



RESEARCH CENTER

FIELD

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

# Activity Report 2017

## Section Dissemination

Edition: 2018-02-19



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## ASAP Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific Events Organisation

##### 8.1.1.1. Member of the Organizing Committees

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

#### 8.1.2. Scientific Events Selection

##### 8.1.2.1. Member of the Conference Program Committees

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

#### 8.1.3. Journal

##### 8.1.3.1. Member of the Editorial Boards

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

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

##### 8.1.3.2. Reviewer - Reviewing Activities

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

#### 8.1.4. Invited Talks

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

#### 8.1.5. Leadership within the Scientific Community

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

#### 8.1.6. Research Administration

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

### 8.2. Teaching - Supervision - Juries

#### 8.2.1. Teaching

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

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

### 8.2.2. Supervision

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

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

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

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

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

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

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

### 8.2.3. Juries

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

## 8.3. Popularization

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

## COAST Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific Events Organisation

##### 8.1.1.1. Member of the Organizing Committees

- Claudia-Lavinia Ignat was member of the organisation committee of The Fifteenth International Workshop on Collaborative Editing Systems in conjunction with CSCW 2017

#### 8.1.2. Scientific Events Selection

##### 8.1.2.1. Member of the conference program committees

- Claude Godart was PC member of the conference program committee of BPMDS (Business Process Modeling, Development and Support), EDOC (The enterprise computing conference), ICSOC (International Conference on Services Oriented Computing), IEEE CLOUD Computing, ICWS (IEEE International Conference on Web Services), SCC (IEEE International Conference on Services Computing), S2 ICIOT (S2 International Conference on Internet of Things), IEEE/WIC/ACM WI (Web Intelligence conference), WISE (Web Information Systems Engineering) conferences.
- Claudia-Lavinia Ignat was PC member of CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2017 and The Fifteenth International Workshop on Collaborative Editing Systems in conjunction with CSCW 2017
- Olivier Perrin was PC Member of ICSOC 2017, CoopIS 2017, ATC 2017, MoLS 2017 and some workshops.
- François Charoy was PC Member of ICEBE (International Conference on Business Engineering) 2017, CTS 2017 (International Symposium on Collaborative Technologies and Systems), DG.O (International Conference on Digital Government Research) 2017, IEEE WETICE 2017, ICSOC 2017, IEEE International Conference on Business Information Systems, ISCRAM 2017 and of several workshops.
- Gérald Oster was a PC member of CoopIS (International Conference on Cooperative Information Systems) 2017, CSCW (21st ACM Conference on Computer-Supported Cooperative Work and Social Computing) 2018 (Online-first).
- Khalid Benali was PC Member of WorldCIST'17 (World Conference on Information Systems and Technologies), I3E 2017 (IFIP Conference on e-Business, e-Services and e-Society), ICICS 2017 (8th International Conference on Information and Communication Systems), INFORSID'2017, CloudTech'17 (Third International Conference of Cloud Computing Technologies and Applications), MEDES 2017 (9th International Conference on Management of Digital EcoSystems),

#### 8.1.3. Journal

##### 8.1.3.1. Member of the editorial boards

- Claude Godart is member of the editorial board of IEEE Transactions on Service Computing, International Journal of Services Computing, and member of the review board of the International Journal of Next Generation Computing.
- Claudia-Lavinia Ignat is member of the editorial board of Journal of CSCW (Computer Supported Cooperative Work).
- François Charoy is member of the editorial board of Service Oriented Computing and Applications Journal (Springer).



#### 8.1.3.2. Reviewer - Reviewing activities

- Olivier Perrin reviewed papers for IEEE Transactions on Services Computing journal, IEEE Transactions on Parallel and Distributed Systems and Journal of Systems and Software.
- Claudia-Lavinia Ignat reviewed papers for Transactions on Parallel and Distributed Systems, Transactions on Internet Technology, Transactions on Interactive Intelligent Systems and CSCW 2018.
- Gérald Oster reviewed papers for Computer Supported Cooperative Work Journal and Concurrency and Computation: Practice and Experience journal.

#### 8.1.4. Scientific Expertise

François Charoy was member of the HCERES committee for the CRI lab of Paris 1 Sorbonne

## 8.2. Teaching - Supervision - Juries

### 8.2.1. 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 of the PhD Students have also teaching duties in the same institutions. 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.

- Claude Godart is responsible for the Computer Science department of the engineering school ESSTIN.
- 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 of the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- Pascal Urso was responsible for the “Security, Services, Systems and Network” track of the master degree in computer science at University of Lorraine from September 2013 to June 2017.

### 8.2.2. Supervision

- PhD (in progress): Quang Vinh Dang, Trust-based large scale collaboration, started in 10/2014, Claudia-lavinia Ignat and François Charoy
- PhD (in progress): Hoai Le Nguyen, Study of group performance and behavior in collaborative editing, started in 9/2015, Claudia-Lavinia Ignat and François Charoy
- PhD (in progress): Hoang Long Nguyen, A Trust Based Authorization Model and Framework for the Cloud, started in 11/2015, Claudia-Lavinia Ignat and Olivier Perrin
- PhD (in progress): Victorien Elvinger, Secured Replication for Peer-to-Peer Collaborative Infrastructures, started in 10/2015, François Charoy and Gérald Oster
- PhD (defended): Jordi Martori i Adrian, Data constraints for large-scale collaboration, started in 10/2013, defense in 5/2017, François Charoy and Pascal Urso
- PhD (in progress): Guillaume Rosinoski, Elastic BPM and the Cloud, started in 10/2014, François Charoy and Samir Youssef
- PhD (in progress): Quentin Laporte-Chabasse, Federation of Organisations over Peer to Peer Collaborative Network, started in 10/2016, François Charoy and Gérald Oster
- PhD (in progress): Béatrice Linot, Trust in cooperative systems, Jérôme Dinet et François Charoy, started 11/2016
- PhD (in progress): Anis Ahmed Nacer, Safe Service Composition, Olivier Perrin and François Charoy, started 3/2017

- PhD (in progress): Matthieu Nicolas, Optimisation of Replication Algorithms, Olivier Perrin and G  rald Oster, started 10/2017

### **8.2.3. Juries**

- Claudia-Lavinia Ignat was member of CR recrutement jury at Inria Nancy-Grand Est

COAST members were members of the following PhD and HdR defense committees:

- Hala Skaf Molli, HdR, Universit   de Nantes, October 2017 (Fran  ois Charoy)
- Mourad Bouneffa, HdR, Universit   du Littoral C  te d'Opale (Claude Godart)
- Elian Aubry, PhD, Universit   de Lorraine, December 2017 (Fran  ois Charoy)
- Mohsen Sayed, PhD, Universit   de Lorraine, July 2017 (Fran  ois Charoy)
- Fatma Slaimi, PhD, Universit   d'Aix Marseille (Claude Godart)
- Cheick Salmi, PhD, Ecole Nationale Sup  rieure de M  canique et d'A  ronautique (Claude Godart)
- Emma Hachicha Belghith, PhD, Universit   Paris-Saclay (Claude Godart)
- Jihane Lakhrouit, PhD, ENSIAS Rabat (Claude Godart)
- Hafida Naim, PhD, Universit   d'Aix Marseille (Claude Godart)

### **8.3. Popularization**

- In June 2017 Claudia-Lavinia Ignat organised the meeting Research@Inria at Inria Nancy-Grand Est for presenting to internship students, PhD students and postdocs various Inria programs and the main research topics at Inria with a focus on activities of research teams at Inria Nancy-Grand Est. She also presented the main activities of a researcher and briefly described her research work.

### **8.4. Institutional commitment**

- Claudia-Lavinia Ignat is in charge of European affairs for Inria Nancy Grand-Est. She is the Delegate of International Relations for Inria Nancy-Grand Est and member of COST-GTRI commission. She is member of the Inria Nancy-Grand Est COMIPERS committee. She is member of Inria CAP Chercheurs commission. She is responsible with the activity kindergarten at AGOS Inria Nancy-Grand Est.

## CTRL-A Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. Member of the Organizing Committees

Stéphane Mocanu is OC member of RESSI 2017 national meeting (<https://ressi2017.sciencesconf.org/>).

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Member of the Conference Program Committees

Eric Rutten is PC member for :

- international conferences
  - ICAC 2017 (14th IEEE International Conference on Autonomic Computing), Columbus, Ohio, USA on July 17-21, 2017 (<http://icac2017.ece.ohio-state.edu/>)
  - ICCAC 2017 (2017 IEEE International Conference on Cloud and Autonomic Computing), The University of Arizona, Tucson, AZ, USA, September 18-22, 2017 (<http://www.autonomic-conference.org/iccac-2017/>)
  - FACS 2017, 14th International Conference on Formal Aspects of Component Software, 10-13 October 2016, in Braga, Portugal (<http://facs2017.di.uminho.pt/>)
  - 14th Workshop on Discrete Event Systems, WODES'18, Sorrento Coast, Italy, May 30 - June 1, 2018. (<http://wodes2018.unisa.it/>)
  - ICAC 2018 (15th IEEE International Conference on Autonomic Computing), Sept 3-7, 2018, Trento, Italy (<http://autonomic-conference.org>)  
(this conference is the merging of the previous ICAC and ICCAC conferences above)
  - 2nd IEEE Conference on Control Technology and Applications, CCTA 18, Copenhagen, Denmark, August 21-24, 2018 (<http://ccta2018.ieeecss.org/>)
- national conferences
  - workshop Architectures Logicielles et Matérielles pour la Robotique Autonome, les Systèmes Cyber-Physiques et les Systèmes Auto-Adaptables SHARC2017, LAAS Toulouse, 29 et 30 juin 2017, (<https://sharc2017.sciencesconf.org>)
  - 11ème colloque francophone sur la Modélisation des Systèmes Réactifs (MSR'17), 15-17 novembre 2017, Marseille (France) (<http://www.lsis.org/msr2017/>)

##### 9.1.2.2. Reviewer

Stéphane Mocanu and Soguy Gueye are reviewers for ICAC 2017 (14th IEEE International Conference on Autonomic Computing), Columbus, Ohio, USA on July 17-21, 2017 (<http://icac2017.ece.ohio-state.edu/>).

Stéphane Mocanu is reviewer for 11ème colloque francophone sur la Modélisation des Systèmes Réactifs (MSR'17), 15-17 novembre 2017, Marseille (France) (<http://www.lsis.org/msr2017/>).

Gwenaél Delaval is reviewers for FACS 2017, 14th International Conference on Formal Aspects of Component Software, 10-13 October 2016, in Braga, Portugal (<http://facs2017.di.uminho.pt/>)

### 9.1.3. Journal

#### 9.1.3.1. Reviewer - Reviewing Activities

Eric Rutten is invited editor of

- journal on Distributed Computing (Springer)
- Science of Computer Programming
- IEEE TSC Transactions on Services Computing
- IEEE TSE Transactions on Software Engineering
- ACM Transactions on Autonomous and Adaptive Systems
- IEEE Transactions on Industrial Informatics

Stéphane Mocanu is invited editor of journal of Discrete Events Dynamical Systems.

#### 9.1.4. Invited Talks

Gwenaël Delaval was invited to give a talk at journées du LIP "Langage, Sémantique et Compilation", june 2017 (with E. Rutten).

Eric Rutten was invited to give a talk at :

- FETCH 2017, Ecole d'Hiver francophone sur la technologie de conception des systèmes embarqués hétérogènes, 9-11 janvier 2017, Mont Tremblant, Canada <http://fetch-conference.org>
- séminaire de l'équipe ASCOLA, IMT Nantes, 2 mai 2017
- FETCH 2018, Ecole d'Hiver francophone sur la technologie de conception des systèmes embarqués hétérogènes, 24-26 Janvier 2018, Saint Malo <http://fetch-conference.org>

#### 9.1.5. 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 triennum (<http://tc.ifac-control.org/1/3>).

#### 9.1.6. 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.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence : G. Delaval, Algorithmics and imperative programming, 18h class, 18h lab, L2, Université Grenoble Alpes

Licence : G. Delaval, Basis of software development : modularity, tests, 15h class, 15h lab, L2, Université Grenoble Alpes

Master : G. Delaval, Programming languages and compiler design, 33h, M1, Université 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

### 9.2.2. Supervision

- PhD : Maëlle Kabir-Querrec; Cybersécurité des systèmes de contrôle pour les smart-grids ; 28 juin 2017 ; U. Grenoble Alpes ; co-advised by S. Mocanu with J-M Thiriet (Gipsa-lab).
- PhD : Adja Ndeye SYLLA ; Support intergiciel pour la conception et le déploiement adaptatifs fiables, application aux bâtiments intelligents ; U. Grenoble Alpes ; 18 dec. 2017 ; co-advised by Eric Rutten with M. Louvel (CEA). [11]
- PhD in progress : Neïl Ayeb ; Vers un management des objets de l'IoT de 'centralise' et adaptable ; dec. 2017 ; co-advised by Eric Rutten with S. Bolle, T. Coupaye (Orange labs).
- PhD in progress : Chabha Hireche ; Etude et implémentation d'une approche probabiliste de contrôle de mission de drone autonome ; oct. 2015 ; co-advised by S. Mocanu with Catherine Dezan (U. Bretagne Occidentale), and Jean-Philippe Diguët (U. Bretagne Sud).
- PhD in progress : Ahmed Altaher ; Mise en oeuvre d'un cadre de sureté de fonctionnement pour les systèmes de contrôle industriel : application à des systèmes de distribution d'énergie électrique (smart grids) ; avril 2013 ; co-advised by S. Mocanu with J-M Thiriet (Gipsa-lab).
- Oualid Koucham ; Détection d'intrusions dans les systèmes de contrôle industriels ; oct 2015 ; co-advised by S. Mocanu with J-M Thiriet (Gipsa-lab).

### **9.2.3. Juries**

Eric Rutten was member of the jury for the PhD of Sabbir Hasan Rochi, 3 may 2017, IMT Atlantique campus Nantes, ASCOLA team at Inria Rennes Bretagne Atlantique, dir. Jean-Louis Pazat and Thomas Ledoux.

## MIMOVE Team

## 10. Dissemination

### 10.1. Promoting Scientific Activities

#### 10.1.1. Scientific Events Organisation

##### 10.1.1.1. General Chair, Scientific Chair

Valérie Issarny is co-chair of the BIS'17 workshop, which is the yearly workshop organized by Inria@SiliconValley to present the state of scientific collaborations and to work on proposals for future ambitious joint projects.

#### 10.1.2. Scientific Events Selection

##### 10.1.2.1. Chair of Conference Program Committees

- Valérie Issarny is PC co-chair of ICSE-SEIS'2018 - The Software Engineering in Society Track of the ICSE'18 conference.
- R. Teixeira, Co-chair of the program committee of ACM IMC 2017.
- R. Teixeira, Co-chair of the program committee of ACM/ISOC ANRW 2017.

##### 10.1.2.2. Member of the Conference Program Committees

- R. Teixeira, PC member of 2017 ACM SIGCOMM conference.
- Vassilis Christophides, PC member of 34th IEEE International Conference on Data Engineering.
- Vassilis Christophides, PC member of 2nd IFIP/IEEE International Workshop on Analytics for Network and Service Management (AnNet 2017)
- Nikolaos Georgantas is PC member of the following international conferences: FiCloud'17, ICSE'17 Poster Track, SAC'17 & '18, WETICE'17, AmI'17, SOSE'17&'18
- Nikolaos Georgantas is PC member of the following international workshops: CASA'17, MRT'17, SERENE'17, IoT-ASAP'17.
- Valérie Issarny is PC member of the following International Conferences: AIMS'17 & 18, EUROSYS'17, FASE'17 & 18, ICDCS'18, ICSE-SEIS'17, ICSE'18, ISEC'17, SEAMS'17.
- Valérie Issarny is PC member of the following international workshops: AMS'18, InterIoT'17.
- R. Agarwal, PC member of 10th International Conference of Contemporary Computing.

#### 10.1.3. Journal

##### 10.1.3.1. Member of the Editorial Boards

- Nikolaos Georgantas is associate editor of the International Journal of Ambient Computing and Intelligence (IJACI);
- Valérie Issarny is associate editor of the IEEE transactions on Software Engineering.
- Valérie Issarny is associate editor of the IEEE Transactions on Services Computing.
- Valérie Issarny is associate editor of the Springer JISA Journal of Internet Services and Applications.

#### 10.1.4. Invited Talks

- R. Teixeira, invited talk at Politecnico di Torino, "Home network QoE diagnosis", October 2017.
- R. Teixeira, journées scientifiques Inria, "Home network QoE diagnosis", June 2017.
- R. Teixeira, LINCIS workshop, "WeBrowse: a passive crowdsourced content discovery platform for communities of a place", June 2017.

- R. Teixeira, keynote speaker at the Simpósio Brasileiro de Redes de Computadores (Brazilian networking conference), “Home network QoE diagnosis”, May 2017.
- R. Teixeira, tutorial at the Simpósio Brasileiro de Redes de Computadores (Brazilian networking conference), “Internet Measurements: Bandwidth”, May 2017.
- R. Teixeira, tutorial at the Simpósio Brasileiro de Redes de Computadores (Brazilian networking conference), “Internet Traffic Measurements”, May 2017.
- R. Agarwal: “Extracting mobility information from CDRs and using it towards achieving enhanced dissemination in wireless networks”, EMap FGV seminar, 3 August 2017, Rio De Janeiro, Brazil.
- Vassilis Christophides, “Web-scale Blocking, Iterative and Progressive Entity Resolution”, with K. Stefanidis, V. Efthymiou ICDE 2017.
- Vassilis Christophides, “Web-scale Entity Resolution”, Invited lecture at the 3rd EGC Winter School (Ecole EGC), 23 & 24 January 2017, Grenoble, France.
- Nikolaos Georgantas, “Enabling emergent mobile systems in the IoT: Functional and QoS interoperability aspects at the middleware layer”, Invited keynote talk at MSPN’17 (International Conference on Mobile, Secure and Programmable Networking), June 2017.

### 10.1.5. Leadership within the Scientific Community

- V. Issarny, Council member, ACM Europe (since July 2017).
- R. Teixeira, Vice-chair of ACM SIGCOMM (July 2013 – June 2017).
- R. Teixeira, Chair of the ACM SIGCOMM Industrial Liaison Board (October 2013 – June 2017).
- V. Christophides, Member of the EDBT Association (since 2014).

### 10.1.6. Scientific Expertise

- R. Teixeira, Reviewer of H2020 projects: CogNet, SUPERFLUIDITY, MONROE, MAMI.
- R. Teixeira, Technical advisory board of the project "Mapping of Broadband Services in Europe".
- Valérie Issarny is elected member of the *Commission d’Evaluation Inria*.
- Valérie Issarny is member of the Inria DR2 (Research Director position) selection committee.

### 10.1.7. Research Administration

- Valérie Issarny is scientific coordinator of Inria@Silicon Valley and CityLab@Inria;
- Nikolaos Georgantas is member of the PhD monitoring committee at Inria Paris.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

Master : R. Teixeira, “Methodology for research in networking”, 10h eqTD, M2, UPMC, France

Master : R. Teixeira, “Network Metrology”, 22h CM, M2, UPMC, France

Master: Rachit Agarwal, “Network Science”, semester course at Fundacao Getulio Vargas (FGV), Rio De Janeiro, Brazil

Master: Rachit Agarwal, “Urban data democratization and its application to access urban concepts” as part of “Gestion de données ambiantes et internet des objets”, 9 hours eqTD, Niveau M2, UVSQ, France

#### E-learning

Valérie Issarny, MOOC *Villes intelligentes : défis technologiques et sociétaux* , 5 weeks, 4,085 registered students in the session of March 2017.

#### E-learning

Mooc : R. Teixeira, “Internet Measurements: a Hands-on Introduction”, 5 weeks in FUN platform, 1,204 registered students.

### **10.2.2. Supervision**

PhD : Diego da Hora, “Predicting Home Wi-Fi QoE from Passive Measurements on Commodity Access Points”, UPMC, 27/04/2017, R. Teixeira and K. van Doorselaer.

PhD: Georgios Bouloukakakis, “Enabling Emergent Mobile Systems in the IoT: from Middleware-layer Communication Interoperability to Associated QoS Analysis”, UPMC, 01/08/2017, Nikolaos Georgantas and Valérie Issarny.

PhD: Amel Belaggoun, “Adaptabilité et reconfiguration des systèmes temps-réel embarquées”, UPMC, 10/10/2017, Valérie Issarny and Ansgar Radermacher (CEA-LISE).

PhD: Vassilis Efthimiou, “Entity resolution in the Web of Data”, University of Crete, 27/09/2017, V. Christophides.

PhD in progress: F. Dilmi, “End-to-end monitoring and diagnosis of video Quality of Experience”, October 2017, R. Teixeira.

PhD in progress: S. Wassermann, “Passive analysis and optimization of Internet Quality of Experience”, October 2017, R. Teixeira.

PhD in progress: S. El Aouad, “Building a personalized summary from movie reviews”, May 2013, V. Christophides, R. Teixeira, P. Perez.

PhD in progress : Radha Pallavali, “Dynamic adaptation of middleware-layer protocols for emergent mobile systems”, UPMC, November 2016, Nikolaos Georgantas and Valérie Issarny.

PhD in progress: Yifan Du, “In-network collaborative crowd-Xing”, UPMC, October 2017, Valérie Issarny and Françoise Sailhan.

### **10.2.3. Juries**

Nikolaos Georgantas was examiner for the PhD thesis of Adrien Carteron, *Une approche événementielle pour le développement de services multi-métiers dédiés à l'assistance domiciliaire*, defended in December 2017, Université de Bordeaux, France, advised by Charles Consel and Nic Volanschi.

Valerie Issarny was examiner for the HDR of Sonia Ben Mokhtar, *Contributions To Building Reliable Distributed Systems*, defended in December 2017, INSA Lyon, France.



## MYRIADS Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. General Chair, Scientific Chair

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

#### 10.1.1.2. Member of the Organizing Committees

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

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

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

#### 10.1.2.2. Member of the Conference Program Committees

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

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

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

#### 10.1.3.2. Reviewer - Reviewing Activities

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

#### 10.1.4. Invited Talks

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

#### 10.1.5. Leadership within the Scientific Community

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

#### 10.1.6. Scientific Expertise

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

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

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

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

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

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

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

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

### 10.1.7. Research Administration

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

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

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

Christine Morin:

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

Anne-Cécile Orgerie:

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

Guillaume Pierre (at the University of Rennes 1):

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

Martin Quinson (at ENS Rennes):

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

Jean-Louis Pazat (at INSA Rennes):

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

Nikos Parlavantzas (at INSA Rennes):

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

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

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

#### **E-learning**

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

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

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

### **10.2.2. Supervision**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### 10.2.3. Juries

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

### 10.3. Popularization

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

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

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

## REGAL Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific Events Organisation

##### 8.1.1.1. General Chair, Scientific Chair

- Marc Shapiro, Organiser of Dagstuhl Workshop on “Data Consistency in Distributed Systems: Algorithms, Programs, and Databases” (19-0117), February 2018.
- Swan Dubois, Co-organizer (with Arnaud Casteigts, University of Bordeaux) of the Second Workshop on Computing in Dynamic Networks, in conjunction with DISC’17, Vienna, Austria, October 20th, 2017.

#### 8.1.2. Scientific Events Selection

##### 8.1.2.1. Member of the Conference Program Committees

Pierre Sens, 28th International Symposium on Software Reliability Engineering (ISSRE’2017), IEEE 46th International Conference on Parallel Processing (ICPP’2017), 16th IEEE International Symposium on Network Computing and Applications (NCA 2017).

Marc Shapiro, Steering Committee of Int. Conf. on Principles of Distributed Systems (OPODIS).

Marc Shapiro, Steering Committed of Workshop on Principles and Practice of Consistency for Distr. Data (PaPoC).

Swan Dubois, 19th Workshop on Advances in Parallel and Distributed Computational Models (APDCM’2017), 5th International Symposium on Computing and Networking (CANDAR’2017).

Luciana Arantes, 16th IEEE International Symposium on Network Computing and Applications (NCA 2017), 13th European Dependable Computing Conference (EDCC 2017), 17th IFIP International Conference on Distributed Applications and Interoperable Systems (DAIS 2017)

##### 8.1.2.2. Reviewer

- Marc Shapiro, reviewer for Int. Conf. on Middleware (MIDDLEWARE 2017).
- Swan Dubois, 31st International Symposium on Distributed Computing (DISC’2017), 24th International Colloquium on Structural Information and Communication Complexity (SIROCCO’2017).
- Luciana Arantes, ACM Symposium on Principles of Distributed Computing (PODC 2017), 23rd International European Conference on Parallel and Distributed Computing (Euro-Par 2017).

#### 8.1.3. Journal

##### 8.1.3.1. Member of the Editorial Boards

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

Lucian Arantes, Special Issue of Concurrency and Computation: Practice and Experience, Volume 29, january 2017

##### 8.1.3.2. Reviewer - Reviewing Activities

- Marc Shapiro, reviewer IEEE Transactions on Software Engineering.
- Swan Dubois, Theoretical Computer Science (TCS), Theory of Computing Systems (TOCS), International Journal of Networking and Computing (IJNC).
- Luciana Arantes, reviewer Journal of Parallel and Distributed Systems (JPDC).

### 8.1.4. Invited Talks

Pierre Sens, *Failure detection in large and dynamic distributed systems*. Univ. Curitiba, Brazil. October 2017.

Pierre Sens, *Failure detection in large and dynamic distributed systems*. Keynote speaker, GDR RSD and ASF Winter School on Distributed Systems, Pleynet, Sept Laux, Mars, 2017

Marc Shapiro, *The Antidote Cloud Database*. Comité de pilotage Groupe de Travail Logiciels Libres, Paris, Jan. 2017.

Marc Shapiro, *Just-Right Consistency*. Invited talk, joint session of PaPoC and LADIS workshops, EuroSys April 2017. Belgrade, Serbia.

Marc Shapiro, *AntidoteDB: a developer-friendly, open-source cloud database*. Invited talk, Datageeks Paris, Vente Privée la Plaine-Saint-Denis, May 2017.

Marc Shapiro, *AntidoteDB: a developer-friendly, open-source cloud database*. Invited talk, Open Source Innovation Spring, Paris May 2017.

Marc Shapiro, *Just-Right Consistency*. *La demie-heure de science*, Inria Paris, Oct. 2017.

Marc Shapiro, *AntidoteDB : Une base de données nuage pour la juste cohérence*. Paris Open Source Summit, Saint-Denis, Nov. 2017.

Marc Shapiro, *Semantics and proof of geo-replicated file system*. Invited talk, ENS Ulm, Nov. 2017.

Marc Shapiro, Invited speaker, workshop of Verification of Distributed Systems, Essaouira, May 2018.

### 8.1.5. Scientific Expertise

Pierre Sens, Project in Indo-French Centre for the Promotion of Advanced Research

Marc Shapiro, reviewer for ERC Starting Grant panel PE-6.

Marc Shapiro, invited for CACM Technical Perspective [18].

Marc Shapiro, invited for several entries in Springer Encyclopedia of Database Systems [36], [37], [38] and Encyclopedia of Big Data Technologies (to appear).

Marc Shapiro, reviewer for Irish Research Council.

Marc Shapiro, reviewer for Indo French Centre for the Promotion of Advanced Research (CE-FIPRA).

### 8.1.6. Research Administration

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

Pierre Sens, since 2012: Member of the Executive Committee of Labex SMART, Co-Chair (with F. Petit) of Track 4, Autonomic Distributed Environments for Mobility.

Pierre Sens, since 2015, officer at scientific research vice presidency UPMC

Pierre Sens, since 2014: Member of Steering Committee of International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD).

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

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

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



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

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

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

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

Master: Luciana Arantes, System distributed Programming, M1, UPMC Sorbonne Universités, France

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

Master: Jonathan Lejeune, Julien Sopena, Client-server distributed systems, M1, UPMC Sorbonne Universités, France

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

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

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

Licence: Swan Dubois, Franck Petit, Advanced C Programming, L2, UPMC Sorbonne Universités, France

Licence: Swan Dubois, Sébastien Monnet, Introduction to operating systems, L2, UPMC Sorbonne Universités, France

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

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

### 8.2.2. Supervision

PhD: Antoine Blin, "Execution of real-time applications on a small multicore embedded system", 30 January 2017, Gilles Muller (Whisper) and Julien Sopena, CIFRE Renault

PhD: Tao Thanh Vinh, "Ensuring Availability and Managing Consistency in Geo-Replicated File Systems", UPMC, CIFRE, 8 December 2017, Marc Shapiro, Vianney Rancurel (Scality).

PhD: Rudyar Cortes, "Un Environnement à grande échelle pour le traitement de flots massifs de données," UPMC, funded by Chile government, 6 April 2017, Olivier Marin, Luciana Arantes, Pierre Sens.

PhD in Progress: João Paulo de Araujo, "L'exécution efficace d'algorithmes distribués dans les réseaux véhiculaires", funded by CNPq (Brésil), since Nov.2015, Pierre Sens and Luciana Arantes.

PhD in progress: Sébastien Bouchard, "Gathering with faulty robots", UPMC, since Oct. 2016, Swan Dubois, Franck Petit, Yoann Dieudonné (University of Picardy Jules Verne)

PhD in progress: Marjorie Bournat, "Exploration with robots in dynamic networks", UPMC, since Sep. 2015, Swan Dubois, Franck Petit, Yoann Dieudonné (University of Picardy Jules Verne)

PhD in progress: Damien Carver, "HACHE : Horizontal Cache cHorEgraphy - Toward automatic resizing of shared I/O caches.", UPMC, CIFRE, since Jan. 2015, Sébastien Monnet, Pierre Sens, Julien Sopena, Dimitri Refauvelet (Magency).

PhD in Progress: Florent Coriat, "Géolocalisation et routage en situation de crise" since Sept 2014, UPMC, Anne Fladenmuller (NPA-LIP6) and Luciana Arantes.

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: Lyes Hamidouche, “Data replication and data sharing in mobile networks”, UPMC, CIFRE, since Nov. 2014, Sébastien Monnet, Pierre Sens, Dimitri Refauvelet (Magency).

PhD in progress: Denis Jeanneau, “Problèmes d’accord et détecteurs de défaillances dans les réseaux dynamique,” UPMC, funded by Labex Smart, since Oct. 2015, Luciana Arantes, Pierre Sens.

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

PhD in progress: Ilyas Toumlilt, UPMC, since Sept. 2017, advised by Marc Shapiro. “Bridging the CAP gap all the way to the edge.”

PhD in progress: Alejandro Z. Tomsic, UPMC, since Feb. 2014, Marc Shapiro. “Computing over widely-replicated data in a hybrid cloud.”

CIFRE PhD in progress: Dimitrios Vasilas, UPMC, “Indexing in large-scale storage systems.” Since Sept. 2016, advised by Marc Shapiro.

PhD in progress: Gauthier Voron, “Big-Os : un OS pour les grands volumes de données,” UPMC, since Sep. 2014, Gaël Thomas, Pierre Sens.

### 8.2.3. *Juries*

Pierre Sens was the reviewer of:

- Jalil Boukhobza, HDR, UBO, Brest
- Adrien Lebre, HDR, EMN, Nantes
- Cédric Tedeschi, HDR, IRISA, Rennes
- Ismael Cuadrado-Cordero, PhD, IRSIA, Rennes
- Hana Teyeb, PhD, Telecom SudParis, Evry

Pierre Sens was Chair of

- Georgios Bouloukakis, PhD, UPMC-Inria, Paris, (Advisor: V. Issarny)
- José Manuel Rubio-Hernan, PhD, Telecom SudParis, Evry (Advisor: J. Garcia-Alfaro)
- Luis Eduardo Pineda Morales, PhD, Irisa, Rennes (Advisors: F. Desprez, A. Lebre)

Marc Shapiro was a member of the PhD defense committee of Paolo Viotti, EURECOM, April 2017.

## 8.3. Popularization

Jonathan Lejeune and Julien Sopena animated an activity during the [Science Festival 2017 at UPMC](#)

## **SPIRALS Project-Team**

# **10. Dissemination**

## **10.1. Promoting Scientific Activities**

### ***10.1.1. Scientific Events Selection***

#### *10.1.1.1. Chair of Conference Program Committees*

##### **Laurence Duchien**

Doctoral Symposium of European Conference on Software Architecture (ECSA)

#### *10.1.1.2. Member of the Conference Program Committees*

##### **Laurence Duchien**

International Conference on Web Engineering (ICWE)

European Conference on Software Architecture (ECSA)

International Systems and Software Product Line Conference (SPLC)

BELgian-NEtherlands software eVOLution symposium (BENEVOL)

International Conference on Software Engineering education and Training (CSEE&T)

Joint 5th ICSE International Workshop on Software Engineering for Systems-of-Systems and 11th Workshop on Distributed Software Development, Software Ecosystems and Systems-of-Systems (SESoS/WDES)

##### **Philippe Merle**

International Conference on Cooperative Information Systems (CoopIS)

International Symposium on Theoretical Aspects of Software Engineering (TASE)

International Conference on Web Engineering (ICWE)

International Conference on Cloud Computing, GRIDs, and Virtualization (CLOUD COMPUTING)

International Conference on Advanced Service Computing (SERVICE COMPUTATION)

Symposium on Machine Learning and Metaheuristics Techniques and Applications for Dependable Distributed Systems (MADS)

International Symposium on Security in Computing and Communications (SSCC)

International Workshop on Adaptive and Reflective Middleware (ARM)

Workshop on CrossCloud Infrastructures & Platforms (CrossCloud)

##### **Martin Monperrus**

International Conference on Software Engineering (ICSE)

Genetic Improvement Workshop (GI)

##### **Clément Quinton**

International Workshop on Dynamic Software Product Lines (DSPL)

**Romain Rouvoy**

International Conference on Pervasive Computing and Communications (PerCom)  
 IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)  
 International Symposium on Applied Computing (SAC), track on Dependable, Adaptive, and Trustworthy Distributed Systems (DADS)  
 International Conference on Service Oriented Computing (ICSOC)  
 International Conference on Principles of Distributed Systems (OPODIS)  
 International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC)  
 International Conference on Ambient Systems, Networks and Technologies (ANT)  
 International Conference on Information Systems Development (ISD)  
 International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP)  
 International Symposium on Computers and Communication (ISCC)  
 International Workshop on Scalable Computing For Real-Time Big Data Applications (SCRAMBL)

**Lionel Seinturier**

IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)  
 International Conference on Service Oriented Computing (ICSOC)  
 ACM Symposium on Applied Computing (SAC), tracks Software Architecture Theory Technology and Applications (SA-TTA), Operating Systems (OS)  
 Euromicro Conference on Software Engineering and Advanced Applications (SEAA), track Model-based development Components and Services (MOCS)  
 International Workshop on Models@run.time @ MODELS  
 International Workshop on Models@run.time @ ICAC  
 Workshop on Context-Oriented Programming (COP) @ ECOOP

**10.1.2. Journal***10.1.2.1. Member of the Editorial Boards*

**Martin Monperrus** is member of the editorial board of the international journal Springer Empirical Software Engineering (IF-2016: 3.275).

**Romain Rouvoy** is member of the editorial board of the journal Lavoisier Technique et Science Informatiques (TSI).

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

*10.1.2.2. Reviewer - Reviewing Activities*

**Laurence Duchien**: IET Software, IEEE Software, Wiley Software: Practice and Experience (SPE).

**Philippe Merle**: ACM Transactions on Internet Technology (TOIT), Wiley Journal of Software Testing, Verification and Reliability (STVR), International Journal of Web Services Research (IJWSR), Springer Journal of Cloud Computing, IEEE Cloud Computing.

**Martin Monperrus**: IEEE Transactions on Software Engineering (TSE), ACM Transactions on Software Engineering and Methodology (TOSEM), Elsevier Journal of Systems and Software (JSS), IEEE Transactions on Reliability (TR).

**Clément Quinton**: Elsevier Journal of System and Software (JSS), IEEE Software, IET Software, IEEE Transactions on Services Computing (TSC).

**Romain Rouvoy:** Elsevier Sustainable Computing, Informatics and Systems (SUSCOM), IEEE Transactions on Software Engineering (TSE), Springer Journal of Internet Services and Applications (JISA), Wiley Journal of Software: Evolution and Process (JSEP).

**Lionel Seinturier:** Elsevier Journal of System and Software (JSS), ACM Transactions on Internet Technology (TOIT), Elsevier Computer Languages, Systems and Structures (COMLAN), Journal of Universal Computer Science (JUCS), Ingénierie des systèmes d'information (ISI), Elsevier Future Generation Computer Systems (FGCS).

### 10.1.3. Invited Talks

**Philippe Merle**, Walid Gaaloul and **Faiez Zalila** were invited to give a tutorial on "Seamless Lifecycle Management of Cloud Resources Using OCCI" at Services Conference Federation (SCF) 2017.

**Martin Monperrus** was invited to give a talk on "When and how to automatically repair bugs?" at the 4th Workshop on Design Automation for Understanding Hardware Designs (DUHDe 2017).

### 10.1.4. Leadership within the Scientific Community

**Martin Monperrus** is the co-head of the "Groupe de Travail Génie Logiciel Empirique" of the GDR GPL.

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

### 10.1.5. Scientific Expertise

**Laurence Duchien** did some scientific expertise for Direction des Relations Internationales of the French Ministry of Research.

**Philippe Merle** was member of the recruitment committee for assistant professors at INSA Toulouse. He is member of the Inria Scientific Board.

**Lionel Seinturier** was member of the recruitment committee for junior researchers at Inria Rennes. He was scientific expert for ANRT, ECOS Nord, COFECUB, Belgium FWO. He was member of the Agence Nationale de la Recherche (ANR) Scientific Evaluation Committee for Software and Network (CES25).

### 10.1.6. Research Administration

**Laurence Duchien** is member of the CNRS CoCNRS section 6 committee, and of the "bureau" of this committee. She was member of Hcéres committees for DIENS Laboratory (Paris) and LIS Laboratory (Marseille).

**Philippe Merle** is president of the CUMI (Comité des Utilisateurs des Moyens Informatiques), project manager for Irill at Lille, secretary of the CLHSCT (Comité Local d'Hygiène, de Sécurité et de Conditions de Travail), and 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 leading the CIRRUS research joint team between Scalair company and Spirals Inria project-team. He was the scientific and technical leader of the OCCIware PIA funded project. He is member of the steering committee of CIEL (Conférence en Ingénierie du Logiciel).

**Lionel Seinturier** is president of the CDT (Commission Développement Technologique), and member of the BCEP (Bureau du Comité des Équipes-Projets), for the Inria Lille - Nord Europe research center. He heads the committee (so-called "vivier 27 rang A") that selects members of recruitment committees in Computer Science at the University of Lille 1. He is Scientific Advisor for the evaluation of ICT research laboratories at the Hcéres.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

**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).

Bases de données, 18h, Cycle Polytechnique Info553

**Laurence Duchien** teaches at the University of Lille 1 in the FST faculty. She heads the Carrières et Emplois service and is referent for the professional insertion in the PhD program in Computer Science at ComUE University Lille Nord de France. She is Director of Doctoral Studies for Computer Science in the Doctoral School Engineering Science (SPI) - ComUE Lille Nord de France.

