawall, Gilles Muller: Discussion with Starburst as part of their survey of sovereign operating systems (March 19, 2019).

10.1.6. Research Administration

- Gilles Muller: Member of a hiring committee for a Professor Position at ENS Lyon.
- Gilles Muller: Elected member of IFIP WG 10.4 (Dependability),
- Bertil Folliot: Elected member of the IFIP WG10.3 working group (Concurrent systems)
- Julia Lawall: Founding member of IFIP WG 2.11 (Program Generation),
- Pierre-Évariste Dagand: Member of a hiring committee for a “Professeur Assistant d’exercice incomplet en Informatique” at École Polytechnique

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Professional Licence: Bertil Folliot, Programmation C, L2, SU, France
- Professional Licence: Bertil Folliot, Lab projects, L2, SU, France
- Licence: Pierre-Évariste Dagand, INF311: Introduction to Programming (40h), L1, École Polytechnique, France
- Licence: Pierre-Évariste Dagand, CSE205: Computer Architecture and Operating Systems (27h), Bachelor, École Polytechnique, France
- Master: Pierre-Évariste Dagand, MPRI 2-4.4: Dependently-typed programming (12h), M2, MPRI, France
- Master: Pierre-Évariste Dagand, INF559: Computer Architecture and Operating Systems (18h), M1, École Polytechnique, France

10.2.2. Supervision

- PhD in progress : Cédric Courtaud, CIFRE Thalès, 2016-2019 (defense January 28 2020), Gilles Muller, Julien Sopéna (Delys).
- PhD in progress : Redha Gouicem, 2016-2020, Gilles Muller, Julien Sopéna (Delys).
- PhD in progress : Yoann Ghigoff, 2019-2022, Gilles Muller, Julien Sopéna (Delys), Kahina Lazri (Orange Labs).
- PhD in progress : Darius Mercadier, 2017-2020, Pierre-Évariste Dagand, Gilles Muller.
- PhD in progress : Lucas Serrano, 2017-2020, Julia Lawall.
- PhD in progress : Pierre Nigron, 2019-2021, Pierre-Évariste Dagand, Julia Lawall.

10.2.3. Juries

- Julia Lawall: PhD jury of Jesper Öqvists (University of Lund, reporter), January 18, 2019.
- Julia Lawall: PhD jury of David Come (Onera, reporter), January 25, 2019.
- Julia Lawall: PhD jury of Jason Lecercf (University of Lille, reporter), November 26, 2019.

- Julia Lawall: HDR jury of Nic Volanschi (University of Bordeaux, president), November 29, 2019.
- Gilles Muller: PhD jury of Damien Carver (Sorbonne University, president), May 17, 2019.
- Pierre-Évariste Dagand: PhD jury of Kenji Maillard (University PSL, examiner), November 25, 2019.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Julia Lawall: Chair of the Commission des Emplois Scientifiques, with Mazyar Mirrahimi.

10.3.2. Education

- Julia Lawall: Coccinelle: Practical program transformation for the Linux kernel. Ecole de Jeunes Chercheurs en Programmation.

10.3.3. Interventions

- Julia Lawall: Systèmes d'exploitation. Girls Can Code.

WIDE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Member of the Organizing Committees

François Taïani and Erwan Le Merrer served as Co-Organizer of the 9th Inria/Interdigital Workshop On Systems (WOS9), Rennes, France, December 2019.

François Taïani served as Posters and Demos Co-Chair of the 38th IEEE International Symposium on Reliable Distributed Systems (SRDS 2019), Lyon, France, October 2019.

Erwan Le Merrer served as Co-Organizer of the "Atelier sur les algorithmes en boîte-noire", Lyon, France, December 2019.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

François Taïani served as PC Co-Chair of the 3rd Workshop on Scalable and Resilient Infrastructures for Distributed Ledgers (SERIAL'19), collocated with Middleware 2019, Davis, CA, USA, December 2019.

François Taïani served as Co-Chair of the Shadow PC of the European Conference on Computer Systems (EuroSys 2019), Dresden, Germany, March 2019.

Erwan Le Merrer served as Co-Chair of the "Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications" (Algotel 2019), France, June 2019.

9.1.2.2. Member of the Conference Program Committees

François Taïani served on the PC of the Conférence d'informatique en Parallélisme, Architecture et Système (COMPAS2019), Anglet, France, June 2019.

François Taïani served on the PC of the 18th Workshop on Adaptive and Reflexive Middleware (ARM'19@MW), co-located with Middleware 2019, Davis, CA, USA, December 2019.

François Taïani served on the PC of the 49th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2019), Portland, OR, USA, June 2019.

François Taïani served on the PC of the International Conference on Blockchain Economics, Security and Protocols (Tokenomics 2019), Paris, France, May 2019.

Davide Frey served on the PC of the 5th Workshop on Planetary-Scale Distributed Systems (W-PSDS), co-located with SRDS 2019, Lyon, France, October 2019.

Davide Frey served on the PC of the 13th ACM International Conference on Distributed and Event-Based Systems (DEBS), Darmstadt, Germany, June 2019.

Davide Frey served on the PC of the 19th International Conference on Distributed Applications and Interoperable Systems (DAIS), Copenhagen, Denmark, June 2019.

George Giakkoupis served on the PC of the 31st ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), Phoenix, AZ, USA, June 22–24, 2019.

George Giakkoupis served on the PC of the 33rd International Symposium on Distributed Computing (DISC), Budapest, Hungary, Oct. 14–18, 2019.

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing Activities

François Taïani was a reviewer for IEEE Transactions on Knowledge and Data Engineering (TKDE).

Davide Frey was a reviewer for the International Journal of Computer and Telecommunications Networking (COMNET).

Davide Frey was a reviewer for Peer-to-Peer Networking and Applications (PPNA).

Davide Frey was a reviewer for the ARIMA Journal.

George Giakkoupis was a reviewer for Journal of the ACM (JACM).

George Giakkoupis was a reviewer for Journal of Parallel and Distributed Computing (JPDC).

George Giakkoupis was a reviewer for ACM Transactions on Parallel Computing (TOPC).

George Giakkoupis was a reviewer for Distributed Computing (DIST).

9.1.4. Collaborative Projects

Davide Frey was a reviewer for the Agence Nationale de Recherche (ANR).

9.1.5. Invited Talks

François Taïani. Pleiades: Distributed Structural Invariants at Scale. 4th GDR RSD and ASF Winter School on Distributed Systems and Networks 2019, Pleynet, Sept Laux, France, 6 February 2019.

François Taïani. Pleiades: Distributed Structural Invariants at Scale. Lancaster University, Lancaster, UK, 23 May 2019.

Erwan Le Merrer. Tweaking neural models: watermarking and tamperproofing them. EPFL-Inria workshop, EPFL, Lausanne, 30 January 2019.

François Taïani. How to Be a Terrible Higher Education Teacher in 7 Easy Steps. IRISA Annual D1 Departmental Seminar, IRISA, Rennes, 29 November 2019.

9.1.6. Leadership within the Scientific Community

Michel Raynal has been Adjunct Professor at the Polytechnic University of Hong Kong since 2013.

Michel Raynal has been a member of the Executive board of the SIF (Société d'Informatique Française) since 2013.

Michel Raynal is European representative at the IEEE Technical Committee on distributed computing.

François Taïani has been a member of the Gilles Kahn PhD Award in Computer Science, from Société Informatique de France (SIF) since 2018.

9.1.7. Research Administration

Davide Frey is Correspondant Scientifique Europe at the DPEI for Inria Rennes.

Davide Frey is an associate member of the COST-GTRI of Inria.

François Taïani is a Career Advice Person, (*Référent conseil-parcours professionnel chercheurs*) for IRISA/Inria Rennes Bretagne Atlantique since 2019.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Florestan De Moor, Programmation Dirigée par la Syntaxe, 22h, M1-SIF, Université de Rennes I, France

Engineering School: François Taïani, Synchronization and Parallel Programming, 62h, 2nd year of Engineering School (M1), ESIR / Univ. Rennes I, France.

Engineering School: François Taïani, Distributed Systems, 24h, 3rd year of Engineering School (M2), ESIR / Univ. Rennes I, France.

Engineering School: François Taïani, Introduction to Operating Systems, 24h, 1st year of Engineering School (L3), ESIR / Univ. Rennes I, France.

Bachelor: François Taïani, Distributed Algorithms, 12h, L3 Parcours SI, ENS Rennes, France.

Master: Davide Frey, 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.

Master: Davide Frey, Cloud Computing, 6 hours, M2-MIAGE, Univ. Rennes I, France.

Master: Davide Frey, Distributed Systems, 12 hours, ENSAI, France.

Master: Davide Frey, Apprentice Tutoring, 8 ETD hours, M2 Alternance Univ. Rennes I, France.

Master: Quentin Dufour and Davide Frey, 12 ETD hours, M1 ISTIC, Univ. Rennes I, France.

Master / PhD: Davide Frey, Distributed Computing and Blockchain, 15 hours, UM6P, Morocco.

Master: Erwan Le Merrer, Projet , 36 ETD hours, M1 ISTIC, Univ. Rennes I, France.

Master: Erwan Le Merrer, Network Science, 12 hours, M2 ESIR, Univ. Rennes I, France.

Master: Quentin Dufour and Louison Gitzinger, Cloud, 36 hours, M2 ESIR, Univ. Rennes I, France.

Master: Quentin Dufour, TLC, 18 hours, M2 ISTIC, Univ. Rennes I, France

Master: George Giakkoupis, Systèmes Répartis, 9 hours, ENSAI Rennes, France.

9.2.2. Supervision

PhD: Adrien Luxey, “E-squads: A novel paradigm to build privacy-preserving ubiquitous applications” [13], University of Rennes 1, 29th November 2019, David Bromberg.

PhD in progress: Quentin Dufour, BBDA - Browser Based Data Analytics, January 2018, David Bromberg and Davide Frey.

PhD in progress: Amaury Bouchra Pilet, Robust and Lightweight Overlay Management for Decentralized Learning, University of Rennes 1, September 2018, David Bromberg and Davide Frey.

PhD in progress: Loïck Bonniot, Distributed Troubleshooting of Edge-Compute Functions, University of Rennes 1, François Taïani and Christoph Neumann (Interdigital, CIFRE).

PhD in progress: Alejandro Gomez Boix, Distributed counter-measure against browser fingerprinting, Inria, Davide Frey and David Bromberg.

PhD in progress: Alex Auvolat, Towards probabilistic decentralized systematic design for large-scale privacy-preserving collaborative systems, University of Rennes 1, François Taïani and David Bromberg.

PhD in progress: Hayk Saribekyan, Randomized Algorithms for Distributed Information Dissemination, University of Cambridge, UK, George Giakkoupis and Thomas Sauerwald (U. Cambridge).

HDR: Davide Frey, Epidemic Protocols: From Large Scale to Big Data, University of Rennes 1, 11 Juin 2019 [12].

9.2.3. Juries

François Taïani was an examiner for Cédric Maigrot’s PhD thesis: Détection de fausses informations dans les réseaux sociaux, Université de Rennes 1 (France), 1st April 2019.

François Taïani was a reviewer for João Paulo de Araujo’s PhD thesis: A Communication-Efficient Causal Broadcast Publish/Subscribe System, Sorbonne Université, LIP6 (France), 5th April 2019.

François Taïani was an external examiner (reviewer) for Assylbek Sagitzhanuly Jumagaliyev’s PhD thesis: A Modeling Language for Multi-tenant Data Architecture Evolution in Cloud Applications, Lancaster University (UK), 23rd May 2019.

François Taïani was an examiner for Gilles Tredan's HDR: Capturing Binary Graphs, Université de Toulouse 3 (France), 21st June 2019.

François Taïani was an examiner for Nathanaël Cheriére's PhD thesis: Towards Malleable Distributed Storage Systems: from Models to Practice, ENS Rennes, 5th November 2019.

François Taïani was an examiner for The Anh Pham's PhD thesis: Efficient state-space exploration for asynchronous distributed programs, ENS Rennes, 6th December 2019.

François Taïani was an examiner for Oscar Luis Vera Perez's PhD thesis: Dynamic program analysis for suggesting test improvements to developers, University of Rennes 1, 17th December 2019.

George Giakkoupis was an external reviewer for Suman Sourav's PhD thesis: Latency, Conductance, and the Role of Connectivity in Graph Problems, National University of Singapore, 11 November 2019.

9.3. Popularization

Algorithm Watch wrote an article about a recent work involving Erwan Le Merrer, concerning remote transparency. The article is called "Explainable AI doesn't work for online services – now there's proof". Available at <https://algorithmwatch.org/en/story/explainable-ai-doesnt-work-for-online-services-now-theres-proof/>.

ALPINES Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Organization of the kick-off meeting of ERC Synergy project EMC2 by E. Cances, L. Grigori, Y. Maday, and J. P. Piquemal. For more details see the [website](#).
- Organization of Horizon Maths 2019 day on Mathematics and Chemistry by E. Cances, L. Grigori, Y. Maday, and J. P. Piquemal, december 3 2019. For more details see the [website](#).

10.1.2. Scientific Events: Selection

- Gene Golub Summer school on [High Performance Data Analytics](#), June 17-28, 2019 in Aussois, France. Co-organized by L. Grigori with M. Knepley, O. Schenk, R. Vuduc. Sponsored by SIAM through an endowment from the estate of Gene Golub.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Laura Grigori, March 2014 – current. Member of the editorial board for the SIAM book series Software, Environments and Tools. See <http://bookstore.siam.org/software-environments-and-tools/>.
- Laura Grigori, January 2016 – current. Associate Editor, SIAM Journal on Scientific Computing.
- Laura Grigori, January 2017 – current. Associate Editor, SIAM Journal on Matrix Analysis and Applications.
- Laura Grigori, January 2016 – current. Editorial board, Numerical linear algebra with applications Journal, Wiley.
- Laura Grigori, October 2019 – current. Editorial board, Calcolo Journal, Springer.
- Frédéric Nataf, January 2015 – current, Editorial board, Journal of Numerical Mathematics, de Gruyter.

10.1.4. Invited Talks

- Laura Grigori was
 - Invited speaker, Advanced Solvers for modern Architectures Symposium, November 2019, Munster Germany.
 - Keynote speaker, workshop *Parallel solution methods for systems arising from PDEs*, September 2019, CIRM France.
 - Invited plenary speaker, SIAM Conference on Computational Science and Engineering (CSE19), February 2019, Washington USA, <http://www.siam.org/meetings/cse19/>.
- S. Hirstoaga gave a talk at the seminar of Laboratoire Jacques-Louis Lions, March 2019, Paris.
- Frédéric Nataf was invited speaker at RMR 2019: Rencontres Mathématiques de Rouen 2019, juin 2019, Rouen, France.
- Frédéric Hecht was
 - invited speaker at HPCSE 2019: HIGH PERFORMANCE COMPUTING IN SCIENCE AND ENGINEERING, University of Ostrava, Czech.

- invited speaker at RMR 2019: Rencontres Mathématiques de Rouen 2019, juin 2019, Rouen, France.
- invited speaker at COUPLED 2019: june 2019, Sigtes, Spain.
- invited speaker, workshop *Parallel solution methods for systems arising from PDEs*, September 2019, CIRM France.

10.1.5. Leadership within the Scientific Community

- Laura Grigori, member elected of SIAM Council, January 2018 - December 2020, the committee supervising the scientific activities of SIAM. Nominated by a Committee and elected by the members of SIAM.
- Laura Grigori, member of the **PRACE** (Partnership for Advanced Computing in Europe) Scientific Steering Committee, September 2016 - current.
- Laura Grigori and Frédéric Hecht are coordinators of the High Performance in Scientific Computing Major of second year of Mathematics and Applications Master, Sorbonne University.

10.1.6. Scientific Expertise

- Laura Grigori: November 2015 - current, expert to the Scientific Commission of IFPEN (French Petroleum Institute). Evaluation of research programs, PhD theses, work representing a total of 5 days per year.

10.1.7. Research Administration

- Laura Grigori was vice-president of the committee CE46 of ANR, September 2017 - July 2019.
- Frédéric Nataf was president of the committee "Mathématiques et leurs interactions" (CE40) at ANR, September 2016 - August 2019.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master 1: Xavier Claeys, Initiation to C++, 36 hrs of programming tutorials in C++, SU.

Master 1: Xavier Claeys, Computational Linear Algebra, 32 hrs of lectures, SU.

Master 1: Xavier Claeys, Approximation of PDEs, 24 hrs of programming tutorials in Python, SU.

Master 2: Laura Grigori, Winter 2019, Participation in the course on High Performance Computing given at Sorbonne University, Computer Science, intervention for 8 hours per year.

Master 2: Laura Grigori, Course on *High performance computing for numerical methods and data analysis*, https://who.rocq.inria.fr/Laura.Grigori/TeachingDocs/UPMC_Master2/HPC_MN_DA.html, Master 2nd year, Mathematics & Applications, Sorbonne University, 24 hours per year.

Licence 1: S. Hirstoaga, analysis and matrix calculus, 24 HETD, INSEP, Sorbonne University.

Master 1: Frédéric Hecht, Initiation au C++, 24hrs, SU, France

Master 2: Frédéric Hecht, Des EDP à leur résolution par la méthode des éléments finis (MEF), 36hrs, M2, SU, France

Master 2: Frédéric Hecht, Numerical methods for fluid mechanics, 10hrs, SU, France

Master 2: Frédéric Hecht, Calcul scientifique 3 / projet industriel FreeFem++, 28hrs, M2, SU, France

Master 2: Frédéric Hecht, Ingénierie 1 / Logiciel pour la simulation (FreeFem++), 21hrs, SU, France

Master 2: Frédéric Hecht, Ingénierie 2 / Projet collaboratif, 21hrs, SU, France

Cours CIMPA: Frédéric Hecht, Modélisation, Analyse mathématique et calcul scientifique dans la gestion des déchets ménagers, 12h, Kenitra, Maroc

Master 2: Frédéric Nataf, Course on Domain Decomposition Methods, Sorbonne University.

10.2.2. Supervision

PhD: Sebastien Cayrols, Minimizing communication for incomplete factorizations and low-rank approximations on large scale computers, Sorbonne Université, February 2019, advisor Laura Grigori.

PhD: Zakariae Jorti, Fast solution of sparse linear systems with adaptive choice of preconditioners, Sorbonne University, September 2019, advisor Laura Grigori.

PhD: Olivier Tissot, Solving linear systems on massively parallel architectures, Sorbonne University, January 2019, advisor Laura Grigori.

PhD: Julien Coulet, Sorbonne University, Méthode des Eléments Virtuels pour le calcul de la déformation mécanique couplée aux écoulements en milieux poreux, October 2019, advisors Frédéric Nataf, Vivette Girault (SU), Isabelle Faille (IFPEN) and Nicolas Guy (IFPEN).

PhD: Rim El Dbaissy, Sorbonne University, Discrétisation du problème de couplage instationnaire des équations de Navier- Stokes avec l'équation de la chaleur, Mars 2019, advisors Tony Sayah, Frédéric Hecht.

PhD in progress: Matthias Beaupere, since October 2019 (funded by ERC Synergy EMC2), advisor Laura Grigori.

PhD in progress: Igor Chollet, since October 2017 (funded by ICSD), advisors Xavier Claeys, Pierre Fortin, Laura Grigori.

PhD in progress: Thibault Cimic, since October 2017 (funded by ANR B3DCMB), advisor Laura Grigori.

PhD in progress: Pierre Marchand, since October 2016 (funded by ANR NonLocalDD project), advisors Xavier Claeys and Frédéric Nataf.

PhD in progress: Thanh Van Nguyen, since November 2017 (funded by ANR CinePara), advisor Laura Grigori.

PhD in progress: Jeremy Weisman, since October 2019 (funded by ERC Synergy EMC2), advisors Laura Grigori and J. P. Piquemal.

PhD in progress: Houssam Houssein, since January 2018 (CIFRE, funded by Airthium), advisor Frédéric Hecht.

10.2.3. Juries

- Xavier Claeys was reviewer and member of the jury for the PhD thesis of Federica CAFORIO, defended at Université Paris-Saclay, on January the 24th 2019.
- Xavier Claeys was member of the jury for the PhD thesis of Yohannes Tjandrawidjaja, defended at Université Paris-Saclay on December the 17th 2019.
- Laura Grigori was a member of the jury of Phd defense of Oleg Balabanov, September 2019.
- Laura Grigori was president of the jury of the HDR habilitation of Sever Hirstoaga, Université de Strasbourg, April 2019.
- Laura Grigori was a member of the jury of HDR habilitation of Stéphanie Chaillat, Examineur, ENSTA, March 2019.
- Laura Grigori was a member of the jury of Phd defense of Fabio Verbosio, USI Lugano, February 2019.
- Frédéric Hecht was president of the HDR defense of Mourad Ismail, 2019, LIPhy, Université Grenoble Alpes.
- Frédéric Hecht was president of the PhD defense of Alexandre This, 2019, Sorbonne University.
- Frédéric Hecht was president of the PhD defense of Zakariae Jorti, 2019, Sorbonne University.
- Frédéric Hecht was president of the PhD defense of Sebastien Cayrols, 2019, Sorbonne University.
- Frédéric Nataf was president of the PhD defense of Rim ALDBAISSY, 2019, Sorbonne University.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Laura Grigori was vice-president of the Evaluation Commission of Inria, March 2018 - August 2019.

AVALON Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. General Chair, Scientific Chair

Eddy Caron

- served as Co-Chair of SPACLOUD 2019, July 15-19, 2019 Dublin, Ireland.
- served as Local Organizing Committee of SRDS 2019, October 1-4, 2019 Lyon. France.

Laurent Lefèvre was :

- Co-organizer of colloquium : "Atteindre les ODD en combinant leviers technologiques et computationnels, économie circulaire et transdisciplinarité. Mission impossible ?", with Centre Jacques Cartier, UQAM, Inria, GDS CNRS EcoInfo, UQAM, Montreal, Canada, November 4-5, 2019
- Co Special Session Organizer of Special Session on High Performance Computing Benchmarking and Optimization (HPBench 2019), during HPCS conference, Dublin, Ireland, July 15-19, 2019
- Co-organizer of GreenDays@Anglet : How people and machines can reduce their environmental impacts ?, Anglet, France, June 24-25, 2019

Christian Perez served as Awards Co-Chair of HPCS 2019, July 15-19, 2019 Dublin, Ireland.

9.1.1.2. Member of the Organizing Committees

Laurent Lefevre was member of the Organizing Committee of the **TILECS** Workshop (Grenoble, 3-4 Jul 2019).

Christian Perez was member of the Organizing Committee of the **French Journées Calcul Données** (Toulouse, 9-11 Oct 2019), and the **TILECS** Workshop (Grenoble, 3-4 Jul 2019).

9.1.2. Scientific Events: Selection

9.1.2.1. Member of the Conference Program Committees

E. Caron was member of the program committees of CLOSER'2019, Compas'19

C. Perez was member of the program committees of CCGRID'19, HPCS'19, ICPP'10, ParCo'19, SC'19, and Compas'19.

F. Suter served in the program committees of ICPP, CCGrid, e-science, ICA3PP, WORKS, and HeteroPar.

M. Dias de Assuncao was member of the program committees of CCGrid'19, UCC'19, and CloudCom'19.

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing Activities

E. Caron reviewed an article for IEEE Transactions on Sustainable Computing (TSUSC) and an article for IEEE Transactions on Parallel and Distributed Systems (TPDS)

C. Perez reviewed an article for Future Generation Computer Systems.

F. Suter reviewed articles for Future Generation Computer Systems.

M. Dias de Assuncao reviewed articles for Future Generation Computer Systems, IEEE Transactions on Parallel and Distributed Systems, Cluster Computing and Journal of Network and Computer Applications.

9.1.4. Invited Talks

- Laurent Lefèvre gave the following invited talks in 2019 :
 - "Impacts environnementaux du numérique: rien de bon pour la planète ! Comment aller vers plus d'efficacité et de sobriété dans la phase d'usage ?", Entretiens Jacques Cartier, Montreal, Canada, November 4, 2019
 - "Impacts énergétiques et environnementaux du numérique dans les environnements urbains", Journée scientifique sur L'énergie dans les environnements urbains, Montpellier, France, October 10, 2019
 - "Une brève histoire du Green IT (informatique verte) : espoirs, challenges, risques", Café Gourmand du LIP, ENS Lyon, France, October 8, 2019
 - "L'usage des TICs - Consommation, efficacité et proportionnalité des TICs : focus sur usages DCs/Net et quelques propositions venant de la recherche", ENSIMAG, Grenoble, October 4, 2019
 - "Le numérique et ses impacts: C'est bon pour la planète ?", Meetup IBM Ecologie du numérique: facture énergétique de l'IA, Lyon, France, October 1, 2019
 - "Impact du numérique: focus sur les consommations en phase d'usage - Faire plus avec moins: à la recherche de proportionnalité et d'efficacité énergétique en phase d'usage", ANF 2019 EcoInfo, Autrans, France, September 25, 2019
 - "Mesures et efficacité énergétique sur plate-forme expérimentale - The G5K Green Tour", TGIR Visit, Lyon, France, July 5, 2019
 - "Mesures et efficacité énergétique sur plate-forme expérimentale - The G5K Green Tour", with Georges Da Costa, TILECS Workshop, Grenoble, France, July 4, 2019
 - "Eco-design or data centres collapse : - environmental impact of digital - 3 scenarii - GreenIT challenges and role", Colloque "Les limites de la croissance de la smart city:espaces et énergies des infrastructures numériques", Ecole d'architecture de la ville et des territoires, Marne la Vallée, France, June 5, 2019
 - "Numérique et ses impacts: C'est bon pour la planète ? de la grenouille au colibri...", Lycée St Charles, Rillieux la Pape, France, April 5, 2019
 - "Faire plus avec moins: à la recherche de proportionnalité et d'efficacité énergétique en phase d'usage", Séminaire du Département Informatique de l'ENS de Lyon (SIESTE), Lyon, France, March 12, 2019
 - "Les impacts environnementaux du numérique/EcoInfo/Réflexions Grenobloises/EcoInfo++", with Sophie Quinton, Comité des Projets Inria Rhone-Alpes, Montbonnot, February 12, 2019

9.1.5. Scientific Expertise

C. Perez reviewed two projects for PHC programmes.

Olivier Glück is member of the CNU (Conseil National des Universités) section 27 (Computer Science). He participated to the 2019 "Qualifications" session and "Suivi de carrière" session.

9.1.6. Research Administration

Eddy Caron is Deputy Director in charge of call for projects, research transfert and international affairs since September 2017 for the LIP. He is co-leader of the Distributed system and HPC team of the FIL (Fédération Informatique de Lyon).

Olivier Glück is member of the "Conseil Académique" of Lyon 1 University and Lyon University.

Laurent Lefevre is a member of the executive board and the sites committee of the Grid'5000 Scientific Interest Group. He is the scientific leader of the Grid'5000 Lyon site. He is animator and co-chair of the transversal action on "Energy" of the French GDR RSD ("Réseaux et Systèmes Distribués"). He is member of the scientific advisory board of the Digital League cluster (Région Rhone Alpes). He is elected member in the LIP laboratory council (ENS Lyon).

Christian Perez represents INRIA in the overview board of the France Grilles Scientific Interest Group. He is a member of the executive board and the sites committee of the Grid'5000 Scientific Interest Group and member of the executive board of the Silecs testbed. He is a member of the Inria Grenoble Rhône-Alpes Strategic Orientation Committee. He is in charge of exploring potential scientific collaborations between INRIA and SKA France.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Eddy Caron, Projet 1, 48h, L3, ENS de Lyon. France.

Master: Eddy Caron, Projet Intégré, 42h, M1, ENS de Lyon. France.

Master: Eddy Caron, Système distribués, 30h, M1, ENS de Lyon. France.

Licence: Yves Caniou, Algorithmique programmation impérative initiation, 48h, niveau L1, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Pratique d'Unix, 4h, niveau L1, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Programmation Concurrente, 35h and Responsable of UE, niveau L3, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Projet Informatique, 6h, niveau L3, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Réseaux, 36h, niveau L3, Université Claude Bernard Lyon 1, France.

Licence, Yves Caniou, Responsable mission pédagogique particulière, 3h, L3, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Projet pour l'Orientation en Master, 3h, niveau M1, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Responsable of Master SRIV (Systèmes, Réseaux et Infrastructures Virtuelles), 30h, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Projet Bibliographie et Certifications, 1.5h and Responsable of UE, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Gestion et supervision d'un parc, 4.5h and Responsable of UE, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Sécurité, 27h and Responsable of UE, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Systèmes Avancés, 4.5h, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Approfondissement Scientifique, 6h, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Projet pour l'Orientation en Master, 3h, niveau M1, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Responsable of alternance students, 42h, niveau M1, Université Claude Bernard Lyon 1, France.

Master: Laurent Lefèvre, Parallélisme, 12h, niveau M1, Université Lyon 1, France.

Master: Laurent Lefèvre, Réseaux avancés, 24h, niveau M2, IGA Casablanca, Morocco.

Licence: Olivier Glück, Licence pedagogical advisor, 30h, niveaux L1, L2, L3, Université Lyon 1, France.

Licence: Olivier Glück, Introduction Réseaux et Web, 54h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Bases de l'architecture pour la programmation, 23h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Algorithmique programmation impérative initiation, 56h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Réseaux, 2x70h, niveau L3, Université Lyon 1, France.

Master: Olivier Glück, Réseaux par la pratique, 10h, niveau M1, Université Lyon 1, France.

Master: Olivier Glück, Responsable of Master SRIV (Systèmes, Réseaux et Infrastructures Virtuelles) located at IGA Casablanca, 20h, niveau M2, IGA Casablanca, Maroc.

Master: Olivier Glück, Applications systèmes et réseaux, 30h, niveau M2, Université Lyon 1, France.

Master: Olivier Glück, Applications systèmes et réseaux, 24h, niveau M2, IGA Casablanca, Maroc.

Master: Olivier Glück, Administration des Systèmes et des Réseaux, 16h, niveau M2, Université Lyon 1, France.

Master: Olivier Glück, DIU Enseigner l'Informatique au Lycée, 50h, Formation continue, Université Lyon 1, France.

Licence : Frédéric Suter, Programmation Concurrente, 50.66, L3, Université Claude Bernard Lyon 1, France

Master : Frédéric Suter, DIU Enseigner l'Informatique au Lycée, 30, M2, Université Claude Bernard Lyon 1, France

9.2.2. Supervision

PhD: Alexandre Da Silva Veith: *Quality of Service Aware Mechanisms for (Re)Configuring Data Stream Processing Applications on Highly Distributed Infrastructure*, 23 sept. 2019, Labex MiLyon, Laurent Lefèvre (dir), Marcos Dias de Assunção (co-dir) (2016-2019).

PhD: Jad Darrous, *Geo-distributed storage for distributed Cloud*, 17 dec. 2019, Inria, Gilles Fedak (dir) until Aug. 2017 then Christian Perez (dir), Shadi Ibrahim (co-dir).

PhD in progress: Dorra Boughzala, *Simulating Energy Consumption of Continuum Computing between Heterogeneous Numerical Infrastructures in HPC*, IPL Hac-Specis Inria, Laurent Lefèvre (dir), Martin Quinson and Anne-Cécile Orgerie (Myriads, Rennes, co-dir) (since december 2017).

PhD in progress: Aurélie Kong-Win-Chang: *Techniques de résilience pour l'ordonnancement de workflows sur plates-formes décentralisées (cloud computing) avec contraintes de sécurité*, Yves Robert (dir, ROMA, ÉNS-Lyon), Eddy Caron (co-dir) et Yves Caniou (co-dir).

PhD in progress: Arthur Chevalier, *Optimisation du placement des licences logiciel des fonctions réseau dans le Cloud pour un déploiement économique et efficace*, Eddy Caron (dir), Noëlle Baillon (co-dir, Orange) (since October 2017).

PhD in progress: Zeina Houmani, *A Data-driven microservices architecture for Deep Learning applications*, Eddy Caron (dir), Daniel Balouek-Thomert (Rutgers University) (since oct. 2018).

PhD pended: Aurélie Kong-Win-Chang: *Techniques de résilience pour l'ordonnancement de workflows sur plates-formes décentralisées (cloud computing) avec contraintes de sécurité*, Yves Robert (dir, ROMA, ÉNS-Lyon), Eddy Caron (co-dir) et Yves Caniou (co-dir) (since september 2016).

PhD in progress: Felipe Rodrigo De Souza, *Networking Provisioning Algorithms for Highly Distributed Data Stream Processing*, École Doctorale, Eddy Caron (dir), Marcos Dias de Assunção (co-dir) (since October 2017).

PhD in progress: Laurent Turpin, *Mastering Code Variation and Architecture Evolution for HPC application*, October 2019, Christian Perez (Inria, AVALON team, dir), Jonathan Rouzaud-Cornabas (INSA, Beagle team, co-dir) and Thierry Gautier (Inria, AVALON team, co-dir).

PhD in progress: Idriss Daoudi, *Simulating OpenMP program*, October 2018, Olivier Aumage (Inria, Storm team, Bordeaux, dir) and Thierry Gautier (Inria, AVALON team, co-dir).

PhD in progress: Vo Quoc Bao Bui, *Extended Para-Virtualization*, 2017, Alain Tchana (dir), Daniel Hagimont (INPT, co-dir)

PhD in progress: Barbe Thystere Mvondo Djob, *Improvement of the privileged domain in virtualized systems*, 1 fev 2018, Alain Tchana (dir), Noel De Palma (UGA, co-dir)

PhD in progress: Celestine Stella Ndonga Bitchebe, *Hardware features for virtualization*, 1 mars 2019, Alain Tchana (dir).

PhD in progress: Patrick Lavoisier Wapet, *Illegitimate app detection in mobile phones*, 1 oct. 2017, Alain Tchana (dir), Daniel Hagimont (INPT, co-dir).

9.2.3. Juries

Thierry Gautier was examiner of the PhD defense committee of Andrés Antón Rey Villaverde, Universidad Complutense de Madrid, Spain (November 22, 2019).

Laurent Lefèvre was

- examiner of the PhD defense of Fatma Ezzahra SALEM : "Management of Advanced Sleep Modes for Energy-Efficient 5G Networks", Institut Polytechnique de Paris, Telecom Paris Sud, December 20, 2019
- reviewer of the PhD of Maroua Haddad : "Sizing and management of a hybrid renewable energy system for data centers supply", University of Franche-Comté, November 28, 2019
- examiner of the PhD defense of Léo Grange : "Datacenter Management for on-site Intermittent and Uncertain Renewable Energy Sources", IRIT, Toulouse, October 3, 2019
- president of the PhD defense committee and examiner of of the PhD defense of Silvina Caino Lores : "On the Convergence of Big Data Analytics and High-Performance Computing: A Novel Approach for Runtime Interoperability", Universidad Carlos III de Madrid, Spain, July 8, 2019
- examiner of the PhD defense of Chaopeng Guo : "Energy-efficient Resource Provisioning for Cloud Database", IRIT, Toulouse, June 14, 2019
- reviewer of the PhD of Christian Heinrich : "Modeling, Prediction and Optimization of Energy Consumption of MPI Applications using SimGrid", Laboratoire Informatique de Grenoble, May 21, 2019

Christian Perez was

- president of the HdR defense committee of Alexandru Costan, ENS Rennes, France, March 14th, 2019.
- reviewer and member of the HdR defense committee of Xavier Etchevers, Université Grenoble Alpes, France, Nov 29th, 2019.
- reviewer and member of the HdR defense committee of Guillaume Mercier, Université de Bordeaux, France, Dec 4th, 2019.
- reviewer and member of the PhD defense committee of Ksander Ejjaouani, Université de Strasbourg, France, Oct 25th, 2019.
- reviewer and member of the PhD defense committee of Georgios Christodoulis, Université Grenoble Alpes, France, Dec 5th, 2019.
- member of the PhD defense committee of Michael Mercier, Université Grenoble Alpes, France, July 1st, 2019.

- member of the PhD defense committee of Mohammad Mahdi Bazm, Université de Nantes, France, July 8th, 2019.
- member of the PhD defense committee of Cedric Deffo Sikounmo, Université Grenoble Alpes, France, Dec 18th, 2019.
- member of the final PhD committee for 7 PhD students of the University of Pisa (Italy), March 8th, 2019: Giovanna Broccia, Giulio Masetti, Luca Pedrelli, Giulio Ermanno Pibiri, Marco Ponza, Manuele Sabbadin, and Massimo Torquati,

Frédéric Suter was president of the PhD defense committee of Michael Mercier, Université Grenoble Alpes, France, July 1st, 2019.

9.3. Popularization

Yves Caniou est co-fondateur et co-organisateur du Campus du Libre, un événement autour du Libre dont l'objectif est de partager différents aspects du libre et des communs, allant par exemple du logiciel libre (Linux, Firefox, *etc.*) aux espaces communs gérés collaborativement (Wikipedia, OpenStreetMap).

La 2e édition s'est déroulée la journée du samedi 23 novembre 2019.

9.3.1. Articles and contents

- Interviews in order to popularize
 - Laurent Lefèvre was interviewed for the following dissemination media:
 - * "En 2025, le numérique pourrait polluer autant que l'automobile", Le guide MAG2lyon du Développement Durable, December 2019
 - * Radio show "Le numérique et ses impacts", Radio Fréquence Paris Plurielle, December 20, 2019
 - * "L'insoutenable croissance du numérique", Alternatives Economiques, December 19, 2019
 - * "Le streaming en expansion, son empreinte écologique aussi", Agence France Presse Dossier, October 28, 2019 - Reprint in Le Soleil, La Presse and le Quotidien (Canada, 28/10/2019), L'écho (France, 28/10/2019), Sciences et Avenir (France, 28/10/2019), L'OBS (France, 28/10/2019), Ouest France (France, 28/10/2019), Le Progrès (France 18/11/2019), DerStandard (Germany, 1/11/2019, "Gratis und ohne Anmeldung: Videostreaming-Dienst Apple TV+ gestartet"), Tierwelt (Germany, 3/11/2019, "STREAMING UND CO2 - Serienjunkies als Klimasunder")
 - * "Mail, streaming, cloud... 20 gestes pour réduire sa pollution numérique", Business Insider France, October 29, 2019
 - * Radio show "Le téléphone sonne", France Inter, August 16, 2019
 - * "Guide Consommation Responsable - 3 gestes pour adopter une consommation numérique responsable", Institut National de la Consommation (INC), May 29, 2019
 - * "Stocker trop de photos et de mails crée aussi de la pollution", Journal de Saone et Loire, after the Festival sans Decoder of Dompierre les Ormes, May 21, 2019
 - * "Pollution numérique : comment réduire ses effets au quotidien ?", TV5 Monde, January 18, 2019

9.3.2. Education

- Yves Caniou is responsible of the LPI Certification at Université Claude Bernard Lyon 1. Further discussions are in progress concerning the proposed tools and redaction of courses/questions.

- Olivier Glück was in charge of one course in DIU Enseigner l'Informatique au Lycée, 50h, Formation continue, Université Lyon 1, France.

9.3.3. Panels

- Laurent Lefèvre was invited in the following panels in 2019 :
 - The "Empreinte écologique du numérique - Ecological footprint of digital world", Festival sans Decoder, Dompierre les Ormes, May 19, 2019
 - The "Energie numérique: ennemie ou alliée de l'écologie", Ateliers Sciences et Citoyens, Les rencontres du CNRS, Poitiers, April 2, 2019

DATAMOVE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- President of the steering committee of Edu-Europar.
- President of the steering committee of EGPGV (Eurographics Symposium on Parallel Graphics and Visualization).
- Member of the steering committee of Europar.
- Member of the steering committee of HeteroPar.

10.1.1.2. Member of the Organizing Committees

- Member of Organizing committee of HPML Workshop, co-located with CCGRID 2019
- Member of organization committee of Conv'2019

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Vice-Chair of Algorithms track of IPDPS 2019
- Workshop Chair at Hetero-Par 2019
- Member of the steering committee of Euro-Par 2019
- Program co-chair of ISAV 2019 (workshop of SC)
- Member of steering committee of EGPGV 2019

10.1.2.2. Member of the Conference Program Committees

- CCGrid 2019 (19th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing), May, Larnaca, Cyprus.
- PARCO 2019 (International Conference on Parallel Computing), September, Prague, Czech Republic.
- PPAM 2019 (13th International Conference on Parallel Processing and Applied Mathematics), September, Bialystok, Poland.
- STACS 2019 (36th International Symposium on Theoretical Aspects of Computer Science), March, Berlin, Germany.
- Euro-Par 2019, August, Göttingen, Germany.
- IESM, September, Shanghai, China.
- ISAV 2019 (In Situ Infrastructures for Enabling Extreme-scale Analysis and Visualization), November, Denver, US.
- SBAC-PAD 2019 (International Symposium on Computer Architecture and High Performance Computing), October, Campo Grande, Brazil.
- HiPC 2019 (26th IEEE International Conference on High Performance Computing, Data, and Analytics), December, Hyderabad, India.
- ALGO-CLOUD 2019 (5th International Symposium on Algorithmic Aspects of Cloud Computing), September, Munich, Germany.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Associate Editor of the Parallel Computing journal PARCO.
- Member of the Editorial Board of Computational Methods in Science and Technology.

10.1.4. Research Administration

- Director of Pôle MSTIC of COMUE Univ. Grenoble-Alpes.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master: Denis Trystram is responsible of the first year (M1) of the international Master of Science in Informatics at Grenoble (MOSIG-M1). 200 hours per year in average.
- Master: Fanny Dufossé. 90 hours per year. Combinatorial scientific computing in Master at ENS Lyon, Algorithmic in Licence at Grenoble INP and Algorithmic at Univ. Grenoble-Alpes.
- Master: Pierre-François Dutot. 226 hours per year. Licence (first and second year) at IUT2/UPMF (Institut Universitaire Technologique de Univ. Grenoble-Alpes) and 9 hours Master M2R-ISC Informatique-Systèmes-Communication at Univ. Grenoble-Alpes.
- Master: Grégory Mounié. 237 hours per year. Master (M1/2nd year and M2/3rd year) at Engineering school ENSIMAG, Grenoble-INP, Univ Grenoble Alpes.
- Master: Bruno Raffin. 28 hours per year. Parallel System. International Master of Science in Informatics at Grenoble (MOSIG-M2).
- Master: Olivier Richard is responsible of the third year of the computer science department of Grenoble INP. 222 hours per year. Master at Engineering school Polytech-Grenoble, Univ. Grenoble-Alpes.
- Master: Frédéric Wagner. 220 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year).
- Master: Yves Denneulin. 192 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year).

