Activity Report 2016

Section Dissemination

AOSTE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Eric Madelaine is General Chair of the 11th International Symposium on Theoretical Aspects of Software Engineering (TASE'17), and Steering Committee Chair of the International Symposium on Formal Aspects of Components Systems (FACS 2017)
Liliana Cucu-Grosjen and Rob Davis are Steering Committee members of 3 conferences (RTSS, RTAS and RTNS) and 2 workshops (RTSOPS and WMC)
Julien Deantoni was chair of the 4th GEMOC workshop, held in conjunction with the 19th ACM/IEEE International Conference on Model Driven Engineering Languages and Systems

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Robert de Simone will be PC Chair for the forthcoming EMSoft 2017 conference edition.
Frédéric Mallet will be PC Chair for the forthcoming TASE 2017 conference edition.

9.1.2.2. Member of the Conference Program Committees

Robert de Simone: EmSoft 2016, FDL 2016.
Dumitru Potop-Butucaru: RTNS 2016, ACSD 2016
Yves Sorel: DASIP 2016, EMSOFT 2016
Julien Deantoni: MODELS 2016, CAL 2016, GEMOC 2016, EXE 2016 DSD 2016, MOMO 2016.
Liliana Cucu-Grosjean: RTAS2016, SIES 2016, RTNS2016
Fredéric Mallet: DATE 2016, DSD 2016, ERTS 2016, ICTERI 2016.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Yves Sorel: DASIP 2016, EMSOFT 2016

9.1.4. Invited Talks

Robert de Simone was invited Keynote Speaker at the international conference MeMoCode 2016 in Kanpur (India)

9.1.5. Leadership within the Scientific Community

Eric Madelaine and Frédéric Mallet are Council Members of the International Joint Laboratory of Trustworthy Software, Ministery of Education, China.

9.1.6. Scientific Expertise

Yves Sorel: Steering Committees of System Design and Development Tools Group of Systematic Paris-Region Cluster, and of Technologies and Tools Program of SystemX Institute for Technological Research (IRT)

9.1.7. Research Administration

Robert de Simone is Scientific Correspondant for the Inria/Safran collaboration programme, and (starting 2017) Deputy Director of the EDSTIC Doctoral School of Université Côte d'Azur.
Liliana Cucu-Grosjean is elected member of Inria Evaluation Commission.

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 Internationbal, UNS.

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

Master: Yves Sorel, Optimization of distributed real-time embedded systems, 36H, M2, University of Paris Sud

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

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, Finite State Machines, 24h, M1,Polytech'Nice, France.

Master : Julien Deantoni, Internship Management, 20h, M2, Polytech'Nice, France.

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, Conception Orientée Objet, 45h, L3, UNS.

Licence: Frédéric Mallet, Programmation Orientée Objet, 45h, L3, UNS.

Master: Frédéric Mallet, Programmation Avancée et Design Patterns, 45h, M1, UNS.

Master: Frédéric Mallet, Vérification temporelle et fonctionnelle, 24h, M1, UNS.

Master: Frédéric Mallet, Model-Driven Engineering, 24h, M1, UNS.

Master: Liliana Cucu, Distributed Databases and Statistics in Computer Science, 64h, U. Dunarea de Jos, Romania (Invited Professor)

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

9.2.2. Supervision

PhD: Matias Vara-Larsen, *Toward a formal and hierarchical timed model for concurrent heterogeneous model*, UNS, defended April 2016, 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, defended May 2016, supervised by Robert de Simone.

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: Yuanrui Zhang, ECNU-SEI/China, started Sep 2015, co-supervised by Frederic Mallet (joint supervision with Pr. Chen Yixiang(ECNU).

PhD in prgress: Hui (Vincent) Zhao, UNS, started February 2016, supervised by Frédéric Mallet, co-supervised by Ludovic Apvrille (Telecom ParisTech)

PhD in progress: Dongdong An, ECNU-SEI/China, started November 2016, co-supervised by R. de Simone, supervised by Jing Liu (ECNU).

PhD in progress: Cristian Maxim, *End to end constraints using probabilistic approaches*, UPMC, started on March 2014, supervised by Liliana Cucu

PhD in progress: Walid Talaboulma, *Probabilistic timing analysis in presence of dependences*, UPMC, started on November 2015, co-supervised by Liliana Cucu and Adriana Gogonel

PhD in progress: Salah Edinne Saidi, *Distributed real-time scheduling for the co-simulation of several control models*, University of UMPC-Paris-Sorbonne, started December 2014, co-supervised by Nicolas Pernet (IFPEN) and Yves Sorel.