Software Project Management, 50h, Level M2, Master MIAGE

Design of distributed applications, 42h, Level M1, Master of Computer Science

Software Product Lines, 8h, Level M2, Master of Computer Science

Research and Innovation Initiation, 22h, Level M2 IAGL, Master of Computer Science

Tutoring Internship, 16h, Level M2, Master of Computer Science

**Martin Monperrus** teaches at the University of Lille 1 in the FST faculty. Until August 2017, he has headed the **IAGL** specialty of the Master of Computer Science at the University of Lille 1.

Introduction to programming, 48h, Level L1, Licence of Computer Science

Object-oriented design, 39h, Level L3, Licence of Computer Science

Automated software engineering, 40h, Level M2 IAGL, Master of Computer Science

**Clément Quinton** teaches at the University of Lille 1 in the FST faculty.

Design of distributed applications, 42h, Level M1, Master of Computer Science

Software engineering, 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 Science

**Romain Rouvoy** teaches at the University of Lille 1 in the FST faculty. He heads the **Master of Computer Science** program at the University of Lille 1.

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 University of Lille 1 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 University of Lille 1 in the FST faculty. He heads the Computer Science Department at the Faculty of Science and Technology of the University of Lille 1.

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 in progress: Zeinab Abou Khalil, November 2017, Laurence Duchien, co-supervision with Tom Mens (University of Mons, Belgium).

PhD in progress: Guillaume Fieni, GreenData : Vers un traitement efficient et éco-responsable des grandes masses de données numériques, October 2017, Romain Rouvoy & Lionel Seinturier.

PhD in progress: Benjamin Danglot, Software Testing Amplification, December 2016, Martin Monperrus & Lionel Seinturier.

PhD in progress: Lakhdar Meftah, Cartography of the Quality of Experience for Mobile Internet Access, November 2016, Romain Rouvoy, co-supervision with Isabelle Chrisment (Inria Madynes).

In progress PhD: Sarra Habchi, Une supervision de contexte sensible à la confidentialité pour les développements logiciels en crowdsourcing, October 2016, Romain Rouvoy.

PhD in progress: Antoine Vastel, Cartographie de la qualité d'expérience pour l'accès à l'internet mobile, October 2016, Romain Rouvoy & Walter Rudametkin.

PhD in progress: Yahya Al Dhuraibi, Un cadre flexible pour l'élasticité dans les nuages, October 2015, Philippe Merle.

PhD in progress: Stéphanie Challita, Un cadre formel et outillé pour la gestion de toute ressource en nuage, October 2015, Philippe Merle.

PhD in progress: Thomas Durieux, Search-based Monitoring and Root Cause Diagnosis in Production, September 2015, Lionel Seinturier & Martin Monperrus.

PhD in progress: Gustavo Sousa, Towards Dynamic Software Product Lines to Optimize Management and Reconfiguration of Cloud Applications, October 2012, Laurence Duchien & Walter Rudametkin Ivey.

PhD in progress: Amal Tahri, Evolution logicielle multi-vues, des réseaux domestiques au Cloud, March 2013, Laurence Duchien.

### 10.2.3. Juries

#### Laurence Duchien

Hanae Rateau, Université Lille, chair

Sylvain Defourny, Université Lille, chair

Thi-Kim-Dung Pham, Conservatoire National des Arts et Métiers, examiner

Xhevahire Ternava, Université Côte d'Azur, chair

Julien Perolat, Université Lille, chair

#### Philippe Merle

Mohamed Boussaa, Université Rennes 1, reviewer

Jean-François Weber, Université de Franche-Comté, reviewer

#### Martin Monperrus

Bogdan Marculescu (Blekinge Institute of Technology, Sweden), member

**Romain Rouvoy**

Stéphane Delbruel (University of Rennes 1), reviewer  
Yaroslav Hayduk (University of Neuchâtel, Switzerland), reviewer  
Gustavo Sousa (University of Lille 1), president  
Sabbir Hassan (University of Rennes 1), examiner  
Yunbo Li (IMT Atlantique), examiner  
Cyril Cecchinell (University Côte d'Azur), reviewer  
Elyas Ben Hadj Yahia (University of Bordeaux), reviewer  
Marcelino Rodriguez Cancio (University of Rennes 1), reviewer

**Lionel Seinturier**

HDR Abderrahmane Seriai (University of Montpellier), president  
HDR Bilel Derbel (University of Lille 1), president  
HDR Marc Frincu (University of Timisoara, Romania), examiner  
Akram Kamoun (University of Sfax, Tunisia), reviewer  
André Sales Fonteles (University of Grenoble), reviewer  
Adja Ndeye Sylla (University of Grenoble), reviewer

### 10.3. Popularization

**Lionel Seinturier** participated in October to the Chercheur itinérant event organized by the Inria Lille Nord Europe research center in the context of La fête de la science. Two classrooms (2nde and terminale) have been visited. The theme of the visit was crowdsensing and data gathering from mobile devices.

**Antoine Vastel** participated in October to the Chercheur itinérant event organized by the Inria Lille Nord Europe research center in the context of La fête de la science. Two classrooms (2nde and terminale) have been visited. The theme of the visit was browser fingerprinting and user privacy tracking.



## WHISPER Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Organizing Committees

- Gilles Muller: PLOS 2017

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- Julia Lawall: PLOS 2017

#### 10.1.2.2. Member of the Conference Program Committees

- Gilles Muller: Usenix ATC 2017, DSN 2017, Systor 2017,
- Julia Lawall: ICSE NIER, ML workshop, OCaml workshop, SPLASH workshops.
- Pierre-Évariste Dagand: HOPE workshop

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

- Julia Lawall: Editorial board of Science of Computer Programming (2008 - present).

#### 10.1.3.2. Reviewer - Reviewing Activities

- Gilles Muller: IEEE Transactions on Computer Systems
- Julia Lawall: Computer Languages, Empirical Software Engineering, IEEE Transactions on Reliability
- Pierre-Évariste Dagand: Journal of Functional Programming, Journal of Logical and Algebraic Methods in Programming, Journée Francophones des Langages Applicatifs

### 10.1.4. Invited Talks

- Gilles Muller: University of North Carolina, Inria Grenoble, University of Bordeaux.
- Julia Lawall: Colloquium Jacques Morgenstern Sophia Antipolis, Vrije Universiteit Brussel, University of Copenhagen, 2017 FSD Meeting.
- Pierre-Évariste Dagand: École Normale Supérieure de Cachan

### 10.1.5. Research Administration

- Pierre-Évariste Dagand: Member of the steering committee for the Colloquium d'Informatique de L'UPMC Sorbonne Universités, organizer of the Colloquium of Philippa Gardner (March 2017) and Timothy Roscoe (November 2017).
- Julia Lawall: IFIP TC secretary (2012 - present). Elected member of IFIP WG 2.11.  
Hiring committees: UPMC (PR)  
Board member of Software Heritage (<https://www.softwareheritage.org/>).  
Organized the Colloquium d'Informatique de L'UPMC Sorbonne Universités of Simon Peyton Jones (May 2017)

- Gilles Muller: EuroSys steering committee (2013-2017), elected member of IFIP WG 10.4 (Dependability), representative of Inria in Sorbonne University's advisory committee for research, member of the project committee board of the Inria Paris Center, member of the Paris committee for allocating post-docs, PhD stipends and sabbaticals.  
Hiring committees: University of Grenoble (MdC).
- Bertil Folliot: Elected member of the IFIP WG10.3 working group (Concurrent systems)

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

- Professional Licence: Bertil Folliot, Programmation C, L2, UPMC, France
- Professional Licence: Bertil Folliot, Lab projects, L2, UPMC, France
- Licence: Pierre-Évariste Dagand, Distributed cooperating objects, L3, UPMC, France
- Master: Pierre-Évariste Dagand, Specification and Validation of Programs, M2, UPMC, France
- Licence: Pierre-Évariste Dagand, INF311: Introduction to Programming, L1, École Polytechnique, France

### 10.2.2. Supervision

- PhD in progress : Mariem Saeid, soutenance en 2018, Jens Gustedt (Camus), Gilles Muller.
- PhD in progress : Cédric Courtaud, CIFRE Thalès, 2016-2019, Gilles Muller, Julien Sopéna (Regal).
- PhD in progress : Redha Gouicem, 2016-2019, Gilles Muller, Julien Sopéna (Regal).
- PhD in progress : Darius Mercadier, 2017-2020, Pierre-Évariste Dagand, Gilles Muller.
- PhD in progress : Lucas Serrano, 2017-2020, Julia Lawall.

### 10.2.3. Juries

- Gilles Muller: Reporter of the HDR of A. Tchana (U. Toulouse), member of the HDR of S. Ben Mokhtar (U. of Lyon).
- Julia Lawall: Vinh Tao (PhD, UPMC, president), Marcelino Cancio Rodriguez (PhD, University of Rennes, reporter), Victor Allombert (PhD, Paris Est-Creteil, reporter), Reinout Stevens (PhD, VUB, reporter).

## 10.3. Popularization

- Julia Lawall: Coordinator of the Outreachy internship program for the Linux kernel. Outreachy provides remote 3-month internships twice a year for women and other underrepresented minorities on open source projects. Julia Lawall also mentored Bhumika Goyal as part of this program.
- Julia Lawall, "Fast and Precise Retrieval of Forward and Back Porting Information for Linux Device Drivers", Open Source Summit Europe, October 2017.
- Julia Lawall, "JMake: Dependable Compilation for Kernel Janitors", Open Source Summit Europe, October 2017.
- Julia Lawall, "Panel Discussion: Outreachy Kernel Internship Report" (moderator), Open Source Summit Europe, October 2017.
- Julia Lawall, "Overview of Coccinelle", Linux Lund Conference, May 2018.
- Julia Lawall, "Constification of Linux kernel structures", OSADL Networking Day, May 2017.

## ALPINES Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. General Chair, Scientific Chair

- Frederic Hecht: Organized the 9th FreeFem++ days (December 2017, Paris)
- Xavier Claeys was main organiser (together with S. Fliss, B. Delourme and J. Diaz) of the 3 days colloquium "Waves Diffracted by Patrick Joly", in honour of P. Joly's 60th birthday, that took place in Saclay and Gif-sur-Yvette.
- Xavier Claeys and Frédéric Nataf were the main organisers (together with V. Dolean) of a workshop on "Numerical methods for wave propagation and applications" held in Jussieu campus of UPMC on 31st of August and 1st of September.

#### 10.1.2. Journal

##### 10.1.2.1. Member of the Editorial Boards

###### 10.1.2.1.1. 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/>.
- June 2013 – current. Area editor for Parallel Computing Journal, Elsevier
- January 2016 – current. Associate Editor, SIAM Journal on Scientific Computing.
- January 2017 – current. Associate Editor, SIAM Journal on Matrix Analysis and Applications.
- January 2016 – current. Editorial board, Numerical linear algebra with applications Journal, Wiley.

###### 10.1.2.1.2. Frédéric Nataf

- 2014 – current. Associate Editor, Journal of Numerical Mathematics, de Gruyter.

#### 10.1.3. Invited Talks

- Laura Grigori: Keynote speaker, 46th International Conference on Parallel Processing (ICPP-2017), <http://www.icpp-conf.org/2017/index.php>, Bristol, UK, August 14-17, 2017.
- Laura Grigori: Keynote speaker, Power-Aware Computing Workshop - PACO2017, <https://www2.mpi-magdeburg.mpg.de/mpcsc/events/paco2017/index.php>, July 2017, Germany.
- Laura Grigori: Plenary talk, Householder Symposium XX on Numerical linear algebra, <http://www.math.vt.edu/HHXX/>, June 2017, Virginia Tech.
- Laura Grigori: Invited plenary speaker, International Conference on Domain Decomposition Methods DD XXIV, <http://www.ddm.org/dd24/invited.html>, February 2017, Longyearbyen, Norway.

#### 10.1.4. Leadership within the Scientific Community

- Laura Grigori: Chair of the SIAM SIAG on Supercomputing (SIAM special interest group on supercomputing), January 2016 - December 2017. Nominated by a Committee and elected by the members of this SIAG.
- Laura Grigori: Member of the PRACE (Partnership for Advanced Computing in Europe, <http://www.prace-ri.eu/>) Scientific Steering Committee, September 2016 - current.
- Laura Grigori: Steering committee member, Challenge 7: Information and communication society, ANR (Comité de Pilotage , Défi 7), November 2016 - September 2017.

### 10.1.5. 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.
- Xavier Claeys was member of a hiring committee for a position of maître de conférence in section CNU 60/61 for the Institut de Recherche de Coordination Acoustique et Musicale (IRCAM) and Université Pierre-et-Marie Curie Paris 6, in Spring 2017.

### 10.1.6. Research Administration

- Laura Grigori: Member of the Director Committee (Comité Directeur) of GIS Geosciences franciliennes, since November 2015.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

#### 10.2.1.1. Xavier Claeys

- Academic year 2017-2018, total number of course hours: 192 hrs
  - Master 1: supervisoon of a student project for a group of 4 students in the curriculum Polytech, 80hrs, UPMC.
  - Master 1: Initiation to C++, 36 hrs of programming tutorials in C++, UPMC.
  - Master 1: Computational Linear Algebra, 32 hrs of lectures, UPMC.
  - Master 1: Practical programming of the finite element method, 12 hrs of lectures, UPMC.
  - Master 1: Approximation of EDPs, 24 hrs of programming tutorials in Python, UPMC.

#### 10.2.1.2. Laura Grigori

- Spring 2017, Course on *High performance computing, large scale linear algebra, and numerical stability* (*Calcul haute performance, algorithmes parallèles d'algèbre linéaire à grande échelle, stabilité numérique* in french), [https://who.rocq.inria.fr/Laura.Grigori/TeachingDocs/UPMC\\_Master2/Spr2017.html](https://who.rocq.inria.fr/Laura.Grigori/TeachingDocs/UPMC_Master2/Spr2017.html), Master 2nd year, Mathematics & Applications, University Pierre and Marie Curie, 20 hours per year.
- Winter 2017, Participation in the course on High Performance Computing given at University Pierre and Marie Curie, Master 2nd year, Computer Science, intervention for 8 hours per year.

#### 10.2.1.3. Frédéric Hecht

- Academic year 2016-2017, total number of course hours: 192 hrs
  - Master 1: Initiation au C++, 24hrs, M1, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Des EDP à leur résolution par la méthode des éléments finis (MEF), 24hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Numerical methods for fluid mechanics, 10hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Calcul scientifique 3 / projet industriel FreeFem++, 28hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Ingénierie 1 / Logiciel pour la simulation (FreeFem++), 21hrs, M2, Université Pierre-et-Marie Curie Paris 6, France
  - Master 2: Ingénierie 2 / Projet collaboratif, 21hrs, M2, Université Pierre-et-Marie Curie Paris 6, France

#### 10.2.1.4. Frédéric Nataf

- Spring 2017: Course on *Domain Decomposition Methods*, Master 2nd year Mathematics & Applications, University Pierre and Marie Curie
- Winter 2017: Course on *Domain Decomposition Methods*, Master 2nd year, Mathematics & Applications, ENSTA and UVSQ

### **10.2.2. Supervision**

- PhD in progress: Alan Ayala, since October 2015 (funded by NLAFFET H2020 project), co-advisors Xavier Claeys and Laura Grigori.
- PhD in progress : Sebastien Cayrols, since October 2013 (funded by Maison de la simulation), advisor Laura Grigori.
- PhD in progress: Hussam Al Daas, since February 2015 (funded by contract with Total), advisor Laura Grigori.
- PhD in progress: Olivier Tissot, since October 2015 (funded by NLAFFET H2020 project), advisor Laura Grigori.
- PhD in progress: Rim El Dbassy, since November 2015 (funded by Univ. St Joseph, Liban), advisors Tony Sayah, Frédéric Hecht.
- PhD in progress: Pierre Marchand, since October 2016 (funded by ANR NonLocalDD project), advisors Xavier Claeys et Frédéric Nataf.
- PhD in progress: Zakariae Jorti, since February 2016 (funded by IFPen), advisor Laura Grigori.
- PhD in progress: Igor Chollet, since October 2017 (funded by ICSD), advisors Xavier Claeys, Pierre Fortin, Laura Grigori.
- PhD in progress: Thanh Van Nguyen, since November 2017 (funded by ANR CinePara), advisor Laura Grigori.

### **10.2.3. Juries**

- Frédéric Hecht, President of the Jury for the PhD thesis of Alexandre LIMAR, Applied Mathematics, UTT, October 2017.
- Laura Grigori, President of the Jury for the PhD thesis of Chaoyu Quan, Applied Mathematics, UPMC, November 2017.
- Frédéric Hecht, President of the Jury for the PhD thesis of Roberto Molina, Applied Mathematics, UPMC, December 2017.

## AVALON Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. General Chair, Scientific Chair

Laurent Lefèvre was

- co-chair of the colloquium : "Towards a sustainable digital society : from Clouds to Connected Objects", with Centre Jacques Cartier and Concordia University, Montreal, Canada, October 2017
- co-chair of the PEAC 2017 Workshop on "Power and Energy Aspects of Computations", held in conjunction with the 12th International Conference on Parallel Processing and Applied Mathematics, PPAM 2017, Lublin, Poland, September 2017
- track co-chair of the ICA3PP 2017 conference: 17th International Conference on Algorithms and Architectures for Parallel Processing, for the track Distributed and Network-based Computing, Helsinki, Finland, August 2017

##### 9.1.1.2. Member of the Organizing Committees

Laurent Lefèvre was

- co-organizer of the GreenDays@Sophia, SophiaTech, Nice, June 2017
- co organizer of the Ecoinfo conference on "Edge Datacenters, a leverage for innovation - Edge datacenters, un levier pour l'innovation", Paris, March 2017 and the Ecoinfo conference on "Eco-design of software", Grenoble, February 2017
- co-chair of the Special Session on Energy Efficient Management of Parallel Systems, Platforms, and Computations during PDP2017 : 25th Euromicro International Conference on Parallel, Distributed and Network based Processing, St Petersburg, Russia, March 2017

Christian Perez served on the Organizing Committee of the 2017 International Conference on High Performance Computing & Simulation (HPCS 2017) as Conference Awards and Recognitions Co-Chair.

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Chair of Conference Program Committees

Eddy Caron was the chair of the Chair Parallelism for Compas'2017 (Conférence d'informatique en Parallélisme, Architecture et Système). June 27-30, 2017.

Laurent Lefèvre was co-chair of the Poster and Research Demos of CCGrid 2017 : 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, Madrid, Spain, May 2017

##### 9.1.2.2. Member of the Conference Program Committees

Eddy Caron was member of the program committees of 6<sup>th</sup> International Conference on Advances in Computing, Communications and Informatics (ICACCI-2017), Conférence Nationale (en Afrique) sur la Recherche en Informatique et ses Applications (CNRIA 2017), The 3rd International Conference on Cloud Computing Technologies and Applications (CloudTech'17), 7<sup>th</sup> International Conference on Cloud Computing and Service Science (CLOSER 2017), Third Symposium on Emerging Topics in Computing and Communications (SETCAC'17), The 10<sup>th</sup> International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage (SpaCCS 2017).

Marcos Dias de Assunção was member of the program committees of the International Conference on Cloud Computing Technology and Science (CloudCom 2017) and Workshop on Clouds and Applications (WCGA 2017).

Olivier Glück was a member of the program committees of PDP 2017 (25th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing) and ICA3PP-2017 (17th International Conference on Algorithms and Architectures for Parallel Processing).

Laurent Lefèvre was member of the program committees of The 3rd IEEE International Conference on Data Science and Systems (DSS 2017), The 23rd IEEE International Conference on Parallel and Distributed Systems (ICPADS 2017), 9th International Conference on Cloud Computing Technology and Science (CloudCom 2017), International Symposium on Computer Architecture and High Performance Computing (SBACPAD 2017), 46th International Conference on Parallel Processing (ICPP2017) and the Conférence d'informatique en Parallélisme, Architecture et Système (Compas'17).

Christian Perez was member of the program committees of the IEEE International Conference on Cluster Computing 2017 (Cluster 2017), the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid (CCGRID 2017), the 25th annual High Performance Computing Symposium 2017 (HPC '17), the 9th International Conference on Cloud Computing Technology and Science (IEEE CloudCom 2017) and of the 2017 International Conference on Parallel Computing (ParCo 2017). He was a member of the Tutorials Committee of ISC High Performance 2018.

Frédéric Suter was member of the program committees of the European MPI Users' Group Meeting (EuroMPI'17), the International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP'17), the IEEE / ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid 2017), the International Workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Platforms (HeteroPar'17), and the Conférence d'informatique en Parallélisme, Architecture et Système (Compas'17). He was a member of the Posters Committee of the IEEE International Conference on Cluster Computing (Cluster'17).

#### *9.1.2.3. Reviewer*

Eddy Caron reviewed a paper for the 23rd International European Conference on Parallel and Distributed Computing (Euro-Par 2017).

Christian Perez reviewed a paper for the 23rd International European Conference on Parallel and Distributed Computing (Euro-Par 2017).

### **9.1.3. Journal**

#### *9.1.3.1. Member of the Editorial Boards*

Laurent Lefèvre is associate editor of IEEE Transactions on Sustainable Computing

#### *9.1.3.2. Reviewer - Reviewing Activities*

Eddy Caron reviewed articles for Journal of Cloud Computing, Journal FGCS, Transaction on Service Computing, Concurrency and Computation (Practice and Experience), Information Security Journal: A Global Perspective.

Marcos Dias de Assunção reviewed articles for the ACM Computing Surveys, Computer Networks, IEEE Cloud Computing, Software Practice and Experience, Sustainable Computing Journal, Parallel Computing, Cluster Computing Journal, Future Generation Computer Systems Journal (FGCS), Transactions on Cloud Computing, and IEEE Transactions on Network and Service Management.

Thierry Gautier reviewed articles for the ACM Transactions on Architecture and Code Optimization journal.

Christian Perez reviewed articles for the IEEE's Transactions on Big Data journal.

Frédéric Suter reviewed articles for the IEEE's Transactions on Parallel and Distributed Systems and Parallel Computing.

### 9.1.4. Invited Talks

Marcos Dias de Assunção gave the following talk:

- “Challenges on Resource Elasticity”, University of Umea, Sweden, March 29, 2017.

Laurent Lefèvre has been invited to give the following talk:

- "L'impact environnemental des nouvelles technologies de l'information et de la communication / Environmental impact of ICT", Ville de Vincennes : "Au coeur des savoirs", Vincennes, March 2017
- "Améliorer l'efficacité énergétique de l'informatique et des réseaux de communications / Improving energy efficiency of computing and networking", Assemblée Nationale, Audition publique sur les enjeux de la recherche en énergie, Office Parlementaire d'Evaluation des Choix Scientifiques et Technologiques (OPECST), Paris, February 2017
- "Eco-design of software : conclusion of the day - Eco-conception logicielle : conclusion de la journée", Journée EcoInfo sur "Impact des logiciels sur l'environnement quid de l'éco-conception ?", IMAG, Grenoble, February 2017
- "Impacts environnementaux des TICs : constats et pistes d'améliorations (sans green washing) / Environmental impact of ICT : overview and improvements (without green washing)", ENSIMAG, Grenoble, January 2017

Christian Perez has been invited to give the following talk:

- "HPC Component Models", 2017 JLESC Summer School, NCSA, Urbana, Illinois, July 21, 2017.

### 9.1.5. Leadership within the Scientific Community

Eddy Caron is animator and co-chair for the FIL (Fédération Informatique de Lyon) on the theme IDCHP (Informatique Distribuée et Calcul Haute Performance).

Laurent Lefèvre is animator and chair of the transversal action on "Energy" of the French GDR RSD ("Réseaux et Systèmes Distribués")

Christian Perez is co-leader of the pole Distributed Systems of the French GDR RSD ("Réseaux et Systèmes Distribués").

### 9.1.6. Scientific Expertise

Eddy Caron reviewed 3 projects for the French National Research Agency (ANR).

Thierry Gautier and Christian Perez were member of the programming environment working group of ETP4HPC in order to define the Strategic Research Agenda (SRA). The SRA identifies the principal challenges in HPC and is used by the European Commission for writing their work programme. The EC is currently working on the WP2018-2020. The SRA -3 was released in November 2017.

Olivier Glück is member of the CNU (Conseil National des Universités) section 27 (Computer Science). He participated to the 2017 "Qualifications" session and "Promotions/CRCT" session.

Christian Perez was a member of the HCERES evaluation committees for the Laboratoire d'Informatique Fondamentale d'Orléans (LIFO) and for the *Mathématiques et Systèmes* unit of Mines ParisTech. He reviewed projects for the French National Research Agency (ANR), for the *Comité Français d'Évaluation de la Coopération Scientifique et Universitaire avec le Brésil* (COFECUB), and for the Région Pays de la Loire (France).

### 9.1.7. Research Administration

Eddy Caron is a member of the CDT (Commission de Développement Technologique) de l'Inria Rhône-Alpes. He is deputy director in charge of call for projects, research transfert and international affairs since September 2017 for the LIP laboratory.



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

Laurent Lefèvre is a member of the executive board and the sites committee of the Grid'5000 Scientific Interest Group. Laurent Lefèvre leads the PhD committee and is member of the council of LIP Laboratory (ENS Lyon). He is elected member of the council of Federation Informatique of Lyon. He is a scientific member of the Digital League enterprise cluster of Rhône-Alpes Auvergne Region. He is member of the direction committee of the GDS Ecoinfo group.

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. He is a member of the committee selection of the project call from the Rhône-Alpes region ARC6 (France). He is also a member of the Inria Grenoble Rhône-Alpes Strategic Orientation Committee.

Frédéric Suter is a member of the Direction Committee of the IN2P3 Computing Center (USR 6402).

## **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.

Master: Eddy Caron, Advanced Topics in Scalable Data Management, 18h, M2, ENS de Lyon. France.

Licence: Yves Caniou, Algorithmique programmation impérative, initiation, 24h, niveaux L1, Université Lyon 1, France

Licence: Yves Caniou, Unix, 3h, niveaux L1, Université Lyon 1, France

Licence: Yves Caniou, Système d'Exploitation, 42h, niveaux L2, Université Lyon 1, France

Licence: Yves Caniou, Programmation Concurrente, 33h, niveaux L3, Université Lyon 1, France

Licence: Yves Caniou, Réseaux, 54h, niveaux L3, Université Lyon 1, France

Master: Yves Caniou, Sécurité, 36h, niveaux M2, Université Lyon 1, France

Master: Yves Caniou, Systèmes avancés, 4.5h, niveaux M2, Université Lyon 1, France

Master: Yves Caniou, Projet, Bibliographie, Certification, 10h, niveaux M2, Université Lyon 1, France

Master: Yves Caniou, Suivi d'un étudiant en introduction à la recherche, 3h, M1, Université Lyon 1, France

Master: Yves Caniou, Suivi d'étudiants (apprentissage, stage), 33h, niveaux M1 et M2, Université Lyon 1, France

Master: Yves Caniou, Responsable of professional Master SRIV (Systèmes Réseaux et Infrastructures Virtuelles), 42h, Université Lyon 1, France

Master: Yves Caniou, Sécurité, 20h, niveau M2, IGA Casablanca, Maroc

Master: Jean-Patrick Gelas, Programmation embarquée et mobile des objets, 17h, niveau M1, Université Lyon 1, France

Master: Jean-Patrick Gelas, Introduction au Cloud Computing, 24h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Système d'exploitation, 52h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Projet en Informatique en Anglais, 10h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Réseaux Avancés, 27h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Sécurité et Admin des infra résx, 37h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Technologies embarquées, 19h, niveau M2 (Image), Université Lyon 1, France

Master: Jean-Patrick Gelas, Routage (BGP), Routeurs et IPv6, 15h, niveau M2, Université Lyon 1, France

Master: Jean-Patrick Gelas, Systèmes embarqués (GNU/Linux, Android, ARM, Arduino), 34h, niveau M2, Université Lyon 1, France

Master: Jean-Patrick Gelas, Analyse de performance, 3h, niveau M2 (TIW), Université Lyon 1, France

Master: Jean-Patrick Gelas, Cloud Computing, 17h, niveau M2 (TIW), Université Lyon 1, France

Master: Jean-Patrick Gelas, Développement informatique, 23h, niveau M2 (Data science), Université Lyon 1, France

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

Licence: Olivier Glück, Introduction Réseaux et Web, 90h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Algorithmique programmation impérative initiation, 37h, niveau L1, Université Lyon 1, France.

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

Master: Olivier Glück, Responsable of professional Master SIR (Systèmes Informatiques et Réseaux) located at IGA Casablanca, 20h, niveau M2, IGA Casablanca, Maroc

Master: Olivier Glück, Réseaux par la pratique, 14h, niveau M1, Université Lyon 1, France.

Master: Olivier Glück, Réseaux et protocoles, 33h, niveau M1, Université Lyon 1, France.

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 Informatique: Laurent Lefèvre, "Parallelism", Université Claude Bernard, France. (18h), M1

Master Systèmes Informatique et Réseaux: Laurent Lefèvre, "Advanced Networks", IGA Casablanca, Maroc (20h), M2

### 9.2.2. Supervision

PhD: Radu Carpa, *Efficacité énergétique des échanges de données dans une fédération d'infrastructures distribuées à grande échelle*, 26/10/2017, Laurent Lefèvre (dir), Olivier Glück (co-dir).

PhD : ACAR Hayri, Software development methodology in a Green IT environment, Université Claude Bernard Lyon 1, 22/11/2017, Parisa Ghodous (dir), Jean-Patrick Gelas (co-dir), Gulfem Isiklar Alptekin (co-dir).

PhD: Jérôme Richard, *Conception of a software component model with task scheduling for many-core based parallel architecture, application to the Gysela5D code*, 6/12/2017, Christian Perez (dir), Julien Bigot (CEA, MdlS, co-dir).

PhD: Pedro De Souza Bento Da Silva, *Application model and co-scheduling algorithm for dynamic and evolutive data-intensive application*, 11/12/2017, Christian Perez (dir), Frédéric Desprez (Inria, CORSE team, 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: Anchen Chai: *Simulation of the Distributed Execution of a Medical Imaging Simulator*, Hugues Benoit-Cattin (co-dir, CREATIS, INSA Lyon), Frédéric Suter (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: Hadrien Croubois, *Étude et conception d'un système de gestion de workflow autonome*, 10/2015, Eddy Caron (dir).

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

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, ENS-Lyon), Eddy Caron (co-dir) et Yves Caniou (co-dir).

PhD in progress: Valentin Lorentz : *Energy traceability of data*, Gilles Fedak (dir), Laurent Lefèvre (co-dir) (2016-2019)

PhD in progress: Issam Rais, *Multi criteria scheduling for exascale infrastructures*, 10/2014, Laurent Lefèvre (dir), Anne Benoit (Roma Team, LIP, ENS Lyon, co-dir) and Anne-Cécile Orgerie (CNRS, Myriads team, Irisa Rennes, co-dir).

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) (2017-2020).

PhD in progress: Alexandre Veith : *Elastic Mechanisms for Big-Data Stream Analytics*, Labex MiLyon, Laurent Lefèvre (dir), Marcos Dias de Assunção (co-dir) (2016-2019).

### 9.2.3. Juries

Laurent Lefèvre was reviewer and member of the Ph.D. defence committee of Ronnie Muthada Pot-taya, University of Bourgogne Franche-Comté (December 8, 2017), Ines de Courchelle, University of Toulouse (November 20, 2017), Nicolas Huin, Nice-Sophia Antipolis University (September 28, 2017), Atefeh Khosravi, University of Melbourne, Australia (July 2017) and Loris Belcastro , University of Calabria, Italy (May 2017). Laurent Lefèvre was a member of the Ph.D. defence committee of Yunbo Li, Université Bretagne Loire (June 2017)

Frédéric Suter was a member of the Ph.D. defence committee of Fernando Mendonca, Ph.D. student of Université de Grenoble held on May 23, 2017.

## 9.3. Popularization

Laurent Lefèvre has been:

- Participating to the "Nuit européenne des chercheurs - European night of researchers" : talk in the dark "Let's talk about Green IT in the dark" - Interview by Lyon Capitale and Radio Brume, Villeurbanne, September 29, 2017
- Interviewed for the paper "Réseaux, data centers et terminaux, sur les traces de notre empreinte environnementale numérique", Inriality, Pierre Guyot, February 14, 2017
- Interviewed for the paper "Surfing is bad for the planet / Surfer nuit gravement à la planète", 01 Net, Number 859, February 15, 2017

## 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 *Journée de visualisation scientifique*.

Member of the steering committee of HeteroPar.

#### 10.1.1.2. Member of the Organizing Committees

Euro-Par, ,Santiago de Compostela, Spain, August 2017. Topic chairs.

ICPP (46th Internat. Conference on Parallel Processing), August 14-17, Bristol, UK. Track chair.

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Member of the Conference Program Committees

ISAV 2017 (Workshop on In Situ Infrastructures for Enabling Extreme-scale Analysis and Visualization) , November 2017, Denver, USA

EGPGV 2017 (Eurographics Symposium on Parallel Graphics and Visualization), June 2017, Barcelona, Spain.

LADV 2017 (IEEE Symposium on Large Data Analysis and Visualization), October 2017, Phoenix, USA.

ROADEF, Feb. 22-24, Metz, France

CCgrid (17th IEEE/ACM Internat. Symposium on Cluster, Cloud and Grid Computing) May 14-17, Madrid, Spain

COMPAS, June 27-30, Sophia-Antipolis, France

ISPDG (16th Internat Symposium on Parallel and Distributed Computing) July 3-6, Innsbruck, Austria

WAOA (15th workshop on Approximation and Online Algorithms) Sept. 7-8, Vienna, Austria

PPAM (12th internat. conf. on Parallel Processing and Applied Maths) Sept. 10-13, Lublin, Poland

ParCo, Sept. 12-15, Bologna, Italy

CloudTech (3rd International Conference on Cloud Computing Technologies and Applications) Oct. 24-26, Rabat, Morocco

MISTA (8th edition) Dec. 5-8, Kuala Lumpur, Malaysia

HiPC (23rd IEEE internat. Conf on High Performance Computing, Data and Analytics) Dec. 18-21, Jaipur, India

### 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 JPDC.

Member of the Editorial Board of Computational Methods in Science and Technology.

Member of the Editorial Board of ARIMA (revue africaine de recherche en informatique et maths appliquées).

#### **10.1.4. Scientific Expertise**

ANR project evaluation expert

Nederlands e-science center expert

#### **10.1.5. Research Administration**

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

Steering committee of Grid'5000

Steering committee of GRICAD

### **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).

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. 242 hours per year. Master (M1/2nd year and M2/3rd year) at Engineering school ENSIMAG, Grenoble-INP.

Master: Bruno Raffin. 28 hours per year. Parallel System. International Master of Science in Informatics at Grenoble (MOSIG-M2).

Master: Olivier Richard. 222 hours per year. Master at Engineering school Polytech-Grenoble, Univ. Grenoble-Alpes.

Master: Denis Trystram. 200 hours per year in average, mainly at first level of Engineering School ENSIMAG, Grenoble-INP.

Master: Frédéric Wagner. 220 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year).

Master: Yves Denneulin. 70 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year).

#### **10.2.2. Supervision**

PhD: Raphaël Bleuse, Affinity Scheduling, Defended November 2017, Univ. Grenoble-Alpes. Adviser: Denis Trystram and Gregory Mounié.

PhD: Millian Poquet, Energy consumption optimization for high performance computing, Defended December 2017, Univ. Grenoble-Alpes. Advisers: Denis Trystram and Pierre-François Dutot

PhD: Abhinav Srivastav, Multi-objective Scheduling, Defended May 2017, Univ. Grenoble-Alpes. Advisers: Denis Trystram and Oded Maler

PhD: Fernando Machado Mendonca, Locality Aware Scheduling, Univ. Grenoble-Alpes, Defended April 2017, Advisers: Frederic Wagner and Denis Trystram.

PhD: Julio Toss, Parallel Algorithms and Data Structures for Physically Based Simulation of Deformable Objects, Univ. Grenoble-Alpes and UFRGS (co-tutelle). Defended October 2015. Advisers: Bruno Raffin and Joao Comba (UFRGS).

PhD in progress : Estelle Dirand, Integration of High-Performance Data Analytics and IOs for Molecular Dynamics on Exascale Computer, Univ. Grenoble-Alpes. Started January 2016. Advisers: Bruno Raffin and Laurent Colombet (CEA).

PhD in progress: Michael Mercier, Resource Management and Job Scheduling in HPC–Cloud environments towards the Big Data era, Univ. Grenoble Alpes. Started October 2016. Advisers: Olivier Richard and Bruno Raffin.

PhD in progress: Valentin Reis, Machine Learning for resource management, Univ. Grenoble-Alpes. Started October 2015. Advisers: Denis Trystram and Eric Gaussier

PhD in progress: Alessandro Kraemer, Scheduling in the Cloud, Univ Grenoble-Alpes and UFPR (co-tutelle). Started October 2014. Advisers: Olivier Richard and Denis Trystram.

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, Advisers: Denis Trystram

PhD in progress: Clément Mommessin, Advisers: Denis Trystram

### 10.2.3. *Juries*

PhD Defense of Jorge F. Fabeiro, Tools for Improving Performance Portability in Heterogeneous Environments, 13th of July 2017. Univesidade da Coruña, Spain. Jury President.

PhD Defense Xavier Martinez, Tracking sans marqueur de modèles physiques modulaires et articulés: vers une interface tangible pour la manipulation de simulations moléculaires, 10th of October 2017. Université Paris-Sud, Paris Saclay. Jury Member.

PhD defense Jérôme Richard, Conception d'un modèle de composants logiciels avec ordonnancement de tâches pour les architectures parallèles multi-cœurs, application au code Gysela, 6th of December 2017. Université de Lyon. Jury President

PhD defense Sébastien Doutreligne, Interactive Molecular Dynamics Software Development: applications to biomolecule folding, 27th of October 2017. UPMC. Reviewer.

PhD defense Suraj Kumar, Scheduling of Dense Algebra Kernels on Heterogeneous Resources , Avril 2017. Univ of Bordeaux . Jury President.

## 10.3. Popularization

Responsible of the workshop *Proof without Words* and participation to the *CS-Unplugged* workshop, Inria, Fête de la Science 2017.

## HIEPACS Project-Team

## 10. Dissemination

### 10.1. Promoting Scientific Activities

#### 10.1.1. Member of the Conference Program Committees

SC'17 (E. Agullo, A. Guermouche), ICPP'17 (A. Guermouche), HiPC'17 (A. Guermouche), IEEE PDP'17 (J. Roman), PDSEC'17 (O. Coulaud, L. Giraud).

#### 10.1.2. Journal

##### 10.1.2.1. Member of the Editorial Boards

L. Giraud is member of the editorial board of the SIAM Journal on Matrix Analysis and Applications (**SIMAX**).

##### 10.1.2.2. Reviewer - Reviewing Activities

ACM Trans. on Mathematical Software, Advances in Computational Mathematics, Computing and Fluid, IEEE Trans. on Parallel and Distributed Systems, International Journal of High Performance Computing Applications, Journal of Computational Physics, Journal of Scientific Computing, Linear algebra with applications, Mathematics and Computers in Simulation, Parallel Computing, SIAM J. Matrix Analysis and Applications, SIAM J. Scientific Computing, Theory of Computing Systems.

