



RESEARCH CENTER  
**Sophia Antipolis - Méditerranée**

FIELD

Activity Report 2014

# Section Dissemination

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## ABS Project-Team

## 7. Dissemination

### 7.1. Promoting Scientific Activities

#### 7.1.1. Scientific Events Organisation

##### 7.1.1.1. general chair, scientific chair

- F. Cazals co-organized, with C. Robert (IBPC/CNRS, Paris) and J. Cortés (LAAS/CNRS, Toulouse), the Winter School *Modeling Large Macromolecular Assemblies*, held in Sophia-Antipolis on 8-12 December 2014. The school featured lectures by Gerhard Hummer (Max Plack Institut fur Biophysik / Theoretical Biophysics, Frankfurt), Dmitri Svergun (European Molecular Biology Laboratory, Hamburg), Haim Wolfson (Tel Aviv University), and Riccardo Pellarin (UCSF / Institut Pasteur Paris), and Frédéric Cazals. The event gathered 40 students from all over the world. See details at <http://algosb2014.inria.fr/>.

#### 7.1.2. Scientific Events Selection

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

F. Cazals was member of the following program committees:

- Symposium On Geometry Processing
- ACM Conference on Bioinformatics, Computational Biology and Biomedical Informatics

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Master: F. Cazals (Inria Sophia Antipolis Méditerranée) and S. Oudot (Inria Saclay), *Foundations of Geometric Methods in Data Analysis*, Data Sciences Program, Department of Applied Mathematics, Ecole Centrale Paris. (<http://www-sop.inria.fr/abs/teaching/centrale-FGMDA/centrale-FGMDA.html>)

Master: F. Cazals, *Algorithmic problems in computational structural biology*, 24h, Master of Science in Computational Biology from the University of Nice Sophia Antipolis, France, see <http://cbb.unice.fr>.

### 7.2.2. Supervision

**(PhD thesis, ongoing)** C. Roth, *Modeling the flexibility of macro-molecules: theory and applications*, University of Nice Sophia Antipolis. Advisor: F. Cazals.

**(PhD thesis, ongoing)** A. Lheritier, *Scoring and discriminating in high-dimensional spaces: a geometric based approach of statistical tests*, University of Nice Sophia Antipolis. Advisor: F. Cazals.

**(PhD thesis, ongoing)** D. Agarwal, *Towards nano-molecular design: advanced algorithms for modeling large protein assemblies*, University of Nice Sophia Antipolis. Advisor: F. Cazals.

**(PhD thesis, ongoing)** S. Marillet, *Modeling antibody - antigen complexes*, University of Nice Sophia Antipolis. The thesis is co-advised by F. Cazals and P. Boudinot (INRA Jouy-en-Josas).

**(PhD thesis, ongoing)** R. Tetley, *Structural alignments: beyond the rigid case*, University of Nice Sophia Antipolis.

### 7.2.3. Juries

- Didier Devaurs, University of Toulouse, October 2014. Rapporteur on the PhD thesis *Extensions of Sampling-based Approaches to Path Planning in Complex Cost Spaces: Applications to Robotics and Structural Biology*. Advisor: Juan Cortés
- Juan Cortés, University of Toulouse, April 2014. Rapporteur on the Habilitation thesis *Algorithmics of motion: from robotics, through structural biology, towards atomic-scale CAD*.

## AOSTE Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific events organisation

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

- Julien Deantoni: GeMoc'2014 (workshop) [43]
- Marie-Agnès Peraldi-Frati: CIEL'2014 [35]

#### 9.1.2. Scientific events selection

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

- Laurent George: PC co-chair of 19th International Conference on Reliable Software Technologie - Ada-europe'2014, and of Workshop on Mixed Criticality for Industrial Systems (WMCIS'2014)

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

- Robert de Simone: EmSoft'2014, FDL'2014, Memocode'2014.
- Yves Sorel: RTNS 2014, DASIP 2014, EMSOFT 2014, ADA-Europe 2014
- Dumitru Potop Butucaru: Memocode'2014, ACSOFT 2014, EsISyn 2014
- Julien Deantoni: CIEL 2014, CAL 2014.

#### 9.1.3. Journal

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

Yves Sorel: Traitement du Signal Journal

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master: Robert de Simone, Models of Computation for Networks-on-Chips (MoCs for NoCs), 36h, M2 International, UNS.

Master: Robert de Simone, Functional and Temporal Correctness, 36h, M1 International, UNS.

Master: Yves Sorel, Optimization of distributed real-time embedded systems, 24H, M2, University Paris Sud

Master: Yves Sorel, Distributed real-time systems, 26H, M2, University Paris Est

Master: Yves Sorel, Specification and formal models for embedded systems, 28H, M2, ENSTA, Paris

Master: Yves Sorel, Correct by construction design of reactive systems, 18H, M2, ESIEE, Noisy-Le-Grand

Master : Julien Deantoni, Encadrement Projet en équipe, 31h, M1, Polytech'Nice

Master : Julien Deantoni, Encadrement Apprentissage, 8h, M1, Polytech'Nice

Master : Julien Deantoni, Architecture machine, 24h, niveau M1, Polytech'Nice, France.

Master : Julien Deantoni, Systèmes embarqués et Ambient, 10h, M2, Polytech'Nice, France.

Master : Julien Deantoni, Langage C++, 88h, M1, Polytech'Nice, France.

Master : Julien Deantoni, Ingénierie Dirigée par les modèles par la pratique, 24h, M2, Polytech'Nice, France.

Master : Julien Deantoni, Ingénierie Dirigée par les modèles avancée, 9h, M2 Esprit Tunis, Tunisia.

Master: Dumitru Potop Butucaru, Une approche synchrone des systèmes embarqués temps réel, 12h, M1, EPITA Paris

Master: Dumitru Potop Butucaru and Thomas Carle, L'approche synchrone de la construction des systèmes embarqués temps réel, 12h, M2, Polytech Paris UPMC.

Licence: Laurent George, Java and Shell programming 48h, L1, IUT RT UPEC, France

Master: Laurent George, Distributed Real-Time Systems, 24h, M2, UPEC, France

Licence : Marie-Agnes Peraldi-Frati, Algorithms and programming 60h, L1, UNS Institute of technology.

Licence : Marie-Agnes Peraldi-Frati, System and Networks administration 80h, L2, UNS Institute of technology .

Licence : Marie-Agnes Peraldi-Frati, Web Programming 50 h, L2, UNS Institute of technology.

Licence: Frédéric Mallet, Architecture des ordinateurs, 45h, L3, UNS.

Master: Frédéric Mallet, Programmation Avancée et Design Patterns, 93h, M1, UNS.

Master: Frédéric Mallet, Java pour l'Informatique Industrielle, 24h, M1, UNS.

Master: Frédéric Mallet, Architectures des ordinateurs, 12h, M1, UNS.

Master: Frédéric Mallet, Formal Models for Network-On-Chips, 3h, M2, UNS.

### 9.2.2. Supervision

PhD in progress: Cristian Maxim, Probabilistic Real-Time Systems, University of UMPC-Paris-Sorbonne, co-supervised by Liliana Cucu-Grosjean with Benoit Triquet (Airbus)

PhD: Falou Ndoeye, Multiprocessor real-time scheduling taking into account preemption cost [19]; defended April 2014, supervised by Yves Sorel

PhD: Manel Djemal, *Reconciling performance and predictability on a NoC-based MPSoC using off-line scheduling techniques* [18], EDITE/UPMC, defended June 27th 2014, co-supervised by Alix Munier (UPMC/Lip6) and D. Potop-Butucaru.

PhD: Thomas Carle, *Efficient compilation of embedded control specifications with complex functional and non-functional properties* [16], EDITE/UPMC, defended Oct. 31st 2014, supervised by D. Potop-Butucaru.

PhD in progress: Salah Saidi, *Real-time scheduling for distributed simulation of numerical models*, University of UMPC-Paris-Sorbonne, co-supervised by Nicolas Pernet (IFPEN) and Yves Sorel

PhD in progress: Matias Vara-Larsen, *Toward a formal and hierarchical timed model for concurrent heterogeneous model*, UNS, started November 2012, supervised by Frédéric Mallet, co-supervised by Julien Deantoni.

PhD in progress: Ameni Khecharem, *High-Level modeling of hierarchical power management policies in SoCs*, UNS, started October 2012, supervised by Robert de Simone.

PhD in progress: Ying Lin, *Formal Analysis of polychronous models with MARTE/CCSL*, East China Normal University, started September 2011, supervised by Jing Liu (ECNU), co-supervised by Frédéric Mallet.

PhD in progress: Emilien Kofman, *Conception Haut Niveau Low Power d'objets mobiles communicants*, UNS, started Oct 2013, supervised by Robert de Simone, co-supervised by François Verdier (UMR CNRS/UNS LEAT).

PhD in progress: Amin Oueslati, *Modélisation conjointe d'applications et d'architectures parallèles embarqués en pratique*, UNS, started Jan 2014, supervised by Robert de Simone.

PhD in progress: Yann Bondue, *Towards formal multimodal languages*, UNS, started December 2014, supervised by Julien Deantoni.

**9.2.3. Juries**

- Robert de Simone: PhD examiner of Mariem Abdelmoula (UNS)
- Yves Sorel: PhD examiner of Philippe Thierry (University Paris Est)
- Laurent George: PhD reviewer of Georges-Arnaud KEMAYO (ENSMA Poitiers), Vincent LEGOUT (Telecom ParisTech) and Gurulingesh RARAVI (University of Porto).
- Liliana Cucu-Grosjean: PhD reviewer of Maxime CheraMy (University of Toulouse-INSA) and Vladimir-Alexandru Paun (Ecole Polytechnique, Paris)
- Dumitru Potop Butucaru: PhD examiner of Chan Ngo (Univ. Rennes 1)

## APICS Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

- L. Baratchart was a plenary speaker at Constructive Functions 2014 (June 2014) in Nashville, USA (TN). He was an invited speaker at the Complex Analysis Meeting of the Russian Academy of Sciences (April 2014) in Saint Petersburg, Russia, at the International Conference on Orthogonal Polynomials, Integrable Systems and their Applications (October 2014) in Shanghai, China, and at the conference Foundations of Constructive Mathematics (December 2014) in Montevideo. He was a visitor at Vanderbilt university, at MIT, at the University of Macao and at the University of Cyprus. He was a speaker at the seminar of Université de Bordeaux.
- M. Caenepeel gave a talk at the 33th Benelux Meeting on Systems and Control (The Netherlands) at the 18th IEEE Workshop on Signal and Power Integrity in Ghent (Belgium) and he presented a poster at the ERNSI meeting in Ostende (Belgium).
- S. Chevillard gave a talk at PICOF 2014 (May 2014) in Hammamet, Tunisia, at Constructive Functions 2014 (June 2014) in Nashville, USA (TN). He was an invited speaker at “Journée scientifique SMAI-SIGMA 2014” (November 2014) in Paris.
- J. Leblond organized an invited session at PICOF 2014<sup>0</sup> (May 2014). A poster about joint work on source estimation in EEG was presented at OHBM 2014<sup>0</sup> [28].
- S. Lefteriu was an invited speaker at the Max Planck Institute and presented a poster at the meeting of the working group GT Identification.
- M. Olivi gave a talk at the MTNS 2014 conference in Groningen (The Netherlands) [18].
- D. Ponomarev gave a talk at the 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications (July 2014) , in Madrid, Spain, at the seminar of the team Analyse, Géométrie, Topologie (AGT), Institut de Mathématiques de Marseille, Aix-Marseille Université (May 2014), and at the seminar of the team Defi, Inria Saclay - Ecole Polytechnique (Nov. 2014).
- F. Seyfert gave a talk at the MTNS 2014 in Groningen, at the IMS 2014 in Tampa and was invited to give a plenary lecture at the Ernsi meeting in Ostende.

#### 9.1.1. Scientific events selection

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

L. Baratchart was a member of the program committee of MTNS (Mathematical Theory of Networks and Systems) 2014, Groningen, The Netherlands.

#### 9.1.2. Journal

##### 9.1.2.1. member of the editorial board

L. Baratchart is a member of the Editorial Boards of *Constructive Methods and Function Theory* and *Complex Analysis and Operator Theory*.

<sup>0</sup><http://www.lamsin.tn/picof14/>

<sup>0</sup><http://www.humanbrainmapping.org/i4a/pages/index.cfm?pageID=3565>



## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

**Colles:** S. Chevillard is giving “Colles” at Centre International de Valbonne (CIV) (2 hours per week).

### 9.2.2. Supervision

PhD in progress: D. Ponomarev, Inverse problems for planar conductivity and Schrödinger PDEs, since Nov. 2012 (advisors: J. Leblond, L. Baratchart).

PhD in progress: M. Caenepeel, The development of models for the design of RF/microwave filters, since Feb. 2013 (advisors: Y. Rolain, M. Olivi, F. Seyfert).

PhD in progress: C. Papageorgakis, Conductivity model estimation, since Oct 2014 (advisors: J. Leblond, M. Clerc, B. Lanfer).

### 9.2.3. Juries

- M. Olivi was a referee of the PhD manuscript of P. Vuillemin (Univ. Toulouse) and of the PhD manuscript of F. Cheng (Univ. Lorraine).
- J. Leblond was a member of the PhD defense committee of L. Jassionnesse (Univ. Dijon, Nov 2014).
- F. Seyfert was a member of the PhD defense committee of Le Ha Vy Nguyen (Univ. Paris Sud, Inria project DISCO)

## 9.3. Popularization

- L. Baratchart was a speaker at “Café in” (Oct. 2014, Inria Sophia-Antipolis-Méditerranée).
- J. Leblond is a member of the Committee MASTIC. She was an invited speaker at the seminar associated with the lecture by G. Berry at the Collège de France (Jan. 2014).
- M. Olivi is president of the Committee MASTIC (Commission d’Animation et de Médiation Scientifique) <https://project.inria.fr/mastic/>. She is responsible for Scientific Mediation.

## 9.4. Community services

- S. Chevillard is representative at the “comité de centre” and at the “comité des projets” (Research Center Inria-Sophia).
- J. Leblond is an elected member of the “Conseil Scientifique” and of the “Commission Administrative Paritaire” of Inria. She is one of the two researchers in charge of the mission “Conseil et soutien aux chercheurs” within the Research Center.
- M. Olivi is responsible for scientific mediation and co-president of the committee MASTIC.

## ASCLEPIOS Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific events organisation

##### 8.1.1.1. general chair, scientific chair

- **N. Ayache** organized a new course on the "Personalized Digital Patient" at Collège de France for the annual chair on "Informatics and Computer Sciences". He gave 9 lectures and invited 26 lecturers including H. Delingette and X. Pennec from the Asclepios team.

##### 8.1.1.2. member of the organizing committee

- **X. Pennec** was co-organizer of the MICCAI workshop STIA'14 (Spatio-Temporal Image Analysis for longitudinal and time series image data), which was held at Cambridge, MA (USA) on September 18;
- **M. Sermesant** was a co-chair of the MICCAI 2014 Workshop Statistical Atlases and Computational Models of the Heart and a co-organiser of the UCL Centre for Cardiovascular Imaging and Inria Asclepios Project collaborative workshop: Translational Applications of Cardiovascular Models.

#### 8.1.2. Scientific events selection

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

- **X. Pennec** was program committee member of the MICCAI 2014 conference (Cambridge, MA, USA), area chair for ICPR 2014 conference (Stockholm, Sweden), and area chair of the International Symposium on Biomedical Imaging (ISBI'15).
- **H. Delingette** was program committee member of the RFIA 2014 conference, the conference on Virtual Reality Interactions and Physical Simulation (VRIPHYS'14), the International Symposium on BioMedical Simulation (ISBMS 2014).

##### 8.1.2.2. reviewer

- **H. Delingette** was reviewer for the International Symposium on Biomedical Imaging (ISBI'12), the conference on Virtual Reality Interactions and Physical Simulation (VRIPHYS'14), the International Symposium on BioMedical Simulation (ISBMS 2014), the conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2014), the European Conference on Computer Vision (ECCV 2014).
- **M. Sermesant** was a reviewer for the MICCAI 2014 and EMBS conferences.
- **X. Pennec** was reviewer for the sixth Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA'14); the workshop on computational diffusion MRI (CDMRI'14); the MICCAI 2014 Workshop on Medical Computer Vision (MCV'14); the 6th International Workshop on Biomedical Image Registration (WBIR'2014); the 24th biennial international conference on Information Processing in Medical Imaging (IPMI 2015).

#### 8.1.3. Journal

##### 8.1.3.1. member of the editorial board

- **N. Ayache** is the co-founder and the Co-Editor in Chief with J. Duncan (Professor at Yale) of *Medical Image Analysis*<sup>0</sup>. This scientific journal was created in 1996 and is published by Elsevier.

<sup>0</sup>[http://www.elsevier.com/wps/find/journaleditorialboard.cws\\_home/620983/editorialboard](http://www.elsevier.com/wps/find/journaleditorialboard.cws_home/620983/editorialboard)

- **N. Ayache** is Associated Editor of *IEEE Transactions on Medical Imaging*<sup>0</sup> and a member of the editorial board of the following journals: *Medical Image Technology* (Japanese journal) and *Journal of Computer Assisted Surgery* (Wiley).
- **H. Delingette** is a member of the editorial board of the journal *Medical Image Analysis* (Elsevier).
- **I. Strobant** is editorial coordinator for *Medical Image Analysis*, Elsevier (since october 2001) and editorial assistant for *IEEE Transactions on Medical Image Analysis*, (since october 2001).
- **X. Pennec** is a member of the editorial board of the journal *Medical Image Analysis* (Elsevier), of the *International Journal of Computer Vision* (Springer), of the *SIAM Journal on Imaging Sciences (SIIMS)*, and of the *Journal of Mathematical Imaging and Vision (JMIV)*.

#### 8.1.3.2. reviewer

- **H. Delingette** was reviewer for the following journals : *Medical Image Analysis* (Elsevier), *IEEE Transactions in Medical Imaging*, *IEEE Transactions in Biomedical Engineering*, *Computer Vision and Image Understanding*, *Biomedical Engineering*, *The Visual Computer*, *Expert Review of Medical Devices*, *Journal of Fluids and Structures*.
- **X. Pennec** was reviewer for the following journals : *International Statistical Review (ISR)*, *Medical Image Analysis (MedIA)*, *IEEE Transactions in Medical Imaging (TMI)*, *NeuroImage (NIMG)*, *Symmetry*, a chapter of a Springer book, *IEEE Transactions on Pattern Analysis (PAMI)*, *Int. journal of Computer Vision (IJCV)*, *Journal of mathematical imaging and vision (IJCV)*, *SIAM journal on Imaging Sciences (SIIMS)*.
- **M. Sermesant** was reviewer for the following journals: *Nature Scientific Reports*, *Journal of the American College of Cardiology*, *IEEE Transactions on Medical Imaging*, *Medical Image Analysis*, *International Journal for Computer Assisted Radiology and Surgery*, *Computers in Biology and Medicine*.

#### 8.1.4. Invited Lectures

We only list invited talks here. Please refer to general references for regular participation in conferences with a submission process.

- **Nicholas Ayache** gave the following invited lectures:
  - Inaugural lecture at Collège de France on 10 April 2014 entitled "From Medical Images to the Digital Patient"
  - Keynote lecture at the ICIP 2015 conference (Oct. 28 2014)
  - Keynote lecture at Sanofi (Nov. 28 2014)
  - Invited lectures at the "Forum of Laureates" (Dec. 11 2014).
- **Hervé Delingette** gave the following invited lectures:
  - at the *Deformable Object Manipulation international workshop* held in Lyon (Japan).
  - at the *Medical Imaging Summer School in Favignana* (Italy)
  - at a Seminar in College de France within the chair "Informatique et sciences numériques" of Nicholas Ayache on the personalized digital patient, Paris, May 6th, 2014.
  - the *Summer School on Medical Simulation in Lyon* (France).
- **Xavier Pennec** gave the following invited lectures:
  - séminaire de théorie du contrôle, Univ. Toulon, Decembre 11, 2014.
  - Int. workshop on Geometry of Information and Optimization (GIO), Bordeaux, December 4-5, 2014.
  - Geometrical Models in Vision workshop, semester on Geometry, Analysis and Dynamics on Sub-Riemannian Manifolds, Institut Henry Poincaré, Paris - October 22nd-24th, 2014.

<sup>0</sup><http://www.ieee-tmi.org/>

- the Medical Imaging Summer School (MISS' 14) in Favignana (Italy), July 2014.
- Symposium on Statistical Shape models & Applications (Shape 2014), Delémont, Swiss, June 11-13 2013. Keynote speaker.
- Seminar at College de France within the chair "Informatique et sciences numériques" of Nicholas Ayache on the personalized digital patient, Paris, May 13, 2014.
- MICCAI PC Workshop, Cambridge, MA, USA, May 16, 2014.
- Séminaires du Laboratoire de Mécanique, Lille Univ., March 20 2014.
- **Maxime Sermesant** gave invited lectures at the Frontiers Conference on Pediatrics and Congenital Heart Diseases, at the European Society of Cardiovascular Magnetic Resonance, and the opening lecture at the Science and Technology Department Day of Bordeaux University.

### 8.1.5. Other Scientific Animation Activities

- **Nicholas Ayache** a member of the "Comité de la Recherche Biomédicale en Santé Publique (CRBSP)" of the Nice hospitals since 2008. He was invited to Tokyo, Japan in February 2014 to evaluate a national program on "Computational Anatomy" funded by the MEXT.
- **Xavier Pennec** is a member of the MICCAI Society Board of Directors, of the Doctoral follow-up Committee (CSD) at Inria Sophia Antipolis, and in charge of the relationships of Inria-Sophia with the Nice University Hospital (CHU). In 2014, he was a member of the jury of the Vienna Science and Technology Fund (WWTF) for their 2014 call on imaging.
- **H. Delingette** is a member of the local committee in charge of the scientific selection of visiting scientists (Comité NICE) and the local committee on the immersive platform. He was an evaluator for the integrated European project ARTREAT, for the National Commission for Scientific and Technological Research of the Government of Chile (CONICYT). He was involved in the redaction of the application of the Université Cote d'Azur to the IDEX bid.
- **M. Sermesant** acted as an evaluator for the the Natural Sciences and Engineering Research Council of Canada (NSERC). He is a member of the Medical Simulation Working Group of Aviesan and of the CCC (local committee in charge of the selection of funding for courses and conferences organisation). He organized two hackfests for the medInria software.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Master : H. Delingette and X. Pennec, Introduction to Medical Image Analysis, 34h course, Master 2 MVA, ENS Cachan, France

Master : H. Delingette and X. Pennec, Advanced medical Imaging, 29h course, Master 2 MVA and École Centrale de Paris, France

Master : H. Delingette and X. Pennec, Computational Anatomy and Physiology, 21h course, Master CBB - Computational Biology and Biomedicine, Univ. Nice-Sophia Antipolis.

### 8.2.2. Supervision

#### 8.2.2.1. PhD defended in 2014

1. Erin Stretton, *Simulation of patient-specific glioma models for therapy planning*. Nice Sophia-Antipolis University, November 2014.
2. Hugo Talbot, *Simulation of Radiofrequency ablation of cardiac cells*. University of Lille, July 2014. [[1]]

#### 8.2.2.2. Current PhDs

1. Chloé Audigier, *Modeling radio-frequency ablation for the planning of abdominal tumors resection*, Nice Sophia-Antipolis University. Started in April 2012.

2. Thomas Benseghir, *3D/2D Coronary Registration for Interventional Cardiology Guidance*, Nice Sophia-Antipolis University. Started in March 2012.
3. Rocio Cabrera Lozoya, *Radio frequency ablation planning for cardiac arrhythmia treatment through biophysical modelling and machine learning approaches*, Nice Sophia-Antipolis University. Started in February 2012.
4. Nicolas Cordier, *Simulation and Analysis and Simulation of Brain Tumors Images*, University of Lille. Started in February 2012.
5. Pietro Gori, *Statistics on the brain connectivity of patients with neurological diseases*, University of Paris. Started in 2012. Thesis in collaboration with the Aramis project-team, co-directed by O. Colliot, S. Durrleman and N. Ayache.
6. Vikash Gupta, *Diffusion tensor imaging of the brain: towards quantitative clinical tools*, Nice Sophia-Antipolis University. Started in November 2011.
7. Mehdi Hadj Hamou, *Biophysical modeling of the anatomical evolution of the brain*, Nice Sophia-Antipolis University. Started in September 2012.
8. Bishesh Khanal, *Modeling the atrophy of the brain in Alzheimer's disease*, Nice Sophia-Antipolis University. Started in November 2012.
9. Loic Le Folgoc, *Biophysical Personalization of Cardiac Models based on Machine Learning*, Nice Sophia-Antipolis University. Started in June 2012.
10. Jan Margeta, *Indexation of time-series 4D cardiac MR images*, Ecole des Mines de Paris. Started in March 2011.
11. Nina Miolane, *Geometric Statistics in Computational Anatomy: Template Estimation and Subspace Learning in Manifolds, Lie groups and Stratified Spaces*, Nice-Sophia Antipolis University. Started in November 2013.
12. Hugo Talbot, *Simulation of Radiofrequency ablation of cardiac cells*, University of Lille. Started in September 2010.
13. Anant Vemuri, *Augmented reality for image-guided surgery*, Nice-Sophia Antipolis University. Started in 2012.
14. Marc-Michel Rohé, *Analyse statistique spatio-temporelle des formes, déformations, flots et propriétés physiologiques du cœur*, Nice-Sophia Antipolis University. Started in 2014.
15. Sophie Giffard-Roisin, *Non-invasive Estimation of Cardiac Electrophysiological Parameters*, Nice-Sophia Antipolis University. Started in 2014.
16. Roch Mollero, *Uncertainty quantification in personalized electromechanical models. Application to cardiomyopathies and obesity*, Nice-Sophia Antipolis University. Started in 2014.
17. Thomas Demarcy, *Segmentation and anatomic variability of the cochlea and other temporal bone structures from medical images*, Nice-Sophia Antipolis University. Started in 2014.

#### 8.2.2.3. Masters Thesis

1. Sophie Giffard-Roisin, *Evaluation of Personalised Canine Electromechanical Cardiac Models*. MVA Master, ENS Cachan. From April 2014 to August 2014.
2. Clair Vandersteen, *New concepts in mini-invasive cochlear implantation surgery applied to a surgical virtual planification*. Surgical Sciences Master, Medicine faculty Créteil Paris XI. From november 2013 to october 2014.

#### 8.2.3. Juries

N. Ayache was co-supervisor of the Phd thesis of E. Stretton (École des Mines de Paris).

Hervé Delingette was co-supervisor of the Phd theses of E. Stretton (École des Mines de Paris) and H. Talbot (Université de Lille I), reviewer in the PhD thesis committee of Blandine Romain (Ecole Centrale de Paris), of Jordan Bano (Université de Strasbourg), of Petru-Stefan Manescu (Université de Lyon), of Mathieu Bailet (Université Joseph Fourier de Grenoble) and examiner in the PhD thesis committee of Elisa Schenone (Université Paris VI), Xavier Faure (Université de Lyon I), and Ahmed Yureidini (Université Lille I).

Maxime Sermesant was examiner in the PhD thesis committee of H. Talbot (Université de Lille I).

### **8.3. Popularization**

Maxime Sermesant gave 2 presentations in 2014 about research and medical imaging in local high schools (Lycée Tocqueville in Grasse and Lycée Saint Exupéry in Saint Raphaël).

## ATHENA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, Scientific chair

- R. Deriche is Adj. Director at the Doctoral School EDSTIC (<http://edstic.i3s.unice.fr/index.html>)
- M. Clerc is “Vice-Présidente du Comité des Projets” (Deputy Head of Science) of Inria Sophia Antipolis Méditerranée Research Center.
- T. Papadopoulo (since september 2011) is the coordinator of the Master of Science in Computational Biology and Biomedicine from University of Nice Sophia Antipolis (Website: <http://cbb.unice.fr>). The scientific goal of this program is to focus on the human being from different perspectives (understanding and modeling functional aspects or interpreting biomedical signals from various devices) and at different scales (from molecules to organs and the whole organism).

#### 9.1.1.2. Member of the organizing committee

- R. Deriche is member of 4 Scientific Councils: University of Nice Sophia Antipolis, ITMO ITS (Institut des Technologies pour la Santé), Olea Medical Company (<http://www.olea-medical.com/>) and the GIS UNS-ENSL-CNRS-Inria.
- R. Deriche is member of the Administration Council of AFRIF (Association Française pour la Reconnaissance et l'Interprétation des Formes) .

### 9.1.2. Scientific events selection

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

- M. Clerc is member of the conference programme committee of International Conference on Basic and Clinical Multimodal Imaging (BACI2015), and of the award committee of the IEEE EMBC conference on Neural Engineering (NER2015).
- T. Papadopoulo is member of the conference programme committee for the national conference GRETSI 2015.

#### 9.1.2.2. Reviewer

- R. Deriche serves several international conferences (Isbi, MICCAI, ISMRM...).
- T. Papadopoulo served the international conferences: ISBI 2014, ISBI 2015, NER 2015, VISAPP 2015.
- M. Clerc served as reviewer for the international conferences: EMBC 2014, ICASSP 2014.

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

- R. Deriche is member of the Editorial Board of the Journal of Neural Engineering, Associate Editor of SIAM Journal on Imaging Sciences (SIIMS) and editorial board member at Springer for the book series entitled Computational Imaging and Vision.
- M. Clerc is member of the Editorial Board of Biomedical Engineering OnLine, and the ISTE-Wiley book series.

#### 9.1.3.2. Reviewer

- R. Deriche serves several international journals (NeuroImage, IEEE Transactions on Medical Imaging, Magnetic Resonance in Medicine, JMIV, Medical Image Analysis Journal,...).

- In 2014, T. Papadopoulo served as a reviewer for the journals TBME, PMB, Frontiers In Neuroscience.
- In 2014, M. Clerc served as a reviewer for the Proceedings of the IEEE, Physiological Measurement

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Master: R. Deriche, Variational approaches and Geometrical Flows for Brain Imaging, 36 ETD, M2 "Computational Biology and Biomedicine", University of Nice Sophia Antipolis, France.
- Master: R. Deriche, Advanced Image Processing Techniques, 12 ETD, M1 International CBB & Ubinet, University of Nice Sophia Antipolis, France.
- Master: M. Clerc and T. Papadopoulo, *Inverse Problems in Brain Functional Imaging*, 36 ETD, M2 "Computational Biology and Biomedicine", University of Nice Sophia Antipolis, France.
- Master: T. Papadopoulo, *3D Computer Vision*, 12 ETD, M1 International Ubinet, University of Nice Sophia Antipolis, France.
- Master: T. Papadopoulo, *Inverse problems for brain functional imaging*, 24 ETD, M2, Mathématiques, Vision et Apprentissage, ENS Cachan, France.
- PhD: M. Clerc gave a course in a workshop dedicated to the OpenViBE software at the 6th International Brain Computer Interface Conference in Graz, September 2015.

### 9.2.2. Supervision

- PhD in progress: Kai Dang, "Modeling and characterizing electrical conductivity for cochlear implantation", started Dec. 2013, Université Nice Sophia Antipolis. Supervisor: Maureen Clerc.
- PhD in progress: Rutger H.J. Fick, "Microstructure Recovery via dMRI", started Oct. 2013, Université Nice Sophia Antipolis. Supervisor: Rachid Deriche.
- PhD in progress: Gabriel Girard, "fMRI & dMRI", started Sept. 2012, Supervisors: Rachid Deriche & Maxime Descoteaux (University of Sherbrooke, CA).
- PhD in progress: Mouloud Kachouane, "Invariants and biomarqueurs in dMRI", started Oct. 2012, Supervisors: Rachid Deriche & L. Boumghar (USTHB, Algiers).
- PhD in progress: Thinhinane Megherbi, "HARDI & High Order Tensors", started Sept. 2011, Supervisors: Rachid Deriche & L. Boumghar (USTHB, Algiers)
- PhD in progress: Marco Pizzolato, "Diffusion & Perfusion MRI : From bench to bedside" started Dec. 2013, Université Nice Sophia Antipolis. Supervisor: Rachid Deriche.
- PhD in progress: Sebastian Hitziger, "MEEG signal processing", started Nov. 2011, Supervisors: Théodore Papadopoulo & Maureen Clerc.
- PhD in progress: Brahim Belaoucha, "Using diffusion MR information to reconstruct networks of brain activations from MEG and EEG measurements", Université Nice Sophia Antipolis, started October 2013, Supervisor: Theo Papadopoulo.
- Master: Lucas Drevillon, ISEN Brest, Élève Ingénieur Master 2 - Majeur: Technologies Biomédicales. Supervised by D. Wassermann.
- Master: Atousa Setoodegan, Université Nice Sophia Antipolis, Memoire Master 2. Supervised by D. Wassermann.
- Master: Aymeric Reshef, ENS Cachan, Memoire Master 2, Mathématiques / Vision / Apprentissage. Supervised by D. Wassermann & William Wells III (Harvard Medical School / MIT).
- Master: Asya Metelkina, Université Nice Sophia Antipolis, Memoire Master 2, Supervised by M. Clerc.



- Master: Christos Papageorgakis, Université Nice Sophia Antipolis, Memoire Master 2, Supervised by T. Papadopoulo.
- Master: Alicia Malé, Télécom Physique Strasbourg, Memoire Master 2, Supervised by T. Papadopoulo.

### **9.2.3. Juries**

- Rachid Deriche participated in the PhD juries of H.T. Nguyen (Neurospin, Saclay), C. Herold (Telecom ParisTech), Lars Lau Rakêt (CS Dept. University of Copenhaguen), C.Y. Sun (Insa, Lyon), S. Razakarivony (Caen Basse Normandie Univ.)
- Rachid Deriche participated in the HDR juries of J.P Da Costa (Université de Bordeaux).
- Demian Wassermann participated in the PhD Jury of V. Siless (Parietal EPI - Inria Saclay / Neurospin CEA, Orsay).
- Maureen Clerc participated in the PhD jury of Alexandre Fouchard (mi-parcours, CEA-LETI, Grenoble).

## AYIN Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

#### 8.1.1.1. Member of the organizing committee

- Josiane Zerubia was a part of the organizing committee for the IEEE ICIP conference in Paris in September 2014 (more than 1700 participants) <http://icip2014.wp.mines-telecom.fr/>. She was also co-chair of the tutorials and chair of a session.

### 8.1.2. Scientific events selection

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

- Yuliya Tarabalka was a part of the program committee for the OSA Imaging Systems and Applications conference 2014.
- Josiane Zerubia was a part of the program committee for the EMMCVPR conference in Hong-Kong <http://blog.ust.hk/emmcvpr/people/>.

#### 8.1.2.2. Reviewer

- Nazre Batool was a reviewer for the conference IEEE ICIP 2014.
- Aurélie Boisbunon was a reviewer for the European Signal Processing Conference (EUSIPCO).
- Ian Jermyn was a reviewer for the conferences EMMCVPR, IEEE ICIP 2014, IDEAL and of proposals for the UK Engineering and Physical Sciences Research Council and the Israel Science Foundation.
- Yuliya Tarabalka was a reviewer for the conferences IEEE ICIP 2014, IEEE IGARSS 2014 and OSA Imaging Systems and Applications 2014.
- Josiane Zerubia was a reviewer for the conferences EMMCVPR, IEEE ICASSP'14, IEEE ISBI'14, IEEE ICIP'2014 and ICPR'14.

### 8.1.3. Journal

#### 8.1.3.1. Member of the editorial board

- Yuliya Tarabalka was a co-editor of the special issue "Analysis of Remote Sensing Image Data" for the journal Remote Sensing.
- Josiane Zerubia is an Associate Editor of the collection "Foundation and Trends in Signal Processing" [<http://www.nowpublishers.com/>].
- Josiane Zerubia is a member of the Editorial Board of the "Revue Française de Photogrammétrie et de Télédétection of SFPT".
- Josiane Zerubia is an Associate Editor of the electronic journal Earthzine [<http://www.earthzine.org/>].

#### 8.1.3.2. Reviewer

- Nazre Batool was a reviewer for IEEE TIP, IET Image Processing journal and International Journal of Image and Graphics.
- Aurélie Boisbunon was a reviewer for the journals Signal Processing and Pattern Recognition.
- Paula Craciun was a reviewer for the IEEE JSTARS journal.
- Seong-Gyun Jeong was a reviewer for the journals IEEE CSVT and ELS JVCIR.

- Ihsen Hedhli was a reviewer for the journals IEEE GRSL, IEEE JSTARS and MDPI remote sensing.
- Ian Jermyn was a reviewer for the Journal of Mathematical Imaging and Vision
- Yuliya Tarabalka was a reviewer for the journals IEEE TIP, IEEE TGRS, IEEE JSTARS and ISPRS Journal of Photogrammetry and Remote Sensing.