10.2.2. Supervision

- PhD: Danilo Carastan Dos Santos, Apprentissage sur heuristiques simples pour l'ordonnement online de tâches parallèles, Univ Grenoble Alpes and Federal University of ABC, Brazil (co-tutelle), November, 27th 2019. Advisers: Denis Trystram and Raphael Yokoingawa De Camargo.
- PhD: Michael Mercier, Resource Management and Job Scheduling in HPC-Cloud environments towards the Big Data era, Univ. Grenoble Alpes. Started October 2016. July, 1st 2019. Advisers: Olivier Richard and Bruno Raffin.
- PhD in progress: Mohammed Khatiri, Tasks scheduling on heterogeneous Multicore, Univ. Grenoble-Alpes and University Mohammed First (co-tutelle), Advisers: Denis Trystram, El Mostafa DAOUDI (University Mohammed First, Oujda, Morocco)
- PhD in progress: Adrien Faure, Scheduling with Resource Augmentation, Advisers: Denis Trystram, Olivier Richard
- PhD in progress: Clément Mommessin, Scheduling on heterogeneous platforms, Advisers: Denis Trystram
- PhD in progress: Loris Felardos, Deep Learning for the Analytics of Molecular Systems, Advisers: Bruno Raffin, Guillaume Charpiat (Inria team Tau), Jérôme Hénin (IBPC).
- PhD in progress: Salah Zrigui, Learning Scheduling Strategies, Advisers: Denis Trystram, Arnaud Legrand.

- PhD in progress: Sebastian Friedemann, Large Scale Data Assimilation, Adviser: Bruno Raffin.
- PhD in progress: Vincent Fagnon, Analyse de politique d'ordonnement dynamique pour objets mobiles , Adviser: Denis Trystram
- PhD in progress: Angan Mitra, Theoretical and implementation challenges in Lifelong Learning and Edge Computing , Adviser: Denis Trystram
- PhD in progress: Paul Youssef, Coresets Analysis , Adviser: Denis Trystram
- PhD in progress: Ioannis Panagiotas, High performance algorithms for big data graph and hypergraph problems, Advisers: Bora Uçar (LIP) and Fanny Dufossé

10.2.3. Juries

- PhD Defense of Malin Rau, *Useful structures and how to find them*. Kiel (Allemagne). May, 24th, 2019. Referee.
- PhD Defense of Mohamad El Sayah, Random Generation for the Performance Evaluation of Scheduling Algorithms, November 20th 2019, Université de Bourgogne Franche-Comté. Member.
- PhD Defense of David Deibe, Geospatial Processing and Visualization of Point Clouds: from GPUs to Big Data Technologies, Univ. of A Coruna, December 2019. Referee
- PhD Defense of Charles Gueunet, Calcul Haute Performance pour l'Analyse Topologique de Données par Ensembles de Niveaux, February 15th 2019, Sorbonne Université
- PhD Defense of Jorge Veiga Fachal, Evaluation and Optimization of Big Data Processing on High Performance Computing Systems, Univ. of A Coruna, Feb 2019. Jury.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Commission des emplois scientifiques du centre GRA

10.3.2. Interventions

- Fête de la Science, Grenoble
- CS unplugged for schoolchildren, Inria RA

HIEPACS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. Member of the Organizing Committees

SIAM PP'20, Seattle (O. Beaumont).

9.1.1.2. Chair of Conference Program Committees

COMPAS'19 Algorithm Track (E. Agullo) ICPP'19 Algorithm Track vice-chair (E. Agullo)

9.1.1.3. Member of the Conference Program Committees

AlgoCloud'19 (O. Beaumont), COMPAS'19 (O. Beaumont), EuroPar'20 (O. Beaumont), HiPC'19 (L. Giraud), HPML'19 (O. Beaumont), ICPP'19 (A. Guermouche), IPDPS'19 (L. Eyraud-Dubois, O. Beaumont), IPDPS Workshops'19 (O. Beaumont), ISC'20 Workshops (E. Agullo), PDSEC'19 (O. Coulaud, M. Faverge, L. Giraud), IEEE PDP'19 (J. Roman), SC'19 (E. Agullo), SPAA'19 (O. Beaumont).

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- O. Beaumont is Associate Editor in Chief for [the Journal of Parallel and Distributed Computing \(Elsevier\)](#).
- L. Giraud is member of the editorial board of the SIAM Journal on Scientific Computing ([SISC](#)) and SIAM Journal on Matrix Analysis and Applications ([SIMAX](#)).

9.1.2.2. Reviewer - Reviewing Activities

The members of the **HIEPACS** project have performed reviewing for the following list of journals: Computing and Fluid, International Journal of Antennas and Propagation, Parallel Computing, SIAM J. Matrix Analysis and Applications, SIAM J. Scientific Computing, Journal of Parallel and Distributed Computing, IEEE Transactions on Parallel and Distributed Systems, IEEE Access, Concurrency and Computation: Practice and Experience, ACM Transactions on Mathematical Software, ACM Computational and Mathematical Methods, International Journal of High Performance Computing Applications, Journal Of Computational Science.

The members of the **HIEPACS** project have performed reviewing for the following list of conferences (additionally to PC): Europar'19, IPDPS'19, SC'18, STACS'20, SPAA'19, SC'19.

9.1.3. Invited Talks

- L. Giraud, "[Dealing with unreliable computing platforms at extreme scale](#)" invited MOX Seminars (Laboratory for Modeling and Scientific Computing MOX), Politecnico di Milano, January 23, in conjunction with the ESCAPE2 workshop on fault tolerant algorithms and resilient approaches.

9.1.4. Scientific Expertise

- Olivier Beaumont acted as expert for [2019 FET Open Evaluation Committee](#)
- Luc Giraud is member of the board on Modelization, Simulation and data analysis of the [Competitiveness Cluster for Aeronautics, Space and Embedded Systems](#).
- Pierre Ramet is Scientific Advisor at the CEA-DAM CESTA.
- Jean Roman is member of the Scientific Board of the CEA-DAM. As representative of Inria, he is member of the board of ETP4HPC (European Technology Platform for High Performance Computing), of the French Information Group for PRACE, of the French Working Group for EuroHPC, and of the Technical Group of GENCI.

9.1.5. Research Administration

- Emmanuel Agullo and Luc Giraud are the scientific correspondents of the European and International partnership for Inria Bordeaux Sud-Ouest.
- Olivier Coulaud is the scientific manager of the **PLAFRIM** platform for Inria Bordeaux Sud-Ouest.
- Jean Roman is a member of the Direction for Science at Inria : he was until the end of December 2019 the Deputy Scientific Director of the Inria research domain entitled *Applied Mathematics, Computation and Simulation* and was in charge at the national level of the Inria activities concerning High Performance Computing.
- Until July 2019, Olivier Beaumont was the vice-head of Inria Evaluation Commission.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Undergraduate level/Licence

- A. Esnard: System programming 36h, Computer architecture 40h, Network 23h, C programming 35h at Bordeaux University. He is also responsible for the second year of the computer science degree (L2 Informatique), which involves managing about 200 students each year.
- M. Faverge: Programming environment 26h, Numerical algorithmic 40h, C projects 25h at Bordeaux INP (ENSEIRB-MatMeca).
- A. Guermouche: System programming 36h at Bordeaux University.
- P. Ramet: System programming 24h, Databases 32h, Object programming 48h, Distributed programming 32h, Cryptography 32h, Introduction to AI Deep Learning and Data Analytics 16h at Bordeaux University.

Post graduate level/Master

- E. Agullo: Operating systems 24h at Bordeaux University ; Dense linear algebra kernels 8h, Numerical algorithms 30h at Bordeaux INP (ENSEIRB-MatMeca).
- O. Coulaud: Paradigms for parallel computing 8h, Introduction to Tensor methods 4h at Bordeaux INP (ENSEIRB-MatMeca).
- A. Esnard: Network management 27h, Network security 27h at Bordeaux University; Programming distributed applications 35h at Bordeaux INP (ENSEIRB-MatMeca).
- L. Eyraud-Dubois and Olivier Beaumont: Approximation and BigData 24h at Bordeaux University.
- M. Faverge: System programming 72h, Linear Algebra for high Performance Computing 13h at Bordeaux INP (ENSEIRB-MatMeca).
He is also in charge of the master 2 internship for the Computer Science department at Bordeaux INP (ENSEIRB-MatMeca). Starting in September, he is in charge with Raymond Namyst of the High Performance Computing - High Performance Data Analytics option at ENSEIRB-MatMeca. This is a common training curriculum between the Computer Science and MatMeca departments at Bordeaux INP and with Bordeaux University in the context of the Computer Science Research Master.
- Alena Shilova and Olivier Beaumont: Deep Learning Frameworks, at Bordeaux INP (ENSEIRB-MatMeca), 20h.
- Olivier Beaumont, Sketching and Streaming Algorithms, ENS Lyon, 8h
- L. Giraud: Introduction to intensive computing and related programming tools 30h, INSA Toulouse; On mathematical tools for numerical simulations 10h, ENSEEIHT Toulouse.

- A. Guermouche: Network management 92h, Network security 64h, Operating system 24h at Bordeaux University.
- P. Ramet: Load balancing and scheduling 13h and Numerical algorithmic 40h at Bordeaux INP (ENSEIRB-Matmeca).

High School teachers

- A. Esnard, M. Faverge, and A. Guermouche participated to the training of the High School teachers (DIU Enseigner l'Informatique au Lycée) in computer science for the new computer science program starting in September 2019.

9.2.2. Supervision

- PhD Aurélien Falco; Data sparse calculation in Bridging the gap between \mathcal{H} -matrices and sparse direct methods for the solution of large linear systems; E. Agullo, L. Girau, G. Sylvand; defended on June 24, 2019; jury members: E. Ng (Lawrence Berkeley National Laboratory), S. Le Borne (Technische Universität Hamburg), D. LLvadoux (ONERA) F. Alouges (Ecole Polytechnique), G. Pont (Airbus Group).
- PhD in progress: Tobias Castanet; Replication algorithms for multi-player virtual worlds; started Sep. 2019; O. Beaumont, N. Hanusse (LaBRI), C. Travers (Bordeaux INP - LaBRI).
- PhD in progress: Marek Felsoci; Fast solvers for high-frequency aeroacoustics; G. Sylvand, E. Agullo.
- PhD in progress: Martina Iannacito; Linear solvers in tensorial format for high dimensional problems; started Oct 2019; O. Coulaud, L. Giraud.
- PhD in progress: Esragul Korkmaz; Sparse linear solver and hierarchical matrices; started Nov. 2018; M. Faverge, P. Ramet.
- PhD in progress: Romain Peressoni; Fast multidimensional scaling method for the study of biodiversity; started Oct 2019; E. Agullo, O. Coulaud, A. Franc (**PLEIADE**)
- PhD in progress: Alena Shilova; Scheduling for deep learning applications; started Oct. 2018; L. Eyraud-Dubois, O. Beaumont.
- PhD in progress: Nicolas Venkovic; Domain decomposition techniques for the solution of stochastic elliptic PDEs; started Nov. 2018; L. Giraud, P. Mycek (CERFACS).
- PhD in progress: Mathieu Vérité; Static allocation algorithms for scheduling High-Performance applications; started Sept. 2019; L. Eyraud-Dubois, O. Beaumont.
- PhD in progress: Yanfei Xiang; Solution of large linear systems with massive numbers of right-hand sides. Started Nov. 2019; L. Giraud, P. Mycek (CERFACS).

9.2.3. Juries

- Mohammad Issa, "Modélisation asymptotique et discrétisation des composants magnétiques dans les problèmes de courant de Foucault.", referees: R. V. Sabariego, S. Clénet, members: O. Coulaud, Y. Kefevren, R. Perrussel, J-R. Poirier, L. Krähenbül. Université Toulouse 3 Paul Sabatier, spécialité: électromagnétisme et Systèmes Haute Fréquence, 30 November 2019.
- Raphaël Prat, "Équilibrage dynamique de charge sur supercalculateur exaflopique appliqué à la dynamique moléculaire", referees: C. Calvin, J.F. Mehaut, reviewers: M. Baader, L. Colombet, P. Fortin, R. Namyst, J. Roman, CEA - Maison de la Simulation et Université de Bordeaux, spécialité: informatique, 9 October 2019.
- Mohamad El Sayah, "Random Generation for the Performance Evaluation of Scheduling Algorithms," referees: Olivier Beaumont and Arnaud Legrand, reviewers: Jean-Marc Nicod, Fany Dufosse, Pierre-Cyrille Heam, University of Besancon, 20 November 2019.

9.3. Popularization

9.3.1. Interventions

- Olivier Beaumont spoke to a class of high school students on algorithms (routing algorithms in particular) as part of the digital week organized by the BIJ (Bureau Information Jeunesse) of the City of La Teste de Buch.

KERDATA Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organization

9.1.1.1. General Chair, Scientific Chair

Luc Bougé: Steering Committee Chair of the **Euro-Par** International Conference on Parallel and Distributed Computing. Euro-Par celebrated its 25th anniversary in Göttingen, Germany, this year.

Gabriel Antoniu: Co-Chair of **Conv'2019 - the HPC-AI-Big Data Convergence Days**.

9.1.1.2. Member of the Organizing Committees

Gabriel Antoniu: Member of the Organizing Committee of **Conv'2019, the HPC-AI-Big Data Convergence Days**.

9.1.2. Scientific Events: Selection

9.1.2.1. Chair of Conference Program Committees

Gabriel Antoniu: Track Co-Chair for the Clouds and Distributed Systems Track of the ACM/IEEE SC19 conference, Denver, USA.

Alexandru Costan: Program Co-Chair of the ScienceCloud 2019 international workshop held in conjunction with ACM HPDC 2019, Phoenix, AZ, USA.

9.1.2.2. Member of the Conference Program Committees

Alexandru Costan: IEEE/ACM SC'19 (Technical Program: Cloud Track, Posters and ACM Student Research Competition), ACM/IEEE CCGrid 2019, IEEE Cluster 2019, IEEE/ACM UCC 2019, IEEE Big Data 2019, SCRAMBL 2019, CSCS 2019, CEBDA 2019, CCIW 2019, IEEE CSE 2018, IEEE CloudCom 2019.

Gabriel Antoniu: IEEE Cluster 2019, IEEE IPDPS 2019, STREAM-ML 2019.

9.1.2.3. Reviewer

Alexandru Costan: ACM HPDC 2019, IEEE IPDPS 2019.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Gabriel Antoniu: Associate Editor of **JPDC**, the Elsevier Journal of Parallel and Distributed Computing.

9.1.3.2. Reviewer - Reviewing Activities

Alexandru Costan: IEEE Transactions on Parallel and Distributed Systems, Future Generation Computer Systems, Concurrency and Computation Practice and Experience, IEEE Transactions on Cloud Computing, Journal of Parallel and Distributed Computing.

Gabriel Antoniu: SoftwareX, Philosophical Transactions A.

9.1.4. Invited Talks

Gabriel Antoniu

- Fourth BDEC2 Workshop on Big Data and Extreme Computing, San Diego, in October 2019. *Towards a demonstrator of the Sigma Data Processing Architecture for BDEC 2*. URL: <https://www.exascale.org/bdec/agenda/poznan>.

- Third BDEC2 Workshop on Big Data and Extreme Computing, Poznan, in May 2019. *ZettaFlow: Towards High-Performance ML-based Analytics across the Digital Continuum*. URL: <https://www.exascale.org/bdec/agenda/sandiego>.
- Ninth Workshop of the Joint Laboratory for Extreme-Scale Computing (JLESC) in April 2019. *Scalable Data Ingestion for Stream Processing*. URL: <https://jlesc.github.io/>.

Alexandru Costan

- **Inria/ IPN Joint Workshop**, Mexico City, November 2019. *From Big Data to Fast Data: Efficient Stream Data Managements*.

9.1.5. Leadership within the Scientific Community

Luc Bougé: Co-Vice-President of the *French Society for Informatics* (*Société informatique de France*, SIF), in charge of the Teaching Department.

Gabriel Antoniu

ETP4HPC Since 2019, co-leader of the working group on Programming Environments and co-lead of two research clusters, contributing to the next Strategic Research Agenda of ETP4HPC (to appear).

International lab management *Vice Executive Director of JLESC* for Inria. JLESC is the **Joint Inria-Illinois-ANL-BSC-JSC-RIKEN/AICS Laboratory for Extreme-Scale Computing**. Within JLESC, he also serves as a *Topic Leader* for Data storage, I/O and in situ processing for Inria.

Team management *Head of the KerData Project-Team* (Inria-ENS Rennes-INSa Rennes).

International Associate Team management Leader of the **UNIFY Associate Team** with Argonne National Lab (2019–2021).

Technology development project management Coordinator of the Damaris ADT project (2016–2018), to be continued with the Damaris 2 ADT project (2019–2021).

9.1.6. Scientific Expertise

Luc Bougé

HCERES: Chair of the evaluation committee for the **CRIStAL joint laboratory**, Lille (**report**)

HCERES: Member of the evaluation committee for the **IRCICA research institute**, Lille

9.1.7. Research Administration

Luc Bougé

ANR: Member of the management team for the **IA for Humanity** governmental program launched in March 2018. Bertrand Braunschweig, Inria, is the scientific director of the program.

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: Scalable Distributed Systems, 10 hours (lectures), M1 level, SDS Module, EIT ICT Labs Master School, France.
- Master: Infrastructures for Big Data, 10 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.

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, 28 hours (lectures, lab sessions), M2, INSA Rennes.
- Master: Big Data Project, 28 hours (project), M2, INSA Rennes.

Luc Bougé

- Bachelor: Introduction to programming concepts, 36 hours (lectures), L3 level, Informatics program, ENS Rennes, France.
- Bachelor: Introduction to scientific research, 24 hours. Research center visits, individual research project supervised by local researchers, student seminars, summer internships, etc.
- Master Program, Rennes: Invited presentation to the M2 students about *Preparing your applications after your PhD* (October 2019); *Informatics as a scientific activity: Towards a responsible research* (November 2019).

Pedro Silva

- Master: Algorithms for Big Data, 4 hours (lectures), M2, INSA Rennes.
- Master: Algorithms for Big Data, 6 hours (lab sessions), M2, INSA Rennes.

9.2.2. Supervision

9.2.2.1. HdR completed this year

Alexandru Costan: *From Big Data to Fast Data: Efficient Stream Data Management*, ENS Rennes, March 2019 [15].

9.2.2.2. PhD completed this year

Nathanaël Cherièr: *Towards Malleable Distributed Storage Systems? From Models to Practice*, ENS Rennes, thesis defended in November 2019, co-advised by Gabriel Antoniu and Matthieu Dorier [14].

9.2.2.3. PhD in progress

Daniel Rosendo: *Enabling HPC-Big Data Convergence for Intelligent Extreme-Scale Analytics*, INSA Rennes, thesis started in October 2019, co-advised by Gabriel Antoniu, Alexandru Costan and Patrick Valduriez (Inria).

Paul Le Noac'h: *Workflow Data Management as a Service for Multi-Site Applications*, INSA Rennes, thesis started in November 2016, co-advised by Luc Bougé and Alexandru Costan. Thesis stopped in February 2019.

9.2.3. Juries

Luc Bougé: Member of the jury the *CAPES of mathématiques, Informatics track*. This national committee selects more than 1000 mathematics teachers per year for French secondary schools and high-schools.

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

Alexandru Costan

- In charge of internships at the Computer Science Department of INSA Rennes.
- In charge of the organization of the IRISA D1 Department Seminars.

POLARIS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- P. Mertikopoulos was a technical program co-chair of the 10th International Conference on NETWORK Games, CONTROL and OPTimisation (NetGCoop 2020).
- B. Pradelski was a technical program co-chair of the 14th Workshop on the Economics of Networks, Systems and Computation (NetEcon), colocated with ACM SIGMETRICS and EC.

10.1.1.2. Member of the Organizing Committees

- B. Gaujal organized a special day on Potential games at Gamenets (Paris)
- P. Mertikopoulos co-organized the workshop “20PoA: Twenty years of the Price of Anarchy” (Chania, Greece, July 2019).

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

- B. Gaujal: WiOpt, NeuIPS
- J. Anselmi: Valuetools, ASMTA
- P. Mertikopoulos: The 2020 French Days on Optimization and Decision Science (SMAI MODE 2020)
- A. Legrand: ISC HIGH PERFORMANCE
- N. Gast: SIGMETRICS, NeurIPS, ValueTools
- J-M. Vincent: Epew, Valuetools, Simultech
- P. Loiseau: NeurIPS, ICML, SIGMETRICS, PETS, NetEcon
- P. Mertikopoulos: ICML, NeurIPS (area chair).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- P. Mertikopoulos serves as an associate editor for JDG (Journal of Dynamics and Games) and MCAP (Methodology and Computing in Applied Probability).
- N. Gast serves as an associate editor for Performance Evaluation and Stochastic Models.
- P. Loiseau is an associate editor for ACM Transactions on Internet Technology and IEEE Transactions on Big Data.

10.1.3.2. Reviewer - Reviewing Activities

All members of the team are active reviewers for several international journals and conferences.

10.1.4. Invited Talks

- B. Gaujal:
 - 23/01: ENS Lyon seminars (Le Pleyret) “Evolutionary games and bounded rationality”
 - 7/02: Eva Tardos seminar (Grenoble): “price of anarchy in routing games”
 - 3/05: Workshop for Eitan Altman’s 60th Birthday (Avignon) “Sturmian words at work in optimal routing”
- P. Mertikopoulos:
 - Invited instructor at the CONNECT Summer School on Machine Learning for Communications “Online learning and optimization for wireless systems”, Trinity College, Dublin
 - Invited talk at ICCOPT 2019 (2019 International Conference on Continuous Optimization), Berlin, August 2019
 - Invited talk at NPCG 2019 (Workshop on Network, Population and Congestion Games), Paris, April 2019
 - Invited talk at GDO 2019 (Workshop on Games, Dynamics and Optimization), Cluj-Napoca, April 2019
 - Invited talk at OSL 2019 (Workshop on Optimization and Statistical Learning), Les Houches, March 2019
 - Invited talk at EPFL Machine Learning Seminar, March 2019
 - Invited talk at the Criteo AI Lab, February 2019
- A. Legrand:
 - Simulation of HPC applications and predictions, Scheduling workshop, Bordeaux (27/6/19)
 - Series of talks about reproducible research: TILECS workshop, Grenoble (3/7/19); UFRGS keynote, Porto Alegre (9/10/19); SBAC-PAD conference, Campo Grande (17/10/19); Formidex, UGA (6/11/19); Doctoral school, Neuchatel (7/11/19); Inria Alumni, Paris (12/11/19)
- Nicolas Gast was invited to give a tutorial about “Mean field and refined mean field approximation” at the conference ITC.

10.1.5. Research Administration

- B. Gaujal is a member of the scientific committee of GDR-IM and a member of the council of ‘pole MSTIC’ Grenoble
- P. Mertikopoulos is a member of the steering committee (comité de liaison) of the optimization and decision theory group of the French Society for Industrial and Applied Mathematics (SMAI)
- P. Mertikopoulos is the working group coordinator, core group member and management committee (MC) representative for France in the European Network for Game Theory (GAMENET).
- P. Loiseau is the chair of the steering committee of NetEcon.

10.2. Teaching - Supervision - Juries**10.2.1. Teaching**

We only list the master level teaching.

- B. Gaujal was involved in multiple courses:
 - M2 course in ENS Lyon with Panayotis Mertikopoulos : Online Optimization
 - M2 course in MPRI (Paris) with Ana Busic: performance evaluation in communication networks

- M2 course (Ensimag) on network performance models
- M1 exercise session (Ensimag) applied probability
- P. Mertikopoulos gave an invited PhD level course at EPFL on “Min-max optimization and variational inequalities”.
- V. Danjean was involved in INFO3 and INFO4 at Polytech Grenoble (System Architecture, Internship supervising, ...) and in M1 Info (Operating systems and Parallel Programming course, Operating System project)
- A. Legrand was involved in multiple courses:
 - Scientific Methodology and Performance Evaluation (M2 MOSIG, UGA)
 - Scientific Methodology and Performance Evaluation (M2 Univ. Federale do Rio Grande do Sul, Porto Alegre)
 - Parallel Systems (M2 MOSIG, UGA)
 - Probability and Simulation (M1, Polytech/UGA)
 - Performance Evaluation (M1, Polytech/UGA)
 - Reproducible Research (Doctoral School MSTII, UGA)
- J. Anselmi taught in the course Probability and Simulation (M1, Polytech/UGA).
- P. Loiseau taught in the courses Probability and Simulation (M1, Polytech/UGA) and “Algorithms for data processing” (M1 INFO, UGA).
- N. Gast is responsible of the master course “Optimization under Uncertainties” (Master 2 ORCO in Grenoble).
- J.-M. Vincent teaches Probability for Informatics and Performance Evaluation at Ensimag, and Mathematics for Computer Science (1st year) and Scientific Methodology and Performance Evaluation (2nd year) at the Master of Computer Science.
- G. Huard taught the course Object Oriented Design class for the M1 INFO, UGA.

10.2.2. Supervision

Supervision of PhD students and postdocs:

- B. Jonglez (Bruno Gaujal and Martin Heusse)
- S. Plassart (Bruno Gaujal and Alain Girault)
- K. Khun (Bruno Gaujal and Nicolas Gast)
- C. Yan (Bruno Gaujal and Nicolas Gast)
- K. Antonakopoulos (P. Mertikopoulos and E. V. Belmega, ETIS/ENSEA)
- B. Roussillon (P. Mertikopoulos and P. Loiseau)
- B. Donassolo (P. Mertikopoulos and A. Legrand):
- P. Rocha Bruel (A. Legrand and Alfredo Goldman)
- T. Cornebize (A. Legrand)
- C. Heinrich (A. Legrand)
- S. Zrigui (A. Legrand and D. Trystram)
- A. Janon (G. Huard and A. Legrand)
- V. Emelianov (N. Gast and P. Loiseau)
- T. Barzolla (N. Gast with Vincent Jost and Van-Dat Cung from G-SCOP laboratory)
- M. Mendil (N. Gast)
- T. Kennouche (N. Gast)
- U. Ozeer (J.-M. Vincent)
- Dong Quan Vu (P. Loiseau)
- Vera Sosnovik (O. Goga and P. Loiseau)
- Eleni Gkiouzepi (P. Loiseau)
- Lucas Leandro Nesi (A. Legrand and Lucas Mello Schnorr)
- Dimitrios Moustakas (B. Pradelski and P. Loiseau, with H. Nax from UZH)
- Simon Jantscheg (B. Pradelski and P. Loiseau, with H. Nax from UZH)

Supervision of M2 Students:

- Manal Benaissa (V. Danjean)
- Leo Gayral (Bruno Gaujal and Federica Garin)
- Kimang Khun (Bruno Gaujal and Nicolas Gast)
- Nicolas Rocher (Patrick Loiseau and Panayotis Mertikopoulos)
- Chen Yan (Nicolas Gast)
- Dimitrios Moustakas (B. Pradelski)

10.2.3. Juries

- B. Gaujal was a reviewer of the PhD Thesis of Paulin Jacquot (Ecole Polytechnique).
- V. Danjean was involved in several teaching juries: INFO3 at Polytech Grenoble, L3 M&I, M1 Info, DU ISN and DIU EIL at UGA.
- A. Legrand was a reviewer of the PhD Thesis of Mohamad El Sayah (Univ. Franche Comté, Besançon)
- N. Gast was member of the PhD Jury of Celine Comte and Eyal Castiel.

10.3. Popularization

Patrick Loiseau wrote with Oana Goga an article “Publicité en Ligne : reprenons la main !”, that was co-published co-published by the blog Binaire (Le Monde) and The Conversation France, June 3, 2019.

10.3.1. Internal or external Inria responsibilities

- B. Gaujal is a member of the CR2 hiring committee in Grenoble.
- J.-M. Vincent is in charge of the relation Rectorat / Inria-Grenoble for the organization of scientific events (Festival of Science, Schools Visits, organization of Conference Cycles on research in CS and Applied Mathematics for teachers in Colleges)
- J.-M. Vincent is
 - Member of the national coordination of the Diplôme Inter-Universitaire “Enseigner l’Informatique au Lycée” (50 universities involved).
 - Local Head of DIU EIL in Academy of Grenoble
 - Member of the organization of the teaching sessions for all the teachers in CS coming from abroad
 - Member of the national Commission Inter-Irem in Informatics
 - Member of the first national jury for the competitive recruitment of teachers in computer science (Capes NSI 2019-20)

10.3.2. Articles and contents

Arnaud Legrand participated in the writing of a book [39] on Reproducible Research, which aims at helping students and engineers and researchers to find efficient and accessible ways leading them to improve their reproducible research practices.

10.3.3. Education

- V. Danjean is the head of the DU ISN formation (Diplôme Universitaire Informatique et Sciences du Numérique)
- V. Danjean co-organized the new DIU EIL formation (Diplôme Inter-Universitaire Enseigner l'Informatique au Lycée). He is involved both at the national level (for the coordination and the definition of the content of this formation provided in more than 30 universities in France), and at the local level (coordination of the local teams, courses scheduling, conference organization, ...)

10.3.4. Interventions

- V. Danjean participated in “La Fête de la Science”, animating several sessions of “unplugged computer science”
- P. Loiseau co-organized and animated a workshop “IA, éthique et société”, Forum Ecobiz Grenoble, October 2019.
- P. Loiseau participated in a debate “Ethique et numérique : quels enjeux sociétaux ?”. Festival Transfo, Grenoble, France, January 2019.

ROMA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Selection

10.1.1.1. Chair of Conference Program Committees

- Anne Benoit is the chair of HPC Algorithms Track of ISC 2020.
- Bora Uçar was the chair of the Algorithms Track of HiPC 2019; he has organized a mini-symposium at ICIAM 2019 on combinatorial scientific computing (12 talks) with Aydin Buluc and Alex Pothén.
- Frédéric Vivien was Global Chair of Topic 10 (Theory and Algorithms for Parallel Computation and Networking) of Euro-Par 2019, Göttingen, Germany, August 26-30 2019.

10.1.1.2. Member of the Conference Program Committees

- Anne Benoit was a member of the program committees of **IPDPS'20**, **IPDPS'19**, **SC'19**, **ESA'19**, and **Compas'19**.
- Loris Marchal was/is a member of the program committees of **HiPC 2019**, **HPCS 2019**, **ICPP 2019** and **ICPP 2020**.
- Grégoire Pichon was a member of the program committee of **Compas'19**.
- Yves Robert was a member of the program committee of **FTXS'19**, **Scala'19**, **PMBS'19** workshops co-located with SC'19 in Denver CO, and of the new conference with proceedings inside **SiamPP'20**.
- Bora Uçar was a member of the program committee of **PPAM 2019**, **ISC**, **ICPP**, **IPDPS 2020 Workshops**.
- Frédéric Vivien was a member of the program committees of **IPDPS'20**, **PDP 2020**, and **PDP 2019**.

10.1.1.3. Reviewer

- Loris Marchal has reviewed paper for the following conferences: **SPAA 2019**, **SC 2019**, **PODC 2019**,

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- Yves Robert is Associate Editor of JPDC (Elsevier Journal of Parallel and Distributed Computing), TOPC (ACM Trans. On Parallel Computing), IJHPCA (Int. J. High Performance Computing and Applications) and JOCS (J. Computational Science).
- Bora Uçar is a member of the editorial board of Parallel Computing, SIAM Journal on Matrix Analysis and Applications, SIAM Journal on Scientific Computing, and IEEE Transactions on Parallel and Distributed Computing.
- Frédéric Vivien is a member of the editorial board of the Journal of Parallel and Distributed Computing.

10.1.2.2. Reviewer - Reviewing Activities

- Loris Marchal has reviewed papers for the journal CCPE (Concurrency and Computation: Practice and Experience).
- Yves Robert reviewed papers for journals IEEE TC, IEEE TPDS, JPDC, ACM TOPC, IEEE Trans. Cloud Computing.

- Bora Uçar has reviewed papers for journals IEEE TPDS, ACM TOMS, SIAM SISC, Frontiers of Information Technology & Electronic Engineering.

10.1.3. Invited Talks

- Yves Robert delivered a keynote presentation at HPCS'2019 in Dublin (Int. Conf. on High Performance Computing & Simulation)

10.1.4. Leadership within the Scientific Community

- Anne Benoit is a member of the Steering Committee of IPDPS and HCW (Heterogeneity in Computing Workshop, co-located with IPDPS).
- Yves Robert is a member of the Steering Committee of IPDPS and HCW .
- Bora Uçar has participated in the steering committees of IPDPS, CSC, and HiPC; he has also served as vice-chair of IEEE Technical Committee on Parallel Processing.

10.1.5. Scientific Expertise

- Frédéric Vivien was re-elected to the scientific council of the École normale supérieure de Lyon. He is also a member of the scientific council of the IRMIA labex <http://labex-irmia.u-strasbg.fr/>.
- Yves Robert is an expert for the Horizon 2020 program of the European Commission and has reviewed two projects in 2019.
- Yves Robert chaired the HCERES evaluation committee for the Skoltech PhD program in Computational and Data-Intensive Science and Engineering, in Moscow, Russia.

10.1.6. Research Administration

- Frédéric Vivien is the vice-head of the LIP laboratory since September 2017.

10.2. Teaching - Supervision - Juries

- Yves Robert was a Committee member for the HDR of Bora Uçar. .

10.2.1. Teaching

Licence: Anne Benoit, Responsable of the L3 students at ENS Lyon, France

Master: Yves Robert, Responsable of Master Informatique Fondamentale, ENS Lyon, France

Licence: Anne Benoit, Algorithmique avancée, 48, L3, ENS Lyon, France

Licence: Yves Robert, Algorithmique, 48, L3, ENS Lyon, France

Licence: Yves Robert, Proababilités, 48, L3, ENS Lyon, France

Licence: Grégoire Pichon, Réseaux, 34, L3, Univ. Lyon 1, France

Licence: Loris Marchal, Compilation (practicals), 14, L3, Univ. Lyon 1, France

Licence: Loris Marchal, Operating systems (practicals), 12, L2, Univ. Lyon 1, France

Master: Anne Benoit, Parallel and Distributed Algorithms and Programs, 42, M1, ENS Lyon, France

Master : Bora Uçar, Combinatorial Scientific Computing (with Fanny Dufossé), 36, M2 Informatique Fondamentale, ENS Lyon, France.

Master : Loris Marchal, Data-Aware Algorithms, 30, M2 Informatique Fondamentale, ENS Lyon 1, France.

10.2.2. Supervision

PhD in progress: Yishu Du, “Resilience for numerical methods”, started in December 2019, funding: China Scholarship Council and Inria, advisors: Yves Robert and Loris Marchal.

PhD in progress: Yiqin Gao, “Replication Algorithms for Real-time Tasks with Precedence Constraints”, started in October 2018, funding: ENS Lyon, advisors: Yves Robert and Frédéric Vivien.

PhD in progress: Changjiang Gou, “Task scheduling on distributed platforms under memory and energy constraints”, started in Oct. 2016, funding: China Scholarship Council supervised by Anne Benoit & Loris Marchal.

PhD in progress: Li Han, “Algorithms for detecting and correcting silent and non-functional errors in scientific workflows”, started in September 2016, funding: China Scholarship Council, advisors: Yves Robert and Frédéric Vivien.

PhD in progress: Aurélie Kong Win Chang, “Techniques de résilience pour l’ordonnancement de workflows sur plates-formes décentralisées (cloud computing) avec contraintes de sécurité”, started in October 2016, funding: ENS Lyon, advisors: Yves Robert, Yves Caniou and Eddy Caron.

PhD in progress: Valentin Le Fèvre, “Scheduling and resilience at scale”, started in October 2017, funding: ENS Lyon, advisors: Anne Benoit and Yves Robert.

PhD in progress: Ioannis Panagiotas, “High performance algorithms for big data graph and hyper-graph problems”, started in October 2017, funding: Inria, advisor: Bora Uçar.

PhD in progress: Filip Pawlowski, “High performance tensor computations”, started in October 2017, funding: CIFRE, advisors: Yves Robert, Bora Uçar and Albert-Jan Yzelman (Huawei).

10.2.3. Juries

- Loris Marchal is a responsible of the competitive selection of ENS Lyon students for Computer Science, and is thus a member of the jury of this competitive exam.

STORM 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

- Emmanuelle Saillard: Correctness workshop, Compas 2019, PPAM 2019, OMASE'19, 4PAD'19
- Olivier Aumage: SC Asia 2019, Euro-Par 2019, ICPADS 2019, PAW-ATM
- Samuel Thibault: HCW 19
- Raymond Namyst: SC 19, HiPC 19, CCGRID 19, ISC 19, ICCS 19, PPAM 19, RADR 19

10.1.1.2. Reviewer

STORM members have conducted reviewing activities for the following conferences and workshops: Correctness workshop, Compas, PPAM, OMASE, 4PAD, HCW 19

10.1.2. Journal

10.1.2.1. Reviewer - Reviewing Activities

STORM members have conducted reviewing activities for the following journals: JPDC, IEEE TII

10.1.3. Invited Talks

- Olivier Aumage: Cluster SysNum (Bordeaux, Jan. 24, 2019 and Mar. 8, 2019), 10-Year PlaFRIM (Bordeaux, May. 23, 2019), SPPEXA (Dresden, Germany, Oct. 21, 2019)
- Samuel Thibault: ENS Lyon seminar (Lyon, Jan 2019), ENS Lyon seminar (Lyon, May 2019), Workshop SIAM CSE (Spokane, Feb 2019), Workshop PADAL (Bordeaux, Sep 2019)
- Raymond Namyst: Aristote Seminar about "Toward ExaScale Computing" (Ecole Polytechnique, May 2019)

10.1.4. Scientific Expertise

- Olivier Aumage: Review of one project proposal for the French national research agency (ANR)
- Raymond Namyst: Scientific Advisor for CEA/DAM (French Department of Energy) HPC research groups

10.1.5. Research Administration

- Olivier Aumage: Permanent Contact for Team STORM.
- Emmanuelle Saillard: Member of the Commission de délégation at Inria Bordeaux Sud-Ouest

10.1.6. Standardization Activities

- Olivier Aumage represents Inria at the OpenMP ARB Standardization Committee.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Engineering School: Emmanuelle Saillard, Introduction to Algorithms, 16HeCI, L3, ENSEIRB-MATMECA.
- Engineering School: Emmanuelle Saillard, Tree Structure, 16HeCI, L3, ENSEIRB-MATMECA.
- Engineering School: Emmanuelle Saillard, Harmonisation, 10HeTD, L3, ENSEIRB-MATMECA.

- Engineering School: Emmanuelle Saillard, Languages of parallelism, 12HeC, M2, ENSEIRB-MATMECA.
- Engineering School: Adrien Cassagne, Microprocessors architecture, 20HeTD, L3, ENSEIRB-MATMECA.
- Engineering School: Romain Lion, System Programming, 18HeTD, M1, ENSEIRB-MATMECA.
- Licence: Marie-Christine Counilh, Introduction to Computer Science (64HeTD), Introduction to C programming (52HeTD), L1, University of Bordeaux.
- Master MIAGE: Marie-Christine Counilh, Object oriented programming in Java (30HeTD), M1, University of Bordeaux.
- Licence: Samuel Thibault is responsible for the computer science topic of the first university year.
- Licence: Samuel Thibault is responsible for the new Licence Pro ADSILLH (Administration et Développeur de Systèmes Informatiques à base de Logiciels Libres et Hybrides).
- Licence: Samuel Thibault is responsible for the 1st year of the computer science Licence.
- Licence: Samuel Thibault, Introduction to Computer Science, 32HeTD, L1, University of Bordeaux.
- Licence: Samuel Thibault, Networking, 51HeTD, Licence Pro, University of Bordeaux.
- Master: Samuel Thibault, Operating Systems, 24HeTD, L1, University of Bordeaux.
- Engineering School: Denis Barthou is the head of the computer science teaching department of ENSEIRB-MATMECA (300 students, 20 faculties, 120 external teachers)
- Engineering School: Denis Barthou, Architectures (L3), Parallel Architectures (M2), Procedural Generation for 3D Games (M2), C/Algorithm projects (L3)
- Licence, Pierre-André Wacrenier, is responsible for the 3rd year of the computer science Licence.
- Licence, Pierre-André Wacrenier, Introduction to Computer Science (64HeTD, L1), Systems Programming (64HeTD, L3), University of Bordeaux.
- Master, Pierre-André Wacrenier, Parallel Programming (64HeTD), University of Bordeaux.
- Raymond Namyst was involved in the introduction of Computer Science courses in the French High School (Lycée) scholar program. In particular, he was in charge of organizing a one-week condensed training session to 96 High School teachers on the following topics: Computer Architecture, Operating Systems, Networks and Robotics. The goal was to prepare them to teach computer science basics to students starting from September 2019, and to help them to prepare material for practice sessions.
- Denis Barthou was teacher for the previous courses, in Computer Architecture.