#### 10.1.3. Scientific Expertise

- Emmanuel Agullo: US Department of Energy's (DOE's) Exascale Computing Project (ECP) reviewing for research and development in Software Technology, specifically in the area of Math Libraries.
- Luc Giraud is member of the board on Modelisation, Simulation and data analysis of the **Competitiveness Cluster for Aeronautics, Space and Embedded Systems**.
- Pierre Ramet is "Scientific Expert" at the CEA-DAM CESTA since Oct. 2015.
- 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 Technical Group of GENCI and of the Scientific Advisory Board of the Maison de la Simulation.

#### 10.1.4. 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 coordinator of the **PLAFRIM** platform for Inria Bordeaux Sud-Ouest.
- Jean Roman is a member of the Direction for Science at Inria : he is the Deputy Scientific Director of the Inria research domain entitled *Applied Mathematics, Computation and Simulation* and is in charge at the national level of the Inria activities concerning High Performance Computing.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

We indicate below the number of hours spent in teaching activities on a yearly basis for each scientific staff member involved.

Undergraduate level/Licence

- A. Esnard: System programming 36h, Computer architecture 40h, Network 23h at Bordeaux University.
- M. Faverge: Programming environment 26h, Numerical algorithmic 30h, C projects 24h at Bordeaux INP (ENSEIRB-MatMeca).
- P. Ramet: System programming 24h, Databases 32h, Object programming 48h, Distributed programming 32h, Cryptography 32h 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 24h, Hierarchical methods 8h 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).
- M. Faverge: System programming 74h, Load balancing and scheduling 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).
- L. Giraud: Introduction to intensive computing and related programming tools 20h, INSA Toulouse; Introduction to high performance computing and applications 20h, ISAE; On mathematical tools for numerical simulations 10h, ENSEEIHT Toulouse; Parallel sparse linear algebra 11h at Bordeaux INP (ENSEIRB-MatMeca).
- A. Guermouche: Network management 92h, Network security 64h, Operating system 24h at Bordeaux University.
- P. Ramet: Load balancing and scheduling 13h, Numerical algorithms 30h at Bordeaux INP (ENSEIRB-MatMeca). He also gives classes on Cryptography 30h, Ho Chi Minh City in Vietnam.
- J. Roman: Parallel sparse linear algebra 10h, Algorithmic and parallel algorithms 22h at Bordeaux INP (ENSEIRB-MatMeca).  
He is also in charge of the last year “Parallel and Distributed Computing” option at ENSEIRB-MatMeca which is specialized in HPC (methodologies and applications). This is a common training curriculum between Computer Science and MatMeca departments at Bordeaux INP and with Bordeaux University in the context of Computer Science Research Master. It provides a lot of well-trained internship students for Inria projects working on HPC and simulation.

Summer School: on an annual basis, we run a three day advanced training (lecture and hands on) on parallel linear algebra in the framework of the European PRACE PATC (PRACE Advanced Training Centres) initiative. This training has been organized in many places in France and Europe.

### 10.2.2. Supervision

HdR : Abdou Guermouche, Towards efficient sparse direct solvers for modern high-performance architectures, Université de Bordeaux, 27 novembre 2017.

HdR : Pierre Ramet, Hierarchical matrices, Hybrid methods, Heterogeneous architectures in sparse linear solvers, Université de Bordeaux, 27 novembre 2017.

PhD in progress : Nicolas Bouzat; Fine grain algorithms and deployment methods for exascale plasma physic applications ; M.Mehrenberger (TONUS project-team), J.Roman, G. Latu (CEA-IRFM).

PhD in progress : Arnaud Durocher; High performance Dislocation Dynamics simulations on heterogeneous computing platforms for the study of creep deformation mechanisms for nuclear applications; O. Coulaud, L. Dupuy (CEA).



PhD in progress : Aurélien Falco; Data sparse calculation in FEM/BEM solution; E. Agullo, L. Giraud, G. Sylvand.

PhD in progress : Grégoire Pichon; Utilisation de techniques de compression  $\mathcal{H}$ -matrices pour solveur direct creux parallèle dans le cadre des applications FEM; M. Faverge, P. Ramet.

PhD in progress : Louis Poirel; Algebraic coarse space correction for parallel hybrid solvers; E. Agullo, L. Giraud.

### **10.2.3. Juries**

- Vanessa C. Vargas Vallejo, “Approche logicielle pour améliorer la fiabilité d’applications parallèles implémentées sur des processeurs multi-cœur et many-cœur”, referee: L. Giraud, O. Romain, Université Joseph-Fourier de Grenoble, spécialité: nano électronique et nano technologie, 28 April 2018.
- Roberto Molina, “Hybridation of FETI methods”, referee: L. Giraud, D. J. Rixen; Université Pierre et Marie Curie, spécialité: mathématiques appliquées, 19 Décembre 2017.
- Krishna Kant Singh, "Algorithms for Adaptively Restrained Molecular Dynamics", referee: O. Coulaud, K. Hinsen. Université Joseph-Fourier de Grenoble, spécialité: informatique , 8 Novembre 2017.

## KERDATA Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. General Chair, Scientific Chair

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

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Chair of Conference Program Committees

Gabriel Antoniu:

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

Alexandru Costan:

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

##### 9.1.2.2. Member of Conference Program Committees

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

Luc Bougé: ISC HPC 2017.

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

##### 9.1.2.3. Reviewer

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

Alexandru Costan: HPDC 2017, SC 2017, IPDPS 2017

### 9.1.3. Journal

#### 9.1.3.1. Member of the Editorial Boards

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

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

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

#### 9.1.3.2. Reviewer - Reviewing Activities

Gabriel Antoniu: Concurrency and Computation: Practice and Experience.

Luc Bougé: IEEE Transactions on Distributed Parallel Systems.

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

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

#### 9.1.4. Keynote Talks and Invited Talks

Gabriel Antoniu:

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

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

Luc Bougé:

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

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

Alexandru Costan:

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

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

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

#### 9.1.5. Leadership within the Scientific Community

Gabriel Antoniu:

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

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

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

#### 9.1.6. Scientific Expertise

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

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

### 9.1.7. Research Administration

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

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Gabriel Antoniu

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

Luc Bougé

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

Alexandru Costan

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

### 9.2.2. Supervision

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

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

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

#### 9.2.2.1. PhD in progress

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

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

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

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

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

### 9.2.3. Juries

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

### 9.2.4. Miscellaneous

#### 9.2.4.1. Responsibilities

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

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

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

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

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

#### 9.2.4.2. Tutorials

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

## 9.3. Popularization

Gabriel Antoniu:

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

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

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

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

Luc Bougé:

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

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

## POLARIS Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. General Chair, Scientific Chair

- Panayotis Mertikopoulos has been the co-organizer of the *MODE Days* (03/2017).
- Arnaud Legrand has co-organized the International Workshop on Reproducibility in Parallel Computing (RepPar) in conjunction with IPDPS.

#### 10.1.1.2. Member of the Organizing Committees

- Nicolas Gast was co-organizer of the workshop YEQT XI: “Winterschool on Energy Systems” organized in TU Eindhoven in December 2017).
- E. Veronica Belmega was co-organizer of a day of the GdR ISIS about “Game Theory, Optimisation and Learning: Interplay and Applications to Signal Processing” (8 November 2017).

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- Nicolas Gast was co-chair of the track “Performance Evaluation, Control, and Optimization (incl. queueing, game theory, machine learning)” of the convergence ITC 29.

#### 10.1.2.2. Member of the Conference Program Committees

- Bruno Gaujal and Nicolas Gast have been member of the *IFIP Performance* Committee.
- Nicolas Gast has been member of the *ACM Sigmetrics* and *ACM E-Energy* committees.
- Arnaud Legrand has been member of the *CCgrid*, *Cluster* and *PPAM* committees.
- E. Veronica Belmega was a member of the technical program committees of Green Computing, Networking and Communications Symposium at ICNC 2017, IEEE BlackSeaComm, IEEE ICC 2017, Wireless Communications Symposium (ICC’17 WCS), and IEEE Wireless Communications and Networking Conference, WCNC.

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

- E. Veronica Belmega is an executive editor for the Transactions on Emerging Telecommunications Technologies.
- Nicolas Gast is member of the editorial board of Performance Evaluation.
- E. Veronica Belmega serves as an Associate Editor for the IET Signal Processing journal.

#### 10.1.3.2. Reviewer - Reviewing Activities

The members of the POLARIS team regularly review articles for JPDC, DAM, IEEE Transactions on Networking/Automatic Control/Cloud Computing/Parallel and Distributed Computing/Information Theory/Signal Processing/Wireless Communications, SIAM Journal on Optimization/Control and Optimization, and others.

#### 10.1.4. Invited Talks

- Arnaud Legrand has been invited to give invited keynotes on reproducible research: (Keynote at the LIRIS, Lyon, Nov. 2017, at the PRECIS Spring school, Fréjus, May 2017, at the Grenoble Data Science Institute, Apr. 2017, at the LIG, Grenoble, Mar. 2017 and at the ENS Rennes, Feb. 2017.)
- Bruno Gaujal has been invited to give the opening lecture for the class of 2021 at ENS Cachan, Sept. 2017.
- Nicolas Gast gave an invited talk at IBM New-York in April 2017 and at Imperial College London in December 2017.

#### 10.1.5. Leadership within the Scientific Community

- Panayotis Mertikopoulos is a member of the committee of the MODE group of the SMAI.
- Bruno Gaujal is a member of the scientific bureau of the GDRIM.

Arnaud Legrand organize a series of webinars on reproducible research and whose aim is to introduce the audience to one particular aspect of reproducible research and to illustrate how this aspect can be addressed with state-of-the-art tools. To this end, experts of a given topic are invited and their seminar is screencast so that researchers from other universities can easily follow it. This year, the following topics have been covered:

1. Publication Modes Favoring Reproducible Research
2. Artifact evaluation in computer systems' conferences
3. Experimental testbeds in Computer Science
4. Statistical and Reproducibility Issues in Human Computer Interactions
5. An Approach to Practical Falsifiable Research: the Popper Convention

All the corresponding videos and materials are available at the following address: [https://github.com/alegrand/RR\\_webinars/](https://github.com/alegrand/RR_webinars/)

#### 10.1.6. Research Administration

- Bruno Gaujal has been the president of the jury for hiring CR2 Researchers in Inria Grenoble Rhône-Alpes.
- E. Veronica Belmega was member of an Associate Professor (Maître de Conférences) hiring committee, ENSEA.
- Nicolas Gast is member of the “conseil du laboratoire” of the LIG (Laboratoire d’Informatique de Grenoble).
- Bruno Gaujal is member of the “bureau du LIG” (Laboratoire d’informatique de Grenoble)
- Panayotis Mertikopoulos serves as the graduate students liaison (*chargé de mission doctorants*) for the Laboratoire d’Informatique de Grenoble
- Bruno Gaujal was president of the CR2 admissibility jury of Inria-Grenoble.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

Master: Bruno Gaujal and Nicolas Gast, “*Advanced Performance Evaluation*”, 18h (M2), ENSIMAG

Master M2R : Nicolas Gast “*Optimization Under Uncertainties*”, 18h (M2), Master ORCO, Grenoble.

Master: Guillaume Huard, “*Conception des Systèmes d’Exploitation*” (M1), Université Grenoble-Alpes

Master: Arnaud Legrand and Jean-Marc Vincent, “*Scientific Methodology and Performance Evaluation*”, 15h (22.5h) M2, M2R MOSIG

Master: Arnaud Legrand, “*Parallel Systems*”, 21h (31.5h) M2R, M2R Mosig.

Master: Arnaud Legrand, “*Scientific Methodology and Performance Evaluation*”, 24h (36h), ENS Lyon.

Master: Panayotis Mertikopoulos, “*Selected Topics in the Theory of Stochastic Processes*”, 16h M2, University of Athens, Athens, Greece

Master: Florence Perronnin, “*Simulation*”, M1, Université Versailles – Saint-Quentin

Master: Florence Perronnin, “*Probabilités–Simulation*”, RICM4 Polytech Grenoble

Master: Arnaud Legrand and Jean-Marc Vincent, Probability and simulation, performance evaluation 72 h, (M1), RICM, Polytech Grenoble.

Master: Jean-Marc Vincent, Mathematics for computer science, 18 h, (M1) Mosig.

DU: Jean-Marc Vincent, “*Informatique et sciences du numérique*”, 20 h, (Professeurs de lycée).

Master M2P: Florence Perronnin *Probability and Simulation, Performance Evaluation*, Polytech Grenoble.

Master M2R: Panayotis Mertikopoulos *Selected Topics in Probability Theory* University of Athens, *Online Learning and Optimal Decision Making* MIF, ENS Lyon.

Master M2R: Bruno Gaujal *Online Learning and Optimal Decision Making* MIF, ENS Lyon, *Foundations of Network Performance*, MPRI, Paris.

Master M2R: Vincent Danjean *Operating Systems*, MOSIG, Grenoble

Master M2R: Arnaud Legrand *Parallel Systems* and *Scientific Methodology and Performance Evaluation*, MOSIG, Grenoble, *Scientific Methodology and Performance Evaluation*, ENS Rennes.

Highschool Professors: Vincent Danjean is responsible of the University Dept. for Highschool Professors Training in Computer Science

Mooc: Arnaud Legrand is currently designing a MOOC on Reproducible Research with Konrad Hinsén (CNRS/Centre de Biophysique Moléculaire) and Christophe Pouzat (CNRS/ Mathématiques Appliquées in Paris 5) with the support of the Inria MOOC-lab. The diffusion of this MOOC is planned for 2018 on FUN-MOOC.

### 10.2.2. Supervision

- Alexandre Marcastel (PhD) - 2015-... (E. Veronica Belmega, Panayotis Mertikopoulos, co-advised with Inbar Fijalkow)
- Irched Chafaa (PhD) - 2017-... 75% (E. Veronica Belmega (co-advised with Merouane Debbah)
- Kimon Antonakopoulos (PhD) - 2017-... (E. Veronica Belmega, Panayotis Mertikopoulos and Bruno Gaujal)
- Pedro Bruel (co-advised with USP 2017-...): Design of experiments and autotuning of HPC computation kernels (co-advised by Arnaud Legrand, Alfredo Goldman and Brice Videau, funded by the Brazilian Government).
- Tom Cornebize (2017-...): Capacity planning and performance evaluation of supercomputers (funded by the French Ministry for Research) (advised by Arnaud Legrand).
- Bruno Luis de Moura Donassolo (CIFRE Orange 2017-...): Decentralized management of applications in Fog computing environments (co-advised by Arnaud Legrand, Panayotis Mertikopoulos and Ilhem Fajari, funded by Orange).
- Vinicius Garcia Pinto (co-tutelle with UFRGS 2013-...): Performance analysis and visualization of dynamic task-based applications (co-advised by Arnaud Legrand, Lucas Schnorr and Nicolas Maillard, funded by the Brazilian government).
- Rafael Tesser (co-tutelle with UFRGS 2013-...): Simulation and performance evaluation of dynamical load balancing of an over-decomposed Geophysics application (co-advised by Arnaud Legrand, Lucas Schnorr and Philippe Navaux, funded by the Brazilian government).



- Christian Heinrich (2015-...): Modeling of performance and energy consumption of HPC systems (advised by Arnaud Legrand) (funded by Inria).
- Stephan Plassard (2016-...), Energy Optimization in Embedded Systems (co-advised by Bruno Gaujal and Alain Girault) (funded by Labex Persyval, Grenoble).
- Stephane Durand (2015-...) Distributed Best Response Algorithms in random Potential Games (co-advised by Bruno Gaujal and Federica Garin) (funded by Labex Persyval, Grenoble).
- Baptiste Jonglez (2016-...) Leveraging Diversity in Communication Networks (co-advised by Bruno Gaujal and Martin Heusse), (funded by Univ Grenoble Alpes).
- Kimon Antonakopoulos (2017-...) Variational Inequalities and Pptimization (co-advised by Bruno Gaujal and Panayotis Mertikopoulos), (funded by Inria)

### 10.2.3. *Juries*

- Arnaud Legrand has served in the PhD jury of Tien-Dat Phan (reviewer) (Nov. 2017).
- Vincent Danjean and Arnaud Legrand have served on the master thesis jury for the MOSIG master program.
- Florence Perronnin have served on the master thesis jury for the MIAGE master program.
- Bruno Gaujal has served in the PhD jurys of Alemayehu Addisu Desta (Dec. 2017) (member), Shabbir Ali (Jul. 2017) (reviewer), and Habilitation Thesis of Lin Chen (Jul. 2017) (reviewer).
- E. Veronica Belmega has served as an examiner on the PhD jury of Dora BOVIZ (Nokia, Paris-Saclay); Faton MALIQI (Centrale Supélec) Chao ZHANG (Centrale Supélec)

## 10.3. Popularization

The POLARIS team is actively involved in various scientific popularization activities. In addition to participating in the Fête de la Science (Guillaume Huard, Florence Perronnin, Jean-Marc Vincent), the POLARIS team also participates in the organization of the “Conference Inria”. Jean-Marc Vincent has also organized (and/or participated in) several training courses for computer science teachers (at a high school level) and has supervised several MathC2+ trainees.

- Vincent Danjean and Florence Perronnin have participated to the “fête de la Science” on the *unplugged computer science* stand. Florence Perronnin was involved in the meeting days between industry and education, organized by the “Maison pour la Science”.
- E. Veronica Belmega: "Introduction à la theorie des jeux et ses applications en communications", invited talk, Lycee Chrestien de Troyes, France, Nov. 2017.

## ROMA Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Organizing Committees

Marie Durand, Guillaume Joslin and Chiara Puglisi organized the fourth edition of the MUMPS User days in Montbonnot on June 1 and 2, 2017, see [http://mumps.enseiht.fr/index.php?page=ud\\_2017](http://mumps.enseiht.fr/index.php?page=ud_2017).

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Steering committees

Yves Robert is a member of the steering committee of Euro-EduPar, HCW, Heteropar and IPDPS.

Bora Uçar serves in the steering committee of CSC.

#### 10.1.2.2. Chair of Conference Program Committees

- Anne Benoit is the technical program chair of ICPP 2017, the technical papers co-chair of SC 2017, and the technical program chair of IPDPS 2018.
- Bora Uçar was the IPDPS 2017 Workshops Chair, IC3 2017 Algorithms track vice-chair. He is the general chair of IPDPS 2018.
- Yves Robert is the Panels Chair of SC'17.
- Yves Roibert serves as the Liaison between the steering committee and the program committee of IPDPS.

#### 10.1.2.3. Member of the Conference Program Committees

- Matthieu Moy was a member of the program committee of the DUHDE and COMPASS workshops.
- Laure Gonnord was a member of the program committee of the VMCAI conference and NSAD workshop.
- Christophe Alias was a member of the program committee of the IMPACT and HIP3ES workshops.
- Loris Marchal was/is a member of the program committee of the SC 2017, IPDPS 2017 and IPDPS 2018 conferences.
- Bora Uçar was a member of the program committee of IA<sup>3</sup>, ICCS 2017, Euro-Par 2017, ScalCom 2017, P<sup>3</sup>MA, HiPC 2017, PPAM 2017, HPC4BD 2017.
- Yves Robert was a member of the program committee of FTS, FTXS, ICCS, and ISCIS
- Frédéric Vivien was a member of the program committee of EduPar 17, IPDPS 2017 and 2018, PDP 2017, SBAC-PAD 2017, and SC 2017.

#### 10.1.2.4. Reviewer

- Matthieu Moy was reviewer for ECRTS.
- Laure Gonnord was reviewer for STACS, VMCAI, NSAD.
- Bora Uçar reviewed papers for IEEE Cluster 2017, ICPP 2017, IPDPS 2017, and ALENEX 2017.

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

- Anne Benoit is Associate Editor for JPDC (Elsevier Journal of Parallel and Distributed Computing) and TPDS (IEEE Transactions on Parallel and Distributed Systems).

- Yves Robert is Associate Editor for ACM TOPC (ACM Transactions on Parallel Computing), JPDC (Elsevier Journal of Parallel and Distributed Computing), IJHPCA (Sage International Journal of High Performance Computing Applications), and JOCS (Elsevier Journal of Computational Science).
- Bora Uçar is a member of the editorial board of Parallel Computing.
- Frédéric Vivien is Associate Editor of Parallel Computing (Elsevier) and of JPDC (Elsevier Journal of Parallel and Distributed Computing).

#### 10.1.3.2. Reviewer - Reviewing Activities

- Matthieu Moy was reviewer for MICPRO 2017 (2 papers) and TCAD 2017.
- Christophe Alias was reviewer for ACM TACO and Proceedings of the IEEE.
- Loris Marchal was a reviewer for IEEE TPDS.
- Bora Uçar reviewed papers for SIAM SISC (5x), SIMAX (1x), IEEE TPDS (1x), Parallel Computing (2ex), Journal of Computational Science (1x).

#### 10.1.4. Invited Talks

- Matthieu Moy gave an invited talk at “Journées nationales du GDR GPL”, Montpellier, 13 - 16 June 2017.
- Laure Gonnord gave invited talks to University of Nice and University of Evry (spring 2017) and to University of Reunion (dec 2017).
- Christophe Alias gave invited talks to “Journées Compilation” (june 2017) and “Journée Calcul” (nov 2017).
- Yves Robert gave an invited talk at the FTS’17 workshop, Honolulu (September 2017).

#### 10.1.5. Tutorials

Yves Robert gave a tutorial on *Fault-tolerance techniques for HPC platforms* at SC’17 (with Aurélien Bouteiller, George Bosilca, and Thomas Hérault).

#### 10.1.6. Research Administration

Jean-Yves L’Excellent was a member of the direction board of the LIP laboratory until August 2017.

Yves Robert was a committee member of the IEEE Fellows selection. He is a member of the scientific council of the Maison de la Simulation.

Frédéric Vivien is the vice-head of the LIP laboratory since September 2017. He is a member of the scientific council of the École normale supérieure de Lyon and of the academic council of the University of Lyon.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

Licence:

- Yves Robert, Algorithmique, L3, ENS Lyon
- Anne Benoit, Algorithmique avancée, L3, ENS Lyon
- Matthieu Moy, programmation concurrente, 24h EqTD, L3, UCBL, France
- Matthieu Moy, Unix, 9h EqTD, L1, UCBL, France
- Matthieu Moy, Projet informatique, 40h EqTD, L3, UCBL, France
- Matthieu Moy, Informatique, 30h EqTD, L1, Grenoble INP CPP, France
- Christophe Alias, Compilation (CM+TD 48h), Insa Centre Val de Loire

Master:

- Yves Robert is the head of the Master in Computer Science, ENS Lyon
- Anne Benoit, CSE Algorithms, undergraduate + graduate, Georgia Tech, USA
- Yves Robert, Scheduling at Scale, M2, ENS Lyon
- Matthieu Moy, programmation avancée, 15h EqTD, M1, UCBL, France
- Matthieu Moy, Projet de spécialité informatique, 18h EqTD, M1, Grenoble INP Ensimag, France
- Laure Gonnord, Compilation (CM+TD 76h), M1, Université Claude Bernard Lyon 1, and M1 Ecole Normale Supérieure de Lyon.
- Laure Gonnord, Complexité, M1 (TD 15h), Université Claude Bernard Lyon 1.
- Laure Gonnord, Compilation and Software Engineering (CM+TP 10h, with S. Mosser), M2 Ecole Normale Supérieure de Lyon.
- Christophe Alias, Optimisation d'applications embarquées (CM+TD 26h), Insa Centre Val de Loire
- Loris Marchal, Complexité, M1 (TD 15h), Université Claude Bernard Lyon 1.
- Frédéric Vivien, Algorithmique et Programmation Parallèles et Distribuées (CM 36 h), M1, École normale supérieure de Lyon, France.

Professional training:

- Jean-Yves L'Excellent taught during the training "Solvers for Computer Aided Engineering" (Jan. 30–Feb. 3 2017) co-organized by ENS Paris-Saclay, Hewlett-Packard Enterprises, Ansys, MUMPS, CMLA, Intel.
- Loris Marchal is responsible of the competitive selection of the students of ENS Lyon for Computer Science.

### 10.2.2. Supervision

PhD in progress : Amaury Graillat, Génération de code pour un many-core avec des contraintes temps réel fortes, started in Sept. 2015, supervised by Matthieu Moy (LIP) and Pascal Raymond (Verimag).

PhD in progress : Tristan Delizy, Gestion mémoire pour architectures à base de NVRAM, started in Oct. 2016, co-supervised by Tanguy Risset (CITI), Guillaume Salagnac (CITI), Kevin Marquet (CITI) and Matthieu Moy (LIP).

PhD in progress: Gabriel Busnot, Accélération SystemC pour la co-simulation multi- physique et la simulation de modèles hétérogènes en complexité, started in Nov. 2017. Co-supervised by Matthieu Moy (LIP) and Tanguy Sassolas (CEA LIST).

PhD defended in December 2017: Hamza Rihani, Many-Core Timing Analysis of Real-Time Systems and its Application to an Industrial Processor, Univ. Grenoble Alpes, defended on Dec. 1st 2017. Supervised by Matthieu Moy (LIP) and Claire Maiza (Verimag).

PhD defended in December 2017: Denis Becker, Parallel SystemC/TLM Simulation of Hardware Components Described for High-Level Synthesis, Univ. Grenoble Alpes, defended on Dec. 11st 2017. Supervised by Matthieu Moy (LIP) and Jérôme Cornet (STMicroelectronics).

PhD in progress: Amaury Graillat, Génération de code pour un many-core avec des contraintes temps réel fortes, started in Sept. 2015, supervised by Matthieu Moy (LIP) and Pascal Raymond (Verimag).

Phd defended in September 2017: Maroua Maalej "Low cost static analyses for compilers", started in October 2014, advisors : Laure Gonnord and Frédéric Vivien.

HdR: Laure Gonnord, Contributions to program analysis: expressivity and scalability, defended in November 2018.

PhD in progress: Bertrand Simon, Memory aware task graph scheduling, started in Sept. 2015, supervised by Loris Marchal and Frédéric Vivien.

PhD in progress: Changjiang Gou, Communication- and memory-aware task graph scheduling, started in Oct. 2016, supervised by Anne Benoit and Loris Marchal.

PhD in progress: Gilles Moreau, High-performance multifrontal solution of sparse linear systems with multiple right-hand sides, application to the MUMPS solver, started in Dec. 2015, supervised by Jean-Yves L'Excellent and Patrick Amestoy.

PhD defended in July 2017: Aurélien Cavelan, "Resilient and energy-aware scheduling algorithms for large-scale distributed systems", started in September 2014, advisors: Anne Benoit and Yves Robert.

PhD in progress: Changjiang Gou, "Resilient and energy-aware scheduling algorithms for large-scale distributed systems", started in September 2016, funding: China Scholarship Council, advisors: Anne Benoit and 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 defended in September 2017: Oguz Kaya, "High performance parallel tensor computations", started in September 2014, funding: Inria, advisors: Bora Uçar and Yves Robert.

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: Loic Pottier, "Scheduling concurrent applications in the presence of failures", started in September 2015, advisors: Anne Benoit and Yves Robert.

PhD in progress: Issam Rais, "Multi-criteria scheduling for high-performance computing", started in November 2015, advisors: Anne Benoit, Laurent Lefèvre (LIP, ENS Lyon, Avalon team), and Anne-Cécile Orgerie (IRISA, Myriads team).

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, advisors: Frédéric Vivien and Bora Uçar.

### 10.2.3. Juries

- Anne Benoit was "rapporteur" in the Jury of Thomas Lambert (U. Bordeaux) in September 2017.
- Yves Robert was "président du jury" for the Habilitation à Diriger des Recherches of Abdou Guermouche and Pierre Ramet at Inria Bordeaux in November 2017.
- Matthieu Moy was examiner in the jury of Cédric BEN AOUN (LIP6, UPMC) in July 2017.
- Laure Gonnord was "rapporteur" in the Jury of Thomas Rubiano (LIPN) in December 2017.
- Laure Gonnord was examiner in the Jury of Jacob Lidman (Chalmers, Sweden) in December 2017.
- Laure Gonnord was examiner in the Jury of Maurica Fonenantsoa (Univ. Réunion) in december 2017.
- Laure Gonnord participated to the selection committee recruiting an assistant professor (MCF) at University of Grenoble, in Spring 2017.
- Laure Gonnord participated to the selection committee recruiting an assistant professor (MCF) at ENS Paris, in Spring 2017.
- Christophe Alias was "membre du jury" and "correcteur" for "concours E3A, épreuve d'Informatique MP" in May 2017.
- Jean-Yves L'Excellent was invited in the PhD jury of Théo Mary in November 2017.
- Yves Robert was "président du jury" for the Habilitation à Diriger des Recherches of Abdou Guermouche and Pierre Ramet at Inria Bordeaux in November 2017.

## **STORM Project-Team**

## **9. Dissemination**

### **9.1. Promoting Scientific Activities**

#### **9.1.1. Scientific Events Organisation**

##### *9.1.1.1. Member of the Organizing Committees*

- Samuel Thibault has organized a workshop panel at HCW'17

#### **9.1.2. Scientific Events Selection**

##### *9.1.2.1. Chair of Conference Program Committees*

- Denis Barthou has been Chair of EuroPar 2017

##### *9.1.2.2. Member of the Conference Program Committees*

- Denis Barthou has been Program Committee member of EuroPar 2017, UCHPC'17, HPCS'17, PACT'17
- Olivier Aumage has been Program Committee member of the Cluster 2017 conference.
- Samuel Thibault has been Program Committee member of P3MA'17, HCW'17, EuroPar 2017, ComPAS'2017.
- Raymond Namyst has been Program Committee member of PPAM'17, SC'17 and EuroMPI/USA'17.

##### *9.1.2.3. Reviewer*

STORM members have conducted wide reviewing activities for the following conferences and workshops: CCGRID, Cluster, EuroMPI, P3MA, PDSEC, HCW, Compas.

#### **9.1.3. Journal**

##### *9.1.3.1. Reviewer - Reviewing Activities*

STORM members have conducted reviewing activities for the following journals: IEEE TPDS, GPAA IJPEDS, PARCO, Scientific Programming, JPDC

#### **9.1.4. Invited Talks**

- Denis Barthou has been invited at the PASC conference mini-symposium titled "From linear algebra to High performance code", 26/06/2017 Lugano
- Denis Barthou has been invited at a Bird of Feather session at SC conference, 2017-11.
- Olivier Aumage has been invited at the special day event 'Runtimes' organized by Group 'Calcul' from CNRS (2017/01/20, PARIS).
- Samuel Thibault has been invited at the "Journées Scientifiques Inria 2017".
- Samuel Thibault has been invited at the HPC Workshop at Total (2017-06-29, Pau).
- Samuel Thibault has been invited at the JLESC workshop (2017-07-20, Urbana-Champaign, US).
- Samuel Thibault has been invited at the "École thématique GPU" (2017-11-09, Grenoble).
- Raymond Namyst has been invited to the Dagstuhl Seminar on Performance Portability in Extreme Scale Computing: Metrics, Challenges, Solutions (2017-10, Schloss Dagstuhl, Germany).

#### **9.1.5. Scientific Expertise**

- Olivier Aumage represents Inria at the OpenMP ARB consortium of standardization for the OpenMP language.

- Samuel Thibault participates to the HiHAT working group.
- Raymond Namyst is member of the Khronos OpenCL advisory panel.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence: Samuel Thibault is responsible for the computer science topic of the first university semester.

Licence: Samuel Thibault is responsible for the creation of the new Licence Pro ADSILLH (Administrateur et Développeur de Systèmes Informatiques sous Licences Libres et Hybrides).

Licence: Samuel Thibault, Introduction to Computer Science, 32HeTD, L1, University of Bordeaux.

Licence: Samuel Thibault, Networking, 80HeTD, L3, University of Bordeaux.

Licence: Samuel Thibault, Tutored project, 5HeTD, L3, University of Bordeaux.

Licence: Marie-Christine Counilh, Introduction to Computer Science, 64HeTD, L1, University of Bordeaux.

Licence: Marie-Christine Counilh, Introduction to C programming, 52HeTD, L1, University of Bordeaux.

Master MIAGE: Marie-Christine Counilh, Object oriented programming in Java, 30HeTD, M1, University of Bordeaux.

Master: Marie-Christine Counilh, Internship supervision, 4HeTD, M2, University of Bordeaux.

Engineering School: Emmanuelle Saillard, Structures arborescentes, 16HeTD, L3, ENSEIRB-MATMECA.

Engineering School: Pierre Huchant, Projet d'algorithmique et de programmation, 30HeTD, L3, ENSEIRB-MATMECA.

Engineering School: Pierre Huchant, Programmation Systeme, 18HeTD, M1, ENSEIRB-MATMECA.

Engineering School: Pierre Huchant, Compilation, 14HeTD, M1, ENSEIRB-MATMECA.

Engineering School: Pierre Huchant, Projet de Compilation, 4HeTD, M1, ENSEIRB-MATMECA.

Engineering School: Olivier Aumage, High Performance Communication Libraries, 20HeTD, M2, ENSEIRB-MATMECA.

Engineering School: Olivier Aumage, Languages and Supports for Parallelism, 14HeTD, M2, ENSEIRB-MATMECA.

Engineering School: Denis Barthou, Parallel architectures, 24HeTD, M2, ENSEIRB-MATMECA,

Engineering School: Denis Barthou, 3D synthesis in real time, 35HeTD, M2, ENSEIRB-MATMECA,

Engineering School: Denis Barthou, Architecture, 50HeTD, L3, ENSEIRB-MATMECA,

Engineering School: Denis Barthou, Tutored project, 25HeTD, M1, ENSEIRB-MATMECA,

Engineering School: Denis Barthou, Compilation, 28HeTD, M1, ENSEIRB-MATMECA,

Engineering School: Denis Barthou, Compilation, 28HeTD, M1, ENSEIRB-MATMECA,

Engineering School: Denis Barthou, C project, 30HeTD, L3, ENSEIRB-MATMECA,

Engineering School: Denis Barthou was responsible till Sept 2017 of a 3rd year specialization in cybersecurity, system and network (M2) at ENSEIRB-MATMECA, certified by the ANSSSI. From Sept 2017, he is responsible of the computer science teaching department of ENSEIRB-MATMECA.

Licence: Pierre-André Wacrenier, Introduction to Computer Science, 64HeTD, L1, University of Bordeaux.

Licence: Pierre-André Wacrenier, System programming, 32HeTD, L3, University of Bordeaux

Master: Pierre-André Wacrenier, Parallel programming, 48HeTD, M1, University of Bordeaux

Master: Pierre-André Wacrenier is responsible for the Master's Degree with specialization in HPC, M2, University of Bordeaux

University of Bordeaux: Raymond Namyst is vice-chair of the computer science training department

Licence: Raymond Namyst, UNIX programming, 54HeTD, L3, University of Bordeaux

Master: Raymond Namyst, Operating Systems, 60HeTD, M1, University of Bordeaux

Master: Raymond Namyst, Parallel programming, 33HeTD, M1, University of Bordeaux

Engineering School: Raymond Namyst, Microprocessors, 24HeTD, L3, ENSEIRB-MATMECA

Engineering School: Raymond Namyst, Parallel programming, 33HeTD, M1, ENSEIRB-MATMECA

### 9.2.2. Supervision

PhD in progress : Pierre Huchant, October 2015, M.-C. Counilh, D.Barthou and R. Namyst

PhD in progress : Adrien Cassagne, October 2017, O. Aumage, D. Barthou, C. Jegou and C. Leroux

PhD in progress : Léo Villeveygoux, October 2017, R. Namyst

PhD in progress : Terry Cojean, October 2014, P.-A. Wacrenier and R. Namyst

PhD in progress : Hugo Brunie, October 2015, J. Jaeger, P. Carribault and D. Barthou

PhD in progress : Raphael Prat, October 2017, R. Namyst

PhD in progress : Arthur Loussert, October 2015, J. Jaeger, P. Carribault and R. Namyst

PhD: Christopher Haine, January 2014-June 2017, O. Aumage and D. Barthou

PhD: Marc Sergent, Passage à l'échelle d'un support d'exécution à base de tâches pour l'algèbre linéaire dense, October 2014-January 2017, O. Aumage, S. Thibault and R. Namyst

PhD: Suraj Kumar, Scheduling of Dense Linear Algebra Kernels on Heterogeneous Resources, Université de Bordeaux, April 2017, E. Agullo, O. Beaumont, L. Eyraud, S. Thibault

### 9.2.3. Juries

Denis Barthou has participated to the following PhD/HDR juries

Nabil Hallou, PhD, U.Rennes, dec. 2017 (reviewer)

Abdou Guermouche, HDR, U. Bordeaux, dec. 2017 (member)

Raymond Namyst has participated to the following PhD/HDR committees:

- Sébastien Gougéaud, PhD, U. Versailles Saint-Quentin, may 2017 (reviewer)
- Yunsong Wang, PhD, Ecole Polytechnique, dec. 2017 (reviewer)
- Pierre Ramet, HDR, U. Bordeaux, dec. 2017 (member)

## 9.3. Popularization

- Séminaire Inria Bordeaux Sud-Ouest, Unithé ou Café, septembre 2017 sur la programmation parallèle (D. Barthou)
- Fête de la Science à l'Inria Bordeaux Sud-Ouest, ateliers Datagramme et Digit'elles, octobre 2017 (E. Saillard)
- Fête de la Science, ateliers Datagramme et Sciences Manuelles du Numérique, octobre 2017 (Y. Khorsi et C. Salingue)
- Printemps de la Mixité, atelier Datagramme, avril 2017 (C. Salingue)
- J'ai un bug, qu'est-ce que je peux faire ?, Mars 2017 (S. Thibault)
- Mon code en 180 secondes: StarPU+KStar, Journées SED Bordeaux, October 2017 (O. Aumage)



## TADaaM Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. General Chair, Scientific Chair

Guillaume AUPY was the technical program vice-chair of SC'17.

#### 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

- Guillaume AUPY was the Parallel and Distributed algorithm area co-chair of ICA3PP'17.
- Guillaume AUPY is the chair of the Workshop committee of SC'18.

#### 10.1.2.2. Member of the Conference Program Committees

- Brice GOGLIN was a member of the program committee of EuroMPI/USA 2017, HotInterconnect 25, CARLA 2017, and of the Exacomm ISC workshop and COLOC Euro-Par workshop.
- Guillaume AUPY was a member of the program committee of ICPP'17, SC'17, FTS'17.
- Alexandre DENIS was a member of the program committee of CCGrid 2017, HiPC 2017, Com-Pas'2017, CCGrid 2018.
- Guillaume AUPY was the Parallel and Distributed algorithm area co-chair of ICA3PP'17.
- Emmanuel JEANNOT was the Open workshop on data locality workshop co-chair in conjunction with Euro-Par 2017.
- Emmanuel JEANNOT was the Heterogeneity in Computing Workshop (HCW) chair in conjunction with IPDPS 2017.