#### **8.1.4. Seminars**

- Nazre Batool attended a meeting with Galderma R&D in August 2014 at Galderma, Sophia Antipolis and presented research progress on evaluation of temporal changes in facial wrinkles.
- Nazre Batool attended a meeting with Fraunhofer Institutes (Germany) and Philips Research (Netherlands) under LIRA consortium in February 2014 at Inria Sophia Antipolis.
- Aurélie Boisbunon gave the seminar “Détection de bateaux sur images satellitaires de ports”, at BioSP team, INRA Avignon, France, in June.
- Aurélie Boisbunon gave the seminar “Non convex sparse optimization problems in very high dimension and application to object detection”, at the Nonconvex optimization meeting organized by GdR ISIS, Télécom ParisTech, France, in May.
- Paula Craciun gave a seminar about multiple target tracking using marked point processes at Inria Rennes, in December 2014 and enjoyed a large audience from Inria Rennes and IRMAR Institute.
- Ihsen Hedhli, together with Aurélie Boisbunon and Josiane Zerubia presented Ayin research work at a poster session during the Pleiades days organized the French Space Agency in Toulouse in April 2014.
- Seong-Gyun Jeong attended a meeting with Galderma R&D in August 2014 at Galderma, Sophia Antipolis and presented his work on facial wrinkle detection.
- Seong-Gyun Jeong presented his work for regular poster session and Inria booth in IEEE ICIP 2014, Paris, in October.
- Yuliya Tarabalka visited and gave seminars at the University of Surrey and the University of Nice Sophia-Antipolis, on the topic of spatio-temporal video segmentation with shape growth or shrinkage constraint, in January and February 2014, respectively.
- Yuliya Tarabalka, Ian Jermyn and Josiane Zerubia attended a meeting at Institute Mines-Telecom in Paris in March 2014 with Magellium (UK), University of Genoa (Italy), EPFL (Switzerland), University of Szeged (Hungary), University of Tromsø (Norway), University of Iceland and University Ben Gurion (Israel). The meeting was held in regards with a project proposal for the H2020 initiative.
- Josiane Zerubia organized the meeting with 2 Fraunhofer Institutes (Germany), Philips Research (Netherlands), Red Cross Hospital (Netherlands), Galderma R&D (France), CHU Nice/Inserm (France) and Inria-SAM (France). The meeting was held in regards with a project proposal for the H2020 initiative at Inria Sophia Antipolis in February 2014.
- Josiane Zerubia was invited to give in June a series of different seminars related to remote sensing, marked point processes and hierarchical Markov random fields in Israel at Ben Gurion University in Beer Sheva, Hebrew University of Jerusalem, University of Haifa as well as in two industrial R&D centers in Herzlyia (General Motors and Superdimension/Covidian).
- Josiane Zerubia gave in August in Canada a seminar on remote sensing at University of Montreal and two talks on skin image processing at Mc Master University (Biophotonics lab and Juravinski Cancer Center).
- Josiane Zerubia was invited in December to go to Hungary to give a talk on skin image processing at University of Szeged and another one on hierarchical Markov random field for remote sensing at MTA SZTAKI in Budapest.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

- Masters: Yuliya Tarabalka, Digital imaging, 15h eq. TD (2h of lectures + 12h of TD), M2 SVS ISAB, Université de Nice Sophia-Antipolis, France.
- Masters: Josiane Zerubia, Deconvolution and denoising in confocal microscopy, 18h eq. TD (12h of lectures), M2 BCC, Université de Nice Sophia-Antipolis, France. Josiane Zerubia is also director of this course (total: 24h of lectures).
- Masters: Josiane Zerubia, Advanced techniques in signal and image processing, 30h eq. TD (20h of lectures), ISAE/SUPAERO, France. Josiane Zerubia is also director of this course (total: 30h of lectures and 10h of TD). This course was given to third-year students at ISAE/SUPAERO and was also validated by the Master 2 of Applied Mathematics at the University Paul Sabatier in Toulouse.
- Masters: Josiane Zerubia, Introduction to image processing, 4.5h eq. TD (3h of lectures), M2 SVS ISAB, Université de Nice Sophia-Antipolis, France. Josiane Zerubia is also director of the course “Digital imaging” at UNS, Master 2 SVS ISAB, UE3 (total: 25h of lectures and 25h of TD).

### 8.2.2. Supervision

PhD in progress: Paula Craciun, Automatic object tracking on a sequence of images taken from a geostationary satellite, University of Nice-Sophia Antipolis, started in December 2012, Josiane Zerubia.

PhD in progress: Ihsen Hedhli, Change detection methods for multisensor and multiresolution remote sensing images for applications to environmental disaster management, University of Genova and University of Nice-Sophia Antipolis, started in January 2013, Gabriele Moser and Josiane Zerubia.

PhD in progress: Seong-Gyun Jeong, New image processing methods for skin condition evaluation, University of Nice-Sophia Antipolis, started in December 2012, Josiane Zerubia and Yuliya Tarabalka.

### 8.2.3. Juries

- Yuliya Tarabalka participated in the monitoring committee for the thesis of Amine Bohi, Southern University of Toulon-Var in September 2014.
- Josiane Zerubia was a reviewer for the Master 2 SVS ISAB at UNS.
- Josiane Zerubia participated with another senior researcher of Inria in the monitoring committee for all the PhD theses funded by Airbus Defense and Space at Inria.
- Josiane Zerubia was a reviewer of a joint PhD thesis between ONERA/DOTA in Toulouse and GIPSA lab at ENSE3 in Grenoble (PhD thesis committee).
- Josiane Zerubia was a member of the selection committee to hire junior researchers (CR2) at Inria-SAM in May 2014.

## 8.3. Popularization

- Aurélie Boisbunon is the representative of PhD students and postdocs at the Mediation and Animation commission (MASTIC) of Inria Sophia Antipolis.
- Aurélie Boisbunon gave talks about machine learning and image processing to high school students and junior high school students for the MathsC2+ training course and for the Fête de la Science 2014.
- Aurélie Boisbunon is participating in a project with junior high school students from Collège Nucéra, in Nice, aiming at giving an introduction to programming and robotics.

- Josiane Zerubia gave a talk on aerial and satellite image processing to high school students in Physics at Valbonne International Center during the “Fête de la Science 2014.”
- Josiane Zerubia presented Inria and Inria-SAM to interested PhD and post-doc students at Inria booth during ICIP’14 in Paris as well as Mc Master University in Canada, University of Szeged and MTA SZTAKI in Hungary.
- Josiane Zerubia is organizing a monthly scientific seminar at Inria-SAM with national and international speakers (see <https://team.inria.fr/ayin/ayinseminars/>).

## **BIOCORE Project-Team**

# **9. Dissemination**

## **9.1. Promoting Scientific Activities**

### **9.1.1. Scientific events selection**

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

J.-L. Gouzé is a member of the program committee for the conference BIOMATH, held in Sofia (Bulgaria). He is in the editorial committee of the proceedings of the conference in honor of E. Benoit (La Rochelle 2013). O. Bernard is in the technical committee of the Computer Applied to Biotechnology (CAB) conferences. He is in the scientific committee of the French conference "Stic et Environnement".

#### *9.1.1.2. reviewer*

All BIOCORE members have been reviewers for the major 2014 conferences in our field: CDC, MTNS, IFAC World Congress,...

### **9.1.2. Journal**

#### *9.1.2.1. reviewer*

All BIOCORE members have been reviewers for the major journals in our field: Automatica, IEEE Transactions on Automatic Control, Journal of Mathematical Biology, Mathematical Biosciences, New Phytologist,...

### **9.1.3. Other animations**

J.-L. Gouzé is in the Inria committee supervising the doctoral theses, and a member of the scientific committee of Labex SIGNALIFE of the University of Nice-Sophia-Antipolis, and of COREBIO PACA. He is a member of the board of the SFBT (French Speaking Society for Theoretical Biology).

M. Chaves is the coordinator of ANR project GEMCO. Since September 2011, she is a member of the COST-GTRI (the Working Group on International Relations in Inria's Council for Scientific and Technological Orientation). The Group is charged with evaluating Inria's Associated Teams as well as some project proposals (EuroMed 3+3), and ERCIM post-docs. M. Chaves was in the Inria (Sophia) committee for the selection of new CR2 researchers (May 12-13) and in the Labex Signalife committee for the selection of new PhD students (June 16-17).

O. Bernard is a member of the scientific committee of the competitiveness pole "Trimatec". He represents Inria at the ANCRE (Alliance Nationale de Coordination de la Recherche pour l'Energie), in the biomass committee. He is member of the ADT committee (Technological Development Actions) at Inria.

F. Grognard is a member of the NICE committee, which allocates post-doctoral grants and fundings for visiting scientists at Inria Sophia Antipolis. He is a member of the scientific committee of the doctoral school "Sciences de la Vie" at the University of Nice-Sophia Antipolis.

S. Touzeau is an elected member of the scientific committee of the MIA departement at INRA (2011–2015). She is a member and a board member of the MBIA CSS (Specialised Scientific Commission), in charge of the research scientist evaluation at INRA (2011–2015). She is a member of the scientific committee of the INRA-ModStatSAP network "Modélisation et Statistique en Santé des Animaux et des Plantes". S. Touzeau was a member of 3 juries for the recruitment of junior research scientists at INRA in April–June: "Epidemiology and plant architecture" (1 position), "Epidemiology and modeling" (2 positions) and "Mathematics for the life sciences and environment" (3 positions). She participated in the panel of experts for the evaluation of the LIRIMA in September 2014.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Bachelor: F. Grognaud (45.5h ETD) and L. Mailleret (26h ETD), "Equations différentielles ordinaires et systèmes dynamiques", L3, 1st year Engineering in Modelling and Applied Mathematics, Polytech'Nice, Université of Nice Sophia Antipolis, France.

Master: O. Bernard (4.5 ETD), "Bioenergy from microalgae", M2, Master International Energy Management : alternatives pour l'énergie du futur, Ecole Nationale Supérieure des Mines de Paris, France.

Master: O. Bernard (18h ETD), "Modelling biotechnological processes", M2, Ecole Centrale de Paris, France.

Master: F. Grognaud (21h ETD) and L. Mailleret (21h ETD), "Bio-Mathématiques", M1, 2nd year Engineering in Modelling and Applied Mathematics (eq. M1), Polytech'Nice, Université of Nice Sophia Antipolis, France.

Master: J.-L. Gouzé (9h ETD), M. Chaves (4.5h ETD), "Discrete and continuous approaches to model gene regulatory networks", M2, Master of Science in Computational Biology, University of Nice - Sophia Antipolis, France.

Master: J.-L. Gouzé (18h ETD), M. Chaves (12h ETD) "Modelling biological networks by ordinary differential equations", M1, 4th year students, Génie Biologie, Ecole Polytechnique University of Nice - Sophia Antipolis, France.

Master : S. Touzeau (17.25h ETD), "Analyse de données", M1, 2nd engineering year in Génie Biologie, Polytech'Nice – Université Nice Sophia Antipolis, France.

PhD program: J.-L. Gouzé and M. Chaves (3h ETD), seminar course on "Introduction to mathematical modeling of biological networks", to the students of the Labex Signallife PhD program, University of Nice - Sophia Antipolis, France.

O. Bernard together with F. Mairet and Q. Béchet supervised two projects for engineering school students. The first project involved 6 students of Ecole Nationale Supérieure des Mines de Paris (last year of engineering school, 1 week ("Combining photovoltaic panels and microalgae") and the second project involved 4 students from the Ecole Centrale de Paris (first year of engineering school), 4 months, to design a process with microalgae growing on a biofilm.

### 9.2.2. Supervision

PhD : P. Hartmann, " Effect of hydrodynamics on light utilization in large scale cultures of microalgae ", UNS, defended May 14, 2014. Supervisors: O. Bernard and A. Sciandra. [13]

PhD : A. Carta, "Modelling, analysis and control for systems biology: application to bacterial growth models", UNS, defended May 22, 2014. Supervisors: J.-L. Gouzé and M. Chaves.[12]

PhD : C. Baroukh, "Metabolic modeling under non-balanced growth. Application to microalgae for biofuels production", U. Montpellier 2, defended October 10, 2014. Supervisors: J.-P. Steyer and O. Bernard.[11]

PhD : Natacha Go, "Modelling the immune response to the Porcine Respiratory and Reproductive Syndrome virus", AgroParisTech, defended December 8, 2014. Supervisors: S. Touzeau & C. Belloc (BioepAR, INRA & Oniris Nantes) [90]

PhD : A. Lebon, "La compensation dans les interactions plantes insectes : modélisation, simulation et expérimentation", University of Montpellier 2, defended December 10, 2014. Supervisors : Y. Dumont (CIRAD), F. Grognaud and L. Mailleret.

PhD in progress : G. Grimaud, "Controlled competition for the selection of microalgal species of interest ", since September 2011, UNS. Supervisor: O. Bernard and S. Rabouille.

PhD in progress : I. Belgacem “Contrôle de systèmes de régulation génétique”, since November 2011, UNS. Supervisor: J.-L. Gouzé.

PhD in progress : H. Bonnefond, "Experimental development of selection oriented photobioreactors", since september 2012, UNS. Supervisor: A. Sciandra and O. Bernard

PhD in progress : T. Morel Journel, “Où, quand, combien? Stratégies d’introduction d’organismes dans un environnement spatialement structuré”, since October 2012, UNS. Supervisors: T. Guillemaud, E. Vercken and L. Mailleret.

PhD in progress : E. Rousseau, ”Plant viruses adaptation to quantitative resistance: from the study of their impact on within-host viral evolutionary dynamics to their durable management in agroecosystems”, since November 2012, UNS. Supervisors: F. Grogard, L. Mailleret, B. Moury, and F. Fabre (INRA Avignon).

PhD in progress : D. Demory, "Impact of virus dynamics on microalgae mortality ", since September 2013, UPMC. Supervisor: A. Sciandra and O. Bernard

PhD in progress : N. Bajoux, "Influence d’une densité dépendance dans les modèles impulsifs de dynamiques des populations", since October 2013, UNS. Supervisor: F. Grogard.

PhD in progress : S. Casagrande. “Analysis and control of cell growth models”, since November 2013, UNS. Supervisors: J.-L. Gouzé and D. Ropers (Inria IBIS).

PhD in progress : S. Almeida. "Theoretical design of synthetic biological oscillators and their coupling", since October 2014, UNS. Supervisors: M. Chaves and F. Delaunay (UNS, iBV).

### 9.2.3. Juries

O. Bernard was referee for the PhD of Cyril Marcilhac "Studies of the culture conditions of a complex ecosystem microalgae / bacteria: application to the development of an a process to extract and recover nutrients from the digestate", University of Rennes 1, Dec. 18, 2014.

O. Bernard was in the PhD jury of G. Bougaran "Co-limitation by nitrogen and phosphorus : study of the mechanisms in the microalgae *Tisochrysis lutea*", Nantes University, Oct. 22, 2014.

O. Bernard was in the PhD jury of T. Dinh. "Interval observers and positive observers", Paris-Sud University (Nov. 24, 2014).

O. Bernard was in the PhD jury of P. Hartmann, " Effect of hydrodynamics on light utilization in large scale cultures of microalgae ", UNS, May 14, 2014.

O. Bernard was in the PhD jury of C. Baroukh, “Metabolic modeling under non-balanced growth. Application to microalgae for biofuels production”, U. Montpellier 2, October 10, 2014.

S. Touzeau was in the PhD thesis jury of Natacha Go, “Modelling the immune response to the Porcine Respiratory and Reproductive Syndrome virus”, AgroParisTech, December 8, 2014.

M. Chaves and J.-L. Gouzé were in the PhD thesis jury of Alfonso Carta, “Modelling, analysis and control for systems biology: application to bacterial growth models,” University of Nice Sophia Antipolis, May 22, 2014.

J.L. Gouzé was referee for the PhD thesis of J.S. Nelva Pasqual. “ Exploration des réseaux d’interactions en écologie : de la structure vers la dynamique. Signification des analyses des matrices de communauté en écologie des estuaires”. Université Bordeaux 1.

F. Grogard and L. Mailleret were in the PhD jury of A. Lebon, “La compensation dans les interactions plantes insectes : modélisation, simulation et expérimentation”, University of Montpellier 2, December 10, 2014.

O. Bernard is in the thesis committee of S. Bellini (University of Montpellier), G. Bougaran (University of Nantes), Valeria Villanova (University of Grenoble) and Sofiane Mazeghrane (University of Montpellier).

S. Touzeau is in the thesis committee of David Demory (UPMC, 2013–2016) and Eric Breton (Université de Nantes, 2013–2016).



F. Mairet is in the thesis committee of Alessandro Solimeno (Universidad Politecnica de Catalunya).

### 9.3. Popularization

The activities related to microalgae have generated many articles in national newspapers (Le Monde.fr, Libération, Le Point.fr, ...), and broadcasts on national TV. Several articles were written by the team members to explain the hurdles and potential of microalgae [74]. A book [93] was also written with C. Gudin (formerly at CEA Cadarache) on the potential of microalgae. We also developed a Java applet for the simulation of microalgae growth and biological pest control. The aim of the applet is for the general public to understand the goals and difficulties of controlling such systems.

We have also made a short movie to explain the advantages of our supervision software **ODIN** and to present the pilot photovoltaic greenhouses which will be developed within the ANR Purple Sun project.

### 9.4. Conferences, invited conferences

Conferences cited in the bibliography are not repeated here.

O. Bernard was invited to give a conference on microalgae at Ecole Centrale de Paris (“Défi biotechnologie”) “Use of microorganisms for biofuel production” (November 27).

O. Bernard was invited to give a conference at University of Padova “Towards predicting microalgal productivity at large scale from lab experiments”, June 26, and at University of Valparaiso “A new framework for metabolic modelling under non-balanced growth. Application to carbon metabolism of unicellular microalgae”, March 26.

O. Bernard and F. Mairet gave a lecture (3h) on Modelling microalgal based processes at the 3rd French-Chilean Workshop on Bioprocess Modelling (March, Valparaiso, Chile)

F. Mairet gave a joint talk with Magali Ribot entitled Modeling of micro-algae biofilms at the 1st Symposium Physics of living matter: experiments and theoretical models (Nice, Dec. 18).

M. Chaves was invited to give a semi-plenary talk on “Predictive analysis for biological regulatory systems combining discrete and continuous formalisms,” at the Symposium on Mathematical Theory of Networks and Systems (MTNS’14) (July 7-11)

M. Chaves and J.-L. Gouzé organized an invited session on “Discrete and Continuous Formalisms in Systems Biology,” at MTNS’14 (July 7-11)

M. Chaves was invited to give presentations at the following meetings: 1<sup>st</sup> Lyon Control Day (Feb 27-28) and AANS (IEEE International Meeting on Analysis and Applications of Nonsmooth Systems) (Como, Italy, Sep. 10-12),

M. Chaves was invited to give seminars at the department of Mathematics at Imperial College (Mar 25) and at University of Aveiro (Dec 4).

P. Bernhard was invited to give epistemology talks at a small international workshop [42], and later in the seminar of the CIRED (Centre International de Recherches sur l’Environnement et le Développement, CNRS, Ecole des Ponts et Chaussées ParisTech, and Agro ParisTech).

## CASTOR Project-Team

## 9. Dissemination

### 9.1. Teaching - Supervision - Juries

#### 9.1.1. Teaching

Ecole d'ingénieur: D. Auroux, Optimisation, 66h, M1, Polytech Nice, Université de Nice Sophia Antipolis, France

Master: D. Auroux, Optimisation, 45h, M1, Université de Nice Sophia Antipolis, France

Ecole d'ingénieur: D. Auroux, Méthodes numériques, 36h, M1, Polytech Nice Sophia, Université de Nice Sophia Antipolis, France

Master: J. Blum, Optimization, 30h, M1 Erasmus Mundus, Université de Nice Sophia Antipolis, France

Master: J. Blum, Optimisation et controle, 30h, M2, Université de Nice Sophia Antipolis, France

Ecole d'ingénieur: J. Blum, Commande Optimale, 37.5h, M2, Polytech Nice Sophia, Université de Nice Sophia Antipolis, France

Ecole d'ingénieur: C. Boulbe, Analyse Numérique, 71.5h, L3, Polytech Nice Sophia Antipolis, France

Ecole d'ingénieur: C. Boulbe, Méthodes numérique - EDP, 66h, M1, Polytech Nice Sophia Antipolis, France

Master: B. Nkonga, Analyse Numérique, 40h, M1, Université de Nice Sophia Antipolis, France

Ecole d'ingénieur/Master: B. Nkonga, Méthode des éléments finis, 24h, M2, Polytech Nice Sophia, France

Ecole d'ingénieur/Master: B. Nkonga, Calcul Parallèle, 24h, M2, Polytech Nice Sophia, France

Licence: A. Sangam, Analyse, 40h, L1, Université de Nice Sophia Antipolis, France

Licence: A. Sangam, Modélisation, 10h, L1, Université Nice Sophia Antipolis, France

Licence: A. Sangam, Analyse, 50h, L2, Université Nice Sophia Antipolis, France

Licence: A. Sangam, Méthodes Numériques et Formelles, 40h, L2, Université Nice Sophia Antipolis, France

Licence: A. Sangam, Mathématiques Appliquées, 50h, L3, Université de Nice Sophia Antipolis, France

Master: A. Sangam, Introduction to Finite Element, 25h, M1, Université de Nice Sophia Antipolis, France

Master: R. Pasquetti, module "Modèles de turbulence", 20 h, Masters MSC & IMAG2E, Université de Nice Sophia Antipolis, France.

#### 9.1.2. Supervision

PhD: Giovanni Ruggiero, Une étude comparative de méthodes d'assimilation de données pour des modèles océaniques, Université de Nice Sophia Antipolis, 13 mars 2014, J. Blum et Y. Oumières

PhD: Jeaniffer Vides, Schémas de type Godunov pour la modélisation hydrodynamique et magnétohydrodynamique, Université de Nice Sophia Antipolis, 21 octobre 2014

PhD in progress : Pierre Cargemel, "Déraffinement adaptatif de maillages non structurés pour une simulation efficace des procédés EOR", September 1st 2012, Hervé Guillard.

PhD In progress : J. Costa, Modeling of Elms, Sep 2012 - July 2015, B. Nkonga

PhD in progress : E. Estibals, “MHD réduite: Modélisation et Simulation numérique utilisant des éléments finis stabilisés d’ordre élevé sur un maillage courbe non-structuré. Application à l’injection de glaçons et de masse dans ITER”, 15th october 2013, Hervé Guillard, Afeintou Sangam.

PhD in progress : C. Le Touze, “Etude du couplage entre modèles à phase séparée et modèles à phase dispersée pour la simulation de l’atomisation primaire en combustion cryotechnique”, September 1st 2011, Hervé Guillard.

### 9.1.3. Juries

Jacques Blum was referee in the PhD thesis jury of Ngoc Minh Trang Vu, Université Grenoble Alpes.

Jacques Blum was in the PhD thesis jury of Giovanni Ruggiero, Université de Nice Sophia Antipolis.

Boniface Nkonga was referee in the HDR jury of Marina Olazabal, Université de Bordeaux.

Boniface Nkonga was referee in the PhD thesis jury of Eliam Erichon, Université de Marseille.

Boniface Nkonga was referee in the PhD thesis jury of Pascal Jacq, Université de Bordeaux.

Boniface Nkonga and Hervé Guillard were in the PhD thesis jury of Jeaniffer Vides, Université de Nice Sophia Antipolis.

Richard Pasquetti was referee in the PhD thesis jury of Y. Eulalie, Université de Bordeaux, Bordeaux.

Richard Pasquetti was referee in the PhD thesis jury of R. Cheaytou, Université d’Aix-Marseille.

Richard Pasquetti was president of the PhD thesis jury of B. Bensiali, Marseille.

## 9.2. Popularization

Contribution of B. Nkonga to a Newspaper in the local Journal La Marseillaise [www.lamarseillaise.fr/.../30371-90-mathematiciens-en-fusion-a-luminy](http://www.lamarseillaise.fr/.../30371-90-mathematiciens-en-fusion-a-luminy)

Contribution of B. Nkonga to the Iter interfaces news. <http://www.itercad.org/Interfaces/Interfaces51.pdf>

B. Nkonga and H. Guillard was organizers of the summer school CEMRACS 2014 on Numerical modeling of plasmas, July 21 - August 29, CIRM, Marseille

## COATI Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, scientific chair

Jean-Claude Bermond :

Mediterranean Days 2014, March 12-14 (<http://campus.sophiatech.fr/meddays2014/>)

Frédéric Giroire :

ResCom'14 : school of the *pôle ResCom of GDR ASR of CNRS* on "Network Science", Furiani, Corsica, May 12-16, 2014

Workshop "Energy Aware Networks" of the labex UCN@Sophia (<http://www.ucnlab.eu/fr/node/66>), Sophia Antipolis, October 14, 2014

Nicolas Nisse :

GRASTA'14 : 6th Workshop on GRaph Searching, Theory and Applications [54], Cargèse, Corsica, France, March 31th-April 4th, 2014

#### 9.1.1.2. Member of the organizing committee

Christelle Caillouet :

ResCom'14 : school of the *pôle ResCom of GDR ASR of CNRS* on "Network Science", Furiani, Corsica, May 12-16, 2014

Frédéric Havet :

Bondy is 70 : Paris, France, November 17, 2014;

### 9.1.2. Scientific events selection

#### 9.1.2.1. Chair of conference program committee

David Coudert :

Co-chair of ResCom'14, school of the *pôle ResCom of GDR ASR of CNRS* on "Network Science", Furiani, Corsica, May 12-16, 2014

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

David Coudert :

ROADEF'14 : 15ème congrès annuel de la Société française de recherche opérationnelle et d'aide à la décision, Bordeaux, France

ONDM'14 : 18th International Conference on Optical Networking Design and Modeling, Stockholm, Sweden, May 19-22, 2014

IEEE ICC'14 : IEEE International Conference on Communications, Sydney, Australia, June 10-14, 2014

IEEE Globecom'14 : IEEE Global Communications Conference, Austin, TX, USA, December 8-12, 2014

Frédéric Havet :

WG'14 : 40th International Workshop on Graph-Theoretic Concepts in Computer Science, Orléans, France, June 25-27, 2014;

ICGT'14 : 9th International Colloquium on Graph Theory and combinatorics, Grenoble, France, June 30-July 4, 2014;

BGW'14 : Bordeaux Graph Workshop, Bordeaux, France, November 19-22 2014;

Nicolas Nisse :

16es Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (AlgoTel 2014), Ile de Ré, France, 3-6 June, 2014.

### **9.1.3. Journal**

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

Jean-Claude Bermond :

Combinatorics Probability and Computing

Computer Science Reviews

Discrete Applied Mathematics

Discrete Mathematics

Discrete Mathematics, Algorithms and Applications

Journal of Graph Theory

Journal of Interconnection Networks (Advisory Board)

Mathématiques et Sciences Humaines

Networks (Wiley)

Parallel Processing Letters

SIAM book series on Discrete Mathematics, Transactions on Network Optimization and Control, Discrete Mathematics, Algorithms and Applications

David Coudert :

Discrete Applied Mathematics (Elsevier)

Networks (Wiley)

Frédéric Havet :

Discrete Mathematics and Theoretical Computer Science

### **9.1.4. Steering committees**

David Coudert :

Pôle ResCom du GDR ASR du CNRS (since 2005)

Rencontres francophones sur les aspects algorithmiques des télécommunications (Algo-Tel)

Frédéric Havet :

GT Graphes du GDR IM du CNRS

Ecole de Printemps de Théorie des Graphes

Journée Combinatoire et Algorithmes du Littoral Méditerranéen

### **9.1.5. Participation in conferences**

ICDCN : 15th International Conference on Distributed Computing and Networks, January 4-7 2014, Coimbatore, India. Attended by Nicolas Nisse.

ROADEF : 15ème congrès annuel de la Société française de recherche opérationnelle et d'aide à la décision, Bordeaux, France, February 26-28. Attended by David Coudert and Alvinice Kodjo (speaker);

STACS : 31st Symposium on Theoretical Aspects of Computer Science, March 5-8 2014, Lyon, France. Attended by Nicolas Nisse.

GRASTA : 6th Workshop on GRAPh Searching, Theory and Applications, March 31th-April 4th, 2014, Cargèse, Corsica, France. Attended by David Coudert (speaker), Nicolas Nisse (speaker and organiser), and Stéphane Pérennes.

Nice Workshop on Random Graphs : May 14-15, 2014, Nice, France. Attended by Nicolas Nisse.

ResCom : school of the *pôle ResCom of GDR ASR of CNRS* on "Network Science", Furiani, Corsica, May 12-16, 2014. Attended by David Coudert (Lecturer)

AlgoTel : 16es Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (AlgoTel 2014), 3-6 June, 2014, Ile de Ré, France. Attended by Fatima Zahra Moataz (speaker), David Coudert, Nicolas Nisse, T. K. Phan (speaker);

WG : 40th International Workshop on Graph-Theoretic Concepts in Computer Science, Orléans, France (June 25-27, 2014). Attended by Frédéric Havet;

SEA : Symposium on Experimental Algorithms, Copenhagen, Denmark, June 29 - July 1st, 2014. Attended by David Coudert (speaker).

ICGT : 9th International colloquium on graph theory and combinatorics, June 30-July 4, 2014, Grenoble, France. Attended by Frédéric Havet and Nicolas Nisse.

MAC : Moving and Computing. Research Meeting on Distributed Computing by Mobile Robots, July 26th 2014, Hida Takayama, Japan. Attended by Nicolas Nisse.

IWOCA : 25th International Workshop on Combinatorial Algorithms, Duluth, Minnesota, USA (October 15-17, 2014). Attended by Benjamin Momège (speaker);

BGW : Bordeaux Graph Workshop, Bordeaux, France, November 19-22 2014. Attended by Frédéric Havet;

Globecom : IEEE Global Communications Conference, Austin, United States (December 8-12, 2014). Attended by Frédéric Giroire (speaker)

### 9.1.6. Participation in scientific meetings

STINT : Kick off meeting of ANR STINT, Lyon, February 17-18, 2014. Attended by Jean-Claude Bermond, Frédéric Havet and Stéphane Pérennes;

FIA : Future Internet Assembly, Athens, Greece, March 18-20, 2014. Attended by David Coudert;

EULER : Plenary meeting of FP7 STREP EULER, Paris, France (March 27-28, 2014). Attended by David Coudert;

JSInria : Journées Scientifiques Inria, Lille, France, June 25-27, 2014. Attended by David Coudert (speaker);

EULER : Final review meeting of FP7 STREP EULER project, Brussels, Belgium (August 29, 2014). Attended by David Coudert;

STINT : workshop of ANR STINT, Vercors, France, September 24-26 2014. Attended by Frédéric Havet

Seminar Orange/Inria : Common seminar Orange/Inria, Paris, France, October 28, 2014 Attended by Joanna Moulierac;

Inria-Industrie : Rencontre Inria Industrie "Télécoms du futur", November, 13 2014. Attended by Joanna Moulierac.

### 9.1.7. Participation in committees

Jean-Claude Bermond :

Expert for DRTT, and various projects outside France (Canada, Italie, ...)

David Coudert :

Expert for the Future and Emerging Technologies Open Scheme (FET-Open) European program, and the ANR

Frédéric Giroire :

Elected member of I3S laboratory committee since 2012

Frédéric Havet :

Responsible of Pôle ComRed of I3S laboratory;

Expert for the ANR and its Czech analogues;

Nicolas Nisse :

Expert for the ANR

Michel Syska :

Expert for DRTT PACA

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

#### Licence

Alvinice Kodjo, *Informatique Pratique*, 40h ETD, Level L1, UNS;

Alvinice Kodjo, *Réseaux (Couches supérieures)*, 15h ETD, Level L3, UNS;

Fatima Zahra Moataz, *Programmation avec Python*, 12h ETD, Level L1, Université Nice-Sophia Antipolis;

Fatima Zahra Moataz, *Systèmes Informatiques*, 24h ETD, Level L1, Université Nice-Sophia Antipolis;

Christelle Molle-Caillouet, *IT Tools*, 53h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

Christelle Molle-Caillouet, *Database and advanced information system*, 36h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Christelle Molle-Caillouet, *Operations Research*, 81h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Christelle Molle-Caillouet, *Delivery Optimization*, 30h ETD, Level L3, IUT Nice Côte d'Azur, UNS;

Benjamin Momège, *Mathématiques Discrètes*, 75h ETD, Level L3, Polytech'Nice Sophia, UNS;

Joanna Moulhierac, *Algorithms and Programming*, 100h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

Joanna Moulhierac, *Networks, basics and Advanced Networks*, 150h ETD, Level L1 and L2, IUT Nice Côte d'Azur, UNS;

Michel Syska, *Introduction to Operating Systems*, 40h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

Michel Syska, *Operating Systems : Advanced Programming*, 60h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

Michel Syska, *Bash Scripting*, 40h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Michel Syska, *Introduction to Algorithms*, 30h ETD, Level L3, IUT Nice Côte d'Azur, UNS;

Michel Syska, *Linux Systems Administration*, 40h 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;

Frédéric Giroire, *Algorithmics of Telecommunications*, 18h ETD, stream UbiNet of Master 2 IFI and Master RIF, UNS;

Frédéric Giroire, *Green Networks*, 15h ETD, stream UbiNet of Master 2 IFI, UNS;

Frédéric Giroire, *Introduction to probability and statistics*, 15h ETD, International Master 1, UNS;

Frédéric Havet, *Optimisation combinatoire*, 24 ETD, Master 1 and 2, UNS, France;

### School

David Coudert, *the notion of hyperbolicity in graphs*, 2h ETD, Summer school ResCom;

## 9.2.2. Teaching administration

Collaboration Inria-Lycée International de Valbonne

Nicolas Nisse : co-responsible of the Computer Science course of MPSI;

IUT Nice Côte d'Azur

Joanna Moulierac, Directrice d'études of Semestre 2 décalé at IUT Nice Côte d'Azur, Computer Science Department since september 2013;

Michel Syska, responsible of the Computer Science Department of IUT form September 2011 till September 2014. He has organized the national meeting of the 46 CS departments, Nice, October 16-17.

Stream Ubinet, Master 2 IFI (<http://ubinet.unice.fr>)

Jean-Claude Bermond, member of the scientific committee;

Frédéric Giroire, responsible of the Internships, since October 2011;

International Master 1 (<http://computerscience.unice.fr/master1>)

Jean-Claude Bermond, member of the scientific committee of the international track of the M1

## 9.2.3. Supervision

### 9.2.3.1. HdR

Nicolas Nisse, "Algorithmic complexity: Between Structure and Knowledge How Pursuit-evasion Games help" [17], Université Nice Sophia Antipolis, May 23, 2014

### 9.2.3.2. PhD

Alvinice Kodjo, "Design and Optimization of Wireless Backhaul Networks" [13], Université Nice Sophia Antipolis, December 18, 2014. Supervisor: David Coudert

Aurélien Lancin, "Étude de réseaux complexes et de leurs propriétés pour l'optimisation de modèles de routage" [14], Université Nice Sophia Antipolis, December 9, 2014. Supervisor: David Coudert

Bi Li, "Tree Decompositions and Routing Problems" [15], Université Nice Sophia Antipolis, November 12, 2014. Supervisors: David Coudert and Nicolas Nisse Computer Science, date de soutenance, encadrant(s)

Ana Karolinna Maia De Oliveira, "Subdivisions of Digraphs" [16], Université Nice Sophia Antipolis, November 5, 2014. Supervisor: Frédéric Havet

Truong Khoa Phan, "Design and Management of Networks with Low Power Consumption" [18], Université Nice Sophia Antipolis, September 25, 2014. Supervisors: David Coudert and Joanna Moulierac

### 9.2.3.3. PhD in progress



Guillaume Ducoffe, "Metric properties of large graphs", since September 2014. Supervisor: David Coudert

Nicolas Huin, "Energy-Efficient Software Defined Networks", since October 2014. Supervisor: Frédéric Giroire and Dino Lopez (I3S)

Fatima Zahra Moataz, "Design and optimization of networks subject to failure and link capacity variations", since October 2012. Supervisor: David Coudert

Sebastien Felix, "Smart transports : optimisation du trafic dans les villes", since January 2011. Supervisors: Jean-Claude Bermond and Jérôme Galtier

#### 9.2.3.4. Internship

Paul Bertot (IUT Nice Côte d'Azur, France), "distributed computing of the diameter of large graphs", November-February (3 months). Supervisor: Michel Syska;

Eneina Gjata (Master 2 IFI, parcours ubinet, University Nice-Sophia Antipolis, France), "Analysis of protocols for Data Redundancy Elimination", March-August 2014 (6 months). Supervisor: Joanna Moulhierac

Nicolas Huin (Master 2 RIF, University Nice-Sophia Antipolis, France), "Study of a Distributed Live Video Streaming System", March-August 2014 (6 months). Supervisor: Frédéric Giroire

Flavian Jacquot (IUT Nice Côte d'Azur, France), "distributed computing frameworks for large graphs", November-March (4 months). Supervisor: Luc Hogie;

William Lochet (ENS, Lyon, France), pre-doctoral internship on "Subdivision of oriented cycles in digraphs", October-December 2014 (3 months). Supervisor: Frédéric Havet

Alexandros Panagiotidis (International Master 1, University Nice-Sophia Antipolis, France), "Connectivity Inference in Structural Proteomics", May-August 2014 (4 months). Supervisors: David Coudert, Christelle Caillouet

Thomas Wattrelot (Master 1 MAM, Polytech'Nice, UNS), "Comparison of algorithms for the traveling salesman problem", July-August 2014 (2 months). Supervisor: David Coudert

#### 9.2.4. Juries

David Coudert :

Member of the HdR jury of Nicolas Nisse, Univ. Nice Sophia Antipolis, May 23, 2014

Member of the PhD jury of François Clad, Univ. Strasbourg, September 22, 2014

Member of the PhD jury of Truong Khoa Phan, Univ. Nice Sophia Antipolis, September 25, 2014

Member of the PhD jury of Bi Li, Univ. Nice Sophia Antipolis, November 12th, 2014

Referee and member of the PhD jury of Massinissa Merabet, Univ. Montpellier, December 5, 2014

Member of the PhD jury of Aurélien Lancin, Univ. Nice Sophia Antipolis, December 9, 2014

Referee and member of the PhD jury of Stéphane Raux, Univ. Paris Diderot, December 12, 2014

Member of the PhD jury of Alvinice Kodjo, Univ. Nice Sophia Antipolis, December 18, 2014

Frédéric Giroire :

Member of the PhD jury of Alain Julé, Université de Cergy-Pontoise, March 7, 2014

Frédéric Havet :

Referee and member of the PhD jury of Julien Bensmail, University of Bordeaux, June 10, 2014

Referee and member of the PhD jury of Remi Watrigant, University Montpellier 2, October 2, 2014

Member of the PhD jury of Ana Karolinna Maia De Oliveira, Univ. Nice Sophia Antipolis, November 5, 2014

Referee and member of the PhD jury of Maxime Cochefert, University of Metz, December 18, 2014

Joanna Moulierac :

Member of the PhD jury of Truong Khoa Phan, Univ. Nice Sophia Antipolis, September 25, 2014

Nicolas Nisse :

Member of the PhD jury of Bi Li, Univ. Nice Sophia Antipolis, November 12, 2014

### 9.2.5. Participation in committees

Jean-Claude Bermond :

Member of the Ph.D. committee of the University of Marseille

Responsible of the Attractivity for Inria Sophia Antipolis - Méditerranée and more generally for the Campus Sophia Tech

David Coudert :

Member of doctoral committee (CSD) of Inria Sophia Antipolis - Méditerranée, since 2009

Nicolas Nisse :

Member of a comité de sélection of 27me section, Univ. Aix-Marseille

Frédéric Havet :

President of a *comité de sélection* of 27eme section of UNS;

Member of a *comité de sélection* of 27eme section of Aix-Marseille Université;

Joanna Moulierac

Member of the *comité de sélection 27e section* of Univ. Nice Sophia Antipolis

## 9.3. Popularization

- Fête de la Science
  - Frédéric Giroire presented the stand "Mathémagie" (Magie et Mathématiques) at Rians, France, October 13-18, 2014;
  - Frédéric Havet organized the "Village des Sciences de Rians", October 13-18 (900 attendants) and created several stands and trained some people to conduct them;
  - Frédéric Havet presented the stand "Pavages: art, preuves et jeux" at Rians, France, October 13-18, 2014.
- Institut Esope - Maison des Sciences de Rians
  - Frédéric Havet is vice-president of the association Esope 21 whose aim is scientific and literary popularization. He organized many local events and conducted various discovery workshops in elementary and secondary schools. In total , in spoke in front of about 30 classes on various topics (Mathematics, Computer Science, Astronomy, Ornithology, Job in research, etc.).