10.2.2. Supervision

- PhD in progress: Tassadit Célia Ait Kaci, March 2019, Emmanuelle Saillard, Marc Sergent, Denis Barthou
- PhD in progress: Paul Beziau, October 2018, Raymond Namyst
- PhD in progress: Adrien Cassagne, October 2017, Olivier Aumage, Denis Barthou, Christophe Jégo, Camille Leroux.
- PhD in progress: Idriss Daoudi, October 2018, Olivier Aumage, Thierry Gautier.
- PhD in progress: Romain Lion, October 2018, Samuel Thibault
- PhD in progress: Gwenolé Lucas, November 2019, Raymond Namyst, Abdou Guermouche
- PhD in progress: Van Man Nguyen, November 2019, Emmanuelle Saillard, Julien Jaeger, Denis Barthou, Patrick Carribault
- Internship: Firmin Martin, June 2019 - August 2019, Emmanuelle Saillard
- Internship: Radjasouria Vinayagame, November 2019 - January 2020, Emmanuelle Saillard

- Internship: Pierre-Antoine Rouby, May - July 2019 , Samuel Thibault
- Internship: Mehdi Naciri, January - August 2019, Adrien Cassagne, Denis Barthou
- Internship: Mael Keryell, January - April 2019, Denis Barthou
- Master's Thesis: Van Man Nguyen, January - September 2019 , Emmanuelle Saillard, Julien Jaeger, Denis Barthou, Patrick Carribault
- Master's Thesis: Gwenolé Lucas, March - Septembre 2019, Pierre-André Wacrenier, Abdou Guer-mouche, Mathieu Faverge
- PhD completed: Hugo Brunie, March 2019, Denis Barthou
- PhD completed: Pierre Huchant, March 2019, Denis Barthou
- PhD completed: Arthur Loussert, December 2019
- PhD completed: Raphaël Prat, October 2019

10.2.3. Juries

- Marie-Christine Counilh : Ph.D defense of Pierre Huchant at the University of Bordeaux, Mar. 2019 (member)
- Olivier Aumage : Ph.D defense of Ksander Ejjaouani at the Maison de la simulation in Saclay, Oct. 25, 2019 (invited member)
- Denis Barthou was member of the following PhD/HdR committees:
 - PhD of Fabian Gruber (reviewer): “Debogage de performance pour code binaire: Analyse de sensibilité et profilage de dépendence”, Grenoble Alpes University, December 2019
 - HdR of Guillaume Mercier (president): “Évolutions du passage de messages face aux défis de la gestion des topologies matérielles hiérarchiques”, University of Bordeaux, December 2019
 - PhD of Maxime Schmitt (reviewer): “Génération automatique de codes adaptatifs”, University of Strasbourg, September 2019
 - PhD of Gauthier Sornet (reviewer): “Parallélisme des calculs numériques appliqué aux géosciences”, University of Orléans, September 2019
 - PhD of Youenn Lebras (president): “Code optimization based on source to source transformations using profile guided metrics”, University of Paris Saclay, July 2019
 - PhD of Filip Arvid Jakobson (reviewer): “Static Analysis for BSPLib programs”, University of Orléans, June 2019
 - PhD of Fotis Nicolaidis (president): “TROMOS: a SDK for virtual storage systems”, University of Paris Saclay, May 2019
- Raymond Namyst was member of the following committees:
 - PhD of Benjamin Lorendeau (president): “Improving performance of a CFD code with unstructured meshes through multi level parallelism”, University of Bordeaux, December 2019
 - PhD of Georgious Christodoulis (president): “Adapting a HPC runtime system to FPGAs”, University of Grenoble, December 2019

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Samuel Thibault : Organization of a meet-a-researcher day for ENS Lyon, December 2019

10.3.2. Interventions

- Emmanuelle Saillard, Raymond Namyst: Fête de la Science, Inria, October 2019.

- Emmanuelle Saillard: Printemps de la mixité, Inria, April 2019.
- Emmanuelle Saillard, Sabrina Duthil: Forum des métiers, Lycée des graves, April 2019.
- Emmanuelle Saillard: Moi Informaticienne - Moi Mathématicienne, University of Bordeaux, April 2019.
- Olivier Aumage, Nathalie Furmento, Emmanuelle Saillard, Adrien Cassagne: Welcoming ENS-Lyon undergraduate students, Inria, December 2019.
- Olivier Aumage, Marie-Christine Counilh, Emmanuelle Saillard, Kun He: Welcoming Schoolchildren, Inria, December 2019.

10.3.3. Creation of media or tools for science outreach

- Pierre-André Wacrenier and Raymond Namyst have developed a software platform named Easy-PAP to provide students with an easy-to-use programming environment to quickly learn parallel programming (using Pthreads, OpenMP, OpenCL and MPI). The platform has a nice graphical interface which makes it suitable for showing the benefits of High Performance Computing to a broad audience. More information on the web site: <https://gforgeron.gitlab.io/easypap/>

TADAAM Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Brice GOGLIN and Emmanuel JEANNOT organized (with Didem UNAT from Ko c University, Turkey), PADAL 2019 (Fifth Workshop on Programming Abstractions for Data Locality) in Bordeaux (workshop by invitation): 25 participants from 10 different countries.
- François PELLEGRINI was, along with Nataliia BIELOVA (from Inria team PRIVATICS), the co-chair of this year's jury of the CNIL-Inria European prize awarded to research scientific papers on the subject of data protection and privacy.

10.1.1.2. Member of the steering committee

- Emmanuel JEANNOT is member of the steering committee of Euro-Par and the Cluster international conference.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Brice GOGLIN is the *Architecture & Networks* area co-chair of SuperComputing 2020.
- Emmanuel JEANNOT is the track program chair of Cluster 2020 (area: application, algorithms, and libraries)
- Emmanuel JEANNOT was the program chair of the COLOC workshop (collocated with Euro-Par).
- Emmanuel JEANNOT was the program chair of the RADR workshop (collocated with IPDPS).
- François PELLEGRINI was a co-chair (along with Roberto DI COSMO) of the workshop on *Software and Open Science: issues and opportunities*, National days on Open science (JNSO 2019), Paris (<https://jnso2019.sciencesconf.org/resource/page/id/2>).

10.1.2.2. Member of Conference Program Committees

- Alexandre DENIS was a member of the program committee of CCGrid 2019.
- Brice GOGLIN was a member of the program committee of ICPP 2019, EuroMPI 2019, HotInterconnects 26, ROME 2019, ROSS 2019, RADR 2019.
- Emmanuel JEANNOT was member of the program committee of SuperComputing 2019, Euro-MPI 2019, ROSS 2019, Heteropar 2019.
- Guillaume MERCIER was a member of the programm committee of CCGrid 2019 and EuroMPI 2019.
- Guillaume PALLEZ was a member of the program committee of SC 2019 (Tutorials), ICPP 2019, IPDPS 2020, ICA3PP 2019, PMBS 2019.
- François PELLEGRINI was a member of the program committee of ENISA's "EU Privacy Forum".

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Emmanuel JEANNOT is associate editor of the International Journal of Parallel, Emergent & Distributed Systems (IJPEDS).

10.1.3.2. Reviewer - Reviewing Activities

- Emmanuel JEANNOT was a reviewer for JPDC, Parallel Computing, Transaction on Computers.
- Guillaume MERCIER was a reviewer for IEEE Transactions on Computers and for Cluster Computing.
- François PELLEGRINI was a reviewer for journal Terminal.

10.1.4. Invited Talks

- Emmanuel JEANNOT was invited to the panel *Heterogeneous Computing for Energy Efficiency* of 10th International Green and Sustainable Computing Conference (Alexandria VA, USA, octobre 2019, <https://www.igscc.org/copy-of-schedule>).
- Emmanuel JEANNOT was invited to the panel *Resilience in High Performance Computing* to the HiPEAC event (at Bilbao Spain, October 2019, <https://www.hipeac.net/csw/2019/bilbao/#/schedule/>).
- Guillaume MERCIER was invited to make a presentation at the PADAL workshop 2019.
- Guillaume PALLEZ was invited to give a talk at the Royal Society of London, UK, as a part of the event *Numerical algorithms for high-performance computational science* [11] (<https://royalsociety.org/science-events-and-lectures/2019/04/high-performance-computing/>).
- François PELLEGRINI was invited to deliver a common talk with Emmanuel NETTER, “*Is code law?*”, at the Symposium of the Agorantic research federation, University of Avignon (<https://agorantic.univ-avignon.fr/symposium/symposium-agorantic-28-janvier-2019/>).

10.1.5. Scientific Expertise

- Emmanuel JEANNOT was a member of the hiring committee of an Inria junior researcher position at Nancy and at the National Level.
- Guillaume PALLEZ is an elected member of the Inria evaluation committee.
- François PELLEGRINI is co-chair (along with Roberto DI COSMO) of the workgroup on Free software of the Permanent Secretariat for Open Science (SPSO) of the French Ministry of Higher Education (MENESR).
- François PELLEGRINI was heard in an expert panel commissioned by the *Information mission on digital identity* of the French *Assemblée nationale*, chaired by Mrs Marietta KARAMANLI, assisted by Mrs Paula FORTEZA and Christine HENNION.

10.1.6. Research Administration

- Alexandre DENIS is head of the Inria Bordeaux CUMI-R (IT users committee).
- Brice GOGLIN and Guillaume MERCIER are elected members of the Inria Bordeaux center committee.
- Emmanuel JEANNOT is deputy head of science of the Inria Bordeaux research center.
- Emmanuel JEANNOT is member of the Inria evaluation committee
- Emmanuel JEANNOT is member of LaBRI scientific council and head of the Satanás team.
- Guillaume PALLEZ is a worker representative at the Prevention, Health, Security committee (CHSCT) for the Inria center of Bordeaux.

10.1.7. Standardization Activities

TADAAM attended the MPI Forum meetings on behalf of Inria (where the MPI standard for communication in parallel applications is developed and maintained). Guillaume MERCIER leads the *Hardware Topologies* working group. Part of the HSPLIT proposal was discussed and read at the last physical meeting in December 2019 in Albuquerque and has been approved to enter the voting process for an eventual inclusion in the next revision (4.0) of the MPI standard. This voting process will take place in the first semester of 2020 and the release of the 4.0 revision is expected for the end of 2020. Guillaume MERCIER is also the chair of the standard chapter committee *Groups, Contexts, Communicators, Caching* and member of several other chapter committees.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Members of the TADAAM project gave hundreds of hours of teaching at Université de Bordeaux and the Bordeaux INP engineering school, covering a wide range of topics from basic use of computers, introduction to algorithmics and C programming to advanced topics such as probabilities and statistics, scheduling, computer architecture, operating systems, parallel programming and high-performance runtime systems, as well as software law and personal data.

- Brice GOGLIN gave courses about Operating Systems to teachers as part of the *Diplôme Inter Universitaire* to prepare them for teaching the new Computer Science track in high-school.
- François PELLEGRINI did a training session on “*Information science, digital technologies and law*” for the continuous education of magistrates, École nationale de la magistrature (National School for Magistrates), Paris.
- François PELLEGRINI did two training sessions on “*Strategic issues of information technologies*” and “*Personal data law*” to a group of administration heads and civil society activists of several French-speaking west-African countries, in the context of FFGI 2019 at Ouagadougou, Burkina Faso.

10.2.2. Supervision

PhD: Benjamin LORENDEAU, Amélioration des performances via un parallélisme multi-niveaux sur un code CFD en maillages non structurés. Defense at Université de Bordeaux on December 16th. Advisors : Yvan FOURNIER and Emmanuel JEANNOT.

PhD in progress: Valentin Honoré, Partitioning Strategies for high throughput Applications, started in November 2017. Advisors: Guillaume PALLEZ and Brice GOGLIN.

PhD in progress: Andrès RUBIO, Management on heterogeneous and non-volatile memories, started in October 2018. Advisor: Brice GOGLIN.

PhD in progress: Nicolas VIDAL, IO scheduling strategies, started in October 2018. Advisors: Guillaume PALLEZ and Emmanuel JEANNOT.

PhD started: Philippe SWARTVAGHER, Interactions at large scale between high performance communication libraries and task-based runtime, started in October 2019. Advisors: Alexandre DENIS and Emmanuel JEANNOT.

PhD started: Florian REYNIER, Task-based communication progression, started in January 2019. Advisors: Alexandre DENIS and Emmanuel JEANNOT.

PhD started: Pierre FERENBACH, The legal regime of video games, started in January 2019. Advisors: Xavier DAVERAT and François PELLEGRINI.

Master: Léa CHEVALIER, M2 student at Université Paris Nanterre supervised by François PELLEGRINI, won the Disney–Microsoft–Orange–TF1 prize on Media Law for her master thesis on “*Artistic creations generated by automated processing: are they works like others?*”.

10.2.3. Juries

Emmanuel JEANNOT was member of the Ph.D defense jury of:

- Hugo BRUNIE, U. Bordeaux (Member);
- Jean-Baptiste KECK, U. Grenoble Alpes (Reviewer);
- Hamza DEROUÏ, Insa Rennes and U. Rennes (Reviewer);
- Arthur LOUSSERT, U. Bordeaux (Member).

François PELLEGRINI was member of the Ph.D defense jury of:

- Maximilien LANNA, U. Paris II Panthéon Assas (Member).

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Brice GOGLIN is in charge of the diffusion of the scientific culture for the Inria Research Centre of Bordeaux. He organized several popularization activities involving colleagues.

10.3.2. Articles and contents

- Guillaume PALLEZ wrote a blog article for *Binaire* on autonomous vehicles [37].
- François PELLEGRINI was interviewed on the subject of “*Resisting algorithmic governance*” (cover page), *Expertises droit/technologies/prospectives*, nr 443, Feb. 2019 (<https://www.expertises.info/#anciens-numeros>).

10.3.3. Interventions

- Brice GOGLIN is the sponsor (*parrain*) of the *Edouard Vaillant* middle school (Bordeaux) for their scientific projects with the fondation *La main à la pâte*.
- Guillaume PALLEZ, Brice GOGLIN, Valentin HONORÉ, Philippe SWARTVAGHER and Nicolas VIDAL gave seminars and hands-on session about computer science to schools attending *Fete de la Science*, Oct. 2019.
- François PELLEGRINI participated in the round table “*GDPR and cyber-security*” during the OpenS’IAE event, Pau.
- François PELLEGRINI participated in the rountable on “*Legal aspects, GDPR and anonymization technologies*” during the annual congress of *Société informatique de France* (SIF), Bordeaux.
- François PELLEGRINI gave a conference on the security of personal data during the *Mars@Hack* event, in Mont-de-Marsan.
- François PELLEGRINI participated in the round table “*Is our legal framework IA-compatible?*” during the NAIA (*Nouvelle-Aquitaine Intelligence Artificielle*) event, Bordeaux.
- François PELLEGRINI participated in the round table “*What alternatives and what regulations in the GAFAM era?*” during the second edition of the *Rencontres Culture:Tech*, Assemblée nationale, Paris.
- François PELLEGRINI gave a conference on “*Freedom in the digital age*” to students of first and second year of all departments at ENS Cachan (250 people).
- François PELLEGRINI participated in a round table on “*The future of choice*” in the context of the “de-inauguration” of the exhibition *textitUnder influence, the science of choice* at Espace Pierre-Gilles de Gennes (ESPGG), Paris.
- François PELLEGRINI answered the public at the movie theater Utopia Bordeaux after the display of the movie *Meeting Snowden*.
- François PELLEGRINI gave a public conference on “*How does personal data processing interfere with our privacy?*” during the *IA Pau* conference, Pau.

10.3.4. Internal action

- François PELLEGRINI participated in a round table on “*Digital security: technical, ethical and legal aspects*”, Inria scientific days 2019, Lyon (<https://project.inria.fr/journeesscientifiques2019/>).

10.3.5. Creation of media or tools for science outreach

- Brice GOGLIN was involved in the building of the MOOC *Sciences Numériques et Technologie* which focus at bringing basics about computer science to high-school teachers and general audience. More than 18 000 people registered to the course.
- François PELLEGRINI is one of the 14 people appearing in the documentary “*LOL: Logiciel libre, une affaire sérieuse*” (“LOL: Free software, a serious matter”).

DIVERSE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. General Chair, Scientific Chair

- Mathieu Acher was the program committee co-chair of the 14th International Working Conference on Variability Modelling of Software-Intensive Systems (VaMoS)

9.1.1.2. Member of the Organizing Committees

Olivier Barais was the financial chair of the IEEE Mascots conference.

9.1.2. Scientific Events: Selection

9.1.2.1. Chair of Conference Program Committees

- Mathieu Acher organized the Fourth international workshop on software product line teaching (SPLTea 2019).
- Mathieu Acher organized the First international workshop on languages for modelling variability (MODEVAR 2019).
- Mathieu Acher organized the Seventh international workshop on reverse variability engineering (REVE 2019).
- Mathieu Acher organized the 3rd ACM SIGSOFT International Workshop on Machine Learning Techniques for Software Quality Evaluation, MaLTeSQuE@ESEC/SIGSOFT FSE 2019.

9.1.2.2. Member of the Conference Program Committees

Jean-Marc Jézéquel:

- PC member for SPLC 2019 Industry Track
- PC member for SEAMS 2019
- PC member for ICSE 2020

Olivier Barais:

- PC member for the 17th International Conference on Software Engineering and Formal Methods (SEFM 2019)
- PC Member for CIEL 2019
- PC Member for VaMoS 2019
- PC Member for VoSE 2019
- PC Member for SAC 2019, SATTA track - Software Architecture: Theory, Technology, and Applications
- PC Member for CCgrid 2020

Djamel E. Khelladi:

- PC member for Poster track at MODELS 2019
- PC member for REVE workshop 2019
- PC member for Models and Evolution (ME) Workshop 2019
- PC member for WETICE 2019 Validating Software for Critical Systems Track

Arnaud Blouin:

- PC member for SAC'2020
- PC member for PACM EICS Q4 2019
- PC member for Workshop on Human Factors in Modeling at MODELS'2019 (HuFaMo), 2019

Mathieu Acher:

- PC member for SPLC 2019 Research Track
- PC member for ICSE SEIP 2020
- PC member for VaMoS 2019

Benoit Combemale:

- PC chair (Foundation track) for ECMFA 2019
- PC member for ICMT'19
- Selection Committee member for the Doctoral Symposium at MODELS'19
- PC member for the MLE'19 workshop at MODELS'19
- PC member for the DevOps@MODELS'19 workshop at MODELS'19
- PC member for the FlexMDE'19 workshop at MODELS'19
- PC member for the PNSE'19 workshop

9.1.2.3. Reviewer

Olivier Barais: MASCOTS 2019, ICSE 2019, ASE 2019

Arnaud Blouin: ICSE 2019, ISSTA 2019

Johann Bourcier: SEAA 2019

Mathieu Acher: TSE 2019, JSS 2019, ICSE 2019

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Jean-Marc Jézéquel:

- Associate Editor in Chief of SOSYM
- Associate Editor in Chief of IEEE Computer
- Associate Editor of JSS
- Associate Editor of JOT

Benoit Combemale:

- Deputy Editor-in-Chief of JOT
- Member of the Editorial Board of the Springer Journal on Software and Systems Modeling (SoSyM)
- Member of the Editorial Board of the Elsevier Journal of Computer Languages (COLA)
- Member of the Editorial Board of the Springer Journal of Software Quality
- Member of the Advisory Board of the Elsevier Journal on Science of Computer Programming (SCP, Software Section)

9.1.3.2. Reviewer - Reviewing Activities

Olivier Barais:

- Journal of Software and System Modeling (SoSyM)

Djamel E. Khelladi:

- Journal of Software and System Modeling (SoSyM)

Arnaud Blouin:

- Journal of Software and System Modeling (SoSyM)
- Journal of Visual Languages and Computing (JVLC)
- Proceedings of the ACM for EICS 2019 and 2020 (PACM-EICS)

Mathieu Acher:

- Transactions on Software Engineering (TSE)
- Journal of Systems and Software (JSS)
- Editor with Myra B. Cohen of the Special issue on systems and software product line engineering. Journal of Systems and Software (JSS) 154: 110-111 (2019).

Benoit Combemale:

- Journal of Software and System Modeling (SoSyM)
- Journal of Empirical Software Engineering (ESE)

9.1.4. Invited Talks

Jean-Marc Jézéquel:

- *Keynote speech Models@Runtime workshop associated to MODELS2019*

Djamel E. Khelladi:

- Talk at the *IPA Fall Days* in Wageningen, Netherlands.

Johann Bourcier:

- Talk at the UBS university in Vannes, France.

Benoit Combemale:

- *Smart Modeling: On the Convergence of Scientific and Engineering Models*, Invited talk at Lancaster university, UK (14/11/19).
- *Bringing Intelligence to Sociotechnical IoT Systems: Modeling Opportunities and Challenges*, Keynote at MDDE4IoT'19, DE (15/09/19).
- *Breathe Life Into Your IDE*, Talk at LangDev'19, NL (22/03/19).

9.1.5. Leadership within the Scientific Community

Jean-Marc Jézéquel is an elected member of the Board of *InformaticsEurope*.

Benoit Combemale:

- Chair of the Steering committee of the ACM SIGPLAN conference SLE
- Founding member and member of the advisory board of the GEMOC initiative.
- Chair of the Eclipse Research Consortium GEMOC and the Eclipse Project GEMOC Studio.

Mathieu Acher:

- Member of the Steering committee of SPLC conference

Arnaud Blouin: founding member and co-organiser of the French GDR-GPL research action on Software Engineering and Human-Computer Interaction (GL-IHM).

9.1.6. Scientific Expertise

Olivier Barais is an external expert for the H2020 ENACT project. Olivier Barais provides scientific expertises for DGRI international program (20 proposals per year).

9.1.7. Research Administration

Jean-Marc Jézéquel is Director of IRISA (UMR 6074). He is Coordinator of the academic club of the French Cyber-defense Excellence Cluster, and Director of the Rennes Node of EIT Digital.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

The DIVERSE team bears the bulk of the teaching on Software Engineering at the University of Rennes 1 and at INSA Rennes, 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, and Mathieu Acher teaches about 200h in these domains, and Benoit Combemale teaching about 100h, for a grand total of about 1300 hours, including several courses at ENSTB, Supelec, ENS Rennes and ENSAI Rennes engineering school.

Olivier Barais is deputy director of the electronics and computer science teaching department of the University of Rennes 1. Olivier Barais is the head of the final year of the Master in Computer Science at the University of Rennes 1. Johann Bourcier is the head of the Information Technology department and member of the management board at the ESIR engineering school in Rennes. Arnaud Blouin is in charge of industrial relationships for the computer science department at INSA Rennes and elected member of this CS department council.

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

Mathieu Acher gave courses to EJCP (Ecole Jeune Chercheur en Programmation), a well-known, national training school for PhD students <http://ejcp2019.icube.unistra.fr/>

9.2.2. Supervision

- PhD in progress: Alejandro Gomez Boix, *Distributed counter-measure against browser fingerprinting*, 2016, B. Baudry, D. Bromberg.
- PhD in progress: Jean-Émile Dartois, *Efficient resources management for hybrid cloud computing*, 2016, O. Barais, Jalil Boukhobza.
- PhD in progress: Alexandre Rio, *Demand Side Management A model driven approach to promote energy self-consumption*, 2016, O. Barais, Y. Morel
- PhD in progress: Dorian Leroy, *A generic and generative white-box testing framework for model transformations*, 2017, B. Combemale.
- PhD in progress: Fabien Coulon, *Web engineering for domain-specific modeling languages*, 2017, B. Combemale, S. Begaudeau.
- PhD in progress: June Benvegna-Sallou, *Decision support for the assessment of risks associated with the operation of underground environments*, 2018, J-R. De dreuzy, B. Combemale, J. Bourcier.
- PhD in progress: Pierre JeanJean, *Refining simulators by analyzing execution traces of complex systems*, 2018, O. Barais, B. Combemale.
- PhD in progress: Alif Akbar-pranata, *Chaos Engineering for IoT and Network Services*, 2018, O. Barais, J. Bourcier.
- PhD in progress: Antoine Cheron, *Abstractions for linked data and the programmable web*, 2018, O. Barais, J. Bourcier.
- PhD in progress: Gauthier Lyan, *Urban mobility: machine learning for building simulators using large amounts of data*, 2018, J-M. Jézéquel, D. Gross Amblard.
- PhD in progress: Hugo Martin, *Learning variability*, 2018, M. Acher.
- PhD in progress: Luc Lesoil, *Deep variability in large-scaled systems*, 2019, M. Acher. A. Blouin, JM Jézéquel.

- PhD in progress: Emmanuel Chebbi , *Domain-Specific Language Reuse*, 2019, B. Combemale, Olivier Barais, G. Leguernic
- PhD in progress: Mohamed Handaoui, *Scheduling Big Data applications in the cloud: the case of machine learning algorithms*, 2019, Jalil Boukhobza. Olivier Barais.
- PhD in progress: Romain Lebouc, *Testing front-ends in a DevOps context*, 2019, Arnaud Blouin, Noël Plouzeau, Alain Ribault.
- PhD : Manuel Leduc, *Formal and Executable Specification of domain-specific language families*, dec 2019, O. Barais, B. Combemale, G. Leguernic
- PhD : Youssou NDiaye, *Modelling and evaluating security of authentication paths*, dec 2019, N. Aillery, O. Barais, A. Blouin, A. Bouabdallah
- PhD: Ludovic Mouline, *Omniscient fault localization in IOT systems using model-driver data analytics*, nov 2019, O. Barais, Y. Le-Traon, J. Bourcier [23]
- PhD: Oscar Luis, *Automatic test amplification*, dec 2019, B. Baudry
- PhD: Manuel Leduc, *On modularity and performances of external domain-specific language implementations*, dec 2019, B. Combemale, O. Barais
- HdR : Arnaud Blouin, *Contribution to the Engineering of User Interfaces*, Univ Rennes, 30/08/2019 [22]

9.2.3. Juries

9.2.3.1. Jean-Marc Jézéquel

was in the examination committee of the following PhD and HDR thesis:

- Yoann Blein, April 2019, Univ Grenobles Alpes (Examiner)
- Jorge Roda, December 2019, Univ Sevilla (Examiner)
- Emilien Lavigne, December 2019, Univ Bretagne Occidentale (President)

9.2.3.2. Olivier Barais

was in the examination committee of the following PhD and HDR thesis:

- Benjamen Benni, December 2019, Univ Nice (Reviewer)
- Ludovic Mouline, November 2019, Univ Luxembourg (Supervisor)
- Leduc Manuel, December 2019, Univ Rennes (Supervisor)
- Ndiaye Youssou, December 2019, Univ Rennes (Supervisor)
- Davide Frey, December 2019, Univ Rennes (President)
- Hanyang CAO, February 2019, Univ Bordeaux (Reviewer)

9.2.3.3. Arnaud Blouin

was in the examination committee of the following PhD thesis:

- Youssou Ndiaye, December 2019, Univ Rennes (Supervisor)

9.2.3.4. Mathieu Acher

was in the examination committee of the following PhD thesis:

- Frederic Verdier, December 2019, Univ Montpellier (Examiner)

9.2.3.5. Johann Bourcier

was in the examination committee of the following PhD thesis:

- Ludovic Mouline, November 2019, Univ Luxembourg (Supervisor)

9.2.3.6. Benoit Combemale

was in the examination committee of the following PhD thesis:

- Théo Zimmermann, Univ Paris (December 2019), (Reviewer)
- Manuel Leduc, Univ Rennes 1 (December 2019), (Supervisor)

9.3. Popularization

9.3.1. Interventions

- STAMP - Orange Test and Dev Day, Grenoble, France - Nov 2019
- STAMP - Eastern Paris Dev Meetup, Lunatech, Chessy, France - Jul 2019
- STAMP Breakout Session & Talks - OW2con'19, Orange Gardens, Paris Châtillon - Jun 2019
- STAMP Workshop for EC-DGIT (European Commission DGIT) - Brussels - May 2019
- STAMP - Devovx Paris - Apr 2019
- STAMP & CI testing automation - BreizhCamp 2019 - Mar 2019
- STAMP Talk and Workshop - Station-F, Paris - Feb 2019
- Tech talk at Alten - Rennes - Dec 2019
- Tech talk at Harmonic - Cesson-Sévigné - Oct 2019
- Tech talk at Veonum - Rennes - Sep 2019
- Tech talk at Nokia - Rennes - Jun 2019
- Tech talk at OrangeLabs : Hands-on Workshop - Cesson-Sévigné - May 2019
- Tech talk at Solocal and Kereval - Rennes - Mar 2019
- Tech talk at FaberNovel - Test amplification - Mar 2019
- Sciences de l'Ingénieur au féminin - Lycée Sévigné, Cesson-Sévigné - Nov 2019
- *J'peux pas j'ai informatique* - Inria, Rennes - Apr 2019
- *Petit-déjeuneur des métiers* - Lycée Sévigné, Cesson-Sévigné - Mar 2019 (je ne suis pas sûre de la date)
- Devovx 2019 - Les APIs hypermedia expliquées simplement (17-19 avril 2019) ("While web pages are full of hyperlinks and hypermedia, web APIs are not. However, augmenting web APIs with links is at the core of the REST architectural style, but only 5% of APIs actually do it. That's right, only 5%, despite most people saying that they provide RESTful APIs. In this talk, we discuss what an hypermedia-powered API looks like, what problems of distributed systems integration and composition it can solve and what it would change in frontend code to have such APIs.
- Embedded Linux conference Europe [54] – Given a configuration, can humans know in advance the size, the compilation time, or the boot time of a Linux kernel? Owing to the huge complexity of Linux (there are more than 15000 options with hard constraints and subtle interactions), machines should rather assist contributors and integrators in mastering the configuration space of the kernel. In this talk, we introduce TuxML an OSS tool based on Docker/Python to massively gather data about thousands of kernel configurations. Mathieu will describe how 200K+ configurations have been automatically built and how machine learning can exploit this information to predict properties of unseen Linux configurations, with different use cases (identification of influential/buggy options, finding of small kernels, etc.) The vision is that a continuous understanding of the configuration space is undoubtedly beneficial for the Linux community, yet several technical challenges remain in terms of infrastructure and automation.
- API Days - Backend is the new frontend (9-11 décembre 2019)

EASE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. Member of the Organizing Committees

The E4SE team has been involved from the beginning with the City of Rennes in the design of the inOut event and its experts comitee. inOut is an innovative initiative at the service of new mobility solutions. After holding a first event in March 2018, inOut returned to Rennes in 2019 from 28 to 31 March and will happen again next years. The two-day [IN]door business event, followed by an [OUT]door event open to the general public for the entire weekend, gathers together mobility businesses and users to debate, test, and explore new mobility solutions. At the crossroads of digital technologies and mobilities, inOut seeks to bring out the best these two worlds have to offer by providing a space of discussion and debate, where topics and concepts are unpicked and decoded, and different ideas converge. In addition to the expert-focused [IN] part of the event which targets mobility professionals from all over the world, there is also an [OUT] section that invites the general public to take a weekend to explore and discover this topic of new mobilities. Field tests and experimentations are also conducted as part of inOut to support start-ups, businesses and manufacturers and to encourage them to explore what the future holds.

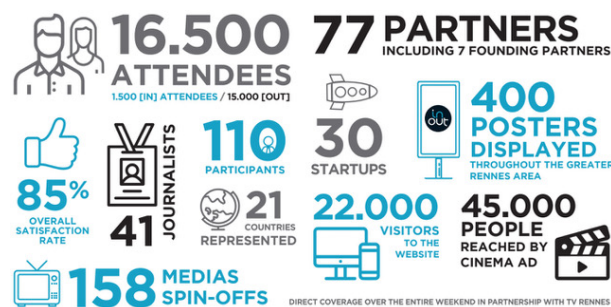


Figure 4. inOut 2019 in figures

inOut is not only an event and we built in with experimentation at the heart of the innovation approach. It has a life beyond the event. It offers an ecosystem of new mobility solutions throughout the year. Experiments, demonstrations, hackathons, and academic challenges get students, researchers, start-ups, and users involved. The call for experiments encourages entrepreneurs and academics to create and test innovations all along the year. An inOut experimentation is conducted in an open-air laboratory: the city of Rennes places its streets and facilities at the disposal of start-ups and companies so that they can test the digital technologies of the city of tomorrow. It aims to provide a response to the need for innovation in communities, to upgrade and develop business sectors, to improve the appeal of the region (companies and universities) for companies and research projects.

9.1.2. Scientific Events: Selection

9.1.2.1. Member of the Conference Program Committees

- PC member of VTC 2019, ICIN 2019, ICON 2019, VEHITS 2020, ICCVE 2019, 3ICT 2019, JM. Bonnin
- PC member of eHPWAS 2019, AdHoc Now 2020, F. Weis

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing Activities

- IEEE Communication Magazine, JM. Bonnin and C. Couturier
- IEEE Access, Wireless Communication and Mobile Computing, The Computer Journal, Transactions on Mobile Computing, Vehicular communications, Journal of sensors, JM. Bonnin
- IEEE Computer, F. Weis

9.1.4. Invited Talks

- Presentation at Security Days @ IRISA, JM Bonnin
- Round table at InOut 2019, JM Bonnin
- Presentation of the EASE activity around Mobile Data collection in Smart City at South West Aboriginal Medical Service, JM Bonnin

9.1.5. Scientific Expertise

- Head of the scientific committee of InOut 2019, JM. Bonnin
- Member of the scientific council of the GIS ITS, JM. Bonnin
- Member of the scientific council the Id4Car cluster, JM. Bonnin
- Scientific advisor of the YoGoKo startup, JM. Bonnin
- Scientific advisor for an INRA team (Unité Expérimentale Ecologie et Ecotoxicologie Aquatiques) on fish tracking issues using LF RFID, P. Couderc
- Co-head of "the pole Digital Society of the MSHB" (Maison des Sciences de l'Homme de Bretagne), JM. Bonnin
- Project evaluation for ANR, Belgium, Id4Car, Région Pays de la Loire, Région Grand Est, JM. Bonnin
- Expert for CSV board of "Pôle Images et Réseaux", projects reviewing and selection, strategic roadmap definition, P. Couderc

9.1.6. Research Administration

- Head of the Networks, Telecommunication and service department at IRISA, JM. Bonnin until Nov 2019
- Member for the IRISA Laboratory Council, JM. Bonnin
- Member of the scientific council of ECAM (Engineering school), 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 2: Wireless LANs, F. Weis, 30 hours, M2, IMT Atlantique
- Master 2: Pervasive computing and IoT system architectures, 4 hours, P. Couderc, Univ. Rennes 1
- Master 1: Network programming (lectures, tutorial, labs), 78 hours, Y. Maurel, Univ. Rennes 1

- 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
- Master 2 : Mobility management in the Internet, JM. Bonnin, IMT Atlantique
- Master 2 Smart Mobility : Communications for ITS, JM. Bonnin, IMT Atlantique
- Master 2 IoT: Smart City, JM. Bonnin, ENSI Tunis
- Continuous training: Communications for Autonomous and Cooperative vehicle, Communications for ITS, JM. Bonnin, IMT Atlantique
- Master 1: Network programming (lab and project), 72 hours, C. Couturier, IMT Atlantique
- Master 1: IP networks (lectures, tutorial), 24 hours, C. Couturier, IMT Atlantique
- Master 2: Enterprise Network Design, 12 hours, C. Couturier, IMT Atlantique
- Master 2: Bid to Call for Tender, 12 hours, C. Couturier, IMT Atlantique
- Master 2: Supervision of the Networking and Telecom curriculum of FIP3A, C. Couturier, IMT Atlantique
- Master 2: Tools for cloud computing , 18 hours, C. Couturier, IMT Atlantique

9.2.2. Supervision

PhD in progress: Indra Ngurah, Car-based Data Collection for Low Energy Devices (Car-based DC4LED), May 2016, Jean-Marie Bonnin

PhD in progress: Alexandre Rio, "Modélisation des activités de site consommateur d'énergie", Octobre 2016, Olivier Barais (UR1) and Yoann Maurel

PhD in progress: Rodrigo Silva, "Mécanisme de décision multi-critères pour le placement de flux en environnement hétérogène et changeant", Nov. 2015, Jean-Marie Bonnin

PhD in progress: Nejm Frigui, "Maintenance autonome du réseau programmable d'accès optiques de très haut débit", Jan. 2016, Jean-Marie Bonnin

9.2.3. Juries

PhD: Mohammad Irfan Khan, "Multi-Service Resource Orchestration for Vehicular Safety Communication", Jean-Marie Bonnin, referee Dec 2019

FOCUS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

Mario Bravetti has been scientific co-organizer for Int. PhD School and Bootcamp on Behavioural Application Program Interfaces (BehAPI 2019), Leicester, UK.

Ugo Dal Lago has organized the Second Workshop on Probabilistic Interactive and Higher-Order Computation (6-7 February 2019) <http://pihoc2019.cs.unibo.it/>.

10.1.1.2. Member of the Organizing Committees

Local Organising Committee:

Michael Lodi has been a member of the Local Organising Committee of the 13th Conference of European Science Education Research Association (ESERA '19). Bologna, 26th - 30th August 2019

Steering Committee membership:

I. Lanese: Conference on Reversible Computation (RC); IFIP Int. Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE); Interaction and Concurrency Experience (ICE)

D. Sangiorgi: Int. Conference on Concurrency Theory (CONCUR)

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

M. Bravetti: 22nd International Conference on Fundamental Approaches to Software Engineering (FASE/ETAPS 2019); IEEE International Conference on Big Data (BigData 2019); 19th IEEE International Conference on Software Quality, Reliability, and Security (QRS 2019); 8th IPM International Conference on Fundamentals of Software Engineering (FSEN 2019)

U. Dal Lago: Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2019); 47th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2020); 28th European Symposium on Programming (ESOP 2019); 4th International Conference on Formal Structures for Computation and Deduction (FSCD 2019)

I. Lanese: 11th Conference on Reversible Computation (RC 2019); 12th Interaction and Concurrency Experience (ICE 2019); 16th International Conference on Formal Aspects of Component Software (FACS 2019); 12th IEEE International Conference on Service-Oriented Computing and Applications (SOCA 2019); First Workshop on Artificial Intelligence and fOrmal VERification, Logic, Automata, and sYnthesis (OVERLAY 2019); 4th Workshop on Formal Reasoning about Causation, Responsibility, and Explanations in Science and Technology (CREST 2019); 2nd International Conference on Microservices (MICROSERVICES 2019); 12th Innovations in Software Engineering Conference (ISEC 2019)

S. Martini: Workshop on History of Formal Methods (HFM2019); Fifth International Conference on History and Philosophy of Computing (HAPOC 5).

D. Sangiorgi: 22nd International Conference on Foundations of Software Science and Computation Structures (FOSSACS); 44th International Symposium on Mathematical Foundations of Computer Science (MFCS); 12th A.P. Ershov Informatics Conference (PSI); Workshop on History of Formal Methods (HFM2019); 15th International Conference on Software Technologies (ICSOFT)

G. Zavattaro: 17th International Conference on Service Oriented Computing (ICSOC'19); International Conference TOOLS 50+1: Technology of Object-Oriented Languages and Systems (TOOLS'19); 30th International Conference on Concurrency Theory (CONCUR'19); 34th ACM/SIGAPP Symposium On Applied Computing – track on Microservices, DevOps, and Service-Oriented Architecture (ACM-SAC 2019)

10.1.3. Journals

10.1.3.1. Member of the Editorial Boards

M. Bravetti: Journal of Universal Computer Science.

U. Dal Lago: Logical Methods in Computer Science; Mathematical Structures in Computer Science; Acta Informatica.

M. Gabbrielli: Int. Journal Theory and Practice of Logic Programming.

C. Laneve: Frontiers in ICT (Section Formal Methods).

I. Lanese: Editor in chief of the Open Journal of Communications and Software (Scientific Online).

D. Sangiorgi: Acta Informatica, Distributed Computing, RAIRO Theoretical Informatics and Applications.

10.1.4. Invited Talks

U. Dal Lago: Bellairs Workshop on Higher-Order Probabilistic Computation; 1st Computer Science Workshop; “Mission 10000 Conference: Quantum Science and Technologies”

D. Sangiorgi: International Conference TOOLS 50+1: Technology of Object-Oriented Languages and Systems (TOOLS'19)

Schools:

M. Avanzini: International School on Rewriting, Paris, France, 1–6 July, 2019

U. Dal Lago: 1st “Caleidoscope” Summer School

G. Zavattaro: BehAPI Summer School: Behavioural Approaches for API-Economy with Applications, Leicester, UK, 8–12 July, 2019

10.1.5. Leadership within the Scientific Community

U. Dal Lago has been elected member of the Scientific Council of the Italian Chapter IC-EATCS (November 2017).

S. Martini is a member of the Council of the Commission on History and Philosophy of Computing, an organism of the International Union for History and Philosophy of Science, 2017-2021.

G. Zavattaro is member of the scientific committee of GRIN (GRuppo INformatici), Italy.

10.1.6. Administration duties

M. Gabbrielli is Deputy Head of the Department of Computer Science and Engineering, University of Bologna, since May 2018.

D. Sangiorgi is coordinator of postgraduate studies at the Department of Computer Science and Engineering, University of Bologna.

G. Zavattaro is coordinator of undergraduate studies at the Department of Computer Science and Engineering, University of Bologna.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Mario Bravetti
 - Master: “Linguaggi, Compilatori e Modelli Computazionali”, 120 hours, 1st year, University of Bologna, Italy.
- Ugo Dal Lago
 - Undergraduate: “Algorithms and Data Structures for Biology”, 60 hours, 2nd year, University of Bologna, Italy. 20 hours, 1st year, University of Bologna, Italy.
 - Undergraduate: “Optimization”, 36 hours, 2nd year, University of Bologna, Italy.
 - Master: “Foundations of Logic for Computer Science”, 24 Hours, 2nd year. University of Bologna, Italy.
 - Master: “Cryptography”, 40 Hours, 2nd year, University of Bologna, Italy’.
 - Master: “Languages and Algorithms for AI: Machine Learning Theory”, 32 Hours, 1st year, University of Bologna, Italy’.
- Maurizio Gabbrielli
 - Undergraduate: “Programming languages”, 40 hours, 2nd year, University of Bologna, Italy.
 - Master: “Artificial Intelligence”, 60 hours, 2nd year, University of Bologna, Italy.
- Francesco Gavazzo
 - Undergraduate: “Programming languages”, 30 hours, 2nd year, University of Bologna, Italy.
 - Undergraduate: “Basic Computer Skills”. 30 hours, BSc Medical Chemistry and Pharmaceutical Technology, BSc Biology, University of Bologna.
- Ivan Lanese
 - Undergraduate: “Architettura degli Elaboratori”, 66 hours, 1st year, University of Bologna, Italy.
 - Master: “Ingegneria del Software Orientata ai Servizi”, 22 hours, 2nd year, University of Bologna, Italy.
 - Master: “Algorithms and data structures for computational biology”, 36 hours, 1st year, University of Bologna, Italy.
 - Master: “Programming for bioinformatics”, 30 hours, 1st year, University of Bologna, Italy.
- Cosimo Laneve
 - Undergraduate: “Programmazione”, 70 hours, 1st year, University of Bologna, Italy.
 - Master: “Analisi di Programmi”, 42 hours, 1st year, University of Bologna, Italy.
- Simone Martini
 - Master: “Introduction to Algorithms and Programming”, 32 hours, 1st year, University of Bologna, Italy.
- Davide Sangiorgi
 - Undergraduate: “Operating Systems”, 110 hours, 2nd year, University of Bologna, Italy.
 - Undergraduate: “Computer abilities for biologists”, 8 hours, 1st year, University of Bologna, Italy.
- Gianluigi Zavattaro

Master: “Scalable and Cloud Programming”, 50 hours, 2nd year, University of Bologna, Italy.