#### 10.1.2.3. Member of the Conference Program Committees

- Brice GOGLIN was a member of the program committee of EuroMPI/USA 2017, HotInterconnect 25, CARLA 2017, and of the Exacomm ISC workshop and COLOC Euro-Par workshop.
- Guillaume AUPY was a member of the program committee of ICPP'17, SC'17, FTS'17.
- Alexandre DENIS was a member of the program committee of CCGrid 2017, HiPC 2017, Com-Pas'2017, CCGrid 2018.
- Emmanuel JEANNOT was member of the program committee of SBAC-PAD 2017, HiPC 2017, ICPP 2017, Heteropar 2017, IPDPS 2018,
- Guillaume AUPY was the Parallel and Distributed algorithm area co-chair of ICA3PP'17.

#### 10.1.2.4. Member of the Conference Program Committees

- Brice GOGLIN was a member of the program committee of EuroMPI/USA 2017, HotInterconnect 25, CARLA 2017, and of the Exacomm ISC workshop and COLOC Euro-Par workshop.
- Guillaume AUPY was a member of the program committee of ICPP'17, SC'17, FTS'17.
- Alexandre DENIS was a member of the program committee of CCGrid 2017, HiPC 2017, Com-Pas'2017, CCGrid 2018.

- Guillaume MERCIER was a member of the program committee of EuroMPI/USA 2017, HPCS 2017 and CCGrid 2018.

#### 10.1.2.5. Reviewer

- Alexandre DENIS was a reviewer for Cluster 2017.

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

- Guillaume AUPY was an invited editor for the Special Issue of *Concurrency and Computation: Practice and Experience* on data structures and algorithms.
- Emmanuel JEANNOT is associate editor of the International Journal of Parallel, Emergent & Distributed Systems (IJPEDS).

#### 10.1.3.2. Reviewer - Reviewing Activities

- Alexandre DENIS was a reviewer for TPDS and JPDC.
- Guillaume AUPY was a reviewer for TPDS and Optimization Methods and Software.
- Emmanuel JEANNOT was reviewer for TPDS, IJHPCA.

### 10.1.4. Invited Talks

- Brice GOGLIN gave a talk about the structural modeling of next-generation memory architectures at the Fourth Workshop on Programming Abstractions for Data Locality (PADAL'17).
- Guillaume AUPY was invited to talk about I/O scheduling in Argonne National Laboratory.

### 10.1.5. Leadership within the Scientific Community

- Emmanuel JEANNOT, Brice GOGLIN and Pete BECKMAN organized a Birds-of-a-Feather session about *Cross-Layer Allocation and Management of Hardware Resources in Shared Memory Node*. It gathered about 30 people working on various runtime systems, operating systems and applications in the HPC to discuss how to have all these software components collaborate when spawning jobs on hardware resources.
- Guillaume MERCIER is the chairman of the Hardware Topologies Management Working Group of the MPI Forum. This working group was created officially in December by Inria's impulse and has been rallied since by many institutions taking part in the MPI Forum. The goal of this working group is to standardize hardware topologies management mechanisms and abstractions in the MPI standard.
- Cédric LACHAT organized the first "PaMPA day" meeting <sup>0</sup>, at Inria Bordeaux, gathering authors of prominent remeshing software.

### 10.1.6. Scientific Expertise

- Emmanuel JEANNOT is member of the hiring committee for the junior chair of the I-Site E2S of the university of Pau.
- François PELLEGRINI is member of the foresight committee on scientific and technological information (IST) of Institut national de recherche agronomique (INRA).
- François PELLEGRINI is member of the pedagogical committee of the Alienor lawyer's school in Bordeaux.
- François PELLEGRINI was invited by *Organisation Internationale de la Francophonie*, as an international expert on software law and economics, to participate in training sessions for the members of the parliaments of Bénin and Cameroon, regarding the impact of digital technologies on digital sovereignty and national legal systems.

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<sup>0</sup><https://project.inria.fr/pampa/pampa-day/>

- François PELLEGRINI was heard by the Conseil national du numérique (CNNum), on the European directive on free flow of data.
- François PELLEGRINI was heard by the Conseil régional de Nouvelle-Aquitaine, in the context of the definition of their digital roadmap.
- François PELLEGRINI was invited to the thematic seminar on the *social responsibility of algorithms*, organized by the scientific council of *Institut des sciences de l'information et de leurs interactions* (INS2I) of CNRS.

### 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). TADAAM also proposed the creation of a new working group in the MPI Forum, dedicated to hardware topologies management and currently leads this working group. The HSPLIT proposal is currently under early discussions for submission to the forum and eventual inclusion in the MPI standard.

### 10.1.8. Research Administration

Emmanuel JEANNOT is member of the scientific committee of the Labex IRMIA (Université de Strasbourg).

Emmanuel JEANNOT is the head of the young researcher commission of Inria Bordeaux Sud-Ouest in charge of supervising the hiring of the PhDs and post-doc of the center.

## 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, computer architecture, operating systems, parallel programming and high-performance runtime systems, as well as software law and personal data.

Brice GOGLIN participated in the building of the section about fundamentals of computer science in the MOOC *Informatique et Création Numérique* which focuses at bringing basics about computer science to high-school teachers.

### 10.2.2. Supervision

PhD : Jonathan Keller, *La notion d'auteur dans le monde des logiciels*, defended on 21 Jun 2017, Université Paris Nanterre. Co-advisors: Sylvia Preuss-Laussinotte and François Pellegrini.

PhD : Remi Barat, *Équilibrage de charge pour des simulations multi-physiques par partitionnement multi-critères de graphes* (*Load balancing of multi-physics simulations by multi-criteria graph partitioning*), defended on 18 Dec 2017. Advisor: François Pellegrini.

PhD in progress: Nicolas Denoyelle, advanced memory hierarchies and new topologies, started in 2015. Advisor: Brice Goglin and Emmanuel Jeannot.

PhD in progress: Benjamin Lorendeau, new programming models and optimization of Code Saturn, started in 2015. Advisor: Yvan Fournier and Emmanuel Jeannot.

PhD in progress: Hugo Taboada, communication progression in runtime systems, started in 2015. Advisor: Alexandre Denis and Emmanuel Jeannot.

PhD in progress: Adèle Villiermet, topology-aware resource management, started in 2014. Advisor: Emmanuel Jeannot and Guillaume Mercier.

PhD started: Valentin Honoré, Partitioning Strategies for high throughput Applications, started in November 2017. Advisor: Guillaume Aupy and Brice Goglin.

### 10.2.3. Juries

Guillaume MERCIER was a member of the Ph.D defense jury of Fernando Mendonca (supervisor: Denis Trystram, Professor at Grenoble Institute of Technology).

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

- Christopher Haine (University of Bordeaux, President)
- Pedro De Souza Bento Da Silva (University of Lyon, ENS Lyon, Reviewer)

Emmanuel JEANNOT was reviewer of the habilitation thesis of Luiz-Angelo Steffemel (University of Reims)

François PELLEGRINI was reviewer and member of the Ph.D defense jury of Thomas Gonçalves (University of Grenoble-Alpes / CEA. Supervisors: Frédéric Desprez, Jean-François Méhaut and Marc Perache).

## 10.3. Popularization

### 10.3.1. Duties

Guillaume AUPY was in charge of hosting the undergraduate students (L3) from ENS Lyon and later ENS Cachan at Inria Bordeaux-Sud Ouest.

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.

Brice GOGLIN was a member of the *CGenial* contest for science projects in high schools.

François PELLEGRINI is vice-president of université de Bordeaux, in charge of digital issues.

### 10.3.2. Online Content

François PELLEGRINI wrote a tribune in the Binaire blog run by Inria staff and hosted by Le Monde, on the “loyalty of data processing”. See: <http://binaire.blog.lemonde.fr/2017/03/27/les-algos-ni-loyaux-ni-ethiques/>.

### 10.3.3. Teaching and Education

- Brice GOGLIN was involved in the MOOC *Informatique et Création Numérique* which focuses at bringing basics about computer science to high-school teachers. After recording videos, he answered numerous questions on the forum, and during a live hangout about computer architectures and networks. More than 12 000 people registered to the course, and more than 1 200 successfully finished it.
- Brice GOGLIN presented tools for teaching basics of computer science in classes at the teachers’ forum at Cap Sciences.
- François PELLEGRINI participated in the creation of video contents for the MOOC *Innov+*, on the economics of innovation, published on the FUN platform. His contribution concerns the software economy and law. See: <https://www.fun-mooc.fr/courses/course-v1:ubordeaux+28002+session01/about>.
- François PELLEGRINI was offered the chair on digital issues at *Université populaire de Bordeaux*, and gave four lectures on: “The digital revolution”, “Liberties in the digital age”, “Personal data and big data”, “Software law and libre software”. See: <http://www.upbordeaux.fr/Le-numerique>.

### 10.3.4. Talks and Hands-on

- Guillaume AUPY presented problems revolving around High-Performance Computing to High-School students during *Fête de la Science*.
- Guillaume AUPY gave a talk at the seminar *Convergence des Droits et du Numérique* about differences and common grounds between mathematical logics and juridic logics.

- Brice GOGLIN gave several talks about computer architecture, high performance computing, and research careers to general public audience, school students. He also gave several hands-on sessions about basics of algorithmics and computer science.
- François PELLEGRINI gave many talks on liberties in the digital world, digital sovereignty, software law and economy, artificial intelligence for legal practice, etc., in front of various audiences: Cap Sciences, ESI Brussels, Lycée Borda in Pau, FACTS festival on arts & sciences in Bordeaux, Cinéma Utopia, CURIE congress in Marseille, Observatoire de Nice, the Defense Security Cyber summer school in Bordeaux, the Réseau Cepage of CNRS Aquitaine, etc.

#### ***10.3.5. Popularizing inside Inria***

Guillaume AUPY presented problems revolving around High-Performance Computing during the seminar *Unithé ou Café*.

## ASCOLA Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Organizing Committees

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

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

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

#### 10.1.2.2. Member of the Conference Program Committees

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

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

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

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

#### 10.1.3.2. Reviewer - Reviewing Activities

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

#### 10.1.4. Invited Talks

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

#### 10.1.5. Scientific Expertise

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

#### 10.1.6. Research Administration

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

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Supervision

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

### 10.2.2. Juries

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



## **DIVERSE Project-Team**

# **10. Dissemination**

## **10.1. Promoting Scientific Activities**

### ***10.1.1. Scientific Events Organisation***

#### *10.1.1.1. General Chair, Scientific Chair*

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

#### *10.1.1.2. Member of the Organizing Committees*

Arnaud Blouin:

- Publicity co-chair, EICS’17, 2017

Mathieu Acher:

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

### ***10.1.2. Scientific Events Selection***

#### *10.1.2.1. Member of the Conference Program Committees*

Mathieu Acher:

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

Olivier Barais:

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

Benoit Baudry:

- PC member ICSE 2017
- PC member ASE 2017

Arnaud Blouin:

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

Benoit Combemale:

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

Jean-Marc Jézéquel:

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

Johann Bourcier:

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

#### 10.1.2.2. Reviewer

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

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

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

Benoit Baudry:

- SOSYM
- STVR

Benoit Combemale:

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

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

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

#### 10.1.3.2. Reviewer - Reviewing Activities

Arnaud Blouin: JSS, Ingénierie des Systèmes d'Information

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

### 10.1.4. Invited Talks

Benoit Baudry:

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

Benoit Combemale:

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

### **10.1.5. Leadership within the Scientific Community**

Benoit Baudry:

- Steering committee member for the ACM/IEEE MODELS conference

Benoit Combemale:

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

Arnaud Blouin:

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

### **10.1.6. Scientific Expertise**

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

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

### **10.1.7. Research Administration**

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

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

## **10.2. Teaching - Supervision - Juries**

### **10.2.1. Teaching**

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

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

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

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

### 10.2.2. Supervision

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

### 10.2.3. Juries

#### 10.2.3.1. Benoit Baudry

was in the examination committee of the following PhD thesis:

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

### 10.2.3.2. Olivier Barais

was in the examination committee of the following HDR:

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

### 10.2.3.3. Benoit Combemale

was in the examination committee of the following PhD thesis:

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

## 10.3. Popularization

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

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

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

## FOCUS Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. General Chair, Scientific Chair

I. Lanese: Scientific coordinator of the International Training School on Reversible Computation (28-31/8/2017, Torun, Poland), organized by the COST Action IC1405 on Reversible Computation - Extending Horizons of Computing

##### 9.1.1.2. Member of the Organizing Committees (conferences and schools)

S. Giallorenzo: Publicity Chair for 1st Conference on Microservices 2017 (Microservices 2017)

I. Lanese: Publicity Chair for 12th International Federated Conference on Distributed Computing Techniques (DisCoTec 2017)

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Member of the Conference Program Committees

M. Bravetti: 15th International Conference on Software Engineering and Formal Methods (SEFM 2017); 2017 IEEE International Conference on Big Data (IEEE BigData 2017); 29th IFIP International Conference on Testing Software and Systems (ICTSS 2017).

U. Dal Lago: 26th Annual Conference of the European Association for Computer Science Logic (CSL 2017); 2nd International Conference on Formal Structures for Computation and Deduction (FSCD 2017).

S. Giallorenzo: 32nd Annual ACM/SIGAPP Symposium On Applied Computing (SAC 2017)

I. Lanese: 14th International Conference on Formal Aspects of Component Software (FACS 2017); 9th Conference on Reversible Computation (RC 2017); 10th Interaction and Concurrency Experience (ICE 2017).

S. Martini: 14th Annual Conference on Theory and Applications of Models of Computation (TAMC 2017); Fourth International Conference on History and Philosophy of Computing (HAPOC 2017); DIDAMATICA - Informatica per la Didattica (DIDAMATICA 2017).

D. Sangiorgi: 11th edition A.P. Ershov Informatics Conference (PSI Conference Series); 11th Int. Conference on Language and Automata Theory and Applications (LATA); 28th International Conference on Concurrency Theory (CONCUR 2017); 18th Italian Conference on Theoretical Computer Science (ICTCS 2017); 45th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL).

G. Zavattaro: 5th International Workshop on Foundations of Coordination Languages and Self-Adaptive Systems (FOCLASA 2017), Trento, Italy, 6–10 September, 2017; 6th European Conference on Service-oriented and Cloud Computing (ESOCC'17), Oslo, Norway, 27–29 September, 2017; 28th International Conference on Concurrency Theory (CONCUR'17), Berlin, Germany, 5–8 September 2017.

##### 9.1.2.2. Member of the Editorial Boards

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

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.

### 9.1.3. Invited Talks

U. Dal Lago: lecturer at the International School “A Brief Introduction to Probabilistic and Quantum Programming”, Universidade do Minho.

I. Lanese: lecturer at the International Training School on Reversible Computation (28-31/8/2017, Torun, Poland), organized by the COST Action IC1405 on Reversible Computation - Extending Horizons of Computing

D. Sangiorgi: invited talk at the event “Celebrating 20 years of IRAFS (The International Research Area on Foundations of the Sciences)”, Pontifical Lateran University, Rome.

G. Zavattaro: Invited talk at ‘15th International Workshop on Foundations of Coordination Languages and Self-Adaptative Systems (FOCLASA’17)’.

### 9.1.4. 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 Executive Board of EQANIE (European Quality Assurance Network for Informatics Education); he has been nominated vice-president, starting 1 January 2018.

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.

S. Martini is a member of the Board of CINI (Italian National Interuniversity Consortium for Informatics), designated by the Ministry for Semplificazione e Pubblica Amministrazione, from 2015.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Mario Bravetti
  - Master: “Linguaggi, Compilatori e Modelli Computazionali”, 120 hours, 1st year, University of Bologna, Italy.
- Ugo Dal Lago
  - Undergraduate: “Introduction to Programming in Python”, 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”, 36 Hours, 2nd 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.
- Saverio Giallorenzo
  - Undergraduate: “Laboratorio di Operating Systems”, 40 hours, 2nd year, University of Bologna, Italy.
- Ivan Lanese
  - Undergraduate: “Architettura degli Elaboratori”, 56 hours, 1st year, University of Bologna, Italy.

Master: “Ingegneria del Software Orientata ai Servizi”, 22 hours, 2nd 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
  - Undergraduate: “Introduction to programming in Python”, 78 hours, 1st year, University of Bologna, Italy.
  - Undergraduate: “Programming in Python”, 72 hours, 1st year, University of Bologna, Italy.
  - Undergraduate: “Computer abilities for biologists”, 8 hours, 1st year, University of Bologna, Italy.
- Davide Sangiorgi
  - Undergraduate: “Operating Systems”, 110 hours, 2nd year, University of Bologna, Italy.
- Gianluigi Zavattaro
  - Undergraduate: “Computer Architectures”, 60 hours, 1st year, University of Bologna, Italy
  - Undergraduate: “Algoritmi e strutture dati”, 60 hours, 2nd year, University of Bologna, Italy

### 9.2.2. Supervision

PhD thesis completed in 2016:

- Abel Garcia Celestrin, “Analysis of Cloud Computing Systems”. Supervisor C. Laneve.
- Vincenzo Mastandrea, “Deadlock analysis in ASP”. Supervisors: Cosimo Laneve and Ludovic Henrio (CNRS Sophia Antipolis).
- Valeria Vignudelli, “Behavioral Equivalences for Higher-Order Languages with Probabilities”. Supervisor D. Sangiorgi.

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

- Raphaele Crubillé, October 2015, “Bisimulation Metrics and Probabilistic Lambda Calculi”, Université Denis Diderot and University of Bologna. Supervisors Thomas Ehrhard and 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.
- Francesco Gavazzo, October 2015, “Coinductive Techniques for Effectful Lambda Calculi”. Supervisors U. Dal Lago and D. Sangiorgi.
- Michael Lodi, January 2017, “Growth Mindset and Computational Thinking”. Supervisor: S. Martini.
- Tong Liu, November 2015, “Constraint based languages for Software Defined Networks”. Supervisor: Maurizio Gabbrielli.
- Stefano Pio Zingaro, November 2016, “High level languages for Internet of Things applications”. Supervisors: Maurizio Gabbrielli and Ivan Lanese.

### 9.2.3. Juries

M. Bravetti has been member of the PhD jury of Federica Panarotto, University of Verona, Italy, May 2017. U. Dal Lago has been member of the PhD jury of Pierre Vial, Université Denis-Diderot, December 2017. D. Hirschhoff has been member of the PhD evaluation committee for Yannick Zakowski, ENS Rennes, December 2017.



### 9.3. 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>;
- S. Martini has given various talks at institutes and workshops on the teaching methods for Computer Science, including a talk on “Educare all’informatica nella scuola?”, working day on “La cultura informatica come fattore di sviluppo” Roma, Camera dei Deputati, December 2017.
- S. Martini is coordinator of some initiatives for the ‘Hour of Code’ (see e.g., <http://www.programmailfuturo.it>). M. Lodi is also involved.
- M. Lodi is in charge of preparing material “unplugged” to teach the principles of computational thinking in elementary schools.
- M. Lodi has been involved in meetings aimed at forming teachers of elementary and high schools in the Bologna province. These include a 15-hour course “Coding e robotica: tecnologie e metodologie per una didattica integrata nella scuola secondaria di I grado”, and a 12-hour course “Scratch avanzato: funzionalità e applicazione alla didattica”, both organised by Fondazione Golinelli (Bologna).
- M. Lodi has given talks on computational thinking and programming languages for teaching computer science to children, including: “Coding - Che cosa è e perché?” and “Coding con Scratch”, at Mathesis Piacenza; “CoderDojo: Pensiero computazionale e informatica creativa... anche a scuola?”, Convention Dienne; introduction to computer science for high school students, as part of an event of introduction to management (“Giardino delle imprese”), Fondazione Golinelli, Bologna; “L’illusione del coding” and “TeacherDojo”, at the contest “CoderDojo Coolest Projects Milano”, Milan; “Ragazze, siate coraggiose: la vostra intelligenza può crescere (ma il “coding” non basta!)”, at “Festival della Cultura Tecnica 2017”, Bologna; a talk and youtube video “Quattro domande sul pensiero computazionale” (<https://www.youtube.com/watch?v=ANlwOckhcVU>).
- M. Lodi has been member of the evaluation commission for the awards “Programma le Regole”, set by Italian Ministry of Education and Research (MIUR) and “Programma il Futuro”.

D. Hirschhoff takes part in several popularization activities in schools, in Lyon (association “Maths en Jeans”).

#### 9.3.1. Other duties

S. Martini is Head of the Department of Computer Science and Engineering, University of Bologna, for the term 2015-2018.

G. Zavattaro is coordinator of undergraduate studies at the Department of Computer Science and Engineering, University of Bologna (Informatica per il Management).

## INDES Project-Team

## 7. Dissemination

### 7.1. Promoting Scientific Activities

#### 7.1.1. Scientific Events Organisation

##### 7.1.1.1. General Chair, Scientific Chair

- Iliaria Castellani was the co-chair (together with Pedro D'Argenio, Mohammad Reza Mousavi and Ana Sokolova) of the workshop "Open Problems in Concurrency Theory 2017" (OPCT'17), which was held in the Institute of Science and Technology Austria (IST Austria), from June 26 to June 29. <http://opct2017.famaf.unc.edu.ar/Home.html>
- Iliaria Castellani was the co-chair (together with Mohammad Reza Mousavi) of the workshop TRENDS 2017, which took place in Berlin on September 9, in association with the CONCUR 2017 conference. <https://concurrency-theory.org/events/workshops/trends>

##### 7.1.1.2. Member of the Organizing Committees

- Tamara Rezk was member of the Organizing Committees of the conference Euro Security and Privacy 2017 and the workshop Secure Compilation Meeting at POPL 2017. She also is a member of the Steering Committee of the POST conference.
- Manuel Serrano is a member of the Steering Committee for the Trends in Functional Programming conference and the Programming conference.
- Nataliia Bielova was a member of the Organizing Committee of the Dagstuhl Seminar on Online Privacy and Web Transparency. <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=17162>

#### 7.1.2. Scientific Events Selection

##### 7.1.2.1. Chair of Conference Program Committees

- Nataliia Bielova was the PC co-chair (together with Marco Gaboardi) of the ACM workshop "Workshop on Programming Languages and Analysis for Security" (PLAS 2017), which took place in Dallas (USA) on 30 October 2017. <http://plas2017.cse.buffalo.edu/>

##### 7.1.2.2. Member of the Conference Program Committees

- Iliaria Castellani served in the Program Committees of the conference TTCS'17 and of the workshops PLACES'17 and EXPRESS/SOS'17.
- Tamara Rezk served in the Program Committees of SecDev, Sec@SAC, ESSoS, HotSpot@Etaps.
- Manuel Serrano served the ProWeb'17 program committee.
- Nataliia Bielova served in the Program Committees of CLaw'17, MMM-ACNS'17, ProWeb'17, FCS'17, IEEE SecDev'17, IEEE CSF'17, USENIX Security Poster session, APVP'17.

##### 7.1.2.3. Reviewer

- The team members have been reviewers for the following conferences and workshops: TTCS'17, PLACES'17, EXPRESS/SOS'17, SecDev, Sec@SAC, ESSoS, HotSpot@Etaps, ProWeb'17, CLaw'17, MMM-ACNS'17, ProWeb'17, FCS'17, IEEE SecDev'17, IEEE CSF'17, USENIX Security Poster session, APVP'17.

#### 7.1.3. Journal

##### 7.1.3.1. Member of the Editorial Boards

- Iliaria Castellani is a member of the editorial board of *Technique et Science Informatiques*.

- Ilaria 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 2014 and TRENDS 2015), J. Log. Algebr. Meth. Program., vol. 87, 2017. <https://doi.org/10.1016/j.jlamp.2017.01.002>.
- Tamara Rezk is a member of the editorial board of *Interstices*.

#### 7.1.3.2. Reviewer - Reviewing Activities

- The team members have been reviewers for the following journals: JLAMP, LMCS, ACM TOIT, ACM Toplas, ACM TOPS.

#### 7.1.4. Invited Talks

- Tamara Rezk was an invited speaker at ETH Zurich in January, at GT-Verif (during the days of the meeting Gdr Sécurité) in May, and at the Journées Scientifiques Inria in June.
- Manuel Serrano gave a keynote talk on Web Programming at the Splash META'17 workshop in September <https://2017.splashcon.org/track/meta-2017>.
- Nataliia Bielova was an invited speaker at DGCCRF in March, at SySoSec seminar (Rennes) in May, at Higher School of Economics (Moscow) in October, and at DNU and KPI universities (Ukraine) in November.

#### 7.1.5. Leadership within the Scientific Community

- Ilaria Castellani is the chair of the IFIP TC1 WG 1.8 on Concurrency Theory since June 2014.
- Ilaria Castellani is a Management Committee member of the COST Action IC1405 on Reversible Computation (November 2014-November 2018).

#### 7.1.6. Scientific Expertise

- Tamara Rezk was an expert for reviewing projects for the National Center of Science and Technology Agency (Kazakhstan) and the CMU Portugal Program in collaboration with Carnegie Mellon University.
- Nataliia Bielova was an expert for reviewing projects for the Data Transparency Lab (DTL).

#### 7.1.7. Research Administration

- Manuel Serrano is the "Délégué scientifique" (head of research) of the Inria Sophia Antipolis Méditerranée research center. He is member of the Inria Evaluation Committee.
- Nataliia Bielova is a member of "Comité du Suivi Doctoral (CSD)" (Supervision of PhD students) of the Inria Sophia Antipolis Méditerranée research center.
- Ilaria 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".
- Tamara Rezk is a member of the "Commission de Développement Technologique (CDT)" of the Inria Sophia Antipolis Méditerranée research center.

## 7.2. Teaching - Supervision - Juries

### 7.2.1. 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

Master : Tamara Rezk, Security of Web Applications, 18ETD, niveau M2, University of Pierre et Marie Curie, France

Master : Nataliia Bielova, Security of Web Applications, 18ETD, niveau M2, University of Pierre et Marie Curie, France

### 7.2.2. Supervision

PhD in progress: Dolière Francis Somé, Security and Privacy in Web Applications, 1/11/2015, Nataliia Bielova and Tamara Rezk

PhD in progress: Mohamad Ellaz, The DDH Assumption, 1/12/2017, Benjamin Gregoire and Tamara Rezk

PhD in progress: Colin Vidal, *Programmation Web réactive*, University of Nice, 1/07/2015, Manuel Serrano and Gérard Berry.

### 7.2.3. Juries

- Tamara Rezk was a member of the PhD jury of Zeineb Zhioua, Eurecom.
- Manuel Serrano was a member of the PhD jury of Gabriel Radanne, University Denis Diderot.
- Nataliia Bielova was a member of the PhD jury of Pierre Laperdrix, INSA Rennes.

## 7.3. Popularization

Tamara Rezk and Nataliia Bielova were contributors to the Security White Report of Inria to provide an overview of the research in the area of IoT security and Web Tracking technologies carried out by Inria teams.

Nataliia Bielova has presented a joint work with Privatics team at the EU Parliament meeting dedicated to the analysis of the new EU ePrivacy Regulation in June 2017. <https://www.inria.fr/en/centre/sophia/news/nataliia-bielova-at-the-european-parliament>.

Nataliia Bielova gave a general audience talk on Web Tracking technologies and protection mechanisms for Web users at Carnegie-Mellon University (remotely) and SKEMA Business school in October and at Cafe-techno organised by Inria in November.

## PHOENIX Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. Member of the Organizing Committees

Hélène Sauzéon & Bernard N’Kaoua, in cooperation with E. Morales & B. JMcFadyen, co-organized the Summer school 2017 of Alliance Bordeaux-Laval: “Mobility in urban environment: a systemic approach centered on the person and his/her environment”, 3-5 july 2017 at University of Laval (Québec, Canada).

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Member of the Conference Program Committees

Charles Consel was member of the following Program Committees:

- ICSE 2018 SEIS Track (Software Engineering in Society)
- 3rd IEEE International Conference on Collaboration and Internet Computing
- International Workshop on Pervasive Systems Integration (PerSysT 2018)
- 2018 IEEE International Conference on Cloud Computing (CLOUD 2018)

##### 9.1.2.2. Reviewer

Hélène Sauzéon served as a reviewer for the ACM CHI Conference on Human Factors in Computing Systems 2018.

#### 9.1.3. Journal

##### 9.1.3.1. Reviewer - Reviewing Activities

Hélène Sauzéon served as a reviewer for the following journals: British Journal of Psychology , Gerontology, Journal of Cognitive Psychology, PlosOne, Memory & Cognition, Aging, Neuropsychology & Cognition.

#### 9.1.4. Invited Talks

Charles Consel was invited to give talks in the following contexts:

- University of Reading
- University of Toronto
- University of Illinois at Urbana-Champaign
- University of Indiana
- Digital Silver Forum on November 28 in Helsinki.

#### 9.1.5. Scientific Expertise

Hélène Sauzéon participated as a scientific expert for:

- National call for proposals: IRSEP call “Autism and Technology”, 2017
- Recruiting committees for:
  - Lecturer on Psychology et Ergonomics, Toulouse 2 University, 2017
  - Young researchers, Inria Bordeaux, since 2015
- The scientific committee of “Expertise center Calyxis for domestic risks” (Niort, France), working on R&D of technologies for preventing everyday accidents, thru collaboration programs between public labs and private companies.

### 9.1.6. Research Administration

Hélène Sauzéon has been a member of the Committee launching a new institute of advanced studies at the University of Bordeaux since 2016. In this context she participated at the design of this institute, leveraging his expertise in cognitive sciences and interdisciplinary research at Inria Bordeaux. Indeed, the aim of the institute is fostering interdisciplinary research, innovation, and creativity, by providing adequate financial support, educative and participative resources to researchers on the Bordeaux campus.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Master (M2) : Charles Consel, “Advanced topics — Technology surveys”, 17h, Bordeaux INP, France
- Licence (L2): Hélène Sauzéon, “Modeling cognitive functions”, 24h, University of Bordeaux, France.
- Licence (L3): Hélène Sauzéon, “Handicap, Executive functions, Cognitive neuropsychology”, 12h, University of Bordeaux, France.
- Master (M1): Hélène Sauzéon, “Cognitive psychology, Aging, Human factors”, 30h, University of Bordeaux, France.
- Master (M2): Hélène Sauzéon, “Handicap and assistive technology, Human factors and reliability of complex systems”, 30h, University of Bordeaux, France.
- Master (M2): Hélène Sauzéon, “Neuropsychology: Evaluation, Language-related models and syndromes, Executive functions and syndromes”, 30h, University of Bordeaux, France.
- Master (M2): Hélène Sauzéon, “Neuropsychology: Language-related models, Aging”, 9h, University of Bordeaux, France.
- Master (M2) : Nic Volanschi, “Advanced topics — Technology surveys”, 17h, Bordeaux INP, France
- Licence (L3) : Nic Volanschi, “Introduction to imperative programming”, 24h, Bordeaux INP, France
- Master (M2) : Antoine Riché, “Software Engineering for Smart Spaces”, 8h, Bordeaux INP, France
- Licence (L3) : Cécile Mazon, “Outils pour les enfants avec troubles cognitifs et apports de la psychologie cognitive”, 6h, École d’Ergothérapie, CHU Bordeaux, France
- Licence (L3) : Cécile Mazon, “École inclusive et Technologies Numériques : Quels solutions pour les enfants avec troubles cognitifs ?”, 8h, École d’Ergothérapie, CHU Bordeaux, France
- Licence (L2) : Cécile Mazon, “Handicap cognitif et Technologies d’assistance à la vie quotidienne”, 8h, École d’Ergothérapie, CHU Bordeaux, France
- Licence (L2) : Bernard Serpette, “Functional Programming”, 35h, Université de Bordeaux, France.

#### E-learning

MOOC: Hélène Sauzéon and Pascal Guitton, “Digital Accessibility”, open for unrestricted attendance, on the FUN national platform, supported by the Inria Learning Lab:

- 1st session in november 2016: about 3800 registered students from 60 different countries
- 2nd session in june 2017: about 1900 registered students

The MOOC contents is still currently available on “Canal U”.

### 9.2.2. Supervision

PhD : Adrien Carteron, “An event-based approach to the development of home assistance services for various stakeholders”, University of Bordeaux, defended on December 22nd, 2017, co-directed by Charles Consel and Nic Volanschi.

PhD in progress : Cécile Mazon, “Personalization and evaluation of a digital assistant for school inclusion of college students with autism and/or intellectual disability”, University of Bordeaux, started in September 2016, co-directed by Hélène Sauzéon and Charles Consel.

PhD in progress: Antoine Riché, “Architectures of assistive services based on software sensors”, started in October 2016, directed by Charles Consel.

PhD in progress: Rafik Belloum, “A methodology for developing assistive services”, started in 2016, directed by Charles Consel.

PhD in progress: Audrey Landuran, “Design, adaptation and validation of digital tools for people with intellectual disabilities”, started in 2016, directed by Bernard N’Kaoua.

PhD in progress: P.A. Cinquin, “Conception et validation d’un lecteur accessible aux personnes avec troubles cognitifs pour un système d’enseignement numérique”, started in 2016, co-directed by Hélène Sauzéon and Pascal Guitton.

PhD in progress: A. Delmas, “Conception et validation d’un site internet interactif sur l’asthme à visée éducative pour les enfants avec asthme”, started in 2015, co-directed by Hélène Sauzéon and Pierre-Yves Oudeyer.

### 9.2.3. *Juries*

Charles Consel was member of the thesis committee for Tizneem Jiancaro, for her thesis entitled “Technology, Design and Dementia: Design approaches, implications and considerations for an emerging field”. Supervisor: Alex Mihailidis, Ph.D P.Eng. Scientific Director AGE-WELL Network of Centres of Excellence, University of Toronto.

Hélène Sauzéon was member of the thesis committee for Castor Naomie, who performed her PhD in the Lab CHART-LUTIN (Paris 8 University).

Charles Consel and Nic Volanschi were members of the thesis committee for Adrien Carteron (as co-supervisors), for his thesis in Computer Science called “An event-based approach to the development of home assistance services for various stakeholders”, University of Bordeaux, on December 22nd 2017.

## 9.3. Popularization

Nic Volanschi participated on October 12th to the “Science fest” at Inria Bordeaux, where he gave 3 workshop sessions on “Manual digital sciences” for children aged 11 to 15. These workshop sessions were aimed to communicate basic notions of computer science to young students by using puzzles and games.

Antoine Riché and Nic Volanschi presented, to a professional audience coming from various digital-related industries, some of the technologies developed in the team, at the Inria-Industry Meeting on October 17th-18th in Paris centered on “Data and their applications”.

Cécile Mazon participated to the following popularization events:

- “1er Salon du livre et du numérique pour les dys”, on 3rd may 2017. Representing the research center jointly with P.-A. Cinquin (Potioc team); presenting and demonstrating the Collège+ app for iPad.
- “PubHD Bordeaux”, on 24th october 2017. Event consisting in presenting her PhD work “Technologies pour la scolarisation des collégiens avec TSA” without slides nor scientific jargon.
- Guest of the radio show “Que cherchent-ils”, on RCF Bordeaux. 25 minutes for presenting her PhD work around autism and technologies. The show was recorded in december 2017 and will be broadcast in february – march 2018.
- Largely open congress “ITASD”, in july 2017, Valencia, Spain. “Effectiveness and Usability of Technology-based interventions for children and adolescents with ASD: A systematic review of reliability, consistency, durability and generalization related to the effects of interventions”. The abstract is available within the conference proceedings.