## **COFFEE Project-Team**

### **8. Dissemination**

#### **8.1. Promoting Scientific Activities**

##### ***8.1.1. Journal***

###### *8.1.1.1. SIAM J. Computational Math.*

T. Goudon is founding editor of the SMAI J. of Computational Math.

## DEMAR Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

#### 8.1.1.1. General chair, scientific chair

D. Guiraud is the conference chair of IEEE EMBS Neural Engineering Conference to be held in Montpellier in April 2015.

D. Andreu is co-organizer of the working group on Control Architectures of Robots of the french GdR Robotique.

M. Hayashibe is Co-Chair of IEEE Technical Committee on Human Movement Understanding at Robotics and Automation Society with E. Demircan (Univ. of Tokyo), D. Kulic (Univ. of Waterloo) and D. Oetomo (Univ. of Melbourne). <https://sites.google.com/site/ieeehmhu/>

#### 8.1.1.2. Member of the organizing committee

M. Hayashibe and P. Fraise organized Workshop on Human Motion Modeling and Human-inspired Motor Control together with Emel Demircan, Oussama Khatib (Stanford Univ.) at IEEE HUMANOIDS 2014, Madrid, Spain.

### 8.1.2. Scientific events selection

#### 8.1.2.1. Chair of conference program committee

C. Azevedo Coste is program chair of IEEE EMBS Neural Engineering Conference to be held in Montpellier in April 2015.

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

Daniel Simon was member of the RTNS'14 (Real Time Networks and Systems) and ETFA'14 (Emerging Technologies and Factory Automation) int. conference program committees

#### 8.1.2.3. Reviewer

All the team members are involved in reviewing articles for various conferences and journals both in engineering and biomedical fields.

### 8.1.3. Journal

#### 8.1.3.1. Member of the editorial board

M. Hayashibe is member of the Editorial Board of the International Journal of Advanced Robotic Systems, in Rehabilitation Robotics. M. Hayashibe is Guest Associate Editor, Frontiers in Neuroprosthetics, Biosignal processing and computational methods to enhance sensory motor neuroprosthetics, with David Guiraud, Dario Farina, and Jose L. Pons. <http://journal.frontiersin.org/ResearchTopic/1639>

C. Azevedo Coste is Associate Editor of Paladyn Journal Behavioral Robotics (Assistive robotics).

#### 8.1.3.2. Reviewer

The members of the team reviewed numerous papers for numerous international conferences.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Master: Mitsuhiro Hayashibe, Neuroprotheses II (module coordinator), EMG signal processing and its use for rehabilitation, 6h, Master STIC pour la Santé, Univ. Montpellier 2, France;

Master: Mitsuhiro Hayashibe, Modele et Regulation, Identification and Control in Biomechanics (module coordinator), 6h, Master STIC pour la Santé, Univ. Montpellier 2, France;

Master: D. Andreu, Software engineering, real time OS, discrete event systems, networks, neuroprosthesis, 200h, master and engineers degrees, Polytech Montpellier, France;

Master: Christine Azevedo Coste, Ethics in bioengineering research, 3h, Master STIC pour la Santé, Univ. Montpellier 2, France;

### 8.2.2. Supervision

#### HDR

HdR: Christine Azevedo Coste, "Assistance fonctionnelle : exploiter les fonctions résiduelles du système sensori-moteur déficient", Université Montpellier 2, 14/02/2014

#### PhD

PhD: Abir Ben Khaled, "Distributed real-time simulation of numerical models : application to powertrains", IFPEN, May 27th 2014, D. Simon and M. Ben Gaid (IFPEN)

PhD: Alejandro González de Alba, "Versatile whole-body center of mass identification for balance assessment in home rehabilitation", Université Montpellier 2, Dec. 11, M. Hayashibe and P. Fraisse

PhD: Hélène Leroux, "Méthodologie de conception d'architectures numériques complexes: du formalisme à l'implémentation en passant par l'analyse, préservation de la conformité. Application aux neuroprothèses", Université Montpellier 2, Oct. 28th 2014, D. Andreu and K. Godary

PhD: Zhan Li, "Real-time EMG-Feedback Torque Prediction and Muscle Activation Control toward New Modality in FES", Université Montpellier 2, Dec. 8, M. Hayashibe and D. Guiraud

PhD in progress: Yacine Berranen, "Modélisation volumique du muscle avec représentation des fonctions physiologiques", Oct. 2011, D. Guiraud, M. Hayashibe and B. Gilles

PhD in progress: Wafa Tigra, "Vers la commande intuitive d'une neuroprothèse dédiée à la préhension chez le sujet tétraplégique", Sept. 2013, C. Azevedo and D. Guiraud.

PhD in progress: Thomas Guiho, "Stimulation électrique médullaire en vue de la restauration des fonctions urinaires, intestinales et sexuelles chez le patient blessé médullaire", Sept. 2013, C. Azevedo and D. Guiraud.

PhD in progress: Maedeh Aram, "Online optimization for functional electrical stimulation of hemiplegic patients", Aug. 2014, K. Mombaur (Heidelberg Univ., Germany) and C. Azevedo.

PhD in progress: Melissa Dali, "Modèle d'interaction électro-nerf et optimisation en vue d'améliorer la stimulation sélective", Oct. 2014, O. Rossel and D. Guiraud.

PhD in progress: Marion Vincent, "Précision et modélisation des effets de la stimulation électrique directe lors des opérations de chirurgie éveillée des gliomes de bas-grade", Dec. 2013, F. Bonnetblanc and D. Guiraud.

PhD in progress: Ibrahim Merzoug, "Validation formelle pour les systèmes embarqués critiques", Oct. 2014, K. Godary and D. Andreu.

PhD in progress: Mariam Abdallah, "Système d'acquisition de signaux bioélectriques multicanal, programmable et implantable", Oct. 2012, G. Cathébras and F. Soulier.

### Engineers

David Andreu supervised Guillaume Magro. "Spécification et prototypage d'un contrôleur de SEF implantable". Industrial Informatics Engineer, Inria Expert Engineer contract (3 years contract, Inria).

David Andreu supervised Thibaut Possompes. "HILECOP development". Computer engineering, Inria Research Engineer contract (4 month contract, Inria).

David Andreu supervises Baptiste Colombani. "HILECOP development". Computer engineering, Inria Expert Engineer (2 years contract, Inria).

David Andreu and David Guiraud supervise Milan Demarcq on "Implantable network design", Electronics, Engineer (1 year contract, Inria).

David Andreu supervises Arthur Hiairassary on "Development of a stimulation real-time controller", Industrial Informatics Engineer, Research Engineer (2 years contract, UM2).

Christine Azevedo Coste supervises Benoît Sijobert on "SENSBIO project development", IJD Engineer, Research Engineer (2 years contract, Inria).

### Engineers internships

David Andreu supervised Arthur Hiairassary on "Architecture logicielle temps-réel d'un contrôleur de SEF implantable", Engineer final internship, from March. 2014 to Sep. 2014.

David Andreu supervised Charles Bernard on "Conception et implémentation de fonctions sur un dispositif de Stimulation Electrique Fonctionnelle", Licence Professionnelle internship, from Feb 2014 to Jun 2014.

David Andreu supervised Pascal Wagner on "Conception et Implémentation d'une solution de communication avec un dispositif médical actif", Licence Professionnelle internship, from Feb 2014 to Jun 2014.

Karen Godary and David Andreu supervised Lila Kaci on "Etude de la gestion d'exception dans un modèle formel au coeur de dispositifs médicaux", Master internship, from March 2014 to July 2014.

David Andreu supervised Amandine Pantel on "Contribution à la conception et l'implémentation d'une solution de communication avec un dispositif médical actif, et à son interface d'exploitation", Engineer student, CPE Lyon, from June 2014 to September 2014.

Christine Azevedo Coste and Benoît Sijobert supervised Jennifer Denys on "La détection des épisodes de freezing dans la maladie de Parkinson", MASTER M2, Technologie pour la Santé, from March to July 2014.

Christine Azevedo Coste and Lionel Lapierre (EXPLORE, LIRMM) supervised Geoffrey Gicquel on "Mobile Platform for Parkinson Disease Walk Analysis", DUT Génie Electrique et Informatique, St Etienne, from April to June 2014.

Daniel Simon and David Andreu supervised Samy Lafnoue on "Contrôle d'ordonnancement dans un système de stimulation électrique distribué", Master2 Robotique UM2 internship from Apr. to Sep. 2014.

### 8.2.3. Juries

D. Simon was member of the PhD defense of Yiming Zhan (Univ. Rouen, Apr. 17)

D. Simon was member of the PhD defense of Abir Ben Khaled (Univ. Grenoble, May 27)

D. Simon was member of the PhD defense of Maissa Abdallah (Univ. Nantes, June 18).

Christine Azevedo Coste was reviewer of Antoine Marin PhD thesis defense "Le mouvement Segmentaire au service du déplacement dans la marche : analyse couplée des deux niveaux", Thesis, Université Rennes 2.

Christine Azevedo Coste was examiner of Alejandro Gonzalez de Alba PhD thesis defense "Estimation des paramètres du centre de masse corps complet : vers l'évaluation de l'équilibre pour une application de rééducation à domicile.", Thesis, Université Montpellier 2.

Christine Azevedo Coste was member of the committee for Inria CR2 competition (Monbtbonnot Center).

David Andreu was examiner of Zhan Li PhD thesis defense "Real-time EMG-Feedback Torque Prediction and Muscle Activation Control toward New Modality in FES". Thesis, Université Montpellier 2.

## DIANA Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

Walid Dabbous is member of the ns-3 consortium. He co-organizes the ns-3 workshop in May 2015. He is member of the scientific council of the Inria Bell-Labs laboratory on Communication networks of the future.

Thierry Turletti, Senior ACM and IEEE member, served in 2014 in the program committees of the following international workshops: 1st ACM Workshop on Wireless and Mobile Technologies for Smart Cities (WiMobCity) at MobiHoc, the 2nd Workshop on Emulation Tools, Methodology and Techniques at SIMU-Tools, the 5th Workshop on ns-3 and the 5th ICCE, Special Session on Software Defined Networking. He co-chaired the 1st Workshop on Software-Defined Internets of the future (WSDIF'14), Philadelphia, Pennsylvania on October 28 2014. 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.

Chadi Barakat is on the editorial board of the Computer Networks journal, on the Technical Program Committee for the Traffic Monitoring and Analysis (TMA) 2015 workshop and Publicity Co-Chair for ACM SIGCOMM 2015. He is currently the scientific referee for international affairs at Inria Sophia Antipolis and member of the Conseil d'Orientation Scientifique et Technologique (COST) at Inria within the working group of international affairs (COST-GTRI).

Arnaud Legout on the editorial board of the Computer Networks journal, and was PC member of the ACM/Usenix IMC'2014 conference. Arnaud Legout is the president of the Commission of the users of IT resources of Sophia Antipolis Inria research center.

Damien Saucez is member of the TPC of CCNC 2015, BMSGs' 2015, and AINA-2015. Damien Saucez is secretary and document shepherding at the IETF LISP working group (details about the secretary and shepherd roles can be found in RFC 2418 and RFC 4858). Damien Saucez is secretary of the Project Committee (CP) at Inria Sophia Antipolis Méditerranée.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Master Ubinet: Chadi Barakat and Walid Dabbous, Evolving Internet, 31.5 hours, M2, université, University of Nice-Sophia Antipolis, France.

Master Ubinet: Chadi Barakat and Walid Dabbous, Internet Measurements and New Architectures, 31.5 hours, M2, University of Nice-Sophia Antipolis, France.

Master 1 International: Chadi Barakat, Algorithms for Networking, 27 hours, M1, University of Nice-Sophia Antipolis, France.

Master CAR: Chadi Barakat, Information Centric Networking, 4.5 hours, Telecom Paris Tech, France.

Master Estel: Chadi Barakat, Voice over IP, 9 hours, University of Nice-Sophia Antipolis, France.

Master RISM: Chadi Barakat, Mobility and wireless networking, 10.5 hours, University of Avignon, France.

Master Ubinet: Arnaud Legout, From BitTorrent to Privacy, 36 hours, M2, University of Nice-Sophia Antipolis, France.

Master 1 International: Arnaud Legout, Scientific Communication, 22.5 hours, M1, 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**

Mooc: Arnaud Legout and Thierry Parmentelat, Python : des fondamentaux à l'utilisation du langage, 7 weeks, FUN (<https://www.france-universite-numerique-mooc.fr/>), Inria, 9166 registered persons (for elementary school to PhD), 500 finished the course, 100 did the miniproject.

### **8.2.2. Supervision**

PhD in progress: Riccardo Ravaioli works on "Active and Passive Inference of Network Neutrality" since October 2012. His thesis is co-supervised by Chadi Barakat.

PhD in progress: Luigi Vigneri works on "Vehicles as a Mobile Cloud: Leveraging mobility for content storage and dissemination" since April 2014. His thesis is co-supervised by Chadi Barakat.

PhD in progress: Maksym Gabielkov works on "Information propagation in social networks" since October 2012. His thesis is supervised by Arnaud Legout.

PhD in progress: Alina Quereilhac works on "Unified Evaluation environment of Networking Protocols for Simulators and Testbeds", since 2011. Her thesis is co-supervised by Walid Dabbous and Thierry Turletti.

PhD in progress: Xuan Nam Nguyen works on "Software Defined Networking in challenged environments", since October 2012. His thesis is co-supervised by Thierry Turletti and Walid Dabbous.

PhD in progress: Hardik Soni works Software Defined Networking in challenged environments since September 2014. His thesis is co-supervised by Thierry Turletti and Walid Dabbous.

### **8.2.3. Juries**

Walid Dabbous served as jury member of Vincent Roca HDR thesis, "Codes AL-FEC et protocoles de diffusion robustes de contenus" defended in June 2014 at University of Grenoble.

Chadi Barakat served as president and jury member of Rachad Maallawi PhD thesis, "Mechanisms, Protocols, and Architectures for the Offloading control in the heterogeneous networks context" defended in January 2014 at Orange Labs Issy-les-Moulineaux.

Walid Dabbous served as reviewer of Wei You PhD thesis, "A Content-Centric Networking Node for Realistic Efficient Implementation and Deployment" defended in January 2014 at Telecom Bretagne, Lannion.

Chadi Barakat served as jury member of Wissam Chahin PhD thesis, "Réseaux hétérogènes tolérants aux délais" defended in March 2014 at IUP Avignon.

Walid Dabbous served as reviewer of Nada Sbihi PhD thesis, "Gestion du trafic dans les réseaux orientés contenus" defended in March 2014 at UPMC, Paris.

Walid Dabbous served as jury member of Tien-Thinh Nguyen PhD thesis, "Optimization of Mobility Mechanisms for IP based Multicast Flows" defended in May 2014 at Eurecom, Sophia Antipolis.

Walid Dabbous served as reviewer of Alexandru-Florin Tatar PhD thesis, "Predicting user-centric behavior: Content popularity and mobility" defended in July 2014 at UPMC, Paris.

Arnaud Legout served as reviewer of Arnaud Jégou PhD thesis, "Harnessing the power of implicit and explicit social networks through decentralization" defended in 2014 at University of Rennes.

Walid Dabbous served as jury member of Mahmoud El Chamie PhD thesis, "Optimization, Control, and Game Theoretical Problems in Consensus Protocols" defended in October 2014 at University of Nice Sophia Antipolis.

Thierry Turletti served as reviewer of Rosa Vilardi PhD thesis, "Traffic Monitoring and Measurements in modern Networks", defended in January 2014 at Politecnico di Bari.

Thierry Turletti served as reviewer of Shubhabrata Roy PhD thesis, "A Complete Framework for Modelling Workload Volatility of a VoD System: a Perspective to Probabilistic Management", defended in May 2014 at ENSL.

Thierry Turletti served as examiner of Rui Pedro Ferreira da Costa PhD thesis, "Mobility Architecture for Next Generation Networks", defended in May 2014 at Eurecom.

Thierry Turletti served as reviewer of Tara Ali Yahya HDR thesis, "Allocation des Ressources et Gestion d'Interférences dans les Réseaux 4G", defended in May 2014 at Université de Paris Sud.

Thierry Turletti served as examiner of Siwar en Hadj Said PhD thesis, "Contextual Connectivity in Multi-Access Architectures", defended in December 2014 at Télécom Bretagne.

### 8.3. Popularization

Walid Dabbous presented Future Internet challenges to high school students at Lycée de Valabre Gardanne in April 2014 and at CIV in October at CIV for the Science Week (Fête de la science).

Walid Dabbous made a presentation on Software Defined Networking and Network Functions Virtualization at the Inria Industry Day in Paris on the theme "Télécoms du futur".

Chadi Barakat presented ACQUA at the Inria Industry Day in Paris on the theme "Télécoms du futur". See <http://www.inria.fr/en/centre/paris-rocquencourt/innovation/rii-telecoms-du-futur/program>.

## ECUADOR Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. Member of the organizing committee

- Laurent Hascoët is on the organizing committee of the EuroAD Workshops on Algorithmic Differentiation. The 15th EuroAD workshop was organized and hosted by the team in Sophia-Antipolis, June 16-17.
- Ecuador was local organizer of the 11th workshop of the Inria-Illinois JLPC in Sophia-Antipolis, June 9-11, and of the PUF summer school on HPC systems, June 12-13.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master : Laurent Hascoët, Optimisation avancée, 15 h, M2, University of Nice

### 9.2.2. Supervision

PhD in progress : Gautier Brêthes, “Multigrilles anisotropes adaptatives”, started October 2012, advisor A. Dervieux

PhD in progress : Ala Taftaf, “Adjoint Automatic Differentiation on High-performance codes”, started July 2013, advisor L. Hascoët.

### 9.2.3. Juries

- Alain Dervieux, jury, PhD defense of Fernando Grossi, University of Toulouse, February 11.
- Alain Dervieux, jury, HDR defense of Elie Hachem, University of Nice, May 20.
- Laurent Hascoët, opponent, PhD defense of Mikko Auvinen, Aalto University, Finland, October 10.

## 9.3. Popularization

- Laurent Hascoët made a presentation on “Adjoint Automatic Differentiation for Data Assimilation” at the EGC 2014 conference in Rennes, January 28.
- Laurent Hascoët made a presentation on “Using Algorithmic Differentiation Tools to Compute Derivatives” at the ATOC Adjoint 2014 workshop organized by the British Antarctic Survey, Cambridge, July 1-2.
- Laurent Hascoët was invited to a seminar on adjoint methods <http://www.dagstuhl.de/program/calendar/partlist/?semnr=14371&SUOG> in Dagstuhl, Germany, September 7-12.

## FOCUS Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

**M. Bravetti:** Program Committee member of the following conferences. BigData 2014 (IEEE International Conference on Big Data), WWV 2014 (10th International Workshop on Automated Specification and Verification of Web Systems), WS-FMDS 2014 (4th WorkShop on Formal Methods in the Development of Software), SEFM 2014 (12th International Conference on Software Engineering and Formal Methods), WS-FM 2014 (11th Workshop on Web Services and Formal Methods), ESOC 2014 (3rd European Conference on Service-Oriented and Cloud Computing).

Invited speaker at MOD\* 2014 (1st Int. Workshop on Logics and MODEL-checking for self-\* systems).

Organiser of Int. Workshop on Contracts for Efficient and Reliable Services.

**U. Dal Lago:** Program Committee co-chair and main organiser for FOPARA 2013: Third International Workshop on Foundational and Practical Aspects of Resource Analysis (August 29th to 31st, 2013, Bertinoro, Italy).

Program Committee member of the conferences RTA-TLCA 2014, LOLA 2014 and IFIP-TCS 2014.

PC chair for DCM 2014.

Invited speaker at the "Mathematical Structures of Computation" event in Lyon.

Lecturer at the school BISS 2014, Bertinoro, Italy, March 2014.

**D. Hirschhoff:** Co-organisee of the international event on 'Concurrency, Logic and Types', as part of the 'Mathematical Structures of Computation', in february 2014 in Lyon (see <http://smc2014.univ-lyon1.fr/doku.php?id=week5>). Several Focus members took part in the event.

**E. Giachino:** Program Committee member of the conference iFM 2014 and the workshops BEAT 2014 and ICE 2014.

Workshop chair for the iFM and FACS 2014.

**I. Lanese:** Program Committee member of the following workshops and conferences: EXPRESS/SOS 2014 (Combined 21st International Workshop on Expressiveness in Concurrency and 11th Workshop on Structured Operational Semantics), WS-FM:FASOCC 2014 (11th International Workshop on Web Services and Formal Methods: Formal Aspects of Service-Oriented and Cloud Computing), IFIP TCS 2014 (Theoretical Computer Science 2014), SAC 2014 (Service Oriented Architectures and Programming track of the 29th Annual ACM Symposium on Applied Computing).

Steering committee for the Service Oriented Architectures and Programming (SOAP) track of the Annual ACM Symposium on Applied Computing (SAC), the International Symposium on Formal Aspects of Component Software (FACS).

Co-chair of the conferences 11th International Symposium on Formal Aspects of Component Software (FACS 2014), and 7th Interaction and Concurrency Experience (ICE 2014).

Member of the editorial board of the Scientific World Journal, the Open Journal of Communications and Software, and the journal of Scientific Programming.

**C. Laneve:** Tutorialist at the PhD School: SFM-14:ESM (14th International School on Formal Methods for the Design of Computer, Communication and Software Systems: Executable Software Models)

**M. Gabbrielli:** Member of the editorial board of the Int'l Journal Theory and Practice of Logic Programming.

**S. Martini:** Program Committee member of International Workshop Linearity 2014. Invited speaker at the Symposium on History and Philosophy of Computing (Annual Meeting of the International Association for Computing and Philosophy), Thessaloniki, Greece.

**F. Montesi:** Invited speaker at WS-FM: FASOCC (11th International Workshop on Web Services and Formal Methods: Formal Aspects of Service-Oriented and Cloud Computing)

Track program chair for 28th ACM Symposium on Applied Computing (SAC) track on Service-Oriented Applications and Programming track (SOAP).

**D. Sangiorgi:** Member of the editorial board of the journals: Logical Methods in Computer Science, Acta Informatica, Distributed Computing, Foundations and Trends in Programming Languages, and RAIRO Theoretical Informatics and Applications.

Invited speaker at the workshops "Mathematical Structures of Computation" (Lyon, February 2014), CMCS'14 (12th International Workshop on Coalgebraic Methods in Computer Science), and "Open Problems in Concurrency Theory" (Bertinoro, Italy, June 2014).

Program Committee member of the conferences FOSSACS'14 (17th International Conference on Foundations of Software Science and Computation Structures) and LATA'14 (8th International Conference on Language and Automata Theory and Applications).

**V. Vignudelli:** Invited talks at the workshop "Mathematical Structures of Computation" (Lyon, February 2014), at the workshop "Open Problems in Concurrency Theory", Bertinoro, Italy, June 2014, and at the seminar series "CHoCoLa", at ENS Lyon, September 2014.

**G. Zavattaro:** Program Committee member of the following conferences and workshops: 11th International Workshop on Web Services and Formal Methods: Formal Aspects of Service-Oriented and Cloud Computing (WS-FM:FASOCC'14); 2014 European Conference on Service-Oriented and Cloud Computing (ESOCC'14); 2nd Workshop on Dependability and Interoperability in Heterogeneous Clouds (DIHC14), Porto, Portugal, August 25-29, 2014; 2nd IEEE International Workshop on Formal Methods Integration (FMi 2014); 7th IEEE International Conference on Cloud Computing (CLOUD 2014); 16th International Conference on Coordination Models and Languages (COORDINATION'14).

General chair of the joint conferences 11th International Symposium on Formal Aspects of Component Software (FACS 2014) and 11th International Conference on Integrated Formal Methods (iFM 2014, Bertinoro, Italy, 9–12 September 2014).

Organiser of iFM and FACS 2014 (Bertinoro, Italy, 9–12 September 2014).

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Below are the teaching activities of the Focus members during 2014.

- Mario Bravetti
  - Undergraduate: "Tecnologie Web", 66 hours, 3rd year, University of Bologna, Italy.
  - Master: "Applicazioni e Servizi Web", 54 hours, 2nd 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.
- Maurizio Gabbrielli
  - Undergraduate: "Programming languages", 40 hours, 2nd year, University of Bologna, Italy.
  - Master: "Artificial Intelligence", 60 hours, 2nd year, University of Bologna, Italy.

- Elena Giachino  
Undergraduate: “Programmazione”, 40 hours, 1st year, University of Bologna, Italy.
- Ivan Lanese  
Undergraduate: “Programmazione”, 32 hours, 1st year, University of Bologna, Italy.  
Master: “Business Process Management”, 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”, 58 hours, 1st year, University of Bologna, Italy.  
Undergraduate: “Computer abilities for biologists”, 8 hours, 1st year, University of Bologna, Italy.  
Master: “Logical Foundations of Computer Science”, 48 hours, 2nd year, University of Bologna, Italy.  
PhD: “Proof theory for computer scientists”, 20 hours, University of Bologna, Italy.
- Jacopo Mauro  
Undergraduate: “Algoritmi e strutture dati”, 20 hours, 1st year, University of Bologna, Italy.
- Giulio Pellitta  
Undergraduate: “Laboratorio di Operating Systems”, 36 hours, 2nd year, University of Bologna, Italy.  
Undergraduate: “Attività di supporto alla didattica universitaria di Informatica nell’ambito della Piattaforma di e-learning A3”, 140 hours, 1st year, University of Bologna, Italy.
- Davide Sangiorgi  
Undergraduate: “Operating Systems”, 110 hours, 2nd year, University of Bologna, Italy.  
Master: “Models for concurrency”, 15 hours, 2nd year, University of Bologna, Italy.
- Marco Solieri  
Master: “Administration Système”, 29 hours, 3rd year, école d’ingénieurs, Institut Galilé, Université Paris 13, France  
Master: “Intranet, Internet et Web”, 35 hours, 2nd year, école d’ingénieurs, Institut Galilé, Université Paris 13, France
- Gianluigi Zavattaro  
Master: “Linguaggi di Programmazione e Modelli Computazionali”, 120 hours, 1st year, University of Bologna, Italy.

### **8.2.2. Supervision**

PhD thesis completed in 2014:

- Michele Alberti, “On operational properties of quantitative extensions of the  $\lambda$ -calculus”. December 2014. Joint degree: Docteur en Mathématiques, Aix-Marseille Université; Dottorato in Informatica, University of Bologna. Supervisors: L. Regnier, S. Martini.
- Ornela Dardha, “Type Systems for Distributed Programs: Components and Sessions”, May 2014. University of Bologna. Supervisor: D. Sangiorgi.
- Tudor Alexandru Lascu, “Automatic deployment of applications in the cloud”, May 2014. University of Bologna. Supervisor: G. Zavattaro.
- Giulio Pellitta, “Extending Implicit Computational Complexity and Abstract Machines to Languages with Control”, May 2014. University of Bologna. Supervisors: U. Dal Lago and S. Martini.

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.

- Roberto Amadini, January 2012, Constraint Programming, M. Gabbrielli.
- Ferdinanda Camporesi, January 2009, Analysis of system biology, R. Cousot (Ecole Normale, Paris) and M. Gabbrielli
- Alberto Cappai, January 2013; Security, ICC and probabilistic bisimulation, U. Dal Lago.
- Abel Garcia, January 2014, Analysis of Cloud Computing Systems, C. Laneve.
- Saverio Giallorenzo, January 2013, Safe-adaptive services and choreography languages, M. Gabbrielli.
- Jean-Marie Madiot, September 2011, Types, proofs and proof techniques for process calculi, D. Hirschhoff and D. Sangiorgi.
- Alessandro Rioli, January 2012; Bisimulation equivalence in quantum lambda calculi, U. Dal Lago.
- Marco Solieri, December 2011; Géométrie de l'interaction, réseaux, et lambda-calcul, S. Guerrini (Paris Nord) and S. Martini.
- Valeria Vignudelli, January 2014, Probabilities in Higher-Order languages, D. Sangiorgi.

### 8.2.3. *Juries*

U. Dal Lago has been rapporteur and member of the PhD evaluation committee for Marc Bagnol (University Aix-Marseille) and Michele Alberti (University Aix-Marseille).

D. Hirschhoff has been rapporteur for the PhD defense of J.B. Midez (December 2014, Université Aix Marseille).

G. Zavattaro has been member of the 2014 PhD evaluation committee at the department of Computer Science of the University of Genova, Italy.

## 8.3. Popularization

Simone Martini has carried out extended work of scientific divulgation:

- member of the technical committee of Olimpiadi del Problem Solving (at Italian Ministry of Education), <http://www.olimpiadiproblemsolving.com>;
- member of the technical committee of two national projects of Italian Ministry of Education, founded by ESF - European Social Fund: “Robotica educativa”, and “Informatica nei licei”;
- various talks at institutes and workshops on the teaching methods for Computer Science.
- coordinator of some initiatives for the ‘Hour of Code’, see [italia.code.org](http://italia.code.org) and [programmmailfuturo.it](http://programmmailfuturo.it).

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

## 8.4. Institutional commitment

Maurizio Gabbrielli has been elected Head of the Doctoral School in the EIT ICT Labs.

## **GALAAD2 Team**

# **9. Dissemination**

## **9.1. Promoting Scientific Activities**

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

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

Evelyne Hubert was invited to organize the workshop *Symbolic Analysis* at the conference Foundation of Computational Mathematics in Montevideo (December 2014).

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

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

Evelyne Hubert was a member of the program committee of the ACM conference ISSAC 2014 in Kobe (July 2014).

Bernard Mourrain was a member of the program committee of the ACM conference SNC 2014 in Shanghai (July 2014).

### **9.1.3. Journal**

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

Evelyne Hubert is an associate editor of the Journal of Symbolic Computation (since 2007).

Bernard Mourrain is an associate editor of the Journal of Symbolic Computation.

#### *9.1.3.2. Reviewer*

Laurent Busé wrote reviews for the ISSAC 2014 conference and for the following journals: Graphical Models, Linear Algebra and its Applications, Foundations of Computational Mathematics, Transactions on Visualization and Computer Graphics, Computer Aided Geometric Design, Journal of Algebra, Expert Systems with Applications, Proceedings of the London Mathematical Society, Journal of Symbolic Computation and Vietnam Journal of Mathematics. He also wrote reviews for the NSA Mathematical Sciences Grant Program.

Evelyne Hubert wrote reviews for the Journal of Symbolic computation, the Foundation of Mathematical Computing journal, the Journal of Pure and Applied Algebra, Mathematics of Computations, Plos One, Theoretical Computer Science, and for the conference proceedings of ISSAC and SNC. She was also part of the selection committee for Fulbright grants.

Bernard Mourrain wrote reviews for the followings journals: Journal of Symbolic computation, Foundation of Mathematical Computing journal, Journal of Pure and Applied Algebra, Linear Algebra and its Applications, Applicable Algebra in Engineering, Communication and Computing, Computer Aided Geometric Design, Theoretical Computer Science, Computing Surveys, SIAM Journal on Matrix Analysis and Applications, and for the conference proceedings of ISSAC and SNC, MTNS.

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

### **9.2.1. Teaching**

Licence: Mathieu Collowald, Maths (Exercices), 25h ETD, L1 SV, University of Nice-Sophia Antipolis.

Licence: Mathieu Collowald, Discrete maths (Exercices), 18h ETD, L1 I, University of Nice-Sophia Antipolis.

Licence: Mathieu Collowald, Algebra1 (Exercices), 40h ETD, L1 I, University of Nice-Sophia Antipolis.

Licence: Mathieu Collowald, Algebra2 (Exercices), 40h ETD, L1 I, University of Nice-Sophia Antipolis.



Licence: Marta Abril Bucero, Statistiques (Exercices), 20h ETD, L2 I, University of Nice-Sophia Antipolis.

Licence: Marta Abril Bucero, Analyse (Exercices), 40h ETD, L2 PC, University of Nice-Sophia Antipolis.

Master : Laurent Busé, Curves and Surfaces, 66h ETD, M1, EPU of the university of Nice-Sophia Antipolis.

Master : Laurent Busé, Elimination matrices for geometric modeling, 40h ETD, M2, math department of the university of Nice-Sophia Antipolis.

Master : Laurent Busé, Elimination matrices and applications, 18h ETD, M2, math department of the university of Buenos Aires, Argentina.

Master: Bernard Mourrain, Algorithmique des Courbes et Surfaces, M2 ACSYON, Limoges. 6h.

Doctoral courses: Bernard Mourrain, Effective Algebraic Geometry and Applications. Central European University, Budapest. 12h.

Doctoral courses: Bernard Mourrain, Sparse modelling, tensor decomposition, algorithms and applications. Summer School on An Interdisciplinary Approach to Tensor Decomposition, Trento Italy. 6h.

### 9.2.2. Supervision

PhD : Marta Abril Bucero, Moment matrices, real algebraic geometry and polynomial optimization, supervised by Bernard Mourrain, university of Nice-Sophia Antipolis, defended December 12th.

PhD in progress: Elisa Berrini, Parametric modeling for ship hull deformation and optimization. CIFRE with MyCFD. Started in January 2014. Supervised by Bernard Mourrain.

PhD in progress : Mathieu Collowald, Integral representation of shapes for feature conservation or extraction, started in 2011, supervised by Evelyne Hubert.

Laurent Busé supervised :

- The master thesis of Danny Schmitt, “Représentations matricielles des courbes et hypersurfaces rationnelles”, university of Nice-Sophia Antipolis,
- Anna Karasoulou, 3 months during its PhD thesis at the university of Athens under the supervision of I. Emiris, “Discriminant of a symmetric homogeneous polynomial”.
- Jingjing Shen, co-supervised with P. Alliez, 3 months during its PhD thesis at Cambridge under N. Dodgson, “Isotropic triangle meshing of nurbs models”.

### 9.2.3. Juries

Laurent Busé was a reviewer and a member of the PhD committee of Yacine Bouzidi, “Résolution de systèmes bivariés et topologie de courbes planes” under Sylvain Lazard and Marc Pouget, defended March 18th 2014 at the university of Lorraine (Inria Nancy), France.

Laurent Busé was a member of the PhD committee of Claire Tête, “Profondeur, dimension et résolutions en algèbre commutative: quelques aspects effectifs” under Lionel Ducos, defended October 21st 2014 at the university of Poitiers, France.

Laurent Busé was a reviewer and a member of the PhD committee of Kamran Lamei, “Fonction de Hilbert non standard et nombres de Betti gradués des puissances d’idéaux” under Marc Chardin, defended December 18th 2014 at the university Paris 6, France.

Bernard Mourrain was a reviewer and member of the PhD committee of Jeremy Veysset, “Anisotropic mesh adaptation and stabilized finite elements methods for solving conjugate heat transfers and turbulent flows” supervised by E. Hachem and Th. Coupez, September 29th, Mines ParisTech.

Bernard Mourrain was a reviewer and member of the PhD committee of Heidi Dahl, “Improved blends between primitive surface” under the supervision of Rimvydas Krasauskas, October 23th, University of Oslo.

Bernard Mourrain was a reviewer and member of the PhD committee of Jules Svartz, “Résolution des Systèmes Polynomiaux de Dimension Zéro” under the supervision of J.C. Faugère, October 30th, University Pierre et Marie Curie, Paris.

Bernard Mourrain was supervisor and member of the PhD committee of the PhD thesis of Marta Abril-Bucero, “Moment matrices, real algebraic geometry and polynomial optimization”, December 12th, University of Nice-Sophia Antipolis.

## GEOMETRICA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

Monique Teillaud co-organized the “Workshop on Geometric Structures with Symmetry and Periodicity”, part of the Computational Geometry Week 2014, with Ileana Streinu (Smith College, Northampton, MA), in Kyoto University, Japan, June 8-9. [http://www-sop.inria.fr/geometrica/events/wocg14-symmetry\\_and\\_periodicity/](http://www-sop.inria.fr/geometrica/events/wocg14-symmetry_and_periodicity/)

Jean-Daniel Boissonnat organized the first GUDHI workshop in Sophia Antipolis, October 27-29. <https://project.inria.fr/gudhi/first-gudhi-workshop/>

#### 9.1.2. Scientific events selection

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

Olivier Devillers was program co-chair of 2014 Symposium on Computational Geometry.

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

Monique Teillaud, European Symposium on Algorithms, ESA, <http://algo2014.ii.uni.wroc.pl/esa/>

##### 9.1.2.3. member of the steering committee

Jean-Daniel Boissonnat is a member of the steering committee of the international conference on Curves and Surfaces.

Monique Teillaud is a member of the Steering Committee of the European Symposium on Algorithms (ESA).

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

Jean-Daniel Boissonnat is a member of the Editorial Board of *Journal of the ACM*, *Discrete and Computational Geometry*, *Algorithmica*, *Journal on Computational Geometry*, *International Journal on Computational Geometry and Applications*.

Frédéric Chazal is a member of the Editorial Board of *SIAM Journal on Imaging Sciences*, *Graphical Models* and *Discrete and Computational Geometry*.

Olivier Devillers is a member of the Editorial Board of *Graphical Models*.

Monique Teillaud is a member of the Editorial Boards of CGTA, *Computational Geometry: Theory and Applications*, and of IJCGA, *International Journal of Computational Geometry and Applications*.

M. Yvinec is a member of the editorial board of *Journal of Discrete Algorithms*.

Monique Teillaud and Mariette Yvinec are members of the CGAL editorial board.

#### 9.1.4. Inria committees

Frédéric Chazal was a member of the recruitment committee of Inria Saclay (vice-chair).

Monique Teillaud was a member of the Inria Evaluation Committee until August.

She was a member of the national Inria DR2 interview committee and the local CR2 interview committees in Nancy and Lille.

She was also a member of the Advanced and Starting “Research Positions” interview committees.

Monique Teillaud was a member of the local Committee for Technologic Development until her move to Nancy.

She was also a member of the local committee for transversal masters.

### 9.1.5. National committees

Jean-Daniel Boissonnat was a member of the Conseil de l'AERES (Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur).

Frédéric Chazal was a member of the Comités d'évaluation scientifique "Mathématiques et Informatique Théorique" of the ANR.

### 9.1.6. Web site

M. Teillaud is maintaining the Computational Geometry Web Pages <http://www.computational-geometry.org/>, hosted by Inria Sophia Antipolis until November. This site offers general interest information for the computational geometry community, in particular the Web proceedings of the Video Review of Computational Geometry, part of the Annual Symposium on Computational Geometry.

### 9.1.7. Geometrica seminar

The seminar featured presentations by the following scientists:

Omri Azencot (Technion) : An Operator Approach to Tangent Vector Field Processing

Mirela Ben Chen (Technion - Israel Institute of Technology) : Can Mean-Curvature Flow be Modified to be Non-singular?