Undergraduate: “Algoritmi e strutture dati”, 60 hours, 2nd year, University of Bologna, Italy.

Master: “Languages and Algorithms for Artificial Intelligence”, 32 hours, 1st year, University of Bologna, Italy (Master in Artificial Intelligence).

10.2.2. Supervision

Below are the details on the PhD students in Focus: starting date, topic or provisional title of the thesis, supervisor(s).

- Melissa Antonelli, November 2019. “Probabilistic Arithmetic and Almost-sure Termination”. Supervisor Ugo Dal Lago.
- Adrien Durier, September 2016, "Proving behavioural properties of higher-order concurrent languages", ENS de Lyon and University of Bologna. Supervisors: Daniel Hirschhoff and Davide Sangiorgi.
- Michael Lodi, January 2017, “Introducing Computational Thinking in K-12 Education: Historical, Epistemological, Cognitive and Affective Aspects”. Supervisor: S. Martini.
- Gabriele Vanoni, November 2018. “Optimal Reduction, Geometry of Interaction, and the Space-Time Tradeoff”. Supervisor Ugo Dal Lago.
- Stefano Pio Zingaro, November 2016, “High level languages for Internet of Things applications”. Supervisor: Maurizio Gabbrielli.

PhD thesis completed in 2018:

- Raphaëlle Crubillé, October 2015, “Bisimulation Metrics and Probabilistic Lambda Calculi”, Université Denis Diderot and University of Bologna. Supervisors Thomas Ehrhard and Ugo Dal Lago.
- Francesco Gavazzo, October 2015, “Coinductive Techniques for Effectful Lambda Calculi”. Supervisor U. Dal Lago.
- Tong Liu, November 2015, “Constraint based languages for Software Defined Networks”. Supervisor: Maurizio Gabbrielli.

10.2.3. Juries

G. Zavattaro has been member of the PhD evaluation committee of Doriana Medic, supervisor Claudio Antares Mezzina, IMT Lucca, Italy.

10.3. Popularization

Michael Lodi and Simone Martini have carried out extended work of scientific popularization, including the following.

- They are members of the technical committee of Olimpiadi del Problem Solving (at Italian Ministry of Education), <http://www.olimpiadiproblemsolving.com>; this involves preparation of material and supervision and jury during the finals.
- Simone Martini has given the following talks, among others:
 - De la création d’une “théorie mathématique du calcul” à la “pensée informatique”. Quatrième journée académique sur l’enseignement de l’informatique, Marseille (avril 2019)
 - To code or not to code: the school curriculum facing the digital revolution. Collegium—Lyon Institute for Advanced Studies (Juin 2019)
 - Logic and computing in Italy at the birth of the Italian Computer Science, Roma Tre, September 2019

INDES Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. General Chair, Scientific Chair

- Iliaria Castellani was the co-chair (together with Mohammad Reza Mousavi, Antonio Ravara and Alexandra Silva) of the workshop “Open Problems in Concurrency Theory 2019” (OPCT 2019), which was held in affiliation with the POPL 2019 conference in Lisbon, on January 14-15, 2019. <https://popl19.sigplan.org/track/opct-2019-papers>
- Iliaria Castellani was the co-chair (together with Mohammad Reza Mousavi) of the workshop TRENDS 2019, the annual event of the IFIP WG1.8 on Concurrency Theory, which took place in Amsterdam on August 31, 2019, in association with the CONCUR 2019 conference. <https://concurrency-theory.org/events/workshops/trends>
- Nataliia Bielova was the co-chair (together with François Pellegrini) of the CNIL-Inria Privacy Award 2019. The award ceremony will take place at the CPDP 2020 conference in Brussels. <https://www.cnil.fr/en/launch-4th-edition-cnil-inria-privacy-award>

9.1.1.2. Member of the Organizing Committees

Manuel Serrano organized the IFIP 2.16 (working group on Language Design) workshop in Nice from November 11th to November 15th <http://program-transformation.org/WGLD/NiceMeeting2019>.

9.1.2. Scientific Events: Selection

9.1.2.1. Member of the Conference Program Committees

- Iliaria Castellani served in the Program Committees of the conference CONCUR 2019 and the workshop EXPRESS/SOS 2019.
- Nataliia Bielova served in the Program Committees of the workshop MADWeb 2019, and the conferences PETs 2019, IEEE SecDev 2019, and IEEE EuroS&P 2019.
- Manuel Serrano served in the Program Committee of ProWeb’19 workshop. He was member of the ACM Software award <https://www.sigplan.org/Awards/Software/>.
- Tamara Rezk served in the Program Committees of the workshops MADWeb 2019, SSIoT 2019, PriSC 2019, and the conferences IEEE SecDev 2019, and NDSS 2019, and Programming.

9.1.2.2. Reviewer

- The team members have been reviewers for the following conferences and workshops: CONCUR’19, EXPRESS/SOS’19, PETs 2019, IEEE SecDev 2019, IEEE EuroS&P 2019, OOPSLA’19,

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Iliaria Castellani was a member of the editorial board of *Technique et Science Informatiques*, a French journal ended in June 2019.
- Iliaria Castellani (together with Mohammad Reza Mousavi) was guest editor for the JLAMP special issue on Trends in Concurrency Theory (Selected invited contributions from the workshops TRENDS 2015 and TRENDS 2016), *J. Log. Algebr. Meth. Program.*, vol. 107, 2019 [19]. <https://doi.org/10.1016/j.jlamp.2019.07.001>.

9.1.3.2. Reviewer - Reviewing Activities

- The team members have been reviewers for the following journal: The Computer Journal.

9.1.4. Invited Talks

- Nataliia Bielova has been a keynote at the the Francophone workshop on Privacy Protection “l’Atelier sur la Protection de la Vie Privée” (APVP), which took place in Cap Hornu (France) from 9 to 11 July 2019. <https://project.inria.fr/apvp2019/>. Nataliia gave invited talks at SAP Labs (France), NOYB and TU Wien (Austria) in July/August 2019. She was an invited speaker at the Mozilla Security Summit on November 8, 2019, Vienna (Austria). <https://events.mozilla.org/mozillasecurityresearchsummit2019> presenting the joint work with Imane Fouad and Arnaud Legout.
- Celestin Matte presented an ongoing work at the CNIL on October 1, 2019. Title of the talk: "Détection des violations du RGPD et de la directive e-Privacy dans les bannières de consentement aux cookies du Transparency and Consent Framework d’IAB Europe".
- Manuel Serrano has been invited to be a keynote at the *Huawei European Research Symposium* in January 2019. He presented his work on *Hop* and *HipHop*. He has been invited by RainCode, a Belgium company located in Brussels, specialized in language compilation, to give a talk on the static compilation of dynamic languages.

9.1.5. Leadership within the Scientific Community

- Iliaria Castellani is the chair of the IFIP TC1 WG 1.8 on Concurrency Theory since June 2014 (reelected for a second term in March 2018).
- Iliaria Castellani was a member of the Management Committee of the COST Action IC1405 on Reversible Computation (until April 2019).
- Nataliia Bielova is a member of the Steering Committee of ACM PLAS.
- Tamara Rezk was a member of the Steering Committee of the POST conference during 2019 and is a member of the Steering Committee of the PriSC workshop.

9.1.6. Research Administration

- Iliaria Castellani is a member of Inria’s “Comité Parité et Égalité des Chances”. In the Centre of Inria Sophia Antipolis, she is a member of the “Comité d’Animation et Médiation Scientifique” and of the “Comité Scientifique du Colloquium”. Within UCA, she is a member of the “Réseau Égalité” and of the organising committee of the seminar series “Forum Numerica”.
- Iliaria Castellani was the chair of the “jury d’admissibilité” of the CRCN competition (for junior researcher permanent positions) in the Inria Centre of Grenoble Rhône Alpes.
- Nataliia Bielova was a member of the hiring committee for an Inria chair position “enseignement et recherche dans le domaine de la cybersécurité” of Supelec in February 2019.
- Nataliia Bielova is a member of “Comité du Suivi Doctoral (CSD)” (Supervision of PhD students) of the Inria Sophia Antipolis Méditerranée research center.
- Since summer 2019, Manuel Serrano is vice-chair of the Inria evaluation committee (EC). The charge for this duty amounts to about 50% of his professional activities. He co-chaired the three research promotion juries of 2019. He chaired the Inria *Algorithmics, Computer Algebra and Cryptology* theme EC evaluation. He prepared the evaluation seminar of the Inria theme *Embedded systems, Architecture, and Compilation*.
- Tamara Rezk was a member of "Commission de Développement Technologique (CDT)" of the Inria Sophia Antipolis Méditerranée research center.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : Tamara Rezk, Security of Web Applications, 28ETD, niveau M2, University of Nice Sophia Antipolis, France

Master : Tamara Rezk, Preuves en Cryptographie, 28ETD, niveau M2, University of Nice Sophia Antipolis, France

IUT : Héloïse Maurel, Introduction aux technologies du Web, 20ETD, niveau DUT1, University of Nice Sophia Antipolis, France

DIU-EIL : Héloïse Maurel, Introduction aux langages de description et programmation du Web , 20ETD, University of Nice Sophia Antipolis, France

Master: Nataliia Bielova, Privacy on the Internet, 15ETD, M2, SKEMA Business school, France.

Master : Nataliia Bielova, Security and Ethical aspect of Data, 27ETD, niveau M1, Université Côte d'Azur, France

Doctorat : Nataliia Bielova, Ecole de Cybersécurité, 3ETD, UCA, France

9.2.2. E-learning

E-learning

Mooc: Nataliia Bielova with C. Lauradoux and V. Roca, 1 session (2 months), FUN-MOOC, Inria, public targeted: around 30,000 for all the sessions since 2018, <https://www.fun-mooc.fr/courses/course-v1:inria+41015+session03/about>.

9.2.3. Supervision

PhD in progress: Imane Fouad, Web tracking detection and measurement, 1/01/2018, Nataliia Bielova and Arnaud Legout.

PhD in progress: Michael Toth, Privacy Policies and Cookie Banners as a GDPR consent, 1/12/2019, Nataliia Bielova and Vincent Roca.

Postdoc, Celestin Matte, Large-scale measurement of Cookie Banners, 1/03/2019-, Nataliia Bielova.

Postdoc: Yoon Seok Ko, Subsets of secure JavaScript, 1/10/2018-, Tamara Rezk, Manuel Serrano.

PhD in progress: Jayanth Krishnamurthy, Secure Reactive Web Programming, 12/09/2018, Manuel Serrano.

PhD in progress: Bertrand Petit, Musique Massivement Interactive, 12/09/2017, Manuel Serrano.

PhD in progress : Héloïse Maurel, Secure compilation of IoT applications, 1/10/2018, Tamara Rezk

PhD in progress : Mohamad Ellaz, Encodings of ElGammal, 1/12/2017, Benjamin Gregoire and Tamara Rezk

PhD in progress : Lesly-Ann Daniel, Security analysis of binary code, 1/10/2018, Sébastien Bardin and Tamara Rezk

PhD in progress : Adam Khayam, Semantics of Multitier Languages, 1/07/2019, Alan Schmitt and Tamara Rezk

Postdoc: Francis Somé, IoT secure broadcasting, 1/11/2018-1/04/2019, Tamara Rezk

9.2.4. Juries

- Nataliia Bielova was a member of the PhD jury of Antoine Vastel, University of Lille.
- Nataliia Bielova was a member of the jury "soutenance de stage" of the UBINET master of the University of Nice Sophia Antipolis.
- Tamara Rezk was a member of the HdR jury of Catalin Hritcu, ENS.
- Tamara Rezk was a reporter and jury member of the PhD jury of Alexandre Dang, University of Bretagne Loire.

- Tamara Rezk was a member of the jury “soutenance de stage” of the CASPAR master of the University of Nice Sophia Antipolis.
- Manuel Serrano was a reporter and jury member of N. Oostvogels’s PhD, Vrije University, Brussels.

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

Tamara Rezk was member of the editorial board of Interstices (<https://interstices.info/>) and Blog Binaire Le Monde (<https://www.lemonde.fr/blog/binaire/>).

9.3.2. Articles and contents

- Nataliia Bielova has been interviewed by the Usine Digitale on 22 November 2019, title "Fuite massive de données à AccorHotels : ce que risque l’entreprise", <https://www.usine-digitale.fr/article/fuite-massive-de-donnees-a-accorhotels-que-risque-l-entreprise.N906279>.
- Nataliia Bielova has been interviewed by the L’OBS on 29 November 2019, title "Entre réalité augmentée et reconnaissance faciale, on a parcouru le supermarché de demain", <https://www.nouvelobs.com/economie/20191129.OBS21725/entre-realite-augmentee-et-reconnaissance-faciale-on-a-parcouru-le-supermarche-de-demain.html>.
- Nataliia Bielova and Tamara Rezk have contributed to the Inria white book on CyberSecurity, published in January 2019: <https://hal.inria.fr/hal-01993308>.
- The browser extension "Cookie Glasses" developed by Celestin Matte and Nataliia Bielova has been extensively discussed on the general public media due to a complaint made by NOYB to the CNIL on the GDPR and ePrivacy violations of several e-commerce websites: <https://noyb.eu/say-no-to-cookies-yet-see-your-privacy-crumble/>.

9.3.3. Education

- Nataliia Bielova: *Moderation and Animation of the MOOC Protection de la vie privée dans le monde numérique*, 05/2019-06/2019.

9.3.4. Interventions

- Nataliia Bielova made an intervention with high school students during Semaine De La Science with Cinesciences at the cinémathèque of Nice on 4 October 2019.
- Celestin Matte presented his work on "Tracage Wifi et Bluetooth" at the public event called "Pas Sage en Seine" in June 2019, <https://programme.passageenseine.fr/>.
- Nataliia Bielova made a presentation with BSc and MSc students during the ACM-W Ukrainian Chapter celebration on December 5, 2019, <https://women.acm.org/2019-2020-celebrations/>.
- Imane Fouad presented her work on "detection of third-party trackers" at Inria PhD Seminars in December 2019.

RMOD Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. Member of the Organizing Committees

- Marcus Denker and Stéphane Ducasse are in the board of ESUG and organized ESUG 2019, the yearly Smalltalk conference that brings together research and industry <http://www.esug.org/>

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Anne Etien has been PC chair of IWST since 2015.
- Anne Etien has been PC chair of Sattose 2019.
- Santiago Bragagonolo: IWBOSE 2020 CFP Manager, Chair (workshop on blockchain software engineering).
- Stéphane Ducasse: PC-chair International Conference on Software Reuse 2020.

10.1.2.2. Member of the Conference Program Committees

- Marcus Denker has been a member of ICOOLPS 2019.
- Steven Costiou has been member of IWST 2019.
- Anne Etien has been member of BENEVOL 2019, IWor 2019, VISSOFT 2019, ICPC 2019, CIEL 2019, GDRGPL 2019, Modelwards Program Committees.
- Guillermo Polito has been PC of IWST 2019
- Guillermo Polito has been PC of Meta Workshop 2019.
- Vincent Aranega was in the PC of IWST 2019.

10.1.2.3. Reviewing Activities

- Vincent Aranega reviewed for MODELSWARD19.
- Damien Pollet reviewed for ICISOFT.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Anne Etien has been a member of the editorial board for the Special issue on Dynamic Languages of *Science of Computer Programming* journal.
- Anne Etien has been editor for *CEUR journal vol 2510*.

10.1.3.2. Reviewing Activities

- Anne Etien was reviewer for *Journal of Systems and Software*.
- Steven Costiou was reviewer for *Science of Computer Programming*.
- Guillermo Polito was reviewer for *Journal IEEE Transactions on Industrial Informatics*.
- Damien Pollet was reviewer for *Science of Computer Programming*.
- Gordana Rakic was reviewer for the 3rd call for *The Programming Journal* (and Programming 2020 conference).
- Gordana Rakic was reviewer for the *Computing and Informatics* journal.

10.1.4. Invited Talks

Steven Costiou: Keynote ICCR2019 6th International Conference on Cloud and Robotics (Remote and live debugging of IOT applications: tools for researchers and developers.)

10.1.5. Scientific Expertise

- Anne Etien: expert for the French government on Research Tax Credit.
- Anne Etien: expert for the ANRT to evaluate a CIFRE file.
- Steven Costiou: program committee of the GDR-GPL 2020 challenges.

10.1.6. Research Administration

- Steven Costiou: representative of the post-doc researchers of the CRISAL lab for the 2019 HCERES evaluation.
- Anne Etien is animator of the Software Engineering thematic Group of the CRISAL lab since 2019.
- Anne Etien is elected at the committee of Inria Lille - Nord Europe center since 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Marcus Denker, 2 hours, Advanced Reflection. MetaLinks, VUB Brussels, Belgium.

Master: Steven Costiou, Fondamentaux du debugging, 20h, M2, Université de Lille

Master: Steven Costiou, Fondamentaux du debugging, 12h eTD, M2, Université de Bretagne Occidentale

Master: Steven Costiou, Introduction au C, 10h, M1 + M2, Polytech-Lille

Master: Steven Costiou, IOT, 13h, M2, Polytech-Lille

Master: Steven Costiou, IOT, 8h, M2, Université de Picardie Jules Verne

Licence: Steven Costiou, Systèmes d'information, 36h, L3, Université de Bretagne Occidentale

Master: Christophe Demarey, Intégration continue, 16 EdTD, M2, Université de Lille, France

Master: Bragagnolo Santiago, Robotique avec ROS, 36h TD, M2, ISEN

Master: Bragagnolo Santiago, Introduction a la blockchain, 6h TD, M2, Université de Lille

Licence: Bragagnolo Santiago, Programmation par objet, 26.3h TD, Polytech-Lille, France

Licence: Anne Etien, Bases de données, 30h, L3, Polytech-Lille, France

Licence: Anne Etien, Programmation par objet, 40h, L3, Polytech-Lille, France

Licence: Anne Etien, Bases de données, 30h, M1, Polytech-Lille, France

Master: Anne Etien, Test et Maintenance, 10h, M1, Polytech-Lille, France

Master: Anne Etien, Test et Maintenance, 14h, M2, Polytech-Lille, France

Master: Anne Etien, Système d'information objet, 10h, M1, Polytech Lille, France

Master: Anne Etien, Bases de données Avancées, 17h, M1, Polytech-Lille, France

Licence: Vincent Aranega, Programmation Python, 42h, niveau (L1), Université de Lille, France

Master: Vincent Aranega, Génie Logiciel, 42h, niveau (M1), Université de Lille, France

Master: Vincent Aranega, Paradigme de Programmation par la Pratique, 40h, niveau (M1), Université de Lille, France

Master: Vincent Aranega, Paradigme de Programmation par la Pratique, 15h, niveau (M1), Université de Lille, France

Licence: Vincent Aranega, Programmation C, 42h, niveau (L2), Université de Lille, France

Licence: Vincent Aranega, Programmation avancée, 32h, niveau (L3), Polytech-Lille, France

Licence: Nicolas Anquetil, Principes des Système d'Exploitation, 30h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Conception OO Avancée, 34h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Modélisation Mathématique, 36h, L2, UT-A, Université de Lille, France
 Licence: Nicolas Anquetil, Production d'Application, 30h, L2, IUT-A, Université de Lille, France
 Licence: Nicolas Anquetil, Programation Mobile, 30h, L2, IUT-A, Université de Lille, France
 Licence: Nicolas Anquetil, Projets Agiles, 12h, L2, IUT-A, Université de Lille, France
 Licence: Nicolas Anquetil, Graphes & Langages, 64h, L2, IUT-A, Université de Lille, France
 Licence: Nicolas Anquetil, Suivi de Stages, 15h, L2, IUT-A, Université de Lille, France
 Licence: Nicolas Anquetil, Interfaces Hommes-Machines, 32h, L2, IUT-A, Université de Lille, France
 Licence: Benoît Verhaeghe, Structure de données, 22 EdTD, L3, Polytech Lille, France
 Licence: Benoît Verhaeghe, Système d'exploitation, 20 EdTD, L2, Université de Montpellier, France
 Licence: Benoît Verhaeghe, Fondamentaux Architecture et Systèmes d'Exploitation, 15 EdTD, L3, Polytech Montpellier, France
 Master: Benoît Verhaeghe, Architecture Logicielles, 25 EdTD, M1, Polytech Lille, France
 Master: Benoît Verhaeghe, Évolution et restructuration, 9 EdTD, M2, Université de Montpellier, France
 Licence: Damien Pollet, OpenDevs, 35h, L3, Université de Lille, France
 Licence: Damien Pollet, Programmation objet en Java, 140h, L3, IMT Lille-Douai, France
 Licence: Damien Pollet, Systèmes numériques, 18h, L3, IMT Lille-Douai, France
 Master: Damien Pollet, Technologies des systèmes d'informations, 28h, M1, IMT Lille-Douai, France
 Master: Damien Pollet, Ingénierie du logiciel, 7h, M2, IMT Lille-Douai, France
 Master: Damien Pollet, Algorithmes pour les réseaux, 22h, M2, IMT Lille-Douai, France
 Licence: Julien Delplanque, Structure de données, 18 EdTD, L3, Polytech Lille, France
 Licence: Julien Delplanque, Base de données relationnelles, 16 EdTD, L3, Polytech Lille, France
 Master: Julien Delplanque, Base de données, 12 EdTD, M1, Polytech Lille, France
 Master: Julien Delplanque, Informatique Industrielle 2, 12 EdTD, M1, Polytech Lille, France
 Master: Stéphane Ducasse. Pharo, 20h, University of Prague, Czech Republic
 Master: Stéphane Ducasse, Advanced Design, 16h, M1, Université Brest, France
 Licence: Stéphane Ducasse, Interpreters, 24h, L3, Université de Lille, France
 Master: Stéphane Ducasse, Pharo, 2h, M1, Polytech Lille, France
 Master: Stéphane Ducasse, Advanced Design, 2h, M1, ENS Paris Sud, France
 Master: Stéphane Ducasse, Advanced Design, 20h, M1, Université de Picardie, France
 Master: Stéphane Ducasse, Advanced Design, 20h, M2, Tunis ENSI, Tunisia
 Master: Stéphane Ducasse, Advanced Design, 9h, M1, Université de Brest, France
 Master: Stéphane Ducasse, Modelisation, 18h, M1, Paris Pantheon Sorbonne, France
 Licence: Carolina Hernández Phillips, Algorithmique et Programmation, 12 EdTD, L3, IMT Lille Douai, France

E-learning

Pharo Mooc, 7 weeks, Licences and Master students

Pedagogical resources: *TinyBlog: Develop your First Web App with Pharo* [16] and *Pharo with Style* [17]

10.2.2. Supervision

PhD: Jason Lecerf, *Designing Language-Agnostic Code Transformation Engines*, 26 Nov 2019, CEA, Thierry Goubier, Stéphane Ducasse

PhD in progress: Oleksandr Zaitsev, *Machine Learning-Based Tools to Support Software Evolution*, started Jul 2019, Stéphane Ducasse, Nicolas Anquetil

PhD in progress: Benoît Verhaeghe, *Support à l'automatisation de la migration d'interface d'applications Web : le cas de GWT vers Angular*, started Jan 2019, Anne Etien, Nicolas Anquetil

PhD in progress: Théo Rogliano, *On multiple language kernel*, started Oct 2019, Stéphane Ducasse, Luc Fabresse

PhD in progress: Pierre Misse-Chanabier, *Modular, green, versatile Virtual Machines*, started Oct 2019, Stéphane Ducasse, Noury Bouraqadi

PhD in progress: Julien Delplanque, *Software Engineering Techniques Applied to Databases*, started Oct 2017, Anne Etien, Nicolas Anquetil

PhD in progress: Thomas Dupriez, *New Generation Debugger and Application Monitoring*, started Oct 2018, Stéphane Ducasse, Steven Costiou, Guillermo Polito

PhD in progress: Mahugnon Honoré Houekpetodji, *Multi-Facet Actionable for Information System Rejuvenation*, SPI Lille, France, Stéphane Ducasse, Nicolas Anquetil, Nicolas Dias, Jérôme Sudich

PhD in progress: Carolina Hernández, *Tools for MicroKernels* Guillermo Polito and Luc Fabresse

10.2.3. Juries

Dynamic program analysis for suggesting test improvements to developers, Oscar Luis Vera Perez, KTH Royal Institute of Technology, (Sweden), 17/12/2019.

Adaptation non-anticipée de comportement : application au déverminage de programmes en cours d'exécution, Steven Costiou, Université de Bretagne Occidentale, Brest (France), 26/11/2018.

Modélisation et évaluation de la sécurité des parcours d'authentification Youssou Ndaye, Université Rennes 1, France, 10/12/19

Challenges in the collaborative evolution of a proof language and its ecosystem Théo Zimmermann, Université de Paris, France, 12/12/19

ARIANE: Automated Re-documentation to Improve software Architecture uNderstanding and Evolution, Alexandre Le Borgne, IMT Mines Alès, France, 12/12/19.

Contribution à la conception d'un Système de Recommandation dédié à la réutilisation de composants logiciels, Brice Evrard Tarehy, Université de Fianarantsoa, Madagascar, Jan. 2020.

10.3. Popularization

10.3.1. Articles and contents

- Olivier Auverlot, Stéphane Ducasse, Luc Fabresse. *TinyBlog: Créer votre première application web avec Pharo* [15].
- Olivier Auverlot, Stéphane Ducasse, Luc Fabresse. *TinyBlog: Develop your First Web App with Pharo* [16].
- Stéphane Ducasse. *Pharo with Style* [17].

10.3.2. Education

- A MOOC for Pharo is online (Stéphane Ducasse). <http://mooc.pharo.org>
- The Pharo Consortium was part of GSOC (Google Summer of Code) again in 2019. Oleksandr Zaitsev was co-organizer. RMoD mentored some of the Students.

10.3.3. Interventions

- Multiple public Pharo Sprints in Lille.
<https://association.pharo.org/events>
- RMOD co-organized and participated at ESUG 2019.
<http://www.esug.org/wiki/pier/Conferences/2019>

10.3.4. Internal action

- 30 Minutes de Sciences, Inria Lille - Nord Europe. 25 octobre 2019: *Hard bugs and how to track them with Unanticipated Debugging*, Steven Costiou.

AGORA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Oana Iova was the scientific chair of the first Low Power and Wide Area Networks Days (GDR RSD), 11-12 July 2019, Lyon.
- Oana Iova was co-chair of NewNets 2019 - The 1st Workshop on Emerging Technologies and Trends in Engineering Low-Power Networks (collocated with IEEE WF-IoT), April 15, 2019, Limerick, Ireland.
- Razvan Stanica co-organized a workshop on New Architectures and Services for Autonomous and Flexible Cellular Networks, within the Jacques Cartier Meetings organised in November in Montreal (Canada).

10.1.1.2. Member of the Organizing Committees

- Oana Iova was on the Organizing Committee of the first Low Power and Wide Area Networks Days (GDR RSD), 11-12 July 2019, Lyon.
- Hervé Rivano was on the Organizing Committee of the first Low Power and Wide Area Networks Days (GDR RSD), 11-12 July 2019, Lyon.
- Fabrice Valois was on the Organizing Committee of the first Low Power and Wide Area Networks Days (GDR RSD), 11-12 July 2019, Lyon.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Oana Iova was program co-chair of CoRes 2019: 4ème Rencontre Francophone sur la Conception de Protocoles, l'Évaluation de Performance et l'Expérimentation des Réseaux de Communication, June 3-4, 2019, Toulouse (France).

10.1.2.2. Member of the Conference Program Committees

- Oana Iova was in the TPC of the following conferences: IAUV, UrbCom, IoT-HPC, ACM SIG-COMM AINTEC, AdHoc-Now, EWSN, IEEE DIPI.
- Razvan Stanica was in the TPC of the following conferences: IEEE ICC, IEEE GlobeCom, IEEE CCNC, IEEE WCNC, IEEE PIMRC, IFIP WD, ICIN, ISNCC, GIoT.
- Fabrice Valois was in the TPC of the following conferences: IEEE Globecom, IEEE ICC, IEEE ICT, IEEE WCNC, WiSARN.

10.1.2.3. Reviewer

- Oana Iova was a reviewer for the following conference: IEEE INFOCOM 2019 (demo and posters).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Fabrice Valois is associated editor for Annals of Telecommunications (IF: 1.412).

10.1.3.2. Reviewer - Reviewing Activities

- Walid Bechkit was reviewer for the following journals: Elsevier Ad hoc Networks.

- Oana Iova was reviewer for the following journals: IEEE Transactions on Mobile Computing, Elsevier Sustainable Computing, Informatics and Systems.
- Razvan Stanica was a reviewer for the following journals: IEEE Transactions on Mobile Computing, IEEE Communication Letters, Computer Networks, Ad-Hoc Networks, Wireless Networks, IEEE Transactions on Network and Service Management, IEEE Access, Mobile Information Systems.

10.1.4. Invited Talks

- Hervé Rivano was invited speaker IMERIR, Perpignan, France.
- Hervé Rivano was invited speaker Forum Numerica - Learning Center, Campus SophiaTech, France.
- Hervé Rivano was invited speaker Institut d'Automne en Intelligence Artificielle, GDR IA, Lyon, France.
- Hervé Rivano was invited speaker Les Entretiens Jacques Cartier, Montréal, Canada.
- Hervé Rivano was invited speaker IEEE Societal Automation, Krakow, Poland.
- Hervé Rivano was chair of the panelist A l'école de l'anthropocène, Lyon, France.
- Fabrice Valois was invited speaker IEEE Canada Distinguished Lecture, University of Waterloo, Canada.
- Fabrice Valois was invited speaker Les Entretiens Jacques Cartier, Montréal, Canada.
- Fabrice Valois was invited speaker Mois des Cultures Numériques, Institut Français, Sfax, Tunisie.

10.1.5. Leadership within the Scientific Community

- Walid Bechkit is a nominated member in the scientific committee of the Fédération d'Informatique de Lyon (FR 2000 CNRS).
- Oana Iova is the scientific leader of the steering committee of the LPWAN Days (GDR RSD).
- Hervé Rivano is member of the steering committee of the ResCom axis of the RSD CNRS GdR.
- Hervé Rivano is member of the steering committee of Ecole Urbaine de Lyon (PIA Institut Convergence), in charge of Smart and Learning Cities.
- Hervé Rivano was co-representative of the Labex IMU at the Smart City Expo World Congress (Barcelona).
- Fabrice Valois is a member of the Scientific Council of the LIMOS-UMR6158 laboratory, Clermont Ferrand.
- Fabrice Valois is member of the Scientific Council of the Labex IMU (Intelligence des Mondes Urbains).

10.1.6. Scientific Expertise

- Hervé Rivano is member of the Scientific Committee of the Digital League Regional Cluster.
- Fabrice Valois was a member in the recruitment committee of an Associate Professor in Computer Science at Université de Clermont Auvergne.
- Fabrice Valois was a member in two recruitment committees of Associate Professors in Computer Science at Université de Cergy-Pontoise.

10.1.7. Research Administration

- Walid Bechkit is responsible for seminar organization and scientific animation within the CITI laboratory.
- Khaled Boussetta is member of the steering committee of the MathStic federation at University Paris 13.
- Hervé Rivano is president of the CITI laboratory council.

- Razvan Stanica is the CITI laboratory correspondent with the Labex IMU.
- Razvan Stanica is member of the steering committee of the Volvo Chaire at INSA Lyon.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Walid Bechkit, IP Networks, 30h, L3, Telecom. Dpt. INSA Lyon.

Licence: Fabrice Valois, IP Networks, 36h, L3, Telecom. Dpt. INSA Lyon.

Licence: Fabrice Valois, Medium Access Control, 54h, L3, Telecom. Dpt. INSA Lyon.

Licence: Fabrice Valois, Basic networking, 20h, L3, IST / Telecom. Dpt. INSA Lyon (lectures given in english).

Licence: Oana Iova, Network and System Programming, 108h, L3, Telecom. Dpt. INSA Lyon.

Licence: Oana Iova, Introduction to research, 20h, L3, Telecom. Dpt. INSA Lyon.

Licence: Oana Iova, Smart city: networking challenges, 8h, L3, Smart Program, INSA Lyon (lectures given in english).

Licence: Oana Iova, Internet of connected things, 3h, L3, Innov Program, INSA Lyon (lectures given in english).

Licence: Hervé Rivano, Algorithms and programming, 165h, L1 - L2, INSA Lyon.

Licence: Hervé Rivano, Sensors data engineering project, 34h, L2, INSA Lyon.

Licence: Hervé Rivano, Programming robot control, 20h, L2, INSA Lyon.

Licence: Walid Bechkit, Introduction to wireless sensor networks, 50h, L2, INSA Lyon.

Master: Walid Bechkit, Performance evaluation of telecom networks, 100h, M1, Telecom. Dpt. INSA Lyon.

Master: Walid Bechkit, Cryptography and communication security, 30h, M1, Telecom. Dpt., INSA Lyon.

Master: Walid Bechkit, Wireless networks: architecture and security, 30h, M2, INSA Lyon.

Master: Master : Walid Bechkit, Network Acces Control, 6h, M2, Telecom. Dpt. INSA Lyon.

Master: Oana Iova, Network Routing Protocols, 66h, M1, Telecom. Dpt. INSA Lyon.

Master: Oana Iova, Long Range Networks, 10h , M2, Telecom. Dpt. INSA Lyon.

Master: Oana Iova, IoT technical project, 8h, M2, Telecom. Dpt. INSA Lyon.

Master: Hervé Rivano, Smart Cities and IoT, 44h, M2, Telecom. Dpt. INSA Lyon.

Master: Hervé Rivano, Smart Cities, Master Cities, Environment and Urbanism, University of Lyon.

Master: Razvan Stanica, Mobile Networks, 30h, M1, Telecom. Dpt. INSA Lyon.

Master: Razvan Stanica, Network Science, 10h, M2, Telecom. Dpt. INSA Lyon.

MOOC: Hervé Rivano, Razvan Stanica, Fabrice Valois, Connectez à Internet vos Objets Intelligents, production started in the context of the ANR Connect-IO project.

Walid Bechkit is in charge of the admission service of the Telecommunication department at INSA Lyon.

Walid Bechkit is an elected member of the Telecommunication department council at INSA Lyon.

Walid Bechkit is the head of the networking teaching team in the Telecommunications department at INSA Lyon, coordinating all the courses in the networking domain.

Khaled Boussetta is the studies director of Apprenticeship Education Program Specialty in Computer Science and Network at Sup'Galilée Engineering School (University Paris 13).

Hervé Rivano is responsible for the coordination of all courses in the Smart Cities and IoT option at the INSA Lyon Telecommunications department.

Hervé Rivano is responsible of the Smart program (international teaching program with Tohoku University and Tokyo University) about Smart Cities.

Hervé Rivano is responsible of the IoT specialization of the Innov program (INSA Lyon and US students).

Hervé Rivano is referent DSI in the FIMI Dpt., INSA Lyon.

Razvan Stanica is responsible of the research option at the Telecommunications department of INSA Lyon.

Razvan Stanica is vice dean of the Telecommunications department of INSA Lyon, in charge of education related affairs.

10.2.2. Supervision

PhD in progress: Abderrahman Ben Khalifa, Cognitive mechanisms for IoT networks, since 11/2016. Advisors: Hervé Rivano, Razvan Stanica.

PhD in progress : Rodrigue Domga Komguem, Autonomous WSN architectures for road traffic applications, since 11/2012. Advisors: Razvan Stanica, Maurice Tchente (Univ. Yaoundé, Cameroun), Fabrice Valois.

PhD in progress: Mohamed Anis Fekih, Urban pollution using wireless sensor networks, since 11/2018. Advisors: Walid Bechkit, Hervé Rivano.

PhD in progress: Kawtar Lasri, Data collection and distributed spatial coordination in LPWAN networks, since 01/2019. Advisors: Oana Iova, Fabrice Valois.

PhD in progress: Ichrak Mokhtari, Spatio-temporal analysis of pollution data from low cost sensors, since 11/2019. Advisors: Walid Bechkit, Hervé Rivano.

PhD in progress: Mihai Popescu, Connectivity constrained mobility in fleets of robots, since 11/2015. Advisors: Olivier Simonin (Inria CHROMA), Anne Spalanzani (Inria CHROMA), Fabrice Valois.

PhD in progress: Romain Pujol, Data collection in dynamic wireless networks, since 11/2018. Advisors: Razvan Stanica, Fabrice Valois.

PhD in progress: Solohaja Rabenjamnia, Data analysis of cellular trafic, since 11/2018. Advisors: Hervé Rivano, Razvan Stanica.

10.2.3. Juries

- Hervé Rivano was a reviewer in the following PhD defense committees:
 - G. Bu, Fiabilité, sécurité et vie privée dans les WBAN, LIP6, Sorbonne Université
 - B. Grozev, Conférences vidéos WebRTC à routage optimisé, Icube, Université de Strasbourg
- Hervé Rivano was a member in the following PhD defense committees:
 - M. Smache, La sécurité des réseaux déterministe de l'Internet industriel des objets (IIoT), CEA Leti, Mines Saint Etienne
 - H. Mazouzi, Algorithmes pour le déchargement de tâches sur serveurs de périphérie mobile, L2TI, Université de Paris Nord
- Razvan Stanica was a member in the following PhD defense committee:
 - M. M. Merah, Conception et réalisation d'un lien Light-Fidelity multi-utilisateur en intérieur, LISV, Université de Versailles Saint Quentin en Yvelines
- Fabrice Valois was a reviewer in the following PhD defense committee:
 - H. Mroue, Développement de réseaux radio d'objets connectés pour les Villes Intelligentes : amélioration de la Qualité de Service du réseau LoRa, IETR, Université de Nantes
- Fabrice Valois was a member in the following PhD defense committees:

- R. T. Hermeto, Standard Improvements and Predictable Performance for Industrial Internet of Things in Indoor Deployments, ICube, Université de Strasbourg
- H. Chour, Full-Duplex Device-to-Device Communication for 5G Network, IETR, Centrale Supélec

10.3. Popularization

- Hervé Rivano, Atelier de recherche participative sur la mesure de la qualité de l'air, Ecole Urbaine de Lyon, France.
- Hervé Rivano, Développement et expérimentation du kit pédagogique *Ca va chauffer*, Ecole Jules Guesde, Villeurbanne, France.
- Hervé Rivano, Atelier autour du kit pédagogique *Ca va chauffer*, Super Demain, Métropole de Lyon.

10.3.1. Articles and contents

- Hervé Rivano is co-author of the blog post *Représenter l'intangible : les défis de la visualisation des données numériques environnementales. Montrer la pollution de l'air, le cas d'Air To Go*<https://medium.com/anthropocene2050/>
- Hervé Rivano is organizer and moderator of the podcast *Quelle ville intelligente est possible ?*, <https://www.sondekla.com/user/event/10011>
- Hervé Rivano is moderator of the podcast *Anthropocène et outils numériques*, <https://www.sondekla.com/user/event/9805>

10.3.2. Interventions

- Walid Bechkit was invited speaker about *3M'Air Mesures citoyennes Mobiles et Modélisation: qualité de l'air et îlots de chaleur à Lyon*, Colloque National Capteurs et Sciences Participatives, Paris, 2019.
- Oana Iova, Hervé Rivano and Fabrice Valois was involved in *Les rêveries lumineuses de Léonard*, <https://popsciences.universite-lyon.fr/agenda/les-reveries-lumineuses-de-leonard-fete-des-lumieres-2019/>, contribution de l'Ecole Urbaine de Lyon pour l'Université de Lyon, Fête des Lumières, 2019.

COATI 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

- Christelle Caillouet :
 - MiSARN'19: International Mission-Oriented Wireless Sensor, UAV and Robot Networking in conjunction with IEEE INFOCOM 2019.
 - Wi-DroIT'19: 1st International Workshop on Wireless sensors and Drones in Internet of Things in conjunction with DCOSS 2019
 - AlgoTel'19: 21ème Rencontre Francophone sur les Aspects Algorithmiques de Télécommunications, Saint Laurent de la Cabrerisse, France, June 4-7, 2019.
- David Coudert :
 - ONDM'19: 23rd Conference on Optical Network Design and Management, Athens, Greece, May 13-16, 2019.
 - IEEE ICC'19: IEEE International Conference on Communications, Shanghai, China, May 20-24, 2019.
 - IEEE Globecom'19: IEEE Global Communications Conference, Waikoloa, Hi, USA, December 9-13, 2019.
- Frédéric Giroire :
 - Algotel'19: 21ème Rencontre Francophone sur les Aspects Algorithmiques de Télécommunications, Saint-Laurent-de-la-Cabrerisse, France, June 4-7, 2019.
- Frédéric Havet :
 - LAGOS'19: X Latin and American Algorithms, Graphs and Optimization Symposium, Belo Horizonte, Brazil, June 2-7 2019.
 - JGA'19: Journées Graphes et Algorithmes, Brussels, Belgium, November 15-17 2019.
- Joanna Moulhierac :
 - CoRes'19: Rencontres Francophones sur la Conception de Protocoles, l'Évaluation de Performance et l'Expérimentation des Réseaux de Communication, Saint Laurent de la Cabrerisse, France, June 3-4, 2019.
- Emanuele Natale :
 - SPAA'19: 31st ACM Symposium on Parallelism in Algorithms and Architectures, Phoenix, AZ, USA, June 22-24, 2019 .
- Nicolas Nisse :
 - CIAC'19: 11th International Conference on Algorithms and Complexity, Roma, Italy, May 27-29th, 2019.
 - LAGOS'19: X Latin and American Algorithms, Graphs and Optimization Symposium, Belo Horizonte, Brazil, June 2-7, 2019.
 - WG'19: 45th International Workshop on Graph-Theoretic Concepts in Computer Science, Vall de Núria, Catalonia, Spain, June 19-21, 2019.