## 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 2017, the yearly Smalltalk conference that brings together research and industry <http://www.esug.org/>
- RMoD organized Pharo Days 2017, the yearly Pharo meeting of both industrial and research users
- Serge Demeyer served as organizing chair for the BENEVOL 2017 Workshop <http://ansymore.uantwerpen.be/events/benevol2017>

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- Anne Etien refused to be program chair of SCAM 2017 (International Working Conference on Source Code Analysis & Manipulation) because of financial matter, to keep the money for a PhD student to travel and presents his work
- Anne Etien was chair of the artifact evaluation track of VISSOFT 2017 <http://vissoft17.dcc.uchile.cl/>
- Anne Etien served as chair for IWSST 2017
- Serge Demeyer served as chair for the industrial track of the POEM 2017 International Conference <https://kuleuvencongres.be/poem2017/>

#### 10.1.2.2. Member of the Conference Program Committees

- Marcus Denker: SANER 2017 (23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering)
- Clément Béra: IWSST 2017 (International Workshop on Smalltalk Technologies)
- Nicolas Anquetil SCAM 2017 (International Working Conference on Source Code Analysis & Manipulation)
- Nicolas Anquetil BENEVOL 2017 (BELgian-NEtherlands software eVOLution seminar)
- Anne Etien BENEVOL 2017 (BELgian-NEtherlands software eVOLution seminar)
- Anne Etien SATToSE 2017 (Seminar on Advanced Techniques & Tools for Software Evolution)
- Anne Etien ME 2017 (Workshop on Model Evolution)

#### 10.1.2.3. Reviewer

- Thibault Raffailac: IWSST 2017 (International Workshop on Smalltalk Technologies)
- Thibault Raffailac: ManLang 2017 (formerly PPPJ, Managed Languages and Runtimes)
- Clément Béra: ManLang 2017 (formerly PPPJ, Managed Languages and Runtimes)

### 10.1.3. Journal

#### 10.1.3.1. Reviewer - Reviewing Activities

- Clément Béra: JUCS 2017 (Journal of Universal Computer Science)
- Nicolas Anquetil did Reviews for the following international journals:
  - TSE (IEEE Transactions on Software Engineering)



- TOSEM (ACM Transactions on Software Engineering and Methodology)
- IET Software
- SCICO (Science of Computer Programming)
- JISYS (Journal of Intelligent Systems)
- JUCS (Journal of Universal Computer Science)

#### **10.1.4. Invited Talks**

- Stéphane Ducasse and Guillermo Polito did a keynote presentation in Modularity 2017, hosted within Programming 2017
- Nicolas Anquetil: Friday November, 10 2017, invited talk at LIRMM (Montpellier)

#### **10.1.5. Scientific Expertise**

Nicolas Anquetil: Grant reviewer for NSERC (Natural Sciences and Engineering Research Council of Canada)

#### **10.1.6. Research Administration**

Nicolas Anquetil: GDR/GPL (Groupement de Recherche Génie de la Programmation et du Logiciel), animation of the Rimel group (Rétro-Ingénierie, Maintenance et Evolution des Logiciels)

### **10.2. Teaching - Supervision - Juries**

#### **10.2.1. Teaching**

Licence: Nicolas Anquetil, Graphes et langages, 32h, L2, Univ. Lille 1, IUT-A, France

Licence: Nicolas Anquetil, Conception et programmation objet avancées, 28h, L2, Univ. Lille 1, IUT-A, France

Licence: Nicolas Anquetil, Principes des systèmes d'exploitation, 40h, L2, Univ. Lille 1, IUT-A, France

Licence: Nicolas Anquetil, Conception et développement d'applications mobiles, 30h, L2, Univ. Lille 1, IUT-A, France

Licence: Nicolas Anquetil, Méthodologie de la production d'applications, 33h, L2, Univ. Lille 1, IUT-A, France

Licence: Nicolas Anquetil, Modélisations mathématiques, 14h, L2, Univ. Lille 1, IUT-A, France

Licence: Nicolas Anquetil, Conception et programmation objet, 24h, L2, Univ. Lille 1, IUT-A, France

Licence: Stéphane Ducasse, OOP, 21h Prague technical University

Licence: Anne Etien, Bases de données, 22h, L3, Polytech-Lille, France

Licence: Damien Pollet, Java, data structures and algorithms lecture, 50h, L3, Telecom Lille, France

Licence: Damien Pollet, Java lecture, 20h, L3, Telecom Lille, France

Licence: Damien Pollet, Java project, 20h, L3, Telecom Lille, France

Licence: Damien Pollet, Computer architecture, 10h, L3, Telecom Lille, France

License: Damien Pollet, Developer communities, 35h, L3, Université de Lille, France

Master: Anne Etien, Metamodelisation for Reverse Engineering, 25h, M2, Montpellier, France

Master: Anne Etien, Test et Maintenance, 10h, M2, Polytech-Lille, France

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

Master: Anne Etien, Système d'information objet, 22h, M1, Polytech Lille, France

Master: Anne Etien, Bases de données, 44h, M1, Polytech Lille, France

Master: Anne Etien, Bases de données Avancées, 20h, M1, Polytech-Lille, France

Master: Anne Etien, Qualité logicielle, 8h, M2, University Lille 1, France  
 Master: Clément Béra, Software engineering, 30h, M2, Université de Lille 1, France  
 Master: Damien Pollet, Technologies for information systems, 30h, M1, Telecom Lille, France  
 Master: Damien Pollet, Network algorithms, 30h, M2, Telecom Lille, France  
 Master: Damien Pollet, Software engineering, 6h, M1, Telecom Lille, France  
 Master: Stéphane Ducasse, Meta Programming, 12h, IMT Douai  
 Master: Stéphane Ducasse, Advanced Design, 24h, Catholic University of Lviv.  
 Master: Nicolas Anquetil, Qualité logicielle, 8h, M2, University Lille 1, France  
 Master: Nicolas Anquetil, Visualisation for Reverse Engineering, 6h, M2, Montpellier, France  
 Master: Thibault Raffailac, ACT, 34h, M1, University Lille 1, France  
 Master: Christophe Demarey, Intégration Continue, 4h, M2, GIS2A5, Polytech-Lille, France  
 Master: Christophe Demarey, Intégration Continue, 12h, M2, IAGL, Univ. Lille 1, France  
 PhD: Stéphane Ducasse, Advanced Design, 24h, ENIS, Tunisia

### 10.2.2. Supervision

PhD: Gustavo Santos, *Assessing and Improving Code Transformations to Support Software Evolution*, February 28th, Université Lille 1 (France), Anne Etien, Nicolas Anquetil  
 PhD: Vincent Blondeau, *Test Selection Practices in a Large IT Company*, CIFRE WorldLine, November 8th, Université Lille 1 (France), Anne Etien, Nicolas Anquetil  
 PhD: Marco Naddeo, *A modular Approach of Object initialization for Pharo*, Université de Turin, November 2017, Prof. V. Bono, Stéphane Ducasse  
 PhD: Clément Béra, *Sista: a Metacircular Architecture for Runtime Optimisation Persistence*, 9/2017, Université Lille 1 (France), Marcus Denker, Stéphane Ducasse  
 PhD in progress: Pablo Tesone, *Hot Software Update In Robotics Applications*, IMT Lille-Douai, started in Apr 2016, Luc Fabresse, Stéphane Ducasse  
 PhD in progress: Brice Govin, *Support to Implement a Rejuvenated Software Architecture in Legacy Software* CIFRE Thales, started Jan 2015, Anne Etien, Nicolas Anquetil, Stéphane Ducasse  
 PhD in progress: Jason Lecerf, *Reuse of Code Artifacts for Embedded Systems Through Refactoring*, started Oct 2016, CEA Thierry Goubier, Stéphane Ducasse  
 PhD in progress: Thibault Raffailac, *Languages and System Infrastructure for Interaction*, started 2/11/2015, Shared PhD, S. Huot, Stéphane Ducasse  
 PhD in progress: Julien Delplanque, *Software Engineering Techniques Applied to Databases*, started Oct 2017, Anne Etien, Nicolas Anquetil

### 10.2.3. Juries

Stephane Ducasse: *Augmenting Type Inference with Lightweight Heuristics*, Nevena Lazarevic, University of Bern, Switzerland, 20/06/17.  
 Stephane Ducasse: *Étendre des interpréteurs par détournement, ou comment étendre des interpréteurs sans en modifier le code*, Florent Marchand de Kerchove, Université de Nantes, France. 18/11/16.  
 Serge Demeyer: Davy Landman, PhD thesis, *Reverse Engineering Source Code: Empirical Studies of Limitations and Opportunities*, October 5th 2017, Universiteit van Amsterdam (Netherlands)  
 Serge Demeyer: Robert Minelli, PhD thesis, *Interaction-Aware Development Environments — Recording, Mining, and Leveraging IDE Interactions to Analyze and Support the Development Flow*, November 13th 2017, Università della Svizzera italiana (Switzerland)

Serge Demeyer: Vincent Blondeau, PhD thesis, *Test Selection Habits of Developers in a Large IT Company*, October 8th 2017, Inria Lille - Nord Europe (France)

Anne Etien: Xuan Sang Le, PhD thesis, *Software/FPGA Co-design for Edge-computing: Promoting Object Oriented Design*, May 2017, l'École des Mines de Douai, ENSTA, Brest (France)

Anne Etien: Maroua Hachicha PhD thesis, *Un modèle de prise de décision dynamique basé sur la performance des processus métiers collaboratifs*, April 3rd 2017, Université de Lyon 2 (France)

Anne Etien: Gustavo Santos, PhD thesis, *Assessing and Improving Code Transformations to Support Software Evolution*, February 28th, Université Lille 1 (France)

Anne Etien: Vincent Blondeau, PhD thesis, *Test Selection Practices in a Large IT Company*, November 8th, Université Lille 1 (France)

Marcus Denker: PhD thesis, *Clément Béra, Sista: a Metacircular Architecture for Runtime Optimisation Persistence*, 9/2017, Université Lille 1 (France)

Nicolas Anquetil: Luís Ferreira da Silva, PhD thesis, *A Pattern-Based Approach to Scaffold the IT Infrastructure Design Process*, Dec. 20th, 2017, University Nova de Lisboa, Lisboa (Portugal)

Nicolas Anquetil: Gustavo Santos, PhD thesis, *Assessing and Improving Code Transformations to Support Software Evolution*, February 28th, Université Lille 1 (France)

Nicolas Anquetil: Vincent Blondeau, PhD thesis, *Test Selection Practices in a Large IT Company*, November 8th, Université Lille 1 (France)

### 10.3. Popularization

- Article in Popular Magazine: Clément Béra and Olivier Auverlot. Au coeur de la VM Pharo. In GNU/Linux Magazine, numéro 210, décembre 2017.
- Book: Pharo by Example 5, Square Bracket Associates, 2017 [37].  
<http://books.pharo.org/updated-pharo-by-example/>
- RMOD co-organized and participated at ESUG 2017.  
<http://www.esug.org/wiki/pier/Conferences/2017>
- Multiple public Pharo Sprints in Lille.  
<https://association.pharo.org/events>
- A MOOC for Pharo is online (Stéphane Ducasse).  
<http://mooc.pharo.org>
- Thibault Raffailac: Co-organized the hub at the IUT for the CCC contest.  
<https://informatique.univ-lille1.fr/ccc/2017/contest/>
- Thibault Raffailac: Organizing weekly programming trainings ( 10 students per session).
- Julien Deplanque organized Advent Of Code 2017 for Pharo.  
<https://github.com/juliendelplanque/AdventOfCode2017WithPharo>
- Christophe Demarey gave a Talk at ncrafts about Pharo.  
<http://bordeaux.ncrafts.io>

## **TACOMA Team**

## **9. Dissemination**

### **9.1. Promoting Scientific Activities**

#### **9.1.1. Scientific Events Organisation**

##### *9.1.1.1. Member of the Organizing Committees*

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

#### **9.1.2. Scientific Events Selection**

##### *9.1.2.1. Reviewer*

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

##### *9.1.2.2. Member of the Conference Program Committees*

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

#### **9.1.3. Invited Talks**

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

#### **9.1.4. Leadership within the Scientific Community**

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

#### **9.1.5. Scientific Expertise**

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

#### **9.1.6. Research Administration**

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

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

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

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

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

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

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

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

### 9.2.2. Supervision

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

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

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

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

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

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

### 9.2.3. Juries

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

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

Ikbel Daly, JM Bonnin, PhD referee

## 9.3. Popularization

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

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

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

## AGORA Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. General Chair, Scientific Chair

- Razvan Stanica was general co-chair of the 1st International Workshop on Data Analytics for Mobile Networking, DAMN! 2017, held together with IEEE PerCom in Kona, Hawaii, in March 2017.
- Fabrice Valois was general co-chair of the 2nd French National Conference CoRes 2017 (Rencontres Francophones sur la Conception de Protocoles, l'Evaluation de Performance et l'Expérimentation des Réseaux de Communication), May 2017, Quiberon, France.

#### 10.1.1.2. Member of the Organizing Committees

- Walid Bechkit and Razvan Stanica organized the 1st French National Workshop on Smart Cities Communications and Networking, in Sophia Antipolis, in January 2017.

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Member of the Conference Program Committees

- Walid Bechkit was in the TPC of IEEE ICC and MobiSPC.
- Khaled Boussetta was in the TPC of the following conferences: IEEE CCNC, IEEE GlobeCom, GIIS, IEEE ICC, Med-Hoc-Net, IEEE VTC Fall, IFIP Wireless Days.
- Oana Iova was in the TPC of the following conferences: FailSafe, IEEE GlobalSIP, Grace Hopper Conference, AlgoTel.
- Razvan Stanica was in the TPC of the following conferences: IEEE ICC, IEEE GlobeCom, IEEE CCNC, IEEE WCNC, IEEE PIMRC, IEEE VTC Spring/Fall, IEEE ISC2.
- Fabrice Valois was in the TPC of the following conferences: IEEE GlobeCom, WiSARN, IEEE IWCMC, IEEE PIMRC, IEEE ICT, IEEE ISC.

#### 10.1.2.2. Reviewer

- Walid Bechkit was a reviewer for IEEE IWCMC.
- Oana Iova was a reviewer for the following conferences: IEEE WCNC, IEEE ICC.

### 10.1.3. Journal

#### 10.1.3.1. Reviewer - Reviewing Activities

- Walid Bechkit was a reviewer for IEEE Transactions on Parallel and Distributed Systems.
- Oana Iova was a reviewer for the following journals: ACM Transactions on Sensor Networks, IEEE Access, Elsevier Ad Hoc Networks, Elsevier Future Generation Computer Systems, MDPI Sensors, Springer International Journal of Wireless Information Networks.
- Razvan Stanica was a reviewer for the following journals: IEEE Transactions on Mobile Computing, IEEE Journal on Selected Areas in Communications, IEEE Communications Magazine, IEEE Communications Letters, IEEE Transactions on Intelligent Transportation Systems, Elsevier Computer Networks, Springer Wireless Networks, IEEE Access, IET Intelligent Transport Systems.

### 10.1.4. Invited Talks

- Razvan Stanica was an invited speaker at the School of Informatics at the University of Edinburgh, Scotland, UK (Oct. 2017).

### ***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 awards co-chair for Networking Networking Women (N2Women) since 2016, an ACM SIGMOBILE program whose goal is to foster connections among the under-represented women in computer networking and related research fields.
- Hervé Rivano is member of the steering committee of the ResCom axis of the RSD CNRS GdR.
- Hervé Rivano is a member of the Scientific Council of TUBA Lyon.
- 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).
- Fabrice Valois is in the steering committee of the Fédération d'Information de Lyon (FR 2000 CNRS).

### ***10.1.6. Scientific Expertise***

- Hervé Rivano gave expertise on JORISS international projects.
- Hervé Rivano is member of the Metropole de Lyon [R] Challenge board of experts.
- Hervé Rivano is member of the Scientific Committee of the Digital League Regional Cluster.
- Razvan Stanica was a member in the recruitment committee of an Associate Professor in Computer Science at INSA Lyon.
- Fabrice Valois was a member in the recruitment committee of a Full Professor in Computer Science at INSA Lyon.
- Fabrice Valois was a member in the recruitment committee of an Associate Professor in Computer Science at INSA Lyon.

### ***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 member of the Administration Council of the EquipEx Sense City as representative of Inria.
- Hervé Rivano is member in 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.
- Fabrice Valois was director of the CITI research laboratory of INSA Lyon until Oct. 2017.
- Fabrice Valois is in the steering committee of the SPIE INSA Lyon IoT Chaire.

## **10.2. Teaching - Supervision - Juries**

### ***10.2.1. Teaching***

Licence : Walid Bechkit, Fundamentals of wireless sensor networks, 60h, L2, INSA Lyon.

Licence : Walid Bechkit, IP Networks, 40h, L3, Telecom. Dpt. INSA Lyon.

Licence : Oana Iova, IP Networks, 2h, L3, Telecom. Dpt. INSA Lyon.

Licence : Hervé Rivano, IP Networks, 8h, L3, Telecom. Dpt. INSA Lyon.

Licence : Hervé Rivano, DB, Algorithms and programming, 79h, L1 - L2, INSA Lyon.

Licence : Hervé Rivano, Discovering digital tools, 21h, L1, INSA Lyon.

Licence : Razvan Stanica, Network Programming, 90h, L3, Telecom. Dpt. INSA Lyon.

Licence : Fabrice Valois, IP Networks, 100h, L3, Telecom. Dpt. INSA Lyon.

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

Master : Walid Bechkit, Network architectures, protocols and services, 12h, M1, Telecom. Dpt. INSA Lyon.

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

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

Master : Oana Iova, Network architectures, protocols and services, 20h, M1, INSA Lyon.

Master : Hervé Rivano, Smart Cities, 2h, M1-M2, Master Geography Lyon St Etienne.

Master : Hervé Rivano, Smart Cities, 4h, M2, Polytech Perpignan.

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

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

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

Master : Fabrice Valois, Mobile Networks, 30h, M1, Telecom. Dpt. INSA Lyon.

Master : Fabrice Valois, Wireless Sensor Networks, 6h, M2, University of Grenoble.

MOOC : Hervé Rivano, Smart Cities, 3rd season of the french version and production of the english version.

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.

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 for the coordination of the 1st cycle of INSA Lyon and the DSI administration.

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.

Fabrice Valois is responsible of the networking teaching team in the Telecommunications department at INSA Lyon, coordinating all the courses in the networking domain.

Fabrice Valois and Walid Bechkit are elected members of the Telecommunications Department Council at INSA Lyon.

### 10.2.2. Supervision

PhD in progress : Yosra Bahri Zguira, DTN for IoT, since 05/2015. Advisors: Aref Meddeb (Univ. Sousse, Tunisia), Hervé Rivano.

PhD in progress : Amjed Belkhiri, Optimisation of wireless sensor networks mobility for a better characterization of atmospheric pollution, since 10/2017. Advisors: Walid Bechkit, Hervé Rivano.



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

PhD in progress: Ahmed Boubrima, Optimal deployment of wireless sensor networks for air pollution monitoring, since 10/2015. Advisors: Walid Bechkit, Hervé Rivano.

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

PhD in progress : Alexis Duque, Use of visible light communication in a smart city context, since 10/2015. Advisors: Hervé Rivano, Razvan Stanica.

PhD in progress: Abdul Aziz Mbacke, Data gathering in sensor and passive RFID with energy harvesting for urban infrastructure monitoring, since 10/2016. Advisors: Nathalie Mitton (FUN team), Hervé Rivano.

PhD in progress: Jad Oueis, Self organization in professional mobile radio networks, since 10/2015. Advisors: Razvan Stanica, Fabrice Valois.

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.

### 10.2.3. *Juries*

- Khaled Boussetta was a member in the following PhD defense committees:
  - R. Sorokin, Video Conference based on Enterprise Desktop Grid, Telecom ParisTech, 2017
  - A. Aissioui, The Path towards Future Mobile Service Architectures: from Follow Me Cloud (FMC) to Follow Me edge Cloud (FMeC), University Of Versailles, 2017.
- Hervé Rivano was a reviewer in the following PhD defense committees:
  - V. Toldov, Adaptative MAC layers for interference limited WSN, University of Lille 1, 01/2017.
  - R.B. Messaoud, Towards efficient mobile crowd sensing assignment and uploading schemes, University of La Rochelle, 09/2017.
  - B. Mbarek, Efficient Authentication Approaches for Wireless Sensor Networks, University of Tunis El-Manar, 09/2017.
  - M.A. Messous, UAVs network: Towards an optimal exploration and an efficient computation, University of Burgundy, 10/2017.
  - C. Lopez, Dynamic modeling of traffic and urban freight: toward a combined approach, Ecole Nationale des Travaux Publics d'Etat, 10/2017.
  - C. Dorffer, Informed matrix factorization methods for mobile sensor networks calibration and pollution mapping, University of Littoral Côte d'Opale, 12/2017.
- Hervé Rivano was a reviewer in the following HDR defense committee:
  - N. Chiabaut, Dynamic modeling of multimodal transportation networks, University Claude Bernard Lyon 1, 05/2017.
- Razvan Stanica was a reviewer in the following PhD defense committee:
  - P. Katsikouli, Distributed and Privacy Preserving Algorithms for Mobility Information Processing, University of Edinburgh, 10/2017.
- Razvan Stanica was a member in the following PhD defense committee:
  - C. Razafimandimby, Toward Internet of Heterogeneous Things : Wireless Communication Maintenance and Efficient Data Sharing among Devices, Mines Paris Tech, Inria FUN, Université Lille 1, 10/2017.

- Fabrice Valois was a reviewer in the following PhD defense committees:
  - S. Hamdoun, Adaptive and Efficient Radio Resource Sharing Schemes for Machine Type Communications underlying Cellular Networks, Institut Gaspard Monge, Université Paris-Est, 2017.
  - D. H. Nguyen, Enhancing and improving voice transmission quality over LTE networks: Challenges and Solutions, Télécom Sud Paris, 2017.
- Fabrice Valois was a member in the following PhD defense committee:
  - L. Reynaud, Stratégies de mobilité optimisées pour la tolérances aux perturbations dans les réseaux sans fil, Université de Lyon, 2017.
- Fabrice Valois was a reviewer in the following HDR defense committees:
  - A. Gallais, Contributions to Low Power Listening in Dynamic Internet of Things, I-Cube, Université de Strasbourg, 11/2017.
  - E. Natalizio, Mobility as a primitive to improve communications in wireless network, Heudiasyc, Université Technologique de Compiègne, 11/2017.
- Fabrice Valois was a member in the following HDR defense committee:
  - R. Dhaou, IoT composé de réseaux terrestres et par satellite au service des Smart Cities : mobilité et hétérogénéité, IRIT, INP Toulouse, 2017.

### 10.3. Popularization

- Walid Bechkit participated in the "Rencontres Inria Industrie 2017" - <https://www.youtube.com/watch?v=qKzubSkpvSk>
- Walid Bechkit, Ahmed Boubrima and Hervé Rivano participated in the documentary "Métropole intelligente" projected as part of the 1st edition of "Thematix - Les rencontres de la Métropole Intelligente".
- Walid Bechkit, Ahmed Boubrima and Hervé Rivano participated in the "Forum des interconnectés" - <http://www.interconnectes.com/>
- Hervé Rivano was interviewed by the press about future of IoT 04/17 and the Sense City EquipEx 08/17
- Hervé Rivano was animating the Twitter account of « En direct du Labo » for a week, 06/17
- Hervé Rivano gave a talk on IoT for sensing the environment at the Entretiens Jacques Cartier, Montreal, 10/17.
- Hervé Rivano gave a talk on Smart Cities to a workshop of sustainable urban spaces, Ministère Enseignement Supérieure, Recherche et Innovation, 10/2017

## COATI Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. Member of the Organizing Committees

Whole team

Journées JCALM (May 4-5, 2017) held in Sophia-Antipolis. Topic: Designs.

Christelle Caillouet, David Coudert

“Journées RESCOM 2017” of GDR RSD of CNRS, Sophia Antipolis, France, January 11-13, 2017.

Frédéric Havet

6th STINT meeting, Valgaudemar, France, July 5-7, 2017;

7th STINT meeting, Sophia Antipolis, France, December 4-6, 2017.

Frédéric Havet, Bruce Reed

2nd Cassidian Workshop, Cassis, France, May 14-20, 2017.

Frédéric Giroire, Joanna Moulhierac

GreenDays@Sophia 2017: 8th French workshop on Network Energy efficiency, Université Côte d’Azur, Campus SophiaTech, Sophia Antipolis, June 26-27, 2017.

Bruce Reed

Co-Organizer 2017 Barbados Graph Theory Workshop, Holetown, Barbados, March 24-31, 2017.

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Chair of Conference Program Committees

David Coudert

Scientific Co-Chair of Track 7 “Cloud Computing and Data Center Management” of the 14th International Symposium on Pervasive Systems, Algorithms, and Networks (I-SPAN’17), Exeter, UK, June 21-23, 2017.

##### 9.1.2.2. Member of the Conference Program Committees

David Coudert

AlgoTel’17: Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications, Quiberon, France, May 30-June 2, 2017;

ONDM’17: International Conference on Optical Networking Design and Modeling, Budapest, Hungary, May 15-17, 2017;

IEEE ICC’17: IEEE International Conference on Communications, Paris, France, May 21-25, 2017;

IEEE Globecom’17: IEEE Global Communications Conference, Singapore, December 4-8, 2017.

Frédéric Havet

IX Latin and American Algorithms, Graphs and Optimization Symposium (LAGOS 2017), Marseille, France, September 11-15, 2017;

19th Journées Graphes et Algorithmes (JGA 2017), Bordeaux, France, November 15-17, 2017.

Nicolas Nisse

Member of the Scientific Committee of GRASTA'17, 8th workshop on GRAPh Searching, Theory & Applications, Anogia, Crete, Greece, April 10–13, 2017;

FCT'17: 21st International Symposium on Fundamentals of Computation Theory, Bordeaux, France, September 11-13, 2017.

### 9.1.3. Journal

#### 9.1.3.1. 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.

David Coudert

Discrete Applied Mathematics (Elsevier), Networks (Wiley).

Frédéric Giroire

Journal of Interconnection Networks (World Scientific).

Frédéric Havet

Discrete Mathematics and Theoretical Computer Science.

Bruce Reed

Journal of Graph Theory, Electronic Journal of Combinatorics.

#### 9.1.3.2. Reviewer - Reviewing Activities

Members of COATI have reviewed numerous manuscripts submitted to international journals, including: Algorithmica, Algorithms, Bulletin of the Malaysian Mathematical Sciences Society, Computer Communications, Computer Networks, Computers & Operations Research, Discrete Applied Mathematics, European Journal of Operational Research, IEEE/OSA Journal of Lightwave Technology, Networks, Photonic Network Communications, The Computer Journal, Theoretical Computer Science, IEEE/ACM Transactions on Communications, IEEE/ACM Transactions on Networking, IEEE Transactions on Network and Service Management, etc.

### 9.1.4. Invited Talks

Julien Bensmail

Seminar of the Graphs and Optimisation team, LaBRI, Bordeaux (April 28, 2017): “On augmenting matchings via bounded-length augmentations”.

David Coudert

Seminar of the MAORE team, LIRMM, Montpellier (January 20, 2017): “Design of reliable fixed microwave backhaul networks”;

Joint ACP and GdR RO Summer School on Constraints and Operational Research, Porquerolles, France (September 18-22, 2017): “On the Flinders Hamiltonian Cycle Problem Challenge”;

Seminario del Doctorado en Ingeniera de Sistemas Complejos, Santiago, Chile (November 23, 2017): “On the Flinders Hamiltonian Cycle Problem Challenge”.

Guillaume Ducoffe

Logic seminar, University of Bucharest, Romania (March 2, 2017): “Treewidth vs. Tree-length”;

Scientific seminar, West University of Timisoara, Romania (April 26, 2017): “Revisiting Preferential Attachment with applications to Twitter”;

International Workshop on Graphs, Networks and Digital Humanities, Bucharest, Romania (October 9, 2017): “Revisiting Preferential Attachment with applications to Twitter”.

Frédéric Giroire

Entretiens Jacques Cartier, Concordia University, Montréal, Canada (October 17-18, 2017): “Towards Energy Efficient Networks with SDN and Virtualization”;

SDN Day, IRT SystemX, Palaiseau, France (November 23, 2017): “Approximation algorithms for the Placement of Ordered Service Function Chains”.

Nicolas Nisse

Seminar of the ACRO team, LIF, Marseille (July 10, 2017): “Recovery of disrupted airline operations”.

Luc Hogue, Michel Syska

Action GRAMINEES (GGraph data Mining in Natural, Ecological and Environnemental Sciences), journées Science des Données MaDICS (Masses de Données, Informations et Connaissances en Sciences), Marseille, France (June 23, 2017): “Bibliothèque de fouille de graphe”.

### 9.1.5. Leadership within the Scientific Community

David Coudert

Member of the steering committee of *Pôle ResCom du GDR RSD du CNRS* since 2005, and co-chair since June 2017;

Member of the steering committee of *Rencontres francophones sur les aspects algorithmiques des télécommunications* (AlgoTel).

Frédéric Giroire

Member of the steering committee of *GT Energy of the GDR RSD du CNRS*.

Frédéric Havet

GT Graphes du GDR IM du CNRS;

Journées Graphes et Algorithmes (JGA);

Journées Combinatoire et Algorithmes du Littoral Méditerranéen (JCALM).

### 9.1.6. Scientific Expertise

Jean-Claude Bermond

Expert for DRTT-MESR (Crédit impôt recherche (CIR et agréments)).

David Coudert

Expert for the Future and Emerging Technologies Open (FET-Open) European program (RIA Cut-off September 27, 2017);

Expert for “Haut Conseil de l’évaluation de la recherche et de l’enseignement supérieur” (HCERES).

Frédéric Giroire

Expert for ANR.

Frédéric Havet

Expert for ANR and NSERC.

### 9.1.7. Research Administration

Jean-Claude Bermond

Responsible for the cooperation between Inria and Greece (meeting with the French Embassy in Greece, obtention of join grants and of 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;

Recruiting committee (comité de sélection) University of Lyon.

David Coudert :

President of “Comité de Sélection” SCIENCES / 27-PR-388, Université Nice-Sophia Antipolis, 2017;

Nominated member for Inria at the doctoral school STIC since September 2017;

Member of the “Comité de Suivi Doctoral” of Inria;

Member of the scientific council of Academy RISE (Networks, Information, Digital Society) of UCA<sup>JEDI</sup>.

Frédéric Giroire :

Elected member of I3S laboratory committee since 2012 (reelected in December 2016);

In charge of the internships of stream UbiNet of Master 2 IFI, UNS.

Frédéric Havet :

Responsible of the ComRed Team of I3S.

Joanna Moulhierac

Member of a “Comité de sélection” in Marseille, France, for the 27th section;

Member of the “Conseil de Département Informatique” of IUT Nice.

Nicolas Nisse

Elected member (deputy) of the “Comité de Centre” of Inria Sophia Antipolis.

Michel Syska

Elected member of CPRH (Comité Permanent de Ressources Humaines) University of Nice-Sophia Antipolis;

Recruiting committee (comité de sélection) University of Nice-Sophia Antipolis.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

#### Licence

Julien Bensmail

*Recherche opérationnelle*, 82h ETD, Level L2, IUT Nice Côte d’Azur, UNS;

*Systèmes de gestion de bases de données*, 86h ETD, Level L2, IUT Nice Côte d’Azur, UNS.

Christelle Caillouet

*Object-Oriented Programming*, 60h ETD, Level L1, IUT Nice Côte d’Azur, UNS.

Guillaume Ducoffe

*Introduction Programmation Java*, 9h ETD, Niveau L1, Polytech Nice Sophia.

Nicolas Huin

*Architecture des réseaux*, 21h ETD, Niveau L1, IUT de Nice Côte d'Azur, UNS;

*Programmation répartie*, 21h ETD, Niveau L2, IUT de Nice Côte d'Azur, UNS;

*Compléments d'algorithmique*, 21h ETD, Niveau L2, IUT de Nice Côte d'Azur, UNS.

Nicolas Nisse

*Introduction à l'algorithmique*, 24h ETD, MPSI, Lycée International Valbonne, France.

Joanna Moulierac

*Networks*, 100h ETD, Niveau L1, IUT Nice Côte d'Azur, UNS;

*Algorithmics*, 30h ETD, Niveau L1, IUT Nice Côte d'Azur, UNS;

*Algorithmics*, 30h ETD, Niveau L2, IUT Nice Côte d'Azur, UNS.

Andrea Tomassilli

*Informatique théorique 2*, 24h, Niveau L3, Polytech Nice Sophia.

*Introduction to UNIX and Linux*, 12h, Niveau L3, Polytech Nice Sophia.

Michel Syska

*Operating Systems: Advanced Programming*, 90h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

*Data Structures and Algorithms*, 54h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

*Algorithmics*, 51h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

*Distributed Programming*, 51h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

*Introduction to Algorithms and Complexity*, 30h ETD, Level L3, IUT Nice Côte d'Azur, UNS;

*IT foundations*, 26h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

*Digital culture*, 10h ETD, Level L3, IUT Nice Côte d'Azur, UNS.

## Master

David Coudert

*Algorithms for Telecoms*, 32h ETD, stream UbiNet of Master 2 IFI and Master RIF, UNS;

*Hamiltonian Cycles*, 4h ETD, M2 MDFI, Aix-Marseille University, France.

Frédéric Giroire

*Algorithmics of Telecommunications*, 18h ETD, stream UbiNet of Master 2 IFI, UNS;

*Green Networks*, 18h ETD, stream UbiNet of Master 2 IFI, UNS;

*Introduction to probability and statistics*, 15h ETD, International Master 1, UNS.

Stéphane Pérennes

*Calcul concurrent et distribué en Java*, 60h ETD, Level M1, Miage, Polytech Nice Sophia.

Nicolas Nisse

*Graph Algorithms*, 18h ETD, stream UbiNet of Master 2 IFI and Master RIF, UNS;

*Resolution Methods*, 15h ETD, M1 international, UNS;

*Matching and Graph decompositions*, 4h ETD, M2 MDFI, Aix-Marseille University.

## 9.2.2. Supervision

### 9.2.2.1. Ph.D. theses

PhD: Nicolas Huin, *Energy efficient software defined networks* <https://team.inria.fr/coati/phd-defense-of-nicolas-huin/>, Université Côte d'Azur, September 28, 2017. Co-supervisors: Frédéric Giroire, Dino Lopez (Signet, I3S).

PhD in progress: Fionn McInerney, *Combinatorial Games in Graphs*, since October 2016. Supervisor: Nicolas Nisse.

PhD in progress: William Lochet, *Substructures in digraphs*, since September 2015. Co-supervisors: Frédéric Havet and Stéphan Thomassé (ÉNS Lyon).

PhD in progress: Yelena Yuditsky, School of Computer Science, McGill University. Supervisor: Bruce Reed.

PhD in progress: Andrea Tomassilli, *Diffusion of information on large dynamic graphs*, since October 2016. Supervisors: Stéphane Pérennes and Frédéric Giroire.

PhD in progress: Thibaud Trolliet, *Exploring Trust on Twitter*, since October 2017. Co-supervisors: Arnaud Legout (DIANA) and Frédéric Giroire.

PhD (stopped for reorientation): Steven Roumajon, *Les déterminants de la compétitivité régionale : données microéconomiques et réseaux d'innovation*, from November 2015 until June 2017. Co-supervisors: Patrick Musso (Gredeg) and Frédéric Giroire.

### 9.2.2.2. Internships

Rohit Agarwal

Date: from March 2017 until August 2017

Institution: stream UbiNet of Master 2 IFI, Université Nice-Sophia Antipolis (France)

Supervisors: Frédéric Giroire

Subject: Random graph models for directed social graphs like Twitter

Eleni Batziou

Date: from November 2017 until May 2018

Institution: Master 2, National Technical University of Athens (Greece)

Supervisors: David Coudert

Subject: Enhancing urban mobility with shared on-demand services

Thibaut Blanc

Date: from May 2017 until August 2017

Institution: Licence 3, École Normale Supérieure de Rennes (France)

Co-supervisors: Julien Bensmail, Frédéric Havet

Subject: BMRN-colouring of digraphs

Samir Idwy

Date: from April 2017 until August 2017

Institution: Master 2, Institut National des Postes et Télécommunications (Morocco)

Supervisors: David Coudert

Subject: Transports collectifs personnalisés dans la ville

Lokesh Jain



Date: from June 2017 until August 2017  
 Institution: Master 2, Birla Institute of Technology and Science (India)  
 Context: Google Summer of Code (GSoC) 2017  
 Co-supervisors: David Coudert, Dmitrii Pasechnik (University of Oxford, UK)  
 Subject: Modular decomposition of graphs in **Sagemath**

Marko Oleksiyenko

Date: from March 2017 until August 2017  
 Institution: stream UbiNet of Master 2 IFI, Université Nice-Sophia Antipolis (France)  
 Co-supervisors: David Coudert, Nicolas Nisse  
 Subject: 2-mode itinerary computation

Panagiotis Pylarinos

Date: from November 2016 until May 2017  
 Institution: Master 2, National and Kapodistrian University of Athens (Greece)  
 Supervisors: David Coudert  
 Subject: Inclusion of dynamic ride-sharing in multimodal trip planning

Maria Spyarakou

Date: from June 2017 until August 2017  
 Institution: Master 2, National and Kapodistrian University of Athens (Greece)  
 Context: Google Summer of Code (GSoC) 2017  
 Co-supervisors: David Coudert, Dmitrii Pasechnik (University of Oxford, UK)  
 Subject: Modular decomposition of directed graphs in **Sagemath**

Thibaud Trolliet

Date: from February 2017 until July 2017  
 Institution: Master 2, École Normale Supérieure de Lyon (France)  
 Co-supervisors: Frédéric Giroire, Stéphane Pérennes  
 Subject: Modélisation du graphe des suivis de Twitter

### 9.2.2.3. Last-year internships

Othmane Bensouda Korachi

Date: from November 2017 until December 2017  
 Institution: stream UbiNet of Master 2 IFI, UNS  
 Co-supervisors: Christelle Caillouet, Frédéric Giroire  
 Subject: Maintaining wireless sensor networks using drones and wireless power transfer

Laila Daanoun

Date: from November 2017 until December 2017  
 Institution: stream UbiNet of Master 2 IFI, UNS  
 Co-supervisors: Christelle Caillouet, Frédéric Giroire  
 Subject: Maintaining wireless sensor networks using drones and wireless power transfer

Mohamed Janati Idrissi

Date: from November 2017 until December 2017  
 Institution: stream UbiNet of Master 2 IFI, UNS  
 Co-supervisors: Christelle Caillouet, David Coudert  
 Subject: Mobile target covering for efficient aerial data gathering

Nirmal Vadakke Palangatt

Date: from November 2017 until December 2017

Institution: stream UbiNet of Master 2 IFI, UNS

Co-supervisors: David Coudert, Nicolas Nisse

Subject: Routing in multimodal networks with bicycles

Mykhailo Zima

Date: from November 2017 until December 2017

Institution: stream UbiNet of Master 2 IFI, UNS

Co-supervisors: David Coudert, Nicolas Nisse

Subject: Routing in multimodal networks with bicycles

Weilin Zhou

Date: from November 2017 until December 2017

Institution: stream UbiNet of Master 2 IFI, UNS

Co-supervisors: Frédéric Giroire, Joanna Moulrierac

Subject: Optimization methods for network slicing

### 9.2.3. *Juries*

Jean-Claude Bermond

President of the jury for the 2017 award “Charles Delorme” for the best PhD thesis in graph theory (<http://gtgraphes.labri.fr/pmwiki/pmwiki.php/PrixTheseDelorme/>);

Member of the jury Robertval (<http://prixrobertval.utc.fr/>).

David Coudert :

Referee and member of the PhD jury of Lorenzo Severini, GSSI, L’Aquila, Italy, April 20, 2017;

President of the PhD jury of Guillaume Perez, Université Côte d’Azur, September 29, 2017;

External referee in the PhD thesis monitoring committee of M. Amine Ait-Ouahmed, Université d’Avignon et des Pays de Vaucluse, October 27, 2017;

External referee for authorizing Fen Zhou to enroll in the HDR program, Université d’Avignon et des Pays de Vaucluse, November 2017.

Frédéric Giroire

Member of the PhD jury of Radu Carpa, ÉNS Lyon and Univ. Lyon, October 26, 2017;

Member of the PhD jury of Nicolas Huin, Université Côte d’Azur, September 28, 2017.

Frédéric Havet

Referee and member of the PhD jury of Lucas Pastor, Université Grenoble Alpes, November 23, 2017.

Nicolas Nisse

Member of the PhD jury of Pedro Montealegre, Univ. Orléans, February 28, 2017;

Member of the PhD jury of Sylvain Legay, Univ. Paris Saclay, March 1, 2017;

Referee and member of the PhD jury of Noël Gillet, Université Bordeaux, March 10, 2017;

Referee and member of the PhD jury of Antoine Naudin, Aix-Marseille Université, October 25, 2017.

### 9.2.4. *Teaching responsibilities*

Joanna Moulierac

“Directrice d’études” for the 1st-year students of IUT Nice Côte d’Azur, Département Informatique (since September 2017).

### 9.3. Popularization

Jean-Claude Bermond

Gave a talk “50 years of passion trying to solve delectable problems about graphs and networks” on March 24 during a seminar C@fé ADSTIC organized by the ADSTIC (Doctoral Association of the SophiaTech campus).

Nathann Cohen and David Coudert

Article “**le défi des 1001 graphes**” [61] relating how we addressed (and won) the Flinders Hamiltonian Cycle Project Challenge. Published in **Interstices** on December 12, 2017.

Frédéric Havet

Co-organised the “Village des Sciences” of Vinon-sur-Verdon, France, October 9-14, 2017. Gave many talks and animated several stands during the whole week;

Animated a stand “Mathémagie” at the “Village des Sciences” of Aix-en-Provence, October 8, 2017;

Organised the “Science Tour” at Rians, January 25-28, 2017. Animated several stands during the four days;

Gave the conferences “Beauty in Mathematics”, “Le métier de chercheur”, “La science du ballon de football” to five classes of the International School of Manosque, France, during the “Semaine des Mathématiques”, March 13-19, 2017;

Gave an interactive conference and animated stands about “Becs, pattes et plumes des oiseaux” and “Nids des oiseaux” to four classes at Rians elementary school, France, January 9 and March 23, 2017;

Gave the conference “Élégance en Mathématiques” at Valgaudemar, France, July 6, 2017;

Frédéric Havet, Joanna Moulierac

Supervised the one-week internship of two 3eme schoolboys.