Benjamin Burton (University of Queensland) : Untangling knots using combinatorial optimisation

A. Chiara de Vitis (Pavia) : Geometrical and Topological Descriptors for Protein Structures

C. Couprie (Courant Institute) : Graph-based Variational Optimization and Applications in Computer Vision

J. Demantke (IGN) : Geometric Feature Extraction from LIDAR Point Clouds and Photorealistic 3D Facade Model Reconstruction from Terrestrial LIDAR and Image Data

Kyle Heath (Stanford University) : Image Webs: Discovering and using object-manifold structure in large-scale image collections

N. Mitra (UCL London) : Computational Design Tools for Smart Models Synthesis

P. Machado Manhães de Castro (UFPE, Brasil) : Invariance for Single Curved Manifolds

Natan Rubin (Freie Universität Berlin) : On Kinetic Delaunay Triangulations: A Near Quadratic Bound for Unit Speed Motions

D. Salinas (Gipsa Lab, Grenoble) : Using the Rips complex for Topologically Certified Manifold Learning

Régis Straubhaar (Université de Neuchâtel) : Numerical optimization of an eigenvalue of the Laplacian on a domain in surfaces

Jian Sun (Mathematical Sciences Center, Tsinghua University) : Rigidity of Infinite Hexagonal Triangulation of Plane

Anaïs Vergne (Télécom ParisTech) : Algebraic topology and sensor networks

Yuan Yao (School of Mathematical Sciences, Peking University) : The Landscape of Complex Networks

H. Zimmer (Aachen) : Geometry Optimization for Dual-Layer Support Structures

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master : J.D. Boissonnat, C. Maria, M. Yvinec, *Algorithmic Geometry of Triangulations*, 24h, International Master Sophia Antipolis.

Master : S. Oudot, *Computational Geometry: from Theory to Applications*, 18h, École polytechnique.

Master : S. Oudot, *Geometric Methods for Data Analysis*, 12h, École Centrale Paris.

Master: Jean-Daniel Boissonnat, Frédéric Chazal *Computational Geometric Learning*, 24h, Master MPRI, Paris.

M. Teillaud, *Génération de maillages dans la bibliothèque CGAL*, in the framework of a training course for young researchers (PhD students and master students on environmental sciences) on modelling, organized by ECCOREV, 3h, Aix-en-Provence.

### 9.2.2. Supervision

HDR: Steve Oudot, Persistence Theory: From Quiver Representations to Data Analysis [14], Université Paris-Sud, November 26th 2014.

PhD : Clément Maria, Algorithms and Data Structures in Computational Topology [13], Université de Nice Sophia Antipolis, October 28, 2014, Jean-Daniel Boissonnat.

PhD: Ross Hemsley, Probabilistic methods for the analysis of algorithms on random tessellations [12], Université de Nice Sophia Antipolis, December 16, 2014, Olivier Devillers.

PhD: Mickaël Buchet, Topological and geometric inference from measures [11], Université Paris XI, December 2014, Frédéric Chazal and Steve Oudot.

PhD in progress: Thomas Bonis, Topological persistence for learning, started on December 2013, Frédéric Chazal.

PhD in progress: Mathieu Carrière, Topological signatures for geometric shapes, started in November 2014, Steve Oudot.

PhD in progress: Ruqi Huang, Algorithms for topological inference in metric spaces, started on December 2013, Frédéric Chazal.

PhD in progress: Eddie Amaari, A statistical approach of topological Data Analysis, started on Sept. 2014, Frédéric Chazal (co-advised with Pascal Massart).

PhD in progress : Rémy Thomasse, Smoothed complexity of geometric structures and algorithms, started December 1st 2012, Olivier Devillers.

PhD in progress : Mael Rouxel-Labbé, Anisotropic Mesh Generation, started October 1st, 2013, Jean-Daniel Boissonnat and Mariette Yvinec.

PhD in progress : Alba Chiri de Vitis, Computational Geometry in High Dimensions, started February 2014. Jean-Daniel Boissonnat and David Cohen-Steiner.

### 9.2.3. Juries

Monique Teillaud was a member of the HDR defense committee of Francis Lazarus (univ. Grenoble).

Monique Teillaud was a member of the PhD defense committee of Yacine Bouzidi (Univ. de Lorraine).

Monique Teillaud was a member of the PhD defense committee (member of the three-member advisory committee) of Vissarion Fisikopoulos (Univ. Athens, Greece).

Monique Teillaud was a member of the PhD defense committee of Arnaud de Mesmay (École Normale Supérieure).

Jean-Daniel Boissonnat was a member of the HDR defense committees of Q. Mérigot and S. Oudot.

Frédéric Chazal was a member (reviewer) of the PhD defense of Arnaud de Mesmay (Ecole Normale Supérieure de Paris).

Frédéric Chazal was a member of the PhD defense of Clément Levrard (Université Paris-Sud).

Steve Oudot was a member of the PhD defense of Clément Maria (Université Nice Sophia Antipolis).

Marc Glisse was a member of the PhD defense committee of Octavio Razafindramanana, Université François Rabelais de Tours.

#### **9.2.4. Internships**

Thomas Bonis, image and shape classification using persistent homology (F. Chazal)

François Godi, Computing the bottleneck distance for persistence diagrams (Jean-Daniel Boissonnat)

Venkata Yamajala, Equating the witness and the Delaunay complexes (Jean-Daniel Boissonnat)

Chunyuan Li, Persistence-based object recognition (F. Chazal and M. Ovsjanikov)

Eddie Aamari, topological Data Analysis (F. Chazal)

Mathieu Carrière, local topological signatures for shapes (S. Oudot)

### **9.3. Popularization**

Thomas Bonis and Mathieu Carrière presented the *Photomaton 3d* at the *Fête de la Science* in October 2014. This animation consists in scanning a volunteering person in 3d using a Kinect and dedicated software, then illustrating the concepts of 3d shape comparison, retrieval and matching.

## GRAPHIK Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, scientific chair

- Madalina Croitoru was general chair of ICCS 2014 (21st International Conference on Conceptual Structures) <http://iccs2014.info.uaic.ro/index.php>.

#### 9.1.1.2. Member of the organizing committee

- Fabien Garreau was member of the organizing committee of JIAF 2014 (Journées d'Intelligence Artificielle Fondamentale) <http://jiaf2014.univ-angers.fr/index.php?accueil>.
- Jérôme Fortin was member of the local organizing committee of IPMU 2014 (15th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based System) <http://www.ipmu2014.univ-montp2.fr/>.
- Patrice Buche was member of the initiative committee for a special session in IPMU'2014 (Decision Support and uncertainty management in Agri-Environment) <http://www.ipmu2014.univ-montp2.fr/SpecialSessions.php>.
- Patrice Buche was member of the initiative committee for a special session in MTSR'2014 (Metadata and Semantics for Agriculture, Food & Environment) <http://www.mtsr-conf.org/>.
- Patrice Buche was member of the initiative committee for a special session in IC'2014 (IN-OVIVE 2014) [https://colloque6.inra.fr/in\\_ovive\\_2014](https://colloque6.inra.fr/in_ovive_2014).

### 9.1.2. Scientific events selection

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

- Marie-Laure Mugnier (along with Roman Kontchakov, London) was Program Chair of the 8th International Conference on Web Reasoning and Rule Systems (RR'2014), Athens, 2014 <http://rr2014.di.uoa.gr/>.

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

- Marie-Laure Mugnier was senior PC member of AAAI 2015 (AAAI Conference on Artificial Intelligence).
- Federico Ulliana was PC member of AAAI 2015 (AAAI Conference on Artificial Intelligence).
- Marie-Laure Mugnier and Souhila Kaci were PC members of ECAI 2014 (European Conference on Artificial Intelligence).
- Jean-François Baget was PC member of RR 2014 (International Conference on Web Reasoning and Rule Systems).
- Jean-François Baget and Michel Leclère were PC members of ESWC 2014 (European Semantic Web Conference).
- Jérôme Fortin was PC member of ICCS 2014 (International Conference on Conceptual Structures).
- Marie-Laure Mugnier was PC member of NMR 2014 (Non Monotonic Reasoning Workshop).
- Souhila Kaci was PC member of MPREF'14 (Workshop on Advances in Preference Handling).
- Madalina Croitoru was PC member of the special session on "Decision Support and uncertainty management in Agri-Environment" of IPMU 2014 (15th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based System).

- Madalina Croitoru was PC member of COMMA 2014 (5th International Conference on Computational Models of Argument).
- Madalina Croitoru was PC member of AGI-14 (7th Conference on Artificial General Intelligence).
- Madalina Croitoru was PC member of AIMSIA 2014 (16th International Conference on Artificial Intelligence: Methodology, Systems, Applications).
- Madalina Croitoru was PC member of IBERAMANIA 2014 (Ibero-American Conference on Artificial Intelligence).
- Rallou Thomopoulos was PC member of IPMU 2014 (Information Processing and Management of Uncertainty in Knowledge-Based Systems).
- Patrice Buche was PC member of CARI 2014 (Colloque africain sur la recherche en informatique et mathématiques appliquées)
- Marie-Laure Mugnier was PC member of JIAF 2014 (Journées d'Intelligence Artificielle Fondamentale).
- Rallou Thomopoulos was PC member of GeCSO (Gestion des Connaissances dans la Société et les Organisations).
- Patrice Buche was PC member of IC 2014 (Journées francophones d'Ingénierie des Connaissances).
- Patrice Buche was PC member of RFIA 2014 (Congrès national sur la Reconnaissance de Formes et l'Intelligence Artificielle).

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

- Madalina Croitoru is member of the editorial board of the International Journal of Conceptual Structures and Smart Applications (IJCSA).
- Marie-Laure Mugnier is member of the editorial committee of the journal Revue d'Intelligence Artificielle (RIA).

#### 9.1.3.2. Reviewer

- Transactions on Database Systems (TODS)
- Journal of Artificial Intelligence (JAIR)

### 9.1.4. Scientific Animation

- Patrice Buche animates the national network INRA IN-OVIVE <http://www6.inra.fr/reseau-in-ovive>.
- Patrice Buche animates the regional seminar MIA <http://umr-iate.cirad.fr/seminaires/aide-a-la-decision>.
- Souhila Kaci animates the LIRMM seminar on Artificial Intelligence <https://www.lirmm.fr/recherche/departements/info/poles-de-recherche/ia>.

### 9.1.5. Invited Talks

- Marie-Laure Mugnier gave an invited talk at the 10th Reasoning Web Summer school (RW'2014), Athens, Sept. 2014. <http://rw2014.di.uoa.gr/>. Title : "Ontology-Based Query Answering with Existential Rules" [http://rw2014.di.uoa.gr/sites/default/files/slides/Ontology-Based\\_Query\\_Answering\\_with\\_Existential\\_Rules.pdf](http://rw2014.di.uoa.gr/sites/default/files/slides/Ontology-Based_Query_Answering_with_Existential_Rules.pdf).
- Madalina Croitoru gave an invited talk at the MIA-INRA seminar, Lyon, March 2014. [https://colloque6.inra.fr/math\\_info/Programme-Actes](https://colloque6.inra.fr/math_info/Programme-Actes). Title: "Ingénierie de la connaissance et argumentation". [https://colloque.inra.fr/math\\_info/content/download/318/3534/version/1/file/Madalina\\_Croitoru.pdf](https://colloque.inra.fr/math_info/content/download/318/3534/version/1/file/Madalina_Croitoru.pdf)
- Madalina Croitoru gave an invited talk at the INCOM-INRA seminar, Paris, April 2014. Title: "Argumentation based Explanation in Agronomy".



- Marie-Laure Mugnier gave an invited talk at 25èmes journées francophones d'ingénierie des connaissances (IC'2014), Clermont Ferrand, May 2014. <http://www.irit.fr/IC2014>. Title: “*Un nouveau cadre pour l'interrogation de données basée sur une ontologie : les règles existentielles*”<http://www.irit.fr/CMS-DRUPAL7/IC2014/>.
- Marie-Laure Mugnier gave an invited talk at the INRA Open Data seminar, Montpellier, Dec. 2014. <http://www6.inra.fr/reseau-in-ovive/Actions-du-reseau/Seminaires/Seminaire-Open-Data-du-17-19-December-2014>. Title: “*L'approche OBDA*”.
- Federico Ulliana gave an invited talk at the INRA Open Data seminar, Montpellier, Dec. 2014. Title: “*My Corporis Fabrica*”. <http://www6.inra.fr/reseau-in-ovive/Media/Fichier/seminaires/Seminaire-Open-Data-du-17-19-December-2014/My-Corporis-Fabrica>
- Michel Chein gave an invited talk at the ISIMA-LIMOS Seminar, Clermont-Ferrand, Dec. 2014. Title: “*Un problème d'identification d'entités nommées dans les bases bibliographiques.*”

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

The next table details the number of lecture hours as well as the number of module responsibilities for each team member.

Name	Position	2013/14	Cursus (*)	Module Resp. (per year)
J.-F. Baget	Research Scientist	40	M (UM2)	1
M. Croitoru	Assistant Prof.	198	L2	2
M. Chein	Emeritus Prof.	0		
J. Fortin	Assistant Prof	230	Polytech	2
S. Kaci	Professor	198	L and M(UM2)	3
M. Leclère	Assistant Prof.	196	L and M (UM2)	2
M. -L. Mugnier	Professor	192	L and M (UM2)	3
L. Guizol	PhD	64	L (UM2)	no
M. König	PhD	64	L (UM2)	no
A. Arioua	PhD	12	L (UM2)	no

(\*) L =Licence, M = Master (M1 = first year, M2 = second year), UM2 = Univ. Montpellier 2 (Sciences), IUT = Institute of Technology of UM2 (Licence Cursus), Polytech = Engineering School of UM2, UM3 = Univ. Montpellier 3 (Art and Humanities)

The courses taught by team members are mainly in Logics (in Licence), Artificial Intelligence, Knowledge Representation, Knowledge Engineering, and Decision Support (in Master). We are also responsible of modules in Web Technologies (Professional L at IUT) and Databases (L).

We have some specific responsibilities in the Computer Science Licence and Master:

- Michel Leclère is co-responsible of the master speciality DECOL (about 30 students) started in September 2011.
- Marie-Laure Mugnier is co-responsible of the Computer Science Master started in September 2011 (about 250 students), which gathers six specialties. She is also leading the Master project for the next four years (LMD4).
- Souhila Kaci is leading the Licence project for the next four years (LMD4).
- Madalina Croitoru is responsible of the special year teaching formation at IUT Montpellier II (25 students).

### 9.2.2. Supervision

*Madalina Croitoru* defended her HDR in November *Reasoning about Knowledge as Graphs: Practical Artificial Intelligence Applications* [15]. The jury was:

- Leila Amgoud, Directeur de Recherche, IRIT, Toulouse, France (reviewer)
- Ollivier Haemmerle, Professeur, IRIT, Toulouse, France (reviewer)
- Jan Top, Professeur, Vrije, Universiteit, Netherlands (reviewer)
- Jérôme Lang, Directeur de Recherche, Paris Dauphine, France (examiner)
- Marie-Laure Mugnier, Professeur, Univ. Montpellier 2, France (examiner)

*Bruno Paiva Lima da Silva* defended his PhD in January *Data Access over Large Semi-Structured Databases* [18]. The jury was:

- Ollivier Haemmerlé, Professeur, IRIT (reviewer)
- Fabien Gandon Dr. & HDR, Inria Sophia-Antipolis (reviewer)
- Odile Papini, Professeur, Université Aix-Marseille II (examiner)
- Marie-Laure Mugnier, Professeur, Université Montpellier II (advisor)
- Jean-François Baget, Chargé de Recherche, Inria (co-advisor)
- Madalina Croitoru, Maître de Conférences, Université Montpellier II (co-advisor)

*Mélanie König* defended her PhD in October *Interrogation de grandes bases de connaissances : algorithmes de réécriture de requêtes conjonctives en présence de règles existentielles* [17]. The jury was:

- Bernardo Cuenca Grau Tenure, Associate Professor, Univ. Oxford (reviewer)
- Igor Stephan, Maître de conférence HDR, Univ. Angers (reviewer)
- Marianne Huchard, Professeur, Univ. Montpellier II (examiner)
- Lhouari Nourine, Professeur, Univ. Blaise Pascal (examiner)
- Meghyn Bienvenu, Chargé de recherche CNRS, Univ. Paris Sud (examiner)
- Remi Coletta, Maître de conférence, Univ. Montpellier II (examiner)
- Marie-Laure Mugnier, Professeur, Univ. Montpellier II (advisor)
- Michel Leclère, Maître de conférence, Univ. Montpellier II (co-advisor)

*Tjitze Rienstra* defended his PhD in October *Argumentation in Flux – Modelling change in the theory of argumentation*. The jury was:

- Lluís Godo, professor, Institut d'Investigació en Intel·ligència Artificial, Bellaterra, Spain (chairman)
- Pietro Baroni, professor, Università degli Studi di Brescia, Italy (vice-chairman)
- Beishui Liao, professor, Zhejiang University, China (member)
- Richard Booth, researcher, Université du Luxembourg (member)
- Leon van der Torre, professor, Université du Luxembourg (co-supervisor)
- Souhila Kaci, professor, Université de Montpellier, France (co-supervisor)

*Léa Guizol* defended her PhD in November *Partitioning semantics for entity resolution and link repairs in bibliographic knowledge bases* [16]. The jury was:

- Nathalie Aussenac, Directeur de recherches, CNRS, IRIT, Toulouse (reviewer)
- Englebert Mephu Nguifo, Professeur, Université Clermont-Ferrand (reviewer)
- Mathieu Roche, Directeur de recherches, Université Montpellier II (examiner)
- Marie-Laure Mugnier, Professeur Université Montpellier II (advisor)
- Madalina Croitoru, Maître de conférences, Univ. Montpellier II (co-advisor)

The PhDs in progress are:

*Fabien Garreau* (ANR ASPIQ grant), Algorithms for stable model semantics and existential rules (ANR ASPIQ, with Univ. of Angers), Sept. 2012, supervised by Igor Stephan, Jean-François Baget and Laurent Garcia

*Swan Rocher* (ANR Qualinca grant), Reasoning with inconsistent knowledge bases in presence of existential rules (ANR Qualinca), Sept. 2013, supervised by Marie-Laure Mugnier and Jean-François Baget

*Namrata Patel* (Univ. Montpellier II grant), Preference Handling in Decision Problems (ministry grant), Sept. 2013, supervised by Souhila Kaci

*Abdallah Arioua* (ANR Dur-Dur& INRA Grant), Argumentation Theory and its Application to Knowledge-based Systems, started Nov. 2013, supervised by Patrice Buche, Madalina Croitoru and Jérôme Fortin.

### **9.2.3. Juries**

Jury member - Mustafa AL BAKRI - Uncertainty-Sensitive Reasoning over the Web of Data - December 15, 2014 - Université de Grenoble, LIG (Marie-Laure Mugnier)

Jury member - Rim TOUHAMI - Construction et évolution d'une ressource termino-ontologique dédiée à la représentation de relations n-aires, application à l'évaluation du risque microbiologique dans des aliments emballés - Université Montpellier 2, UMR IATE, MIA & AgroParisTech, September 5, 2014 (Marie-Laure Mugnier)

Reviewer - Maxime LEFRANCOIS - "Représentation des connaissances sémantiques lexicales de la Théorie Sens-Texte : Conceptualisation ; représentation ; et opérationnalisation des définitions lexicographiques" - Université de Nice, Inria & I3S, June 24, 2014 (Marie-Laure Mugnier)

Recruitment committee member: Assistant Professor position at Université d'Orsay (Marie-Laure Mugnier)  
Assistant Professor position at Université Montpellier 2 (Madalina Croitoru, Marie-Laure Mugnier)

## **HEPHAISTOS Team**

## **8. Dissemination**

### **8.1. Promoting Scientific Activities**

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

##### *8.1.1.1. General chair, scientific chair*

- J-P. Merlet is a member of the scientific committee of the European Conference on Mechanism Science (EUCOMES), chairman of the scientific Committee of the Computational Kinematics workshop, a member of the steering Committee of IROS. and board member of the Journal of Behavioral Robotics. He is also also Inria representative to PPP Eurobotics aisbl. He is a member of the IFToMM (International Federation for the Promotion of Mechanism and Machine Science) Technical Committees on History and on Computational Kinematics and is one of the 10 members of IFToMM Executive Council, the board of this federation. He is a member of the scientific committee of the CNRS GDR robotique

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

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

- J-P. Merlet has been reviewing Editor for IROS 2014
- Y. Papegay is a permanent member of the International Steering Committee of the International Mathematica Symposium conferences series, and member of the Program Committee of the 2015 edition

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

### **8.2.1. Teaching**

Master : O. Pourtallier lectured 6 hours on game theory to Master OSE (M2), at École des Mines de Paris, Sophia Antipolis, France

### **8.2.2. Supervision**

PhD in Progress : K. Bakal, Biomechanics of the upper limb, 2013, supervisors: D. Daney, J-P. Merlet, P. Gorce

PhD in Progress :M. Beninati, Legal aspect of assistance robotics, 2015, supervisor: J-P. Merlet

PhD in Progress : A. Berti, Forward kinematics of cable driven parallel robots, 2012, supervisors: M. Carricato, J-P. Merlet

PhD in Progress : L. Blanchet, Interference and modularity management in cable-driven parallel robots, 2011, supervisor: J-P. Merlet

PhD in Progress, H. Lamine, Cable-driven parallel robot for rehabilitation, 2013, supervisors: J-P. Merlet, L. Romdhane

PhD in Progress : A. Massein, Design of Smart Environment for Human Behaviour Recognition, 2013, supervisors: D.Daney, Y.Papegay

PhD in Progress : R. Ramadour, Visual servoing for cable-driven parallel robot, 2011, supervisors: F. Chaumette, J-P. Merlet

### **8.2.3. Juries**

- J-P. Merlet has been the member of the jury of 5 PhD defense and of one HdR

### **8.3. Popularization**

- M. Gautier has participated to the Fête de la science CIV, to the Carrefour des métiers Nice and has proposed a programming initiation to a 6ème class in view of the participation to the Junior Robotics Pobot Cup.
- Y.Papegay is actively participating to the Math.en.Jeans initiative for Mathematics teaching for undergraduate students.
- we extensively use the MARIONET-SCHOOL robots for pedagogy and teaching at all level.
- J-P. Merlet has given several national newspapers and TV interviews

## INDES Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

#### 8.1.1.1. general chair, scientific chair

- **Iaria Castellani** is the chair of the IFIP WG 1.8 on Concurrency Theory (of which she has been a member since its start in 2005). She is a member of the Management Committee of the european COST Action IC1201 BETTY on Behavioural Types, and the chair of the BETTY working group on Security. Since November 2014 she is also a member of the COST Action IC1405 on Reversible Computation.
- **Manuel Serrano** is the coordinator of the ANR DEFIS project PWD.
- **Tamara Rezk** is the coordinator of the security work package (WP3) of the ANR AJACS project.

#### 8.1.1.2. member of the organizing committee

- **Iaria Castellani** co-organised (with the WG Secretary Mohammad Reza Mousavi) the workshop TRENDS 2014 and the annual business meeting of WG 1.8, and she participated in the IFIP TC1 (Foundations of Computation) business meeting, all held in September in Rome. She was involved in the organisation of the OPCT (Open Problems in Concurrency Theory) workshop that took place in May in Bertinoro, which was co-sponsored by WG 1.8. She was also one of the organisers of the MatthewFest, a two-day workshop that took place in Lucca in October to celebrate the 65th anniversary of Matthew Hennessy. She reported on the 2013 workshop "25 Years of Combining Compositionality and Concurrency" (WS25CCC) in the Bulletin of EATCS.
- **Tamara Rezk** organized a workshop on Programming Languages and Verification and a workshop on JavaScript Security at Inria Sophia Antipolis, on 9th and 16th December 2014.

### 8.1.2. Scientific events selection

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

- **Manuel Serrano** served on the program committee of the *16th Practical Aspects of Declarative Languages (PADL'14)* conference, *Trends in Functional Programming*, (TFP'14) and *Web Audio Conference (WAC'15)*.
- **Nataliia Bielova** was a publication chair of International Symposium on Engineering Secure Software and Systems (ESSoS 2014) and was invited to be a publication chair of ESSoS 2015.
- **Iaria Castellani** was a member of the programme committee of the workshop BEAT 2014.
- **Tamara Rezk** served on the program committees of Computer Security Foundations (CSF'14), of International Symposium on Engineering Secure Software and Systems (ESSoS'15), and of 4th Conference on Principles of Security and Trust (POST'15).

#### 8.1.2.2. reviewer

- **Nataliia Bielova** served as an external reviewer to the Conference on Principles of Security and Trust (POST 2014) and Computer Security Foundations Symposium (CSF 2014).

### 8.1.3. Journal

#### 8.1.3.1. member of the editorial board

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

#### 8.1.3.2. reviewer

- **Nataliia Bielova** was an invited reviewer of the ACM Transactions on Information and System Security (TISSEC).
- **Tamara Rezk** was an invited reviewer of the Journal Computer Languages, Systems & Structures.

## 8.2. Seminars and conferences

- **Manuel Serrano** gave two seminars about Web programming in various events: "Future of Programming", Delft 2014 <http://eelcovisser.org/wiki/future-of-programming/program> and "9th Symposium on Future Trends in Service-Oriented Computing", Potsdam 2014. He participated in the SAC'2014 conference in Gyeongju, Korea [16], where is presented new techniques for implementing locks efficiently in higher order programming languages. He also participated in the WEBIST'14 conference in Barcelona, Spain [17], where he presented his work on multitier debugging of Web applications.
- **Bernard Serpette** gave a talk about *Unification des couleurs dans un  $\lambda$ -calcul polychrome* at the JFLA'14, Fréjus, France.
- **Nataliia Bielova** was invited to present her work on browser randomisation against fingerprinting at PRINCESS workshop in December 2014.
- **Iaria Castellani** participated in the NII (the Japanese National Institute of Informatics) Shonan Meeting on "Software Contracts for Communication, Monitoring, and Security", held at Shonan Village Center. In June she took part in the workshop OPCT (Open Problems in Concurrency Theory) in Bertinoro, Italy. In both cases, she gave a talk on Security for Reactive Synchronous Languages. In September, she participated in the conference TCS (Theoretical Computer Science) in Rome, where she gave a joint talk with Marco Bernardo, reporting on the IFIP WG 1.8 activities and on the OPCT workshop, in a special session dedicated to the IFIP TC1 working groups. She also attended the BEAT workshop, where her work was presented by Jorge A. Perez. She finally participated, as a co-organiser, in the workshop TRENDS 2014 and in the event MatthewFest (cf Section 9.2 below). As part of the Action BETTY, she participated in two one-day project meetings/workshops, associated with the conferences ETAPS and CONCUR respectively, and she spent a short visit to the University of Torino and another one to Trinity College, Dublin.
- **José Frago Santos** participated in the 29th IFIP International Conference of Information Security and Privacy (IFIP SEC'2014) in which he presented his joint work with Tamara Rezk (An Information Flow Monitor-Inlining Compiler for Securing a Core of JavaScript).

He participated in the 9th International Symposium on Trustworthy Global Computing (TGC'2014) in which he presented his joint work with Ana Almeida Matos and Tamara Rezk (An Information Flow Monitor for a Core of DOM - Introducing References and Live Primitives).

He gave a talk about information flow security for client-side Web applications at the LoReL group and at the LaFHIS group in the University of Buenos Aires and at the Dependable Systems Group in the University of Córdoba. José Frago Santos also gave a talk about information flow security for the DOM API in the Department of Computing of the Imperial College in London.

- **Tamara Rezk** was invited to Dagstuhl Seminar 14271, "Scripting Languages and Frameworks: Analysis and Verification". She gave two talks on "Hybrid Typing for JavaScript" and "Hop Operational Semantics".

## 8.3. Teaching - Supervision - Juries

### 8.3.1. Teaching

Licence : **Vincent Prunet**, *Algorithms and Data Structures*, 80 ETD, L2, Lycée International de Valbonne Sophia Antipolis (within the scope of the national Inria action to promote early CS courses in all scientific curricula), France.

Master : **Manuel Serrano**, *Programming the Diffuse Web*, 26h ETD, M2, University Paris 6 (UPMC), France.

Master : **Tamara Rezk**, *Security of Web Applications*, 36 ETD, M2, University of Nice Sophia Antipolis, France.

Master : **Tamara Rezk**, *Provable Cryptography*, 36 ETD, M2, University of Nice Sophia Antipolis, France.

Master: **José Fragoso Santos**, *Software Security*, 6 ETD, M2, of Instituto Superior Técnico University of Lisbon, Portugal.

Doctorat : **Manuel Serrano**, Hop.js, full-day seminar, *École des Jeunes Chercheurs en Programmation*, Rennes, France.

Doctorat: **Iliaria Castellani**, Behavioural types, one-hour tutorial, Lovran School.

### 8.3.2. Supervision

PhD : **José Fragoso Santos**, *Enforcing Secure Information Flow in Client Side Web Applications*, University of Nice Sophia Antipolis, 08/12/2014, **Ana Almeida Matos** and **Tamara Rezk**.

PhD in progress : **Cyprien Nicolas**, *Orchestrating multi-tier programming languages*, University of Nice Sophia Antipolis, 1/09/2010, **Gérard Berry** and **Manuel Serrano**.

PhD in progress: **Johan Grande**, *Conception et implantation d'un langage de programmation concurrente modulaire*, University of Nice Sophia Antipolis, 1/10/2010, **Gérard Boudol** and **Manuel Serrano**.

PhD in progress: **Yoann Couillec**, *Langages de programmation et données ouvertes*, University of Nice Sophia Antipolis, 1/10/2012, **Manuel Serrano** and **Patrick Valduriez**.

PFE in progress: **Julien Chiaremllo**, *Décomposition en nombres premiers en informatique quantique*, University of Nice Sophia Antipolis, 1/11/2014, **Tamara Rezk**.

Master Internship: **Diana Proteasa-Nicola** on activity monitoring within Hop applications, Polytech Nice Sophia, **Vincent Prunet**.

Inria Internship Program: **Diana Proteasa-Nicola** on Robot simulation with Hop.js, Universitatea Politehnica Timisoara, **Vincent Prunet**.

### 8.3.3. Juries

- Manuel Serrano was a reviewer of the PhD thesis of Cagdas Bozman, ENSTA, Paris. He was also a reviewer of the PhD thesis of Julien Richard Roy, University of Rennes. Manuel Serrano organized and headed the CR2 jury of Inria Sophia-Antipolis.
- Iliaria Castellani was a reviewer of the PhD thesis of Ornella Dardha, University of Bologna.
- Tamara Rezk was a reviewer (rapporteur) of the PhD thesis of Carlos Luna, University of the República, Uruguay. He was also part of the jury of the PhD thesis of José Fragoso Santos, University of Nice Sophia Antipolis.

## 8.4. Transfer

### 8.4.1. WebRobotics

Dissemination of the HOP technology has become a priority for the team now that HOP is actually used to develop large projects. In 2012, a further step was taken with the allocation of dedicated resources missioned to develop and transfer the application portfolio to the industry. The team has focused on bringing web awareness to personal assistance robots developed by the Hephaistos team, also at Inria CRISAM, in line with one of the top strategic orientations of Inria. Using web protocols as a native framework greatly simplifies the integration of the robot as a web entity, and the use of remote web services to manage, monitor or extend the features of the robot. The behavior of a HOP robot is specified in HOP and orchestrated within diffuse HOP run time agents embedded within the robot elements, in charge of handling communication and control between platforms and with remote web services. The project, code-named *WebRobotics*, builds on the experience gained in using HOP for home automation over the recent years, adding in 2013 the support of versatile



robotic computing platforms (integration with the ROS robot framework, development of a lightweight Hop client library providing support of web protocols to legacy software components). Among the direct benefits of relying on a web framework are the ability to use any web enabled device such as a smartphone or tablet to drive the robot. Also, it is much simpler to put in place remote diagnostic and monitoring services by leveraging on existing robot sensors and the HOP framework.

The *WebRobotics* project is now part of the RAPP FP7 european project, launched in December 2013, where Hop technology is used by several academic and SME R&D teams to develop a distributed software platform and applications for assistive robotics. Two prototypes are being developed, the first one is a personal coach robot (a Nao humanoid robot embedding Hop distributed applications), and the second one is a smart rollator (a walking aid with additional hardware and software services for rehabilitation, training and activity monitoring. The rollator hardware and robotic components are provided by Inria Hephaistos). In 2013, Indes has initiated a collaboration with other research teams (Inria STARS, Nice University Cobtek Project) and local institutes and SMEs to foster the development distributed monitoring and supervision applications with the Hop technology. Indes has presented Hop applications for robots at the Lille Inria Industry conference day in November 2014.

## LAGADIC Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

- Paolo Robuffo Giordano co-organized the Workshop “On the centrality of decentralization in multi-robot systems: holy grail or false idol?” at ICRA 2014, Hong Kong, China

#### 9.1.1.2. member of the organizing committee

- Paolo Robuffo Giordano co-organized the 7-th International Workshop on Human-Friendly Robotics, Pontedera, Italy

### 9.1.2. Scientific events selection

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

- François Chaumette: ICRA’14, ICRA’15
- Eric Marchand: ICRA’14, RFIA’14 (area chair), ICIP’14
- Patrick Rives: RFIA’14
- Paolo Robuffo Giordano: RSS’14, ICRA’14, DARS’14, RSS’15
- Marie Babel: ICIP’14, ICRA’15

#### 9.1.2.2. reviewer

- François Chaumette: ICRA’14, RSS’14, IROS’14, , WAFR’14, ICRA’15
- Eric Marchand: ICRA’14, ICIP’14, IROS’14, ICRA’15
- Patrick Rives: ICRA’15, IROS’14, MVIRO’14, RFIA’14, ECCV’14, ASROB’14
- Paolo Robuffo Giordano: ICRA’14, IROS’14, MSC’14, IFAC WC’14, ICRA’15
- Alexandre Krupa: ICRA’14, IROS’14, IPCAI’14, ICRA’15, ISBI’15

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

- Eric Marchand and Paolo Robuffo Giordano are Associate Editors of the IEEE Trans. on Robotics.
- Eric Marchand is a Guest Editor (with Peter Corke and Jana Kosecka) of a Special Issue of the Int. Journal of Robotics Research on Robot Vision.
- François Chaumette is in the Editorial Board of the Int. Journal of Robotics Research.

#### 9.1.3.2. reviewer

- François Chaumette: IEEE Trans. on Robotics (7), Int. Journal of Robotics Research (1), IEEE Trans. on Automatic Control (1), Robotics and Autonomous Systems (1)
- Eric Marchand: IEEE Trans. on Robotics (8), Int. Journal of Robotics Research (4), Autonomous Robots (1)
- Patrick Rives: Int. Journal of Robotics Research (1), Journal of Control (1)
- Paolo Robuffo Giordano: IJRR (2), T-CST (2), JHRI (1), TAC (1), TRO (1)
- Alexandre Krupa: Robotics and Autonomous Systems (1)

### 9.1.4. Selection committees

- François Chaumette was in the selection committee for an Assistant Professor position at the “Université Picardie-Jules Verne” in Amiens. He also served in the jury for the selection of research scientists (SRP/ARP) at Inria.
- Marie Babel was in the selection committee for research scientists (CR2) at Inria Rennes-Bretagne Atlantique. She also served in the selection committee for an Assistant Professor position in robotics at the “Université de Lorraine”.
- Paolo Robuffo Giordano and François Chaumette were in the selection committee for an Assistant Professor position in robotics at the “Université de Rennes 1”.
- Eric Marchand was in the selection committee for a Professor position in image processing at Insa in Rennes.
- Patrick Rives as a member of the Inria evaluation committee was in the selection committee for research scientists (CR2) at Inria Nancy-Grand Est and Inria Bordeaux-Sud-Ouest, and also in the selection committees for senior research scientists (DR2, DR1, and DR0).

#### **9.1.5. Participation in seminars, invitation**

- François Chaumette and Paolo Robuffo Giordano were invited to give a talk during the final workshop of the FP7 Regpot project at Dubrovnik, Croatia, in September 2014.
- Alexandre Krupa was invited to give a talk in the tutorial session on Mechatronics for medical robotics at the IEEE/ASME Conf. on Advanced Intelligent Mechatronics, Besançon, France, July 2014 [59].

#### **9.1.6. Animation at the international level**

- François Chaumette served in the 2014 IEEE RAS Fellow Nomination Committee and in the 2014 IEEE RAS Chapter of the year Award Committee. He was also a member of the jury in charge of the 2014 IEEE ICRA Best Vision paper award.
- Paolo Robuffo Giordano served as External Reviewer for the EU FP7 Project “SHERPA”

#### **9.1.7. Animation at the national level**

- François Chaumette and Patrick Rives are members of the scientific council of the “GdR Robotique” and JNRR. They have both served in the jury to select the best French Ph.D. thesis in robotics.
- Patrick Rives is a member of the Inria evaluation committee.
- Eric Marchand is in the board of the “Association Française pour la Reconnaissance et l’Interprétation des Formes (AFRIF)”. He is secretary of this association.
- Alexandre Krupa is a member of the Inria Cost-GTAI in charge of the evaluation of the ADTs (“Actions de développements technologiques”)

#### **9.1.8. Animation at the regional and local levels**

- Eric Marchand is in the board of the “Images et réseaux” competitiveness cluster.
- Alexandre Krupa is a member of the GestChir project at the IRT B-Com in Rennes.
- Eric Marchand is a member of the scientific council of the “École supérieure d’ingénieurs de Rennes” (ESIR).
- François Chaumette is the president of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes-Bretagne Atlantique and Irisa. He is also a member of the Head team of Inria Rennes-Bretagne Atlantique.
- Eric Marchand is a member of the committee in charge of all the temporary recruitments (“Commission Personnel”) at Inria Rennes-Bretagne Atlantique and Irisa. He is particularly in charge of Irisa Ph.D. students.
- Marie Babel is a member of the “Comité de centre” of Inria Rennes-Bretagne Atlantique.