10.1.1.2. Reviewer

Members of COATI have reviewed numerous manuscripts submitted to national and international conferences, including:

AlgoTel 2019, CoRes 2019, CSR 2019, EvoApplications 2019, IEEE ICC 2019, IPDPS 2019, IEEE Globecom 2019, LAGOS 2019, MFCS 2019, ONDM 2019, OPODIS 2019, IEEE PIMRC 2019, SPAA 2019, WG 2019.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

Jean-Claude Bermond :

Computer Science Reviews, Discrete Mathematics, Discrete Applied Mathematics, Journal of Graph Theory, Journal of Interconnection Networks (Advisory Board), Mathématiques et Sciences Humaines, Networks, Parallel Processing Letters, the SIAM book series on Discrete Mathematics, Transactions on Network Optimization and Control, Algorithms and Applications.

Christelle Caillouet :

Guest Editor of the Special Issue "Optimization and Communication in UAV Networks" of MDPI Sensors Journal with Nathalie Mitton.

Alexandre Caminada :

Sensors — Open Access Journal, MDPI editor, Basel.

Soft Computing, Springer.

Journal of Traffic and Transportation Engineering, Elsevier.

Transactions on Mobile Computing, IEEE.

Transactions on Vehicular Technology, IEEE.

David Coudert :

Discrete Applied Mathematics (Elsevier).

Networks (Wiley).

Frédéric Giroire :

Journal of Interconnection Networks (World Scientific).

Frédéric Havet :

Discrete Mathematics and Theoretical Computer Science.

10.1.2.2. Reviewer - Reviewing Activities

Members of COATI have reviewed numerous manuscripts submitted to international journals, including:

IEEE Access, The American Mathematical Monthly, ACM Journal of Experimental Algorithmics (JEA), Elsevier Ad Hoc Networks, Ars Combinatorica, Computer Communications (ComCom) Computer Networks (COMNET), Computers & Operations Research (COR), Discrete Applied Mathematics (DAM), Discrete Mathematics, Discrete Mathematics and Theoretical Computer Science (DMTCS), Discussiones Mathematicae Graph Theory, European Journal of Combinatorics, European Journal of Operational Research (EJOR), Graphs and Combinatorics, Journal of Computer and System Sciences (JCSS), Journal of Combinatorial Theory, Series B (JCTB), IEEE/OSA Journal of Lightwave Technology (JLT), Opuscula Mathematica, SIAM Journal on Discrete Mathematics (SIDMA), IEEE Transactions on Mobile Computing (TOMC), IEEE/ACM Transactions on Networking (ToN), IEEE Transactions on Network and Service Management (TNSM), IEEE Transactions on Parallel and Distributed Systems (TPDS), IEEE Transaction on Services Computing, Theoretical Computer Science (TCS), Theory of Computing Systems (TOCS), Utilitas Mathematica.

10.1.3. Invited Talks

- Julien Bensmail :
 - Sequential Metric Dimension (in trees)*. Meeting of IFCAM project, Indian Statistical Institute, Kolkata, India. February 2019.
 - On the “quest” towards a directed variant of the 1-2-3 Conjecture*. Seminar of the Department of Applied Mathematics, Northwestern Polytechnical University, Xi’an, China. October 2019.
 - On the “quest” towards a directed variant of the 1-2-3 Conjecture*. Seminar of the School of Mathematics and Statistics, Xidian University, Xi’an, China. September 2019.
 - On partitioning graphs into connected subgraphs*. Seminar of the Department of Applied Mathematics, Northwestern Polytechnical University, Xi’an, China. September 2019.
 - A Decompositional Approach to the 1-2-3 Conjecture*. Seminar of the Departamento de Matemática, Universidade Federal do Ceará, Fortaleza, Brazil. May 2019.
- David Coudert :
 - Scientific objectives of ANR project MULTIMOD*. Workshop “Complexité et algorithmes” of GDR IM, Roscoff, France, April 3-5, 2019.
 - On the Flinders Hamiltonian Cycle Problem Challenge*. Keynote speaker at “21ème Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications” (AlgoTel 2019), Saint Laurent de la Cabrerisse, France, June 3-7, 2019.
 - On the Flinders Hamiltonian Cycle Problem Challenge*. Department of Computer Science & Software Engineering, Concordia University, Québec, Canada, July 25, 2019.
- Frédéric Giroire :
 - Placement de services réseaux virtuels dans le cloud et au-delà*. Journées Cloud <https://www.irit.fr/journeescloud2019/>, Toulouse, France. September, 12, 2019.
 - Overview of Networking Challenges for the Placement of Cloud Services*. Team seminar. Concordia University, Montréal, Canada.
 - Sobriété énergétique des réseaux informatiques*. Journée Scientifique "Concilier numérique et environnement ?" de l'Académie RISE / EUR DS4H de l'Université Côte d'Azur, France. December 2, 2019.
- Frédéric Havet :
 - Unavoidability and universality of digraphs*, WG 2019, Vall de Núria, Catalonia, Spain, June 2019.
 - On the unavoidability of trees in tournaments*, A tribute to Frédéric Maffray, Grenoble, France, September 2-4, 2019.
- Emanuele Natale :
 - From Distributed Computing to Natural Algorithms and Beyond*, invited talk at the 20th Italian Conference on Theoretical Computer Science (ICTCS'19) as a recipient of the IC-EATCS Young Researcher Award, Como, Italy, September 9-11, 2019.
- Nicolas Nisse :
 - Recovery of disrupted airline operations*, seminar team ParGO, Univ. federal do Ceara, Fortaleza, Brazil, May 10th, 2019
 - Eternal domination in grid-like graphs*, seminar of Northwestern Polytechnical University, Xi’an, China, Sept. 9th, 2019
 - Localization GameS in graphs*, seminar of Xidian University, Xi’an, China, Sept. 5th, 2019

10.1.4. Leadership within the Scientific Community

Alexandre Caminada :

Member of the administrative board of the Sophia Club Entreprise (club of more than 200 Sophia companies).

David Coudert :

Co-chair of *Pôle RESCOM of GDR RSD of CNRS* since 2017 and member of the steering committee since 2005.

Frédéric Giroire :

Member of the steering committee of *GT Energy of the GDR RSD of CNRS*.

Frédéric Havet :

Member of the steering committee of *GT Graphes of the GDR IM of CNRS*.

Nicolas Nisse :

Member of the "bureau" of the GT CoA of the GDR IM.

10.1.5. Scientific Expertise

- Jean-Claude Bermond :
Expert for DRTT-MESR Crédit impôt recherche (CIR et agréments).
- Alexandre Caminada :
Expert for HCERES evaluation of UMR5157 SAMOVAR (Services répartis, Architectures, MODélisation, Validation, Administration des Réseaux), Telecom Sud Paris.
Expert for CTI of ENSEA, graduate school on economy and statistics, Abidjan, Côte d'Ivoire.
- David Coudert :
Expert for ANR
- Frédéric Havet :
Expert for The Fund for Scientific Research - FNRS, Belgium.
- Nicolas Nisse :
Expert for ESF (European Science Foundation).
Expert for National Science Centre, OPUS (Poland)

10.1.6. Research Administration

- Jean-Claude Bermond :
Responsible for the cooperation between Inria and Greece : setting of grants for master 2 students co-financed by Inria Sophia Antipolis Méditerranée and the French Embassy in Greece (in 2019 the grant was given to Foivos Fioravantes who did his internship in Coati) and getting financial support for internships via the Bodossakis Foundation.
- Christelle Caillouet :
Elected member of CPRH (Comité Permanent de Ressources Humaines) University of Nice Sophia Antipolis;
Elected member of I3S laboratory committee since December 2016.
- Alexandre Caminada :
Head of the graduate school of engineering Polytech Nice Sophia which includes the EA7498 lab (Polytech Lab) of the French Ministry for Education, Research and Innovation, in charge of research in civil engineering and smart building at Université Côte d'Azur.

Member of the executive board of the Sophia Interdisciplinary Institute of Artificial Intelligence started in 2019.

Manager of the Chinese Scholarship Council PhD program for the Polytech network (70 Phd subjects proposed in 2019 by the 15 graduate schools).

Member of the selection committee of the tenure professor position nr552 (section 27, machine learning) at Université Côte d'Azur.

- David Coudert :
 - Nominated member for Inria at the doctoral school STIC, since September 2017;
 - Head (since December 2019) and member (since 2009) of the “Comité de Suivi Doctoral” of Inria;
 - Nominated member for Inria at the steering committee of Academy 1 RISE (Networks, Information, Digital Society) of UCA^{JEDI} since February 2018;
 - Nominated member for Inria at the steering committee of EUR DS4H since February 2018;
 - Nominated member for Inria at the steering committee of Labec UCN@Sophia since February 2018;
 - Member of the steering committee of seminar Forum Numerica of Academy 1 RISE of UCA^{JEDI} since 2018;
 - Member of the “Bureau du comité des équipe-projets” of Inria research center Sophia Antipolis - Méditerranée since 2018.
- Frédéric Giroire :
 - In charge of the internships of stream UbiNet of Master 2 IFI, UNS.
- Frédéric Havet :
 - Head of COMRED team of I3S laboratory.
- Luc Hogie :
 - Member of the CUMI (comité des utilisateurs des moyens informatiques) of Inria Sophia Antipolis Méditerranée;
 - Elected member of I3S laboratory committee since December 2016.
- Joanna Moulhierac :
 - Member of selection committee MCF 775, IUT Arles, 2019.
- Nicolas Nisse :
 - Elected member of "Comité de centre", Inria, Sophia Antipolis.
 - Member of “Comité Scientifique et Pédagogique” (CSP) EUR DS4H.
- Michel Syska :
 - Elected member of CPRH (Comité Permanent de Ressources Humaines) University of Nice Sophia Antipolis.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching Responsibilities

Julien Bensmail :

2019: In charge of the internships of the 1st-year students of Département QLIO of IUT Nice Côte d'Azur.

Since September 2019: Head of the Licence Professionnelle “Managements des Processus Logistiques” (MPL) of Université Nice-Sophia Antipolis.

Christelle Caillouet :

Elected member of Conseil de département IUT Informatique since September 2017.

Alexandre Caminada :

Head of the graduate school of engineering Polytech Nice Sophia (1500 master grade students, 100 faculty members, 50 staffs).

Member of the executive board of the Polytech network, national network of public graduate school of engineering.

Member of the executive board of Université Côte d'Azur.

Joanna Moulhierac :

“Directrice d'études” for the 1st-year students of “Département Informatique” of IUT Nice Côte d'Azur (since September 2017).

Head of the “Conseil de Département Informatique” of IUT Nice Côte d'Azur (since September 2017).

10.2.2. Teaching

IUT: Julien Bensmail, *Recherche opérationnelle*, 90h ETD, Level L2, Département QLIO of IUT Nice Côte d'Azur, UNS, France;

IUT: Julien Bensmail, *Systèmes de gestion de bases de données*, 70h ETD, Level L2, Département QLIO of IUT Nice Côte d'Azur, UNS, France;

IUT: Julien Bensmail, *Sécurité des échanges de données inter-entreprises*, 30h ETD, Level LP, LP MPL of IUT Nice Côte d'Azur, UNS, France;

IUT: Christelle Caillouet, *Object Oriented Programming*, 150h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Christelle Caillouet, *Introduction to Networks*, 21h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Christelle Caillouet, *Algorithmics*, 21h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Adrien Gausseran, *Bases de la conception orientée objet*, 64h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Adrien Gausseran, *Introduction à l'algorithmique et à la programmation*, 6h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Luc Hogie, *Distributed programming*, 28h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Hicham Lesfari, *Réseaux d'opérateurs et réseaux d'accès*, 48h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Joanna Moulhierac, *Introduction à l'algorithmique*, 30h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Joanna Moulhierac, *Introduction aux Réseaux*, 36h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Joanna Moulhierac, *Réseaux avancés*, 60h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Joanna Moulhierac, *Compléments d'algorithmique*, 30h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Thibaud Trolliet, *Database*, 64h ETD, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Michel Syska, *Tutored Project: Introduction*, Level L1, IUT Nice Côte d'Azur, UNS, France;

IUT: Michel Syska, *Operating Systems: Advanced Programming*, 40h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Michel Syska, *Data Structures and Algorithms*, 44h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Michel Syska, *Introduction to Artificial Intelligence*, 40h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Michel Syska, *Algorithmics*, 52h ETD, Level L2, IUT Nice Côte d'Azur, UNS, France;

IUT: Michel Syska, *Web Security*, 13h ETD, Level L3, IUT Nice Côte d'Azur, UNS, France;

MPSI: Nicolas Nisse, *Option informatique, MPSI*, 24h ETD, classe préparatoire MPSI, Lycée International de Valbonne, France;

Licence: Frédéric Giroire, *Probability and statistics*, 50h ETD, 1st year (L3), Engineer School Polytech Nice;

Licence: Thi Viet Ha Nguyen, *TDs Theoretical computer science 2 (Formal languages and automata)*, 22h ETD, L3, Polytech Nice Sophia, France;

Master: Alexandre Caminada, *Radio location systems*, 20h ETD, Master 2 (in english), Polytech Nice Sophia, France

Master: Alexandre Caminada, *Artificial intelligence*, 40h ETD, Master 2 (in english), Polytech Nice Sophia, France

Master: Alexandre Caminada, Master grade student's internship supervision and assesment, 10h ETD, Master 2, Polytech Nice Sophia, France

Master: David Coudert, *Algorithms for Telecoms*, 36h ETD, M2, Université Nice Sophia Antipolis, France;

Master: Frédéric Giroire, *Graph Algorithms*, 15h ETD, Master 2, International Track Ubinet, Université Côte d'Azur, Nice;

Master: Frédéric Giroire, *Machine learning for networks*, 15h ETD, Master 2, International Track Ubinet, Université Côte d'Azur, Nice;

Master: Emanuele Natale, *Natural Distributed Algorithms*, 20h, Laurea Magistrale, University of Rome Tor Vergata, Italy.

Master: Nicolas Nisse, *Graphes*, 36 ETD, M1 Informatique, UNS/UCA, France;

Master: Nicolas Nisse, *Graphes avancés*, 36 ETD, M2 Informatique, UNS/UCA, France;

Master: Nicolas Nisse, *Algorithmes et Optimisation*, 15 ETD, M2 IFI, Parcours Ubinet, UNS/UCA, France;

Master: Nicolas Nisse, *Algorithmique*, 10 ETD, Formation professeurs de lycée, DIU, UCA, France;

Master: Stéphane Pérennes, *Algorithmes et complexité*, 10h ETD, M1 SI4, Polytech Nice Sophia, France

10.2.3. Supervision

10.2.3.1. PhD thesis

PhD: Brieuc Berruet, *Application des techniques de Machine Learning à la géolocalisation "indoor" des objets connectés dans le contexte de la future 5G*, doctorale school SPIM, Université de Belfort Franche Comté, December 17, 2019. Supervisor: Alexandre Caminada and Oumaya Baala (Orange).

PhD: Emilio Cruciani, *Simple Randomized Distributed Algorithms for Graph Clustering*, Gran Sasso Science Institute, December 19, 2018. Co-supervisors: Gianlorenzo D'Angelo (GSSI), Luca Becchetti (Sapienza University of Rome) and Emanuele Natale.

PhD: Mehdi Katranji, *Utilisation des méthodes de Machine Learning pour apprendre les modèles de mobilité humaine selon leurs attributs socio-démographiques et géographiques*, doctorale school SPIM, Université de Belfort Franche Comté, December 16, 2019. Supervisor: Alexandre Caminada and Fouad Hadjselem (Orange).

PhD: Fionn McInerney, *Domination and Identification Games in Graphs* [14], Université Côte d'Azur, July 8, 2019. Supervisor: Nicolas Nisse.

PhD: Andrea Tomassilli, *Towards Next Generation Networks with SDN and NFV* [15], June 24, 2019. Supervisors: Stéphane Pérennes and Frédéric Giroire.

PhD in progress: Ali Al Zoobi, *Algorithms for shared on demand public transportation system in the city*, since October 2018. Co-supervisors: David Coudert and Nicolas Nisse.

PhD in progress: Francesco D'Amore, *Dynamics for multi-agent system coordination in noisy and stochastic environments*, since October 2019. Co-supervisors: Emanuele Natale and Nicolas Nisse.

PhD in progress: Giuseppe Di Lena, *Resilience of virtualized networks*, since April 2018. Co-supervisors: Thierry Turletti (DIANA), Chidung Lac (Orange Labs Lannion) and Frédéric Giroire. CIFRE grant with Orange.

PhD in progress: Foivos Fioravantes, *Distinguishing labellings of graphs*, since October 2019. Co-supervisors: Julien Bensmail and Nicolas Nisse.

PhD in progress: Adrien Gausseran, *Optimization Algorithms for Network Slicing for 5G*, since October 2018. Supervisors: Joanna Moulierac and Nicolas Nisse.

PhD in progress: Hicham Lesfari, *Machine learning for dynamic network resource allocation*, since October 2019. Supervisor: Frédéric Giroire.

PhD in progress: Zhejiayu Ma, *Learning problem for the diffusion of multimedia contents*, since October 2018. Co-Supervisors: Guillaume Urvoy-Keller, Frédéric Giroire, Soufiane Rouiba (Easy-broadcast, Nantes). CIFRE grant with Easybroadcast.

PhD in Progress: Thi-Viet-Ha Nguyen, *Graph Algorithms techniques for (low and high) resolution model of large protein assemblies.*, since October 2018. Co-supervisors: Frédéric Havet and Dorian Mazauric (ABS).

PhD in progress: Thibaud Trolliet, *Exploring Trust on Twitter*, since October 2017. Co-supervisors: Arnaud Legout (DIANA) and Frédéric Giroire.

10.2.3.2. Internships

Licence: Paul Bastide, *Density Estimation via Random Walks with Limited Communication*, ENS Rennes, France, from 20 May 2019 until 12 July 2019. Supervisor: Emanuele Natale.

Licence: Gabriel Djebbar, *Collapse and graphs problems*, SI3, Polytech Nice Sophia, France, from July 2018 until August 2018. Co-supervisors: Frédéric Havet and Dorian Mazauric (ABS).

Licence: Solal Gaudin, *Compromis temps-espace dans l'énumération des paires éloignés par distances décroissantes*, L3 ENS Cachan, France, from June 2019 until July 2019. Supervisor: David Coudert.

Licence: Emile Sorci, *Oblivious metric dimension*, L3, ENS Lyon, France, from June 2019 until July 2019. Co-supervisors: Julien Bensmail and Nicolas Nisse.

Licence: Zoé Varin, *Constrained matchings*, L3, ENS Lyon, France, from June 2019 until July 2019. Co-supervisors: Julien Bensmail and Nicolas Nisse.

Master 1 (tutorship): Nitha Sagar Jayanna, *Shortest Path in Multimodal Public Transportation Networks*, M1 Computer Science, Digital Systems for Humans (DS4H) Graduate school - Université Côte d'Azur, France, from October 2018 until June 2019. Supervisor: Michel Syska

Master 1 (tutorship): Shamprika Mehreen, *Multi Objective Shortest Path Problem*, M1 Computer Science, Digital Systems for Humans (DS4H) Graduate school - Université Côte d'Azur, France, from October 2018 until June 2019. Supervisor: Michel Syska

Master 2 (TER): Haoran Ding, *Machine learning for dynamic network resource allocation*, Master 2 IFI, international track Ubinet, Université Côte d'Azur, France, from October 2019 until December 2019. Co-supervisors: Frédéric Giroire and Hicham Lesfari.

Master 2 (TER): Thomas Dissaux, *Computing treelength*, M2 IFI, Université Côte d'Azur, France, from October 2019 until December 2019. Supervisor: Nicolas Nisse

Master 2 (TER): Igor Dias Da Silva, *Computation and analysis of drone trajectories for effective surveillance and data collection*, Master IFI, Université Côte d'Azur, France, from November 2019 until December 2019. Supervisor: Christelle Caillouet.

Master 2 (TER): Arno Gobbin, *Computational Complexity of Puzzles and Games*, SI5 Polytech Nice Sophia, Université Côte d'Azur, France, from November 2019 until December 2019. Supervisor: Emanuele Natale

Master 2 (TER): Siwar Helaoui, *Distributed simulation of algorithms for the deployment of self-organized UAVs*, SI5 Polytech Nice Sophia, Université Côte d'Azur, France, from November 2019 until March 2020. Supervisor: Christelle Caillouet and David Coudert.

Master 2 (TER): Noueman Khalikine, *Algorithms for studying the evolution over time of the structure of social graphs*, stream Ubinet of M2 IFI, Université Côte d'Azur, France, from November 2019 until December 2019. Supervisor: David Coudert and Frédéric Giroire.

Master 2 (TER): Abdelkrim El Merss, *Algorithms for studying the evolution over time of the structure of social graphs*, stream Ubinet of M2 IFI, Université Côte d'Azur, France, from November 2019 until December 2019. Supervisor: David Coudert and Frédéric Giroire.

Master 2 (TER): Victor Tapissier, *Evolution over time of the structure of social graphs*, SI5 Polytech Nice Sophia, Université Côte d'Azur, France, from November 2019 until December 2019. Supervisor: David Coudert and Frédéric Giroire.

Master 2 (TER): Bruno Tarbes, *Evolution over time of the structure of social graphs*, SI5 Polytech Nice Sophia, Université Côte d'Azur, France, from November 2019 until December 2019. Supervisor: David Coudert and Frédéric Giroire.

Master 2 (apprentissage): Théo Qui, *Implementation and study of Graphs' decompositions*, M2 IFI, Université Côte d'Azur, France, from September 2019 until August 2020. Supervisor: Nicolas Nisse.

Master 2: Athanasia Farmaki, *Implementaiton of algorithms for the dial-a-ride problem with time windows*, in the context of ANR MULTIMOD, Master 2, National Technical University of Athens, Greece, from January 2019 until June 2019. Co-supervisors: David Coudert and Nicolas Nisse.

Master 2: Foivos Fioravantes, *BMRN*-colouring of planar digraphs*, Master 2 IFI, international track Ubinet, Université Côte d'Azur, France, from March 2019 until August 2019. Supervisor: Julien Bensmail.

Master 2: Hicham Lesfari, *Network Anomaly Detection Using Graph Kernels*, Master 2 IFI, international track Ubinet, Université Côte d'Azur, France, from March 2019 until August 2019. Supervisor: Frédéric Giroire.

Master 2: Bai Xin, *Optimization of Drones Trajectory for Optimal Sensor Coverage and Data Collection*, M2 Ubinet, Université Côte d'Azur, France, from March 2019 until August 2019. Supervisor: Christelle Caillouet.

Google Summer of Code: Ritesh K, *Improvement of methods for computing distances in the graph module of *Sagemath**, Bachelor of Technology at the Department of Computer Science and Engineering of National Institute of Technology Karnataka, India. from May 2019 until August 2019. Mentor: David Coudert.

Google Summer of Code: Rajat Mittal, *Implementation of algorithms for enumeration of *k*-shortests simple paths and contribution to the improvement of graph module of *Sagemath**, Master at Indian Institute of Technology (BHU) Varanasi, India. from May 2019 until August 2019. Mentor: David Coudert.

Google Summer of Code: Georgios Giapitzakis Tzintanos, *Implementation of new graph traversals (*LexBFS*, *LexDFS*, etc.) and contribution to the improvement of graph module of *Sagemath**, Bachelor of Science at the National and Kapodistrian University of Athens, Greece. from May 2019 until August 2019. Mentor: David Coudert.

10.2.4. Juries

Jean-Claude Bermond :

President of the PhD prize committee *prix de thèse Graphes “Charles Delorme”* <http://gtgraphes.labri.fr/pmwiki/pmwiki.php/PrixTheseDelorme/PrixTheseDelorme>;

Christelle Caillouet :

Member of PhD committee of Dorin Rautu, Université de Toulouse, October 1, 2019;

Alexandre Caminada :

Referee for the PhD thesis of Shen Peng, Paris-Sud university, June 17, 2019, Chance Constrained Problem and Its Applications;

Referee for the Pierre Lafitte Price, supported by the Doctoral Schools SFA (Basic and Applied Sciences) and STIC (Sciences and Technologies of Information and Communication) of Université Côte d’Azur and Mines Paris, to enhance the quality of the research work of 2nd year PhD students;

David Coudert :

Referee and member of PhD committee of Valentin Pollet, Université de Montpellier, October 3, 2019;

Referee and member of PhD committee of Francesca Fossati, Sorbonne Université, November 29, 2019;

President of PhD committee of Paul Beaujean, Université Paris Dauphine, December 16, 2019;

Frédéric Havet :

Member of PhD committee Jocelyn Thiébaud, Université de Montpellier, November 19, 2019;

Joanna Moulhierac :

Member of PhD committee of Chaopeng Guo, Université de Toulouse, June 14, 2019;

Nicolas Nisse :

Referee and member of PhD committee Valentin Gledel, Université de Lyon (LIRIS), September 24th, 2019;

Referee and member of PhD committee Sébastien Ratel, Université Aix-Marseille (LIS), November 8th, 2019.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Jean-Claude Bermond, Frédéric Havet, Joanna Moulhierac, and Nicolas Nisse are involved in Terra Numerica which brings together several popularization groups - in order to create a museum of digital sciences.
- Frédéric Havet: Vice-president and member of the scientific committee of the association Institut Esope 21 (<https://lewebpedagogique.com/institutesope21/>).

10.3.2. Education

- Frédéric Havet, Joanna Moulhierac and Nicolas Nisse (responsible) : Participation to Galejade project “Graphes et ALgorithmes : Ensemble de Jeux À Destination des Ecoliers... (mais pas que)” <https://galejade.inria.fr/>.
Design of pedagogical resources introducing graphs and algorithms to primary school students.

Training of primary school teachers, ESPE, Nice (March 22, 2019), Lyon (April 10th, 2019).

Intervention Lycée Carnot (Cannes, March 14, 2019), Lycée Sydney Bechet (Antibes, March 13, 2019), Lycée au Cannet (April 5, 2019)

- Frédéric Havet :

Training of secondary school teachers on graphs and algorithms. April 23, 2019.

10.3.3. Interventions

- Fête de la Science (Frédéric Havet, Nicolas Nisse, Ali Al Zoobi) :
Villeneuve-Loubet, October 5, 2019;
Colline du Château de Nice (stands Inria and I3S laboratory), October 4-6, 2019;
Collège Lycée Vinon-sur-Verdon, October 8-11, 2019;
Palais des Congrès de Juan-Les-Pins, October 19-20, 2019.
- Ali Al Zoobi :
Presentation of posters and combinatorial games during the "Fête des Sciences", Collège Emile Roux, June 5, 2019.
- David Coudert :
Presentation of the *Flinders Hamiltonian Cycle Problem Challenge* to a group of students from classe préparatoire MPSI, Lycée International de Valbonne, June 24, 2019.
- Frédéric Giroire :
Accueil de la mission locale de Grasse pour une session de médiation scientifique, 26 avril 2019.
- Frédéric Havet :
Animation of the exhibition "Animals of the Mediterranean sea" 6 classes, Ecole la Tauriac, Toulon, January 24, 2019.
Conferences "Birds of Var", 6 classes, Ecole élémentaire de Rians, February 1, 2019.
Conférence "Be a mathematician", Ecole des Pallières, February 2, 2019.
Animation "Birds of Var", 6 classes Ecole de la Tauriac and 2 classes Ecole de la Beaucaire, Toulon, Mars 07 2019.
3 conferences "Les pavages", "La science du ballon de football", "Mathémagie" for 10 classes in total. Collège Daudet Nice, April 15, 2019.
"La magie du binaire". Conference for six classes in Manosque for the "Jeux fabriqués" day organised by DANE 04. April 2, 2019.
Training of primary school teachers.
- Frédéric Havet, Joanna Moulhierac, and Nicolas Nisse participated to the supervision of twelve schoolchildren (3ème) in internship.
- Nicolas Nisse :
MathC2+, Sophia Antipolis, June 14, 2019
- Michel Syska :
Member of the organization of the code competition "Retro Gaming pico-8" (55 teams of 3 students), April, 2019.
Organization and supervision of the local site IUT for the national code competition "La nuit de l'info" (156 students = 3.7% of participants), December 5-6, 2019.

10.3.4. Internal action

- Frédéric Havet and Nicolas Nisse participated to the Cafe'In presenting Galejade. April 29, 2019.

DANTE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Márton Karsai was in the organizing team (general chair) of the Computational Social Science Satellite of the CCS'19 Conference in September 2019 in Singapore
- Márton Karsai was in the organizing team (general chair) of the Machine Learning and Network Science Satellite of the NetSci'19 Conference in June 2019 in Burlington (VT)

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Thomas Begin was co-Chair for the National Conference Algotel 2019.

10.1.2.2. Member of the Conference Program Committees

- Thomas Begin has been member of the PC for the conference IEEE LCN 2019
- Isabelle Guérin Lassous has been a member of the PC for the following conferences in 2019: ACM MSWiM, Mascots, IEEE ICC, IEEE Globecom, IEEE WCNC.
- Márton Karsai has been the member of the PC of the conferences: NetSci, CompleNet, IC2S2, Algotel, NetSciX, CSSCCS, MLNS, Complex Networks, CCS, IC2S2
- Anthony Busson has been member of the PC for Algotel 2019, FNC 2019.
- Christophe Crespelle

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Isabelle Guérin Lassous is member of the editorial boards of Computer Communications (Elsevier), Ad Hoc Networks (Elsevier) and Discrete Mathematics & Computer Science.
- Anthony Busson is member of the editorial boards of Computer Communications (Elsevier).
- Márton Karsai is member of the editorial boards of Advances in Complex Systems (World Scientific)
- Márton Karsai is member of the editorial boards of PLoS ONE
- Philippe Nain is a member of the Advisor Board of Performance Evaluation (Elsevier).

10.1.3.2. Reviewer - Reviewing Activities

- Márton Karsai was acting as a reviewer for the journals of Nature Communications, PNAS, PRL, PRX, PRE, Scientific Reports, EPJ Data Science, SNAM, EPL, EPJ B, PLoS One, Journal of Statistical Mechanics, Physics Letter A, Advanced in Complex Systems, Journal of Physics: Condensed Matter, Complex Networks, New Journal of Physics, Physica Scripta, Network Science; and for project agencies as ANR, FET-H2020 RIA.
- Paulo Gonçalves was reviewer for the following journals: IEEE Transactions on Signal Processing, IEEE Signal Processing Letter, Signal Processing (Elsevier).
- Christophe Crespelle was a reviewer for Algorithmica (Springer) and Theoretical Computer Science (Elsevier).

- Thomas Begin was a reviewer for IEEE Transactions on Network and Service Management, IEEE Transactions on Parallel and Distributed Systems, and Performance Evaluation.
- Anthony Busson was a reviewer for Computer communication, Sensors, IEEE wireless communications letters.

10.1.4. Invited Talks

- Thomas Begin gave the following invited talk:
 - Contributions to the Performance Modeling of Computer Networks - CITI lab (Avril 2019, Lyon, France)
- Isabelle Guérin-Lassous gave the following invited talks:
 - UAVs and cellular networks: which usage, which constraints, which performance? - Entretiens Jacques Cartier (November 2019, Montreal, Canada)
 - How to improve the performance of a Wi-Fi network without changing the Wi-Fi technologie? - Séminaire ENS Rennes (September 2019, Rennes, France)
- Márton Karsai gave the following invited talks:
 - Lecture in the Business Analytics and Data Mining MSc program - Bocconi University (7 March 2019, Milano, Italy)
 - Complex System Academy - Université de Côte d'Azur (25 March 2019, Nice, France)
 - YEP XV - Information Diffusion on Random Networks - TU/e, EUROSTAT (27 April 2019, Eindhoven, The Netherlands)
 - Lectures about Artificial Intelligence - EM Lyon Business School - AIM Institute (4 April 2019, Lyon, France)
 - MOTIF Conference on Human Dynamics - Universidade Federal de Minas Gerais (10 April 2019, Belo Horizonte, Brazil)
 - UNICEF Innovation seminar - UNICEF Innovation Office - United Nations (4 June 2019, New York, NY, USA)
 - MédiaLab seminar - SciencePo Paris (25 June 2019, Paris, France)
 - AGRANDA Simposio Argentino de Ciencia de Datos Grandes Datos - 48 JAIIO (17 September 2019, Salta, Argentina)
 - Kickoff meeting of the DYNASNET Synergy ERC project - Central European University (23 September 2019, Budapest, Hungary)
 - Dondena Seminar Series- Bocconi University (14 October 2019, Milano, Italy)
 - Agglomeration and Social Networks Seminar - MTA Center for Economic and Regional Studies (8 November 2019, Budapest, Hungary)
 - BigData and Mobility Workshop - University of Havana (25-26 November, Havana, Cuba)

10.1.5. Scientific Expertise

- Isabelle Guérin Lassous
 - has been a member of the strategic consulting of the Fondation Blaise Pascal since September 2019.
 - has been a member of the scientific council of the Société Informatique de France since November 2019
- Éric Guichard
 - is a member of the scientific committee of LASCO Idea Lab of the IMT (Laboratoire Sens et Compréhension du monde contemporain de l'Institut Mines-Télécom).

is a member of the international evaluation board of the doctoral program *Filosofia da Ciencia, Tecnologia, Arte e Sociedade* of the University of Lisbon.

is the manager of the RAIL (Réseau de l'Atelier Internet Lyonnais), founded in 2017 and supported by IXXI and Enssib.

10.1.6. Research Administration

- Paulo Gonçalves
 - is scientific liaison officer for international relations in Inria Research Centre of Rhône-Alpes.
 - is a member of the executive committee of the Milyon labex and referent for its valorisation committee.
 - is correspondant for the theme "Big Data" of the *Fédération d'Informatique de Lyon*.
 - is member of the Council of the LIP laboratory.
- Isabelle Guérin Lassous
 - is member of the department council of the Computer Science department of Université Lyon 1.
- Anthony Busson
 - is member of the Thesis Commission at LIP.
 - is head of the computer science department at IUT (Institut Universitaire de Technologie) - Université Lyon Claude Bernard Lyon 1.
- Thomas Begin
 - is an elected member of the Council of the LIP laboratory.
 - is an elected member of the department council of the Computer Science department of Université Lyon 1.
- Márton Karsai
 - is the co-responsible for the M2 master program in Modelling of Complex Systems at ENS Lyon
 - is the elected council member of the Complex System Society (2015-)
 - is the elected member of executive committee of the Complex System Society (2018-)
 - is the elected member of the steering committee of the IXXI Complex System Institute (2017-)
 - is the member of the computational infrastructure board of LIP
 - is the member of the communication board of LIP
- Éric Guichard is a member of the steering committee of the IXXI Complex System Institute

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence :

Thomas Begin: Computer Networks, 18.5h, L3, Université Lyon 1.

Márton Karsai: Introduction to Complex Networks, 6h, L3, ENS Lyon

Master :

Thomas Begin: Distributed Algorithms, 18h, M1, Université Lyon 1.

Thomas Begin: Computer Networks, 44h, M1, Université Lyon 1.

Thomas Begin: System Administration & Security, 10.5h, M2, Université Lyon 1.

Thomas Begin: Advanced Networks, 58h, M2, Université Lyon 1.

Thomas Begin: Cloud Computing, 9h, M2, Université Lyon 1.

Isabelle Guérin-Lassous: Distributed Algorithms, 30h, M1, Université Lyon 1.

Isabelle Guérin-Lassous: Networking, 14h, M1, Université Lyon 1.

Isabelle Guérin-Lassous: Wireless networks, 9h, M2, Université Lyon 1.

Isabelle Guérin-Lassous: Quality of Service, 5h, M2, Université Lyon 1.

Isabelle Guérin-Lassous: ToIP and streaming, 12h, M1, Université Lyon 1.

Éric Guichard: Économie du web et du document, 36h, M2, Enssib & Univ. Lyon 1.

Éric Guichard: Programmation éditoriale, 18h, M2, Enssib & Univ. Lyon 1.

Márton Karsai: Complex Networks, 36h, M2, ENS Lyon

Márton Karsai: Data Bases Data Mining, 20h, M1, ENS Lyon

Cycle ingénieur (Bac+3 à Bac+5):

Paulo Gonçalves: Traitement du Signal (déterministe, aléatoire, numérique), Estimation statistique. 80 heures Eq. TD. CPE Lyon, France.

Marion Foare: Traitement du Signal (déterministe, aléatoire), Traitement d'images, Compression, Projets. 115 heures Eq. TD. CPE Lyon, France.

Responsabilités

Thomas Begin : Head of the Master 2 speciality SRIV (Systèmes, Réseaux et Infrastructures Virtuelles) at UCBL - <http://master-info.univ-lyon1.fr/SRIV>

Isabelle Guérin Lassous has been appointed as the president of the CAPES NSI (Numérique et Science Informatique) committee since November 2019. This committee will be in charge of the recruitment of the computer science teachers in high schools.

Anthony Busson is head of the computer science department at IUT Lyon 1 Doua.

10.2.2. Supervision

PhD defense: Esteban BAUTISTA RUIZ, “Laplacian Powers for Graph-Based Semi-Supervised Learning”, November 27, 2019. P. Gonçalves (Dir.).

PhD defense: Marija STOJANOVA, “Performance Modelling of IEEE 802.11 networks” ,December 16, 2019. T. Begin (Dir.)

PhD in progress: Mohamed Abdelwedoud LAFDAL, Inference of conflict graph in IEEE 802.11 networks. September 2017, A. Busson and I. Guérin Lassous

PhD in progress: Samuel UNICOMB, Spreading processes on temporal networks, Oct 2016, M. Karsai director

PhD in progress: Jacobo Levy ABITBOL, Information diffusion and language evolution on dynamical social networks, Oct 2016, M. Karsai director and E. Fleury

PhD in progress: Sicheng DAI, Dynamic Multilayer Network Modelling, M. Karsai director. Started October 1st, 2017.

PhD in progress: Gaetan FRUSQUE, *Modal Decompositions of Dynamic Graphs : Application in Neurosciences*, P. Gonçalves (Dir. and P. Borgnat, co-advisor). Started October 1st, 2017.

PhD in progress: Rémy GRÜNBLATT, Controlled mobility for UAV networks, October 2017, I. Guérin Lassous and O. Simonin.

PhD in progress: Dominique BARBE, From local to global learning, P. Gonçalves (Dir. with M. Sebban and P. Borgnat, co-advisors). Started October 1st, 2018.

PhD in progress: Nour el Houda BOUZOUITA, supervised by A. Busson and Hervé Rivano. Wi-Fi network Optimization through crowd sensing applications. November 2018 - November 2021.

10.2.3. Juries

Paulo Gonçalves was reviewer of the Ph.D thesis examination board of Xiaoyi MAI, Centrale Supélec, October 2019.

Paulo Gonçalves was member of the Ph.D thesis examination boards of Karina Ashurbekova (Université Grenoble Alpes, December 2019).

Isabelle Guérin Lassous was a reviewer of the Ph.D thesis examination boards of Fannia Pacheco (UPPA, November 2019) and Pierre Brunisholz (Université Grenoble Alpes, May 2019).

Isabelle Guérin Lassous was a reviewer of the HDR examination board of Géraldine Texier (IMT-Atlantique, December 2019).

Isabelle Guérin Lassous was the president of the Ph.D thesis examination boards of Marc Heinrich (Université de Lyon, July 2019) and Thierry Arrabal (Université Franche-Comté, November 2019).

Isabelle Guérin Lassous was the president of the HDR examination boards of Christophe Alias (ENS de Lyon, May 2019), Marton Karsai (ENS de Lyon, April 2019) and Razvan Stanica (INSA de Lyon, November 2019).

Isabelle Guérin Lassous was a member of the Ph.D thesis examination board of Jalal Rachad (Telecom Paris, December 2019).

Isabelle Guérin Lassous was a member of the HDR examination board of Katia Jaffres-Runser (INP Toulouse, July 2019).

Thomas Begin was a reviewer of the Ph.D. thesis examination board of Amira KAMLI, Télécom-ParisSud, October 2019.

Márton Karsai was the member of the Prix de Thèse Systèmes Complexes - Complex System Institute, July 2019

Márton Karsai was the member of the PhD jury of Jordam Cambe (ENS Lyon), October 2019

Anthony Busson was a reviewer of the Ph.D thesis examination board of Jalal Rachad (Telecom Paris, December 2019).

Anthony Busson was a reviewer of the Ph.D thesis examination board of Henri-Joseph Audeoud (Université Grenoble Alpes, December 2019).

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Isabelle Guérin Lassous has been the managing director of the Foundation Blaise Pascal until the end of June 2019. The objectives of the foundation are to promote mathematics and computer science and to attract young people to scientific fields like computer science and mathematics. The actions of the FBP focus on:

- a support to actors that promote mathematics and computer science via allocated funding based on call of proposals;
- a structuring of actors to increase the impacts of their actions, to coordinate the efforts and to share experiences;
- a development of innovative experiences via summer camps and clubs of mathematics and computer science.

10.3.2. Interventions

Isabelle Guérin Lassous participated to the project Science XX Elles organized by the association Femmes & Sciences, CNRS and Ecole Normale Supérieure de Lyon. A portrait has been realized and has been exhibited in front of the Musée des Confluences during La Fête de la Science in October 2019 (<http://www.femmesetsciences.fr/lascience-taillexxelles/lyon/isabelle-guerin-lassous/>). She also participated to a speed meeting with families visiting the Musée des Confluences during which she has promoting her research activity.

Isabelle Guérin Lassous spent one day in high school (lycée St Just in Lyon) to promote computer science and to present female computer scientists in front of terminal classes.

Isabelle Guérin Lassous participated to the Challenge Innovatech organized by the association Elles Bougent. She was a member of the selection committee who selected a scientific project designed by a group of young girls (in high school).

DIANA Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

Chadi Barakat is on the editorial board of the Computer Networks journal, and was/is on the Technical Program Committee for the Network Traffic Measurement and Analysis Conference (2019 and 2020), the IEEE Symposium on Measurements and Networking M&N (2019), the International Conference on Network and Service Management (CNSM 2019) and the NetLearn Workshop (2020). He is currently in charge of international affairs at Inria Sophia Antipolis and is member of the COST-GTRI of Inria.