Nicolas Nisse

Co-organized (with “Les petits débrouillards”, see <http://www.lespetitsdebrouillards.org/>) series of animations for a group of schoolboys, Inria Sophia Antipolis, July 20, 2017;

Animated, during “Fête de la Science”, several stands during the “Village des Sciences” at Vinon-sur-Verdon, France, October 10-13, 2017;

Animated, during “Fête de la Science”, several stands in Palais des Congrès de Juan-Les-Pins, October 7-8, 2017;

Realization of series of posters for scientific popularization [62], [63], [64], [65];

Member of MASTIC (Médiation et Animation scientifiques Inria, see <https://project.inria.fr/mastic/>).

Frédéric Havet, Joanna Moulierac, Nicolas Nisse

Involved in the GALEJADE project supported by Fondation Blaise Pascal. The main objective of this project is to develop a series of games for initiating schoolchildren to graphs and algorithms, and to put them in a pedagogical kit and on the web.

## 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 co-chair of 6th International Conference on Complex Networks and Their Applications (Complex Networks 2017)
- Márton Karsai was co-chair of the Computational Social Science: from social contagion to collective behaviour Satellite meeting of the CCS'17 conference.
- Márton Karsai was the co-chair of the Machine Learning in Networks Science Satellite meeting of the NetSci'17 conference
- Éric Fleury, was sponsor-chair of 6th International Conference on Complex Networks and Their Applications (Complex Networks 2017)
- Isabelle Guérin Lassous was general chair of the 14th ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2017).

#### 10.1.1.2. Member of the Organizing Committees

- Éric Guichard was the chair and organiser of the summer school "Cartography and visualisation" <sup>0</sup>.
- Éric Guichard was the scientific organiser of the *LaTeX days: "Édition et typographie numériques, épistémologie"* <sup>0</sup> supported by Enssib and the GUTenberg association <sup>0</sup>.
- Jean-Pierre Chevrot was member of the Organizing Committee of Congress of the International Association for the Study of Child Language (IASCL 2017)

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- Márton Karsai is the Chair of Complex Networks 2017

#### 10.1.2.2. Member of the Conference Program Committees

- Éric Fleury was on the PC of the conference ComplexNet, of the Conference on Complex Networks: From Theory to Interdisciplinary Applications, SensorNet 2017 and CoRes 2016.
- Thomas Begin was on the PC of the 43rd IEEE Conference on Local Computer Networks (LCN).
- Isabelle Guérin Lassous was, in 2017, a member of the program committee of the conferences ACM MSWiM, IEEE ICC and Globecom, and ICNC.
- Márton Karsai was, in 2017, a member of the program committee of the conferences COM-PLNET, NetSciCom - IEEE INFOCOM, DAMN! 2017 - IEEE PerCom, MLNS satellite NetSci'17, NetSci'17, CCS'17, Complex Networks 2017
- Jean-Pierre Chevrot was on the PC of the conference Variation in Language Acquisition 3 (ViLA3), Salzburg, Austria.
- Christophe Crespelle was on the PC of DyNo 2017, 3rd International Workshop on Dynamics in and of Networks, Skopje, Macedonia.

<sup>0</sup><http://barthes.enssib.fr/ECV-2017>

<sup>0</sup><http://barthes.enssib.fr/LaTeX-2017>

<sup>0</sup><https://www.pointtypo.com/journees-latex-edition-typographie-numeriques-epistemologie/>

### 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).
- Philippe Nain is Editor-in-Chief of Performance Evaluation (Elsevier)
- 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.

#### 10.1.4. Invited Talks

- Éric Fleury gave a talk at the workshop "Trajectoires et dynamiques des réseaux : approches quantitatives" granted by the CNRS GDR Analyse de réseaux en SHS. The report made by Marianne Humblet et Pierre Mercklé is available online: <https://arshs.hypotheses.org/529>.
- Éric Fleury gave a talk at the summer school "Cartography and visualisation".
- Éric Fleury gave a talk at MARAMI 2017.
- Éric Guichard gave a talk at the LaTeX days on "Enjeux épistémologiques de l'écriture numérique".
- Éric Guichard gave a talk at the annual Lidilem seminar on "La culture numérique, une autre culture de l'écrit".
- Éric Guichard gave a talk for the IPL Better-Net on "Expériences géographiques".
- Paulo Gonçalves gave a talk at the Thematic Week on "Graphs, Machine Learning and Signal Processing" (McGill's Bellairs Research Institute).
- Paulo Gonçalves gave a talk at the open days of the *Fédération Rhône-Alpes-Auvergne* on "Statistics and neurosciences".
- Isabelle Guérin Lassous gave a talk at CUST and NUST in Pakistan and a seminar at the LIG laboratory on Wi-Fi association.
- Thomas Begin gave a talk at CUST and NUST in Pakistan on the modeling of DPDK-based virtual switches.
- Jean-Pierre Chevrot gave a talk at the University of Indiana at Bloomington "Interfaces of sociolinguistics: Cognition and massive data".
- Jean-Pierre Chevrot gave a keynote talk at the Language and Perception conference, Bern, Switzerland "Sociolinguistic perception: Linguistic knowledge and social categories".
- Jean-Pierre Chevrot gave a talk at the Laboratoire d'Informatique de Grenoble "Acquisition du langage et usages sociolinguistiques : le social, le cognitif et le réseau"
- Márton Karsai was an invited lecturer at RIO 2017 Summer School on Computer Science, University of Rio Cuarto (13-18 February 2017, Rio Cuarto, Argentina)
- Márton Karsai was an invited lecturer at PhD Course on Network Analysis and Applications, IMe'Ra – Aix-Marseille University (9 April 2017, Marseille, France)
- Márton Karsai gave an invited talk on Socioeconomic dependencies of linguistic patterns in Twitter, Inria Almanach seminar (13 November 2017, Paris, France)
- Márton Karsai gave an invited talk on Spatial networks and human mobility, GoPro 2017, ENS Lyon (13 December 2017, Lyon, France)

### 10.1.5. Leadership within the Scientific Community

- Éric Fleury is Co-chair of the Networking group ResCom of the CNRS GDR ASR. He is also a member of the scientific committee of the GDR ASR.
- Philippe Nain is the coordinator of the "Strategic Technology Monitoring & Prospective Studies Inria Unit".
- In the context of Inria 50th anniversary, Pascal Guitton, Philippe Nain and François Sillion reflect on Inria's evolution through the decades and present its vision for the future in [19] .

### 10.1.6. Scientific Expertise

- Isabelle Guérin Lassous is a member of the research committee of the Milyon labex.
- Éric Fleury is member of the Inria Advanced and starting research position jury and junior research position (CR2/CR1)
- Éric Fleury has been an expert for the Fund for Scientific Research - FNRS.
- Éric Fleury has been a member of evaluation panels as part of the French National Research Agencys (ANR) and member of the program committee of the ANR ROSE Challenge (Robotique et Capteurs au Service d'Ecophyto)
- Éric Fleury is member of the Inria Evaluation Committee.
- Éric Guichard is a member of the scientific committee of the 8th Major Societal Challenges: "Innovative, inclusive and adaptive societies" of the French National Research Agency <sup>0</sup>
- 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).
- Éric Guichard is a member of the international evaluation board of the doctoral program *Filosofia da Ciencia, Tecnologia, Arte e Sociedade* of the University of Lisbon.
- Éric Guichard is the manager of the RAIL (Réseau de l'Atelier Internet Lyonnais), founded in 2017 and supported by IXXI and Enssib. RAIL <sup>0</sup> is a federative open group of research founded in March, 2017. Its main projects are both theoretical and practical, each part feeding the other : establishing critical thought of the Internet, rethinking epistemology ; and, on the other hand, the measurements and the graphic productions in connection with the Internet. These interactions allow the participants of the RAIL to specify the concepts and practices which help to get a good understanding of the Internet, which is defined as a contemporary form of writing. RAIL's key words are : digital territories, representations and spatial productions, imaginary, scientific and digital culture, literate worlds, links between technique and politics.

### 10.1.7. Research Administration

- Paulo Gonçalves is scientific liaison officer for international relations in Inria Research Centre of Rhône-Alpes.
- Paulo Gonçalves is a member of the executive committee of the Milyon labex and referent for its valorisation committee.
- Isabelle Guérin Lassous is member of the department council of the Computer Science department of Université Lyon 1.
- Isabelle Guérin Lassous is the managing director of the Foundation Blaise Pascal.
- Anthony Busson is member of the Thesis Commission at LIP.
- Anthony Busson is head of the CS department at the IUT.

<sup>0</sup><http://www.agence-nationale-recherche.fr/en/funding-opportunities/work-programme-2017/major-societal-challenges-at-the-frontiers-of-research-components/>

<sup>0</sup><http://barthes.ens.fr/RAIL> or <http://barthes.enssib.fr/RAIL/>

- Anthony Busson was a HCERES expert member (laboratory LMIA-MIPS - Université de Haute Alsace).
- Éric Fleury is Deputy Scientific Delegate for Inria Grenoble Rhône Alpes
- Éric Fleury is in the in the Executive Committee of the IXXI à Rhône-Alpes Complex Systems Institute.
- Éric Fleury is member of the Council of the LIP laboratory.
- Éric Fleury is a member of the executive committee of the Milyon labex.
- Thomas Begin is an elected member of the Council of the LIP laboratory.
- Jean Pierre Chevrot is member of the steering committee of the IXXI - Rhône-Alpes Complex Systems Institute.
- Márton Karsai is the co-responsible for the M2 master program in Modelling of Complex Systems at ENS Lyon
- Márton Karsai is the elected council member of the Complex System Society (2015-)
- Márton Karsai is the elected member of the steering committee of the IXXI Complex System Institute (2017-)
- Éric Guichardt is a member of the steering committee of the IXXI Complex System Institute
- Jean-Philippe Magué is a member of the executive committee of the IXXI Complex System Institute
- Jean-Philippe Magué is a member of the executive committee of the Aslan Labex, in charge of the language complexity work package.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

#### 10.2.1.1. Teaching by Éric Fleury

Éric Fleury is Professor at the Computer Science department of ENS de Lyon and holds a Inria chair.

Master: CR15 - Complex Networks, 18H, M2, ENS de Lyon, France

#### 10.2.1.2. Teaching by Márton Karsai

Márton Karsai is Associate Professor at the Computer Science department of ENS de Lyon and holds a Inria chair.

Master: CR15 - Complex Networks, 21H, M2, ENS de Lyon, France

Master: Dynamical Processes on Networks, 6H, M2, ENS de Lyon, France

Master: Modeling Social Systems, 9H, M2, ENS de Lyon, France

Bachelor: Interdisciplinary Applications of Complex Networks - Non-specialist course, 6H, L3, ENS de Lyon, France

Master: Complex Networks 16H, Collegio Carlo Alberto, Torino Italy (guest lecturer)

#### 10.2.1.3. Teaching by Paulo Gonçalves

Engineering school CPE-Lyon (years 3-5): Signal Processing (80 hours/yr)

#### 10.2.1.4. Teaching by Isabelle Guérin Lassous

Professor at Université Claude Bernard Lyon 1 in the Computer Science department since 2006. She lectures at the University.

Master: "Distributed algorithms", 30h, Master (M1), University Lyon 1, France

Master: "QoS and Multimedia Networks", 20h, Master (M2), University Lyon 1, France

Master: "Wireless Networks", 10h, Master (M2), University Lyon 1, France

#### 10.2.1.5. Teaching by Anthony Busson

Professor at the IUT (Institut Universitaire de Technologie) of Université Claude Bernard Lyon 1 in the computer science department since 2012.

Master: "MPLS", 6h, Master (M2), University Lyon 1, France

DUT: full service (192h) in networking, operating-systems, and programming.

#### 10.2.1.6. Teaching by Thomas Begin

Assistant Professor at Université Claude Bernard Lyon 1 in the Computer Science department since 2009.

Master: "Networking", 20h, Master (M1), University Lyon 1, France

Master: "Advanced networks", 20h, Master (M2 SRIV), University Lyon 1, France

Master: "Computer networks", 20h, Bachelor (L3), University Lyon 1, France

Master: "Introduction to Networking", 30h, Master (M2 CCI), University Lyon 1, France

Master: "Distributed systems", 10h, Master (M1), University Lyon 1, France

#### 10.2.1.7. Teaching by Christophe Crespelle

Associate Professor at Université Claude Bernard Lyon 1 in the Computer Science department since 2010.

Master: "Introduction to Computer Science", 30h, Master (M2), ENS de Lyon, France

#### 10.2.1.8. Teaching by Philippe Nain

Master: "Network Performance Evaluation", 24h, Master (M2), ENS de Lyon, France

### 10.2.2. Supervision

HDR defense: Christophe Crespelle, Structures of Complex Networks and of their Dynamics. September 2017.

PhD defense: Laurent Reynaud, Designing optimized and disruption-tolerant mobility strategies for wireless networks. March 2017, I. Guérin Lassous

PhD defense: Matteo Morini, New tools for understanding the dynamics of social networks, Oct 2017, E. Fleury, P. Jensen and M. Karsai

PhD defense: Huu-Nghi Nguyen, Passive measurement in Software Defined Networks. March 2017, T. Begin and A. Busson and I. Guérin Lassous

Philosophy Master defence: Coline Ferrarato (ENS / EHESS), *Philosophie du logiciel. Dialogue entre Simondon et un objet technique numérique*<sup>0</sup>, Eric Guichard and Mathias Girel.

Master defense: Arthur Perret (ENSIB): *Écrire la carte. Les apports intellectuels de la cartographie numérique*<sup>0</sup>, Eric Guichard.

Master defense: Raimon Fabregat (ENS de Lyon), *Decomposition of dynamic networks via non-negative matrix factorization for the study of neural assemblies in the brains of rats*, Paulo Gonçalves.

Master defense: Louis Duvivier (ENS de Lyon), *Causal correlations in temporal graphs*, Christophe Crespelle and Marton Karsai.

PhD in progress: Sarra Ben Alaya, Multi-scale classification and analysis of data on networks. Nov. 2015, P. Gonçalves (P. Borgnat, co-advisor). Sarra ended prematurely her PhD in Novembre 2017.

PhD in progress: Esteban Bautista Ruiz, Statistical Graph Signal Processing. P. Gonçalves (P. Abry, co-advisor). Started Sept. 1st, 2016.

PhD in progress: Mohammed Amer, WiFi network management: a SDN approach. January 2015, A. Busson and I. Guérin Lassous

<sup>0</sup><http://barthes.enssib.fr/travaux/Coline-Ferrarato-masterphilologiciel.pdf>

<sup>0</sup><http://barthes.enssib.fr/travaux/Epistemo-carto-num-Perret.pdf>



PhD in progress: Lafdal Mohamed Abdelwedoud, 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, E. Fleury and M. Karsai

PhD in progress: Jacobo Levy Abitbol, Information diffusion and language evolution on dynamical social networks, Oct 2016, E. Fleury and M. Karsai

PhD in progress: Marija Stojanova, Performance Modelling of IEEE 802.11 networks, Oct 2016, T. Begin

PhD in progress: Sicheng Dai, Dynamic Multilayer Network Modelling

PhD in progress: Gaetan Frusque, *Modal Decompositions of Dynamic Graphs : Application in Neurosciences*, P. Gonçalves (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.

### 10.2.3. Juries

- Isabelle Guérin Lassous was a reviewer of the HDR examination boards of Enrico Natalizio (UTC), Sara Alouf (Inria) and Gentian Jakllari (University Toulouse).
- Isabelle Guérin Lassous was a member of the HDR examination boards of Claire Goursaud (Insa Lyon), Christophe Crespelle (University Lyon 1) and Laure Gonnord (University Lyon 1).
- Isabelle Guérin Lassous was a reviewer of the Ph.D thesis examination board of Quentin Vey (University Toulouse), Diego Neves da Hora (UPMC) and Tran Anh Quang Pham (University Rennes 1).
- Isabelle Guérin Lassous was a member of the Ph.D thesis examination board of Su Qiankun (University Toulouse).
- Anthony Busson was member and reviewer of the Ph.D of Mohamed Labraoui entitled “Les réseaux maillés sans fils assistés par le SDN” (LIP-6 December 2017).
- Anthony Busson was member and reviewer of the Ph.D of Luis David Alvarez Corrales “Communications coopératives pour des très grands réseaux cellulaires” (Telecom Paris Tech November 2017).
- Anthony Busson was member and reviewer of the Ph.D of Mandimby Nirina Ranaivo Rakoton-dravelona “Utilisation d’une autostructuration pour un routage hiérarchique géographique dans les réseaux sans fil ad hoc” (Université de la Réunion - Juillet 2017).
- Éric Fleury was member and reviewer of the HdR of Jean-Philippe Cointet titled "La cartographie des traces textuelles comme méthodologie d'enquête en science sociales"
- Éric Fleury was member of the PhD examination board of Mattéo Morini.
- Paulo Gonçalves was reviewer of the PhD dissertation of Lionnel Martin (EPFL) on "Robust and Efficient Data Clustering with Signal Processing on Graphs".
- Christophe Crespelle was member and reviewer of the Ph.D of Kaoutar Ghazi titled "Heuristics and Conjectures about the 2-dimension of partial orders", University Clermont Auvergne, September 2017.
- Márton Karsai was member of the Ph.D of Sebastien Lericque on “Epidemiology of Representations: An Empirical Approach” (École des Hautes Études en Sciences Sociales, Paris, October 2017).
- Márton Karsai was opponent of the Ph.D of Pietro della Briotta Parolo on “Analysis of Cumulative and Temporal Patterns in Science” (Aalto University, School of Science, Espoo Finland, December 2017).

### **10.3. Popularization**

Isabelle Guérin Lassous is the managing director of the Foundation Blaise Pascal. 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.

## DIANA Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

**Chadi Barakat** is on the editorial board of the Computer Networks journal, and was on the Technical Program Committee for the ACM Internet Measurement Conference (IMC) 2017, the International Teletraffic Congress (ITC) 2017 and the IEEE Measurement and Networking (M&N) Workshop 2017. He co-chaired the poster session at the ACM Internet Measurement Conference (IMC) 2017 and was session chair at the same conference. He is currently the scientific referee for international affairs at Inria Sophia Antipolis and member of the Conseil d'Orientation Scientifique et Technologique at Inria within the working group of international affairs (COST-GTRI).

**Walid Dabbous** is member of the scientific council of the Inria Bell-Labs laboratory on Communication networks of the future. He also serves as a chair of the scientific committee of the User Centric Networking (UCN@Sophia) Laboratory of Excellence, and member of the scientific committee of the Academy 1 of the UCAJedi Idex. He is also member of the Ubinet International Master program steering committee. He is member of the Inria Sophia Antipolis project committee's bureau (Bureau du CP).

**Arnaud Legout** is on the editorial board of the Computer Networks journal. Arnaud Legout is the president of the Commission of the users of IT resources of Sophia Antipolis Inria research center.

**Damien Saucez** was TPC member of IEEE ICC 2017, IEEE CCNC 2017. In 2017, Damien Saucez have co-organised the ACM SIGCOMM Reproducibility workshop, as detailed above. He also co-organized the RESCOM 2017 summer school that aimed at gathering French communities working around networking. We were in charge of organizing the student poster sessions [28] and to give labs on computer-network simulations.

**Thierry Turletti**, Senior ACM and IEEE member, served in the program committees of the following international workshops and conferences: the 8th Workshop on ns-3 at Porto, Portugal in June 13-14, 2nd CoRes Workshop at Quiberon, France in May 29-30 2017. He 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. 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.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

Master 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 Ubinet: Arnaud Legout, From BitTorrent to Privacy, 36 hours, M2, University of Nice-Sophia Antipolis, France.

Master 1 International: Chadi Barakat, Algorithms for Networking, 22.5 hours, M1, University of Nice-Sophia Antipolis, France.

Master 1 International: Arnaud Legout, Oral and written communications, 18 hours, M1, University of Nice-Sophia Antipolis, France.

Master Estel: Chadi Barakat, Voice over IP, 9 hours, University of Nice-Sophia Antipolis, France.

Master IUP GMI: Damien Saucez, Security and privacy in networks, 38h, M2, University of Avignon, France.

IUT : Damien Saucez, Advanced Network Services and Operator Network Technologies, 27h, L1 and L2, University of Nice-Sophia Antipolis, 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 first session there were 11677 registered persons.

This MOOC is a brand new version of the past MOOC "Python: des fondamentaux à l'utilisation du langage" in Python 2. This new MOOC has been funded by UCA.

### 9.2.2. Supervision

PhD in progress: Yanis Boussad started his PhD on "Large scale characterization of the exposition to microwaves" in October 2017. He is co-supervised with Leonardo Lizzi, LEAT.

PhD in progress: Thibaut Ehlinger: started his PhD on "Mapping Quality of Service metrics to user Quality of Experience in the Internet" in November 2017. He is co-supervised by Chadi Barakat and Vassilis Christophides (EPI MiMove, Inria Paris).

PhD in progress: Karyna Gogunska works on "Empowering Virtualized Networks with Measurement As a Service (MaaS)" since October 2016. Her thesis is co-supervised by Chadi Barakat and Guillaume Urvoy-Keller (I3S).

PhD in progress: Muhammad Jawad Khokhar works on "From Network Level Measurements to Expected Quality of User Experience" since September 2016. His PhD is supervised by Chadi Barakat.

PhD in progress: Mohamed Naoufal Mahfoudi works on cross-layer optimization techniques for next generation MIMO-based networks since November 2015. His thesis is co-supervised by Walid Dabbous and Robert Staraj (LEAT).

PhD in progress: Ghada Moualla works on "the problem of network faults and how to circumvent them by the means of Software Defined Networking, virtualization, and service function chaining" since November 2015. Her thesis is co-supervised by Thierry Turletti and Damien Saucez.

PhD in progress: Vitalii Poliakov works on "the application of Software Defined Networking on 5G networks in order to optimise the Quality of Experience of network services" since November 2015. His thesis is co-supervised by Damien Saucez and Lucile Sassatelli (I3S).

PhD in progress: Hardik Soni works on "Software Defined Networking in challenged environments" since September 2014. His thesis is co-supervised by Thierry Turletti and Walid Dabbous.

PhD in progress: Iman Taibi started his PhD in the Dionysos project-team on "Big data analysis for network monitoring and troubleshooting" in November 2017. She is co-supervised by Gerardo Rubino, Yassine Hadjadj-Aoul and Chadi Barakat.

PhD in progress: Mathieu Thiery started his PhD in the Privatics project-team on "Data protection of connected objects and smartphones" in April 2017. He is co-supervised by Vincent Roca and Arnaud Legout.

PhD in progress: Thibaud Trolliet started his PhD on "Exploring trust on Twitter" in octobre 2017. He is co-supervised with Frederic Giroire.

PhD: Luigi Vigneri defended his PhD on "Vehicles as a Mobile Cloud: Leveraging mobility for content storage and dissemination" in July 2017. His thesis was co-supervised by Chadi Barakat and Thrasyvoulos Spyropoulos (Eurecom).

### 9.2.3. Juries

Chadi Barakat served as reviewer of Wenqin Shao PhD thesis, "Measurement-based inter-domain traffic engineering: Scalability, data interpretation and network event visibility" defended in November at Telecom ParisTech.

Chadi Barakat served as reviewer of Danilo Giordano PhD thesis, "Machine Learning and Bigdata Methodologies for Network Traffic Monitoring" defended in March at Politecnico di Torino.

Walid Dabbous serves as reviewer of Cédric Baudoin HDR thesis, "Optimisation et intégration des réseaux de télécommunication par satellite", that will be defended on January 2018 Institut National Polytechnique de Toulouse (INP Toulouse).

Walid Dabbous serves as reviewer of Mathieu Bouet HDR thesis, "Software networks : Orchestration, resilience, and programmability concerns", defended in July 2017 at UPMC Sorbonne Universités.

Walid Dabbous serves as jury member of Giovanni Neglia HDR thesis, "Delay Tolerant Networks", defended in February 2017 at University of Nice Sophia Antipolis.

Walid Dabbous served as jury member of Nicolas Huin PhD thesis, "Energy Efficient Software Defined Networks", defended on September 28, 2017 at the University of Nice Sophia Antipolis.

Walid Dabbous served as a jury member for the mid-term review of the Ph.D. thesis of Sumit Kymar (Eurecom).

Arnaud Legout serves as a jury member for the intermediate validation of the Ph.D. thesis of Athanasios Andreou (Eurecom, UPMC)

Thierry Turletti served as reviewer of Mediawaththe Gedara Chathurika Prasadini Mediawaththe PhD thesis, "Game-theoretic Methods for Small-scale Demand-side Management in Smart Grid", defended on January 2017 at the Faculty of Engineering, University of New South Wales, Australia.

Thierry Turletti served as reviewer of Pascal Thubert PhD thesis, "Converging over Deterministic Networks: For an Industrial Internet", defended on March 2017 at the Université Bretagne Loire, France.

Thierry Turletti served as jury member of Myriana Rifai PhD thesis, "Next-Generation SDN Based Virtualized Networks", defended on September 25 2017 at the University of Nice-Sophia Antipolis, France.

Thierry Turletti served as reviewer of Gentian Jaklari HDR thesis, "Thinking Outside the Networking Box for Realizing the Potential of Wireless Networks", defended on November 14 2017 at INP Toulouse, France.

### 9.3. Popularization

Chadi Barakat keeps participating to the organization of the Mediterranean Students Days @ Campus SophiaTech. The fifth edition took place on Feb 28 - March 2, 2017, and the sixth edition will take place on February 12 - 14, 2018. All details on this event can be found at <http://univ-cotedazur.fr/events/meddays>.

Arnaud Legout and Damien Saucez participated in the "fête de la science" event. They presented the ElectroSmart project and the R2lab Testbed.

Walid Dabbous published a popularization article on Network Architecture for Big Data in the book "Les Big Data à découvert" edited by CNRS editions [29].

Damien Saucez is part of the MASTIC<sup>0</sup> group at Inria. MASTIC groups all the activities for scientific dissemination for Inria Sophia Antipolis. Within this activity we visit schools to make conferences on Internet and privacy related matters and Arnaud Legout made a talk during MathC2+. Within the team, we gave a 3h game-based class to Collège interns that made an internship at Inria in November to introduce them to the fundamental algorithms used in the Internet (shortest-path, longest prefix matching, distance-vector, AIMD). We also served on the Inria stand for "fête de la science" to welcome kids and families and present mathematical games, the R2LAB testbed, and ElectroSmart. In December 2017 Damien Saucez made a Café-in in Sophia Antipolis which is a 1h informal talk on the presenter's research with all Inria collaborators (administrative, technical, and scientific). In addition to these regional activities, we also took part in the ICN Fun MOOC<sup>0</sup> where Damien Saucez made a 10 minutes explanations of the fundamentals behind Operating Systems. As of today, the video [35] has been watched more than 9k times on YouTube.

<sup>0</sup><https://project.inria.fr/mastic>

<sup>0</sup><https://www.fun-mooc.fr/courses/inria/41014/session01/about>

## DIONYSOS Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Organizing Committees

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

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

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

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

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

#### 10.1.2. Scientific Events Selection

##### 10.1.2.1. Chair of Conference Program Committees

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

##### 10.1.2.2. Member of the Conference Program Committees

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### 10.1.2.3. Reviewer

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

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

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

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

## 10.1.3. Journal

### 10.1.3.1. Member of the Editorial Boards

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

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

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

Bruno Tuffin is an associate editor for the following journal:

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

Bruno Sericola is an associate editor for the following journals:

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

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

#### 10.1.3.2. Reviewer - Reviewing Activities

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

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

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

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

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

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

#### 10.1.4. Invited Talks

Yann Busnel made several invited and keynote talks in 2017:

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

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

B. Tuffin gave the following seminar presentation:

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

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

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



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

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

and two around transient analysis of Markovian processes:

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

### **10.1.5. Leadership within the Scientific Community**

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

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

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

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

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

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

### **10.1.6. Scientific Expertise**

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

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

### **10.1.7. Research Administration**

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

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

Master: Bruno Tuffin, MEPS (performance evaluation), 35h, M1, Univ Rennes, France

Master: Bruno Tuffin, GTA (Game Theory and Applications), 15h, M2, Univ Rennes, France

Master: Patrick Maillé, GTA (Game Theory and Applications), 15h, M2, Univ Rennes, France

Master: Patrick Maillé, Simulation and queuing theory, 25h, M2, IMT Atlantique, France

Licence: Patrick Maillé, Techniques and models in networks, 20h, L3, IMT Atlantique, France

Master: Patrick Maillé, Performance Evaluation, 30h, M1, IMT Atlantique, France

Licence: Yann Busnel, Introduction to Network, 15h, 1st year ENS Rennes, France

Master: Yann Busnel, Big Data and Stream Processing, 9h, IMT Atlantique, Rennes, France

Master: Bruno Sericola, Mathematics, 12h, M2, Istic/University of Rennes 1, France.

Master: Bruno Sericola, Logistic and performance, 12h, M2, Faculté de sciences économiques, Univ of Rennes 1, France

Master: Bruno Sericola, MEPS (performance evaluation), 36h, M1, Univ Rennes, France

Master pro 2nd year: Yassine Hadjadj-Aoul, Multimedia streaming over IP (MMR), 48 hours, Esir/University of Rennes 1, France

Master pro 2nd year: Yassine Hadjadj-Aoul, Multimedia services in IP networks (RSM), 29 hours, Esir/University of Rennes 1, France

Master pro 2nd year: Yassine Hadjadj-Aoul, Software Defined Networks, 6 hours, Istic/University of Rennes 1, France

Master 2nd year: Yassine Hadjadj-Aoul, Video streaming over IP, 8 hours, Istic/University of Rennes 1, France

Master: Yassine Hadjadj-Aoul, Introduction to networking (IR), 26 hours, Esir/University of Rennes 1, France

Master: Yassine Hadjadj-Aoul, Mobile and wireless networking (RMOB), 20 hours, Esir/University of Rennes 1, France

Master 2nd year: Yassine Hadjadj-Aoul, Overview of IoT technologies: focus on LPWAN, 2 hours, INSA, France

Master pro 2nd year: Sofiéne Jelassi, Supervision of heterogeneous networks, 32 hours, Istic/University of Rennes 1, France

Master pro 2nd year: Sofiéne Jelassi, Cloud & SDN virtualization, 32 hours, Istic/University of Rennes 1, France

Master pro 2nd year: Sofiéne Jelassi, Multimedia networks, 32 hours, Istic/University of Rennes 1, France

Master 2nd year: Sofiéne Jelassi, Software defined networking, 6 hours, Istic/University of Rennes 1, France

Master M1: César Viho, Networks: from Services to protocols, 36 hours, Istic/University of Rennes 1, France

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

Bachelor L2: César Viho, Network architecture and components, 16 hours, Istic/University of Rennes 1, France

Supelec Rennes 3rd year: Gerardo Rubino, Dependability Analysis, 15 hours.

UDELAR, Uruguay: Gerardo Rubino, post-graduate course on dependability, 21 hours.

### 10.2.2. Supervision

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### 10.2.3. *Juries*

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

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

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

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

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

César Viho was a member of the following juries:

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

### 10.3. Popularization

- B. Tuffin. La simulation de Monte-Carlo. Interstices. 2017. [https://interstices.info/jcms/int\\_69164/la-simulation-de-monte-carlo](https://interstices.info/jcms/int_69164/la-simulation-de-monte-carlo)
- G. Rubino makes regular presentations to high school students about the research work in general, and specific technical topics in particular. Current talks:
  - Randomness as a tool
  - Internet as a research problem
  - Great challenges in maths: the Riemann Hypothesis
  - Great challenges in math/computer science: the “P versus NP” problem

## DYOGENE Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Conference Program Committees

- Ana Busic: QEST 2017.

#### 10.1.1.2. Reviewer

All members of the team act as reviewers for numerous conferences.

### 10.1.2. Journal

#### 10.1.2.1. Member of the Editorial Boards

François Baccelli: Bernoulli, Queueing Systems.

#### 10.1.2.2. Reviewer - Reviewing Activities

All members of the team act as reviewers for numerous scientific journals.

### 10.1.3. Invited Talks

- François Baccelli
  - WiOpt, Paris, May 2017, keynote speaker,
  - WITMSE, Paris, September 2017; plenary speaker.
  - 2nd Symposium on Spatial Networks, Oxford, September 2017; invited talk.
- Bartek Blaszczyzyn
  - LINC Scientific Committee Workshop, Paris, June 2017; invited talk.
  - Tokyo Institute of Technology, November 2017; invited talk.
  - Kyushu University, November 2017, invited talk.
- Ana Busic
  - Tutorial speaker at YEQT XI: “Winterschool on Energy Systems”, December, 2017; <https://www.eurandom.tue.nl/event/yeqt-xi-winter-school-on-energy-systems/>
  - Invited speaker at Second Conference on the Mathematics of Energy Markets Wolfgang Pauli Institute, Vienna, July, 2017; <https://www.mn.uio.no/math/english/research/groups/store/events/conferences/second-conference-on-the-mathematics-of-energy-mar.html>
  - Invited speaker at PDE and Probability Methods for Interactions, Sophia Antipolis (France), March 2017; <https://project.inria.fr/pde2017/>

### 10.1.4. Leadership within the Scientific Community

Since 2014: A. Busic is leading (with E. Hyon, Univ. Paris Ouest Nanterre et LIP6) the working group GdT COSMOS (Stochastic Control and Optimization, Modeling, and Simulation) of CNRS research network GdR RO; <http://gdrro.lip6.fr/?q=node/78>. This includes scientific organization of 2 one-day workshops per year (30-50 participants).

### 10.1.5. Research Administration

A. Busic : Member of the Conseil du DI ENS.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

Licence: A. Busic (Cours) and Sébastien Samain (TD) **Structures et algorithmes aléatoires** 80heqTD, L3, ENS, France.

Licence: B. Blaszczyzyn (Cours) **Théorie de l'information et du codage** 24 heqTD, L3, ENS, France.

Master: A. Busic (Cours + TD) **Fondements de la modélisation des réseaux** 18 heqTD, L3, ENS, France.

Master: Bartłomiej Blaszczyzyn (Cours) **Processus ponctuels, graphes aléatoires et géométrie stochastique** 39heqTD, M2 Probabilités et Modèles Aléatoires, UPMC, France

Master: Ana Busic and Marc Lelarge (Cours) et Rémi Varloot (TD) **Modèles et algorithmes de réseaux**, 50 heqTD, M1, ENS, Paris, France.

Master: B. Blaszczyzyn **Introduction to Spatial Stochastic Modeling: Random Graphs, Point Processes and Stochastic Geometry** (School of Computing, Tokyo Institute of Technology), 15 lessons 1h30.

### 10.2.2. Supervision

PhD: Lennart Gulikers “Trouver des algorithmes permettant de détecter des communautés dans des réseaux sociaux. Analyse de *Stochastic Block Model* et ses extensions” since 2015, defense 13 November 2017, going to Safran, supervised by Marc Lelarge with Laurent Massoulié.

PhD: Christelle Rovetta “Applications of perfect sampling to queuing networks and random generation of combinatorial objects”, since December 2013, defense 20 June 2017, co-advised by Anne Bouillard and Ana Busic.

PhD in progress: Léo Miolane, since 2016, supervised by Marc Lelarge

PhD in progress: Dalia-Georgiana Herculea, since October 2016 co-advised by B. Blaszczyzyn, E. Altman and Ph. Jacquet

PhD in progress: Md Umar Hashmi, Decentralized control for renewable integration in smartgrids, from December 2015, co-advised by A. Busic and M. Lelarge

PhD in progress: Alexandre Hollocou, since December 2015, supervised by Marc Lelarge with Thomas Bonald

PhD in progress: Sébastien Samain, Monte Carlo methods for performance evaluation and reinforcement learning, from November 2016, supervised by A. Busic

PhD in progress: Quentin Le Gall, since October 2017, co-supervised by B. Blaszczyzyn and E. Cali (Orange).

PhD in progress: Arnaud Cadas [PSL] “Dynamic matching models”, since 2017, supervised by A. Busic.

### 10.2.3. Juries

- B. Blaszczyzyn, PhD defense of Frederik Mallmann-Trenn (ENS).
- A. Busic
  - Co-president of the Commission Emplois Scientifiques (CES) at Inria Paris (hiring committee for PhD, post-doc and visiting professor positions);
  - Member of the hiring committee for Assistant Professor at Ecole Normale Supérieure and IUT Orsay.

## 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** co-chaired the IOT2SUSTAIN invited workshop (<https://tinyurl.com/iot2sustain>), which brought together 22 researcher (half UCL, half Inria) to brainstorm on the state of IoT research today, and identify research directions. This event was organized on the UCL campus in London, 6-7 July 2017.
- **Thomas Watteyne** co-chaired the IETF98 (Chicago, remotely), IETF99 (Prague) and IETF100 (Singapore) 6TiSCH Working group meetings.
- **Pascale Minet** was general co-chair with Leila Saidane from ENSI (Tunisia) of the PEMWN 2017 conference, the 6th IFIP international conference on Performance Evaluation and Modeling of Wired and Wireless Networks, technically co-sponsored by IFIP WG6.2 and IEEE ComSoc (see <https://sites.google.com/site/pemwn2017/>). This conference was held at CNAM in Paris, the 28th, 29th and 30th of November 2017. It was sponsored by Inria, CNAM and ENSI. The organization co-chairs were Samia Bouzefrane and Selma Boumerdassi. Three tutorials were given:
  - *Dynamic Resource Allocation and Network Optimization in C-RAN* by Rami Langar, University of Paris-Est Marne-la vallée, (UPEM), France.
  - *Getting your Hands Dirty With the Industrial IoT!* by Thomas Watteyne, Inria, France.
  - *Machine learning: From supervised to unsupervised* by Francis Bach, Inria, France.

Twenty papers have been selected by the technical program committee and presented during the three days of the PEMWN 2017 conference.

- **Samia Bouzefrane** was general co-chair with Mehammed Daoui (University of Tizi-Ouzou, Algeria) and Damien Sauveron (University of Limoges, France) of the MSPN 2017 conference, the 3rd IFIP international conference on Mobile and Secure Programming Networks, technically co-sponsored by IFIP WG 11.2 (see <http://cedric.cnam.fr/workshops/mspn2017/>). This conference was held at CNAM in Paris, the 29th and 30th of June 2017. It was sponsored by CNAM, University of Limoges and SAFRAN. Two tutorials were given:
  - *Enabling emergent mobile systems in the IoT: Functional and QoS interoperability aspects at the middleware layer* by Nikolaos Georgantas, MIMOVE team (Inria, Paris), France.
  - *Identity Management for Internet connected objects* by Hanene Maupas, SAFRAN, France.

Seventeen papers have been selected by the technical program committee and presented during the two days of the MSPN 2017 conference

#### 10.1.1.2. Member of the Organizing Committees

- **Paul Muhlethaler** organized the DGA Inria workshop on Telecommunication and networking “Cloud, cloudlet & MANET” in May 2017. The EVA team presented its activities: Remy Leone the results of the project F-Interop, Malisa Vucinic the results of the project ARMOUR, **Pascale Minet** the model and simulation results on collision avoidance on shared slots in TSCH, **Thomas Watteyne** presented the standardization issues in 6TiSCH, **Paul Muhlethaler** presented results on adaptive CSMA techniques.

- **Kevin Bonny** was member of the organizing committee of the international conference PEMWN 2017.