- Fabien Spindler is a member of the “Commission développement durable” of Inria Rennes-Bretagne Atlantique.
- Alexandre Krupa is a member of the CUMIR (“Commission des Utilisateurs des Moyens Informatiques pour la Recherche”) of Inria Rennes-Bretagne Atlantique.
- Paolo Robuffo Giordano was invited to give a talk to the M.Sc. students at the ENS Rennes in October 2014.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Marie Babel:

- Master INSA3: “Statistical Signal Processing”, 24 hours, M2, INSA Rennes
- Master INSA1: “Assembly language compilation oriented”, 30 hours, L3, INSA Rennes
- Master INSA2: “Computer science project”, 30 hours, M1, INSA Rennes
- Master INSA2: “Image analysis”, 18 hours, M1, INSA Rennes
- Master INSA1: “Remedial math courses”, 24 hours, L3, INSA Rennes
- Master INSA1: “Risk Management for Information Systems”, 8 hours, L3, INSA Rennes

François Chaumette:

- Master ESIR3: “Visual servoing”, 8 hours, M2, Ecole supérieure d’ingénieurs de Rennes

Vincent Drevelle:

- Master CTS: “Instrumentation, localization, GPS“, 6 hours, M2, Université de Rennes 1
- Master Info: “Mobile robotics“, 22 hours, M2, Université de Rennes 1

Alexandre Krupa:

- Master SIBM (Signals and Images in Biology and Medicine): “Medical robotics guided from images”, 4.5 hours, M2, Université de Rennes 1, Brest and Angers
- Master FIP TIC-Santé: “Ultrasound visual servoing”, 6 hours, M2, Télécom Physique Strasbourg

Eric Marchand:

- Master Esir2: “Colorimetry”, 24 hours, M1, Esir Rennes
- Master Esir2: “Computer vision: geometry”, 24 hours, M1, Esir Rennes
- Master Esir3: “Special effects”, 24 hours, M2, Esir Rennes
- Master Esir3: “Computer vision: tracking and recognition”, 24 hours, M2, Esir Rennes
- Master MRI: “Computer vision”, 24 hours, M2, Université de Rennes 1
- Master MIA: “Augmented reality”, 4 hours, M2, Université de Rennes 1

Paolo Robuffo Giordano:

- Master in Robotics: “Analysis and Control of Multi-Robot Systems”, 16 hours, M2, Department of Computer and System Sciences, University of Rome “La Sapienza”

### 9.2.2. Supervision

Ph.D.: Bertrand Delabarre, “Contributions to dense visual tracking and visual servoing using robust similarity criteria”, defended on December 2014, supervised by Eric Marchand [8]

Ph.D.: Jérôme Ardouin, “Contribution to the study of visualization of real and virtual environment with an extended field of view”, defended on December 2014, supervised by Anatole Lecuyer (Hybrid group in Rennes), Maud Marchal (Hybrid group) and Eric Marchand

Ph.D.: Carlo Masone, “Planning and Control for Robotic Tasks with a Human-in-the-Loop”, defended on July 2014, supervised by Paolo Robuffo Giordano with Prof. Dr.-Ing. Frank Allgöwer (University of Stuttgart) and Prof. Dr. Heinrich H. Bühlhoff (Max Planck Institute for Biological Cybernetics)

Ph.D.: Volker Grabe, “Towards Robust Visual-Controlled Flight of Single and Multiple UAVs in GPS-Denied Indoor Environments”, defended on March 2014, supervised by Paolo Robuffo Giordano with Prof. Dr. Andreas Schilling (University of Tübingen) and Prof. Dr. Heinrich H. Bühlhoff (Max Planck Institute for Biological Cybernetics)

Ph.D.: Rafik Sekkal, “Visual techniques for 2D object detection and tracking”, defended on February 2014, supervised by Marie Babel [9]

Ph.D. in progress: Manikandan Bakthavatchalam, “Utilisation des moments photométriques en asservissement visuel”, started in October 2011, supervised by François Chaumette

Ph.D. in progress: Tawsif Gokhool, “Représentations valides à long terme pour la navigation et l’apprentissage des modèles 3D”, started in February 2012, supervised by Patrick Rives

Ph.D. in progress: Romain Drouilly, “Représentation hybride métrique, topologique et sémantique d’environnement 3D pour la localisation temps réel”, started in May 2012, supervised by Patrick Rives

Ph.D. in progress: Le Cui, “Nano-manipulation par asservissement visuel”, started in October 2012, supervised by Eric Marchand

Ph.D. in progress: Riccardo Spica, “Autonomous vision-based two-hand manipulation strategies for humanoid robots”, started in December 2012, supervised by Paolo Robuffo Giordano and François Chaumette

Ph.D. in progress: Lucas Royer, “Visual tool for percutaneous procedures in interventional radiology”, started in September 2013, supervised by Alexandre Krupa, Maud Marchal (Hybrid group at Inria Rennes-Bretagne Atlantique and Irisa) and Guillaume Dardenne (IRT B-Com)

Ph.D. in progress: Pierre Chatelain, “Multi-modal visual servoing for intra-operative imaging”, started in September 2013, supervised by Alexandre Krupa and Nassir Navab (Technische Universität München)

Ph.D. in progress: Vishnu Karakkat Narayanan, “Semi-autonomous navigation of a wheelchair by visual servoing and user intention analysis”, started in September 2013, supervised by Marie Babel and Anne Spalanzani (e-Motion group at Inria Rhône-Alpes)

Ph.D. in progress: Suman Raj Bista, “Visual navigation of a humanoid robot”, started in October 2013, supervised by Paolo Robuffo Giordano and François Chaumette

Ph.D. in progress: Nicolas Cazy, “Model predictive visual servoing of a humanoid robot”, started in October 2013, supervised by Paolo Robuffo Giordano, François Chaumette and Pierre-Brice Wieber (Bipop group at Inria Rhône-Alpes)

Ph.D. in progress: Renato José Martins, “Robust navigation and control of an autonomous vehicle”, started in November 2013, supervised by Patrick Rives and Samuel Siqueira Bueno (CTI)

Ph.D. in progress: Aly Magassouba, “Audio-based control”, started in December 2013, supervised by François Chaumette and Nancy Bertin (Panama group at Inria Rennes-Bretagne Atlantique and Irisa)

Ph.D. in progress: Jason Chevie, “Control of a flexible needle by visual servoing using B-mode ultrasound images”, started in September 2014, supervised by Alexandre Krupa and Marie Babel

Ph.D. in progress: Quentin Bateux, “Visual servoing from global descriptors”, started in October 2014, supervised by Eric Marchand

Ph.D. in progress: Fabrizio Schiano, “Collective control with onboard sensors for multiple quadrotor UAVs”, started in October 2014, supervised by Paolo Robuffo Giordano

Ph.D. in progress: Pedro Patlan-Rosales, “Robotic insertion of a biopsy needle by visual servoing using elastography images”, started in October 2014, supervised by Alexandre Krupa

Ph.D. in progress: Noël Mériaux, “Landing by visual servoing”, started in October 2014, supervised by François Chaumette, Eric Marchand and Patrick Rives

Ph.D. in progress: Lesley-Ann Dufлот, “Soft tissue deformation tracking using optical coherence tomography (OCT) and ultrasound imaging”, started in November 2014, supervised by Alexandre Krupa and Brahim Tamadazte (Minarob group at FEMTO-ST, Besançon)

Master internship: Clément Leboulenger from Insa Rennes, “Haptic guidance for vision-based semi-autonomous wheelchair navigation”, supervised by Marie Babel and Maud Marchal (Hybrig group at Inria Rennes-Bretagne Atlantique)

Master internship: Quentin Bateux from Insa Rouen, “Visual servoing from histograms”, supervised by Eric Marchand

Master internship: Jason Chevie from Normale Sup Cachan, “3D deformable target tracking in ultrasound images”, supervised by Alexandre Krupa and Marie Babel

Bachelor internship: David Roszczypala from Univ. Rennes 1, “Target tracking by visual servoing”, supervised by François Chaumette

Bachelor internship: Olivier Bordron from Normale Sup Rennes, “Active SfM with a human-in-the-loop”, supervised by P. Robuffo Giordano

Bachelor internship: Quentin Delamare from Normale Sup Rennes, “Learning-based flight control for quadrotor UAVs”, supervised by Paolo Robuffo Giordano

### 9.2.3. *Juries*

- Marie Babel: Jesus-Arturo Escobedo-Cabello (Ph.D., reviewer, Inria, Grenoble)
- François Chaumette: Dorra Larnaout (Ph.D., reviewer, CEA, Saclay), Ivan Markovic (Ph.D., Zagreb), Mohammed Rédha Benachenhou (Ph.D., reviewer, IRCCyN, Nantes), Dao Xuan Quy (Ph.D., Inria, Rennes), Guillaume Sabiron (Ph.D., president, Onera, Toulouse), Omar Tahri (HdR, Institut Pascal, Clermont-Ferrand), Xavier Savatier (HdR, reviewer, Irseem, Rouen)
- Eric Marchand: Ali Mekkonen (Ph.D., reviewer, Laas, Toulouse), Maxime Boucher (Ph.D., Evry), Olivier Le Meur (HdR, Irisa, Rennes), Rémi Cozot (HDR, president, Irisa, Rennes), Valérie Renaudin (HdR, president, Irstea), Clément Deymier (Ph.D., president, Institut Pascal, Clermont-Ferrand), Mihir Jain (Ph.D., president, Irisa, Rennes)
- Patrick Rives: R. Marie (Ph.D., Mis Amiens), E. Wirbel (Ph.D., president, Ecole des Mines de Paris), J.C. Devaux (Ph.D., reviewer, Ibisc Evry), G. Bernardes Vitor (Ph.D., reviewer, Unicamp Brazil), Xavier Savatier (HdR, president, Irseem, Rouen)

### 9.2.4. *Patent*

- Paolo Robuffo Giordano obtained the US Patent N. 8,634,969 “Teleoperation Method And Human Robot Interface For Remote Control of a Machine by a Human Operator” with Prof. Dr. Heinrich H. Bühlhoff (Max Planck Institute for Biological Cybernetics)

## 9.3. Popularization

- Due to the visibility of our experimental platforms, the team is often asked to present its research activities to students, researchers or industry. Our panel of demonstrations allows us to highlight recent results concerning the positioning of an ultrasound probe by visual servoing, the construction of a tower by combining 3D model-based visual tracking and visual servoing techniques to pick up cubes that are assembled, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications.
- Marie Babel and François Pasteau gave a press conference in December 2014, organized at Pôle Saint Hélier (Rennes)
- Marie Babel gave a talk on "A driving assistance solution" in October 2014, during the "Semaine des Télécoms - Robotique et objets connectés" organised at Insa Rennes
- Fabien Spindler is a member of the editorial board of "Ouest Inria", the internal journal at Inria Rennes-Bretagne Atlantique.

## LEMON Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific events selection

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

Fabien MARCHE is member of the scientific committee of [Advances in Numerical modeling of Hydrodynamics](#), 2015.

#### 9.1.2. Journal

##### 9.1.2.1. Member of the editorial board

Vincent GUINOT : Journal of Hydroinformatics.

Antoine ROUSSEAU : Discrete and Continuous Dynamical Systems, Series S.

##### 9.1.2.2. Reviewer

Fabien MARCHE : Advances in Applied Mathematics and Mechanics, International Journal for Numerical Methods in Fluids, Journal of Applied and Computational Mathematics, Journal of Computational Physics, Journal of Scientific Computing and SIAM Journal on Scientific Computing.

Vincent GUINOT : Journal of Hydrology and Journal of Hydroinformatics.

Antoine ROUSSEAU : Applied Numerical Mathematics, International Journal for Numerical Methods in Fluids.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

V. Guinot, Mécanique des fluides, 72h ETD, L3, Polytech'Montpellier, France

V. Guinot, Hydraulique à surface libre, 60h ETD, L3, Polytech'Montpellier, France

V. Guinot, Méthodes Mathématiques pour l'Ingénieur, 18h ETD, M1, Polytech'Montpellier, France

V. Guinot, Hydraulique des Réseaux, 30h ETD, M1, Polytech'Montpellier, France

V. Guinot, Mécanique des Fluides, Master SPAE, 36h ETD, M1, UMontpellier, France

V. Guinot, Transitoires hydrauliques, 54 h ETD, M1, Polytech'Montpellier, France

V. Guinot, tutorat de stages ingénieur, 15h ETD, M1, Polytech'Montpellier, France

V. Guinot, Modélisation hydraulique à surface libre 2D, 6h ETD, M2, Polytech'Montpellier, France

V. Guinot, Projet Industriel de Fin d'Etudes (PIFE), 30h ETD, M2, Polytech'Montpellier, France

V. Guinot, Tutorat de Stage de fin d'études ingénieur, 18h ETD, M2, Polytech'Montpellier, France

F. Marche, Biomaths, 72h TD., L1, Université Montpellier 2, France

F. Marche, Analyse numérique des EDP, 24H CM, 12H TD, 15H TP., M1, Université Montpellier 2, France

F. Marche, Calcul scientifique avancé, 26H CM, M2R, Université Montpellier 2, France

A. Rousseau, Weather forecast and geophysical fluids, 10h, M2R, Labex CIMI, Toulouse, France

#### 9.2.2. Supervision

PhD : Arnaud Duran, *Modeling, analysis and simulations of shallow water flows*, Université Montpellier II, December 2014, Fabien Marche.



PhD in progress : Mehdi Pierre Daou, *Développement d'une méthodologie de couplage multi-modèles avec changements de dimension. Validation sur un cas-test réaliste en dynamique littorale*, May 2013, Eric Blayo (EPI MOISE) and Antoine Rousseau

### 9.2.3. Juries

Vincent GUINOT : HDR of C. Delenne (UM2), Section CNU 60, december 2014.

Antoine ROUSSEAU : CR2 competition in Inria Lille, spring 2014.

Antoine ROUSSEAU : Inria Research Position competition, campaign #1, spring 2014.

Antoine ROUSSEAU : Inria Research Position competition, campaign #2, summer 2014.

## 9.3. Popularization

Antoine ROUSSEAU is co-author of the **book** [16] (and **blog**) *Brèves de Maths* (Ed. Nouveau Monde, Nov. 2014)

Antoine ROUSSEAU gave several conferences for highschool students and their teachers in France, on the topics of mathematical modeling for environmental sciences:

*Fête de la Science*, Oct. 2014, Genopolys Montpellier (with Twitter reports on the national account [@EnDirectDuLabo](#))

*Fête de la Science*, Oct. 2014, Centre International de Valbonne

*Initiation à la recherche*, Oct. 2014, **Lycée Saint-Sernin**, Toulouse

Antoine ROUSSEAU gave a public lecture for Inria staff *Café In'* in Inria Sophia, Dec. 2014

Antoine ROUSSEAU was invited to the *Société Informatique de France* annual workshop **SIF 2014** to participate to a round table on scientific outreach

Antoine ROUSSEAU is member of the national Inria network for scientific outreach *Médiation scientifique*

Arnaud Duran gave a public lecture for high school students at Collège Jean Bène (Pézénas, France), Feb 2014.

## MAESTRO Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. General chair, scientific chair

- 7th Intl. Conference on Network Games, Control and Optimization (NETGCOOP 2014, Trento, Italy) (**E. Altman** as steering committee chair);
- 8th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS 2014, Bratislava, Slovakia) (**E. Altman** as steering committee co-chair);
- 2nd IEEE Intl. Workshop on Self-Organizing Networks (SONETS 2014, Istanbul, Turkey) (**M. Haddad** as workshop co-chair);
- 10ème Atelier en Evaluation de Performances (AEP10, Sophia Antipolis, France) (**S. Alouf** and **A. Jean-Marie**) [76].

#### 9.1.1.2. Member of the organizing committee

- 33rd IEEE Intl. Conference on Computer Communications (IEEE INFOCOM 2014, Toronto, Canada) (**G. Neglia** as publicity chair);
- 32nd Intl. Symposium on Computer Performance, Modeling, Measurements and Evaluation (IFIP WG 7.3 Performance 2014, Turin, Italy) (**P. Nain** as steering committee member);
- 12th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2014, Hammamet, Tunisia) (**E. Altman** as steering committee member);
- 10ème Atelier en Evaluation de Performances (AEP10, Sophia Antipolis, France) (**J. K. Sreedharan**).

### 9.1.2. Scientific events selection

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

- 2nd IEEE Intl. Workshop on Self-Organizing Networks (SONETS 2014, Istanbul, Turkey) (**M. Haddad** as workshop co-chair);
- 12th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2014, Hammamet, Tunisia) (**M. Haddad** as co-PC chair).

#### 9.1.2.2. Member of the conference program committee (list in alphabetical order of event name)

- 9th ACM Workshop on Challenged Networks (CHANTS 2014, Maui, Hawaii, USA) (**G. Neglia**);
- 10th Advanced Intl. Conference on Telecommunications (AICT 2014, Paris, France) (**K. Avrachenkov**);
- 34th IEEE Intl. Conference on Computer Communications (IEEE INFOCOM 2015, Hong Kong) (**G. Neglia**);
- 6th IEEE Intl. Workshop on Network Science for Communication Networks (IEEE NetSciCom 2014, Toronto, Canada) (**K. Avrachenkov**, **G. Neglia**);
- IEEE Multi-Conference on Systems and Control (MSC 2014, Nice/Antibes, France) (**M. El Chamie**);
- 5th Intl. Conference on Access Networks (ACCESS 2015, Seville, Spain) (**K. Avrachenkov**);
- 8th Intl. Conference on Game Theory and Management (GTM 2014, St. Petersburg, Russia) (**E. Altman**);

- 7th Intl. Conference on Network Games, Control and Optimization (NETGCOOP 2014, Trento, Italy) (**K. Avrachenkov, M. Haddad**);
- 5th Intl. Conference on Next Generation Networks and Services (NGNS 2014, Casablanca, Morocco) (**M. Haddad**);
- 14th Intl. Conference on Next Generation Wired/Wireless Networking (NEW2AN 2014, St. Petersburg, Russia) (**K. Avrachenkov**);
- 8th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS 2014, Bratislava, Slovakia) (**S. Alouf, K. Avrachenkov, M. Haddad, G. Neglia**);
- 29th Intl. Symposium on Computer and Information Sciences (ISCIS 2014, Krakow, Poland) (**A. Jean-Marie**);
- 32nd Intl. Symposium on Computer Performance, Modeling, Measurements and Evaluation (IFIP WG 7.3 Performance 2014, Turin, Italy) (**S. Alouf**);
- 16th Intl. Symposium of Dynamic Games (ISDG 2014, Amsterdam, The Netherlands) (**E. Altman**);
- 7th Intl. Workshop on Multiple Access Communications (MACOM 2014, Halmstad, Sweden) (**K. Avrachenkov**);
- Networking and Electronic Commerce Research Conference (NAEC 2014, Trieste, Italy) (**E. Altman**);
- 1st Symposium on the Control of Network Systems (SCONES 2014, Boston, Massachusetts, USA) (**E. Altman**);
- 11th Workshop on Algorithms and Models for the Web Graph (WAW 2014, Beijing, China) (**K. Avrachenkov**);
- Workshop on Cooperative and Cognitive Networks (Nicosia, Cyprus) (**M. Haddad**);
- 16th Workshop on Mathematical Performance Modeling and Analysis (MAMA 2014, Austin, Texas, USA) (**A. Jean-Marie, P. Nain**).

### 9.1.3. Journal

#### 9.1.3.1. Editor-in-chief

- *Performance Evaluation* (PEVA) (**P. Nain** since 1 January 2008).

#### 9.1.3.2. Member of the editorial board (list in alphabetical order of journal name)

- *Dynamic Games and Applications* (DGAA) (**E. Altman** since 2011);
- *Elsevier Computer Communications* (COMCOM) (**G. Neglia** since 2014);
- *IEEE Transaction on Control of Networks* (TCNS) (**E. Altman** since 2013);
- *IEEE/ACM Transaction on Networking* (ToN) (**E. Altman** since 2013);
- *Journal of Economic Dynamics and Control* (JEDC) (**E. Altman** since 2001);
- *Performance Evaluation* (PEVA) (**K. Avrachenkov** since 2008).

#### 9.1.3.3. Reviewer (list in alphabetical order of journal name)

- *Computer Communications* (COMCOM) (**S. Alouf, G. Neglia**);
- *Computer Networks* (COMNET) (**E. Altman, K. Avrachenkov, A. Dandoush, I. Dimitriou, G. Neglia**);
- *Elsevier Ad Hoc Networks* (ADHOC) (**G. Neglia**);
- *EURASIP Journal on Wireless Communications and Networking* (JWCN) (**M. Haddad**);
- *IEEE Communications Magazine* (COMMAG) (**M. Haddad**);
- *IEEE Journal on Selected Areas in Communications* (JSAC) (**M. Haddad**);
- *IEEE Trans. on Automatic Control* (TAC) (**G. Neglia**);
- *IEEE Trans. on Communications* (TCOM) (**M. Haddad**);

- *IEEE Trans. on Neural Networks and Learning Systems* (TNNLS) (G. Neglia);
- *IEEE Trans. on Parallel and Distributed Systems* (TPDS) (G. Neglia);
- *IEEE Trans. on Vehicular Technology* (TVT) (M. Haddad);
- *IEEE Trans. on Wireless Communications* (TWC) (M. Haddad);
- *Performance Evaluation* (PEVA) (G. Neglia).

#### 9.1.4. Leadership within the scientific community

- E. Altman is a fellow member of IEEE (Class of 2010). The society of dynamic games attributes in July 2014 the Isaacs Award to E. Altman for his research on game theory. (Award attributed once every two years.)
- E. Altman, A. Jean-Marie and P. Nain are (elected) members of IFIP WG7.3 on “Computer System Modeling”.
- P. Nain has been the vice-Chair of the IFIP WG7.3 working group on “Computer System Modeling” (from 30 June 2007 to 21 July 2014).

#### 9.1.5. Research administration

E. Altman

- is co-responsible of one of the five themes of the SFR (Structure Fédérative de Recherche) AGORANTIC (in which Inria is a founding member) entitled “Digital Culture and Virtual Societies.”
- is Scientific coordinator of the European project CONGAS.

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 in the Scientific Board of the Univ. of Montpellier 2, at the Scientific Council of the Doctoral School “Sciences and Agrosiences” of the Univ. of Avignon, at the Regional Conference of Research Organisms (CODOR), at the Regional Consulting Committee for Research and Technological Development (ARAGO Committee);
- was member of the managing sub-committee of the Project-Team Committee of the Inria Sophia Antipolis – Méditerranée research center (July 2010 – August 2014);
- is a member of the Steering Committee of the GDR RO, a national research initiative on Operations Research sponsored by the CNRS;
- is president of the Technical and Industrial Orientation Council for Information Technologies (COSTI TIC) of the Transferts LR association (since 2009);
- is Head of project-team MAESTRO since October 2014.

P. Nain

- is Chairman of Inria’s Evaluation Committee since 1 September 2012 (<http://www.inria.fr/en/institute/organisation/committees/evaluation-committee>); as part of this duty he has presided the 2014 recruitment committees for senior Inria researchers (DR2, DR1) and for junior Inria researchers (CR1).
- was Head of project-team MAESTRO (September 2003 – September 2014).

G. Neglia

- is the scientific delegate for European partnerships for Inria Sophia Antipolis – Méditerranée;
- was member of the recruitment committee for a *Maître de Conférences* position at Univ. of Avignon.

MAESTRO members are in the following committees of Inria Sophia Antipolis - Méditerranée

- CC (Comité de Centre): General Information Commission (**G. Neglia** since September 2013);
- CSD: Doctoral Committee (**S. Alouf**, since February 2006);
- NICE: Invited Researchers Committee (**K. Avrachenkov**, since 2010);

and in charge of the following tasks for the research center:

- Supervision and validation of the project-teams' yearly activity reports (**K. Avrachenkov**, since 2010);
- Accounting for the monthly Project-Team Committee meetings (**S. Alouf**, February 2012 – August 2014);
- Organizing MAESTRO internal meetings (**J. K. Sreedharan**, since November 2013).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence:

S. Alouf, “Probability”, 38.5H, 1st year Water Engineering degree (L3), Univ. of Nice Sophia Antipolis (UNS), France.

M. El Chamie, “Mathematics”, 18H, Miage (L3), UNS, France.

M. El Chamie, “Networks”, 22H, Computer Science Program (L3), UNS, France.

M. El Chamie, “Programmation Web - Aspect Serveur”, 16.5H, Computer Science Program (L1), UNS, France.

G. Neglia, “Statistics”, 14H, 1st year Water Engineering degree (L3), UNS, France.

Master:

S. Alouf, “Performance Evaluation of Networks”, 31.5H, M2 IFI Ubinet, UNS, France.

M. El Chamie, “Réseaux Couches Basses”, 13.5H, M1 Miage, UNS, France.

M. Haddad, “Information theory”, 16H, M1, Univ. of Avignon, France.

G. Neglia, “Performance Evaluation of Networks”, 31.5H, M2 IFI Ubinet, UNS, France.

G. Neglia, responsible for the “Winter School on Complex Networks”, 42H, M1 Computer Science, UNS, France.

Doctorat:

A. Jean-Marie, “Advanced Markov Modeling”, 18H, Univ. of Montpellier 2, France.

### 9.2.2. Supervision

PhD:

Nicaise Choungmo Fofack, “On Models for Performance Analysis of a Core Cache Network and Power Save of a Wireless Access Network” [10], Univ. of Nice Sophia Antipolis (UNS), 21 February 2014, Advisors: Sara Alouf and Philippe Nain.

Mahmoud El Chamie, “Optimization, Control, and Game Theoretical Problems in Consensus Protocols” [11], Univ. of Nice Sophia Antipolis (UNS), 21 November 2014, Advisors: Konstantin Avrachenkov and Giovanni Neglia.

Julien Gaillard, “Recommendation Systems: Dynamic Adaptation and Argumentation”, Univ. of Avignon et Pays du Vaucluse (UAPV), 10 December 2014, Advisors: Eitan Altman, Marc El-Beze and Emmanuel Ethis.

Olivia Morad, “Prefetching Control for On-Demand Contents Distribution: A Markov Decision Process Study”, Univ. of Montpellier 2, 17 September 2014, Advisor: Alain Jean-Marie.

Marina Sokol, “Clustering and learning techniques for traffic/user classification” [12], Univ. of Nice Sophia Antipolis (UNS), 29 April 2014, Advisors: Paulo Gonçalves (Inria project-team DANTE) and Philippe Nain.

PhD in progress:

Alberto Benegiamo, “Mathematical tools for smart grids,” 1 November 2013, advisors: Patrick Loiseau (Eurecom) and Giovanni Neglia.

Ilaria Brunetti, “Cooperative and competitive content dissemination in social networks,” 1 October 2012, advisor: Eitan Altman.

Arun Kadavankandy, “Random Matrix Theory and Complex Networks,” 5 March 2014, advisors: Konstantin Avrachenkov and Laura Cottatellucci (Eurecom).

Jithin Kazhuthuvelil Sreedharan, “Diffusion processes in complex networks,” 23 July 2013, advisor: Konstantin Avrachenkov.

Hlib Mykhailenko, “Probabilistic approaches for big data analysis,” 1 May 2014, advisors: Fabrice Huet (SCALE team) and Philippe Nain.

Yonathan Portilla, “Analysis of social networks,” 1 January 2012, advisor: Eitan Altman.

Alexandre Reiffers, “Modelling competition and cooperation in telecommunication networks,” 15 October 2012, advisor: Eitan Altman.

Abdoulaye Tall, “Self organisation in wireless networks,” 1 December 2012, advisors: Eitan Altman and Zwi Altman (Orange Labs).

### 9.2.3. *Juries*

MAESTRO members participated in the Habilitation (HDR) thesis committees of (in alphabetical order):

- Marceau Coupechoux: 26 May 2014, Telecom ParisTech, (**E. Altman** as examiner);

and in the Ph.D. committees of (in alphabetical order):

- Nicaise Choungmo Fofack: 21 February 2014, Inria, Sophia Antipolis (**S. Alouf** and **P. Nain** as advisors, **G. Neglia** as invited member);
- Mahmoud El Chamie: 21 November 2014, Inria, Sophia Antipolis (**K. Avrachenkov** and **G. Neglia** as advisors);
- Dariush Fooladivanda: 18 July 2014, Univ. of Waterloo (**E. Altman** as reviewer);
- Julien Gaillard: 10 December 2014, Univ. of Avignon (**E. Altman** as advisor);
- Arnob Ghosh: 16 December 2014, Univ. of Pennsylvania (**E. Altman** as examiner);
- Stefano Iellamo: 4 December 2014, Telecom ParisTech (**E. Altman** as examiner);
- Benjamin Larrousse: 11 December 2014, Univ. Paris Sud (**E. Altman** as examiner);
- Olivia Morad: 17 September 2014, Univ. of Montpellier 2 (**A. Jean-Marie** as advisor);
- Renaud Sallantin: 29 September 2014, IRIT Toulouse (**K. Avrachenkov** as reviewer);
- Tatiana Seregina: 18 November 2014, LAAS, Toulouse (**K. Avrachenkov** as reviewer);
- Marina Sokol: 29 April 2014, Inria, Sophia Antipolis (**P. Nain** as advisor);

### 9.3. Popularization

S. Alouf is a member of MASTIC, a commission in charge of popularization and regional and internal scientific animation (since November 2011).

### 9.4. Participation in scientific events

#### 9.4.1. Keynotes, tutorials and invited talks

MAESTRO members gave the following keynote lectures (in alphabetical order):

- *Analysis of competition and visibility in complex networks*, at WPerformance 2014 workshop, in conjunction with the XXXIV Brazilian Conference of Computer Science (CSBC), Brasilia, Brazil, 29 July 2014 (**E. Altman**);
- *Timelines Analysis and competition over popularity, influence and visibility in social networks*, at 32nd Intl. Symposium on Computer Performance, Modeling, Measurements, and Evaluation (Performance), Turin, Italy, 9 October 2014 (**E. Altman**),

the following tutorials (in alphabetical order):

- *Introduction to Complex Networks*, at Winter School on “Complex Networks”, Sophia Antipolis, 27-31 January 2014 (**G. Neglia**);
- *Network Formation Games*, at Advanced Research Center, Campione d’Italia, Italy, 8-11 September 2014 (**K. Avrachenkov**);
- *On competition in social networks*, at CEFIPRA Workshop on “New Avenues for Network Models”, Bangalore, India, 13-15 January 2014 (**E. Altman**);
- *Random Walk Methods for Complex Networks*, at Winter school on “Complex Networks”, Sophia Antipolis, 27-31 January 2014 (**K. Avrachenkov**);
- *Random Walk Methods for Complex Networks*, at Summer school ResCom on “Complex Networks”, Corsica, 13-17 May 2014 (**K. Avrachenkov**),

and the following invited talks (in alphabetical order):

- *Analysis of competition and visibility in complex networks*, Federal Univ. of Rio de Janeiro, Brazil, 1 August 2014 (**E. Altman**);
- *Competition over visibility on Online Social Networks*, Create-Net, Italy, 15 April 2014, (**A. Reiffers**);
- *Distribution and Dependence of Extremes in Network Sampling Processes*, at Vilnius Probability Conference, Lithuania, 3 July 2014 (**K. Avrachenkov**);
- *Energy-Efficient Resource Management Games in Wireless Networks*, at CEFIPRA Workshop, IISc Bangalore, India, 15 January 2014 (**M. Haddad**);
- *Game Theory Applied to Advertising Competition in Online Social Networks*, Federal Univ. of Rio de Janeiro, Brazil, 29 August 2014 (**A. Reiffers**);
- *Graph-based Semi-supervised Methods for Community Detection*, at EURANDOM Workshop, The Netherlands, 22 January 2014 (**K. Avrachenkov**);
- *How to network in online social networks*, at IFCAM Workshop, IISc Bangalore, India, 16 January 2014 (**G. Neglia**);
- *Routing Games Applied to Online Social Networks*, Technion - Israel Institute of Technology, Israel, 10 December 2014 (**A. Reiffers**);
- *Teletraffic Engineering for Smart Grids*, Federal Univ. of Rio de Janeiro, Brazil, 23 August 2014 (**G. Neglia**);
- *Teletraffic Engineering for Smart Grids*, Univ. of Florence, Italy, 15 July 2014 (**G. Neglia**);
- *Weight Selection in Consensus Protocols*, Chalmers Univ. of Technology, 23 October 2014 (**M. El Chamie**).

### 9.4.2. Conferences and workshops

MAESTRO members gave presentations at the following scientific events (in alphabetical order):

- American Control Conference (ACC), 4-6 June 2014, Portland, Oregon, USA (**M. El Chamie**);
- 53rd IEEE Conference on Decision and Control (CDC), 15-17 December 2014, Los Angeles, California, USA (**M. El Chamie, G. Neglia**);
- 33rd IEEE Intl. Conf. on Computer Communications (INFOCOM), 27 April - 2 May 2014, Toronto, Canada (**M. Haddad**);
- IEEE Infocom Workshop on Network Science for Communication Networks (NetSciCom), 2 May 2014, Toronto, Canada (**G. Neglia**);
- IEEE Infocom Workshop on Communications and Control for Smart Energy Systems (CCSES), 28 April 2014, Toronto, Canada (**G. Neglia**);
- IEEE Intl. Conference on Communications (ICC), 10-14 June 2014, Sydney, Australia (**G. Neglia**);
- 13th IFIP Intl. Conf. on Networking (Networking), 2-4 June 2014, Trondheim, Norway (**A. Reiffers**);
- IFIP Performance, 7-9 October 2014, Turin, Italy (**M. Haddad**);
- 7th Intl. Conference on Network Games, Control and Optimization (NETGCOOP), 29-31 October 2014, Trento, Italy (**I. Brunetti, A. Reiffers**);
- 12th Intl. Symp. on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 12-16 May 2014, Hammamet, Tunisia (**E. Altman, M. Haddad**);
- 29th Intl. Symposium on Computer and Information Sciences (ISCIS), 27-28 October 2014, Krakow, Poland (**A. Jean-Marie**);
- 3rd Intl. Workshop on IEEE Complex Networks and their Applications, 23-27 November 2014, Marrakech, Morocco (**J. K. Sreedharan**);
- Intl. Workshop on Modeling, Analysis and Management of Social Networks and their Applications (SOCNET), 19 March 2014, Bamberg, Germany (**K. Avrachenkov**);
- Social Networking Workshop (in conjunction with COMSNETS 2014), 10 January 2014, Bangalore, India (**A. Reiffers**);
- 10ème Atelier en Evaluation de Performances (AEP), 11-13 June 2014, Sophia Antipolis (**M. El Chamie, J. K. Sreedharan**).

### 9.4.3. Schools and doctoral courses

MAESTRO members have attended the following events (list in alphanumerical order):

- Doctoral course on “Advanced Game Theory” (20H), 12-27 May 2014, Montpellier (**I. Brunetti**);
- Doctoral course on “Advanced Markov Modeling” (20H), 18-28 February 2014, Montpellier (**I. Brunetti, A. Reiffers**);
- EIT ICT Labs summer school on “Smart Energy” (120H), 18-29 August 2014, Stockholm (KTH Royal Institute of Technology, first week) and Karlsruhe (Karlsruhe Institute of Technology, second week) (**A. Benegiamo**);
- Grid5000 spring school 2014 (18H), 17-19 June 2014, Lyon (**H. Mykhailenko**);
- ResCom summer school on “Complex Networks” (30H), 13-17 May 2014, Corsica (**A. Kada-vankandy, J. K. Sreedharan**);
- School on “Game Theory for Telecommunications” (56H), 8-11 September 2014, Advanced Research Center, Campione d’Italia, Italy (**V. Singh**);
- Winter School on “Complex Networks” (30H), 27-31 January 2014, Sophia Antipolis (**A. Benegiamo, J. K. Sreedharan**).



## MARELLE Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events selection

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

Benjamin Grégoire was member of the program committee for the conference TCS (Theoretical Computer Science), which was held on September 1-3 in Roma, Italy.

Yves Bertot was member of the programm committee for the conference ITP (Interactive Theorem Proving), which was held July 14-17 in Vienna, Austria and for the workshop UITP (User Interfaces for Theorem Provers), which was on held on July 17th in Vienna, Austria.

Laurent Théry was member of the programm committee for the conferences ITP (Interactive Theorem Proving) and UITP (User Interfaces for Theorem Provers) in Vienna (see above) and for the workshop ACL2 (International Workshop on the ACL2 Theorem Prover and its Applications), which was held July 12-13 in Vienna, Austria.

#### 9.1.1.2. Reviewer

Members of the team reviewed papers for the conferences CPP (Certified Programs and Proofs), CCS (ACM Conference on Computer and Communication Security), CSF (Computer Security Foundations), Types (Types for Proofs and Programs),.

### 9.1.2. Journal

#### 9.1.2.1. Member of the editorial board

Laurent Théry was a special issue editor for Mathematics in Computer Science, "Special Focus on Formal Proofs for Mathematics and Computer Science".

#### 9.1.2.2. Reviewer

Members of the team reviewed papers for the journals JFP (Journal of Functional Programming), TOPLAS (Transactions on Programming Languages and Systems), MSCS (Mathematical Structures in Computer Science), JFR (Journal of Formalized Reasoning), TCS (Journal of Theoretical Computer Science), AMAI (Annals of Mathematics and Artificial Intelligence), and SCP (Science of Computer Programming).

#### 9.1.2.3. Evaluation of funded grants

Laurence Rideau evaluated a grant proposal for the Digiteo laboratory (based in Saclay).

Yves Bertot evaluated a grant proposal for the European Research Conclil (consolidator grants).

Laurent Théry evaluated a grant proposal for the French Research Agency (ANR).

## 9.2. Participation in scientific events

### 9.2.1. Keynotes, tutorials, and invited talks

Yves Bertot gave an invited talk at the conference CICM (Conference on Intelligent Computer Mathematics) in Coimbra, Portugal, in July.

Laurent Théry, Laurence Rideau, and Yves Bertot gave invited talks at the workshop "Mathematical Structures of Computation", special week on "Formal Proof, Symbolic Computation and Computer Arithmetic", in Lyon, France, in February.

Yves Bertot gave talks at the University of Edinburgh in June, at the NASA Ames research center in California, in June, at SRI in California, in June, at the University of Aveiro in July, and at the University of Tokyo in September. He also attended the ACM Award ceremony in San Francisco, California, in June.

### 9.3. Teaching - Supervision - Juries

#### 9.3.1. Teaching

Licence : Laurence Rideau, "programming and algorithms", 50 hours, Lycée Masséna, Nice, France.

Master : Yves Bertot, "software verification and computer proof", 21 hours, Master, Université de Nice, France.

Master : Laurent Théry, "introduction to Coq", 3 hours, Ecole des Mines de Paris, France.

Doctorate : Yves Bertot, Formal proofs in coq, 10 hours, NII Shonan, Japan

Doctorate : Benjamin Grégoire, Proofs in Easycrypt, 9 hours, Inria, France

#### 9.3.2. Supervision

PhD : Guillaume Cano, "Intéraction entre algèbre linéaire et analyse en mathématiques formelles", Université de Nice, 4 avril 2014, supervised by Yves Bertot [19].

#### 9.3.3. Juries

Yves Bertot was examiner with written report duty for the thesis of Pierre Boutillier (Université de Paris-Diderot, France, February 18th), external examiner for the thesis of Phil Scott (university of Edinburgh, Scotland, June 4th), and examiner with written report duty for the Habilitation of Sylvie Boldo (Université de Paris-Sud, France, October 6th).