Walid Dabbous is member of the scientific committee of the DS4H Graduate school. He is also member of the Ubinet International Master program steering committee. He served as a Technical Program Committee member of the Artefact Evaluation Committee for the CoNext 2019 conference. He was member of the selection committee for the 2019 ACM SIGOPS France and GDR RSD thesis prize.

Arnaud Legout is the president of the Commission of the users of IT resources of Sophia Antipolis Inria research center.

Damien Saucez has co-chaired the ACM SIGCOMM *Artefact Evaluation Committee* whose role is to assess the reproducibility level of papers accepted to ACM SIGCOMM sponsored conferences and journals. He was TPC co-chair of the 2019 ACM Workshop on ns-3. He is regular reviewer for IEEE, ACM, Elsevier, and Springer journals.

Thierry Turletti, Senior ACM and IEEE member, served in 2019 in the program committees of the following international workshops and conferences: 2nd Workshop on Emerging Trends in Softwarized Networks (ETSN'19), Paris, France, June 28, 2019; 10th Workshop on ns-3, Mangalore, India, University of Florence, Italy, June 19-20 2019; 21st Algotel Conference, Narbonne, France, June 3-7, 2019; and VTC2019-Spring workshop, Kuala Lumpur, Malaysia, 28 April – 1 May 2019. Thierry Turletti is president of the Committee for Technological Development (CDT) and member of the committee NICE that studies postdoc and visiting researcher applications at Inria Sophia Antipolis. Thierry Turletti is member of the Editorial Boards of the Journal of Mobile Communication, Computation and Information (WINET) published by Springer Science and of the Advances in Multimedia Journal published by Hindawi Publishing Corporation.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master 2 Ubinet: Chadi Barakat and Walid Dabbous, Evolving Internet, 31.5 hours, M2, University of Nice-Sophia Antipolis, France.

Master Ubinet: Chadi Barakat and Walid Dabbous, Internet Measurements and New Architectures, 31.5 hours, M2, University of Nice-Sophia Antipolis, France.

Master 1 in Computer Science: Chadi Barakat, Computer Networks, 15 hours, M1, University of Nice Sophia Antipolis, France.

Master 1 in Computer Science: Chadi Barakat, Internet of the Future, 15 hours, M1, University of Nice Sophia Antipolis, France

Master Estel: Chadi Barakat, Voice over IP, 9 hours, University of Nice-Sophia Antipolis, France.

Master Ubinet: Arnaud Legout, From BitTorrent to Privacy, 36 hours, M2, University of Nice-Sophia Antipolis, France.

Master 1 in Computer Science: Arnaud Legout, Oral and written communications, 18 hours, M1, University of Nice-Sophia Antipolis, France.

Master IUP GMI: Damien Saucez, Security and privacy in networks, 38h, M2, University of Avignon, France.

E-learning

Python: Arnaud Legout and Thierry Parmentelat are co-authors of the MOOC Python 3 : "Python 3 : des fondamentaux aux concepts avancés du langage" that lasts 9 weeks on FUN (<https://www.france-universite-numerique-mooc.fr/>), UCA. For the second session there were 12748 registered persons. In total, this MOOC all on its editions has been followed by 57938 persons.

9.2.2. Supervision

PhD in progress: Othmane Belmoukadam works on "QoE aware content management in the Internet caching and transport". He is supervised by Chadi Barakat and funded by the doctoral school EDSTIC of Université Côte d'Azur (UCA).

PhD in progress: Yanis Boussad works on "Large scale characterization of the exposition to microwaves". He is co-supervised with Leonardo Lizzi, LEAT.

PhD in progress: Giuseppe Di Lena works on "Building a resilience methodology for NFV/SDN" in Apr 2018. His PhD is co-supervised by Thierry Turetletti, Damien Saucez and Frédéric Giroire from the Coati project-team .

PhD started: Mamoutou Diarra started his PhD on "Multi-access Edge Computing" in november 2019. He is co-supervised by Thierry Turetletti, Walid Dabbous and Amine Ismail from Ekinops.

PhD stopped: Thibaut Ehlinger stopped his PhD on "Mapping Quality of Service metrics to user Quality of Experience in the Internet" in April 2019. He was co-supervised by Chadi Barakat and Vassilis Christophides (EPI MiMove, Inria Paris).

PhD started: Houssam Elbouanani started his PhD on "Experiment control for reproducible research" in december 2019. He is co-supervised by Walid Dabbous, Chadi Barakat and Thierry Turetletti.

PhD in progress: Iman Fouad started her PhD on on Web tracking technologies and privacy protection in november 2017. Her thesis is co-supervised by Arnaud Legout and Nataliia Bielova (Indes).

PhD: Karyna Gogunska defended her PhD thesis [11] entitled "Empowering Virtualized Networks with Measurement As a Service (MaaS)" in december 2019. Her thesis was co-supervised by Chadi Barakat and Guillaume Urvoy-Keller (I3S) and was funded by the Labex UCN@SOPHIA.

PhD: Muhammad Jawad Khokhar defended his PhD thesis [12] entitled "From Network Level Measurements to Expected Quality of User Experience" in october 2019. His PhD was supervised by Chadi Barakat and was funded by the ANR BottleNet project.

PhD: Mohamed Naoufal Mahfoudi defended his PhD thesis entitled [13] "Unlocking Wireless Sensing Potential in Wi-Fi and IoT Networks" in ocober 2019. His thesis was co-supervised by Walid Dabbous and Robert Staraj (LEAT) and was funded by the Labex UCN@SOPHIA.

PhD: Ghada Moualla defended her PhD thesis [14] entitled "Resilient Virtualized Network Functions for Data Centers and Decentralized Environments" in september 2019. Her thesis is co-supervised by Thierry Turetletti and Damien Saucez and was funded by the ANR Reflexion project.

PhD in progress: Imane Taibi works on "Big data analysis for network monitoring and troubleshooting". She is co-supervised by Gerardo Rubino, Yassine Hadjadj-Aoul from the Dionysos project-team and Chadi Barakat.

PhD in progress: Mathieu Thiery works on "Data protection of connected objects and smartphones" in April 2017. He is co-supervised by Vincent Roca from the Privatics project-team and Arnaud Legout.

PhD in progress: Thibaud Trollet works on "Exploring trust on Twitter". He is now fully supervised by Frederic Giroire and member of the Coati project team.

9.2.3. *Juries*

Chadi Barakat served as reviewer of Jingxiu SU PhD thesis, "Recherches sur la mesure de l'analyse du tracking sur le Web", defended in December 2019 at the University Grenoble Alpes and the Chinese Academy of Sciences.

Chadi Barakat served as examiner of Lakhdar Meftah PhD thesis, "Towards Privacy-sensitive Mobile Crowdsourcing", defended in December 2019 at the University of Lille, France.

Chadi Barakat served as reviewer of Mariem Ben Yahia PhD thesis, "Low Latency Video Streaming Solutions based on HTTP/2", defended in May 2019 at IMT-Atlantique, France.

Chadi Barakat served as reviewer of Hamza Ben Ammar PhD thesis, "On Models for Performance Evaluation and Cache Resources Placement in Multi-Cache Networks", defended in May 2019 at the University of Rennes 1, France.

Chadi Barakat served as jury member for the mid-term review of the PhD thesis of Antoine Saverimoutou (Orange Labs) for his thesis entitled "Métrologie de l'Internet du futur: Nouvelles métriques et méthodes de mesure de la qualité de navigation Web" in March 2019.

Walid Dabbous wrote an examiner report on the thesis of Fangzhou Jiang entitled "Towards Characterizing and Exploiting Fine-grained User Behaviors in Mobile System" at the University of New South Wales.

Walid Dabbous served as reviewer of the PhD thesis of Kim-Hung LE "Mécanismes d'interopérabilité pour les applications industrielles de l'Internet des Objets et la Ville Intelligente", defended on April 1, 2019 at Eurecom, France.

Walid Dabbous served as reviewer of the PhD thesis of Yoann Desmouceaux "Network-Layer Protocols for Data Center Scalability", defended on April 10, 2019 at École Polytechnique, France.

Walid Dabbous served as a member of the recruitment committee for a Professor position at Sorbonne University in April 2019.

Thierry Turletti served as reviewer of Romuald Corbel PhD thesis "Évolution des protocoles de transport du point de vue de l'équité", defended on December 4, 2019 at Université de Rennes 1, France.

Thierry Turletti served as reviewer of Géraldine Texier HDR "Vers un Internet programmable offrant des garanties de qualité de service", defended on December 3, 2019 at Université de Rennes 1, France.

Thierry Turletti served as reviewer of Jean-Michel Sanner PhD thesis "Architecture du plan de contrôle SDN et placement des services réseaux dans les infrastructures des opérateurs", defended on July 23, 2019 at Université de Rennes 1, France.

Thierry Turletti served as examiner of Andrea Tomassilli PhD thesis "Vers un Internet programmable offrant des garanties de qualité de service", defended on June 24, 2019, at UCA, Sophia Antipolis, France.

9.3. Popularization

9.3.1. *Internal or external Inria responsibilities*

Damien Saucez is part of the MASTIC (<https://project.inria.fr/mastic>) group at Inria. MASTIC groups all the activities for scientific dissemination for Inria Sophia Antipolis.

9.3.2. *Articles and contents*

Walid Dabbous wrote an Interstices article [37] on the occasion of the 50th anniversary of the Internet. The article recalls the story of the first France-ARPANet connection that was established by Christian Huitema's team in July 1988.

DIONYSOS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

We are organizing the mini-symposium entitled “Probabilistic approaches for studying blockchain dynamics” of the 8th European Congress of Mathematics, 5 - 11 July 2020, Portorož, Slovenia. This mini-symposium aims at bringing together international researchers active on blockchain analysis, and allowing the interaction between different expertises: Markov chain, game theory, fluid limits as well as on different types of stochastic processes. It also aims at gathering mathematicians using a theoretical approach to analyze blockchain with those characterizing blockchains through simulations or numerical techniques, and thus it will encourage new collaborations.

10.1.1.1. General Chair, Scientific Chair

- Yassine Hadjadj-Aoul was the General Chair for the *The 6th International Conference on Information and Communication Technologies for Disaster Management (ICT-DM'2019)*, Co-sponsored by IEEE, in Paris (France), December 2019.

10.1.1.2. Member of the Organizing Committees

- Gerardo Rubino and Bruno Tuffin are members of the Steering Committee of the International Workshop on Rare Event Simulation (RESIM) and of Monte Carlo Method Conference (MCM) series.
- Yassine Hadjadj-Aoul is member of the Steering Committee of the International Conference on Information and Communication Technologies for Disaster Management (ICT-DM). He is co-chairing the Steering Committee since 2016.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Bruno Tuffin was TPC co-chair of the 14th Workshop on the Economics of Networks, Systems and Computation (NetEcon 2019), June 2019, Phoenix, AZ, USA.
- Yassine Hadjadj-Aoul was TPC co-chair of *The 11th Wireless Days Conference (WD'2019)*, Co-sponsored by IEEE, Manchester, April 2019, Manchester, UK.
- Yassine Hadjadj-Aoul was TPC track chair of the “Satellites IoT and M2M Networks” track, for *The 2nd International Conference on Smart Communications and Networking (SmartNets 2019)*, Co-sponsored by IEEE, December 2019, Sharm El Sheik, Egypt.
- Yassine Hadjadj-Aoul was TPC track chair of the “Cloud & Fog Computing” track, for *International Symposium on Networks, Computers and Communications (ISNCC 2019)*, Co-sponsored by IEEE, June 2019, Istanbul, Turkey.

10.1.2.2. Member of the Conference Program Committees

Bruno Tuffin was TPC member of the following conferences:

- ValueTools 2019, Palma de Mallorca, Spain, March 12-15, 2019
- First IEEE Workshop on the ECONomics of Fog, Edge, and Cloud Computing (ECOFEC 2019), in conjunction with IEEE INFOCOM 2019, Paris, France
- IEEE International Conference on Communications (IEEE ICC 2019), May 20-24 2019, Shanghai, China.

- 12th International Conference on Monte Carlo Methods and Application (MCM 2019), Sydney, Australia, July 8-12, 2019.
- 31th International Teletraffic Congress (ITC 31), 27-29 August 2019, Budapest, Hungary.
- The International Symposium on Ubiquitous Networking (UNet'19), September 16-19, 2019, Limoges, France.
- GECON 2019 - 16th International Conference on Economics of Grids, Clouds, Software, and Services, Leeds, UK, 17-29 Sept. 2019
- The 2019 IEEE 2nd 5G World Forum (5GWF'19), Dresden, Germany, Sept 30-Oct 2, 2019.
- Financial Risk Track, Winter Simulation Conference (WSC'19), National Harbor, MD, USA, December 8-11, 2019.

Patrick Maillé was TPC member of the following conferences:

- ACM MobiHoc 2019, 20th International Symposium on Mobile Ad Hoc Networking and Computing, Catania, Italy, July 2-5, 2019
- IFIP WIOPT 2019, 17th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, Avignon, France, June 3-7, 2019
- IEEE International Conference on Communications (IEEE ICC 2019), May 20-24 2019, Shanghai, China.
- Algotel 2019, Narbonne, France, June 3-7, 2019
- NetEcon 2019, 14th workshop on the Economics of Networks, Systems and Computation, Phoenix, AZ, USA, June 28, 2019
- GIIS 2019, Global Information Infrastructure Symposium, Paris, France, December 18-20, 2019
- AdHoc-Now 2019, 18th International Conference on Ad Hoc Networks and Wireless, Luxembourg, October 1-3, 2019
- ValueTools 2019, Palma de Mallorca, Spain, March 12-15, 2019

Yann Busnel was a member of the program committee of the following events:

- NCA 2019: 18th IEEE International Symposium on Network Computing and Applications, Boston, USA, September 2019.
- AdHoc Now 2019: 18th International Conference on Ad Hoc Networks and Wireless, Luxembourg, October 2019.

Bruno Sericola was TPC member of the following conference:

- ASMTA 2019 : 25th International Conference on Analytical and Stochastic Modelling Techniques and Applications, Moscow, Russia, October 23 — 25, 2019.

Yassine Hadjadj-Aoul was a member of the program committee of the following events (partial list):

- IEEE Globecom 2019 - IEEE Global Communications Conference, Waikoloa, HI, USA, December 9-13, 2019.
- IEEE ICC 2018 - IEEE International Conference on Communications, Shanghai, China, MO, USA, May 20-24, 2019.
- IEEE WCNC 2019 - IEEE Wireless Communications and Networking Conference, Marrakech, Morocco, April 15-19, 2019.
- IEEE CCNC 2019 - IEEE Consumer Communications & Networking Conference, Las Vegas, USA, January 11-14, 2019.
- IEEE MASCOTS - 2019 - IEEE conference on "Modeling, Analysis, and Simulation On Computer and Telecommunication Systems", Rennes, France, October 22-25, 2019.

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

- QEST: 16th International Conference on Quantitative Evaluation of SysTems, Glasgow, Scotland, Sep. 2019.
- e-Health: 7th International workshop of e-Health Pervasive Wireless Applications and Services, Lyon, France, Oct. 2019.
- MASCOTS: 28th IEEE International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems, Nice, France, Nov. 2020.
- ICN: 19th International Conference on Networks, Lisbon, Portugal, Feb. 2020.

10.1.2.3. Reviewer

Yann Busnel, Bruno Tuffin, Bruno Sericola, Yassine Hadjadh-Aoul, Gerardo Rubino, and César Viho served as reviewers for several major international conferences.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Bruno Tuffin serves as

- Area Editor (simulation): *INFORMS Journal on Computing*, since Jan. 2015.
- Associate Editor: *ACM Transactions on Modeling and Computer Simulation*, since July 2009.

Patrick Maillé serves as

- Associate Editor: *Electronic Commerce Research and Applications (Elsevier)*, since April 2019.
- Associate Editor: *IEEE Open Journal of Communications Society*, since July 2019.

Bruno Sericola serves as 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.

Yassine Hadjadh-Aoul was a guest editor of a special issue on: “Emerging topics in wireless communications for future smart cities” for the MDPI International Journal.

Gerardo Rubino is Associate Editor of the *Journal of Dynamics & Games*, <https://www.aims sciences.org/journal/2164-6066>.

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)*.
- Bruno Sericola, Bruno Tuffin and Gerardo Rubino served as reviewers for several major international journals.
- Yassine Hadjadh-Aoul served as a reviewer for several major international journals such as: *IEEE Journal On Selected Area of Communication JSAC* “Series on Network Softwarization & Enablers”, *IEEE Transaction on Vehicular Technologies TVT*, *IEEE Communication Letters*, *IEEE Transaction on Mobile Computing TMC*, *IEEE Access*, *Elsevier Future Generation Computer Systems FGCS*, *Journal of Network and Computer Applications JNCA*.

10.1.4. Invited Talks

Bruno Tuffin gave the following invited talks:

- B. Tuffin. Rare-Event Simulation of Regenerative Systems, Peking University, China, October 10, 2019.
- B. Tuffin. Monte Carlo Simulation and Rare Event Estimation, Mathematical and computational modeling of rare events in complex systems, Recife, Brazil, November 18-20, 2019.

Yann Busnel made several invited and keynote talks in 2019:

- *Blockchain Technology : Synchronization, Consensus and Token Economy*. Cycle of seminars as Invited Professor at VJTI Mumbai, India, September 2019.
- *The need for enlightened sampling in the supervision of large-scale networks*. Keynote at the International Conference on Data Sciences and Engineering, IIT Patna, India, September 2019
- *Large-scale data streaming*. Invited seminar at FEIT, University of Technology Sydney, Australia, August 2019
- *Le besoin d'échantillonnage avisé dans la supervision de réseaux à grande échelle*. Invited seminar at Laboratoire I3S de Sophia-Antipolis, France, April 2019
- *Blockchain opportunities in Europe & Diploma certification using the blockchain @ IMT Atlantique*. Invited talk at International workshop on Blockchain for Global Good, VJTI Mumbai, India, March 2019
- *Le besoin d'échantillonnage avisé dans la supervision de réseaux à grande échelle*. Invited seminar at Laboratoire d'Informatique de Grenoble, France, January 2019.

Yassine Hadjadj-Aoul made several invited and keynote talks in 2019:

- *Reliable Network Function Placement using Evolutionary Algorithms*. Invited tutorial during the 8th IEEE International Conference on Smart Communications in Network & Technologies (SaCoNet), Oran, Algeria, Dec. 2019
- *Virtual Network Function Forwarding Graph Embedding in 5G and post 5G Networks*. Invited Keynote during the 8th IEEE International Conference on Smart Communications in Network & Technologies (SaCoNet), Oran, Algeria, Dec. 2019
- *Efficient support of the upcoming Massive number of IoT devices & in future wireless networks*. Invited talk during the national seminar, SEOC Day, on Embedded Systems and Communicating Objects, Paris France, April 2019

Gerardo Rubino made several invited and keynote talks in 2019:

- *Training recurrent Random Neural Networks: first and second-order techniques, reservoir models, numerical aspects*. Invited talk at ISCIS'19, Conference on Modelling Methods in Computer Systems, Networks and Bioinformatics, Polish Academy of Sciences, Paris, Oct. 15–16, 2019.
- *Relations between irreducible and absorbing Markov chains*. Invited talk at the Fall Western Sectional Meeting of the AMS, Riverside, California, November 9–10, 2019.
- *Rare event analysis in technological catastrophes*. Keynote at the 6th International Conference on Information and Communication Technologies for Disaster Management (ICT-DM), Paris, December 18–20, 2019.

Gerardo Rubino gave a seminar at the Computer Science Department of the UDELAR, in Nov. 2019, about Network Tomography. He also gave a 3 hours-tutorial on dependability analysis at the University Adolfo Ibáñez, Santiago, Chile, in Jan. 2019.

10.1.5. Leadership within the Scientific Community

- Bruno Tuffin is an elected member of I-sim council of Informs society, 2018-2020.
- 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 scientific committee of GT ARC (Automatique et Réseaux de Communication) scientific committee (since Nov. 2017).

- Gerardo Rubino belongs to the CSV (the technical committee) of the Images and Networks Cluster of Brittany, France, since its foundation.
- Gerardo Rubino is the coordinator of the research action “Analytics and machine learning”, in collaboration with Nokia Bell Labs.

10.1.6. Research Administration

- Yann Busnel is Head of « Network System, Cybersecurity and Digital law » Research Department at IMT Atlantique (2017–*).
- Yann Busnel is Head of « Network, Telecommunication and Services » Research Department (D2) at IRISA (2019–*).
- 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.
- Bruno Sericola is member of the research commission of the academic council of University of Rennes 1.
- César Viho is member of the HdR commission of the scientific council of Université Rennes 1.
- César Viho is the director of the MathSTIC doctoral school of Université Bretagne Loire.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Bruno Tuffin, MEPS (probability, queuing systems, simulation) , 35 hours, M1, University of Rennes 1, France

Master: Bruno Tuffin, GTA (Game Theory and Applications), 15 hours, M2, University of Rennes 1, France

MOOC on Queuing Theory, available on EdX: Patrick Maillé (in charge of one week of class)

IMT Atlantique 1st year: Yann Busnel, Wireless Autonomous Robot Swarm, 9 hours.

IMT Atlantique 3rd year: Yann Busnel, Big Data and Stream Processing, 9 hours.

Licence: Bruno Sericola, Mathematics, 14h, L2, IUT/University of Rennes 1, France.

Master: Bruno Sericola, Mathematics, 12h, M2, Istitic/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 M1: César Viho, Networks:Rennes 1 from Services to protocols, 36 hours, Istitic/University of Rennes 1, France

Master M2: César Viho, Algorithms on graphs, 40 hours, Istitic/University of Rennes 1, France

Bachelor L2: César Viho, Network architecture and components, 16 hours, Istitic/University of Rennes 1, France

Master, 2nd year: Yassine Hadjadj-Aoul, Scalable Network Infrastructure (SNI), 10 hours, The Research in Computer Science (SIF) master and EIT Digital Master/University of Rennes 1, 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, Istitic/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

Sofiene Jelassi is the manager of the master program “Heterogeneous Networks and Systems”, Istic/University of Rennes 1, France

Master pro 2nd year: Sofiene Jelassi, Supervision of heterogeneous networks, 32 hours, Istic/University of Rennes 1, France

Master pro 2nd year: Sofiene Jelassi, Cloud & SDN virtualization, 32 hours, Istic/University of Rennes 1, France

Master pro 2nd year: Sofiene Jelassi, Multimedia networks, 32 hours, Istic/University of Rennes 1, France

Bachelor L1: Sofiene Jelassi, Programming Algorithms, 12 hours, SPM/University of Rennes 1, France

Master, 2nd year: Gerardo Rubino, Scalable Network Infrastructure (SNI), 10 hours, The Research in Computer Science (SIF) master and EIT Digital Master/University of Rennes 1, France

Supélec Rennes 3rd year: Gerardo Rubino, Dependability Analysis, 15 hours.

Master 2nd year: Gerardo Rubino, Quality of Experience, 2×4 hours (two different groups of students), Esir/University of Rennes 1, France

Esir/University of Rennes 1, 1st year, Graph theory and algorithms, 20 hours.

10.2.2. Supervision

PhD in progress: Ximun Castoreo, Measurements to check network neutrality, University of Rennes 1, Started 10/2018, supervised by Bruno Tuffin.

PhD in progress: Ayman Chouayakh, Auctions for spectrum allocations in 5G, CIFRE Thesis with Orange Labs/University of Rennes 1, Started 03/2017, supervised by Patrick Maillé.

PhD in progress: Hiba Dakdouk, Multi-player multi-armed bandit problems and applications in IoT, CIFRE Thesis with Orange Labs/University of Rennes 1, Started 01/2019, supervised by Patrick Maillé.

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: Jérôme Henry, “Indoor localization using the most recent standards of 802.11”, IMT Atlantique. Advisors: N. Montavont (IMT Atlantique), Romaric Ludinard (IMT Atlantique), Y. Busnel (IMT Atlantique). Defense in 2021.

PhD in progress: Anouar Rkhami, “Data analytics for optimized resources’ management in future 5G networks”; started on Oct. 2018; Advisors: Gerardo Rubino and Yassine Hadjadj-Aoul, and Abdelkader Outtagarts, Inria – Nokia Bell labs.

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

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

PhD in progress: Mohamed Rahali, “Machine learning-based monitoring and management for hybride SDN networks”; started on Oct. 2017; Advisors: Gerardo Rubino, Inria, and Jean-Michel Sanner, B-COM.

Post-doc in progress: Noël Gillet, “Analyse de flux de données large-échelle pour les données massives en santé”, IMT Atlantique. Advisor: Y. Busnel. October 2018-September 2019.

Post-doc in progress: Frédérique Robin, Modelling the dynamic behaviour of blockchains and analyzing their performance, Inria Rennes. Supervisors: Bruno Sericola and Emmanuelle Anceaume from team Cidre.

PhD: Corentin Hardy, Contribution to the development of deep learning in distributed systems, Defense in April 2019. Supervisors: Bruno Sericola and Erwan Le Merrer from Technicolor.

PhD: Jean-Michel Sanner; Cifre Grant, Orange Labs, “SDN technologies for network services performances adaptation of carriers networks”, Defense in July 2019. Supervisors: Yassine Hadjadj-Aoul and Gerardo Rubino.

PhD: Hamza Ben Ammar, “Network and cache resources optimization for efficient media content delivery in CCN”, Defense in March 2019; advisors: Yassine Hadjadj-Aoul, Gerardo Rubino and Soraya Ait Chellouche, University Rennes 1 [12].

PhD: Laura Aspirot, “Fluid Approximations for Stochastic Telecommunication Models”, University of the Republic, Uruguay. Advisors: E. Mordecki (Uruguay) and G. Rubino (France). Defended on November 21, 2019, [11].

PhD: Jorge Graneri, “Semantic cognition - A mathematical approximation.”, University of the Republic, Uruguay. Advisors: E. Mizraji (Uruguay) and G. Rubino (France). Defended on November 22, 2019, [13].

PhD in progress: Illyyne Saffar, “Personalization for Cognitive Autonomic Networks in 5G”; started on Feb. 2017; Advisors: César Viho (Université Rennes 1) and Kamal Deep-Singh (UJM Saint-Etienne) and Marie Line Alberi-Morel (Nokia Bell labs), Université Rennes 1 and Nokia Bell labs. Defense in June 2020.

10.2.3. Juries

Gerardo Rubino was one of the reviewers of the PhD of Fetia Bannour, Software Defined Networking: Extending SDN control to large-scale networks, University of Paris-East, Paris, Nov. 19, 2019.

Bruno Tuffin was rapporteur for the PhD of Wael Labidi, Smart grid-aware radio engineering in 5G mobile networks. Université de Paris-Saclay, Télécom SudParis, March 2019.

Patrick Maillé was a member of the PhD jury of Lilian Besson, Multi-Players Bandit Algorithms for Internet of Things Networks, Supelec Rennes, November 2019

Yann Busnel was rapporteur of the PhD defense committee of Abderrahmen Kammoun, Université Jean Monnet, Saint- Etienne, July 2019.

Yassine Hadjadj-Aoul was a member of the PhD jury of Ghada Moualla, Resilient Virtualized Network Functions for Data Centers and Decentralized Environments, Côte d’Azur University, September 2019

Bruno Sericola was member of the final selecting board for the recruitment of CNRS researchers in 2019.

César Viho was President of the HDR jury of Geraldine Texier, Vers un Internet programmable offrant des garanties de qualité de service, IMT-Atlantique Rennes, December 2019.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Yann Busnel is member of Development Council of Computer Sciences Master at Université de Nantes (2017–*).

10.3.2. Interventions

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

DYOGENE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

In collaboration with M. Vojnovic (London School of Economics), A. Basic and L. Massoulié organized an international workshop on Machine Learning and User Decision Making <https://ml-udm.github.io/> at the ENS on May 23-24, 2019.

10.1.1.1. Member of the Organizing Committees

Members of Dyogene (co-)organized the following events:

- ERC inaugural workshop *Processus ponctuels et graphes aléatoires unimodulaires* <https://project.inria.fr/ercnemo/fr/presentation/>,
- Scientific session *Modélisation et analyse des systèmes de vélo-partage* at RFTM2019 (2emes Rencontres Francophones Transport et Mobilité, 11-13/06/2019 Montréal); <https://symposia.cirrelt.ca/RFTM2019/>
- A. Basic: co-lead (with E. Hyon, LIP 6) of the research group COSMOS (Stochastic optimization and control, modeling and simulation) of the GDR-RO; <http://gdrro.lip6.fr/?q=node/78>. Includes scientific organization of a one-day workshops per year (approx. 50 participants); In 2019: 8th GDT COSMOS workshop: "Stochastic Optimization and Reinforcement Learning"; November 2019; <http://gdrro.lip6.fr/?q=node/211>
- A. Basic: one week workshop "Flexible operation and advanced control for energy systems" within INI Cambridge program "The mathematics of energy systems", January 2019, Cambridge, UK, <https://www.newton.ac.uk/event/mesw01>

10.1.2. Journal

10.1.2.1. Reviewer - Reviewing Activities

All members of the team act as reviewers for numerous scientific journals.

10.1.3. Invited Talks

- Mathematics Colloquium at *Paris-Descartes*, November 2019, F. Baccelli (talk on high dimensional stochastic geometry);
- Mathematics Colloquium at *Karlsruhe Institute of Technology*, July 2019, F. Baccelli (talk on unimodular dimensions);
- Invited lecture at the workshop *Modern Applied Probability, in celebration of Sergey Foss' 65th birthday*, ICMS, Edinburgh, May 2019 F. Baccelli (talk on particle systems); <https://www.icms.org.uk/sergey65.php>
- Invited lecture at the workshop *Point processes in space, time, and beyond*, Aalborg University, May 2019 F. Baccelli (talk on random graphs); <http://people.math.aau.dk/~rw/PointSpaceBeyond/>
- Mathematics Colloquium at *Institut Elie Cartan de Lorraine*, April 2019 F. Baccelli (on unimodular random metric spaces);
- Colloquium at *CEA LETI*, Grenoble, January 2019, F. Baccelli (talk on wireless stochastic geometry);
- Training School on Machine Learning for Communications, ISEP, Paris, B. Błaszczyszyn; <https://sites.google.com/view/mlc-training-school/>

- “STAR workshop on random graphs”, Groningen Netherlands, B. Błaszczyszyn; <http://www.math.rug.nl/~hansen/STAR2019/>
- invited talk in the Department of Statistics and Data Science Yale University, September 2019, M. Lelarge;
- Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, April 2019, A. Busic (on grid balancing through distributed control of flexible loads) ; video: <https://www.newton.ac.uk/seminar/20190502143015301>
- Simons Institute, UC Berkeley, June 2019, A. Busic (on optimizing mean-field dynamics for distributed control of flexible loads)
- Journées Scientifiques Inria, Lyon, June 2019, A. Busic (Optimisation/contrôle dans des réseaux électriques)
- CWI – Inria workshop, September 2019, Ana Busic (Optimizing mean-field dynamics for flexible loads control in power systems)
- CMAP seminar, École Polytechnique, December 2019, A. Busic (on optimal control in dynamic matching systems)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Licence: B. Błaszczyszyn (Cours) Théorie de l’information et du codage 24 heqTD, L3, ENS Paris.
- Licence: A. Busic (Cours) and S. Samain (TD) Structures et algorithmes aléatoires 60heqTD, L3, ENS Paris.
- Licence: L. Massoulié (Cours) Social and Communication networks 60heqTD, L3, I’X.
- Master: B. Błaszczyszyn (Cours) Processus ponctuels, graphes aléatoires et géométrie stochastique 39heqTD, M2 Probabilités et Modèles Aléatoires, UPMC.
- Master: A. Busic (Cours) and L. Stephan (TD) Modèles et algorithmes de réseaux 60heqTD, M1, ENS Paris.
- Master: A. Busic (Cours) Fondements de la modélisation des réseaux 18 heqTD, M2 MPRI.
- Master: M. Lelarge (Cours) Deep Learning Do it Yourself, M1, ENS Paris. X, X-HEC <https://mlelarge.github.io/dataflowr-web/>
- Master: M. Lelarge (Cours) Deep Learning Do it Yourself, M1, ENS Paris.
- Master: L. Massoulié (Cours) Inference in large random graphs, M2 Université d’Orsay.
- Summer school: M. Lelarge (Cours) HANDS-ON TOUR TO DEEP LEARNING WITH PYTORCH, https://mlelarge.github.io/dataflowr-web/cea_edf_inria.html.
- Invited mini-course: L. Massoulié at Journée spéciale Stat Math 2019 of Société Française de Statistiques, Institut Henri Poincaré.

10.2.2. Supervision

- PhD: Léo Miolane, “High dimensional statistics”, defended in 2019, advised by M. Lelarge. [2]
- PhD: Md Umar Hashmi, “Decentralized control for renewable integration in smartgrids”, defended in 2019, advised by A. Busic. [1]
- PhD in progress: Alexis Galland, Deep Learning on Graphs, since 2017, advised by M. Lelarge.
- PhD in progress: Quentin Le Gall “Crowd networking : modélisation de la connectivité D2D” since October 2017; PhD CIFRE co-advised by B. Błaszczyszyn and E. Cali (Orange).
- PhD in progress: Antoine Brochard “Signal processing for point processes and statistical learning for telecommunications”, since September 2018; PhD CIFRE co-advised by B. Błaszczyszyn and Georgios Paschos (Huawei).

- PhD in progress: Sébastien Samain, “Monte Carlo methods for performance evaluation and reinforcement learning”, since November 2016, advised by A. Busic,
- PhD in progress: Arnaud Cadas, “Dynamic matching models”, since October 2017, supervised by A. Busic.
- PhD in progress: Michel Davydov, since September 2019, F. Baccelli.
- PhD in progress: Luca Ganassali, since September 2019.
- PhD in progress: Hadrien Hendrikx, since 2019
- PhD in progress: Sayeh Khaniha, form 2019, supervised by F. Baccelli.
- PhD in progress: Edouard Pineau, since 2019,
- PhD in progress: Bharath Roy, since 2019, supervised by F. Baccelli and B. Błaszczyszyn,
- PhD in progress: Ilia Shilov, since 2019, supervised by A. Busic,
- PhD in progress: Ludovic Stephan, since 2019.

10.2.3. Juries

- F. Baccelli: PhD reviewer of **Gourab GHATAK**, Télécom Paris; HDR reviewer of **Marios KOUNTOURIS**, Université Paris-Sud 1; HDR jury member of **Raphaël LACHIEZE-REY**, Université Paris-Descartes.
- B. Błaszczyszyn: PhD reviewer of: **Sanjoy Kumar JHAWAR**, Indian Institute of Science Bangalore, India; **Arnaud POINAS**, Université de Rennes 1; HDR reviewer of: **Marios KOUNTOURIS**, Université Paris-Sud 1; PhD jury member of : **Jalal RACHAD**, Télécom Paris.
- C. Fricker: PhD reviewer of: **Celine COMTE**, Université Paris-Saclay; PhD jury member of: **Hamza BEN AMMAR**, Université de Rennes 1.
- M. Lelarge: PhD jury member Xiaoyi MAI, Université Paris-Saclay.

EVA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organization

10.1.1.1. General Chair, Scientific Chair

- **Thomas Watteyne** is TPC co-chair of the 6th International Workshop on Computer and Networking Experimental Research using Testbeds (CNERT), held in conjunction with IEEE INFOCOM, Paris, France, 29 April-2 May, 2019. More information at <https://infocom2019.ieee-infocom.org/cnert-computer-and-networking-experimental-research-using-testbeds>.
- **Paul Muhlethaler** was general co-chair with Eric Renault of the second conference of application of Machine Learning for Networks (MLN 2019 3-5 December 2019), a conference hosted by Inria Paris. Two tutorials and two keynotes were given:
 - *Cloud Solution Architect (Artificial Intelligence and Machine Learning)* by Franck Gailard (Microsoft, France) [tutorial 1].
 - *Towards intelligent mobile networks* by Marie Line Alberi Morel (NOKIA Bell Lab, France) and Kamal Singh (Télécom Saint-Etienne / University Jean Monnet, France) [tutorial 2].
 - *From Learning to Reasoning : A topos perspective* by Jean-Claude Belfiore (Huawei, France) [keynote 1].
 - *Paradigm shifts in communication networks: cloud-native, automation and AI/ML* by Alberto Conte (NOKIA Bell Labs, France) [keynote 2]

Thirty two technical presentations have been given during the three days of the MLN 2019 conference.

- **Pascale Minet** was general co-chair with Leila Saidane from ENSI (Tunisia) of the PEMWN 2019 conference, the 8th IFIP/IEEE international conference on Performance Evaluation and Modeling of Wired and Wireless Networks, technically co-sponsored by IFIP WG6.2 and IEEE ComSoc. This conference was held in Paris (Inria Research Center), the 26th, 27th and 28th of November 2018. Three tutorials were given:
 - *Information Centric Networks: Toward an Internet of Named Objects* by Andrea Araldo, Telecom Sud-Paris, France.
 - *Shannon versus Turing, the limit of Artificial Intelligence* by Philippe Jacquet, Inria, Paris-Saclay, France.
 - *5G: Key technologies, standard and evolutions* by Marceau Coupechoux, Telecom Paris-Tech, France.

Fourteen technical presentations have been given during the three days of the PEMWN 2019 conference.

10.1.1.2. Member of the Organizing Committees

- **Paul Muhlethaler** organized the DGA Inria workshop on the topic "Au dela des communications quantiques, les réseaux quantique" in May 2019.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- **Paul Muhlethaler** was a Steering committee member of IWVSC 2019.

- **Pascale Minet** was chair of the Technical Program Committee of PEMWN 2019, 8th International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, November 2019.

10.1.2.2. Member of Conference Program Committees

- **Pascale Minet**
 - CoRes 2019, 4emes Rencontres Francophones sur la Conception de Protocoles, l'Evaluation de Performance et l'Expérimentation des Réseaux de Communication, May 2019.
 - EUSPN 2019, 10th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN), November 2019.,
 - GlobeCom 2019, IEEE Global Communications Conference, December 2019.
 - IWVSC 2019, 3rd International Workshop on Vehicular Adhoc Networks for Smart Cities, November 2019,
 - MLN 2019, Machine Learning for Networking, December 2019,
 - MSPN 2019, 5th International Conference on Mobile, Secure and Programmable Networking, June 2019,
 - PECCS 2019, 9th International conference on Pervasive and Embedded Computing and Communication Systems, September 2019,
 - VTC 2019, 88th IEEE Vehicular Technology Conference, September 2019,
 - Wireless Days 2019, IFIP/IEEE Wireless Days, April 2019,
 - WiSEE 2019, 7th IEEE International Conference on Wireless for Space and Extreme Environments, October 2019.
- **Paul Muhlethaler:**
 - ISCC 2019, 30 June -28 July 2019, Barcelona Spain,
 - MLN 2019, Machine Learning for Networking, December 2019, Paris.
 - PEMWN 2019, 8th International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, 26 - 28 November 2019, Paris,
 - Wireless Days, IFIP/IEEE Wireless Days 24 - 26 April 2019, Manchester

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

- **Paul Muhlethaler**
 - Reviewer Ad Hoc Networks Journal (Elsevier),
 - Reviewer Annals of Telecommunications,
 - Reviewer International Journal of Distributed Sensor Networks. Hindawi,
 - Reviewer IEEE Transactions on Information Theory,
 - Reviewer IEEE Transactions on Vehicular Technology,
 - Reviewer IEEE Transactions on Wireless Communications,
 - Reviewer MDPI Sensors
- **Pascale Minet**
 - Acta Astronautica,
 - Ad Hoc Networks,
 - Annals of Telecommunications,
 - Computer Communications,

- Computer Networks,
- Engineering Applications of Artificial Intelligence,
- Future Internet,
- IEEE Access,
- IEEE Internet of Things,
- IEEE Transactions on Mobile Computing,
- IEEE Transactions on Industrial Informatics,
- International Journal of Advanced Intelligence Paradigms,
- International Journal of Communication Systems,
- Sensors Journal,
- Wireless Networks.
- Nadjib Achir
 - Reviewer Sensor Networks (MDPI)
 - Reviewer Wireless Communications and Mobile Computing (Wiley)
 - Reviewer Internet of Things Journal (IEEE)
 - Reviewer Ad Hoc Networks Journal (Elsevier)
- Selma Boumerdassi
 - Reviewer Ad Hoc Networks Journal (Elsevier);
 - Reviewer The journal of Future Generation Computer Systems (Elsevier).
- Samia Bouzefrane
 - The International Journal of Computer and Telecommunications Networking (Elsevier),
 - The IEEE Transactions on Mobile Computing,
 - The Information and Software Technology Journal (Elsevier)
 - The Springer Multimedia Tools and Application Journal
 - The ACM Transaction on Internet Technology
 - The Concurrency and Computation Practice and Experience Journal
 - the Journal of Systems and Software (Elsevier)

10.1.4. Invited Talks

- **Thomas Watteyne**
 - SmartMesh IP. Captronic/Arrow mesh networking day. Montpellier, France, 13 June 2019.
 - OpenTestbed; Poor Man's IoT Testbed. TILECS Workshop. Grenoble, France. 4 July 2019.
 - SmartMesh IP. Captronic/Arrow mesh networking day. Toulouse, France, 18 April 2019.
- **Pascale Minet**
 - "Estimation and Prediction of Link Quality in Low-Power Wireless Mesh Networks" at the Machine Learning for Networking (MLN) conference, December 2019, Paris.

10.1.5. Leadership within the Scientific Community

Thomas Watteyne co-chairs the IETF 6TiSCH standardization group. **Malisa Vucinic** co-chairs the IETF LAKE standardization group.

10.1.6. Scientific Expertise

- **Thomas Watteyne** regularly consults with major player in the (Industrial) IoT space.
- **Pascale Minet** was also reviewer of a proposal submitted to the Call for Generic Projects issued by the ANR.