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- **Paul Muhlethaler** was in Steering committee member of MobileHealth Workshop 2017.
- **Samia Bouzefrane** was track chair of ANT, The 8th International Conference on Ambient Systems, Networks and Technologies, May 2017.
- **Anis Louiti** was in Steering committee member of MobileHealth Workshop 2017.

#### 10.1.2.2. Member of the Conference Program Committees

- **Paul Muhlethaler:**
  - ITST 2017,
  - Mownet 2017, International Conference on Selected Topics in Mobile & Wireless Networking, May 2017.
  - PEMWN 2017, 6th International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, November 2017.
  - Wireless Days, IFIP/IEEE Wireless Days 2017, 29 - 31 March 2017 Porto, Portugal.
  - WiOpt 2017, Paris, France, 15th - 19th May, 2017.
- **Pascale Minet:**
  - CoRes 2017, May 2017.
  - ETFA 2017, 22th IEEE International Conference on Emerging Technologies & Factory Automation, September 2017.
  - IINTEC 2017, the IEEE International Conference on Internet of Things, Embedded Systems and Communications, October 2017.
  - IUCC 2017, the 16th IEEE International Conference on Ubiquitous Computing and Communications, December 2017.
  - MoWNet 2017, International Conference on Selected Topics in Mobile & Wireless Networking, May 2017.
  - PEMWN 2017, 6th International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, November 2017.
  - PECCS 2017, 7th International conference on Pervasive and Embedded Computing and Communication Systems, July 2017.
  - WINCOM 2017, 3rd International Conference on Wireless Networks and Mobile Communications, October 2015.
  - Wireless Days, IFIP/IEEE Wireless Days 2017, 29 - 31 March 2017 Porto, Portugal.
  - WiSEE 2017, 5th IEEE International Conference on Wireless for Space and Extreme Environments, October 2017.
- **Thomas Watteyne:**
  - IFIP/IEEE International Symposium on Integrated Network Management, workshop on Future Networks for Secure Smart Cities (FNSSC), 2017.
  - IEEE International Conference on Communications (ICC), Selected Areas in Communications (SAC), 2015, 2016, 2017.
- **Samia Bouzefrane:**
  - PEMWN, 6th International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, November 2017.



- VECoS, 11th International Conference on Verification and Evaluation of Computer and Communication Systems, August 2017.
- MobiSecServ, the third International Conference On Mobile And Secure Services, February 2017.
- EUSPN, The 8th International Conference on Emerging Ubiquitous Systems and Pervasive Networks, September 2017.
- **Anis Louiti:**
  - AIST 2017,
  - ITST 2017,
  - Mownet 2017,
  - PEMWN 2017,
  - SMARTCOMP 2017
  - Aintec 2017

#### 10.1.2.3. Member of the Editorial Boards

**Nadjib Achir** was guest editor of the special issue “Planning and Deployment of Wireless Sensor Networks”, of the International Journal of Distributed Sensor Networks.

#### 10.1.2.4. Reviewer (Journals)

- **Paul Muhlethaler**
  - Reviewer Annals of telecommunications
  - Reviewer IEEE Transactions on Wireless Communications
  - Reviewer IEEE Transactions on Vehicular Technology
  - Reviewer IEEE Transactions on Information Theory
  - Reviewer International Journal of Distributed Sensor Networks. Hindawi.
- **Pascale Minet**
  - Annals of Telecommunications,
  - Ad Hoc Networks,
  - Computer Communications,
  - Computer Networks,
- **Thomas Watteyne**
  - ACM Transactions on Sensor Networks, 2017.
- **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)

#### 10.1.2.5. Reviewer (Book proposals)

**Samia Bouzefrane** was reviewer for the two book proposals in the CRC Press Taylor and Francis.

### 10.1.3. Invited Talks

- (tutorial) **Thomas Watteyne**. Getting your Hands Dirty With the Industrial IoT! International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks (PEMWN), Paris, France, 28 November 2017.
- (talk) **Thomas Watteyne**. Construire son Réseau IoT en 10min. Inria-Paris, 12 March 2018.
- (talk) **Thomas Watteyne**. Exciting Developments in Industrial IoT, and its Potential Applications to Smart Agriculture. INRA-Inria Workshop, Rennes, France, 19 December 2017
- (talk) **Thomas Watteyne**. Low Power Wireless Solutions for Industry 4.0: Products, Standardization, Research and Example Deployments. Industry 4.0 Predictive Analytics and Forecasting: Research and Applications. Siemens Corporate Technology, Munich, Germany, 14-15 September 2017.
- (tutorial) **Thomas Watteyne** and Sami Malek. Wireless Bootcamp with NoeMote and SolSystem. UC Berkeley, 22-23 August 2017.
- (talk) **Thomas Watteyne**. OpenWSN Fresh: the 6TiSCH Reference Protocol Stack. Journées Scientifiques Inria, Sofia Antipolis, 15 June 2017.
- (panel) **Thomas Watteyne**. “Enough with the visions, Industrial IoT is here Today!”, on the panel “the path to successful IoT: from need of standards to security threads”. IEEE ICC, Paris, France, 22 May 2017.
- (talk) **Thomas Watteyne**. Building the Internet of (Important) Things, Universidad Diego Portales, Santiago, Chile, 5 May 2017.
- (talk) **Thomas Watteyne**. Researching and Deploying 6TiSCH Networks, Inria-Chile, 5 May 2017.
- (talk) **Thomas Watteyne**. Deploying 6TiSCH Networks. RIOT seminar, 13 April 2017.

### 10.1.4. Leadership within the Scientific Community

**Thomas Watteyne** co-chairs the IETF 6TiSCH standardization group.

### 10.1.5. Scientific Expertise

**Thomas Watteyne** regularly consults with major player in the (Industrial) IoT space.

### 10.1.6. Research Administration

**Thomas Watteyne** is 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!

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

- Intensive 1-week course on IoT, with associated hands-on labs. ENSTA ParisTech. Graduate level. **Thomas Watteyne** and Ziran Zhang. 9-12 October 2017.
- 1/2-day crash course on the Industrial IoT. Telecom ParisTech. Graduate level. **Thomas Watteyne**. 28 September 2017..
- 6-week course on IoT, with associated hands-on labs. ENSTA ParisTech. Undergraduate level. **Thomas Watteyne**, Keoma Brun-Laguna and Dominique Barthel. Spring 2017.

### 10.2.2. Supervision

- PhD : Nesrine Ben Hassine : Machine learning techniques for network resource allocation. University of Paris Saclay. **Pascale Minet** and Dana Marinca.
- PhD : Younes Bouchaala : Handling Safety Messages in Vehicular Ad-hoc NETWORKS. University of Paris Saclay. **Paul Muhlethaler**.

- PhD (in progress) : Keoma Brun-Laguna : Deterministic networking for the Industrial Internet of Things. Sorbonne University. **Thomas Watteyne** and **Pascale Minet**.
- PhD (in progress) : 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 évaluation de la dissémination des informations dans la 5G. Eric Renault and **Paul Muhlethaler**.

### 10.2.3. Juries

- HdR:
  - Riadh Dhaou, “IoT composé de réseaux terrestres et par satellite au service des Smart Cities : mobilité et hétérogénéité”, Institut National Polytechnique de Toulouse, November 2017, **Pascale Minet** reviewer.
  - Hanen Hidoudi, “Contributions à l’amélioration des communications dans les réseaux sans fil multi-sauts”, University of Toulouse, November 2017, **Pascale Minet** examiner.
- PhD:
  - Alexandre Laubé, “Agrégation de trafic pour réduire la consommation énergétique globale dans les réseaux sans fil multi-sauts”, University of Paris Saclay, September 2017, Anis Laouiti examiner.
  - Bilal M. Maaz, “Allocation des ressources radio dans les réseaux sans-fil de la 5G”, University of Paris-Saclay, prepared at the University of Versailles-Saint Quentin, March 2017, **Pascale Minet** examiner.
  - Laurent Reynaud, “Stratégie de mobilité optimisée pour la tolérance aux perturbations dans les réseaux sans fil”, University of Lyon, March 2017, **Pascale Minet** examiner.
  - Ahmed Amari, “Specification and analysis of AeroRing - a full duplex Ethernet ring network for new generation avionics systems”, University of Toulouse - ISAE, September 2017, **Pascale Minet** reviewer.
  - Florian Grandhomme, “Etudes de protocoles de routage dynamique externe de type BGP dans un environnement réseaux tactiques ad hoc mobiles : faisabilité et performances”, University of Rennes 1, November 2017, **Pascale Minet** reviewer.
  - Moussa Déthié Sarr, “Spécification d’un mécanisme de construction automatique de topologies et d’adressage permettant la gestion dynamique de réseaux de capteurs sans fil linéaires”, University of Clermont, December 2017, **Pascale Minet** reviewer.
  - Aravinthan Gopalasingham, “SDN Based Service Oriented Control Approach For Future Radio Access Networks”, Télécom Sud-Paris, June 2017, **Paul Muhlethaler** examiner,
  - Boutheina Dab, “Optimization of Routing and Wireless Resource Allocation in Hybrid Data Center Networks”, Paris VI, July 2017, **Paul Muhlethaler** examiner.
  - David Alvarez Corrales, “Cooperative Communications in very large cellular Networks”, Télécom ParisTech, November 2017, **Paul Muhlethaler** examiner.
  - Younes Bouchaala, “Handling Safety Messages in Vehicular Ad-hoc NETWORKS”, UVSQ, December 2017, **Paul Muhlethaler** examiner.

## 10.3. Popularization

Outreach is very important for Inria-EVA, and it brings enormous visibility to the research done in the team. We use it to target a audience different that the one targetted through purely scientific publications.

### 10.3.1. Web presence

Within the Inria-EVA team, we are regular Twitter contributor through a dozen Twitter accounts, promoting the activities of Inria and Inria-Paris.

Inria-EVA also maintains the following Inria websites:

- <https://team.inria.fr/eva/>
- <http://www.openwsn.org/>
- <http://smartmarina.org/>
- <http://www.savethepeaches.com/>
- <http://www.snowhow.io/>
- <http://www.solsystem.io/>
- <http://www.headsup.tech/>

### 10.3.2. Tradeshow

- **Thomas Watteyne**, Ziran Zhang, Felipe Moran. IoT Solutions World Congress 2017, Barcelona, presenting SolSystem.
- **Thomas Watteyne**, Ziran Zhang. VIVATech 2017, Paris, Inria booth, presenting SolSystem.

### 10.3.3. In The News

- (French) SolSystem : une solution “sensor-to-cloud” clés en main, InriaInnovation, 10 November 2017 (**Thomas Watteyne**).
- Interview by L'Esprit Sorcier about SmartMarina, Fete de la Science, 8 October 2017 (**Thomas Watteyne**).
- Presenting the Smart Marina project at the VIVA Tech trade-show, Inria@Silicon Valley Newsletter, 19 September 2017 (**Thomas Watteyne**).
- (French, TV) Cap d'Agde : Une puce innovante pour gérer le port de plaisance, TV Sud, aired 20 June 2017 (**Thomas Watteyne**).
- (French) 1ère mondiale au Cap d'Agde, des capteurs détectent les entrées les sorties de bateaux, Atout Nautic, 20 June 2017 (**Thomas Watteyne**).
- (French) Le port du Cap d'Agde connecté, une première mondiale, France Bleu, 20 June 2017 (**Thomas Watteyne**).
- Interview with Thomas Watteyne “The new use of marinas requires rethinking their operation and imagining a new offer of services”, Marine & Oceans, June 2017 (**Thomas Watteyne**).
- (Spanish) Experto en IoT de Inria visita Inria Chile, Inria Chile, 9 May 2017 (**Thomas Watteyne**).
- (Spanish) Proyecto SmartMarina reinventa los puertos utilizando IoT, Inria Chile, 5 May 2017 (**Thomas Watteyne**).
- The EVA team reinvents the Smart Marina, Inria.fr, 26 April 2017 (**Thomas Watteyne**).
- FBF supports SmartMarina project in Cap d'Agde, France. France Berkeley Fund new, 21 April 2017 (**Thomas Watteyne**).
- (French) Le Cap d'Agde – le Port en Passe d'Etre Connecte ! Herault Tribune, 19 April 2017 (**Thomas Watteyne**).
- (French, video) Objets connectés : des capteurs intelligents pour mesurer l'environnement, YouTube InriaChannel, March 2017 (**Thomas Watteyne**).
- (French) Le numérique peut-il sauver l'agriculture? Inriality, February 2017 (**Thomas Watteyne**).

### 10.3.4. Miscellaneous Activities

The Inria-EVA team is running a permanent demo in the Inria-Paris demo showroom.

We worked together with the A/V team on the following videos:

- SmartMarina [English] <https://www.youtube.com/watch?v=LUcLE8D0RbM>
- SmartMarina [French] <https://www.youtube.com/watch?v=CwgyCmJvyuw>
- interview [French] <https://www.youtube.com/watch?v=zsbS310YVe0>
- SolSystem [French] <https://www.youtube.com/watch?v=juQGnGX5OGs>
- SaveThePeaches [English] [https://www.youtube.com/watch?v=\\_qGSH8I0Vkk](https://www.youtube.com/watch?v=_qGSH8I0Vkk)
- SaveThePeaches [French] <https://www.youtube.com/watch?v=cZvGw7DyIzI>
- HeadsUp! [English] <https://www.youtube.com/watch?v=51mIibi-tDs>

The Inria-EVA team very regularly hosts visiting companies interested in using the technology developed.

## FUN Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. General Chair, Scientific Chair

- Nathalie Mitton is a member of the Steering committee of CIoT
- Nathalie Mitton is symposium chair of Wireless Ad hoc and Sensor Networks symposium ICNC 2017
- Farouk Mezghani was publicity chair for Pe-wasun 2017

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- Valeria Loscri is/was (co)-program chair for IoT and SmartCities MMSys 2017 and 2018, CITS 2018, Globecom 2017, NDIDO 2017 (Nouveaux Defis de l'Internet des Objets - 2017)
- Valeria Loscri is a Member of the Scientific Committee for the Conference Challenges of IoT in Digital Tools & Uses Congress
- Nathalie Mitton is/was (co)-program chair for WSCP 2017, TENCon 2017, VTC2017, SWC 2017, Globecom 2017, IINTEC 2017, WiMob 2017 and Pe-Wasun 2017. She will be (co-)program chair for CCNC 2018, ICT 2018, CIoT 2018, ICC 2018

#### 10.1.2.2. Member of the Conference Program Committees

- Valeria loscri is/was member in the Technical Program Committee (TPC) CoRES 2018, IoT Global Innovation Forum 2017, ICNSC 2017, NTMS 2017 and 2018, GIoTS 2017 and 2018, WF-5G'18 (2018 IEEE 1st 5G World Forum 2018), CSCN 2017, MoWNet 2017, VTC 2017, VTC 2018 - Spring, WPMC 2017, NEW2AN WSMART 2017, WiMob 2017, WPMC 2017, IoTGIF 2017
- Nathalie Mitton is/was in the Technical Program Committee (TPC) ICC 2017, VTC 2017, CSCN 2017, Cores 2017, Algotel 2017, Globecom 2017, CIoT 2017, ICT2018, ICNC 2018
- Farouk Mezghani was in the TPC of ISNCC 2017
- Antoine Gallais was/is in the TPC of ICNC 2017, GIIS 2017 and ICNC 2018

### 10.1.3. Journal

#### 10.1.3.1. Guest editorial activities

- Valeria Loscri and Nathalie Mitton were co-editor of MMTC COM-SOC letter of issue on Visible Light Communications
- Nathalie Mitton was co-editor of MMTC COM-SOC letter of November issue on Industrial Wireless Sensor Networks
- Valeria Loscri is a member of the 'Research Group on IoT Communications and Networking Infrastructure' at ComSoc Communities
- Valeria Loscri was co-editor of IEEE Access journal special issue on Body Area Networks
- Valeria Loscri edited the book "Vehicular Social Networks", Taylor and Francis Group, 2017
- Valeria Loscri participated to the revue "Internet des Objets" iSTE OpenScience

#### 10.1.3.2. 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
- 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

#### **10.1.4. Invited Talks**

- Valeria Loscri was invited speaker at Smart City Communication day in Sophia-Antipolis on January 2017
- Valeria Loscri was invited speaker at FET-European CIRCLE Workshop, Dublin - May 2017
- Valeria Loscri was invited speaker at Workshop on Retrofitting London and Paris via the Internet of Things - London, July 2017
- Valeria Loscri was invited speaker at IoT Week on December 2017
- Julien Vandaele was invited speaker at JDEV 2017 in Marseille in July 2017
- Antoine Gallais was invited speaker at the "Workshop sur l'IoT" in Sfax, Tunisia, in November 2017
- Nathalie Mitton was invited speaker at SOSI at INSA Rouen in September 2017
- Nathalie Mitton was invited speaker at Chile delegation in Lille in September 2017
- Nathalie Mitton was invited speaker at Journées Logistiques in Lille, September 2017
- Nathalie Mitton was invited speaker at Inria Chile - Universidad Católica Seminar in Santiago de Chile, November 2017

#### **10.1.5. Leadership within the Scientific Community**

- Nathalie Mitton is a member of the Steering Committee of the GDR 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 Social Network Technical Committee

#### **10.1.6. Scientific Expertise**

Nathalie Mitton 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).

Valeria Loscri is Scientific European Responsible for Inria Lille - Nord Europe. She has been reviewer in the context of 2017 Air Force Young Investigator Research Program. She is reviewer in the context of ERC Consolidator Grant. She is reviewer for Equipes Associées. She has been involved as digital communication expert in the activities of "Convergences du Droit et du Numérique" - Bordeaux, February and September 2017.

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

#### E-learning

Mooc, Nathalie Mitton, "Villes intelligentes : défis technologiques et sociétaux" , 5-week mooc by the IPL CityLab@Inria team, FUN, Inria, in March and November 2017

SPOC, EIT Digital "Technological challenges of participatory Smart cities", 5-week by the IPL CityLab@Inria team in November 2017

Master: Valeria Loscri, Objets Communicants, 24h (Mineure Habitat Intelligent), Ecole des Mines de Douai, France

Master: Nathalie Mitton, Wireless sensor networks, 16h eqTD (Master MINT), Université Lille 1 and Telecom Lille 1, France

Bsc: Farouk Mezghani, Contactless technologies, 20h eqTD, Université de Valenciennes, France

Licence: Jean Razafimandimby, Algorithms and Programming, 30h eqTD, Université Lille 1, France

### 10.2.2. Supervision

PhD defended on January 24th 2017: Viktor Toldov, Interférence et consommation dans les réseaux de capteurs, Université Lille 1, 2013-2016, Nathalie Mitton and Laurent Clavier

PhD defended on October 18th 2017: Jean Razafimandimby, Distributed Cooperation and Communication among Heterogeneous Devices, Université Lille 1, 2014-2017, Nathalie Mitton and Valeria Loscri

PhD in progress: Aziz Mbacke, Smart Deployment of heterogeneous sensors and RFID in a Smart City, Université Lille 1, 2015-2018, Nathalie Mitton and Hervé Rivano (Urbanet)

PhD in progress: Jad Nassar, Ubiquitous networks for smart grids, Université Lille 1, 2015-2018, Nathalie Mitton and Nicolas Gouvy (HEI)

### 10.2.3. Juries

- PhD/HDR committees:
  - Valeria Loscri is/was reviewer of the PhD thesis of Jorge Herrera, Universidade Politecnica Valencia, Spain May 2017.
  - Nathalie Mitton is/was reviewer of the following PhD thesis:
    - \* Patrick Olivier Kamgueu, Univ. de Yaounde - Univ. de Lorraine, January 2018
    - \* Carlos Gonzales, Université de Reims, December 2017
    - \* Dareen Shehadeh, Telecom Bretagne, December 2017
    - \* Arbia Sfar, UTC, November 2017
    - \* Faycal Ait Aoudia, Université de Rennes 1, September 2017
    - \* Laurent Reynaud, Univ. Lyon 1, March 2017
    - \* Jean-Gabriel Krieg, EINSEITH, February 2017
  - Nathalie Mitton was a member of the HDR defense committee
    - \* Antoine Gallais, Université de Strasbourg, November 2017
    - \* Gentian Jakllari, EINSEIHT, November 2017
- Researcher selection committees:
  - Nathalie Mitton was member of the Inria CR2 Lille competition selection committee
  - Nathalie Mitton was member of the Professor competition selection committee at UPMC and EINSEITH



- Nathalie Mitton was member of the Assistant Professor (MdC) at Universités de Marseille, Valenciennes and Strasbourg and INSA Lyon
- Nathalie Mitton is a member of the scientific committee of "Convergences du Droit et du Numérique"

### **10.3. Popularization**

- Simon Duquennoy and Nathalie Mitton gave a talk at "30 min de Sciences" in June and December 2017 resp.
- Valeria Loscri, Antonio Costanzo and Nathalie Mitton gave a talk in the context of Nuneriqu'elle - Euratechnologies, November 2017
- Matthieu Berthome, Jad Nassar, Ibrahim Amadou, Antonio Costanzo, Antoine Gallais, Nathalie Mitton, Farouk Mezghani and Julien Vandaele gave some talks in high schools for the "Fête de la Science" in October 2017
- Nathalie Mitton gave an interview for France Info on connected objects

## GANG Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Selection

##### 9.1.1.1. Member of Conference Program Committees

- Adrian Kosowski: ICALP 2017, MFCS 2018, SIROCCO 2018.
- Carole Delporte-Gallet: ICDCN 2017, PODC 2017, IPDPS 2017, OPODIS 2017
- Pierre Fraigniaud: WWW 2017, SPAA 2017, DISC 2017.
- Hugues Fauconnier: SSS 2017, Algotel 2017
- Michel Habib: WG 2018
- Amos Korman: ICALP 2017
- Laurent Viennot: FCT 2017

#### 9.1.2. Journal

##### 9.1.2.1. Member of 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).
- Pierre Fraigniaud is a member of the Editorial Board of Fundamenta Informaticae (FI).
- Adrian Kosowski is a member of the Editorial Board of Mathematical Foundations of Computing (AIMS MFOC)

#### 9.1.3. Invited Talks

Carole Delporte, The Basics of Distributed Computing: consensus. 9th edition of the International Spring School on Distributed Systems(METIS 2017), May 2017.

Hugues Fauconnier, The Basics of Distributed Computing: Shared Memory. 9th edition of the International Spring School on Distributed Systems (METIS 2017), May 2017.

Carole Delporte: Workshop IWDCMR 2017 in honor of Michel Raynal, Détecteurs de défaillance, May 2017.

Michel Habib: IPM Combinatorics and Computing Conference 2017 (IPMCCC2017), Téhéran, May 2017

Michel Habib: Journée Charles Hermite Complexité : Théorie des graphes et théorie des nombres, Nancy, November 2017.

Adrian Kosowski: ADGA 2017 workshop (co-located with DISC 2017), Vienna, October 2017.

#### 9.1.4. Scientific Expertise

Adrian Kosowski was an expert panel member for grant panel PE6 of the National Science Center, Poland (Spring 2017).

Carole Delporte-Gallet was in the recruiting jury of "Informaticien" at Assemblée Nationale.

Michel Habib was member of the COS (Comité d'Orientation Stratégique) of the Labex Archimede Marseille. One meeting in April 2017.

#### 9.1.5. Research Administration

Pierre Fraigniaud is director of the Institute de Recherche en Informatique Fondamentale (IRIF).

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.

Michel Habib is member of the Administration Council of University Paris Diderot.

## 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 programmation répartie, 33h, M2, Univ. Paris Diderot

Master: Carole Delporte, Cours et TP Protocoles des services internet, 44h, M2, Univ. Paris Diderot

Master: Carole Delporte, Cours Algorithmes répartis, 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, Sécurité informatique, 36h, L3, Univ. 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

Master: Pierre Fraigniaud, Algorithmique avancée, 24h, Ecole Centrale Supélec Paris, M2

Master: Pierre Fraigniaud, Algorithmique parallèle et distribuée, 24h, Ecole Centrale Supélec Paris, M2

Master: Adrian Kosowski, Randomization in Computer Science: Games, Networks, Epidemic and Evolutionary Algorithms, 18h, 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 and Michel Habib, 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

Master : Laurent Viennot, Graph Mining, 3h, M2 MPRI, Univ. Paris Diderot

Licence: Michel Habib, Algorithmique, 45h, L, ENS Cachan

Master: Michel Habib, Algorithmique avancée, 24h, M1, Univ. Paris Diderot

Master: Michel Habib, Mobilité, 33h, M2, Univ. Paris Diderot

Master: Michel Habib, Méthodes et algorithmes pour l'accès à l'information numérique, 16h, M2, Univ. Paris Diderot

Master: Michel Habib, Algorithmique de graphes, 12h, M2, 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 in progress: Simon Collet (co-advised by Amos Korman and Pierre Fraigniaud). Title of thesis is: "Algorithmic Game Theory Applied to Biology". Started September 2015.

PhD in progress: Lucas Boczkowski (co-advised by Amos Korman and Iordanis Kerenidis). Title of thesis is: "Computing with Limited Resources in Uncertain Environments". Started September 2015.

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: Laurent Feuilloley (advised by Pierre Fraigniaud). Title of thesis is: "Synchronous Distributed Computing". Started September 2015.

PhD in progress: Mengchuan Zou (co-advised by Adrian Kosowski and Michel Habib). Title of thesis is: "Local and Adaptive Algorithms for Optimization Problems in Large Networks". Started October 2016.

PhD in progress: Léo Planche (co-advised by Étienne Birmelé and Fabien de Montgolfier). Title of thesis is: "Classification de collections de graphes". Started October 2015.

PhD in progress: Alkida Balliu and Dennis Olivetti (PhD students from L'Aquila University and Gran Sasso Science Institute) are supervised by Pierre Fraigniaud.

PhD in progress: Lucas Hosseini (co-advised by Pierre Charbit, Patrice Ossona de Mendez and Jaroslav Nešetřil since Sept. 2014). Title : Limits of Structures.

Master internship (MPRI): Emmanuel Arrighi (advised by Laurent Viennot). (March-August 2017)  
 Title of report: "Schéma d'étiquetage de graphe pour le pré-calcul de plus courts chemins".

### 9.2.3. Juries

Laurent Viennot was on the jury committee of the HDR thesis of Mauro Sozio (Telecom Paristech) "Algorithms for Making Sense of Massive Dynamic Graphs" at Paris-Saclay University, July 2017.

Michel Habib was referee and on the jury committee of the HDR thesis of Mauro Sozio (Telecom Paristech) "Algorithms for Making Sense of Massive Dynamic Graphs" at Paris-Saclay University, July 2017.

Michel Habib was on the jury committee of the HDR thesis of Reza Naserasr "Projective Cubes, a coloring point of view" at Paris Diderot University, July 2017.

Michel Habib was referee and on the jury of the PhD thesis of Kaoutar Ghazi "Heuristiques et conjectures à propos de la 2-dimension des ordres", Clermont-Ferrand, October 2017.

Michel Habib was referee and on the jury of the HDR thesis of Phan Thi Ha Duong "Chip Firing Game and related models: algebraic structures and enumerative combinatorics" at Paris Diderot University, December 2017.

Carole Delporte-Gallet was on the jury committee of the thesis of Florent Chevreu "Formalisation of Asynchronous Interactions" Toulouse University, November 2017.

Hugues Fauconnier was referee and on the jury of the PhD thesis of Matoula Petrolia "Distribuer Shared memory in failure prone message passing systèmes", Nantes University, October 2017.

### 9.3. Popularization

- Amos Korman wrote the article “Conseils d’une fourmi: Ne me prenez pas trop au sérieux !” published in the French journal *interstices* in 10.7.2017.
- An article about a paper by Amos Korman, Adrian Kosowski and Lucas Boczkowski was published in *CNRS news* in 10.1.2017.
- An article called “Les fourmis, génies de l’orientation” about a paper by Amos Korman, Adrian Kosowski and Lucas Boczkowski was published in *Le Monde* in 30.1.2017.
- Laurent Viennot is “commissaire d’exposition” for the permanent exposition on “Informatique et sciences du numérique” at Palais de la découverte in Paris (opening in February 2018).

## INFINE Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. General Chair, Scientific Chair

1. **Aline C. Viana** was scientific chair of Algotel 2017.
2. **Emmanuel Baccelli** was chair of the RIOT Summit 2017.

##### 9.1.1.2. Member of the Organizing Committees

1. **Aline C. Viana** is Publicity Chair of: IEEE PICom 2018; IEEE MiSeNet 2018 jointly with IEEE Infocom 2018; DCOSS 2018.

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Chair of Conference Program Committees

1. **Aline C. Viana** was scientific chair of Algotel 2017.

##### 9.1.2.2. Member of the Conference Program Committees

1. **Aline C. Viana** is/was TPC member of: Algotel 2018; IFIP NTMS 2018 New Technolog; WCU 2017 jointly with SBRC 2017; IEEE AINA-2017.

##### 9.1.2.3. Reviewer

1. **Cedric Adjih** was reviewer for PEMWN 2017, IEEE PIMRC 2017 Workshop WS-07, WINCOM 2017, WCNC 2018.
2. **Emmanuel Baccelli** was reviewer for ACM ICN 2017 (Poster/Demo), PEMWN 2017.

#### 9.1.3. Journal

##### 9.1.3.1. Member of the Editorial Boards

1. **Aline C. Viana** is Associate Editor of ACM SIGCOMM Computer Communication Review (ACM CCR), since May 2014; 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

1. **Aline C. Viana** reviewed papers for ACM SIGCOMM CCR Journal, elsevier Pervasive and Mobile Computing Journal and Computer Communication Elsevier Journal.

##### 9.1.3.3. Reviewer

1. **Cedric Adjih** was reviewer for Future Generation Computer Systems, and IEEE Transactions on Communications.
2. **Emmanuel Baccelli** was reviewer for ACM Transactions on Networking (TON), Elsevier Future Generation Computer Systems.

#### 9.1.4. Standardization

1. **Emmanuel Baccelli and Cedric Adjih** have participated at several working groups at IETF (March, July and November 2017)
2. **Emmanuel Baccelli and Cedric Adjih** have participated at the IETF hackathons (July and November 2017)

#### 9.1.5. Invited Talks

1. **Aline C. Viana** was invited to give a talk at (1) University of Coimbra, Portugal in December 2016; (2) University of Porto, Portugal in December 2016; (3) EBSIS Summer School in Timmendorfer Strand, Germany in July 2017; (4) University of Edinburgh, UK in February 2017, (5) Spring School on Networks (SSN) 2017 at ChileCON Conference, Pucon, Chile in October 2017, all on "Toward a more Tactful Networking".
2. **Aline C. Viana** will be the keynote speaker of the CoUrb 2018 Workshop jointly organized with SBRC 2018, Brazil in May 2018.
3. **Laurent Massoulie** gave several invited talks at: Stochastic Networks Conference, UCSD; CIRM workshop on random matrices; Institut Henri Poincaré's Nexus of Information and Computation Theories; LINCS scientific advisory board.
4. **Cedric Adjih** has presented in the **June seminar** of Digicosme GT task 2 Future Access Networks : "On Doing 5G with Old Low Cost Wireless Sensor Nodes (with RIOT, FIT IoT-LAB and one SDR device)". This presented work-in-progress experimenting of some 5G-related method(s) on low cost wireless sensor nodes, focusing on massive access (for machine-type communication), and describing one of the most readily experimental family of methods for random access known as "Coded Slotted Aloha", along with its already known features and performance evaluation aspects. Proof-of-concept experimentation was also described starting from the underlying hardware platform, FIT IoT-LAB (a large scale open testbed IoT Lab), and the underlying software platform, RIOT (an Operating System from the Internet of Things). Using additionally a software-defined receiver, it was shown how such 5G-like random access can be experimented on such typical 802.15.4-based devices. An analysis of preliminary results was provided, along with some lessons learned and some consequences on the design space of such methods.
5. **Cedric Adjih** has presented a tutorial at **ANTS 2017** in Bhubaneswar, Odisha, India, on the subject of "**IoT in Practice**": it presented a comparative study of embedded OS's such as RIOT, Contiki, ARM Mbed, Zephyr as well as implementation specificities of IoT protocol stacks e.g. RPL/6LoWPAN. Insight on how do hardware and software building blocks and transport level and application level protocols fit together was provided. Addressed practical issues include the analysis of actual protocol performance (e.g. 802.15.4 or LoRa stacks) in experimental settings, and topics such as reasons for adopting open source approaches for IoT solutions. Presentation of experimental proof of concepts concluded the tutorial.
6. **Emmanuel Baccelli** gave an invited talk at CiscoX Symposium 2017, on the topic of "ICN for IoT: Energy Efficiency, Opportunities & Challenges"
7. **Emmanuel Baccelli** gave an invited talk at Bremen University in February, on the topic of "End-to-End Open Source IoT with RIOT".

### 9.1.6. Research Administration

1. **Aline C. Viana** is 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** will be the new leader of Infine team due to the fact that Laurent Massoulie had to leave Inria Saclay to join the Inria & Microsoft Lab at Inria Paris.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master : Emmanuel Baccelli, "Operating Systems for Small Connected Devices in the Internet of Things", 3h cours magistral, Formation PESTO Corps des Mines, Telecom ParisTech, Paris France  
 Licence: Aline C. Viana, "Toward a more Tactful Networking", 2h TD, niveau L3, Federal University of Goias (UFG) and Federal University of Minas Gerais, Brazil  
 Licence: Aline C. Viana, "Opportunistic communication in disconnected mobile Ad Hoc networks", 6h TD, niveau L3, Telecom SudParis, France

Licence: Cédric Adjih, “Microcontrollers: from embedded systems to the Internet of Things”, 3h TD, Niveau L3, Telecom SudParis, France

Licence: Laurent Massoulie, “Networks: distributed control and emerging phenomena”, 18h TD, Niveau L3, Ecole Polytechnique, France

Master : Aline C. Viana, “Toward a more Tactful Networking”, 2h TD, niveau M2, Federal University of Goias (UFG), Federal University of Minas Gerais, Brazil

Master : Aline C. Viana, “Toward a more Tactful Networking”, 3h TD, niveau M2, Telecom SudParis, France

Master : Aline C. Viana, Master Project evaluation, 4h TD, niveau M2, Telecom SudParis, France

Doctorat : Aline C. Viana, “Toward a more Tactful Networking”, 2h TD, Federal University of Goias (UFG) and Federal University of Minas Gerais, Brazil

### 9.2.2. Supervision

PhD: Guangshuo Chen, “Human habits investigation: From mobility reconstruction to mobile traffic prediction”, Ecole Polytechnique, March 2018, Aline C. Viana.

PhD in progress: (1) Rafael Costa, “Inferring friends in the crowd in Device-to-Device communication”, June 2016, Aline C. Viana and Leobino Sampaio (co-tutele); (2) Roni Shigetta, “Distributed channel allocation strategy based on human behavior”, January 2014, Aline C. Viana and Mauro Fonseca (co-tutele).

PhD in progress: Loic Dauphin, “IoT Robotics”, June 2016, Emmanuel Baccelli and Cédric Adjih co-supervision.

### 9.2.3. Juries

1. Aline Viana will be on the PhD jury as reviewer of: Florent Coriat, “Geolocalisation en situation de crise”, UPMC ? Sorbonne Universités, France, may 2018.
2. Aline Viana was on the PhD jury as examiner of: (1) S. Eddine Belouanas, “Dessemination de contenus populaires et tolerants au delai dans les reseaux cellulaires”, UPMC ? Sorbonne Universités, France, September 2017; (2) P. Salgueiro Santos, “Wireless Protocols and Channel Estimation for Data Gathering with Mobile Nodes”, Univ. of Porto, Portugal, May 2017; (3) Amal Ellouzem, “Mobile Applications Offloading in Mobile Cloud Environment”, Telecom ParisTech, France, March 2017.
3. Aline C. Viana was on the PhD jury as invited member of Tanel Razafimandimby “Toward Internet of Heterogeneous Things: Wireless communication maintenance and efficient data sharing among devices”, University Lille 1, Inria Lille, France, October 2017.
4. Aline C. Viana was on the PhD Qualification jury as examiner of T. Duc Ha, “Allocation de ressources et association utilisateur/cellule optimisees pour les reseaux C-RAN” (Univ. Paris Sud, 2017);
5. Aline C. Viana was on the Master jury of Bruno Farias Fausto “Um mecanismo de deteccao e controle de congestionamento usando redes ad hoc veiculares sem infraestrutura”, Federal Univ. of Rio de Janeiro State, Brazil, October 2017.
6. Laurent Massoulie was on the PhD jury as reviewer for the PhD theses of Anna Benhamou and Alaa Saade, and he presided the PhD thesis committee of Kevin Scaman.

## 9.3. Popularization

1. Aline C. Viana gave a scientific talk on “Le smartphone, votre 6e sens ?” and “The research career”, December 2017, for college students visiting Inria Saclay
2. Cédric Adjih, Emmanuel Baccelli, Alexandre Abadie, Raul Fuentes participated to the “Inria-Industry Meetings” on 17 and 18 October 2017, with two demonstrations:



- **RIOT, the friendly OS for the Internet of Things** - it has shown the various functionalities from RIOT on hardware of the type sensor/actuator to demo a control loop via the cloud. RIOT was used to generate IoT data locally (via sensors), sending them to the cloud where this data is analyzed. This analysis will result in a physical action (via actuators). We highlighted two use-cases: building automation, and low-cost robotics
- **End-to-end IoT with FIT IoT-LAB** - this presented the use of FIT IoT-LAB for experimenting with IoT; in particular the end-to-end Over-the-air updates of RIOT.

## MADYNES Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Organizing Committees

Rémi Badonnel: IEEE/IFIP International Symposium on Integrated Network Management (IEEE/IFIP IM 2017), IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2017), IEEE/IFIP International Network Operations and Management Symposium (IEEE/IFIP NOMS 2018).

Lucas Nussbaum: 4th International Workshop on Reproducibility in Parallel Computing (REPPAR 2017).

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

Isabelle Chrisment was a TPC co-chair of the 2nd IEEE/IFIP Workshop on Analytics for Network and Service Management (AnNet 2017). She was member of the steering committee for RESSI'17 (Rendez-vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information).

Rémi Badonnel is a TPC co-chair for the Third IEEE/IFIP International Workshop on Analytics for Network and Service Management (AnNet 2018).

Jérôme François was a co-chair of the 3rd IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT).

Lucas nussbaum was a co-chair of the *High Performance Computing in/with the Cloud* track at 9th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2017).

#### 10.1.2.2. Member of the Conference Program Committees

Rémi Badonnel: IFIP/IEEE International Conference on Network and Service Management (IFIP/IEEE CNSM 2017) ; IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2017) ; IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS 2017) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2017) ; IEEE International Conference on Communications (IEEE ICC - SAC 2017).

Olivier Festor: IFIP/IEEE International Conference on Network and Service Management (IFIP/IEEE CNSM 2017) ; IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2017) ; IFIP Networking 2017.

Abdelkader Lahmadi: IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2017) ; 1st Cyber Security in Networking Conference (CSNET 2017).

Jérôme François: IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2017) ; IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS 2017) ; Principles, Systems and Applications of IP Telecommunications (IPTComm'17); IFIP/IEEE International Workshop on Management of SDN and NFV Systems (IFIP/IEEE ManSDN 2017).