Laurent Théry was examiner for the thesis of Anders Mörtberg (Chalmers University, Sweden, December 12th), This thesis was partially supervised by Cyril Cohen.

#### 9.3.4. Community service

- José Grimm is a member of the comité de centre, the committee where representatives of personnel and management discuss questions of daily life at the level of the Sophia-Antipolis Méditerranée center, he also participates in a commission on continued training and a commission on hygiene, safety, and working conditions. This activity involves around 12 meetings per year.
- Benjamin Grégoire is a member of the *committee of users of information technology* (CUMI). This activity involves monthly meetings where problems in using the IT infrastructure are debated between researchers and engineers.
- Laurent Théry is a member of the *comité de développement technologique* (in English, technological development committee), the committee that oversees the allocation of software engineers on experimental software and platform development.
- Laurent Théry is a member of the committee that provides advice to the center director concerning the attribution of grants for doctoral students, post-doctoral researchers, and invited professors.
- Yves Bertot is the chairman of the *Coq Steering committee*. Benjamin Grégoire was a member of this committee until October and has been replaced by *Enrico Tassi*. These tasks imply continuous monitoring of the evolution of Coq, the relations with users, and participating in strategic decisions.
- Yves Bertot was deputy scientific director for the Sophia Antipolis méditerranée research center until August. This task implies meetings approximately every fortnight with the center director, the scientific director, and the director of administrative services for the center, together with frequent meetings with researchers from any domain in the center and monthly meetings at the national level as part of the evaluation committee. Yves Bertot still participates to the evaluation committee at national level.

### 9.4. Popularization

Laurent Théry presented his researcher work to three different classrooms during the event "semaine des maths", in March.

## MCTAO Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific events organisation

Ludovic Rifford was in the scientific committee of the “**Conference of Calculus of Variations: Geometry, Inequalities, and Design**” within the Thematic Program on Variational Problems in Physics, Economics and Geometry, Fields INstitute, Toronto.

#### 9.1.2. Journals

##### 9.1.2.1. Member of the editorial board

L. Rifford is a member of the editorial board of *Discrete and Continuous Dynamical Systems - Series A* (AIMS Journal).

##### 9.1.2.2. Reviewer

The members of the team reviewed numerous papers for international journals including: SIAM J. on Control and Optimisation, International J. of Control, IEEE Trans. Automatic Control, Acta Applicandae Mathematicae, Journal of Dynamical and Control Systems.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

B. Bonnard and L. Rifford did their teaching duty at Univ. Nice and Univ. Bourgogne (Esirem).

#### 9.2.2. Supervision

Ph: Ayadi Lazrag, *Théorie de contrôle et systèmes dynamiques* (Control theory and dynamical systems), defended September 25, 2014, University of Nice, advisor: Ludovic Rifford.

Ph: Lionel Jassionnesse, *Contrôle optimal et métriques de Clairaut-Liouville avec applications*, Université de Bourgogne, started october, 2010, advisor: Bernard Bonnard.

PhD in progress: Helen Heninger, subject: *Étude des solutions du transfert orbital avec poussée faible dans le problème des deux ou trois corps*, Université de Nice Sophia Antipolis, started october, 2012, advisors: Bernard Bonnard and Jean-Baptiste Pomet.

PhD in progress: Jérémy Rouot, subject: *Moyennisation en contrôle et en contrôle optimal, effet des perturbations non périodiques*, Université de Nice Sophia Antipolis, started october, 2013, advisors: Bernard Bonnard and Jean-Baptiste Pomet.

PhD in progress: Zeinab Badredine, subject: *Techniques d'intégrabilité en dynamique des spins et applications au contrôle optimal*, Université de Bourgogne, started october, 2014, advisors: Bernard Bonnard and Ludovic Rifford.

MSc: Sofya Maslovskaya, *Finsler metric associated with average minimum time problems*, Ensta ParisTech, supervisors: Jean-Baptiste Pomet.

## MODEMIC Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific events organization

##### 8.1.1.1. member of the organizing committee

C. Lobry has been coordinator of six one-week “Bernoulli” workshops (see 7.3.4.1 ).

F. Campillo was co-organiser of a workshop on “Stochastic Models for Biology”, see Section 7.1.1 .

C. Casenave and F. Campillo were in the organizing committee of the meeting of the MIA<sup>0</sup> Division of INRA in March 2014, and have organized a session on “spatio-temporal models and methods”.

#### 8.1.2. Scientific events selection

##### 8.1.2.1. reviewer

European Control Conference, IFAC World Congress, IEEE Conference on Decision and Control.

#### 8.1.3. Journal

##### 8.1.3.1. reviewer

Automatica, BioMath, Bulletin of Mathematical Biology, Computers and Mathematics with Applications, Differential Equations and Dynamical Systems, J. of Advances Research in Differential Equations, J. of Biological Dynamics, J. of Process Control, Math. Biosciences and Eng.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

#### Engineering degree

A. Rapaport, “Introduction to modelling”, 12 hours, 1st year, SupAgro Montpellier.

#### Master

F. Campillo, “Stochastic modelling of ecosystems”, 20 hours, Master 2 in Biostatistics, Univ. Montpellier II.

A. Rapaport, “Practical Mathematics”, 27 hours, Master 1 in Mathematics, Univ. Montpellier II.

#### PhD

F. Campillo and C. Fritsch, “Object oriented programming: probabilistic modeling and statistical numerics for biology”, 20 hours, Doctoral lectures, Univ. Montpellier II.

C. Casenave and A. Rapaport, “Modelling for biology and ecology, mathematical and computational methods”, 20 hours, Doctoral lectures, Univ. Montpellier II.

### 8.2.2. Supervision

Amine Charfi

PhD: Etude d’un procédé membranaire de traitement des eaux usées : effet des paramètres biotiques et abiotiques sur le colmatage de la membrane.

Univ. Carthage, Dec. 2014.

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<sup>0</sup><http://www.mia.inra.fr/>

Advisors: N. Ben Amar (ENIT-LAMSIN, Tunis) and J. Harmand.

Coralie Fritsch

PhD: Simulation et analyse de modèles individu-centrés d'écosystèmes bactériens pour des procédés biotechnologiques.

Univ Montpellier II, dec. 2014.

Advisors: F. Campillo and J. Harmand.

Walid Bouhafis

PhD in progress: Commande optimale des réacteurs biologiques séquentiels discontinus. ENIT (Tunis), since 2010.

Advisors: N. Abdellatif (ENIT-LAMSIN, Tunis), F. Jean (ENSTA) and J. Harmand.

Sonia Hassam

PhD in progress: Réduction de modèles biotechnologiques : application à la digestion anaérobie.

Univ. Tlemcen, since 2011.

Advisors: B. Cherki (Univ. Tlemcen) and J. Harmand.

Amel Ghouali

PhD in progress: Analyse et commande optimale d'un bioréacteur de dépollution des eaux usées

cotutelle Univ Montpellier II/Univ. Tlemcen (Algeria), since Nov. 2011.

Advisors: J. Harmand and T. Sari (UMR ITAP, Montpellier).

Guilherme Pimentel

PhD in progress: Modélisation dynamique, analyse et supervision d'un réacteur membranaire.

cotutelle Univ. Montpellier II/Univ. Mons (Belgique), since Nov. 2011. Defense scheduled in Feb. 2015.

Advisors: A. VandeWouwer (Univ. Mons) and A. Rapaport.

Victor Riqueleme

PhD in progress: Commande optimale pour la préservation de ressources hydriques exploitées.

cotutelle Univ. Montpellier II/Univ. Chile, since Sept. 2013.

Advisors: H. Ramirez (Univ. Chile) and A. Rapaport.

Alejandro Rojas-Palma

PhD in progress: Etude de quelques problèmes dans la modélisation et l'optimisation de bioprocédés.

cotutelle Univ. Montpellier II/Univ. Chile, since Sept. 2014.

Advisors: H. Ramirez (Univ. Chile) and A. Rapaport.

Yessmine Daoud

PhD in progress: Analyse de modèles de la digestion anaérobie : application à l'optimisation de la production du biogaz.

cotutelle ENIT (Tunis)-Univ. Montpellier II, since sep. 2014.

Advisors: N. Abdellatif (ENIT, Tunis) and J. Harmand.

Mohsen Chebbi

PhD in progress: Modélisation stochastique de procédés membranaires de traitement des eaux usées.

ENIT (Tunis) , since sep. 2014.

Advisors: S. Toumi (ENIT, Tunis) and F. Campillo.

Oussama Hadj-Abdelkader

PhD in progress: Filtrage particulière pour le chemostat.

Univ. Tlemcen, since sep. 2014.

Advisors: A. Hadj-Abdelkader (Univ. Tlemcen) and F. Campillo.

Zeyneb Khedim

PhD in progress: Modélisation et contrôle de la digestion anaérobie : vers une meilleure prise en compte des phénomènes d'inhibition.

cotutelle Univ. Tlemcen - Univ. Montpellier II, since nov. 2014.

Advisors: B. Benyahia (Univ. Tlemcen) and J. Harmand.

Anne Bisson

PhD in progress: Modélisation probabiliste du fonctionnement d'écosystèmes considérés comme des assemblages de communautés.

Univ. Montpellier II, since Dec. 2014.

Advisors: B. Jaillard (UMR Eco & Sols, Montpellier) and A. Rapaport.

The team has supervised the MsC and Engineering School internships [49], [50], [51], [54], [56].

### 8.2.3. *Juries*

M. Abouzlam. "Optimisation d'un procédé de traitement des eaux par ozonation catalytique", Thèse de Doctorat, Univ. Poitiers, Jan. 2014 (referee : J. Harmand).

Y. Chen. "Inférence bayésienne dans les modèles de croissance de plantes pour la prévision et la caractérisation des incertitudes", Thèse de Doctorat, Ecole Centrale, Paris, Jun. 2014 (referee : F. Campillo).

H. Sedrakyan. "Comportement limite des systèmes singuliers et les limites de fonctions valeur en contrôle optimal", Thèse de Doctorat, Université Paris VI, Dec. 2014 (referee : T. Bayen).

G. François. "Optimisation en temps Réel : Optimiser les Performances des Procédés Chimiques malgré l'Incertain et les Erreurs de Modélisation", Habilitation à diriger des recherches, Univ. Lorraine, Dec. 2014 (referee : A. Rapaport).

S. Martin. "D'oxymore en oxymore : du développement durable au contrôle complexe." Habilitation à diriger des recherches, Univ. B. Pascal, Jan 2015 (referee : A. Rapaport).

## 8.3. Popularization

Jointly with Inria project-team LEMON, MODEMIC has participated to the elaboration of a "serious" game for learning how to purify fast and well a water reservoir, in the scope of the international initiative Mathematics of Planet Earth and the french consortium Cap'Maths (see 5.1 ).

## 8.4. Institutional commitment

F. Campillo is member of the NICE Inria committee (long term invited scientists selection); deputy elected member of the Inria Scientific Council; member of the internal communication working group of Inria for the redesign of the national intranet; member the "support group to researchers" of Inria Sophia Antipolis.

J. Harmand is member of the steering committee of the Inra/MEM meta-program (Métagénomique des écosystèmes microbiens); member of the EA department of Inra; member of the "commissions scientifiques spécialisées" STEA-Inra.

A. Rapaport is member of the scientific committee of BIOS dept. of CIRAD, and is member of the scientific committee of Ecotechnologies department of Irstea.

## MORPHEME Project-Team

# 7. Dissemination

## 7.1. Promoting Scientific Activities

### 7.1.1. Scientific events organisation

#### 7.1.1.1. general chair, scientific chair

Laure Blanc-Féraud was General Program chair of the conference IEEE ISBI 2014 in Beijing.

#### 7.1.1.2. member of the organizing committee

Eric Debreuve was member of the organizing committees of ICIP 2014 (International Conference on Image Processing) as Area chair and of EUSIPCO 2015 (European Signal Processing Conference) as Area chair.

Xavier Descombes was member of organization board for the "OPTITECH Event 2015".

### 7.1.2. Scientific events selection

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

Laure Blanc-Féraud was General Program chair of the conference IEEE ISBI 2014 in Beijing.

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

Eric Debreuve was member of program committee of RFIA 2014 (congrès national sur la Reconnaissance des Formes et l'Intelligence Artificielle).

Xavier Descombes was associated editor for the conference ICIP 2014.

Laure Blanc-Féraud was associate editor of the workshop on New Computational Methods in Inverse Problems - NCMIP 2014 (NCMIP ) in ENS Cachan.

Grégoire Malandain was an associate editor for the conference ISBI 2015.

#### 7.1.2.3. reviewer

Eric Debreuve was reviewer for ISBI 2014 (International Symposium on Biological Imaging).

Xavier Descombes was reviewer for ISBI 2014, ICIP 2014 ,ICASSP 2014.

Laure Blanc-Féraud was reviewer the conferences ISBI 2014, ICIP 2014 ,ICASSP 2014.

### 7.1.3. Journal

#### 7.1.3.1. member of the editorial board

Xavier Descombes is associated editor of DSP (Digital Signal Processing).

Laure Blanc-Féraud is Associate Editor of SIAM Journal Imaging Sciences and Traitement du Signal Journal.

#### 7.1.3.2. reviewer

Eric Debreuve was reviewer for IEEE Transactions on Medical Imaging, Journal of Mathematical Imaging and Vision (Springer), Journal of Computational Physics (Elsevier), Pattern Recognition (Elsevier).

Xavier Descombes was reviewer for IEEE TMI, IEEE IP, ...

### 7.1.4. Scientific animation

Xavier Descombes is associated member of IEEE BISP (Biomedical Imaging Signal Processing), member of the Scientific Committee of the competitiveness pole Optitech, expert for the MESR within the CIR program. He was in the jury of a MdC recruitment jury in Paris V and in the committee for Transverse master fellowship at Inria CRI-SAM.

Laure Blanc-Féraud is director of GdR 720 ISIS of CNRS. She is member of the IEEE BISP (Biomedical Imaging Signal Processing) Technical Committee, she is member of the scientific steering committee of ANR for Defi 7 on "société de l'information et de la communication), she was part of the group of the SNR (national research strategy) for defining the strategy of the MENESR concerning the défi 7, she was member of the scientific council of Institute INS2I of CNRS, invited member of the scientific council of Institute INSIS of CNRS (till september 2014), member of "bureau du comité des projets" Inria SAM (till july 2014). She is part of the scientific committee of laboratory GreyC (UMR CNRS 6072) and of "Institut des Technologies Avancées en sciences du Vivant" (ITAV, USR CNRS 3505). She is part of the evaluation committee of ONERA DTIM department. She is expert member of the Italian Ministry for Education.

Grégoire Malandain is member of the IEEE/EMB Technical Committee on Biomedical Imaging and Image Processing (BIIP). He is an invited member of the Scientific Committee of the MIA department of INRA. From september the 1st, he is the head of the committee "Comité de suivi doctoral" of the Inria CRI-SAM.

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Master: Laure Blanc-Féraud, Fluorescence image restoration, 18h, M2 Computational Biology , University Nice Sophia Antipolis, France

Master: Laure Blanc-Féraud, Image restoration, 12h, M2 ISAB, University Nice Sophia Antipolis, France

Master: Laure Blanc-Féraud, Traitement numérique des images, 12h Eq. TD, M2 VIM , EPU University Nice Sophia Antipolis, France

DUT: Marine Breuille, Télécommunications: Initiation à la mesure du signal, 64h Eq. TD, niveau DUT 1ère année, IUT de Nice Côte d'Azur , France

DUT: Marine Breuille, Acquisition et codage de l'information, 6h Eq. TD, niveau DUT 1ère année, IUT de Nice Côte d'Azur , France

Master: Eric Debreuve, Inverse problems in image processing, 28.5h Eq. TD, master 2, Université de Nice Sophia Antipolis, France.

Master: Eric Debreuve, Basis of image processing, 13h Eq. TD, master 2, Université de Nice Sophia Antipolis, France.

Master : Xavier Descombes, Traitement d'images, Analyse de données, Techniques avancées de traitement d'images, 30h Eq. TD, Niveau M2, ISAE, France.

Master : Xavier Descombes, Traitement d'images, master ISAB, 12h Eq. TD, Niveau M2, Université de Nice Sophia Antipolis, France.

Master : Xavier Descombes, Traitement d'images, master VIM, 12h Eq. TD, Niveau M2, Université de Nice Sophia Antipolis, France.

Master : Xavier Descombes, Bio-imagerie, master IRIV, 6h Eq. TD, Niveau M2, Université de Strasbourg, France

Master : Xavier Descombes, Support Vector Machines, 3h Eq. TD, Niveau M2, ENSHEEIT, France.

Master: Emmanuel Soubies, Traitement Numérique des Images, 10h Eq. TD, Niveau M2, EPU, Université de Nice Sophia Antipolis, France.

Master: Emmanuel Soubies, Imagerie Numérique, 6h Eq. TD, Master 2 ISAB, Université de Nice Sophia Antipolis, France.

Licence: Emmanuel Soubies, Images et Filtres, 54h Eq. TD, Niveau L3 , EPU, Université de Nice Sophia Antipolis, France.



Master: Caroline Medioni, Microscopie appliquée à la biologie, 20h Eq. TD, Niveau M2, Université de Nice Sophia Antipolis, France.

License: Caroline Medioni, Microscopy and Cell Biology courses, 20h, Niveau L3, Université de Nice Sophia Antipolis, France.

License: Alexis Zubiolo, Introduction to Computer Science, 18h Eq. TD, L1, Université de Nice Sophia Antipolis, France.

License: Alexis Zubiolo, Web Programming, 48h Eq. TD, L1, Université de Nice Sophia Antipolis, France.

### 7.2.2. Supervision

PhD: Alejandro Mottini, Axon Morphology Analysis: from Image Processing to Modelling, Nice Sophia Antipolis university, defended october the 30th, Xavier Descombes (advisor), Florence Besse (co-supervisor).

PhD in progress: Lola Baustista, Fluorescence confocal microscopy image restoration, 1st november 2013, Laure Blanc-Féraud.

PhD in progress: Gaël Michelin, Quantitative tools for morphogenesis study, 1st october 2013, Grégoire Malandain (advisor).

PhD in progress: Agustina Razetti, Modelling and characterizing axon growth from in vivo data, 1st november 2014, Xavier Descombes (advisor), Florence Besse (co-supervisor).

PhD in progress: Emmanuel Soubies, MA-TIRF reconstruction, 1st october 2013, Laure Blanc-Féraud and Sébastien Schaub.

PhD in progress, Alexis Zubiolo, Statistical Machine Learning for Automatic Cell Classification, 1st october 2012, Eric Debreuve (advisor).

### 7.2.3. Internships

Manon Linder: 4th year of Institut Supérieur des BioSciences, Quantitative comparison of micro-vasculatures, Supervisor: G. Malandain.

Emmanuelle Poulain: M1 Paris VI. Image segmentation using graph cut and MPP. Supervisor: X. Descombes.

### 7.2.4. Juries

Florence Besse participated as referee to the PhD thesis committee of Alejandro Mottini (Nice Sophia Antipolis university)

Laure Blanc-Féraud participated as chair to the PhD thesis committee of A. Drogoul (JAD of UNS), as reviewer of the HDR of Hervé Carfantan (Toulouse University) and PhD thesis of Makhlad Chahid (Bordeaux university).

Eric Debreuve participated as reviewer to the PhD thesis committee of A. Emilien (Bordeaux university)

Xavier Descombes was in the jury of A. Mottini PhD defense at University of Nice Sophia Antipolis. He was reviewer for two PhD dissertation in France (S. Rigaud at Rennes University and J. Gul Mohammed at Paris VI university) and for one PhD dissertation in England (D. Nam at Bristol University).

Grégoire Malandain participated as chair to the PhD thesis committee of J. Legrand (ENS Lyon), as reviewer to the PhD thesis of G. Brunel (Montpellier 2 univ.), and as reviewer to the HdR of F. Rousseau (Strasbourg univ.).

### 7.2.5. Participation to workshops, conferences, seminars, invitations

- Florence Besse made an oral presentation on "Imp promotes axonal remodeling by regulating profilin mRNA during brain development" during the EMBO workshop on neuronal remodeling (March 2014, Ein-Gedi, Israel).

- Caroline Medioni made an oral presentation on "mRNA transport and axonal remodeling" during the Neuronal network days (June 2014, Paris, Institut du Fer à Moulin)
- Caroline Medioni made an oral presentation on "Live imaging of mRNA transport and axonal remodeling using two photon microscopy" during the Journée CoRéBio in Marseille (November 2014, CIML, Luminy).
- Caroline Medioni and Grégoire Malandain organized a practical on "Imaging axonal regrowth: from data acquisition to image treatment" during the microscopy school MIFOBIO (October 2014, Seignosse, France).
- Grégoire Malandain gave a lecture on "registration methods for multimodal imaging" during the microscopy school MIFOBIO (October 2014, Seignosse, France).
- Grégoire Malandain gave a lecture on "Towards population studies in embryogenesis: a cell-to-cell mapping method for ascidian embryos" at a Colloquium Centre Blaise Pascal-Laboratoires Joliot-Curie (november 2014, ENS, Lyon).

### **7.3. Popularization**

Eric Debreuve was invited to give a presentation for the seminar series "Café-in", Inria CRI SA-M, November 2014.

## NACHOS Project-Team

# 8. Dissemination

## 8.1. Teaching - Supervision - Juries

### 8.1.1. Teaching

Stéphane Lanteri, *Computational electromagnetics*, MAM5, 20 h, Polytech Nice.

Claire Scheid, *Practical works on ordinary differential equations*, 36 h, L3, University of Nice-Sophia Antipolis.

Claire Scheid, *Lectures and practical works in Numerical Analysis*, 36 h, M1, Mathematics engineering, University of Nice-Sophia Antipolis.

Stéphane Descombes, *Analyse numérique et applications en finances*, M2, 30 h, University of Nice-Sophia Antipolis.

### 8.1.2. Supervision

PhD defended in December 2014 : Caroline Girard, *Numerical modeling of the electromagnetic susceptibility of innovative planar circuits*, October 2011, Stéphane Lanteri, Ronan Perrussel and Nathalie Raveu (Laplace Laboratory, INP/ENSEEIH/UPS, Toulouse).

PhD in progress : Fabien Peyrusse, *Numerical simulation of strong earthquakes by a discontinuous Galerkin method*, University of Nice-Sophia Antipolis, October 2010, Nathalie Glinsky and Stéphane Lanteri.

PhD in progress : Marie Bonnasse-Gahot, *Numerical simulation of frequency domain elastic and viscoelastic wave propagation using discontinuous Galerkin methods*, University of Nice-Sophia Antipolis, October 2012, Julien Diaz (MAGIQUE3D project-team, Inria Bordeaux - Sud-Ouest) and Stéphane Lanteri.

PhD in progress : Jonathan Viquerat, *Discontinuous Galerkin Time-Domain methods for nanophotonics applications*, October 2012, Stéphane Lanteri and Claire Scheid.

PhD in progress : Colin Vo Cing Tri, *Numerical modeling of non-local dispersion for plasmonic nanostructures*, November 2014, Stéphane Lanteri and Claire Scheid.

## NEUROMATHCOMP Project-Team

## 7. Dissemination

### 7.1. Promoting Scientific Activities

#### 7.1.1. Scientific events organisation

##### 7.1.1.1. general chair, scientific chair

Olivier Faugeras is the General Chair of the [1st International Conference on Mathematical Neuroscience](#), to be held in Antibes-Juan les Pins, June 8-10 2015.

##### 7.1.1.2. member of the organizing committee

Romain Veltz and James Inglis are members of organizing committee of the [1st International Conference on Mathematical Neuroscience](#), to be held in Antibes-Juan les Pins, June 8-10 2015.

#### 7.1.2. Scientific events selection

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

Bruno Cessac has organized the symposium “FROM STATISTICAL PHYSICS TO NEURONAL NETWORKS DYNAMICS” in Sophia Antipolis, November 6th 2014.

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

Pascal Chossat is a member of the program committee of the [1st International Conference on Mathematical Neuroscience](#), to be held in Antibes-Juan les Pins, June 8-10 2015.

Pierre Kornprobst was a member of the program committee of the 22nd International Conference on Pattern Recognition (ICPR) and of the 8th International Conference on Bio-inspired Information and Communications Technologies (formerly BIONETICS).

##### 7.1.2.3. reviewer

Bruno Cessac was a reviewer for the Netherlands Organisation for Scientific Research (NWO) and for the Journal of Mathematical Biology.

#### 7.1.3. Journal

##### 7.1.3.1. member of the editorial board

Olivier Faugeras is the co-editor in chief of the open access [Journal of Mathematical Neuroscience](#).

##### 7.1.3.2. reviewer

Bruno Cessac was a reviewer for the Journal of Mathematical Biology.

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Licence: Pierre Kornprobst, Modélisations mathématiques, 24h, Université Nice Sophia Antipolis, France.

Licence 2 : Rodrigo Cofre, Traitement du signal, 50h, L2, Université Nice Sophia Antipolis, France.

Licence 3 : Hassan Nasser, Electronique numérique, 36h, L3, Université Nice Sophia Antipolis, France

License 3 : Hassan Nasser, Microprocesseurs, 28h, L3, Université Nice Sophia Antipolis, France

Master 2: Bruno Cessac, *Neuronal dynamics*, 36 hours, Master of Computational Biology and Biomedicine, Université Nice Sophia Antipolis, France.

Master 2: Romain Veltz, *Mathematical Methods for Neuroscience*, 24h, M2, ENS Paris, France.

Summer school: Bruno Cessac, *Neural Networks Dynamics.*, 3h, Lecture given in the LACONEU School 2014, Jan 2014, Valparaiso, Chile.

Researchers: Bruno Cessac, *Mean-Field Models in neuroscience* [42], 6h, Lecture given in the Mathemac workshop organized at Inria Sophia, 14-16 May 2014.

### 7.2.2. Supervision

PhD : Hassan Nasser, "Analysis of large scale spiking networks dynamics with spatio-temporal constraints: application to Multi-Electrodes acquisitions in the retina", Université de Nice, defence 14-03-14, supervised by Bruno Cessac.

PhD : Rodrigo Cofre, "Neuronal Networks, Spike Trains Statistics and Gibbs Distributions. Dynamical Systems", Université de Nice, defence 05-11-14, supervised by Bruno Cessac.

PhD in progress: Theodora Karvouniari, «Retinal waves in the retina: theory and experiments», defence planned in October 2017, supervised by Bruno Cessac.

PhD in progress: Kartheek Medathati, « Perception du mouvement et attention: Des neurosciences à la vision artificielle », defence planned in 2016, co-supervised by Pierre Kornprobst and Guillaume S. Masson (Institut de Neurosciences de la Timone, UMR 6193, CNRS, Marseille, France).

### 7.2.3. Juries

Bruno Cessac. Reviewer of Jules Lalouette's thesis, "Modélisation des réponses calciques de réseaux d'astrocytes : relations entre topologie et dynamiques" (supervision Hugues Berry). INSA Lyon, 05-12-14.

Pierre Kornprobst. Reviewer of Julian Quiroga Sepulveda's thesis "Scene flow from RGDB Images". Université de Grenoble, France, 07-11-2014.

Pierre Kornprobst. Jury member of Hassan Nasser's Thesis, "Analysis of large scale spiking networks dynamics with spatio-temporal constraints: application to Multi-Electrodes acquisitions in the retina", Université Nice Sophia Antipolis, France, 14-03-2014.

## OPALE Project-Team

## 8. Dissemination

### 8.1. Promoting Scientific Activities

#### 8.1.1. Scientific events organisation

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

- P. Goatin was member of the Scientific Committee of “CANUM 2014 - 42e Congrès National d'Analyse Numérique”, Carry-le-Rouet (France). April 2014. <http://smai.emath.fr/canum2014/>
- P. Goatin was member of the Scientific Committee of “PED2014 - Conference on Pedestrian and Evacuation Dynamics”, Delft (The Netherlands). October 2014. <http://www.ped2014.nl/>

#### 8.1.2. Scientific events selection

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

- T. Nguyen is member of the Advisory Board and of the Program Committee of the 9th Intl. Conf. on Networking and Services (ICNS2014). Chamonix (Fr), April 2014. <http://www.iaria.org/conferences2014/ICNS14.html>
- T. Nguyen is member of the Program Committee of the 2nd Intl. Conf. on Smart Grids and Green IT Systems (SMARTGREENS2014). Lisbon (Portugal), May 2014. <http://www.smartgreens.org/>
- T. Nguyen is member of the Program Committee of the 12th Intl. Conf. on Cooperative Design, Visualization and Engineering (CDVE2014), Seattle (USA), September 2014. <http://www.cdve.org/cdve2014/pc.html>
- T. Nguyen is member of the Technical Program Committee and Advisory Chair on Virtualization for the 4th Intl. Conf. on Cloud Computing, GRIDs and Virtualization, Venice (Italy), May 2014. <http://www.iaria.org/conferences2014/CLOUDCOMPUTING14.html>
- T. Nguyen is member of the Program Committee of BDCloud2014, Sydney (Australia), December 2014. <http://www.swinflow.org/confs/bdcloud2014/pc.htm>

#### 8.1.3. Journal

##### 8.1.3.1. Reviewer

- R. Duvigneau is reviewers for the following international journals : Comp. & Fluids, Int. J. Num. Fluids, Comp. Meth. Appl. Mech. Eng., Comp. Aided Geom. Design, Appl. Math. & Mech., Eng. Opt.
- P. Goatin is reviewers for the following international journals: Acta Applicandæ Mathematicæ ; African Journal of Mathematics and Computer Science Research; Algorithms; Annales de l'Institut Henri Poincaré (C) Analyse Non Linéaire; Applied Mathematics and Computation; Computer-aided Civil and Infrastructure Engineering; Discrete and Continuous Dynamical Systems; European Journal of Operational Research; IEEE Transactions on Automatic Control; IEEE Transactions on Intelligent Transportation Systems; International Journal of Dynamical Systems and Differential Equations; Journal of Computational Physics; Journal of Flow, Turbulence and Combustion; Mathematical Models and Methods in Applied Sciences; Mathematics of Computation; Networks and Heterogeneous Media; New Journal of Physics; Nonlinear Analysis Ser. B: Real World Applications; SIAM Journal of Mathematical Analysis; SIAM Journal of Applied Mathematics; SIAM Journal of Numerical Analysis; SIAM Journal on Scientific Computing.
- A. Habbal is reviewer for the following international journals: Applied Mathematics (AM), Scientific Research Publishing Structural and Multidisciplinary Optimization

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Master: Advanced Optimization, 40.5 hrs, M2, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (J.-A. Désidéri, R. Duvigneau).

Master: Conservation laws and finite volume scheme, 30 hrs, M2, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (P. Goatin).

Master: Multidisciplinary Optimization, 22.5 hrs, joint *Institut Supérieur de l'Aéronautique et de l'Espace* (ISAE Supaéro, "Complex Systems") and M2 (Mathematics), Toulouse (J.-A. Désidéri, R. Duvigneau).

Licence: Introduction to Numerical Analysis, 19.5hrs, Ecole Polytechnique Universitaire (EPU), Water Engineering, Nice Sophia Antipolis (J.-A. Désidéri).

Licence: Numerical Methods I, 76hrs, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (A. Habbal).

Licence: Summer Project in Mathematical Modeling, 36 hrs, L3, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (A. Habbal).

Master: Numerical Methods for Partial Differential Equations, 66 hrs, M1, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (A. Habbal).

Master: Concurrent design in building structures, M2 Students Project, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (A. Habbal).

### 8.2.2. Supervision

PhD : Maria Laura Delle Monache, *Traffic flow modeling by conservation laws*, University of Nice Sophia Antipolis, September 2014. Supervisor: P. Goatin.

PhD : Jérémie Labroquère, *Optimization of active devices for turbulent separated flow control*, University of Nice Sophia Antipolis, November 2014. Supervisors: Régis Duvigneau and Jean-Antoine Désidéri.

PhD : Maxime Nguyen Dinh, *Qualification of numerical simulations by anisotropic mesh adaptation*, University of Nice Sophia Antipolis, March 2014. Supervisors: Jean-Antoine Désidéri and Jacques Peter (ONERA).

PhD : Enric Roca León, *Aero-mechanical simulations for rotor blade optimization of helicopter in forward motion*, University of Nice Sophia Antipolis, October 2014. Supervisors: Jean-Antoine Désidéri and Arnaud Le Pape (ONERA).

PhD : Aalae Benki, *Méthodes efficaces de capture de front de Pareto en conception mécanique multicritère. Applications industrielles.*, Jan 2014, Supervisor: A. Habbal.

PhD : Fatima Zahra Oujebbour, *Méthodes et applications industrielles en optimisation multicritère de paramètres de processus et de forme en emboutissage*, March 2014, Supervisor : A. Habbal.

PhD : Mohamed Kaicer, *Group lending : analysis of asymmetric information using game theory. Analysis design and implementation of a simulator adapted to micro-finance market*, July 2014, Supervisors: R. Aboulaich (Rabat) and A. Habbal.

PhD in progress : Matthias Mimault, *crowd motion modeling by conservation laws* , Oct. 2012. Supervisor: P. Goatin.

PhD in progress : Sébastien Bourasseau, *Méthode de raffinement de maillages non structurés basées sur le vecteur adjoint pour le calcul de coefficients aérodynamiques*, October 2010. Supervisors: J.-A. Désidéri and J. Peter (ONERA).

PhD in progress : Cédric Durantin, *Métamodélisation et optimisation pour les dispositifs nanophotoniques*, October 2014. Supervisors: J.-A. Désidéri and A. Glière (CEA LETI, Grenoble).

PhD in progress : Boutheina Yahyaoui, *Modélisation de la dynamique des cellules : Des équations de Fisher-KPP aux systèmes mécano-bio-chimiques*, January 2013. Supervisors: A. Habbal and M. Ayadi (Tunis).

PhD in progress : Maroua Mokni, *Développement, analyse et évaluation numérique d'un algorithme à multiples gradients (MGDA) pour l'optimisation multicritère*, April 2014. Supervisors: J.-A. Désidéri and M. Ayadi (Tunis).

PhD in progress : Asma Gdhami, *Isogeometric methods for hyperbolic systems*, April 2014. Supervisors: R. Duvigneau and M. Moakher (ENIT).

PhD in progress : Matthieu Sacher, *Performance Optimization of Racing Yacht Sails*, October 2014. Supervisors: O. Lemaitre (CNRS LIMSI), R. Duvigneau and F. Hauville (Ecole Navale, Brest).

### 8.2.3. *Juries*

P. Goatin was member of the selection (Inria Sophia Antipolis) and admission (national) committees for the competitive selection of young graduate scientists (CR2).

## 8.3. Popularization

P. Goatin authored a short contribution to the book "*Brèves de Maths - Mathématiques de la planète Terre*", Nouveau Monde ed., 2014.

J.-A. Désidéri is a consultant at ONERA (*The French Aerospace Lab*) and participates in the scientific activities of DSNA (Department of Numerical Simulation and Aeroacoustics, Châtillon) and DAAP (Department of Applied Aerodynamics, Meudon).



## REVES Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

G. Drettakis chairs the EG Working group on Rendering. He also heads the steering committee of the Gouraud-Phong Immersive Space at Sophia-Antipolis.

#### 9.1.1.2. member of the organizing committee

G. Drettakis served on several ad-hoc ACM and IEEE Committees, concerning policy and EIC searches.

### 9.1.2. Scientific events selection

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

George Drettakis and Adrien Bousseau served on the Eurographics 2014 international program committee. Adrien Bousseau served on the SIGGRAPH 2014 program committee and the SIBGRAPI 2014 program committee. George Drettakis served on the EGSR 2014 international program committee.

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

G. Drettakis is an associate editor-in-chief for IEEE Transactions on Computer Graphics and Visualization.

#### 9.1.3.2. reviewer

G. Drettakis and A. Bousseau are frequent reviewers for ACM Transactions on Graphics, IEEE Transactions on Computer Graphics and Visualization, Computer Graphics Forum.

### 9.1.4. Conferences

#### 9.1.4.1. Attendance

- Sylvain Duchêne, Rodrigo Ortiz Cayon, Adrien Bousseau and George Drettakis attended the Eurographics Symposium on Rendering in Lyon.
- Emmanuel Iarussi, Rodrigo Ortiz Cayon and Adrien Bousseau attended the Eurographics conference in Strasbourg.
- Adrien Bousseau and George Drettakis attended the SIGGRAPH conference in Vancouver.
- Kenneth Vanhoey attended the ACM Siggraph Asia 2014 conference in Shenzhen, China

### 9.1.5. Summer Schools

#### 9.1.5.1. Attendance

Rodrigo Ortiz Cayon attended a summer school on virtual reality at ESTIA - Bidart, France.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Masters: G. Drettakis organizes and teaches Computer Graphics at the ECP (Paris) (9h), A. Bousseau teaches 3h at the same course. G. Drettakis teaches 6h in the MAPI M1 Module (Jeux Video), A. Bousseau teaches 3h in this program. A. Bousseau organizes and teaches the Computer Graphics module in the Master 1 International in Computer Science of University Nice Sophia Antipolis (9h), G. Drettakis teaches 4.5h in this program.

Licence: Emmanuel Iarussi is a teaching assistant for the course on Human Computer Interaction at IUT - University Nice Sophia-Antipolis.

### 9.2.2. Supervision

- PhD in progress: Rodrigo Ortiz-Cayon, Inpainting and Artifact Removal for Image Based Rendering, (started November 2013), Advisor: George Drettakis.
- PhD in progress: Emmanuel Iarussi, Computer-Assisted Drawing, since October 2012, Advisor: George Drettakis, Co-advisor: Adrien Bousseau
- PhD in progress: Sylvain Duchene, Image-Based Relighting, since October 2011 (to defend in March 2015), Advisor: George Drettakis.
- PhD in progress: Uditha Kasthuriarachchi, Mixed rendering of captured and virtual content, since November 2014, Advisor: George Drettakis.
- PhD defended: Gaurav Chaurasia, Algorithms and Perceptual Analysis for Interactive Free View-point Image-Based Navigation [12], since October 2010 (defended February 2014), Advisor: George Drettakis
- PhD defended: Emmanuelle Chapoulie, Gestures and direct manipulation for immersive virtual reality [11], since October 2010 (defended June 2014), Advisor: George Drettakis
- Internship: Ayush Tewari. Advisor: George Drettakis, Co-advisor: Adrien Bousseau
- Internship: Rahul Arora. Advisor: Adrien Bousseau
- Internship: Uditha Kasthuriarachchi. Advisor: George Drettakis

### 9.2.3. Juries

- G. Drettakis was a member of the Ph.D. committee of J. Ardouin in Rennes (December).