10.1.7. Research Administration

- **Thomas Watteyne** is member of the Inria-Paris “Commission de Developpement Technologique”, since 2018, where we ensure Inria project teams get sufficient engineering resources to change the world.
- **Paul Muhlethaler** is member of the Inria-Paris “Comite de Centre”, since 2016 (alternate of Michel Kern).
- **Thomas Watteyne** is member of the Inria-Paris “Comite de Centre”, since 2016, where we work on making sure Inria-Paris will always remain one of the greatest places to work at!
- **Pascale Minet** is member of the Inria-Paris “Commission d’Emplois Scientifiques” (Delegations, Postdocs, and PhD scholarship) since 2018.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- **Thomas Watteyne** teaches 6-week course on IoT, with associated hands-on labs. Undergraduate level. ENSTA ParisTech. Together with Tarak Arbi and Dominique Barthel. Spring 2019.
- **Thomas Watteyne** teaches 1/2-day crash course on the Industrial IoT, Telecom ParisTech. Graduate level. 27 September 2019.
- **Thomas Watteyne** teaches 1-day hands-on course on IIoT, and support of subsequent projects, MSc level, University College London, 6 February 2019.

10.2.2. Supervision

- PhD : Fouzi Boukhalfa, Low and high reliability access in Vehicular Ad-hoc NETWORKS. Sorbonne University. **Paul Muhlethaler**.
- PhD (ongoing) Razanne Abu Aisheh, Robotics, Sorbonne University. **Thomas Watteyne**,
- PhD (ongoing) Mina Rady, Heterogeneous architectures for the IoT, Sorbonne University. **Thomas Watteyne** and **Paul Muhlethaler**, under a CIFRE agreement with Orange Labs, Meylan, France.
- PhD (defended) Jonathan Munoz, Time slotted systems for long range communications, Sorbonne University, **Thomas Watteyne** and **Paul Muhlethaler**.
- PhD (in progress) Amar Abane, Name Data Networks in the Internet of Things, Cnam. Samia Bouzefrane and **Paul Muhlethaler**.
- PhD (in progress) Abdallah Soheby, Etude et evaluation de la dissemination des informations dans la 5G. Eric Renault and **Paul Muhlethaler**.
- PhD (in progress) Mamoudou Sangara, Utilisation de techniques de Machine Learning dans les reseaux VANETs. Samia Bouzefrane and **Paul Muhlethaler**.
- PhD (in progress) Iman Hmedoush, Connection protocols for the 5G IoT. Cedric Adjih and **Paul Muhlethaler**.

10.2.3. Juries

- HdR:
 - Hichem Sedjelmaci “Attacks Detection and Prediction Frameworks Based on AI Techniques for Wireless and Mobile Networks” Univeristy de Burgundy, October 2019 **Paul Muhlethaler** reviewer.

- Katia Jaffres-Runser, "Modélisations et Optimisation Multicritere de Réseaux", Institut National Polytechnique de Toulouse, July 2019, **Pascale Minet** reviewer.
- PhD:
 - Vasileios Kotsiou, "Reliable Communications for the Industrial Internet of Things", University of Strasbourg, France, **Thomas Watteyne** examiner.
 - Meriem Smache, "Deterministic Network Security for the Industrial Internet of Things (IIoT)", CEA and École des Mines de Saint-Étienne, France, **Thomas Watteyne** examiner.
 - Esteban Municio, "Towards Scalable and End-to-End Programmable Industrial Internet of Things", University of Antwerpen, Belgium, **Thomas Watteyne** examiner.
 - Amel Arfaoui, "Game based for security of Intenet of things" Univeristy de Burgundy, 15 October 2019 **Paul Muhlethaler** examiner
 - Amar Abane, "Une Architecture Réaliste pour l'IOT" Cnam and University of Tizi Ouzou 2 December 2019 **Paul Muhlethaler** examiner
 - Karen Boulos, "BBU-RRH Association Optimization in Cloud-Radio Access Networks", University of Paris-Saclay, July 2019, **Pascale Minet** reviewer.
 - Jinpeng Wang, "Impact of Mobility and Deployment in Confined Spaces on Low Power and Lossy Network", University of Clermont-Auvergne, July 2019, **Pascale Minet** examiner.
 - Yoann Desmouceaux, "Network Layer Protocols for Data Center Scalability", University of Paris-Saclay, April 2019, **Pascale Minet** examiner.

10.3. Popularization

10.3.1. Dans les Medias

- **Thomas Watteyne**
 - Falco : Des capteurs pour connecter ports et plaisanciers. BoatIndustry, 15 November 2019
 - Agde : le port connecté, une réalité. Midi Libre, 31 October 2019.
 - Gestion portuaire : les ports de Lorient et Cap d'Agde entrent dans l'ère du port connecté, Actu Maritime, 1 August 2019.
 - Port connecté : un nouveau cap franchi grâce à Falco (an interview of our startup's CEO Elsa Nicol), inria.fr, 18 February 2019.

10.3.2. Creation of media or tools for science outreach

A video concerning the research on protocols for VANETs by Mohamed Hadded has been made by Inria.

FUN Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. General Chair, Scientific Chair

- Valeria Loscri is General Chair of ACM NanoCom 2020
- Nathalie Mitton is a member of the Steering committee of CIoT
- Nathalie Mitton is demo/poster chair of infocom 2019
- Valeria Loscri is Short Papers, Posters & Demos chair and Local Organizer of WiMoB 2019

9.1.1.2. Chair of Conference Program Committees

- Antoine Gallais is TPC co-chair of CoRes 2019.
- Valeria Loscri is TPC co-chair of IEEE ACM Nanocom 2019, CoRES 2020, TPC chair for Persist-IoT workshop at mobihoc 2019, TPC chair for Persist-IoT at Infocom 2020
- Nathalie Mitton is TPC co-chair of ICC 2019.

9.1.1.3. Member of the Conference Program Committees

- Valeria Loscri is/was member in the Technical Program Committee (TPC) in IoTDI 2020, IEEE GLOBECOM 2020 & 2019, VTC 2020 & 2019, SECON 2020 & 2019, GIoTS 2019, CCNC 2019, ICC 2020 & 2019, WiMob 2020 & 2019 WF-IoT
- Nathalie Mitton is/was in the Technical Program Committee (TPC) of REFRESH 2020, Infocom 2020, Percom 2020 & 2019, WCNC 2020 & 2019, DCOSS 2020 & 2019, CORES 2020 VTC 2020 & 2019, IEEE GLOBECOM 2020 & 2019, GHS 2020, ICC 2020, AdHoc-Now 2019.
- Antoine Gallais was/is in the Technical Program Committee (TPC) of IEEE GLOBECOM 2019, IEEE ICNC 2019

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- Nathalie Mitton is editorial board members of AHSWN since 2011
- Nathalie Mitton is editorial board member of Adhoc Networks since 2012
- Nathalie Mitton is editorial board member of IET-WSS since 2013
- Nathalie Mitton is editorial board member of ComSoc MMTC e-letter since 2014
- Nathalie Mitton is editorial board member of Wiley Transactions Emerging Telecommunications Technologies since 2016
- Nathalie Mitton is editorial board member of Wireless Communications and Mobile Computing since 2016
- Nathalie Mitton is editorial board member of MDPI Future Internet since 2018
- Valeria Loscri is editorial board member of IEEE Transactions on Nanobioscience journal since 2017
- Valeria Loscri is editorial board member of Elsevier Computer Networks journal since 2016
- Valeria Loscri is editorial board member of Robotics Software Design and Engineering of the International Journal of Advanced Robotic Systems since 2016

- Valeria Loscri is editorial board member of Elsevier Journal of Networks and Computer Applications (JNCA) journal since 2016
- Valeria Loscri is editorial board member of Wiley Transactions Emerging Telecommunications Technologies since 2019

9.1.2.2. Guest editorial activities

- Nathalie Mitton is (co-)editor of Sensor Special Issues of MDPI Sensors on Optimization and Communication in UAV Networks and Lead Guest Editor of the Green Data Collection and Processing in Smart Cities SI at Annals of Telecoms.
- Valeria Loscri is co-editor of Future Internet Special issues of MDPI The Internet of Things in smart environments

9.1.3. Invited Talks

- Nathalie Mitton gave an invited talks at the following events: Journées scientifiques Inria in June, Recontres Inria EuraSanté in June, Journées SPOC at UTC in November and Smart Logistic at IoT Week in December and IoT Days at Paris Sorbonne in December.
- Julien Vandaele and Matthieu Berthome gave an invited talk at TechTalk S Station F in April.

9.1.4. Leadership within the Scientific Community

- Nathalie Mitton is a member of the Steering Committee of the GDR RSD Rescom
- Valeria Loscri is a Member of Social Network Technical Committee
- Valeria Loscri is a Member of Emerging Technologies Initiatives for Molecular, Biological and Multi-Scale Communications (ETI-MBMC)
- Valeria Loscri is a member of the Quantum Communications & Information Technology Emerging Technical Subcommittee (QCIT)
- Valeria Loscri is a member of the 'Research Group on IoT Communications and Networking Infrastructure' at ComSoc Communities
- Valeria Loscri is Newsletter Chair for the Technical Committee for Social Networks (TCSN) IEEE Comsoc since April 2019.

9.1.5. Scientific Expertise

- Nathalie Mitton
 - She is an elected member of the evaluation community of Inria.
 - She has acted as a reviewer for ANRT and ANR project submissions.
 - She is also member of the scientific committees of the competitiveness cluster of MATIKEN and for CITC (International Contactless Technologies Center).
 - She is member of the CA of CITC.
 - She has been a member of the PRIX Roberval committee.
 - She has been a member of the Bourses L'Oreal FRANCE.
 - She is a member of the HCERES visiting committee for the LISIS laboratory.
 - She has been appointed as reviewer for the Polish National Science Centre.
 - She has been appointed as reviewer for the Heinz Maier-Leibnitz-Prize 2020.
- Valeria Loscri
 - She has been reviewer for TOP grant for senior researchers for Netherlands Organisation for Scientific Research (NWO) program.
 - She has been reviewer for proposal for grant competition at the Center for Excellence in Applied Computational Science and Engineering (CEACSE), UTC (USA).
 - She has been external evaluator of ERC Consolidator Grants.

- She was Scientific European Responsible for Inria Lille - Nord Europe till September 2019.
- She is Scientific International Responsible for Inria Lille from September 2019.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

E-learning

Mooc, Nathalie Mitton, "Villes intelligentes : défis technologiques et sociétaux", 5-week mooc by the IPL CityLab@Inria team, FUN, Inria, in November 2019

SPOC, Nathalie Mitton, EIT Digital "Technological challenges of participatory Smart cities", 5-week by the IPL CityLab@Inria team in November 2019

Remote course, Nathalie Mitton, Internet of things, 5-week + face to face week in May 2019

Master: Valeria Loscri, Objets Communicants, 24h (Mineure Habitat Intelligent), Ecole des Mines de Douai, France

Master: Nathalie Mitton, Wireless networks, 16h eqTD (Master TiiR), Université Lille 1, France

Master: Nathalie Mitton, Wireless sensor networks, 16h eqTD (Master MINT), Université Lille 1 and Telecom Lille 1, France

Master: Nathalie Mitton, Smart objects, 10h CM + 12h TP, Ecole centrale de Lille, France

Master: Nathalie Mitton, Industrial Internet of Things, 10h CM Ecole centrale de Lille, France

Master: Ibrahim Amadou, Industrial to Internet of Things, 12h TP Ecole centrale de Lille, France

Master: Nathalie Mitton, Introduction to Internet of Things, 4h CM Ecole centrale de Lille, France

Master: Ibrahim Amadou, Introduction to Internet of Things, 8h TP Ecole centrale de Lille, France

Master: Nathalie Mitton, Wireless sensor networks, 16h eqTD (Master ROC), IMT, France

Licence: Brandon Foubert, Conception Orientée Objet, 42.06h eqTD (Licence 3), FST, France

9.2.2. Supervision

PhD in progress: Brandon Foubert, Communication sans fil Polymorphe pour l'Agriculture Connectée, Université Lille 1, 2018-2021, Nathalie Mitton

PhD in progress: Edward Staddon, Threat detection, identification and quarantine in wireless IoT based Critical Infrastructures, Université Lille 1, 2019-2022, Nathalie Mitton & Valeria Loscri

PhD in progress: Carola Rizza, Nouveaux paradigmes de communication basés sur les technologies émergentes, Université Lille 1, 2019-2022, Valeria Loscri

PhD in progress: Emilie Bout, Denial-of-sleep over IoT networks, Université Lille 1, 2019-2022, Valeria Loscri & Antoine Gallais

PhD in progress: Meysam Mayahi, Communication Protocols based on alternative paradigm for wireless mobile devices, Université Lille 1, 2019-2022, Valeria Loscri

PhD in progress: Mohammad Hussein Ghosn, Université Lille 1, 2019-2022, Valeria Loscri & Alia Ghadar

9.2.3. Juries

- PhD and HDR committees:
 - Valeria Loscri is/was member of the following PhD thesis committees:
 - * Xiaojun Xi, CentraleSupélec, Dec. 2019.
 - * Jian Song, CentraleSupélec, Dec. 2019.

- * Jorge Martinez, Universidade Politecnica Valencia, Spain, June 2019 (reviewer).
- Nathalie Mitton is/was member of the following PhD thesis committees:
 - * Domga Rodrigue Komguem INSA Lyon/University of Yaoundé (reviewer)
 - * Maxime Mroue, Université de Nantes, December 2019 (chair)
 - * Alwan Safwan, Université Paris Est, December 2019
 - * Gewu Bu, Université Paris Sorbonne, December 2019 (reviewer)
 - * Marija Stojanova, Université de Lyon, December 2019
 - * Henry-Joseph Audeoud, Université de Grenoble, December 2019
 - * Francisco Jose Fabra Collado, Universitat Politecnica de Valencia, December 2019 (reviewer)
 - * Lilian Besson, Centrale Supélec Rennes, novembre 2019 (reviewer, chair)
 - * Dorin Rautu, ENSEEITH, October 2019 (chair)
 - * Mariem Harmassi, Université de La Rochelle, September 2019 (reviewer)
 - * Nicolas De Araujo Moreira, Université de Lille, July 2019
 - * Wei Hu, Centrale Lille, July 2019 (chair)
 - * Philippe Pittoli, Université de Strasbourg (reviewer) may 2019
 - * Fadhlallah Baklouti, Université Bretagne Sud, February 2019
 - * Mohammed Islam Naas, Université de Bretagne Occidentale (reviewer), February 2019
- Nathalie Mitton was a member of the HDR defense committees
 - * Thomas Watteyne, Sorbonne Université, May 2019
- Researcher selection committees:
 - Nathalie Mitton was a member of the Professor competition selection committee at INSA Lyon
 - Nathalie Mitton was a member of the Assistant Professor (MdC) committee for Université de Lyon.
 - Nathalie Mitton was a member of a CPPI selection for Inria Saclay.
 - Nathalie Mitton was a member of the Inria chaire committee for Centrale Supélec Rennes.
 - Nathalie Mitton was a member of the Inria SRP/ARP selection.
 - Nathalie Mitton was a member of the national Inria junior researcher competition committee.
 - Valeria Loscri was a member of the Inria junior researcher competition committee for Lille center.
 - Valeria Loscri was a member of the MdC committee for Centrale Supélec.
- PhD follow-up committees:
 - Nathalie Mitton is/was reviewer of the following PhD follow-up committees:
 - * Rodrigue Domgua Rodriguez, INSA Lyon
 - * Alexis Bitailou, Université de Nantes
 - * Vaseileios Kotsiou, Université de Strasbourg
 - Valeria Loscri is/was reviewer of the following PhD follow-up committees:
 - * Lin Chen, Centrale Supélec.

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- Nathalie Mitton is the referent researcher for the creation of the MATH Laboratory in Nord

9.3.2. Articles and contents

- Nathalie Mitton published a paper in Techniques de l'Ingénieur.
- Valeria Loscri released an interview "Innovation Valeria Loscri, la lumière des LED contre le wifi électromagnétique" for the newspaper La Voix du Nord

GANG Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. General Chair, Scientific Chair

Adrian Kosowski was one of the organizing chairs of the workshop “CELLS: Computing among Cells”, co-located with DISC 2019, Budapest, October 2019.

9.1.2. Scientific Events: Selection

9.1.2.1. Member of the Conference Program Committees

Carole Delporte was PC member of DISC 2019

Carole Delporte was PC member of NETYS 2019

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

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

9.1.4. Invited Talks

Carole Delporte, Collège de France, Protocoles de population, Paris mars 2019.

Michel Habib International Summer School on Networks and Evolution, “Centralities in Networks”, Roscoff juin 2019.

Michel Habib Participation to a CIMPA Research School in Tabriz (IRAN) “Graphs, Algorithms and Randomness”, june 2019. Cours de 8h: “Efficient graph algorithms and applications”.

Michel Habib "Diameter computations in graphs and shortest paths problems", Université Libre de Bruxelles, june 2019

Pierre Fraigniaud was invited speaker [18] at SIROCCO 2019.

9.1.5. Research Administration

- Hugues Fauconnier is director of the UFR d’informatique of Université Paris Diderot.
- Carole Delporte-Gallet is deputy director of the UFR d’informatique of Université Paris Diderot.
- Laurent Viennot is leader of the “Algorithms and discrete structures” department of the Institute de Recherche en Informatique Fondamentale (IRIF).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

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

Master: Hugues Fauconnier, Cours Algorithmes répartis, 33h, M2, Univ. Paris Diderot

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

Master: Carole Delporte, Cours Programmation répartie, 33h, M2, Univ. Paris Diderot

Master: Carole Delporte and Hugues Fauconnier, Théorie et pratique de la concurrence, 48h, M1, Université Paris Diderot

Licence: Carole Delporte and Hugues Fauconnier, Culture informatique, 16h, L2, Univ. Paris Diderot

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

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

Licence: Boufkhad Yacine, Traitement de données, 16h, L2, IUT de l'Université Paris Diderot
DU Santé connectée, 12h réseau, Université Paris Diderot, public divers.

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

Master: Adrian Kosowski, Competitive Programming - Modal Course, 60h, M1, École Polytechnique

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

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

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

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

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

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

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

License : Laurent Viennot, Algorithms, 12h, L3-M1 BioInfo, Univ. Paris Diderot

Licence: Pierre Charbit, Elements d'Algorithmique, 24h, L2, Université Paris Diderot, France

Licence: Pierre Charbit, Automates finis, 36h, L2, Université Paris Diderot, France

Licence: Pierre Charbit, Internet et Outils, 52h, L1, Université Paris Diderot, France

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

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

9.2.2. Supervision

PhD defended: Simon Collet (co-advised by Amos Korman and Pierre Fraigniaud) [1]. Title of thesis is: "Algorithmic Game Theory Applied to Biology". Started September 2015, defended on December 9th, 2019 at Paris University.

PhD defended: Mengchuan Zou (co-advised by Adrian Kosowski and Michel Habib) [2]. Title of thesis is: "Aspects of Efficiency in Selected Problems of Computation on Large Graphs". Started October 2016, defended on December 17th at Paris University.

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

PhD in progress: Zeinab Nehaï (advised by Hugues Fauconnier). Title of thesis is : Verification of block-chain. Started October 2018

9.2.3. Juries

Carole Delporte-Gallet was on the jury committee of the PhD thesis of Jules Chouquet "Une Géométrie du calcul Réseaux de preuve, Appel-Par-Pousse-Valeur et topologie du Consensus", december 2019, Université Paris Diderot.

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Hugues Fauconnier was on jury committee of the HDR thesis of Janna Burman "Distributed Computing with Limited Resources", december 2019, Université Paris-Sud.

Michel Habib was on the jury committee of the PhD thesis of Keno Merckx "Optimization and Realizability Problems for Convex Geometries", june 2019, Université Libre de Bruxelles.

Michel Habib was on the jury committee of the PhD thesis of Mehdi Kosravian Ghadikolaei, "Extension of NP Optimization problems", Université de Dauphine (PSL), july 2019.

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Laurent Viennot was referee and on the jury committee of the PhD thesis of Sébastien Ratel on "Densité, VC-dimension et étiquetages de graphes" at the University of Aix-Marseille, November 2019.

GANG Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

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9.1.2. Scientific Events: Selection

9.1.2.1. Member of the Conference Program Committees

Carole Delporte was PC member of DISC 2019

Carole Delporte was PC member of NETYS 2019

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Licence: Carole Delporte and Hugues Fauconnier, Culture informatique, 16h, L2, Univ. Paris Diderot

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

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

Licence: Boufkhad Yacine, Traitement de données, 16h, L2, IUT de l'Université Paris Diderot
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Master: Adrian Kosowski, Competitive Programming - Modal Course, 60h, M1, École Polytechnique

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

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

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

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License : Laurent Viennot, Algorithms, 12h, L3-M1 BioInfo, Univ. Paris Diderot

Licence: Pierre Charbit, Elements d'Algorithmique, 24h, L2, Université Paris Diderot, France

Licence: Pierre Charbit, Automates finis, 36h, L2, Université Paris Diderot, France

Licence: Pierre Charbit, Internet et Outils, 52h, L1, Université Paris Diderot, France

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

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Michel Habib was on the jury committee of the PhD thesis of Mehdi Kosravian Ghadikolaei, "Extension of NP Optimization problems", Université de Dauphine (PSL), july 2019.

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Laurent Viennot was referee and on the jury committee of the PhD thesis of Sébastien Ratel on "Densité, VC-dimension et étiquetages de graphes" at the University of Aix-Marseille, November 2019.

MARACAS Team

10. Dissemination

10.1. Promoting Scientific Activities

- Interview to Samir M. Perlaza “A view of the Internet of Things”, Cognitive Networks Technical Committee Newsletter, IEEE Communications Society, vol. 5, No. 1, May 2019

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Samir Perlaza: Chair of two special sessions: “Energy Harvesting and Wireless Powered Communications” hosted at the 20th IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), July 2-5, 2019, Cannes, France. “Data Analytics for Power Systems” hosted at the 2019 IEEE Data Science Workshop, June 2-5, 2019, Minneapolis, MN, USA.
- Samir Perlaza: Chair of three international Workshops: “Mathematical Tools for IoT Networks Modeling (MOTION)” hosted at the IEEE Wireless Communications and Networking Conference (WCNC). April, 15-18 2019, Marrakech, Morocco. “Resource Allocation, Cooperation and Competition in Wireless Networks (RAWNET)”, June 19, 2020, Volvos, Greece. Workshop on Information and Decision Making. A satellite event of the IEEE International Symposium on Information Theory (ISIT), Institut Henri Poincaré, Paris, France, July 10, 2019.
- Samir Perlaza: Publication Chair of the International Symposium on Information Theory (ISIT), July, 2018, Paris, France. (Main conference of the IEEE Information Theory Society)

10.1.1.2. Member of the Organizing Committees

- Leonardo S. Cardoso: Organization and Scientific Committee of the European GNU Radio Days 2019, June, 2019, Besançon, France.

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

1. Leonardo S. Cardoso
 - IEEE International Conference on Communications (ICC). 7-11 June, 2020, Dublin, Ireland. Member of the Technical Program Committee of the Wireless Communications Symposium.
 - IEEE WCNC 2019, 2020
 - EuCNC 2019, 2020
2. Malcolm Egan
 - IEEE Global Communications Conference (GLOBECOM) 2019, 2020
 - IEEE International Conference on Communications (ICC). 7-11 June, 2020, Dublin, Ireland. Member of the Technical Program Committee of the Wireless Communications Symposium.
 - ACM NanoCommunications Conference (NanCom) 2019, 2020
 - International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2019
3. Jean-Marie Gorce
 - APCC 2019, 2020
 - WF-5G 2019, 2020

- PIMRC 2019
- 4. Claire GOURSAUD
 - IEEE ICASSP 2019
- 5. Samir Perlaza
 - IEEE International Conference on Communications (ICC). 7-11 June, 2020, Dublin, Ireland. Member of the Technical Program Committee of the Wireless Communications Symposium.
 - IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2020) 31 August – 3 September, 2020, London, UK. Member of the Technical Program Committee, Track 3: Mobile and Wireless Networks.
 - International Conference on Computing, Networking and Communications (ICNC). 18-21 February, 2019, Honolulu, Hawaii, USA. Member of the Technical Program Committee.
 - IEEE International Conference on Communications (ICC). 20-24 May 2019, Shanghai, China. Member of the Technical Program Committee of the Wireless Communications Symposium.
 - IEEE Global Communications Conference (Globecom). 9-13 December 2018, Abu Dhabi, UAE. Member of the Technical Program Committee of Workshop on Green and Sustainable 5G Wireless Networks.
 - IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2018) 9-12 September 2018, Bologna, Italy. Member of the Technical Program Committee, Track 3: Mobile and Wireless Networks.

10.1.2.2. Reviewer

1. Malcolm Egan
 - IEEE ISIT 2019
2. Samir Perlaza
 - ISIT, ITW, Eusipco, VTC, Rawnet, WiOpt, GameComm, Globecom, Colcom, PIMRC, Crowncom, WCMC, W-GREEN, ICT, IWCMC, ICC, Infocom, among others.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

1. Malcolm Egan
 - Associate Editor IEEE Communications Letters
 - Guest Editor IEEE Access Special Section on Molecular Communication Networks
2. Jean-Marie Gorce
 - Associate Editor Springer Journal of Wireless Communications and Networking (JWCN)
3. Claire GOURSAUD
 - Associate Editor of European Transactions on Telecommunications (ETT)
 - Associate Editor of Internet Technologies Letters (ITL)
4. Samir Perlaza
 - Editor of the IEEE Transactions on Communications for the term 2018-2021 in the area of Simultaneous Information and Energy Transmission, Feedback and Applications of Game Theory in Wireless Communications. (One of the main journals of the IEEE Communication Society)
 - Associate Editor of the IET Smart Grid for the term 2018-2021.
 - Guest Editor of the IEEE Internet of Things Journal, Special Issue on Artificial Intelligence Powered Edge Computing for Internet of Things. Publication date: 2020.

10.1.3.2. Reviewer - Reviewing Activities

1. Malcolm Egan
 - IEEE Transactions on Information Theory
 - IEEE Transactions on Signal Processing
 - IEEE Transactions on Wireless Communications
 - IEEE Transactions on Communications
 - IEEE Transactions on NanoBioscience
 - IEEE Transactions on Molecular, Biological, and Multi-Scale Communications
2. Jean-Marie Gorce
 - IEEE Transactions on Wireless Communications
3. Claire Goursaud
 - IEEE Sensors
 - IEEE Transactions on Communications
 - IEEE Wireless Communication Letters
 - IEEE Internet of Things Journal
4. Samir Perlaza
 - IEEE Journal on Selected Areas in Communications, IEEE Journal on Selected Topics in Signal Processing, IEEE Trans. on Wireless Communications, IEEE Trans. on Communications, IEEE Trans on Vehicular Technologies, IEEE Communications Letters, IEEE Trans. on Mobile Computing, EURASIP Journal on Advances in Signal Processing, EURASIP Journal on Wireless Communications and Networking.

10.1.4. Invited Talks

1. Leonardo S. Cardoso
 - “Transmitter Classification with Supervised Deep Learning”. Invited talk at CTTC, June 29, 2019, Barcelona, Spain.
 - “Exploring the Radio Spectrum with GNU Radio”. Invited tutorial at European GNU Radio Days , June 19, 2019, Besançon, France..
2. Malcolm Egan
 - Invited Lecture, European School on Information Theory, April 15-19, Nice, 2019.
 - Invited Lecture, International Workshop on Mathematical Tools and Technologies for IoT and mMTC Networks Modeling, 15-18 April, Morocco, 2019.
 - Invited Paper, Third International Balkan Conference on Communications and Networking 2019, 10-12 June, North Macedonia, 2019.
3. Jean-Marie Gorce
 - Invited Paper, International Workshop on Mathematical Tools and Technologies for IoT and mMTC Networks Modeling, 15-18 April, Morocco, 2019.
 - Invited Paper, Special Session on Ultra-Reliable Low-Latency Communicationsgo to top at the 20th international workshop on signal processing advances in wireless communications, 2-5 July, France, 2019.
 - Invited talk entitled *Etat de l’art, focus sur la mobilité et perspectives des communications pour l’IoT*; lors de l’atelier IdéO *Quelles infrastructures numériques et quel IoT pour une mobilité intelligente ?* , organisé par les pôles de compétitivité Systematic and Moveo (regional poles), Paris, Jeudi 26 Sept 2019.
4. Samir Perlaza

- “Transforming Broadcast Codes to Perform Covert Communications”. Invited talk at Department of Automatic Control and Systems Engineering, University of Sheffield, November 26, 2019, Sheffield, UK.
- “Transforming Broadcast Codes to Perform Covert Communications”. Invited talk at Centre d’Enseignement et de Recherche en Informatique (CERI) Université d’Avignon, November 14, 2019, Avignon, France.
- “Simultaneous Information and Energy Transmission in Decentralized Networks”. Invited talk at Inria, Centre de Recherche Sophia Antipolis Méditerranée, September 24, 2019, Sophia Antipolis, France.
- “Simultaneous Information and Energy Transmission Systems”. Invited talk at Eurecom, September 26 2019, Sophia Antipolis, France.
- “On Ultra-Reliable and Low Latency Simultaneous Information and Energy Transmission Systems”. Invited talk at Lappeenranta University of Technology, Finland. School of Energy Systems. April 08 2019. Lappeenranta, Finland
- “Information-Theoretic Security in the Smart Grid”. Invited talk at Lappeenranta University of Technology, Finland. School of Energy Systems. April 07, 2019, Lappeenranta, Finland.
- “Simultaneous Wireless Information and Energy Transmission”. Invited talk at Université de Lille. Institut d’électronique de microélectronique et de nanotechnologie (IEMN), October 4, 2018, Lille, France.

10.1.5. Scientific Expertise

- Jean-Marie Gorce
 - Chair of the evaluation committee for ETIS lab (Cergy) for HCERES.
 - Evaluator of research projects for Region Picardie.
 - Jury member of the senior researchers recruitment competition, Inria.

10.1.6. Research Administration

- Jean-Marie Gorce was:
 - Vice-head for research for the Grenoble Rhone-Alpes research centre.
 - Member (representative for Inria) of the Groupe Academique for University of Lyon.
 - Member of the national evaluation committee, Inria.
- Claire Goursaud was:
 - elected as a CNU member in the 61th section for 2019-2024
- Samir Perlaza was:
 - Member of the On-Line Committee of the IEEE Information Theory Society.
 - Membre du Conseil du Laboratoire CITI à l’INSA de Lyon. Term 2015 - 2019.
 - Comité du Prix Paul CASEAU for the 2017 edition of the thesis award.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master : JM Gorce, M Egan, L Chetot Advanced Digital Communications, 40h eq TD, M1, Telecommunications dept, INSA Lyon, France.

Master : JM Gorce, M Egan, D Duchemin Radio Access Networks, 32h eqTD, M1, Telecommunications dept, INSA Lyon, France.

Master : S Perlaza, JM Gorce, Selected Topics in Information Theory, 32h eqTD, M2, Compute sciences dept, ENS Lyon, France.

Master : L Cardoso, C Morin, Software Radio, 32h eqTD, M2, Telecommunications dept, INSA Lyon, France.

Licence : L Cardoso, C Goursaud, Digital Communications, 80h eqTD, L3, Telecommunications dept, INSA Lyon, France.

Licence : L Cardoso, C Goursaud, Research projets, 32h eqTD, L3, Telecommunications dept, INSA Lyon, France.

Master : C Goursaud, Communications Systems, 32h eqTD, M1, Telecommunications dept, INSA Lyon, France.

License : L Cardoso, Electromagnetism and Wave Physics, 104 eqTD, L2, First Cycle Dept, INSA Lyon, France.

License : L Cardoso, Mathematics for Engineering, 60h eqTD, L1, First Cycle Dept, INSA Lyon, France.

10.2.2. Supervision

PhD : David Kibloff, Contributions Théoriques sur les Communications Furtives, INSA Lyon, 17 sept 2019, Samir Perlaza and Guillaume Villemaud.

PhD: Trang Mai, Advanced Technologies in Molecular and Wireless Communication Networks: Analysis, Design and Optimization, Queen's University Belfast, 30 Dec 2019, Trung Duong, Malcolm Egan, and Hien Quoc Ngo.

PhD in progress : Dadja Toussaint Anade-Akpo, Non-asymptotic fundamental limits of impulsive radio communications, 01 oct 2017, Philippe Mary and Jean-Marie Gorce.

PhD in progress : Lélío Chetot, From finite blocklength information theory to multi-user M2M communication protocols, 01 oct 2018, Malcolm Egan and Jean-Marie Gorce.

PhD in progress : Diane Duchemin, Distributed coding for dense IoT networks, October 2016, Claire Goursaud and Jean-Marie Gorce

PhD in progress : Mathieu Goutay, Prédistortion digitale profonde, 01 Feb 2019, Jakob Hoydis and Jean-Marie Gorce.

PhD in progress : Hassan Kallam, Topology aided Multi-User Interference Management in Wireless Networks, 01 Feb 2017, Loonardo S. Cardoso and Jean-Marie Gorce.

PhD in progress : José Rugelles, Deep Learning for Security in GSM Based IoT Systems, 01 Jan 2017, Loonardo S. Cardoso and Edward Guillén.

PhD in progress : Nizar Khalfet, Study of stochastique energy sources to power communication system, 07 nov 2016, Samir Perlaza and Jean-Marie Gorce.

PhD in progress : Cyrille Morin, Deep learning for next generation communication systems, 20 Feb 2018, Leonardo S. Cardoso and Jean-Marie Gorce.

PhD in progress : Ce Zheng, Statistical models for IoT interference, Commenced Oct 2018, Malcolm Egan and Laurent Clavier.

Xiuzhen Ye - Academic Period: 2019 - 2022 – University of Sheffield, Department of Automatic Control and Systems Engineering, Sheffield, UK. Taux d'encadrement : Iñaki Esnaola (University of Sheffield, UK) 50%; and Rob Harrisson (University of Sheffield, UK) 25% and Samir Perlaza (external advisor) 25% Publications: Several under preparation. Thesis Title: Data Injection Attacks in Power Systems

Michalis Eliodorous – PhD Student at University of Cyprus (on-going collaboration during during his PhD)

10.2.3. Juries

1. Leonardo Cardoso
 - Examiner; Thesis Jury for Sumit Kumar supervised by Florian Kaltenberger in Institut Eurecom (Telecom Paristech), Sophia Antipolis, 12 March 2019.
 - Examiner; Thesis Jury for Nicolas Araújo supervised by Laurent Clavier in the University de Lille, Lille, 11 July 2019.
2. Malcolm Egan
 - Examiner; Thesis Jury for Pierre Escamilla supervised by Michele Wigger and Abdellatif Zaidi in Telecom ParisTech
 - Invited; Thesis Jury for Yasser Mestrah supervised by Laurent Clavier in the University of Reims Champagne-Ardenne and IMT Lille Douai
3. Jean-Marie Gorce
 - Reviewer; Thesis jury for Gourab Ghatak supervised by Antonio De Domenico (CEA) and Marceau Coupechoux, Telecoms Paris, IMT. 24 janv 2019.
 - Chair; Thesis jury for Alexandre Marcastel, supervised by Veronica Belmega ,Panayotis Mertikopoulos and Inbar Fijalkow, ETIS, Cergy. 21 Feb 2019.
 - Reviewer; HdR jury for Veronica Belmega , ETIS, Cergy. 29 March 2019.
 - Reviewer; HdR jury for Thomas Watteyne, Inria, Sorbonne University. 7 May 2019.
 - Examiner; Thesis jury for Abir Ben Hadj Fredj, supervised by Jean-Claude Belfiore and Ghaya Rekaya-Ben Othman, Telecoms Paris, IMT. 28 June 2019.
 - Examiner; Thesis jury for David Kibloff, supervised by Samir Perlaza and Guillaume Villemaud, INSA Lyon. 17 Sept 2019.
 - Reviewer; HdR jury for Marios Kountouris, Telecoms Paris, IMT. 17 Oct 2019.
 - Reviewer; Thesis jury for Selma Zamoum, supervised by Marie-Laure Boucheret and Jérôme Lacan, Université de Toulouse. 28 Nov 2019.
 - Reviewer; Thesis jury for Kaoutar Abdelalim supervised by Karine Amis and Getachew Redieteb, IMT Atlantique. 9 Dec 2019.
 - Reviewer; Thesis jury for Ibrahim Fawaz, supervised by Philippe Ciblat and Mireille Sarkiss, Telecoms Paris, IMT. 9 Dec 2019.
 - Reviewer; Thesis jury for Marc Kacou, supervised by Valery Guillet, Gheorghe Zaharia, and Ghais El Zein, INSA Rennes. 12 Dec 2019.
 - Reviewer; Thesis jury for Xiaojun Xi supervised by Marco Di Renzo, Supelec, Université Paris Saclay. 19 Dec 2019.
 - Examiner; Thesis jury for Jian Song supervised by Marco Di Renzo, Supelec, Université Paris Saclay. 19 Dec 2019.
4. Claire Goursaud
 - Reviewer for Alex The Phuong Nguyen supervised by Frederic Guilloud and Raphaël Le Bidan, IMT Atlantique
5. Samir Perlaza
 - Miguel Arrieta, Phd Thesis “Universal Privacy Guarantees for Smart Meters” at the Department of Automatic Control and Systems Engineering, University of Sheffield, November 29 2019, Sheffield, UK.
 - Ms. Nihan Cicek, Mphil Thesis "Probabilistic Energy Management Systems in PV-Rich Communities” Electrical & Electronic Engineering, The University of Melbourne, Australia

NEO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Eitan Altman was the general chair of the 12th EAI International Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS 2019), Palma de Mallorca, Spain, 13-15 March 2019;
- Konstantin Avrachenkov co-organized the 16th Workshop on Algorithms and Models for the Web Graph (WAW 2019), University of Queensland, Brisbane, Australia, 6-7 July 2019;
- Eitan Altman is chairman of the Steering committee of the workshop NetGCoop - Networking Games, Control and Optimisation;
- Eitan Altman is member of the steering committee of the conferences WiOpt and Valuetools.

10.1.1.2. Member of the Organizing Committees

- Giovanni Neglia was publicity co-chair of the 20th International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc 2019), Catania, Italy, 2-5 July 2019.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- Konstantin Avrachenkov was the co-chair of the 16th Workshop on Algorithms and Models for the Web Graph (WAW 2019), University of Queensland, Brisbane, Australia, 6-7 July 2019.
- Konstantin Avrachenkov was the co-chair of the 9th EAI International Conference on Game Theory for Networks (GameNets 2019), Paris, France, April 25-26, 2019.

10.1.2.2. Member of the Conference Program Committees

- ACM Sigmetrics / IFIP Performance 2019 (Phoenix, Arizona, USA) (S. Alouf, K. Avrachenkov);
- ACM Sigmetrics 2020 (Boston, Massachusetts, USA) (S. Alouf);
- IEEE Intl. Conf. on Computer Communications (INFOCOM 2020, Beijing, China) (G. Neglia);
- 39th IEEE Intl. Conf. on Distributed Computing Systems (ICDCS 2019, Dallas, Texas, USA) (K. Avrachenkov);
- 27th IEEE Intl. Conf. on Network Protocols (ICNP 2019, Chicago, Illinois, USA) (K. Avrachenkov);
- 25th Intl. Conf. on Analytical & Stochastic Modelling Techniques & Applications (ASMTA 2019, Moscow, Russia) (K. Avrachenkov);
- 10th Conf. on Decision and Game Theory for Security (GameSec 2019, Stockholm, Sweden) (K. Avrachenkov);
- 8th Intl. Conf. on Complex Networks and their Applications (Lisbon, Portugal) (K. Avrachenkov);
- 26th Intl. Conf. on Telecommunications (ICT 2019, Hanoi, Vietnam) (K. Avrachenkov);
- SIAM Conf. on Control and Its Applications (CT19, Chengdu, China) (K. Avrachenkov);
- SIAM Intl. Conf. on Data Mining (SDM19, Calgary, Canada) (K. Avrachenkov);
- 20th Conf. of the Société Française de Recherche Opérationnelle et d'Aide à la Décision (ROADEF 2019, Le Havre, France) (A. Jean-Marie);

- 7th Symposium on Control, Automation, Industrial Informatics and Smart Grid (ICAIS'19, Trivandrum, Kerala, India) (K. Avrachenkov);
- 16th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2019, Avignon, France) (K. Avrachenkov);
- 16th European Performance Engineering Workshop (EPEW2019, Milan, Italy) (A. Jean-Marie);
- IEEE INFOCOM Workshop on the Communications and Networking Aspects of Online Social Networks (CAOS'19, Paris, France), (G. Neglia);
- 21st Workshop on MATHematical performance Modeling and Analysis (MAMA 2019, Phoenix, USA) (A. Jean-Marie).

10.1.2.3. Reviewer

- 27th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2020, London, Canada) (A. Jean-Marie);
- Forum on Specification & Design Languages (FDL 2019, Southampton, UK) (S. Alouf).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- *ACM Transactions on Modeling and Performance Evaluation of Computing Systems (ACM ToMPECS)* (K. Avrachenkov);
- *AIMS: Journal of Dynamic Games* (E. Altman);
- *Elsevier Computer Communications (COMCOM)* (G. Neglia);
- *Elsevier International Journal of Performance Evaluation (PEVA)* (K. Avrachenkov);
- *IEEE Transactions on Mobile Computing* (G. Neglia);
- Editor at large in *IEEE/ACM Transaction of Networking* (E. Altman);
- *Probability in the Engineering and Informational Sciences* (K. Avrachenkov);
- *Springer: Dynamic Games and Applications* (E. Altman);
- *Stochastic Models* (K. Avrachenkov);
- *Wiley Transactions on Emerging Telecommunications Technologies (ETT)* (S. Alouf).

10.1.3.2. Reviewer - Reviewing Activities

- *Dynamic Games And Applications* (A. Jean-Marie);
- *Elsevier Computer Networks* (G. Neglia);
- *Elsevier International Journal of Performance Evaluation (PEVA)* (S. Alouf);
- *EURO Journal on Computational Optimization* (A. Jean-Marie);
- *IEEE Internet of Things Journal* (C. Xu);
- *IEEE Networking Letters* (G. Neglia);
- *IEEE/ACM Transactions on Mobile Computing (TMC)* (G. Neglia);
- *IEEE/ACM Transactions on Networking (ToN)* (G. Neglia);
- *Journal of Economic Dynamics and Control* (A. Jean-Marie);
- *Theoretical Computer Science (TCS)* (A. Jean-Marie).