Thibault Cholez: IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT 2017); 4th ACM Conference on Information-Centric Networking: Demos and Posters tracks (ICN 2017).

Lucas Nussbaum: 4th International Workshop on Computer and Networking Experimental Research Using Testbeds (CNERT'2017) ; 26th IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE'2017) ; 23rd IEEE International Conference on Parallel and Distributed Systems (ICPADS'2017).

Isabelle Chrisment: IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'17) ; Rencontres Francophones sur la Conception de Protocoles, l'évaluation de Performance et l'Expérimentation Aspects Algorithmiques de Télécommunications (CoResl'17) ; IEEE/IFIP International Symposium on Network Operations and Management (IFIP/IEEE IM'17).

Ye-Qiong Song: IEEE International Workshop on Factory Communication Systems (WFCS 2017); IEEE International Conference on Communications and Networking (ComNet 2017) ; IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2017) ; 25th International Conference on Real-Time Networks and Systems (RTNS 2017) ; IEEE Clobecom 2017; ICOST 2017; IEEE RTCSA 2017.

### **10.1.3. Journal**

#### *10.1.3.1. Member of the Editorial Boards*

Rémi Badonnel is Associate Editor for the Wiley International Journal of Network Management (IJNM), and serves as a Guest Editor for a Special Issue on Management of SDN/NFV-based Systems in the same journal.

Jérôme François serves as a Guest Editor for a Special Issue on Security for Emerging Open Networking Technologies in Wiley International Journal of Network Management (IJNM).

Ye-Qiong Song is an Associate Editor for the Elsevier Computers and Electrical Engineering journal, and for the Journal of Multimedia Information System.

#### *10.1.3.2. Reviewer - Reviewing Activities*

The following reviews for journals has been made by team members:

Rémi Badonnel: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer Journal of the Network and Systems Management (JNSM), Wiley International Journal of Network Management (IJNM), IEEE Communications Magazine (COMMAG), Elsevier Journal on Computer Communications (COMCOM), Elsevier Journal on Communication Networks (COMNET), Elsevier Journal on Computers and Security (COSE).

Olivier Ferstor: Elsevier Computers & Security.

Abdelkader Lahmadi: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer Journal of the Network and Systems Management (JNSM), Wiley International Journal of Network Management (IJNM), International Journal of Distributed Sensor Networks (IJDSN), IEEE Communications Magazine (COMMAG).

Jérôme François: IEEE Communications Magazine (COMMAG), Wiley International Journal of Network Management (IJNM).

Thibault Cholez: Wiley International Journal of Network Management (IJNM), Elsevier Journal on Communication Networks (COMNET).

Lucas Nussbaum: PLOS ONE ; Springer Journal of Internet Services and Applications (JISA) ; International Journal of Grid and Utility Computing (IJGUC) ; IEEE Transactions on Services Computing (TSC).

Isabelle Chrisment: IEEE Transactions on Network and Service Management (IEEE TNSM), IEEE Communications Magazine (COMMAG). Elsevier Journal Computer Communications (COMCOM)

Ye-Qiong Song: Elsevier Computers and Electrical Engineering journal, IEEE Transactions on Industrial Informatics, IEEE Communications surveys and tutorials.

#### 10.1.4. Invited Talks

Jérôme François:

- IRTF NMRG (IETF 100), Singapore: "Network traffic analysis for encrypted traffic and security monitoring"
- 7th annual Inria@SiliconValley workshop, Berkeley, CA, USA: panelist on "Blockchain Technology for Cybersecurity and Social Impact" and presenter in session "Scaling up for IoT"
- Annual CODE event of the Universität der Bundeswehr, Munich, Germany: panelist on "Smart Attacks requires smart defence"

Lucas Nussbaum:

- École ARCHI 2017: "Experimenting on Architectures for High Performance Computing"
- Reproducible Research Webinars: "Testbeds in Computer Science"
- École RESCOM 2017: "Scaling Your Experiments"

Vassili Rivron:

- CERReV/Université de Caen Normandie Conference on *Les services gratuits du web entre empowerment et hégémonie : contradictions et régulations de l'économie collaborative*, "Sites d'information et bloqueurs de publicité : intermédiaires de l'auto-régulation publicitaires dans le champ journalistique", March 2017.
- SHS Seminar in Loria, "News-sites and adblockers : intermediaries of advertising self-regulation in the field of journalism", in collaboration with Thibault Cholez, June 2017.

#### 10.1.5. Scientific Expertise

Abdelkader Lahmadi served as a member of the Selection Committee of the 2017 ComSoc Student Competition "Communications Technology Changing the World".

Jérôme François serves as reviewer for ANRT to evaluate a CIFRE PhD proposition and as reviewer for ANR.

Yeqiong Song serves as reviewer for ANRT to evaluate a CIFRE PhD proposition and as reviewer for ANR.

#### 10.1.6. Research Administration

Abdelkader Lahmadi is a member of the CDT of Inria Nancy Grand Est.

Jérôme François is a member of the Horizon Startup local committee in Nancy Grand Est.

Isabelle Chrisment is a member of :

- AFNIC's scientific council
- scientific pole AM2I (Automatique, Mathématiques, Informatique et leurs Interaction) at Université de Lorraine
- COMIPERS at Inria Nancy Grand Est.
- CMI (Commission de la Mention Informatique), part of the doctoral school IAEM.

She also served as a member of the working group "Plan Stratégique Scientifique Inria".

Olivier Festor is member of the Scientific Council of Telecom Sud Paris. Olivier Festor is leading the IFIP TC6 Working Group 6.6 : Network and Service Management. He is also in charge of the CERI initiative between France and Germany.

Yeqiong Song is head of Department 3 of LORIA.

## 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.

Laurent Ciarletta is co-heading the specialization Safe Systems Architecture of the Computer Science and IT department of the Ecole des Mines de Nancy ("Grande Ecole", Engineering School, Master degree level).

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

**Abdelkader Lahmadi** 280 hours - L3, M1, M2 - Real time and Embedded Systems Programming, Distributed Systems and Algorithms, Green IT, Algorithms and Advanced Programming - ENSEM Engineering School

**Ye-qiong Song** 200 hours - L3, M1, M2 - Green IT, Algorithms and Advanced Programming, Databases networking - ENSEM Engineering School

**Jérôme François** 70 hours - M1, M2 -Network security, Big Data - TELECOM Nancy, Université de Lorraine, University of Lorraine

**Thibault Cholez** 300 hours - L3, M1, M2 - Techniques and Tools for Programming, Computer Networks, Object-Oriented Programming, Network Services, Constraint development on small Connected Objects, Mobile applications and Internet of Things, Project Management - TELECOM Nancy, Université de Lorraine, University of Lorraine

**Isabelle Chrisment** 220 hours -L3, M1, M2 -C and Shell Programming, Computer Networking, Operating Systems, Network Security. - TELECOM Nancy, Université de Lorraine

#### **E-learning**

MOOC: Thibault Cholez, Supervision de réseaux et services (concept clés avec SNMP), 1 semaine (5 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

MOOC: Rémi Badonnel, Laurent Andrey, Supervision de réseaux et services (monitoring avec Nagios), 1 semaine (5 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

MOOC: Olivier Festor, Abdelkader Lahmadi, Supervision de réseaux et services (instrumentation avec JMX), 1 semaine (3 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

MOOC: Jérôme François, Supervision de réseaux et services (évolution des protocoles), 1 semaine (4 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

### **10.2.2. Supervision**

PhD: Wazen Shbair, *Service-Level Monitoring of HTTPS Traffic* [1] defended on May 3rd 2017, University of Lorraine, supervised by Isabelle Chrisment and Thibault Cholez.

PhD: Julien Vaubourg, *Intégration de modèles de réseaux IP à un multi-modèle DEVS, pour la co-simulation de systèmes cyber-physiques* [2], defended in April 2017, Université de Lorraine, supervised by Vincent Chevrier and Laurent Ciarletta.

PhD: Evangelia Tsiontsiou, *Multi-constrained QoS Routing and Energy Optimization in Wireless Sensor Networks*, defended on December 15th 2017, University of Lorraine, supervised by Ye-Qiong Song and Bernardetta Addis.

PhD: Patrick-Olivier Kamgueu, *Configuration Dynamique et Routage pour l'Internet des Objets*, defended on December 18th 2017, Université de Yaoundé & Université de Lorraine, supervised by Olivier Festor, Emmanuel Nataf and Thomas Djotio

PhD: Elian Aubry, *Protocole de routage pour l'architecture NDN*, defended on December 19th 2017, University of Lorraine, supervised by Isabelle Chrisment and Thomas Silverston

PhD in progress: Thomas Paris, *Mo, délimitation de systèmes complexes par composition*, since September 2015, supervised by Vincent Chevrier and Laurent Ciarletta.

PhD in progress: Maxime Compastie, *Software-Defined Security for the Cloud*, since December 2015, supervised by Olivier Festor and Rémi Badonnel.

PhD in progress: Florian Greff, *QoS and fault-tolerance of distributed real-time systems over mesh networks*, since Feb. 2015, supervised by Ye-Qiong Song and Laurent Ciarletta.

PhD in progress: Nicolas Schnepf, *Orchestration and Verification of Security Functions for Smart Environments*, since October 2016, supervised by Stephan Merz, Rémi Badonnel and Abdelkader Lahmadi.

PhD in progress: Giulia De Santis, *Data Analytics for Security*, since October 2015, supervised by Olivier Festor, Abdelkader Lahmadi and Jérôme François.

PhD in progress: Paul Chaignon, *Mécanismes de supervision de la sécurité dans un réseau programmable de type SDN/NFV*, since November 2015, supervised by Olivier Festor, Kahina Lazri and Jérôme François.

PhD in progress: Xavier Marchal, *Secure operation of virtualized Named Data Networks*, since December 2015, supervised by Olivier Festor and Thibault Cholez.

PhD in progress: Salvatore Signorello, *A multifold approach to address the security issues of stateful forwarding mechanisms in Information-Centric Networks*, since December 2014, supervised by Olivier Festor, Jérôme François and Radu State.

PhD in progress: Abdulqawi Saif, *Open Science for the scalability of a new generation search technology*, since December 2015, supervised by Ye-Qiong Song and Lucas Nussbaum.

PhD in progress: Pierre-Olivier Brissaud, *Anomaly detection in encrypted traffic*, since July 2016, supervised by Isabelle Chrisment, Jérôme François and Thibault Cholez.

PhD in progress: Petro Aksonenko, *Positionnement robuste pour véhicules autonomes à base de fusion de données de capteurs reposant sur les systèmes de navigation inertielle*, since October 2016, supervised by Patrick Henaff (Biscuit, Dep 5, Ioria), Vadim Avrutov (Kiev Polytechnic institute in Ukraine) and Laurent Ciarletta.

PhD in progress: Lakhdar Meftah, *Cartography of the quality of experience for mobile internet access*, since November 2016, supervised by Romain Rouvoy and Isabelle Chrisment.

PhD in progress: Haftay Gebreslasie Abreha, *Compressed and Verifiable Filtering Rules in Software-defined Networking*, since October 2017, supervised by Michael Rusinowitch, Abdelkader Lahmadi and Adel Bouhoula.

PhD in progress: Mingxiao Ma, *Cyber-physical systems defense through smart network configuration*, since December 2017, supervised by Isabelle Chrisment and Abdelkader Lahmadi.

PhD in progress: Louis Viard, *Environnement de développement et d'analyse de propriétés pour des systèmes cyber-physiques mobiles*, since November 2017, supervised by Pierre-Etienne Moreau and Laurent Ciarletta.

### 10.2.3. Juries

Team members participated to the following Ph.D. defense committees in:

- Maryam Barshan, PhD in Computer Science from Ghent University, Belgium. Title: Cloud Resource Provisioning and Bandwidth Management in Media-Centric Networks, August 2017 – (Rémi Badonnel as reviewer).

- Jose Jair Cardoso de Santanna, PhD in Computer Science from University of Twente, The Netherlands. Title: DDOS-as-a-Service - Investigating Booter Websites, November 2017 – (Olivier Festor as reviewer).
- Amina Boubendir, PhD in Computer Science from TELECOM ParisTech, France. Title: Flexibility and Dynamicity for Open Network-as-a-Service : From Architecture Modeling to Deployment, March 2017 – (Olivier Festor as reviewer).
- Merve Sahin, PhD in Computer Science from TELECOM ParisTech, France. Title: Understanding Telephony Fraud as an Essential Step to Better Fight It, September 2017 – (Olivier Festor as reviewer).
- Christian Hammerschmidt, PhD in Computer Science from the University of Luxembourg, Luxembourg. Title: Learning Finite Automata via Flexible State-Merging and Applications in Networking – (Jérôme François as reviewer).
- Pascal Thubert, PhD in Computer Science from IMT Atlantique - Bretagne -Pays de Loire, France. Title: Converging over Deterministic Networks for an Industrial Network, March 2017 – (Isabelle Chrisment as reviewer).
- Yoann Bertrand, PhD in Computer Science from Université Côte d'Azur, France. Title: Access control policies and companies data transmission management, March 2017 – (as examiner).
- Eric Asselin, PhD in Computer Science from Université de Toulouse, France. Title: Système de détection d'intrusion adapté au système de communication aéronautique ACARS, June 2017 – (Isabelle Chrisment as reviewer).
- Xiao Han, PhD in Computer Science from TELECOM ParisTech, France. Title: Measurement and Monitoring of Security from the Perspective of a Service Provider, September 2017 – (Isabelle Chrisment as reviewer).
- Bruno Dorsemayne, PhD in Computer Science from TELECOM ParisTech, France. Title: Conception et expérimentation d'un modèle de sécurité dédié à un système d'information interagissant avec des infrastructures d'objets connectés, October 2017 – (Isabelle Chrisment as examiner).
- Rishikesh SAHAY, PhD in Computer Science from TELECOM ParisTech, France. Title: Policy-Driven Autonomic Cyberdefense using Software Defined Networking, November 2017 – (Isabelle Chrisment as examiner).
- Florian Grandhomme, PhD in Computer Science from Université de Rennes 1, France. Title: Études de protocoles de routage dynamique externe de type BGP dans un environnement réseaux tactiques ad hoc mobiles : faisabilité et performance, November 2017 – (Isabelle Chrisment as examiner).
- Celestin Matte, PhD in Computer Science from Université de Lyon, Insa, France. Title: Wi-Fi Tracking: Fingerprinting Attacks and Counter-Measures, December 2017 – (Isabelle Chrisment as examiner).
- Zied Aouini, PhD in Computer Science from Université de la Rochelle, France. Title: Traffic Monitoring in Home Networks: From Theory to Practice, December 2017 – (Isabelle Chrisment as reviewer).
- Deepak Subramanian, PhD in Computer Science from CentraleSupélec, France. Title: Information Flow Control for the Web Browser through a Mechanism of Split Qddress, December 2017 – (Isabelle Chrisment as reviewer).
- Emilie Bérard-Deroche, PhD in Computer Science from Université de Toulouse - INP Toulouse, France. Title: Distribution d'une architecture modulaire intégrée dans un contexte hélicoptère, December 2017 – (Yeqiong Song as reviewer).
- Alemayehu Addisu Desta, PhD in Computer Science from Université de Paris-Est, France. Title: Energy Supply and Demand Side Management in Industrial Microgrid Context, December 2017 – (Yeqiong Song as examiner).
- Muhammad Agus Zainuddin, PhD in Computer Science from Université de Franche-Comté, France. Title: Efficient Low Layer Techniques for Electromagnetic Nanocommunication Networks, March 2017 – (Yeqiong Song as reviewer).

Team members participated to the following mid-term Ph.D. defense committees in:

- Philippe Pittoli, PhD Student in Université de Strasbourg, France. Title : Architecture de sécurité pour l'Internet des Objets, July 2017 – (Isabelle Chrisment as external reviewer)
- Antoine Vastel, PhD Student in Université de Lille, France. Title; Browser Fingerprinting: Privacy, Security and tracking, September 2017 – (Isabelle Chrisment as external reviewer)
- John Harrison Kurunathan, PhD Student in the University of Porto, Portugal. Title: Improving QoS for IEEE 802.15.4e Networks, September 2017 – (Yeqiong Song as external reviewer)

Team members participated to the following Habilitation Degree defense committees:

- Mathieu Bouet, Habilitation Degree in Computer Science from Université Pierre et Marie Curie - Sorbonne Universités, France. Title: Software networks : Orchestration, resilience, and programmability concerns, July 2017 – (Olivier Festor as reviewer).
- Nader Mbarek, Habilitation Degree in Computer Science from Université de Bourgogne, France. Title: Contributions à la Gestion Autonome et la Garantie du Niveau de Service dans les Environnements Cloud, Radio Maillés et Mobiles, July 2017 – (Olivier Festor as reviewer).
- Osman Salem, Habilitation Degree in Computer Science from Université Paris Descartes, France. Title: Anomaly Detection in Wireless Body Area Networks for Reliable Healthcare Monitoring, April 2017 – (Olivier Festor as reviewer).
- Francis Colas, Habilitation Degree in Computer Science from Université de Lorraine, France. Title: Modélisation bayésienne et robotique, May 2017 – (Yeqiong Song as examiner).
- Hanen Idoudi, Habilitation Degree in Computer Science from Université Jean Jaures, Toulouse 2, France. Title: Contributions à l'amélioration des communications dans les réseaux sans fil multi-sauts, December 2017 – (Yeqiong Song as reviewer).
- Karine Deschinkel, Habilitation Degree in Computer Science from Université de Franche-Comté, France. Title: Nouveaux modèles de programmation linéaires et de flots pour la résolution de problèmes d'optimisation difficiles, June 2017 – (Yeqiong Song as president).

### 10.3. Popularization

- Isabelle Chrisment was in charge of the scientific part of the 4th module (connecter le réseau) in the Class'Code project <https://project.inria.fr/classcode/classcode-in-english/>, aiming at helping teachers and educators for introducing computer science to childrens aged from 8 to 14 years;



## NEO Project-Team

# 10. Dissemination

## 10.1. Promoting Scientific Activities

### 10.1.1. Scientific Events Organisation

#### 10.1.1.1. Member of the Organizing Committees

- D.Politaki was member of the organization committee of the workshop “Monde des mathématiques industrielles (MOMI)”, Inria Sophia Antipolis, 27-28 February 2017.

### 10.1.2. Scientific Events Selection

#### 10.1.2.1. Chair of Conference Program Committees

- International Conference on Computing, Networking and Communications (ICNC 2018), symposium on Communication QoS and System Modeling (CQSM) (**G. Neglia**)

#### 10.1.2.2. Member of the Conference Program Committees

- 18th Conference of the Société Française de Recherche Opérationnelle et d'Aide à la Décision (ROADEF 2017, Metz, France) (**A. Jean-Marie**)
- 8th Conference on Decision and Game Theory for Security (GameSec 2017, Vienna, Austria) (**K. Avrachenkov**)
- IFIP Networking 2017 Conference and Workshops: IFIP/TC6 Networking Poster and Demo Session (Stokholm, Sweden) (**G. Neglia**)
- IEEE Intl. Conference on Computer Communications (INFOCOM 2018, Honolulu, Hawaii, USA) (**G. Neglia**)
- 24th Intl. Conference on Analytical & Stochastic Modelling Techniques & Applications (ASMTA 2017, Newcastle Upon Tyne, UK) (**K. Avrachenkov**)
- 7th Intl. Conference on Game Theory for Networks (GameNets 2017, Knoxville, Tennessee, USA) (**K. Avrachenkov**)
- 29th Intl. Teletraffic Conference (ITC 2017, Genoa, Italy) (**S. Alouf**)
- 14th Workshop on Algorithms and Models for the Web Graph (WAW 2017, Toronto, Canada) (**K. Avrachenkov**)
- 19th Workshop on Mathematical Performance Modeling and Analysis (MAMA 2017, Urbana-Champaign, Illinois, USA) (**A. Jean-Marie**)

#### 10.1.2.3. Reviewer

The members of the team reviewed numerous papers for numerous international conferences.

### 10.1.3. Journal

#### 10.1.3.1. Member of the Editorial Boards

- *ACM Transactions on Modeling and Performance Evaluation of Computing Systems (ACM ToM-PECS)* (**K. Avrachenkov** since 2015);
- *Wiley Transactions on Emerging Telecommunications Technologies (ETT)* (**S. Alouf** since July 2016);
- *Elsevier Computer Communications journal (COMCOM)* (**G. Neglia** since February 2014);
- *Elsevier International Journal of Performance Evaluation* (**K. Avrachenkov** since 2008).

#### 10.1.3.2. Reviewer - Reviewing Activities (list in alphabetical order of journal name)

- *Elsevier Transportation Research Part C* (**G. Neglia**);
- *IEEE Transactions on Mobile Computing (TMC)* (**S. Alouf**);
- *IEEE/ACM Transactions on Networking (ToN)* (**S. Alouf, G. Neglia**);
- *Mathematical Methods of Operations Research (MMOR)* (**S. Alouf**);
- *Performance Evaluation (PEVA)* (**S. Alouf, G. Neglia**);
- *Wiley Transactions on Emerging Telecommunications Technologies (ETT)* (**S. Alouf**).

### 10.1.4. Invited Talks

- G. Neglia gave an invited talk at the GdR ISIS workshop “PHY-Aware Edge Caching in 5G: Convergence of Network and Information Theory in Cache-aided Wireless Networks” on “Implicit Coordination of Caches in Small Cell Networks under Unknown Popularity Profiles”.

### 10.1.5. Leadership within the Scientific Community

- E. Altman is a fellow member of IEEE (Class of 2010).
- E. Altman and A. Jean-Marie are (elected) members of IFIP WG7.3 on “Computer System Modeling”. E. Altman is also Member of WG 6.3 of IFIP on Performance of Communication Systems.

### 10.1.6. Research Administration

S. Alouf

- is member of the scientific committee of the joint laboratory Inria-Alstom since May 2014;
- is vice-head of project-team NEO since January 2017.

K. Avrachenkov

- together with Arnaud Legout (DIANA team) and Fabien Gandon (WIMMICS team) is co-responsible of the multi-disciplinary research theme (Action Transversale) “Semantic and Complex Networks” at Inria Sophia Antipolis - Méditerranée.

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 a member of the Steering Committee of the GDR RO, a national research initiative on Operations Research sponsored by the CNRS;
- 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);
- is member of the scientific animation committee for the IDEX UCA<sup>JEDI</sup> research program "Social Interactions and Complex Dynamics" since 2017.

NEO members are in the following committees of Inria Sophia Antipolis-Méditerranée

- CLFP: Training Committee (**S. Alouf**, since November 2014);
- CSD: Doctoral Committee (**S. Alouf**, until February 2017);
- MASTIC: a commission in charge of popularization and regional and internal scientific animation (**D. Politaki**, since July 2016);
- PhD Seminars organizing committee of CRISAM (**D. Politaki**, since November 2016);
- NICE: Invited Researchers Committee (**K. Avrachenkov**, since 2010).

NEO members are in charge of the following tasks for the research center:

- Supervision and validation of the project-teams' yearly activity reports (**K. Avrachenkov**, since 2010).

## 10.2. Teaching - Supervision - Juries

### 10.2.1. Teaching

Licence:

S. Alouf, "Probability", 33H, Undergraduate Water Engineering degree (L3), Univ. of Nice Sophia Antipolis (UNS), France.

G. Neglia, "Probability", 33.5H, Undergraduate Water Engineering degree (L3), Univ. of Nice Sophia Antipolis (UNS), France.

D. Politaki, "Langage de programmation Java", 21H, L1, IUT, France.

D. Politaki, "Programmation Avancée", 42H, M1, UNS, France.

Master:

S. Alouf, "Performance Evaluation of Networks", 31.5H, M2 IFI Ubinet, UNS, France.

A. Kadavankandy, "Random-walk based algorithms for complex network analysis" at "Winter School on Complex Networks", 2H, M1 Computer Science, UNS, France.

G. Neglia, "Distributed Optimization and Games", 31.5H, M2 IFI Ubinet, UNS, France.

G. Neglia, responsible for the "Winter School on Complex Networks", 22.5H, M1 Computer Science, UNS, France.

Doctorat:

A. Jean-Marie, "Markov Chains" and "Optimal Stochastic Control", 20h, Facultad de Ciencias Económicas y Empresariales, Univ. Valladolid, Spain.

### 10.2.2. Supervision

HDR defended:

Sara Alouf, Université Côte d'Azur, "From Wireless Networks to Green IT: A Journey Through Stochastic Models and Tools", 20 December 2017.

Giovanni Neglia, Université Côte d'Azur, "Delay Tolerant Networks: from modeling to optimization", 27 February 2017.

PhD defended:

Arun Kadavankandy, "Spectral analysis of random graphs with application to clustering and sampling", Université Côte d'Azur, 18 July 2017, advisors: Konstantin Avrachenkov and Laura Cottatellucci (EURECOM).

Hlib Mykhailenko, “Distributed Edge Partitioning”, Université Côte d’Azur, 14 June 2017, advisor: Fabrice Huet (SCALE team).

PhD in progress:

Said Boularouk, “Helping space apprehension by visually impaired people”, 1 October 2015, advisors: Eitan Altman and Didier Josselin (UAPV).

Zaid Allybokus, “Scalable Online Algorithms for SDN Controllers”, 1 July 2016, advisors: Konstantin Avrachenkov and Lorenzo Maggi (Huawei).

Dimitra Politaki, “Greening data center,” 1 February 2016, advisors: Sara Alouf and Fabien Hermenier (UNS).

PhD interrupted:

Alina Tuholukova, “Caching at the Edge: Distributed Phy-aware Caching Policies for 5G Cellular Networks,” 1 July 2016 – 31 July 2017.

### 10.2.3. Juries

NEO members participated in the Ph.D. committees of (in alphabetical order):

- George Arvanitakis, “An Analytical Model for Flow-level Performance in Heterogeneous Wireless Networks”, Télécom ParisTech, 27 September 2017, (**S. Alouf** as jury member)
- Victor Bucarey López, “Addressing Problem Size in Stackelberg Security Games”, Univ. of Chile, 1 September 2017, (**A. Jean-Marie** as jury member)
- Justina Gianatti, “Métodos numéricos para resolver problemas de control óptimo”, National Univ. of Rosario, 30 October 2017, (**A. Jean-Marie** as jury member)
- Arun Kadavankandy, “Spectral analysis of random graphs with application to clustering and sampling”, Univ. Côte d’Azur, 18 July 2017, (**A. Jean-Marie** as jury president)
- Christelle Rovetta, “Simulation parfaite de réseaux fermés de files d’attente et génération aléatoire de structures combinatoires”, Univ. Paris Sciences Lettres, 20 June 2017, (**A. Jean-Marie** as reviewer)
- Luigi Vigneri, “Vehicles as a Mobile Cloud: Modelling, Optimization and Performance Analysis”, Univ. Côte d’Azur, 11 July 2017, (**G. Neglia** as jury member)
- Jingjing Zhang, “Interplay between caching, feedback and topology in the wireless broadcast channel”, Télécom ParisTech, 26 April 2017, (**K. Avrachenkov** as jury president)

## 10.3. Popularization

- S. Alouf gave a radio interview to journalist J. Colombain; the interview aired on France Info on 6 August 2017 and is available here (audio + abstract): [http://www.francetvinfo.fr/replay-radio/nouveau-monde/nouveau-monde-faut-il-dire-le-ou-la-wi-fi\\_2294141.html](http://www.francetvinfo.fr/replay-radio/nouveau-monde/nouveau-monde-faut-il-dire-le-ou-la-wi-fi_2294141.html);
- D. Politaki participated to the “Fête de la science”, Antibes Juan-les-Pins (7-8 October). She animated two games based on the pythagorean theorem and finding the shortest path respectively, Thymio and scratch.
- D. Politaki participated in the organization of MOMI: Le MOnde des Mathématiques Industrielles. This is a two-day event organized by PhD candidates of Inria’s center in Sophia-Antipolis, dedicated to discovering how Mathematics are useful in the Industrial world.
- D. Politaki participated to Stage MathC2+ (18-21 Juin 2017) which is organised by Inria (SAM).

## RAP2 Team

## 7. Dissemination

### 7.1. Promoting Scientific Activities

#### 7.1.1. Journal

##### 7.1.1.1. Member of the Editorial Boards

- *Nicolas Broutin* is member of the steering committee of the international meeting on analysis of algorithms (AofA).
- *Philippe Robert* is Associate Editor of the Book Series “Mathématiques et Applications” edited by Springer Verlag and Associate Editor of the journal “Queueing Systems, Theory and Applications”.

##### 7.1.1.2. Member of the Conference Program Committees

- *Philippe Robert* has been in the TPC of Performance’2017, Caching and Delivery in Wireless Networks Workshop (CCDWN)’2017 and Stochastic Networks’2018.

#### 7.1.2. Conferences

- *Nicolas Broutin* has given lectures at the probability seminar in Marseille on Jan 9, the probability seminar in Nice on March 21, and the annual days of the ANR project GRAAL on May 10.
- *Christine Fricker* has given a talk “Analysis of large scale closed networks with reservation” at the 2017 INFORMS 19th Applied Probability Conference, Northwestern University, USA on 10-12 July, 2017. *Christine Fricker* gave a talk at the day “Filles et math: une équation lumineuse” for 100 high school girls organised by Animath and Femmes et maths (19/12/2017).
- *Wen Sun* has given a talk “A Large Scale Network with Moving Servers” on 5-9 June 2017 at the Sigmetrics workshop MAMA in Urbana-Champaign, Illinois, USA and a talk “An asymptotic study of allocation policies in a large balls and bins model” at the 2017 INFORMS 19th Applied Probability Conference, Northwestern University, USA on 10-12 July, 2017.
- *Guilherme Thompson* has given a talk “Studying an offloading policy for multi-resource Cloud services under Kelly’s Regime” at the 2017 INFORMS 19th Applied Probability Conference, Northwestern University, USA on 10-12 July, 2017. *Philippe Robert* has given a talk “Asymptotics of Stochastic Protein Assembly Models” at the PDMP workshop in Seillac, France, June 2017. He has given a talk “Analysis of a Stochastic Model of Replication in Large Distributed Storage Systems: A Mean-Field Approach” at the ACM Sigmetrics conference, Urbana-Champaign, USA on 5-9 June 2017, and also a talk “A Large Scale Analysis of Unreliable Stochastic Networks” at the 2017 INFORMS 19th Applied Probability Conference, Northwestern University, USA on 10-12 July, 2017. He has given a talk “Stochastic Models of Gene Expression” at the SBF-Kolloquium, Institut für Mathematik, Universität Potsdam, October 2017. He gave a seminar “Asymptotic Studies of Large Distributed systems with Failures” at Inria Rhône-Alpes (Polaris team).

#### 7.1.3. Scientific Expertise

- *Christine Fricker* is member of the jury of agrégation

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

- Master : *Nicolas Broutin* Master Parisien de Recherche en Informatique (MPRI), in the course 2.15 on Analysis of Algorithms.
- *Philippe Robert* Master, Probabilités et Applications, UPMC

### 7.2.2. Supervision

- *Renaud Dessalles* [17] (January 2017) and *Guilherme Thompson* [2] (December 2017) have defended their PhD thesis.
- *Christine Fricker* got her habilitation to supervise research on 20/11/2017. The manuscript is entitled “Stochastic Networks”. Reviewers: Alexandre Proutière (professor, KTH Stockholm), Isi Mitrani (professor, Newcastle University), Laurent Massoulié (research position, Inria-Microsoft Research leader). Jury: Alexandre Proutière (professor, KTH Stockholm), Laurent Massoulié (Inria-Microsoft Research leader), reviewers, Irina Kurkova (professor, UPMC), Laurent Decreusefond (professor, Telecom Paristech), Carl Graham (research position, CNRS, Ecole Polytechnique).

### 7.2.3. Juries

*Philippe Robert* has been a member of the juries of PhD defenses by R. Dessalles (Ecole Polytechnique, January 2017), Y. Petot (Nancy, October 2017), G. Thompson (UPMC, December 2017) and V. Bœuf (Saclay, December 2017).

## SOCRATE Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific Events Organisation

##### 9.1.1.1. Member of the Organizing Committees

- Claire Goursaud co-organized the GDR day on mathematical methods and tools for IoT network modeling.

#### 9.1.2. Scientific Events Selection

##### 9.1.2.1. Chair of Conference Program Committees

Florent de Dinechin was program chair (with Javier Bruguera from ARM) of the 24th IEEE Symposium of Computer Arithmetic. He was co-chair of the track D11 “Reconfigurable Computing” of the Design Automation and Test in Europe (DATE) conference.

##### 9.1.2.2. Member of Conference Program Committees

Tanguy Risset was a member of the following technical program committees:

- IEEE Computer Society Annual Symposium on VLSI (ISVLSI) 2017
- Design Automation and Test in Europe (DATE) 2017
- International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM) 2017
- International Conference on Advances in Cognitive Radio (COCORA) 2018.

Guillaume Villemaud was a member of the following technical program committees:

- CROWNCOM2017
- PIMRC 2017
- EUCAP 2017.

Florent de Dinechin was a member of the following technical program committees:

- 28th IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 2017)
- 13th International Symposium on Applied Reconfigurable Computing (ARC 2017)
- Design Automation and Test in Europe (DATE 2017)
- 25th IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM 2017)
- International Conference on Field-Programmable Technology (FPT 2017).

Malcolm Egan was a member of the following technical program committees:

- IEEE Global Communications Conference (GLOBECOM) 2017
- International Conference on Advanced Technologies for Communications (ATC) 2017
- International Conference on Recent Advances on Signal Processing, Telecommunications & Computing (SigTelCom) 2017

Jean-Marie Gorce was a member of the following technical program committees:

- IEEE International Global Communications Conference (GLOBECOM 2017) - Cognitive Radio Networks
- IEEE International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC 2017, track 1)
- IEEE International conference on Communications (ICC 2017, track 1)
- IEEE Wireless Communications and Networking Conference (WCNC 2017)

### **9.1.3. Journal**

#### *9.1.3.1. Member of the Editorial Boards*

Guillaume Villemaud is an associate editor of Annals of Telecommunications (Springer).

Claire Goursaud is associate editor for ETT and ITL, Wiley.

Jean-Marie Gorce is associate editor for Journal of Wireless Communications and Networking (JWCN), Springer.

### **9.1.4. Scientific Expertise**

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).

Jean-Marie Gorce was appointed as scientific expert for Haute école spécialisée de Suisse occidentale and for FNRS (Belgium).

Jean-Marie Gorce is member of the Administration council (Conseil d'administration) of ESISAR, Valence.

Jean-Marie Gorce was member of the jury for prix de thèse en signal-image de EEA-ISIS-GRETSI 2017.

### **9.1.5. Invited Talks**

Jean-Marie Gorce gave the following invited talks:

- Toward haptic communications for IoT in 5G, in IEEE 5G Greece Summit, July 11<sup>th</sup>, 2017.
- (Keynote speaker) Toward reliable, reactive and energy efficient bursty multi-user communications at Dependable Wireless Communications and Localization for the IoT workshop organized under the umbrella of the COST Action CA15104 (IRACON), Graz, Austria, September, 12<sup>th</sup>, 2017.
- Fundamental limits of bursty multi-user communications, in the The Tenth Workshop on Information Theoretic Methods in Science and Engineering, 11-13 september 2017, Paris, France.

### **9.1.6. Research Administration**

Jean-Marie Gorce is Adjoint to Scientific Director of Inria Rhône-Alpes center.

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

### **9.2.1. Teaching**

Tanguy Risset and Jean-Marie Gorce and are professors at the Telecommunications Department of Insa Lyon.

Florent de Dinechin is a professor at the Computer Science Department of Insa Lyon.

Claire Goursaud is an associate professor at the Telecommunications department of Insa Lyon.

Leonardo Sampaio-Cardoso is an associate professor at Insa Lyon (Premier Cycle).



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.

Samir M. Perlaza and Jean-Marie Gorce teach the course on Network Information Theory at École Normale Supérieure de Lyon.

### 9.2.2. Supervision

PhD in progress **Tristan Delizy** *memory management for normally-of NV-RAM based systems*, Insa-Lyon, (Region ARC6) since 09/2016.

PhD in progress **Yohan Uguen** *Synthesis of arithmetic operators*, Insa-Lyon, (Ministry of research) since 09/2016.

PhD in progress **Yuqi Mo** *Scaling of Iot Communication issuers*, Insa-Lyon, since 09/2015.

PhD in progress **David Kibloff** *New strategy for Physical Layer Security in wireless networks: self-jamming using Full-Duplex Transceivers*, École Doctorale EEA de Lyon, funded by Inria-DGA grant since 10/2015.

PhD in progress **Nizar Khalfet** *Stochastic Energy Sources to Power Communication Systems*, École Doctorale EEA de Lyon, funded by EU Project COM-MED since 10/2016.

PhD in progress : **Andrea Bocco** *Porposition d'une unité de caclul U-NUM pour le calcul scientifique*, ANR Metalibm grant, since 12/2016.

PhD in progress : **Hassan Kallam** *Topology aided multi-user interference management in wireless network*, Fed4PMR Insavalor project grant, since 01/2017.

PhD in progress : **Anade Akpo Dadja** *Non asymptotic fundamental limits of impulsive radio communication*, ANR Arbust grant, since 09/2017.

PhD in progress : **Diane Duchemin** *Distributed coding in dense IoT Network*, ANR Metalibm grant, since 01/2017.

PhD : **Victor Quintero** *Noisy Channel-Output Feedback in the Interference Channel*, École Doctorale EEA, 12/12/2017.

PhD : **Matei Istoan** *High-performance coarse operators for FPGA-based computing*, ANR Metalibm grant, 6/04/2017.

HdR: Claire Goursaud *Contribution to the uplink PHY/MAC analysis for the IoT and BAN applications*, Doctoral School EEA, 1/12/2017

### 9.2.3. Juries

Tanguy Risset was a member of the jury of the following theses:

- Clément le Bas Marcos (Université de Limoges) as jury president,
- Celestin Matte (U. Lyon, dec. 2017) as examiner.

Guillaume Villemaud was a reviewer of Xiwen Jiang's thesis (Eurecom, oct. 2017).

Florent de Dinechin was a member of the jury of the following theses:

- Julie Dumas (Grenoble, dec. 2017) as examiner,
- Gael Deest (Rennes, dec. 2017) as reviewer.

Jean-Marie Gorce was a member of the jury of the following theses:

- Ahmad M Alam (INSA Rennes, March 2017) as reviewer,
- Fayçal Aït Aoudia (Université de Rennes, Sept 2017) as reviewer,
- Quentin Bodinnier (Centrale-Supelec, Oct 2017) as reviewer,
- Louis-Adrien Dufrene (INSA Rennes, Dec 2017) as examiner,
- Victor Quintero Florez (INSA Lyon, Dec 2017) as co-advisor.

Jean-Marie Gorce was a member of the jury of the following HdR:

- Guillaume Ferré (ENSIB, Bordeaux) as reviewer,
- Matthieu Crussières (INSA Rennes, Nov 2017) as reviewer,
- Claire Goursaud (INSA Lyon, Dec 2017) as examiner.