## 9.3. Popularization

### 9.3.1. Popularization, Invited Talks

- We participated in the VERVE workshop on virtual reality technologies for ageing, which took place at the Institut Claude Pompidou on Nov. 6th. Over 200 participants (patients, families and caregivers) visited during this day. George Drettakis gave a short interview on our research for local television.
- Adrien Bousseau presented his work on sketch-based modeling at Lycée de Vence during the Fête de la science 2014. He also participated to a “cafe science” during the Semaine du Cerveau event in Marseille.
- Adrien Bousseau gave an invited talk at the Amadeus Global Technical Forum, December 2014.
- Adrien Bousseau and George Drettakis gave invited talks at UC Berkeley in the context of the associate team CRISP.

### 9.3.2. Demos

We gave demos to companies visiting the site, often including presentations in the immersive space: Visteon, Optis. We also gave demos and presentations at the Mediterranean Days event, to university and high school students (“stages 3eme”), as well as representatives from the Sustainable Design School in Nice.

## SCALE Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

- Eric Madelaine, scientific co-chair of the 11th International Conference on Formal Aspects of Component Software (FACS'14), Bertinoro, Italy, Sep. 2014. <http://facs2014.cs.unibo.it/>.

#### 9.1.1.2. member of the organizing committee

- Fabien Hermenier was a co-chair of the poster session for Compas.

### 9.1.2. Scientific events selection

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

- Olivier Dalle, member of the SIMUTools Steering Committee;
- Eric Madelaine, member of the FACS Steering Committee;

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

- Françoise Baude: program committee member of CCGrid'14, ISPA'14, HPCS 2014, Compas2014
- Olivier Dalle: program committee member of DEVS/TMS'14, ACM SIGSIM PADS'14
- Ludovic Henrio: program committee member of ICE'14
- Eric Madelaine: program committee member of ED'C'14

#### 9.1.2.3. reviewer

- Françoise Baude: reviewer for EuroPar 2014
- Fabien Hermenier: reviewer for the international conference PDP - Special session on energy-aware computing, and the national conference Compas. He was also a sub-reviewer for ICDCS.

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

- Françoise Baude: Concurrency and Computation: Practice and Experience, special issue 2013 *Special Issue on High Performance Computing and Simulation*.

#### 9.1.3.2. reviewer

- Françoise Baude was a reviewer for journals Parallel and Distributed Computing, Journal of Computational Finance, and International Journal of Computer Mathematics;
- Olivier Dalle was a reviewer for journals ACM TOMACS, SCS SIMULATION, Elsevier SIMPRA;
- Fabien Hermenier was a reviewer for journals Concurrency and Computation: Practice and Experiment, IEEE Transaction on Cloud Computing, IEEE Transaction on Parallel and Distributed Systems, Journal of Grid Computing;
- Ludovic Henrio was reviewer for the journal SCP (Science of Computer Programming), Mathematical Structures in Computer Science, and STVR;
- Eric Madelaine was reviewer for the journal SCP (Science of Computer Programming), special issue 2013 on *Formal Aspects of Component Software*.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence : Françoise Baude, Algorithmique et Programmation en Java, 70 H eqTD, niveau L2, Polytech'Nice Sophia, UNS, France

Licence : Françoise Baude, Introduction au Web (new course setup), 30 H eqTD, niveau L2, Polytech'Nice Sophia, UNS, France

Licence : Olivier Dalle, Systèmes Informatiques, 36 H eqTD, niveau L1, UFR Sciences, UNS, France

Licence : Olivier Dalle, Projet Scientifique Informatique, 33 H eqTD, niveau L2, UFR Sciences, UNS, France

Licence : Olivier Dalle, Systèmes d'Exploitation, 54 H eqTD, niveau L2, UFR Sciences, UNS, France

Licence : Olivier Dalle, Initiation Framework Programmation Serveur, 63 H eqTD, niveau L3, UFR Sciences, UNS, France

Licence : Fabien Hermenier, Algorithmique et Programmation en Java, 70 H eqTD, niveau L2, Polytech'Nice Sophia, UNS, France

Licence : Fabien Hermenier, Introduction à Internet, 103 H eqTD, niveau L2, Polytech'Nice Sophia, UNS, France

Licence : Fabien Hermenier, Outils pour le Génie Logiciel 14 H eqTD, niveau L3/SI3, Polytech'Nice Sophia, UNS, France

Licence : Justine Rochas, TP de Programmation Orientée Objet 18 H eqTD, niveau L3, UFR Sciences, UNS, France

Master : Françoise Baude, Applications Réparties, 45 H eqTD, niveau M1/SI4, Polytech'Nice Sophia, UNS, France

Master : Françoise Baude and Ludovic Henrio, Distributed systems: an Algorithmic approach, 17 H + 17 h eqTD, niveau M2, Polytech'Nice Sophia/UFR Sciences, UNS, France

Master : Olivier Dalle, Systèmes Distribués, 9 H eqTD, niveau M1, UFR Sciences, UNS, France

Master : Fabrice Huet, Programmation Parallèle et Distribuée, 63h eqTD, niveau M1, UFR Sciences, UNS, France

Master : Fabrice Huet, Programmation Avancée, 78h eqTD, niveau M1, UFR Sciences, UNS, France

Master : Justine Rochas, TP de Systèmes Distribués 24 H eqTD, niveau M1, UFR Sciences, UNS, France

Master : Justine Rochas, TP de Technologies XML 24 H eqTD, niveau M1, UFR Sciences, UNS, France

Summer School : Eric Madelaine, "Designing, programming, and verifying distributed systems", 9 H eqTD, East China Normal University Shanghai, China.

Françoise Baude was Innovation and Entrepreneurship coordinator for the ICT Labs Summer school on Urban Life and Mobility, organized from June 29th to July 11th 2014 at Eurecom (supervision, evaluation and ranking of student teams from an educational perspective).

### 9.2.2. Supervision

PhD : Laurent Pellegrino, "Pushing dynamic and ubiquitous event-based interaction in the Internet of services: a middleware for event clouds", UNS, 3/4/2014, Françoise Baude, Fabrice Huet.

PhD: Yanwen Chen, "Formal model and Scheduling for cyberphysical systems", cotutelle between UNS and ECNU Shanghai, 30/11/2014, advisors Eric Madelaine and Yixiang Chen

PhD: Nuno Gaspar, “Integrated, Autonomic, and Reliable Deployment and Management for SaaS composite applications”, UNS, 16/12/2014, advisor: Eric Madelaine

PhD in progress: Michaël Benguigui, “Modèles de programmation pour l’analyse de données sur machines multi-cœurs, grilles et clouds”, since Dec 2011, advisor Françoise Baude.

PhD in progress: Maeva Antoine, “Plateforme élastique pour le stockage et la notification d’Evènements”, since Oct. 2012, advisors Eric Madelaine and Fabrice Huet

PhD in progress: Sophie Song, “Publish-Subscribe Models for Large Scale Data Analysis Frameworks”, since Feb. 2013, advisor Fabrice Huet and Frédéric Margoulés (ECP)

PhD in progress: Damian Vicino, “Simulation-based Open Science in the Cloud”, since Jan. 2013, advisors Françoise Baude, Gabriel Wainer (Carleton University, Canada), and Olivier Dalle.

PhD in progress : Vincent Kerbache, “Resource Management in a Cloud Supplied with Renewable Energies”, since Sep. 2013, advisors Eric Madelaine and Fabien Hermenier

PhD in progress : Oleksandra Kulankhina, “Model-driven environment for the development of safe component-based distributed applications”, since Oct. 2013, advisor Eric Madelaine

PhD in progress: Justine Rochas, “Programming model and middleware support for distributed and concurrent applications”, since Oct. 2013, advisor Ludovic Henrio

PhD in progress: Hlib Mykhailenko, “Probabilistic Approaches for Big Data Analytics”, since March. 2014, advisors Fabrice Huet, Philippe Nain (Inria)

PhD in progress: Vincenzo Mastandrea, “Deadlock analysis for concurrent and distributed programming”, since Oct. 2014, advisors Ludovic Henrio and Cosimo Laneve.

### 9.2.3. Juries

- Françoise Baude was jury president for the PhD of Gauthier Berthou (Université de Grenoble), jury member for the PhD of Pierre-Louis Aublin (Université de Grenoble), reviewer and jury member for the PhD of Fawaz Paraiso (Université de Lille 1), of Mohamed Mohamed (INT Telecom Paris-Sud, Université d’Evry), of Soguy Mak-Karé Gueye (Université de Grenoble).
- Ludovic Henrio was jury member for the PhD of Karl Palmskog (KTH); he was reviewer and jury member for the PhD of Thomas Pinsard (Université d’Orléans).
- Fabien Hermenier co-reviewed (with F. Baude) the PhD thesis of Christine Mayap Kanga (University of Toulouse) and an expert for a CIFRE thesis grant.
- Fabrice Huet reviewed the PhD thesis of Roelof Kemp (Vrije Universiteit, Amsterdam).
- Eric Madelaine was reviewer for the PhD of M. Donc Ruzhen, University of Pisa

## 9.3. Popularization

- Françoise Baude is in charge since September 2011 of the set up and animation of an educational program *Cordées de la Réussite*. She leads as Polytech’Nice Sophia member, and in connection with MASTIC activities at Sophia-Antipolis, two *Cordées pour la Science à Sophia* groups (one with Lycée Vinci Antibes, the other with Lycée Tocqueville Grasse). Since 2013, she is in charge of the AVOSTII-STI2D program implementation for Polytech’Nice Sophia, requiring advertising high-school pupils for engineering studies, in particular in ICT.  
As ICT Labs Master School University of Nice Sophia-Antipolis coordinator, she is in charge of publicizing, orchestrating, and reporting about all the ICT Labs master programmes involvement of UNS (Internet and Technology Architecture, and Data Science programmes); and as part of the *Paris Node comité de pilotage*, to follow French activities within ICT Labs, and report about UNS activities within this KIC. Overall this mission required about two full-time months of work in 2014.
- Fabrice Huet is in charge, since 2011, of the *Informatiques et Sciences du Numérique* courses for the academia of Nice. These courses are offered to high school teachers who volunteer to offer a Computer Science option to their students. He has also given seminars in high school during the *Fête de la Science*.

## STARS Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific Events Organisation

#### 9.1.1.1. General chair, scientific chair

François Brémond was organizer of a PANORAMA (see section 8.2.1.2 ) special session, part of VISAPP Lisbon, Portugal, 5-8 January 2014.

#### 9.1.1.2. Member of the organizing committee

François Brémond was a member of the Management Committee and COST Action IC1307 in 2014.

Guillaume Charpiat organized a weekly computer vision student seminar <sup>0</sup> in Sophia-Antipolis (about 40 participants).

### 9.1.2. Scientific Events Selection

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

Jean-Paul Rigault is a member of the *Association Internationale pour les Technologies à Objets* (AITO) which organizes international conferences such as ECOOP.

François Brémond was program committee member of the conferences and workshops: IEEE Workshop on Applications of Computer Vision (WACV 2014).

François Brémond was program committee member of VS-Re-ID-2014, CAVAU 2014, PETS2014, ATC 2014 and the first International Conference on Cognitive Computing and Information Processing (CCIP-15) at JSSATEN.

François Brémond was area chair of AVSS'14.

#### 9.1.2.2. Reviewer

Guillaume Charpiat reviewed for the conference CVPR (Computer Vision and Pattern Recognition).

Monique Thonnat reviewed for ICPR Conference.

François Brémond was reviewer for the conferences : CVPR2014, ECCV2014, Intelligent Vehicles 2014, VOT2014, CONTACT2014, ChaLearn2014, ACCV2014, WACV 2015.

### 9.1.3. Journal

#### 9.1.3.1. Member of the editorial board

François Brémond was handling editor of the international journal "Machine Vision and Application".

#### 9.1.3.2. Reviewer

Guillaume Charpiat reviewed for the journals IJCV (International Journal of Computer Vision), JMIV (Journal of Mathematical Imaging and Vision), CVIU (Computer Vision and Image Understanding), and TIP (Transactions on Image Processing).

Jean-Paul Rigault reviewed for the SoSym (Software and System Modeling) journal (Springer).

Monique Thonnat reviewed for Image and Vision Computing Journal.

François Brémond was reviewer for the International Journal of Neural Systems and for the IEEE Pervasive Computing.

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<sup>0</sup><http://www-sop.inria.fr/members/Guillaume.Charpiat/VisionSeminar/>

François Brémond was reviewer for the journal "IEEE Computing Now".

François Brémond was reviewer for the Pervasive and Mobile Computing Journal, ACM Multimedia and Society Journal, Journal of Healthcare Engineering, Sensors Journal, and for Health and Wellbeing Journal.

Sabine Moisan was reviewer for the Journal of Software Engineering for Robotics (JOSER) and for the Computer Science and Information Systems (ComSIS) International Journal.

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

François Brémond was invited at the Dagstuhl Seminar "Robots Learning from Experiences", Germany, 17-21 February 2014.

François Brémond was invited to give a talk in VideoSense Summer School on Privacy-respecting video analytics in Eurecom premises in Sophia Antipolis on 17 April 2014.

François Brémond gave an invited talk at SMILE Lab on Activity recognition, Tainan Taiwan, May 2014.

Baptiste Fosty has participated to the 13th édition des Trophées de la Communication, Nice, June 2014.

François Brémond gave an invited talk at PETS on Tracking and surveillance, Seoul Korea, August 2014.

François Brémond was invited to give a talk at SAME, "Enabling the Cloud of THINGS", Sophia Antipolis, 2 October 2014.

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

### **9.2.1. Teaching**

Master : Annie Ressouche, Critical Software Verification and application to WComp Middleware, 20h, niveau (M2), Polytech Nice School of Nice University, FR and ESPRIT (Tunisia).

Jean-Paul Rigault is Full Professor of Computer Science at Polytech'Nice (University of Nice): courses on C++ (beginners and advanced), C, System Programming, Software Modeling.

### **9.2.2. Supervision**

PhD: Piotr Bilinski, Gesture Recognition in Videos, 5th December 2014, François Brémond.

PhD: Ratnesh Kumar, Fiber-based segmentation of videos for activity recognition, 15th December 2014, Guillaume Charpiat and Monique Thonnat.

PhD in progress: Julien Badie, People tracking and video understanding, October 2011, François Brémond.

PhD in progress : Carolina Garate, Video Understanding for Group Behaviour Analysis, August 2011, François Brémond.

PhD in progress : Auriane Gros, Evaluation and Specific Management of Emotionnal Disturbances with Activity Recognition Systems for Alzheimer patient, François Brémond.

PhD in progress : Minh Khue Phan Tran, Man-machine interaction for older adults with dementia, May 2013, François Brémond.

PhD in progress : Michal Koperski, Detecting critical human activities using RGB/RGBD cameras in home environment, François Brémond.

PhD in progress : Thi Lan Anh Nguyen, Complex Activity Recognition from 3D sensors, François Brémond.

### **9.2.3. Juries**

#### **9.2.3.1. PhD, HDR**

François Brémond was jury member of the following PhD and HDR theses:

PhD, Hajer Fradi, EURECOM, 28th January 2014.

PhD, Martin Hirzer, Graz University of Technology, Graz, Austria , March 2014.

Pre-PhD Effrosyni Doutsis, Nice University - I3S, 23 June 2014.

Pre-PhD Antoine Basset, Institut Curie, Paris, 8 July 2014.

PhD, Usman Niaz, EURECOM, Sophia Antipolis, 8 July 2014.

HDR, Thierry BOUWMANS, November 2014.

Jean-Paul Rigault was reviewer and jury president of the PhD of Nadezhda Baklanova, University of Toulouse, December 2014.

Guillaume Charpiat reviewed Eduardo Fernández-Moral's PhD thesis (Malaga University, Spain, September 2014).

#### 9.2.3.2. Expertise

Jean-Paul Rigault was a member of the ISO Committee on the C++ language.

François Brémond was expert for the Proposal KIC Healthy Ageing (Innolife) Expert Group1: Independent living.

François Brémond was expert for EU European Reference Network for Critical Infrastructure Protection (ERNICIP) - Video Analytics and surveillance Group, at European Commission's Joint Research Centre in Brussels in August and October 2014.

François Brémond was expert for reviewing tutorial proposals for ICIP'14.

François Brémond participated to the expertise for NEM (New European Media) an EU ETP concerning media, creativity and content to provide future strategies for EU research funding under H2020.

François Brémond was expert for the committee selection for the tenure track, Mines School - ParisTech, June 2014.

### 9.3. Popularization

François Brémond was invited to give a talk at Conférence des métiers at International Lycée (CIV) in Sophia 27 January 2014.

François Brémond was interviewed by Nice Matin on CoBTeK and Alzheimer issues, Opening of ICP, 10 March 2014.

François Brémond was interviewed by Monaco TV on MONAA and Autism issues, 12 March 2014.

François Brémond has participated to the ERCIM News 98 -Special theme: Smart Cities, July, 2014.

Guillaume Charpiat was part of the popularization MASTIC committee.



## TITANE Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organization

#### 9.1.1.1. General chair, scientific chair

Florent Lafarge was co-chair of the ISPRS working group on point cloud processing. Pierre Alliez joined the Horizon 2020 Advisory Group for Societal Challenge 6 ‘Europe in a changing world – Inclusive, Innovative and Reflective Societies. Pierre Alliez joined the Steering Board of the EUROGRAPHICS Workshop on Graphics and Cultural Heritage.

### 9.1.2. Scientific events selection

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

Pierre Alliez was program co-chair of GMP (Geometric Modeling and Processing).

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

Florent Lafarge was a program committee member for PCV’14 and 3DV’14. Pierre Alliez was program committee member for EUROGRAPHICS Symposium on Geometry Processing, Shape Modeling International, EUROGRAPHICS Workshop on Graphics and Cultural Heritage and EUROGRAPHICS Workshop on Urban Data Modelling and Visualisation.

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

Pierre Alliez is an associate editor of ACM Transactions on Graphics since 2009, of Elsevier Graphical Models since 2010, and of Computer Aided Geometric Design since 2013.

#### 9.1.3.2. reviewer

Florent Lafarge was a reviewer for CVPR, ECCV, SIGGRAPH, SIGGRAPH Asia, EUROGRAPHICS, IJCV, JPRS, CVIU, T-VCG and Computers&Graphics.

## 9.2. Seminars and invited talks

Florent Lafarge was a keynote speaker at the ISPRS Commission V Symposium, Riva del Garda on June 23 (talk: "Dense image matching and surface reconstruction: when photogrammetry meets computational geometry").

## 9.3. Teaching - Supervision - Juries

### 9.3.1. Teaching

Master: Pierre Alliez and Florent Lafarge, Algorithmes géométriques - théorie et pratique, 9h, M2, university Nice Sophia Antipolis, France.

Master: Pierre Alliez and Florent Lafarge, 3D Meshes and Applications, 32h, M2, Ecole des Ponts ParisTech, France.

Master: Pierre Alliez, Mathématiques pour la géométrie, 24h, M2, EFREI, France.

Master: Florent Lafarge, Traitement d’images numériques, 9h, M2, university Nice Sophia Antipolis, France.

Master: Florent Lafarge, Imagerie numérique, 10h, M2, university Nice Sophia Antipolis, France.

### **9.3.2. Supervision**

HdR: Florent Lafarge, Some contributions to geometric modeling of urban environments, University of Nice Sophia Antipolis, September 29.

PhD: Xavier Rolland-Neviere, Watermarking of 3D Models, defended November 12, Pierre Alliez.

PhD in progress: Simon Giraudot, Robust surface reconstruction, since October 2011, Pierre Alliez.

PhD in progress: Sven Oesau, Reconstruction of indoor scenes, since October 2012, Florent Lafarge and Pierre Alliez.

PhD in progress: Manish Mandad, Shape approximation with guarantees, since October 2012, Pierre Alliez.

PhD in progress : Dorothy Duan, Semantized Elevation Maps, since October 2013, Florent Lafarge.

PhD in progress : Jean-Dominique Favreau, Sketch-based modeling in multi-view context, since October 2014, Florent Lafarge.

### **9.3.3. Juries**

Florent Lafarge:

- Thesis reviewer: Trung Thanh Pham (University of Adelaide, Australia).

Pierre Alliez:

- Thesis reviewer: Thierry Guillemot (Telecom ParisTech).
- Thesis reviewer: Ricard Campos (University of Girona, Spain).
- Thesis reviewer: Henrik Zimmer (University of Aachen, Germany).
- Thesis committee: Jean-Luc Peyrot (CNRS-Université de Nice Sophia Antipolis).
- Thesis reviewer: Louis Cuel (Université de Savoie).
- Thesis reviewer: Alexandre Boulch (Ecole des Ponts ParisTech).
- HdR committee: Florent Lafarge (Université de Nice Sophia Antipolis).

## TOSCA Project-Team

## 9. Dissemination

### 9.1. Promoting Scientific Activities

#### 9.1.1. Scientific events organisation

- E. Tanré animates with H. Delingette (EPI ASCLEPIOS) a transverse working group on “Uncertainties in mathematical and numerical models”. In 2014, a three days lectures given by O. Le Maître was organized with around 50 participants issued from 10 teams.

#### 9.1.2. Scientific events selection

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

- A. Lejay served as member of the conference program committee of the *CANUM 2014* (Carry-le-Rouët, May 2014) and the *Journées de Probabilités 2014* (Marseille, May 2014).

#### 9.1.3. Journal

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

- M. Bossy serves as an Associate Editor of *Annals of Applied Probability*.
- N. Champagnat serves as an Associate Editor of *Stochastic Models*.
- Together with T. Lelièvre (Ecole des Ponts-ParisTech) and A. Nouy (Ecole Centrale Nantes), N. Champagnat served as co-editor in chief of the special issue of *ESAIM:ProcS* devoted to the CEMRACS 2013.
- A. Lejay serves as co-Editor of the *Séminaire de Probabilités*.
- D. Talay served as an Associate Editor of: *Stochastic Processes and their Applications*, *ESAIM Probability and Statistics*, *Stochastics and Dynamics*, *Journal of Scientific Computing*, *Monte Carlo Methods and Applications*, *Oxford IMA Journal of Numerical Analysis*, *Communications in Applied Mathematics and Computational Science*, *Éditions de l'École Polytechnique*. He also served as the Co-editor in chief of *MathematicS in Action*.
- D. Talay is serving as a member of the Advisory Board of the Centro de Mathematica da Universidade do Porto (Portugal).
- D. Talay participated in Professor position recruitment committees at Paris 6 University.

##### 9.1.3.2. reviewer

- M. Bossy wrote reviews for manuscripts submitted to *ESAIM:ProcS*, *Progress in Energy and Combustion Science*, *Bernoulli Journal*.
- N. Champagnat wrote reviews for manuscripts submitted to *ESAIM:ProcS*, *Stochastic Processes and their Applications* (twice), *New Phytologist*, *Bernoulli Journal*, *Electronic Journal of Probability*, *The Annals of Applied Probability*, *Applied Mathematics and optimization*.
- M. Deaconu wrote reviews for manuscripts submitted to *Potential Analysis*, *M2AN*, *Journal of Computational and Applied Mathematics*, *Mathematics and Computers in Simulation* and *Statistics and Computing*.
- B. Henry wrote a review for a manuscript submitted to *Stochastic Models*.
- J. Inglis wrote reviews for manuscripts submitted to the *Annales de l'Institut Henri Poincaré* and the *Journal of Mathematical Neuroscience*.

- A. Lejay wrote reviews for manuscripts submitted to *Mathematical finance*, *Séminaire de Probabilités*, *Journal of Computational and Applied Mathematics*, *Electronic Journal of Probability*, *Electronic Communication of Probability*, *Journal of Scientific Computing*, *International Journal of Stochastic Analysis*, *SIAM Journal on Control and Optimization*, ...
- E. Tanré wrote reviews for manuscripts submitted to *Journal of Theoretical Biology*, *Journal of Scientific Computing*, *Annales de l'Institut Henri Poincaré* and *The Journal of Mathematical Neuroscience*.
- D. Villemonais wrote reviews for manuscripts submitted to *The Annals of Applied Probability*, *Applied Mathematics and Optimization*, *Applied Probability Trust*, *Electronic Communications in Probability* and *Electronic Journal of Probability*.

#### 9.1.4. Reviewing for fundings

- M. Bossy wrote reports about research projects submitted to the PACA Region council.
- N. Champagnat wrote reports about research projects submitted to ANR, the Leverhulme trust (UK) and FONDECYT (Chile).
- D. Talay reported on applications to Research Grants Council (RGC) of Hong Kong and grants of the Chilean National Science and Technology Commission.

#### 9.1.5. Institutional commitments

- M. Bossy is a elected member of the Inria Evaluation Board.
- M. Bossy is a member of the Scientific Committee of the *École Doctorale "Sciences Fondamentales et Appliquées"* of the Université de Nice - Sophia Antipolis.
- M. Bossy participated to the junior position recruitment committee at the UPMC.
- M. Bossy has been a member of the Committee for junior permanent research positions of Inria Paris-Rocquencourt.
- M. Bossy is a member of the *Collectif Andromède* of the PACA Region council.
- N. Champagnat is a member of the *Commission de Développement Technologique* of Inria Nancy - Grand Est, a substitute member of the *Comité de Centre* of Inria Nancy - Grand Est and a member of the *Commission bibliothèque* of IECL. He is also local correspondent of the COERLE (*Comité Opérationnel d'Évaluation des Risques Légaux et Éthiques*) for the Inria Research Center of Nancy - Grand Est.
- M. Deaconu is member of *Comité des Projets* and *Bureau du Comité des Projets* at Inria Nancy - Grand Est.
- M. Deaconu has been a member of the Committee for junior permanent research positions of Inria Nancy - Grand Est.
- A. Lejay has been General Secretary of Société des Mathématiques Appliquées et Industrielles (SMAI) up to July 2014, and is a member of the Administration Council of the SMAI.
- A. Lejay is the member of the COMIPERS of Inria Nancy Grand-Est.
- A. Lejay has been a member of the hiring committee for a position of Professor in Dijon (2014).
- D. Talay continued to serve as the Head of Science and Chair of the Project-Teams Committee of Inria Sophia Antipolis - Méditerranée up to the end of August 2014.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master: M. Bossy, *Continuous time stochastic models for quantitative Finance*, 45h, M2 IMAFA (Informatique et Mathématiques Appliquées à la Finance et à l'Assurance), École Polytechnique Universitaire, Univ. Nice - Sophia Antipolis, France.

Master : M. Bossy, *Risk on energetic financial markets*, 27h, Master Spécialisé, Ingénierie et Gestion de l'Énergie, Mine ParisTech, France.

Master : M. Bossy *Stochastic Particle Methods for PDEs*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 18h, M1, École des Mines de Nancy, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 18h, M2, École des Mines de Nancy, France.

Master: N. Champagnat, *Processus de Markov et génétique des populations*, 22.5h, M2 MFA, Université de Lorraine, France.

Master: M. Deaconu, *Simulation de variables aléatoires*, 12h, M1, École des Mines de Nancy, France.

Master: M. Deaconu, *Modélisation stochastique*, 30h, M2, Université de Lorraine, France.

Master: M. Deaconu, *Simulation Monte Carlo*, 24h, M1, Faculté de Droit, Sciences Economiques et Gestion, Université de Lorraine, France.

Licence: B. Henry, *Probabilité*, 36h, L3, École des Mines de Nancy, France.

Licence: B. Henry, *Analyse numérique*, 18h, L3, École des Mines de Nancy, France.

Master: J. Inglis, *Numerical Methods for Computational Finance*, 15h, M2, UNSA (Mathmods Erasmus Mundus), France.

Master: J. Inglis and E. Tanré, *Advanced Numerics for Computational Finance*, 40h (2\*20h), M2, UNSA (Mathmods Erasmus Mundus), France.

Master: A. Lejay, *Simulation des marchés financiers*, 23h, M2, Université de Lorraine (Metz), France.

Master: A. Lejay, *Probabilités Appliquées*, 15h, M2, Université de Lorraine (Nancy), France.

Master: D. Talay *Stochastic Methods for PDEs with Boundary Conditions*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

Master: E. Tanré, *Numerical Probability in Finance*, 44h, M2, Ecole PolytechNice (IMAF), France.

Master: E. Tanré, *Mathematical Methods for Neurosciences*, 37h, M2, ENS - Master MVA / Paris 6 - Master Maths-Bio, France.

### 9.2.2. Supervision

- PhD: Julien Claisse, *Dynamique des populations : contrôle stochastique et modélisation hybride du cancer*, Université de Nice Sophia Antipolis, 4 July 2014, N. Champagnat, D. Talay.
- PhD in progress: Maxime Bonelli, *Behavioral finance approach to risk assessment in quantitative portfolio management*, September 2013, M. Bossy.
- PhD in progress: Paul Charton, *Hedging strategies for wind energy prices*, September 2010, M. Deaconu and A. Lejay.
- PhD in progress: Baldwin Dumortier, *Contrôle acoustique des éoliennes*, October 2014, M. Deaconu and E. Vincent (EPI PAROLE).
- PhD in progress: Benoît Henry, *Modeling Evolutionary Relationships Between Three-Dimensional Protein Structures*, October 2013, N. Champagnat, D. Ritchie (EPI ORPAILLEUR).
- PhD in progress: Lionel Lenôtre, *Monte Carlo Simulation in fissured and porous media*, September 2012, J. Erhel (Irisa), A. Lejay, G. Pichot (Irisa). L. Lenôtre has a grant from the MESR and stays at Rennes.
- PhD in progress: Radu Maftei, *A stochastic approach to colloidal particle agglomeration in turbulent flows*, November 2014, M. Bossy.

- PhD in progress: Hernán Mardones, *Numerical Solution of Stochastic Differential Equations with Multiplicative Noise*, 2009, A. Lejay, C. Mora (Universidad de Concepción, Chile). H. Mardones has a CONYCID grant and spent 7 months (Nov. 2013-June 2014) in Nancy with a grand Becas Chile.
- PhD in progress: Sebastian Niklitschek-Soto, *Discretized stochastic differential equations related to one-dimensional partial differential equations of parabolic type involving a discontinuous drift coefficient*, September 2010, D. Talay.
- PhD in progress: Khaled Salhi, *Estimation of Risk in Finance*, October 2013, M. Deaconu and A. Lejay.

### 9.2.3. Juries

- M. Bossy served as a referee for the HDR thesis of Mathias Rousset, *Probability in computational physics and biology: some mathematical contributions*, Université Paris Est, November 27, 2014.
- N. Champagnat served as an examiner for the Ph.D. theses of Julien Claisse, *Dynamique des populations : contrôle stochastique et modélisation hybride du cancer*, Université de Nice Sophia Antipolis, July 4, 2014; of Julien Sainte-Marie, *Contribution à l'intégration des cycles biogéochimiques dans les modèles de croissance forestier à base phénoménologique. Dynamique saisonnière du couvert forestier et décomposition de la matière organique du sol*, Université de Lorraine, September 9, 2014; of Claire Christophe, *Modélisation aléatoire de l'activité des Lymphocytes T Cytotoxiques*, Université Paul Sabatier (Toulouse III), December 2, 2014; of Coralie Fritsch, *Approches probabilistes et numériques de modèles individus-centrés du chemostat*, Université Montpellier II, December 8, 2014.
- A. Lejay served as a referee for the Ph.D. thesis of H.T. Nguyen, *Numerical investigations of some mathematical models of the diffusion MRI signal*, Université d'Orsay, January 29, 2014; of M. Ba, *Homogénéisation des diffusions en milieux périodiques*, Université de Provence, July 8, 2014; of W. Sabbagh, *Some contributions on Probabilistic Interpretation for Nonlinear Stochastic PDEs*, Université du Maine, December 8, 2014.
- D. Talay served as a referee for the HDR theses of J-F. Chassagneux, *Quelques contributions à la Finance mathématique et l'Analyse théorique et numérique des équations différentielles stochastiques rétrogrades*, Université Paris Dauphine, November 26, 2014; of F. Panloup, *Contributions à l'étude en temps long de processus stochastiques*, Université Paul Sabatier, Toulouse, December 4, 2014; of J. Guilleminot, *Modélisations stochastiques en Mécanique multi-échelle des matériaux hétérogènes*, Université Paris-Est, December 12, 2014.
- D. Talay served as a referee for the Ph.D. thesis of K. Hajji, *Accélération de la méthode de Monte-Carlo pour des processus de diffusions et applications en Finance*, December 12, 2014.

## 9.3. Popularization

M. Bossy published in the *Brèves de maths* book [25].

## 9.4. Participation in congresses, conferences, invitations...

- M. Bossy gave talks at the *Energy Workshop* at Inria Chile and an invited talk at the *10th AIMS Conference on Dynamical Systems, Differential Equations and Applications* in Madrid in July.
- M. Bossy gave seminar talks at CINFAV University of Valparaíso and at the *Séminaire du Mésocentre de Calcul* at Centrale Paris.
- N. Champagnat gave talks at the *Schlumberger workshop on Topics in Applied Probability*, at IHES (Bures-sur-Yvette) in March, at the *10th AIMS Conference on Dynamical Systems, Differential Equations and Applications* in Madrid in July, at the workshop *Population Dynamics and Statistical Physics in Synergy* in Eindhoven (Netherlands) in August, and at the workshop on *Discrete, explicit simulations versus continuous, aggregated models* in Lausanne in October.

- N. Champagnat gave seminar talks at the *Séminaire Modèles Probabilistes pour la Biologie* in Montpellier in January, at the *Séminaire PEIPS (Evolution de Populations et Systèmes de Particules en Interaction)* at École Polytechnique, Palaiseau in November, and at the *Séminaire de Statistique et Probabilités Appliquées* in Grenoble in November.
- B. Henry participated in the *École de Printemps de l'ANR MANEGE* in Aussois in April.
- K. Salhi participated in the *Journées de Probabilités* at Marseille, France in May and presented poster at the *Journées MAS* at Toulouse, France in July.
- J. Inglis gave invited talks at the *Mathemacx European Project Meeting*, Max Planck Institute, Leipzig, Germany, at the *Stochastic Analysis Seminar*, Oxford-Man Institute of Quantitative Finance, Oxford, UK, and at the *ALEA seminar*, École Polytechnique, Paris, France, at the *Workshop in Probability and its Applications*, University of Oxford, Oxford, UK.
- J. Inglis participated in the workshop *Inhomogeneous Random Systems*, Institut Henri Poincaré, Paris, France.
- A. Lejay gave a mini-course on rough paths (8 hours) at Université du Maine (Le Mans) in October.
- A. Lejay gave a conference at the *PDE and rough paths* conference in Toulouse in February.
- O. Lupascu gave talks at the *Colloque Franco-Roumain de Mathématiques Appliquées* in Lyon in August and at the *Journées de Probabilités* in Marseille in May. She also presented a poster at the *Journées Modélisation Aléatoire Statistique* in Toulouse in August 2014.
- O. Lupascu gave a seminar talk at the *Seminar of the Partial Derivative Equations* in Chambéry in April.
- D. Talay was an invited section speaker at the International Congress of Mathematicians (ICM 2014), Seoul, Korea, in August.
- D. Talay gave a plenary conference at the Colloque Franco-roumain de Mathématiques Appliquées, Lyon, in August.
- D. Talay was an invited speaker at the NASPDE2014 workshop at EPFL, Lausanne, Switzerland, in September; at the 7th symposium on backward stochastic differential equations, Weihai, China, in June; at the Opening workshop 'Advances in stochastic analysis' of the Laboratory of Stochastic Analysis and its Applications at the Higher School of Economics, Moscow, Russia, in September.
- D. Talay gave a seminar at the Mathematics department of the university of Oxford in November.
- E. Tanré gave a talk at the HBP-Brainscales Meeting *Missing interactions in spike-based computation* in October.

## VIRTUAL PLANTS Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

#### 8.1.1.1. general chair, scientific chair

- Yann Guédon was the chair of the Agropolis workshop: Modeling plant development from the cellular to the organ scale (Montpellier, March 27-28th).

#### 8.1.1.2. member of the organizing committee

- Christophe Godin is a member of the scientific board of the FSPM series of conferences.
- Christophe Godin is co-organizing with Patrick Lemaire the "interdisciplinary spring school on plant and animal morphogenesis", gathering students and professors during one week of lectures, debates and practicals.

### 8.1.2. Scientific events selection

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

- Sarah Cohen-Boulakia is member of the following PC Conferences : SIGMOD 2015, ICDE 2015, DILS 2014 (Data integration in the life sciences), BPM 2015 (Business Process Management) and PC Workshops : TAPP (Theory and Practice of Provenance) 2014 and 2015, Sweet 2014 (Int. sigmod Workshop on scalable workflow enactment engines and technologies), BeyondMR 2015 (ICDT workshop on Algorithms and Systems for MapReduce and Beyond).

#### 8.1.2.2. reviewer

- Frédéric Boudon was referee for papers submitted to the Eurographics conference.
- Christophe Godin was referee for papers submitted to the SIGGRAPH conference.

### 8.1.3. Journal

#### 8.1.3.1. member of the editorial board

- Sarah Cohen-Boulakia is member of the Editorial board of the Journal of Data Semantics (Springer)
- Christophe Godin is an associate editor of the journal Frontiers in Plant Sciences
- Christophe Godin was a guest editor of the special issue of Annals of Botany on Functional-Structural Models of Plants (FSPMs).

#### 8.1.3.2. reviewer

- Frédéric Boudon was referee for papers submitted to Computers and Electronics in Agriculture, Agronomy and JZUS-C (Computers and Electronics).
- Yann Guédon reviewed a paper for the Journal de la Société Française de Statistique.
- Christophe Pradal reviewed a paper for the Journal Annals of Botany.
- Christophe Godin reviewed papers for PNAS, PLoS Computational Biology, Annals of Botany and reviewed a book on mathematical models of plant growth.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching



- Master Computer Science: Frédéric Boudon, Christophe Godin, Christophe Pradal, Benjamin Gilles [ICAR, LIRMM] and Loïc Barthe [IRIT, Toulouse], Geometric modelling, 30h, M2, University Montpellier 2, France.
- Master Biostatistics. Jointly with Montpellier 1, Montpellier 2 Universities and Agro-Montpellier. Yann Guédon teaches the stochastic modeling course <http://www.agro-montpellier.fr/um2/um1/masterbiostatistique>. This involves 21h of M2 classes.
- Christophe Godin gave a class of Master 2 on 'Phyllotaxis' in the Master of Biology at the University of Montpellier 2 (M2 - 4h).
- Christophe Godin and Yann Guédon participated to the module iPlant in the Master of bioinformatic and biomathematics (University Cheikh AntaDiop, Dakar, Sénégal) (M2 - 12h).
- Christophe Godin participated to an "Ecole Jeunes Chercheurs" organized by the Doctoral School SEVAB in Toulouse on "multiscale modeling of biological systems", 2h.
- Christophe Godin gave a series of 4 lectures on modeling in plant biology (10 hours) during 1 week at the Ecole of Physics des Houches on integrated structural cell biology.