10.1.4. Tutorials, Invited Talks

- E. Altman gave a tutorial on "Network Games" at the Workshop on Network, population and congestion games (NPCG19) 17 April, Paris, France.
- G. Neglia gave an invited talk on "Machine Learning Training: Research Challenges and Opportunities for Distributed Computing" at the International Workshop on Distributed Cloud Computing (DCC), 18 October, Budapest, Hungary.

- C. Xu gave an invited talk on "Dynamic back up workers in distributed machine learning" at Sun Yat-sen University, September 3, Guangzhou, China.

10.1.5. Leadership within the Scientific Community

S. Alouf

- has been elected for two years at the Board of Directors of ACM SIGMETRICS.
- is a member of the Equality and Diversity committee of ACM SIGMETRICS.
- is a member of the Conference Advisory committee of ACM SIGMETRICS.

E. Altman

- is a fellow member of IEEE (Class of 2010).
- is a fellow member of EAI (Class of 2019)
- is an elected member of IFIP WG 7.3 on "Computer System Modeling".
- is a member of WG 6.3 of IFIP on Performance of Communication Systems.

K. Avrachenkov

- is a member of the scientific committee for Labex UCN@Sophia;
- is a member of Conseil Scientifique & Pédagogique EUR DS4H Université Côte d'Azur;

A. Jean-Marie

- is a member of the Steering Committee of the GDR RO, a national research initiative on Operations Research sponsored by the CNRS;
- is an elected member of IFIP WG 7.3 on "Computer System Modeling".

G. Neglia is member of the scientific animation committee for the IDEX UCA^{JEDI} research program "Social Interactions and Complex Dynamics" since 2017.

10.1.6. Scientific Expertise

Giovanni Neglia is a consultant for the startup Payback Network in the period November 2019 - January 2020. The consultancy is on differential privacy techniques.

10.1.7. Research Administration

S. Alouf

- is member of CLF, the training committee of Inria Sophia Antipolis Méditerranée, since November 2014;
- is vice-head of project-team NEO since January 2017.

K. Avrachenkov

- is responsible for the supervision and validation of the project-teams' yearly activity reports since 2010;
- is a member of NICE, the Invited Researchers Committee of Inria Sophia Antipolis Méditerranée, since 2010.
- is a member of scientific and pedagogical committee for the graduate school DS4H of UCA.

A. Jean-Marie

- is the scientific coordinator of Inria activities in Montpellier (since 2008); as part of this duty, he represents Inria at: the Scientific Council of the Doctoral School "Sciences and Agrosiences" of the Univ of Avignon; at the Regional Conference of Research Organisms (CODOR);
- is member of the managing sub-committee of the Project-Team Committee of the Inria Sophia Antipolis – Méditerranée research center since December 2017;

- is Head of project-team NEO since January 2017.

G. Neglia

- is the scientific delegate for European partnerships for Inria Sophia Antipolis – Méditerranée since 2014;
- is member of the Inria COST GTRI (International Relations Working Group of Inria’s Scientific and Technological Orientation Council since 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Note: UNS is the Univ Nice Sophia-Antipolis, UCA is the Univ Côte d’Azur.

Licence : M. Drevetov, “Tools for biology – Statistics”, 24H, L1 Life Sciences, UNS, France;

Master : S. Alouf, “Performance Evaluation of Networks”, 27H, M2 Ubinet, UCA, France;

Master : K. Avrachenkov, “Statistical Analysis of Graphs”, 6H, M2 Data Science, UCA, France;

Master : M. Drevetov, “Statistical Analysis of Graphs”, 26H, M2 Data Science, UCA, France;

Master : G. Neglia, “Distributed Optimization and Games”, 31.5H, M2 Ubinet, UNS, France;

Master : G. Neglia, “Performance Evaluation of Networks”, 4.5H, M2 Ubinet, UCA, France;

Master : G. Neglia, responsible for the “Winter School on Hands-on Machine Learning”, 22.5H, M1 Computer Science, UNS, France.

Doctorat: A. Jean-Marie, “Queueing Systems”, 6H, Summer School ResCom 2019, Anglet, France.

10.2.2. Supervision

PhD: Zaid Allybokus, “Scalable Online Algorithms for SDN Controllers”, UCA, 11 June 2019, advisors: Konstantin Avrachenkov, Jeremie Leguay and Lorenzo Maggi (Huawei).

PhD: Dimitra Politaki, “Greening data center”, UCA, 16 July 2019, advisors: Sara Alouf and Fabien Hermenier (Nutanix).

PhD in progress: Mandar Datar, “Singular perturbation approach for machine learning in multiobjective optimisation”, Univ Avignon, 1 May 2018, advisor: Eitan Altman.

PhD in progress: Maximilien Drevetov, “Statistical Physics Methods for Distributed Machine Learning”, UCA, 1 Oct. 2018, advisor: Konstantin Avrachenkov.

PhD in progress: Guilherme Jecker Ricardo, “Caching for wireless networks”, UCA, 1 Sept. 2018, advisors: Giovanni Neglia and Pietro Elia (EURECOM).

PhD in progress: Mikhail Kamalov, “Semi-supervised variational autoencoders versatile data”, UCA, 1 June 2019, advisor: Konstantin Avrachenkov.

PhD in progress: Marie Masson, “Fonctionnalités auto-organisantes dans le réseau d’accès radio 5G virtuels”, UCA, 1 Dec. 2017, advisors: Eitan Altman and Zwi Altman (Orange).

PhD in progress: Tareq Si Salem, “Federated Learning”, UCA, 1 October 2019, advisor: Giovanni Neglia.

PhD interrupted: Abhishek Bose, “Adaptive crawling with machine learning techniques”, 1 June 2018 – 30 Sep. 2029.

10.2.3. Juries

NEO members participated in the Ph.D. committees of (in alphabetical order):

- Zaid Allybokus, “Scalable Online Algorithms for SDN Controllers”, UCA, 11 June (K. Avrachenkov as advisor);

- Lea Bayati, “Data Centers Energy Optimization”, Univ Paris-Est Créteil, 20 September (A. Jean-Marie as reviewer);
- Céline Comte, “Resource management in computer clusters: algorithm design and performance analysis”, Telecom ParisTech, 24 September (A. Jean-Marie as jury president);
- Muhammad Jawad Khokhar, “Modeling Quality of Experience of Internet Video Streaming by Controlled Experimentation and Machine Learning”, UCA, 15 October (G. Neglia as jury member)
- Xiaoyi Mai, “Methods of random matrices for large dimensional statistical learning”, CentraleSup-elec, 16 October (K. Avrachenkov as jury member);
- Antonio Massaro, “Optimisation, games and learning strategies in telecommunication systems subject to structural constraints”, University of Trento, 7 May (K. Avrachenkov as reviewer);
- Dimitra Politaki, “Greening data center”, UCA, 16 July (S. Alouf as advisor);
- Yonathan Portilla, Univ Avignon, “Study of Social Networks: modelling and analysis”, 20 May (E. Altman as co-advisor);
- Arthur Vallet, “Modélisation markovienne de lasers multimodes à semiconducteurs”, Université de Montpellier, 15 October (A. Jean-Marie as jury member).

10.3. Popularization

10.3.1. Interventions

- Sara Alouf presented the Researcher profession at the *Forum des Métiers*, Collège Emile Roux, Le Cannet, on 15 March 2019, to a total of 62 students in 6 groups, aging 12-14 years.

RESIST Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

Olivier Festor: IEEE Conference on Network Softwarization (NetSoft 2019), general co-chair.

Isabelle Chrisment: IEEE/IFIP International Workshop on Analytics for Network and Service Management (AnNet 2020), general co-chair.

10.1.1.2. Member of the Organizing Committees

Laurent Andrey: IEEE Conference on Network Softwarization (NetSoft 2019), web chair.

Rémi Badonnel: IEEE International Symposium on Integrated Network Management (IM 2019); IFIP International Conference on Networking (Networking 2020); IEEE/IFIP Network Operations and Management Symposium (NOMS 2020).

Olivier Festor: IEEE International Symposium on Integrated Network Management (IM 2019), member of the steering committee & Publications co-chair; IEEE/IFIP Network Operations and Management Symposium (NOMS 2020), tutorial co-chair; IFIP International Conference on Networking (Networking 2020), patrons co-chair.

Thibault Cholez: IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT 2020).

Isabelle Chrisment: Rendez-vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information (RESSI 2019), member of the steering committee.

Jérôme François: Rendez-vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information (RESSI 2019), member of the steering committee; IEEE International Conference on Blockchain and Cryptocurrency (ICBC 2019), demonstration co-chair.

Abdelkader Lahmadi : IEEE International Symposium on Integrated Network Management (IM 2019), co-chair of the workshop HotNSM; IEEE/IFIP Network Operations and Management Symposium (NOMS 2020), publicity co-chair.

Lucas Nussbaum: TILECS workshop.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

Rémi Badonnel: IEEE/IFIP/In Coop. with ACM SIGCOMM International Conference on Network and Service Management (CNSM 2019), technical program committee co-chair; IEEE International Symposium on Integrated Network Management (IM 2019), experience program committee co-chair; IEEE/IFIP Network Operations and Management Symposium (NOMS 2020), experience program committee co-chair.

Olivier Festor: IEEE International Symposium on Integrated Network Management (IM 2019), Tutorial chair; IEEE Conference on Network Softwarization (NetSoft 2019), Technical Program Committee co-chair; IEEE/IFIP/In Coop. with ACM SIGCOMM International Conference on Network and Service Management (CNSM 2019).

Isabelle Chrisment: IFIP, in-cooperation with ACM SIGCOMM Network Traffic Measurement and Analysis Conference (TMA 2019).

Jérôme François: IEEE International Symposium on Integrated Network Management (IM 2019); IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT 2019); IEEE Workshop on Emerging Trends in Softwarized Networks (ETSN 2019).

10.1.2.2. Member of the Conference Program Committees

Laurent Andrey: IEEE Conference on Network Softwarization (NetSoft 2019).

Rémi Badonnel: IEEE/IFIP/In Coop. with ACM SIGCOMM International Conference on Network and Service Management (CNSM 2019); IEEE International Symposium on Integrated Network Management (IM 2019); IEEE Conference on Network Softwarization (NetSoft 2019); IEEE/IFIP International Workshop on Analytics for Network and Service Management (AnNet 2019); IEEE Global Information Infrastructure and Networking Symposium (GIIS 2019); IEEE International Conference on Communications (ICC 2020); IEEE/IFIP Network Operations and Management Symposium (NOMS 2020).

Isabelle Chrisment: IEEE/IFIP/In Coop. with ACM SIGCOMM International Conference on Network and Service Management (CNSM 2019); IEEE International Symposium on Integrated Network Management (IM 2019); IEEE/IFIP International Workshop on Analytics for Network and Service Management (AnNet 2019); Rencontres Francophones sur la Conception de Protocoles, l'Évaluation de Performance et l'Expérimentation des Réseaux de Communication (CoRes 2019); IEEE/IFIP Network Operations and Management Symposium (NOMS 2020); ACM/IEEE International Conference on Internet of Things Design and Implementation (IoTDI 2020);

Thibault Cholez: IEEE International Conference on Blockchain and Cryptocurrency (ICBC 2019); IEEE International Conference on Cloud Networking (CloudNet 2019); IEEE International Symposium on Integrated Network Management (IM 2019); IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT 2019); IEEE/IFIP International Workshop on Managing and Managed by Blockchain (Man2block 2019); IEEE/IFIP Network Operations and Management Symposium (NOMS 2020).

Olivier Festor: IEEE/IFIP/In Coop. with ACM SIGCOMM International Conference on Network and Service Management (CNSM 2019); IEEE International Symposium on Integrated Network Management (IM 2019); IEEE Conference on Network Softwarization (NetSoft 2019); IEEE/IFIP Network Operations and Management Symposium (NOMS 2020); IEEE/IFIP/In Coop. with ACM SIGCOMM International Conference on Network and Service Management (CNSM 2020); IEEE Conference on Network Softwarization (NetSoft 2020); IFIP International Conference on Networking (Networking 2020).

Jérôme François: IFIP, in-cooperation with ACM SIGCOMM Network Traffic Measurement and Analysis Conference (TMA 2019); IEEE INFOCOM Workshop on Cryptocurrencies and Blockchains for Distributed Systems (CryBlock 2019); Conference on Blockchain Research & Applications for Innovative Networks and Services (BRAINS 2019); IEEE/IFIP International Workshop on Managing and Managed by Blockchain (Man2block 2019).

Abdelkader Lahmadi: IEEE INFOCOM Workshop on Cryptocurrencies and Blockchains for Distributed Systems (CryBlock 2019); IEEE/IFIP International Workshop on Managing and Managed by Blockchain (Man2block 2019); IEEE/IFIP Network Operations and Management Symposium (NOMS 2020); IEEE International Symposium on Integrated Network Management (IM 2019); IEEE Conference on Network Softwarization (NetSoft 2019); Cyber Security in Networking Conference (CSNet 2019); IEEE Workshop on Emerging Trends in Softwarized Networks (ETSN 2019).

Lucas Nussbaum: International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE 2019); 39th IEEE International Conference on Distributed Computing System (ICDCS 2019); 16th International Conference on Mining Software Repositories (MSR 2019 – FOSS award); 11th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2019). 5th International Workshop on Serverless Computing (WoSC 2019); 54th IEEE International Conference on Communications (ICC) – NGNI Symposium; IEEE Global Information Infrastructure and Networking Symposium (GIIS 2019).

10.1.2.3. Reviewer

The permanent team members made many reviews for the conferences the team is involved in.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Rémi Badonnel: Associate Editor for the Wiley International Journal of Network Management (IJNM), Associate Editor for the Springer Journal of Network and System Management (JNSM) and guest editor for the IEEE Transactions on Network and Service Management (TNSM).

Isabelle Chrisment: Associate Editor for the IEEE Transactions on Network and Service Management (TNSM).

Abdelkader Lahmadi : Associate Editor for the Wiley International Journal of Network Management (IJNM) and Guest Editor for a special issue of Springer Journal of Network and System Management (JNSM).

Jérôme François: Associate Editor-In-Chief for the Wiley International Journal of Network Management (IJNM).

10.1.3.2. Reviewer - Reviewing Activities

Rémi Badonnel: IEEE Transactions on Network and Service Management (TNSM), IEEE Journal on Selected Areas in Communications (JSAC), Springer Journal of Network and System Management (JNSM), IEEE Communications Magazine (COMMAG), Wiley International Journal of Network Management (IJNM) and Elsevier Journal of Industrial Information Integration (JIII).

Thibault Cholez: IEEE Transactions on Network and Service Management (TNSM), IEEE Communications Magazine (COMMAG), Elsevier Journal on Communication Networks (COMNET) and SIGCOMM Computer Communication Review.

Isabelle Chrisment: IEEE Transactions on Network and Service Management (TNSM).

Laurent Andrey: Springer Journal of Network and System Management (JNSM) and Wiley International Journal of Network Management (IJNM).

Jérôme François: IEEE Transactions on Network and Service Management (TNSM), IEEE Journal on Selected Areas in Communications (JSAC) and Wiley International Journal of Network Management (IJNM).

Abdelkader Lahmadi : IEEE Transactions on Network and Service Management (TNSM), IEEE Journal on Selected Areas in Communications (JSAC), Wiley International Journal of Network Management (IJNM), Springer Journal of Network and System Management (JNSM), IEEE Communications Magazine (COMMAG) and Elsevier Journal Computer Communications (COMCOM).

Lucas Nussbaum: International Journal of Grid and Utility Computing (IJGUC).

10.1.4. Invited Talks

Abdelkader Lahmadi provided a keynote on "Toward Self-driving Networks: Network Management and Security Challenges" in the IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT), 8 April, 2019, Washington D.C., USA.

Isabelle Chrisment provided a talk on "Experimentation in Cybersecurity: from Requirements to Platforms" in the TILECS (Towards an Infrastructure for Large-Scale Experimental Computer Science) workshop, 3-4 July 2019, Grenoble, France.

Olivier Festor gave a keynote on the coupling of Information Centric Networks and Programmable Networks at the Orange Network of the Future workshop in May 2019. He also gave a talk at the Distinguished Experts Panel of IEEE/IFIP IM'2019 in Washington on Intelligent Management and gave a short invited presentation entitled "Opening the Network for More Secure Services" at the SecSoft 2019 workshop in Paris on June 24th, 2019.

10.1.5. Leadership within the Scientific Community

Rémi Badonnel has been elected as the chair of the IFIP (International Federation for Information Processing) WG6.6 (Working Group 6.6) dedicated to the management of networks and distributed systems.

Isabelle Chrisment has been a co-chair of the Allistene cybersecurity working group, whose main goal is to help drive the French cybersecurity research and innovation.

Olivier Festor is a member of the IEEE/IFIP NISC (NOMS IM Steering Committee) which manages the set of conferences in the area of network and service management for both IEE and IFIP scientific communities worldwide.

Jérôme François has been appointed as co-chair of NMRG (Network Management Research Group) of IRTF (Internet Research Task Force).

10.1.6. Scientific Expertise

Isabelle Chrisment served as an expert of the HCERES (High Council for Evaluation of Research and Higher Education) committee for the LISTIC Laboratory. She was a member of the GDR RSD/ASF selection committee for the thesis award. She is also a member of the AFNIC's Scientific Council.

Abdelkader Lahmadi served as reviewer for ANRT (CIFRE PhD). Abdelkader Lahmadi has contributed to the writing of a document about the protection of critical infrastructures in transport and energy within the working group "enjeux 2025" of CoFIS (Comité de la Filière industrielle de sécurité).

Olivier Festor is a member of the Scientific Council of Orange and Director of TELECOM Nancy, the graduate Engineering School of Computer Science at the University of Lorraine. He is also contributing to the HCERES national scientific evaluation board.

Jérôme François and Rémi Badonnel serve as reviewers for ANRT (CIFRE PhD). Jérôme François is in the advisory board of the Interreg TERMINAL project (2019-2021).

10.1.7. Research Administration

Thibault Cholez is a member of the executive council of the Digitrust project (I-Site project of the Université de Lorraine to foster research on trust and security in IT).

Isabelle Chrisment is also an elected member of the scientific pole AM2I (Automatique, Mathématiques, Informatique et leurs Interaction) at Université de Lorraine. She is a member of the COMIPERS at Inria Nancy Grand Est. She is also involved in the CMI (Commission de la Mention Informatique) board, which is a part of the doctoral school IAEM.

Abdelkader Lahmadi is a member of the CDT of Inria Nancy Grand Est.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Olivier Festor is the Director of the TELECOM Nancy Engineering School.

Rémi Badonnel is heading the Internet Systems and Security specialization of the 2nd and 3rd years at the TELECOM Nancy engineering school, and is coordinating the Security Pathway Program at the same school, elaborated in the context of the International Master of Science in Security of Computer Systems built with the Mines Nancy school.

Thibault Cholez is in charge of the organization of professional projects for the three years of TELECOM Nancy students in apprenticeship.

Team members are teaching the following courses:

Rémi Badonnel 242 hours - L3, M1, M2 - Networks, Systems and Services, Software Design and Programming, Cloud Computing, Network and Security Management - TELECOM Nancy, Université de Lorraine

Thibault Cholez 290 hours - L3, M1, M2 - Computer Networks, Object-Oriented Programming, Network Services, Constraint development on small Connected Objects, Mobile applications and Internet of Things, IT tools for Project Management - TELECOM Nancy, Université de Lorraine

Isabelle Chrisment 220 hours -L3, M1, M2 -C and Shell Programming, Computer Networking, Operating Systems, Network Security. - TELECOM Nancy, Université de Lorraine

Jérôme François 70 hours - M1, M2 -Network security, Big Data - TELECOM Nancy, Université de Lorraine

Abdelkader Lahmadi 280 hours - L3, M1, M2 - Real time and Embedded Systems Programming, Distributed Systems and Algorithms, Green IT, Algorithms and Advanced Programming, Security of Cyber Physical Systems - ENSEM Engineering School, Université de Lorraine

Lucas Nussbaum 200 hours - L2, Licence Pro (L3), M1 - several courses about systems administration, monitoring, virtualization, configuration management, networking, operating systems. - IUT Nancy-Charlemagne

E-learning

MOOC *Supervision de Réseaux et Services (Session 2)*, FUN Project, Université de Lorraine, Ingénieur, formation initiale et continue, Thibault Cholez, Rémi Badonnel, Laurent Andrey, Olivier Festor, Abdelkader Lahmadi, Jérôme François, January-March 2019, over 6000 from 77 countries, and 347 certificates of achievement. Each MOOC Resist participant contributed to the 2019 maintenance for a third opening on January 2020.

10.2.2. Supervision

PhD in progress: Ahmad Abboud, *Compressed and verifiable filtering rules in Software-defined Networking*, since September 2018, supervised by Michael Rusinowitch, Abdelkader Lahmadi, and Adel Bouhoula.

PhD in progress: Pierre-Olivier Brissaud, *Encrypted traffic analysis*, since July 2016, supervised by Isabelle Chrisment, Jérôme François and Thibault Cholez.

PhD in progress: Jean-Philippe Eisenbarth, *Securing the future blockchain-based security services*, since May 2019, supervised by Thibault Cholez and Olivier Perrin (Coast team).

PhD in progress: David Espinel, *SDN solution for Massively Distributed Cloud Infrastructure*, since February 2018, supervised by Lucas Nussbaum, Adrien Lebre and Abdelhadi Chari.

PhD in progress: Adrien Hemmer, *Predictive Security Monitoring for Large-Scale Internet-of-Things*, since October 2018, supervised by Isabelle Chrisment and Rémi Badonnel.

PhD in progress: Pierre-Marie Junges, *Internet-wide automated assessment of the exposure of the IoT devices to security risks*, since October 2018 supervised by Olivier Festor and Jérôme François.

PhD in progress: Mingxiao Ma, *Cyber-Physical Systems defense through smart network configuration*, since November 2017, supervised by Isabelle Chrisment, Abdelkader Lahmadi.

PhD in progress: Abdulqawi Saif, *Open Science for the scalability of a new generation search technology*, since December 2015, supervised by Ye-Qiong Song & Lucas Nussbaum.

PhD in progress: Matthews Jose, *Programming model for new flow-based network monitoring*, since January 2019, supervised by Olivier Festor & Jérôme François.

PhD in progress: Data-Driven Intelligent Monitoring for Software-Defined Networks, *Programming model for new flow-based network monitoring*, since October 2018, supervised by Isabelle Chrisment, Raouf Boutaba & Jérôme François.

PhD in progress: Abir Laraba, *Data-Driven Intelligent Monitoring for Software-Defined Networks*, since October 2018, supervised by Isabelle Chrisment, Raouf Boutaba & Jérôme François.

PhD in progress: Mehdi Zakroum, *Forecasting cyberthreats from exogeneous data*, since October 2019, supervised by Isabelle Chrisment & Jérôme François.

PhD: Paul Chaignon, *Software Datapaths for Multi-Tenant Packet Processing*, supervised by Olivier Festor, Jérôme François and Kahina Lazri [1].

PhD: Xavier Marchal, *Secure operation of virtualized Named Data Networks*, supervised by Olivier Festor & Thibault Cholez [2].

PhD: Nicolas Schnepf, *Orchestration and Verification of Security Functions for Smart Environments*, supervised by Stephan Merz, Rémi Badonnel and Abdelkader Lahmadi [3].

PhD: Lakhdar Meftah, *Towards Privacy-sensitive Mobile Crowdsourcing*, supervised by Romain Rouvoy (University of Lille) and Isabelle Chrisment.

10.2.3. Juries

Team members participated to the following Ph.D. defense committees:

- Damien Crémilleux, PhD in Computer Science from CentraleSupélec, Rennes, France. Title: Visualization for information system security monitoring, February 2019 – (Isabelle Chrisment as president).
- Philippe Pittoli, PhD in Computer Science from the University of Strasbourg, France. Title: Influence d'une architecture de type maître-esclave dans les problématiques de l'Internet des Objets. May 2019 – (Isabelle Chrisment as reviewer).
- Kallol Krishna Karmakar, PhD in Computer Science from the University of Newcastle, Australia. Title: Techniques for Securing Software Defined Networks and Services, June 2019 – (Isabelle Chrisment as reviewer).
- Pierre-Marie Bajan, Phd in Computer Science from Télécom SudParis, France. Title: Simulation d'attaque et d'activité : application à la cyber-défense, July 2019 – (Isabelle Chrisment as examiner).
- Muhammad Jawad Khokhar, PhD in Computer Science from the University of Nice-Sophia Antipolis, France. Title: Modeling Quality of Experience of Internet Video Streaming by Controlled Experimentation and Machine Learning, October 2019 - (Isabelle Chrisment as examiner).
- François Boutigny, Phd in Computer Science from Télécom SudParis, France. Title: Multidomain Virtual Network Embedding under Security-oriented Requirements applied to 5G Networks Slices, November 2019 – (Isabelle Chrisment as examiner).
- Fetia Bannour, PhD in Computer Science and Electrical Engineering from the Paris-Est Créteil University, France. Title: Contributions pour le contrôle distribué dans les réseaux SDN, November 2019 - (Olivier Festor as reviewer).
- Danilo Cerovic, PhD in Computer Science from Sorbonne Université, Paris, France. Title: Architecture réseau résiliente et hautement performante pour les datacenters virtualisés, February 2019 - (Olivier Festor as reviewer).

Team members participated to the following Habilitation Degree committees:

- Nozar Kheir, Habilitation Degree in Computer Science from Université Paris-Saclay, France. Title : From Cyber-secure to Cyber-resilient Computer Systems - The way forward, May 2019 - (Olivier Festor as reviewer).

10.3. Popularization

10.3.1. Articles and contents

Abdelkader Lahmadi and Frédéric Beck provided a podcast about the security of connected devices available at Interstices (<https://interstices.info/des-outils-pour-evaluer-la-securite-des-objets-connectes/>)

Thibault Cholez gave an interview for the *factuel* (newsletter of the University of Lorraine) to present the H2020 project CONCORDIA (<https://factuel.univ-lorraine.fr/node/11394>). He also wrote a blog entry entitled "Assessing blockchains' network infrastructure: why it matters for cybersecurity" for the CONCORDIA website (<https://www.concordia-h2020.eu/blog-post/assessing-blockchains-network-infrastructure-why-it-matters-for-cybersecurity/>).

Isabelle Chrisment contributed to the ARCEP Report entitled "The State of the Internet in France", June 2019, page 19, https://www.arcep.fr/uploads/tx_gspublication/rapport-etat-internet-2019-270619.pdf (French version) or https://en.arcep.fr/uploads/tx_gspublication/report-state-internet-2019-eng-270619.pdf (English version).

Jérôme François has been interviewed by France 3 Lorraine to present how cyberthreat can be predicted in the context of ThreatPredict (section 9.4.3.1). He also gave an introduction to network security in the context of FAN (<https://fan.inria.fr/>)

10.3.2. Education

Isabelle Chrisment participated in the SNT (Sciences Numériques et Technologie) MOOC, more especially in the design of a video entitled "Internet IP, a universal protocol?" in the module "Internet and Networks. The SNT MOOC is a FUN Project dedicated to the teachers in high schools to help them within the context of the high school reform.

10.3.3. Internal action

Jérôme François presented ThreatPredict (section 9.4.3.1) at the "Café des Sciences" in Inria Rocquencourt Center.

SOCRATE Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events: Organisation

Tanguy Risset and Leonardo Cardoso have been at the origin of the First French GNU Radio days in 2018: <https://gnuradio-fr-18.sciencesconf.org/>. This is a very visible result of the activity on CorteXlab. The second version of the workshop (called now *European GNU Radio days*) has almost double its number of participants in 2019: <https://gnuradio-fr-19.sciencesconf.org/>. Next year session is planned in June in Poitiers.

Kevin Marquet has organized the conference “Vous avez dit sobriété (numérique) ?” within the Ecoinfo CNRS GDS (<https://ecoinfo.cnrs.fr/2019/07/11/projets-ecoinfo-en-cours/>).

8.1.1.1. Member of the Organizing Committees

- Tanguy Risset is member of the organizing committee of the second European GNU Radio days.

8.1.1.2. Chair of Conference Program Committees

Florin Hutu was session chair during the IEEE International Symposium on Signals Circuits and Systems, 11-12 July 2019, Iasi, Romania.

8.1.1.3. Member of the Conference Program Committees

Tanguy Risset was a member of the following technical program committees:

- IEEE Computer Society Annual Symposium on VLSI (ISVLSI) 2019
- Design Automation and Test in Europe (DATE) 2019
- International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM) 2019

Florent de Dinechin was a member of the following technical program committees:

- IEEE Symposium on Computer Arithmetic (ARITH)
- IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM)
- Conférence d’informatique en Parallélisme, Architecture et Système (COMPAS)

Guillaume Villemaud was a member of the following technical program committee:

- EUCAP 2019,
- EuCNC 2019

8.1.2. Journal

8.1.2.1. Member of the Editorial Boards

Guillaume Villemaud is an associate editor of *Annals of Telecommunications* (Springer).

Florent de Dinechin was Guest Editor for a special issue of *IEEE Transactions on Computers* dedicated to computer arithmetic [4].

8.1.2.2. Reviewer - Reviewing Activities

Florin Hutu reviewed articles for the following conferences: 2019 International Conference on Advanced Technologies for Communications (ATC), 2019 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),

Florin Hutu Florin HUTU reviewed articles for the following journals: *IEEE Transactions on Communications*, *IEEE Communications Letters*, *IEEE Journal of Radio Frequency Identification*, *Elsevier Advances in Space Research*, *MDPI Sensors*, *MDPI Applied Sciences*.

8.1.3. Invited Talks

Florent de Dinechin gave a talk at the PAW workshop (Programmable Audio Workshop) organised by GRAME in Lyon on 14 dec. 2019. the title was: “FPGAs for low latency audio applications?” (<https://faust.grame.fr/paw/#fpga>)

Florent de Dinechin gave an invited lecture at ICTP (the International Center for Theoretical Physics) for the May 2019 edition of the Advanced Workshop on FPGA-based Systems-On-Chip for Scientific Instrumentation and Reconfigurable Computing.

Tanguy Risset gave a tutorial untitled “Writing a custom GNU Radio processing block” at the second edition of the *europaean GNU Radio days*, organized in besançon in June 2019 (<https://gnuradio-fr-19.sciencesconf.org/resource/page/id/2>).

Gero Müller gave an invited talk untitled “Intermittent power and high precision high speed power measurements” at Riot Summit 2019 (<https://summit.riot-os.org/2019/blog/speakers/gero-muller/>)

8.1.4. Leadership within the Scientific Community

Tanguy Risset is Vice-director of the FIL (CNRS Computer Science Research Federation of Lyon/Saint-Etienne).

Florent de Dinechin is director of the Citi-Lab.

8.1.5. Scientific Expertise

Guillaume Villemaud served as Research Expert for the European commission for the H2020-MSCA-NIGHT-2018.

Tanguy Risset is member of the Administration council (Conseil d’administration) of the GRAME institute (centre national de création musicale).

Guillaume Villemaud is a member of the Delphi Expert Panel on Software Defined Networks (SDN) and Network Functions Virtualisation (NFV).

8.1.6. Research Administration

Tanguy Risset is Vice-director of the FIL (CNRS Computer Science Research Federation of Lyon/Saint-Etienne).

Florent de Dinechin is director of the Citi-Lab.

Kevin Marquet is associate director of the CNRS GDS ECO-info (<http://ecoinfo.cnrs.fr/>)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Tanguy Risset is professor at the Telecommunications Department of Insa Lyon.
- Florent de Dinechin is a professor at the Computer Science Department of Insa Lyon. He also teaches computer architecture at ENS-Lyon.
- Guillaume Salagnac and Kevin Marquet are associate professors at the Computer Science Department of Insa Lyon.
- Guillaume Villemaud and Florin Hutu are associate professor at the Electrical Engineering Department of Insa Lyon.

8.2.2. Supervision

PhD in progress : **Gautier Berthou** : *Operating system for transiently powered systems*, Inria, (IPL ZEP) since 01/2018.

PhD in progress : **Andrea Bocco** : *Proposition d’une unité de calcul UNUM pour le calcul scientifique*, ANR Metalibm grant, since 12/2016.

PhD in progress : **Luc Forget** : *Algèbre linéaire calculant au plus juste*, ANR Imprenum, since 10/2018.

PhD in progress : **Yanni Zhou** : *Full Duplex and spatial modulation* since 10/2018

PhD in progress : **Tarik Lassouaoui** : *Tag 2 Tag communication* since 10/2018

PhD in progress : **Regis Rousseau** : *Wireless Power Transfer* since 10/2018

PhD starting : **Maxime Christ** : *Learning in Very Low Precision* since 10/2018

PhD defended : **Yohan Uguen** : *High-level synthesis and arithmetic optimizations*, École Doctorale MathInfo, Nov. 2019.

PhD defended : **Tristan Delizy** : *Gestion de la mémoire dynamique pour les systèmes embarqués avec mémoire hétérogène*, École Doctorale MathInfo, Dec. 2019.

8.2.3. Juries

- Tanguy Risset was a member of the jury of the these following theses:
 - Arthur Hugeat (U. Bourgogne Franche-comté)
 - Tristan Delizy (U. Lyon)
- Tanguy Risset was a member of the jury of the HDR of Matthieu Gautier (U. Rennes)
- Florent de Dinechin was a reviewer for
 - the PhD of Geneviève Ndour (U. Rennes 1)
 - the PhD of Yohan Chatelain (U. Paris Saclay)

8.3. Popularization

8.3.1. Education

Florent de Dinechin gave a lecture in Grenoble for high-school teachers, in the framework of the ISN convention between Académie de Grenoble and Inria.

TRIBE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. Member of the Organizing Committees

- Aline C. Viana is **Publicity co-chair** of ESWN 2020; was **Student Travel Grant co-chair** of IEEE Infocom 2019;
- **Emmanuel Baccelli** was co-chair of the RIOT Summit' 19.

9.1.2. Scientific Events: Selection

9.1.2.1. Chair of Conference Program Committees

- Aline C. Viana is **TPC co-chair** of Shadow Algotel/Cores 2020; This will be the first time a shadow TPC will be organized for these two French conferences. A shadow TPC aims at providing an educational experience for young PhD graduates, post docs, and junior researchers by simulating a TPC meeting entitled to discuss some papers submitted to Algotel and Cores 2020.

9.1.2.2. Member of the Conference Program Committees

- Aline C. Viana is TPC member of Algotal 2020;

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Aline C. Viana is an Editorial Board member of Ad Hoc Networks, Elsevier journal since Nov 2029; Urban Computing Spring book series (<http://www.springer.com/series/15552>), since Feb. 2018; an Associate Editor of ACM SIGCOMM Computer Communication Review (ACM CCR), since May 2014; an Editorial Board member of Wireless Communications and Mobile Computing Open Access Journal of John Wiley&Sons and Hindawi since 2016.

9.1.3.2. Reviewer - Reviewing Activities

- **Aline C. Viana** reviewed papers for ACM SIGCOMM CCR Journal, IEEE Transaction on Mobile Computing journal, Elsevier Pervasive and Mobile Computing Journal, and Computer Communication Elsevier Journal.
- **Emmanuel Baccelli** reviewed papers for IEEE IoT Journal, IETF Routing Directory, IFIP/IEEE PEMWN.
- **Cedric Adjih** was a reviewer for ACM SIGCOMM CCR Journal.

9.1.4. Invited Talks

- **Aline C. Viana** was invited to give a seminar at (1) the GDR RSD and ASF Winter School, Pleynet, France, in Feb. 2019; (2) the AGRANDA symposium in Salta, Argentina in Sep. 2019; (3) at IFIP TMA 2019 Expert Summit, <https://tma.ifip.org/2019/tma-experts/>.
- **Emmanuel Baccelli** was invited to give talks at the French Ministry of Defence (Innovation Defence Lab), at the Berlin Innovation Agency Smart Cities Meetup, and at Eclipse IoT Day.

9.1.5. Standardization

1. **Emmanuel Baccelli** and **Cedric Adjih** have participated at several working groups at IETF during 2019.

2. **Cedric Adjih** has participated at all IETF Hackathons in 2019 (IETF 104, IETF 105, IETF 106), along with **Oumaima Attia**; they were major contributors to
 - LPWAN Hackathon on the SCHC protocol (IPv6 compression for IoT networks), see: <https://github.com/openshc/openshc>
 - NWCRG Hackathon on the SWIF-codec, a sliding-window forward-error correction codec, see: <https://github.com/irtf-nwcr/swif-codec>
3. **Emmanuel Baccelli** has participated at several IETF hackathons during 2019.

9.1.6. Scientific Expertise

- **Aline C. Viana** served as (1) Remote evaluator of the *ERC's Starting Grant 2019*; (2) as member of 4 *PhD defense committees* (2 as reviewer and 2 as examiner); (3) as examiner in 4 *PhD mid-term committees* in 2019.
- **Emmanuel Baccelli** served as reviewer for 1 PhD defense committee in 2019.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- **Aline C. Viana** gave talks/seminars at conferences and workshops, on subjects related to human behavior analysis: (1) the GDR RSD and ASF Winter School, Pleynet, France, in Feb. 2019 (<https://sites.google.com/site/rsdwinterschool/last-editions/asf-winter-school-2019>); (2) the AGRANDA symposium in Salta, Argentina in Sep. 2019 (<http://48jaiio.sadio.org.ar/simposios/AGRANDA>); (3) at IFIP TMA 2019 Expert Summit, in Jun 2019 (<https://tma.ifip.org/2019/tma-experts/>).
- Master : **Emmanuel Baccelli**, "IoT & Security", summer semester seminar, Freie Universitaet Berlin.
- Master : **Emmanuel Baccelli**, "IoT & Security", winter semester seminar, Freie Universitaet Berlin.
- Master : **Emmanuel Baccelli**, "Operating Systems for Small Connected Devices in the Internet of Things", cours magistral, Formation PESTO Corps des Mines, Telecom ParisTech, Paris France
- Engineering School: Cédric Adjih, "Internet of Thing", 3h practical courses, Telecom SudParis
- Engineering School: Cédric Adjih, "Internet of Thing", 9h practical courses, ENSEA

9.2.2. Supervision

- PhD in progress: Licia Amichi, "Identifying and profiling novelty-seeking behavior in human mobilityModelling exploration factor of human beings", since Oct. 2018. Advisor: Aline C. Viana
- PhD in progress: Lucas Santos, "Investigating causalities in habits of human visits", since May 2018. Advisor: Aline C. Viana and Pedro Olmo
- PhD in progress: Douglas Teixeira, "Deciphering Predictability Limits in Human Mobility", since April 2018. Advisor: Aline C. Viana and Jussara Almeida.
- PhD in progress: Rafael Costa, "Human-enhanced forwarding strategies for Device-to-Device (D2D) communication", since May 2017. Advisor: Aline C. Viana and Leobino Sampaio.
- PhD in progress: Diego Madriaga, "Short-term Time Series Analysis and Prediction for Anticipatory Networking", since Jan 2019. Advisor: Aline C. Viana and Javier Bustos.
- PhD in progress: Anne Josiane Kouam Djuigne, "Detection of bypass frauds in cellular network datasets", since Nov 2019. Advisor: Aline C. Viana and Alain Tchana.
- PhD in progress: Hirah Malik, "Efficient CODing of Meta-information in Information-Centric NETworks", since Oct. 2017. Advisors: C. Adjih, Michel Kieffer, and Claudio Weidmann
- PhD in progress: Iman Hmedoush, "Connection protocols for the 5G IoT", since Oct. 2018. Advisors: C. Adjih and Paul Mühlethaler.

9.2.3. Juries

- **Reviewer for PhD thesis committee:** Aline C. Viana was reviewer for the following PhDs: R. Teles, Industrial IoT (Univ. de Strasbourg, fin 2019). Nadjib Achir was reviewer for the following PhDs: M. Rautu, Déploiement temporaire d'une infrastructure de communication à base de drones (Univ. de Toulouse, octobre 2019).
- **Examiner for PhD thesis committee:** C. Adjih was examiner for the committees of the following PhDs: Safan ALWAN (UPEC, LSSI, Dev. 2019); Aline C. Viana was examiner for the committees of the following PhDs: H. Mazouzi, Algorithms for Tasks Offloading on Multiple Mobile Edge Servers (Univ. Paris 13, Nov 2019); J. Loudet, Distributed and Privacy-Preserving Personal Queries on Personal Clouds (Univ. de Versailles/PETRUS Inria, Oct 2019); J. Munoz, km-scale Industrial Networking (UPMC/EVA Inria, Mar. 2019); A. Boubrima, Deployment and Scheduling of Wireless Sensor Networks for Air Pollution Monitoring (INSA-Lyon/AGORA Inria, Mar. 2019).
- **Examiner for PhD mid-term committee:** Aline C. Viana was examiner for the committees in the following mid-term juries: J. Kamal, Détection d'anomalies comportementales pour les systèmes de transport intelligents et coopératifs, (TPT, Apr. 2019); Y. Du, In-Network Collaborative Mobile Crowd Sensing: a Context-Aware Sensing Group Framework, (UPMC/MIMOVE Inria, Mar. 2019).
- **Examiner for M.Sc. thesis committee:** Aline C. Viana was examiner for the committees in the following M.Sc. jury: W. Z. Xavier, (PUC-MG, Minas Gerais, March 2019).

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

1. **Aline C. Viana** was the President of the Scientific Commission at Inria Saclay, responsible for the selection of candidates for the CORDI-S, Post-Doc and Delegation campaigns.
2. **Aline C. Viana** is the coordinator of the ANR MITIK project to start Feb 2020 and was the international coordinator of the EMBRACE associated team of Inria.
3. Together with the members of the team, **Aline C. Viana** has submitted the short proposal of the new team as well as has presented it at the B CEP and CEP, for validation. TRiBE was officially created in Jun 2019.
4. **Aline C. Viana** is a member of B CEP, evaluating Inria teams in process of creation, discussing main issues related to different scientific commissions, discussing changes in the institution.
5. **Aline C. Viana** is co-Coordinator of the mentoring program for researchers at Inria Saclay (<https://project.inria.fr/mentoratscl/>). The program goal is the coach of junior researchers by more experienced ones in order to provide them with a complementary perspective for their career, independently of any hierarchical link.