### 8.2.2. Supervision

- PhD : Mathilde Balduzzi, "*Geometric modeling of plant canopy from 3D scanner images: Combined use of 3D information and reflected intensity for meshing*", Montpellier 2 University, 24 Nov. 2014, C. Godin.
- PhD : Jonathan Legrand, "*Vers une compréhension multi-échelle du développement floral: des réseaux auxiniques aux patrons de la dynamique cellulaire*", ENS Lyon, 7 Nov. 2014, A. Boudaoud, Y. Guédon.
- PhD : Pierre Fernique, "*A statistical modeling framework for analyzing tree-index data*", Montpellier 2 University. 10 Dec. 2014, Y. Guédon, J.-B. Durand.
- PhD : Maryline Lièvre, "*Analyse et modélisation multi-échelle de la croissance foliaire chez Arabidopsis thaliana: mise au point et test d'un pipeline d'analyses permettant une analyse intégrée du développement de la cellule à la pousse entière*", Montpellier SupAgro, 15 Dec. 2014, C. Granier, Y. Guédon.
- PhD in progress : Léo Guignard, "*Segmentation, visualization and mechanical modeling of embryonic development in the ascidian*", Montpellier 2 University, C. Godin, P. Lemaire.
- PhD in progress : Guillaume Garin, "*Développement d'un cadre générique de modélisation du couple plante – agent pathogène dans OpenAlea et d'une méthodologie de transfert vers un Outil d'Aide à la Décision*", ANRT Ciffre ITK, C. Robert, B. Andrieu, C. Pradal, C. Fournier.
- PhD in progress : Jean-Philippe Bernard, "*Adaptive mechanical model of early flower development based on 4D imaging*", Montpellier 2 University, C. Godin, B. Gilles.
- PhD in progress : Beatriz Moreno Ortega, "*Analysis and modeling of metabolic and hormonal controls of lateral root growth during their ontogeny. Application to the impact of water stress on the root architecture*", Montpellier SupAgro, B. Muller, Y. Guédon.
- PhD in progress : Sixtine Passot, "*Adaptation of millet root architecture : Phenotyping and spatio-temporal analysis of growing root systems*", Montpellier 2 University, L. Laplaze, Y. Guédon.

### 8.2.3. Juries

- Yann Guédon was a member of the Juries of his PhD students Pierre Fernique, Maryline Lièvre and Jonathan Legrand
- Frédéric Boudon was a member of the jury of the PhD defense of Jonathan Legrand, ENS Lyon.
- Christophe Godin was a member of the Jury of his PhD student Mathilde Balduzzi
- Christophe godin was a member of the Jury of the Habilitation (HDR) of Géraldine Morin ()

### **8.3. Popularization**

- Christophe Godin and Frédéric Boudon presented the Secret Code of Flowers in the context of an Inria initiative at the Science Festival in October.
- Christophe Godin gave two classes on Fractals in science at Lycée Pompidou (Castelnau-Le-Lez).
- Yann Guédon gave a class about the analysis of plant architecture for high-school students "Math C2+" organized by Montpellier 2 University.

## WIMMICS Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

#### 9.1.1.1. general chair, scientific chair

**Elena Cabrio** was scientific chair for the seminar *Frontiers ARG-NLP - Frontiers and Connections between Argumentation Theory and Natural Language Processing* (Bertinoro (Forli-Cesena), Italy, July 2014).

**Catherine Faron-Zucker** was scientific chair for the conference *Journées Francophones d'Ingénierie des Connaissances (IC)*.

**Serena Villata** was co-chair of the 2014 International Workshop on Semantic Web for the Law (SW4Law 2014), co-located with the 27th International Conference on Legal Knowledge and Information Systems JURIX-2014. She was co-chair of the 15th International Workshop on Computational Logic in Multi-Agent Systems CLIMA 2014, co-located with the European Conference on Artificial Intelligence ECAI 2014. She was co-chair of the Bertinoro Seminar on Frontiers and Connections between Argumentation Theory and Natural Language Processing.

**Nhan Le Thanh** was chair of the 2nd workshop e-PSP 2014, November 27, Sophia Antipolis <sup>0</sup>. He is the animator of the multidisciplinary e-PSP working group in Nice-Sophia Antipolis university on the theme of *Personalized eHealth*.

#### 9.1.1.2. member of the organizing committee

**Alain Giboin**: International Conference on the Design of Cooperative Systems (COOP 2014), and co-organizer of the COOP Workshop *Artefacts and Coordination Activities*, co-organizer of JMIC 2015, *Journée commune AFIA-ARCo pour la Modélisation de l'Irrationnel dans la Cognition : Modéliser l'Affectif* (Joint scientific day for the modeling of the irrational aspects of cognition: Modeling the Emotions).

### 9.1.2. Scientific events selection

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

**Elena Cabrio** was program chair of CLEF 2014 lab: *Multilingual Question Answering over Linked Data* (QALD-4), Sheffield, UK, September.

**Fabien Gandon** was program Chair for ESWC 2014, European Semantic Web Conference, and for TICE 2014, Technologies de l'Information et de la Communication pour l'Enseignement.

**Alain Giboin** was program committee associate chair of *Computer-Supported Cooperative Work and Social Computing* (CSCW) 2015.

**Andrea Tettamanzi** was program co-chair for the area of fuzzy systems for IBERAMIA, the latin American conference on artificial intelligence.

**Fabien Gandon** was program chair of SemWeb.Pro <sup>0</sup> and *Concours Semanticpédia*<sup>0</sup>, April 29th, Paris, .

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

**Michel Buffa**: European Semantic Web Conference (ESWC), WWW Demo program committee, WWW Workshop on Semantic Web Collaborative Spaces (SWCS), ESWC 2014 developers workshop (SEMDEV).

<sup>0</sup><http://epsp-2014.sciencesconf.org/>

<sup>0</sup><http://semweb.pro/semwebpro-2014.html>

<sup>0</sup><http://www.semanticpedia.org/blog/>

**Elena Cabrio:** Knowledge Engineering and Knowledge Management conference (EKAW PhD Symposium), the International Conference on Computational Linguistics (COLING 2014), the European Conference in Artificial Intelligence (ECAI), the Association for Computational Linguistics conference (ACL), and the Extended Semantic Web Conference (ESWC).

**Olivier Corby:** 19th International Conference on Knowledge Engineering and Knowledge Management (EKAW), Third International Workshop on Querying Graph Structured Data (GraphQ), Journées Francophones d'Ingénierie des Connaissances (IC), *Des Sources Ouvertes au Web de Données - SoWeDo* IC Workshop, International Conference on Conceptual Structures (ICCS), ISWC Developers Workshop, Journées Francophones sur les Ontologies, Reconnaissance de Formes et Intelligence Artificielle (RFIA).

**Catherine Faron-Zucker:** International Conference on Conceptual Structures (ICCS), International Conference on Knowledge Engineering and Ontology Development (KEOD), Symposium on Educational Advances in Artificial Intelligence (EAAI), International Conference on Computing and Communication Technologies (RIVF 2015), Journées Francophones d'Ingénierie des Connaissances (IC), Technologies de l'Information et de la Communication pour l'Enseignement (TICE), Knowledge and Systems Engineering (KSE), Encuentro Nacional de Ciencias de la Computación (ENC).

**Fabien Gandon:** Extraction et Gestion des Connaissances (EGC), Hypertext, Journées francophones d'Ingénierie des Connaissances (IC), International Semantic Web Conference (ISWC), Reconnaissance de Formes et Intelligence Artificielle (RFIA), International Conference on Web Intelligence (WI), Making Sense of Microposts (#MSM2014), 3rd Workshop on Semantic Web Collaborative Spaces (SWCS).

**Alain Giboin:** member of the steering committee of the COOP conference series (International Conferences on the Design of Cooperative Systems). He was PC member of: Symposium on "Communication multimodale et collaboration instrumentée. Regards croisés sur Énonciations, Représentations, Modalité" (COMMON), International Conferences on the Design of Cooperative Systems (COOP), European Semantic Web Conference (ESWC), Journées francophones d'Ingénierie des Connaissances (IC), International Conference on Semantic Systems (SEMANTiCS), Technologies de l'Information et de la Communication pour l'Enseignement (TICE), 10e Journées francophones Mobilité et Ubiquité (UbiMob).

**Isabelle Mirbel:** 25th International Conference on Advanced Information Systems Engineering (CAISE), IEEE Eighth International Conference on Research Challenges in Information Science (RCIS), 20th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ), 32e congrès INFORSID.

**Alexandre Monin:** European Semantic Web Conference (ESWC), World Wide Web Conference (WWW) - WebScience Track, Journées francophones d'Ingénierie des Connaissances (IC), Technologies de l'Information et de la Communication pour l'Enseignement (TICE).

**Nhan Le Thanh :** 4th International Conference on Model & Data Engineering (MEDI).

**Andrea Tettamanzi:** 15th International Workshop on Computational Logic in Multi-Agent Systems (CLIMA), Florida Artificial Intelligence Research Society Conference (FLAIRS 2015), Genetic and Evolutionary Computational Conference (GECCO), International Conference on Intelligent Agent Technology (WI IAT), Journées Francophones d'Ingénierie des Connaissances (IC), International Joint Conference on Artificial Intelligence (IJCAI), Parallel Problem Solving from Nature (PPSN).

**Serena Villata:** European Conference on Artificial Intelligence (ECAI), International Conference on Legal Knowledge and Information Systems (JURIX), European Conference on Semantic Web (ESWC).

### 9.1.2.3. reviewer

**Elena Cabrio:** member of the evaluation committee assigning the Best Dissertation Prize of ATALA (the French Natural Language Processing association).

**Olivier Corby:** European Conference on Semantic Web (ESWC).

**Catherine Faron-Zucker:** European Conference on Semantic Web (ESWC). She was reviewer of a follow up volume published at LNCS of eBISS 2014.

**Alain Giboin:** 26e Conférence francophone sur l'Interaction Homme-Machine (IHM), Computer Human Interaction (CHI 2015).

**Fabien Gandon:** European Conference on Social Intelligence (ECSI), International Conference on Semantic Systems (SEMANTiCS), World Wide Web Conference (WWW).

### 9.1.3. Journal

#### 9.1.3.1. member of the editorial board

**Isabelle Mirbel :** *Ingénierie des Systèmes d'Information* (Hermès).

#### 9.1.3.2. reviewer

**Elena Cabrio:** Journal of Web Semantics.

**Catherine Faron-Zucker:** International Journal of Human-Computer Studies, Revue d'Intelligence Artificielle.

**Fabien Gandon:** Intellectica, dossier *Philosophie du Web et Ingénierie des Connaissances*.

**Alain Giboin:** Revue d'Intelligence Artificielle. He was reviewer for the book *Communication and multi-activity at work*.

**Isabelle Mirbel:** Information and Software Technology Journal.

**Alexandre Monnin** was reviewer for *Literary and linguistic Computing* journal. He co-edited a special issue of the CNRS journal Intellectica entitled *Philosophy of the Web and Knowledge engineering* (with Gunnar Declerck). He wrote the introduction to this special issue (under the same title) and a paper with Pierre Livet (*Distinguishing/Making explicit. The ontology of the Web as an ontology of operations*).

**Andrea Tettamanzi:** IEEE Transactions on Systems, Man and Cybernetics – Systems and Information Sciences.

**Serena Villata:** Journal of Logic and Computation, Argument & Computation, ACM Transactions on Intelligent Systems and Technology.

### 9.1.4. Invited Speaker

**Fabien Gandon** was invited speaker at : ACM MEDES<sup>0</sup> on *Semantic and Social (Intra)Webs*, Summer School *Web Science and the mind*<sup>0</sup>, keynote on *Social and Semantic Web: Adding the Missing Links*, July 11th, WEBIST<sup>0</sup> (Keynote and Panelist), *Typed Graphs and Linked Data - Modelling and Analyzing Social-semantic Web Data*, Futur en Seine (Panelist), *25 ans du Web*, SophiaConf<sup>0</sup>, *Quand le lien fait sens*.

**Alexandre Monnin:**

presented a paper with Harry Halpin on *The history of decentralized knowledge from cybernetics to the Semantic Web and Google* at the ADAM ANR project international final workshop, at Mines ParisTech. He was invited to deliver a talk on *a new history of the Web* in Lyon, on October 20th during a conference organized at ENS LSHS by three labs (Datadata from ENSBA Lyon, NHumérisme from ENS Lyon and PAMAL from ESA Avignon) on media archeology. He participated in a two-day conference on the renewal of social science and Science and Technology Studies organized at Mines ParisTech (funded by DIM). He participated in a day-long training session as part of the MESR national priority, in Tours where he presented *An introduction to the Semantic Web*. He was invited to participate in the *Social Week* in Lille (November 23rd) alongside other researchers. He was invited to deliver a talk in Beirut (by visio conference) for a special session on *The philosophy of the Web*, on December 4th (other invitees include Peter Greenaway and Harry Halpin).

### 9.1.5. Scientific Society

**Catherine Faron-Zucker** is vice secretary of AFIA, Association Française d'Intelligence Artificielle.

<sup>0</sup><http://sigappfr.acm.org/MEDES/14/>

<sup>0</sup><http://www.summer14.isc.uqam.ca>

<sup>0</sup><http://www.webist.org/?y=2014>

<sup>0</sup><http://www.telecom-valley.fr/pagecmsblog/edition-2014>

**Alain Giboin** serves as scientific correspondent for Inria Sophia of COERLE (Inria Comité Opérationnel d'Evaluation des Risques Légaux et Ethiques), in tandem with the legal correspondent Sabine Landivier.

## 9.2. Teaching - Supervision - Juries

**Catherine Faron-Zucker** is responsible of Master track Web Science at Polytech'Nice UNS.

**Nhan Le Thanh** is coordinator of the bilateral scientific cooperation program (NiceCampus) between Univ. of Nice and Univ. Da Nang, Vietnam. He is director of the Computer Science department of IUT, Univ. Nice-Sophia Antipolis.

**Isabelle Mirbel** is Vice-dean of Science Department at University Nice-Sophia Antipolis.

**Andrea Tettamanzi** has coordinated the 3rd year of the *Licence* in Business Informatics (MIAGE) at the UFR Science of the Université Nice Sophia Antipolis (UNS). He acted as the coordinator of an Erasmus Mundus student and staff mobility project with East Asia (EMMA East 2011, EACEA Project no. 2010-2362), which closed this year, for which he wrote the final report for the European Commission.

### 9.2.1. Teaching

Master : **Michel Buffa**, Web 2.0, Web Services, HTML5, 40h, M2 MIAGE, UNS.

Master : **Michel Buffa**, Distributed Web development, 40h, M2, UNS.

Master : **Michel Buffa**, Java certification, 25h, M2, UNS.

Master : **Michel Buffa**, Plasticity of User Interfaces, HTML5, 8h, M2, UNS.

Master : **Michel Buffa**, New interaction means, HTML5, 8h, M2, UNS.

Master : **Michel Buffa**, Programmable Web, 40h, M2, UNS.

Master : **Michel Buffa**, Web technologies, 40h, M1, UNS.

Master : **Elena Cabrio**, Knowledge Engineering, 3h, M2 KIS, UNS.

Master : **Elena Cabrio**, Web Science, 3h, M2 IFI, UNS.

Master : **Olivier Corby**, **Catherine Faron Zucker**, **Fabien Gandon**, Semantic Web, 45h, M2, UNS.

Master : **Amosse Edouard**, Introduction to Android programming, 16h, M2 MBDS, UNS.

Master : **Amosse Edouard**, Distributed Architecture and Web Services, 20h, M2 MIAGE, UNS.

Master : **Fabien Gandon**, Knowledge Engineering, 4h, M2, UNS.

Master : **Alain Giboin**, Human-Computer-Interaction Design and Evaluation, 35h, M2, UNS.

Master : **Alain Giboin**, Task and Activity Analysis for HCI design and evaluation, 6h, M2 Sociology and Ergonomics of Digital Technologies, UNS.

Master : **Alain Giboin**, Economics and ICT: Ergonomics, 15h, M2 Economics and ICT, ISEM, UNS.

Master : **Isabelle Mirbel**, Project Management, 20h, M2 MIAGE, UNS.

Master : **Alexandre Monnin**, Knowledge Engineering, 3h, M2, UNS.

Master : **Alexandre Monnin**, REST, 6h, M2, UTT.

Master : **Serena Villata**, Knowledge Engineering, 3h, M2 KIS, UNS.

Master : **Serena Villata**, Web Science, 5h, M2 Miage, UNS.

Master : **Isabelle Mirbel**, Advanced databases, 78h, M1 MIAGE, UNS.

Master : **Isabelle Mirbel**, Requirement Engineering, 42h, M1 MIAGE, UNS.

Master : **Oumy Seye**, XML Technologies, 16h, M1 UNS.

Master : **Oumy Seye**, Systèmes Distribués, 16h, M1 UNS.

Master : **Andrea Tettamanzi**, Systèmes Distribués, 18h, M1 MIAGE, UNS.

Master : **Andrea Tettamanzi**, Concurrency and Parallelism, 18h, M1 International, UNS.

Master : **Andrea Tettamanzi**, Fuzzy Description Logics and Ontology Learning, in Ingénierie des connaissances, 10h, M2 Web, Polytech'Nice, UNS.

Licence : **Amel Ben Othmane**, Databases, 64h, L1 IUT, UNS.

Licence : **Isabelle Mirbel**, Databases, 63h, L3 MIAGE, UNS.

Licence : **Nhan Le Thanh**, Logical Data Models and languages, 24h, L3 Pro, UNS.

Licence : **Nhan Le Thanh**, Design and Development of DBMS services, 24h, L3 Pro. UNS.

Licence : **Nhan Le Thanh**, Advanced Databases, 105h, L3, UNS.

Licence : **Nhan Le Thanh**, Databases, 120h, L2, UNS.

Licence : **Oumy Seye**, Interaction Homme Machine, 50H, L1, IUT UNS.

Licence : **Oumy Seye**, Conception et Programmation orientées objet avancées, 30H, L2, IUT UNS.

Licence : **Andrea Tettamanzi**, Algorithmique – Programmation Objet – Python, 50h, L2, UNS.

Licence : **Andrea Tettamanzi**, Programmation Web Avancée (côté client), 39h, L2, UNS.

Licence : **Andrea Tettamanzi**, Web, 18h, L3 MIAGE, UNS.

#### E-learning

**Michel Buffa** HTML5, 6 weeks, <http://www.w3techcourses.com/>, W3C.

**Fabien Gandon, Catherine Faron Zucker, Olivier Corby** Semantic Web, 7 weeks, <http://www.france-universite-numerique.fr/>, Inria, France Université Numérique. The course was prepared in 2014 and will take place in 2015.

**Fabien Gandon** gave a course on Semantic Web at URFIST, Rennes, 6H.

**Fabien Gandon** gave a course on Semantic Web and Linked Data Graphs at Winter School on Complex Networks<sup>0</sup>, 3.5H.

### 9.2.2. Supervision

- PhD **Rakebul Hasan**, *Explanations for Social Semantic Web*, UNS, November 4th, Fabien Gandon;
- PhD **Maxime Lefrançois**, *Meaning-Text Theory Lexical Semantic Knowledge Representation : Conceptualization, Representation and Operationalization of Lexicographic Definitions*, Inria, UNS, June 24th, Fabien Gandon, Christian Boitet;
- PhD **Nicolas Marie**, *Linked Data Based Exploratory Search*, Alcatel Lucent Bell Labs, December 12th, Fabien Gandon, Myriam Ribière;
- PhD **Oumy Seye**, *Sharing and Reusing Rules for the Web of Data*, University Gaston Berger, Saint-Louis, Sénégal, December 15th, Olivier Corby, Catherine Faron Zucker, Fabien Gandon, Moussa Lo.
- PhD in progress : **Amel Ben Othmane**, *Temporal and Semantic Analysis of Information Retrieved from Short and Spatio-Temporal Messages in Social Networks*, UNS, Nhan Le Thanh.
- PhD in progress : **Papa Fary Diallo**, *Co-Construction of Community Ontologies and Corpus in a Limited Technological Environment*, Inria, UNS, UGB, Isabelle Mirbel, Olivier Corby, Moussa Lo.
- PhD in progress : **Amosse Edouard**, *Studies of Spatial Semantic Aspect, Real Time Filtering Mechanisms and Semantic Enrichment of Short Messages on Dynamic Spatio-Temporal Social Networks*, UNS, Nhan Le Thanh.
- PhD in progress : **Amine Hallili**, *Assistant Conversational Agents with Natural Language and Intuition*, UNS, Catherine Faron, Fabien Gandon.
- PhD in progress : **Zide Meng**, *Temporal and Semantic Analysis of Richly Typed Social Networks from User-Generated-Content Sites on the Web*, UNS, Fabien Gandon, Catherine Faron Zucker.

<sup>0</sup><http://www-sop.inria.fr/members/Giovanni.Neglia/complexnetworks14/>

- PhD in progress : **Thi Hoa Hue Nguyen**, *Semantic Mappings with a Dataflow-based scientific workflow : an approach to develop dataflow applications using knowledge-based systems*, Vietnam, Nhan Le Thanh.
- PhD in progress : **Tuan Anh Pham**, *Study and integrate the mechanism of workflow control in MVC (Model View Controller) architecture: design and implement an APM (Activity Process Management) platform for dynamic information systems on the networks*, UNS, Nhan Le Thanh.

#### 9.2.2.1. PhD in codirection with other teams

- PhD in progress : **Abdoul Macina**, *Distributed Query Processing over a Wide-area Network*, UNS Labex UCN@Sophia, Johan Montagnat (Modalis, I3S), Olivier Corby;
- PhD in progress : **Chaka Kone**, *Infrastructure logicielle/matérielle pour le suivi émotionnel et du comportement dans la maladie d'Alzheimer et les pathologies associées*, Cécile Belleudy from LEAT, Nhan Le Thanh.

#### 9.2.3. Juries

- **Catherine Faron-Zucker** was reviewer for PhD of Houda Khrouf: *Structuring and Mining Event-based Data in The Social Web*, June 30th, Télécom ParisTech.
- **Fabien Gandon** was jury member for PhD of Bruno Paiva Lima da Silva : *Data Access over Large Semi-Structured Databases - A Generic Approach Towards Rule-Based Systems*, January 13th, Univ. Montpellier 2, LIRMM.  
He was reviewer for PhD of Fabrizio Orlandi : *Profiling User Interests on the Social Semantic Web*, March 31st, National University of Ireland, Galway.  
He was reviewer for HdR of Fabian Suchanek : *Contributions à l'avancement des grandes bases de connaissances*, Université Pierre et Marie Curie, Paris, October 10th.  
He was jury member for HdR of Sébastien Ferré: *Reconciling Expressivity and Usability in Information Access From File Systems to the Semantic Web*, IRISA, University Rennes 1, November 6th.
- **Alain Giboin** was jury member of the PhD thesis of François Palaci, *Contribution ergonomique à l'analyse prospective d'innovations technico-organisationnelles dans les systèmes complexes*, Université Technologique de Troyes.
- **Isabelle Mirbel** was reviewer of PhD : Salma Najar, *Adaptation dynamique des services sensibles au contexte selon une approche intentionnelle*, Univ. Paris I - Panthéon-Sorbonne, April 2014.
- **Andrea Tettamanzi** was reviewer of the PhD thesis of Mustafa Al Bakri, *Uncertainty-Sensitive Reasoning over the Web of Data*, Université de Grenoble, December 15.  
He was president of the jury of Maxime Lefrançois, *Représentation des connaissances sémantiques lexicales de la Théorie Sens-Texte : COnceptualisation, représentation, et opérationnalisation des définitions lexicographiques*, Université Nice Sophia Antipolis, June 24.

#### 9.2.4. Master Internship

- **Raphael Boyer**: (September 2014 - September 2015), *Maintenance of DBpedia.fr; Addressing boolean and n-relation questions with QAKiS*, Master student of MIAGE, University of Nice-Sophia Antipolis.
- **Fabrice Jauvat**: *Identifier et extraire les noms d'entreprises dans des contenus web et les relier à DBpedia*, L3 UNS, supervisor: Elena Cabrio, May-August.
- **Ahmed Missaoui**: *Translation of data from raw data to semantic data enriched with further information extracted from external information sources*, Master KIS UNS, supervisors: Serena Villata, Elena Cabrio and Catherine Faron.
- **Yoann Moise**: *Booster la visualisation des réponses d'un système automatique de question-réponse à l'aide du contenu multimédia*, L3 UNS, supervisor: Elena Cabrio, May-August.



- **Emilie Palagi:** *Evaluation et reconception des IHM explicatives du moteur de recherche exploratoire Discovery Hub*, Master 2, Sociologie et Ergonomie des technologies numériques, UNS, supervisors: Alain Giboin and Nicolas Marie.
- **Vivek Sachidananda:** *QAKiS - multimedia answers visualization* (October 2013 - June 2014), Master student of Multimedia at Telecom ParisTech. Supervisor: Elena Cabrio, co-supervision with Dr. Raphael Troncy (Assistant Professor at EURECOM).
- **Molka Tounsi:** *Publishing Antique Zoology Data on the Web of Data*, Master KIS UNS, supervisors: Serena Villata, Elena Cabrio and Catherine Faron.

### 9.3. Popularization

#### **Fabien Gandon**

Meeting Inria-Industry *Technologies du Web : ce réseau de ressources numériques mondial*<sup>0</sup>, Lille.

Amadeus QLM Staff Briefing keynote, *Semantic Web*, February 14th.

Invited speaker on *Quel avenir pour le Web ?* in the cycle of conferences *Les enjeux du Web 3.0 dans le secteur culturel* - Ministry of Culture and Inria.

Scientific days at Inria : *Relations between Inria and W3C* and *Presentation of LabCom SMILK*.

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<sup>0</sup><http://www.inria.fr/centre/lille/innovation/rii/rii-technologies-du-web/presentation>

## **ZENITH Project-Team**

# 9. Dissemination

## 9.1. Promoting Scientific Activities

Participation in the editorial board of scientific journals:

- VLDB Journal: P. Valduriez.
- Journal of Transactions on Large Scale Data and Knowledge Centered Systems, R. Akbarinia.
- Distributed and Parallel Databases, Kluwer Academic Publishers: E. Pacitti, P. Valduriez.
- Internet and Databases: Web Information Systems, Kluwer Academic Publishers: P. Valduriez.
- Journal of Information and Data Management, Brazilian Computer Society Special Interest Group on Databases: P. Valduriez.
- Book series “Data Centric Systems and Applications” (Springer): P. Valduriez.
- Ingénierie des Systèmes d’Information, Hermès : P. Valduriez.
- Journal of Data Semantics (Springer): S. Cohen-Boulakia

Participation to the organization of conferences and workshops:

- Florent Masseglia was vice-chair of the international conference on data mining (ICDM 2014).
- Alexis Joly was chair of the LifeCLEF 2014 workshop (within CLEF 2014 conference) and co-organized the international workshop on Environmental Multimedia Retrieval (EMR 2014).
- Esther Pacitti organized the Mastodons International Workshop on “Big Data Management and Crowd Sourcing towards Scientific Data” in Montpellier in June.
- Patrick Valduriez co-organized (with Prof. Masaru Kitsuregawa, general director of NII, Japan) a workshop on big data sponsored by the French Embassy in Tokyo in November.

Participation in conference program committees :

- ACM SIGMOD Conf. 2014: R. Akbarinia, P. Valduriez (area chair), 2015: S. Cohen-Boulakia
- ADBIS East-European Conference on Advances in Databases and Information Systems: P. Valduriez (PC chair)
- VLDB 2015 : P. Valduriez (sponsor co-chair)
- ACM Symposium On Applied Computing (ACM SAC, Data Stream track), 2014: F. Masseglia
- Conférence Internationale Francophone sur l’Extraction et la Gestion de Connaissance (EGC), 2014: F. Masseglia
- IEEE Int. Conf. on Data Mining (ICDM), 2014: F. Masseglia (area chair)
- IEEE Ph.D. forum at ICDM, 2014: F. Masseglia
- Int. Conf. on Data Science and Advanced Analytics (DSAA), 2014: F. Masseglia
- Int. Conf. on Data Management Technologies and Applications (DATA), 2014: F. Masseglia
- Int. Conf. on Extending DataBase Technologies (EDBT), 2014: R. Akbarinia, A. Joly, F. Masseglia; 2015: E. Pacitti
- IEEE Int. Conf. on Data Engineering (ICDE) 2014: P. Valduriez, 2015: S. Cohen-Boulakia
- Data Integration in the Life Sciences (DILS) 2014: S. Cohen-Boulakia
- BPM 2015 (Business Process Management (BPM) 2015: S. Cohen-Boulakia
- ICDE 2015: Database and Semantic Web Workshop (DESWeb): P. Valduriez
- International Conference and Labs of the Evaluation Forum (CLEF), 2014: A. Joly

- Int. Workshop on Multimedia Analysis for Environmental Data (MAED), 2014: A. Joly
- Int. Workshop on Human Centered Event Understanding from Multimedia (HuEvent), 2014: A. Joly
- Int. Workshop Computer Vision for Analysis of Underwater Imagery (CVAU), 2014: A. Joly
- Workshop on Theory and Practice of Provenance (TAPP) 2014 et 2015: S. Cohen-Boulakia
- Sigmod Workshop on scalable workflow enactment engines and technologies (SWEET) 2014: S. Cohen-Boulakia
- ICDT workshop on Algorithms and Systems for MapReduce and Beyond (BeyondMR) 2015: S. Cohen-Boulakia

Reviewing in international journals :

- Knowledge and Information Systems (KAIS): F. Masegla
- Annals of Mathematics and Artificial Intelligence: F. Masegla
- Distributed and Parallel Databases: F. Masegla
- VLDB Journal: A. Joly
- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI): A. Joly
- IEEE transactions on multimedia: A. Joly
- Journal of Mathematical Imaging and Vision (JMIV): A. Joly
- Transactions on Knowledge and Data Engineering: A. Joly
- EURASIP Journal on Image and Video Processing: A. Joly
- Computer Vision and Image Understanding Journal: A. Joly
- ACM Trans. on Database Systems: E. Pacitti

Other activities (national):

- Zenith participates in the Hemera and Grid'5000 communities by: contributing to the definition of "Storage 5000" (we help defining the financial model for teams to have their data in Grid5000) ; participating to Hemera meetings (Florent Masegla gave a talk on "Pattern Mining from Big Data, meeting of Sept. 18, Nantes); and contributing to the prospective document of Grid5000.
- Patrick Valduriez co-organized the CEA-EDF-Inria Summer School on Big Data Analytics, 16-20 june, Cadarache, France, and gave a tutorial on "Distributed and Parallel Data Processing".
- Patrick Valduriez is the scientific manager for the Latin America zone at Inria Direction des Relations Internationales (DRI), Member of the Scientific Committee at Agence Nationale de la Recherche (ANR) - Défi 7 Information and communication society and Member of the Scientific Committee of the BDA conference.
- Alexis Joly was keynote speaker of the scientific days of the University of Lyon 1 (2014).
- Esther Pacitti gave an invited talk on "Profile Diversity for Query Processing using User Recommendations" at the Mastodons CrEDIBLE Workshop, Sophia-Antipolis, 9 October, and at the Seminar on Methods and Tools for Open Data, INRA, Montpellier, 18 December.

Other activities (international):

- Florent Masegla gave a talk on "Pattern Mining from Big Data", to the French-Japanese workshop on Big Data in Tokyo in November.
- Florent Masegla was chair of the panel on "Privacy and Big Data", for the French-Japanese workshop on Big Data at Tokyo in November.

- Patrick Valduriez gave several talks in international events: “CloudMdsQL: Querying Heterogeneous Cloud Data Stores with a Common Language” at Inria-Technicolor Workshop on Storage and Processing of Big Data, Rennes, 3-4 december 2014, and at Workshop on DB Consistency in the Cloud, LIP6, Paris, 15-16 september 2014; “Cloud & Bigdata: opportunities and risks”, New Approaches to Economic Challenges” at OECD-ECLAC Workshop, Paris, 19 may 2014; and “Indexing and Processing Big Data” at Colloquium Indexing for Scientific Big data, Paris, 15 january 2014.
- Esther Pacitti gave talks on search and recommendation at the MUSIC Workshops, COPPE-UFRJ, Rio de Janeiro, 8 August 2014, LNCC, Petropolis, Rio de Janeiro, 20 October 2014, and at the GDRI Workshop on Innovative Research Issues on Web Science, Toulouse, 10-12 September.
- Sarak Cohen-Boulakia gave invited talks at Universities of Pennsylvania, April, and Humboldt, Berlin, December.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Most permanent members of Zenith teach at the Licence and Master degree levels at UM2.

Reza Akbarinia:

Master Research: Large scale data management, 6h, level M2, Faculty of Science, UM2

Licence: Computing Tools, 54h, Level L3, Faculty of Science, UM2

Florent Masegla:

Master Research: Large scale data management, 3h, level M2, Faculty of Science, UM2

Summer School (EDF/Inria) on "Big Data Analytics": Pattern Mining from Big Data, 3h courses and 3h practical work, CEA, Cadarache.

Science Popularization: Jean-Philippe Bernard, Ph.D. student from doctoral school I2S is having a 30h doctoral module under Florent Masegla's supervision.

Esther Pacitti:

IG3: Database design, physical organization, 54h, level L3, Polytech' Montpellier, UM2

IG4: Networks, 42h, level M1, Polytech' Montpellier, UM2

IG4: Object-relational databases, 32h, level M1, Polytech' Montpellier, UM2

IG5: Distributed systems, virtualization, 27h, level M2, Polytech' Montpellier, UM2

Industry internship committee, 50h, level M2, Polytech' Montpellier

Master Research: Large scale data management, 4,5h, level M2, Faculty of Science, UM2

Didier Parigot:

Master Research: Large scale data management, 6h, level M2, Faculty of Science, UM2

Patrick Valduriez:

Master Research: Large scale data management, 12h, level M2, Faculty of Science, UM2

Professional: Distributed Information Systems, 50h, level M2, Capgemini Institut

Professional: XML, 40h, level M2, Orsys Formation

Alexis Joly:

Master Research: Large scale data management, 6h, level M2, Faculty of Science, UM2

### 9.2.2. Supervision

- PhD in progress: Mehdi Zitouni Closed Pattern Mining in a Massively Distributed Environment started Sept. 2014, Univ. Tunis, Advisor: Florent Masegla, co-advisor: Reza Akbarinia
- PhD in progress : Ji Liu, Scientific Workflows in Multisite Cloud, started oct. 2013, Univ. Montpellier 2, Advisors: Esther Pacitti and Patrick Valduriez
- PhD in progress : Saber Salah, Optimizing a Cloud for Data Mining Primitives, started nov. 2012, Univ. Montpellier 2, Advisor: Florent Masegla, co-advisor: Reza Akbarinia
- PhD in progress : Valentin Leveau, Supervised content-based information retrieval in big multimedia data, started April 2013, Univ. Montpellier 2, Advisor: Patrick Valduriez, co-advisor: Alexis Joly and Olivier Buisson
- PhD in progress : Djamel-Edine Yagoubi, Indexing Time Series in a Massively Distributed Environment, started October 2014, Univ. Montpellier 2, Advisors: Florent Masegla and Patrick Valduriez, co-advisor: Reza Akbarinia

### 9.2.3. Juries

Members of the team participated to the following Ph.D. committees:

- F. Masegla: Andres Moreno (University of Nice/Sophia-Antipolis, reviewer).
- R. Akbarinia: Maximilien Servajean (UM2), Jesús Camacho Rodriguez (Univ. Paris-Sud).
- E. Pacitti: Julien Gaillard (Univ. Avignon); Lourdes Angelica Martinez Medina (Univ. Grenoble).
- P. Valduriez: Li Feng (National University of Singapore, reviewer), Fan Quinfeng (UVSQ, reviewer), Pierpaolo Cincilla (UPMC Paris 6, reviewer), Radu Tudoran (ENS Rennes, chair), Laurent Amsaleg (HDR, U. Rennes 1).

## 9.3. Popularization

Today, one of the main questions in science popularization and computer science teaching at school in France is: "how to scale?". Some of our recent actions in the domaine are mainly oriented towards this goal of scaling.

F. Masegla has coordinated a national network of colleagues for promoting code learning. This action has given the "KidEtCode" studios of Inria, and the involved colleagues have benefited from two training sessions on the subject. After some successful organizations of studios by colleagues in the network, F. Masegla has written a series of interviews where they give a feedback on "howto" set up a KidEtCode studio, find partners and provide relevant content.

F. Masegla has given a 3 days training to elementary school teachers. This event, called "Graines de sciences" (Ecole de Physique des Houches, <http://www.fondation-lamap.org/fr/graines-de-sciences>) was funded by "La main à la pâte" (<http://www.fondation-lamap.org/>), a French foundation dedicated to science popularization based on manual activities. The goal, here, was to give a 3h training to groups of a dozen of teachers, by mainly using games and activities they would be able to transfer in their classrooms. In <http://binaire.blog.lemonde.fr/2014/11/14/comment-semer-quelques-graines-de-sciences>, we give our point of view on how helping teachers to bring computer sciences in their classroom is more than feasible.

Following this autumn school for teachers, "La main à la pâte" is now working with Inria (Gilles Dowek, Pierre-Yves Oudeyer, Florent Masegla and Didier Roy), "France-IOI" and the University of Lorraine in order to write a school book on computer science teaching.

Zenith participated to the following events in Montpellier, and therefore participated in the effort of relaunching science popularization activities in Montpellier:

- F. Masegla co-organized and co-animated the Inria's stand at "La fête de la science" (Montpellier), held by Genopolys (a science village).
- F. Masegla organized and animated several "Kid&Code" studios in the greater metropolitan area of Montpellier, involving the network of media libraries and the network of extracurricular activities. He also has proposed a two sessions training to media libraries activity leaders. The goal is to accompany media libraries in the region of Montpellier and help them until they are autonomous in this activity.

F. Masseglia is a member of the steering committee, and contributor, of interstices ( <https://interstices.info>), and a member of the scientific committee for the edition of “Datagramme”, the game from Inria on science popularization. He has participated to the two days training sessions on "science popularization" given by Claude Vadel in Paris, on Dec. 4 and 5, 2014.

F. Masseglia is a member of the management board of "Les Petits Débrouillards" in Languedoc-Roussillon. He also is the scientific responsible for schools visits in the Lirmm Laboratory.

A. Joly presented the PI@ntNet project and the associated iPhone app in several events including "Futur en Seine 2014" where it received the price of collaborative research, "les rencontres Inria/industries" , "LeWeb 2014", etc. Many news media articles, blogs, TV news and twitts also reported on PI@ntNet (typing "PI@ntNet" on Google is the best way to get most of them).

P. Valduriez gave a talk on “Cloud Big Data” at Université du Tiers Temps, Montpellier.