PhD in progress: Keryan Didier, *Formal certification of real-time implementations*, Université Pierre et Marie Curie/EDITE, started November 2015, supervised by Dumitru Potop Butucaru.

PhD: Oleksandra Kulankhina, *A framework for rigorous development of distributed components: formalisation and tools*, UNS, defended October 2016, supervised by Eric Madelaine, co-supervised by Ludovic Henrio (UMR CNRS/UNS I3S).

PhD in progress: Salah Edinne Saidi, *Distributed real-time scheduling for the co-simulation of several control models*, University of UMPC-Paris-Sorbonne, started December 2014, co-supervised by Nicolas Pernet (IFPEN) and Yves Sorel.

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PhD: Oleksandra Kulankhina, *A framework for rigorous development of distributed components: formalisation and tools*, UNS, defended October 2016, supervised by Eric Madelaine, co-supervised by Ludovic Henrio (UMR CNRS/UNS I3S).

PhD: Vincent Kherbache, *Ordonnancement des migrations à chaud de machines virtuelles*, UNS, defended December 2016, supervised by Eric Madelaine, co-supervised by Fabien Hermenier (UMR CNRS/UNS I3S).

9.2.3. *Juries*

Robert de Simone: reviewer for the HDR of Xavier Thirioux (ENSIIEHT, Sept. 2016)

Dumitru Potop Butucaru: PhD reviewer for Pierre Guillou - Ecole des Mines de Paris. Nov. 2016

Julien Deantoni: PhD reviewer for Florent Latombe (ENSIIEHT)

Liliana Cucu-Grosjean: PhD reviewer for Guillaume Phavorin (ENSMA Poitiers, September 2016)

Liliana Cucu-Grosjean: PhD jury member for Abhilash Thekkilakattil (University of Ma̋lardalen, May 2016)

9.3. Popularization

Liliana Cucu-Grosjean has supervised the video production of a popularization video regarding the outcomes of the PROXIMA project. The video has been made available on Inria channels and all PROXIMA partners.

<p align="center">**AROMATH Project-Team**</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

Laurent Busé was the main organizor of the BIRS-CMO conference "*Computational Algebra and Geometric Modeling*" that took place at Oaxaca, Mexico, August 7-12 2016. He also co-organized with A. Dimca (Univ. Nice) a mini-workshop "*commutative algebra and applications*" that took place at the laboratory of mathematics of the university of Nice, September 22-23. He also co-organized a *week of studies maths-industry* (SEME) that took place at the CRI-SAM January 25-29.

Evelyne Hubert was part of the organizing committee of the collaborative research workshop *Women in Shape: Modeling Boundaries of Objects in 2- and 3-Dimensions* that took place June 6-12 at the Nesin Mathematics Village in Turkey.

8.1.2. Scientific Events Selection

8.1.2.1. Reviewer

Laurent Busé, Evelyne Hubert and Bernard Mourrain reviewed submissions for the conference ISSAC'16.

8.1.3. *Journal*

8.1.3.1. Member of the Editorial Boards

Bernard Mourrain is associate editor of the Journal of Symbolic Computation (since 2007) and of the SIAM Journal on Applied Algebra and Geometry (since 2016).

Ioannis Emiris is associate editor of the Journal of Symbolic Computation (since 2003) and of Mathematics in Computer Science (since 2016).

Evelyne Hubert is associate editor of the Journal of Symbolic Computation (since 2007) and became a reviewer for Mathematical Reviews (MathSciNet) this year.

8.1.3.2. Reviewer - Reviewing Activities

Laurent Busé wrote reviews for the following international journals: Journal of Symbolic Computation, Journal of Algebra, Computer Aided Geometric Design, Mathematical and Computational Applications, Graphical Models, Linear Algebra and its Applications, SIAM Journal on Applied Algebra and Geometry, Transactions on Graphics, the Quarterly Journal of Mathematics and Math. Zeitschrift. He also wrote reviews for the ISSAC 2016 and the Eurographics 2017 international conferences.

Evelyne Hubert reviewed for the journal *Mathematics of Computation*, the *Journal of Symbolic Computation*, the *Journal of Pure & Applied Algebra*, the journal *Mathematics in Computer Science*, and Springer book series *Texts and Monographs in Symbolic Computation*,

Bernard Mourrain reviewed for the journal *Advances in Computational Mathematics*, the *Journal of Algebra and Applications*, the journal *Collectanea Mathematica*, the journal *Computer Aided Design*, the journal *Computer Aided Geometric Design*, the journal *Foundations of Computational Mathematics*, the *Journal of Pure and Applied Algebra*, the journal *SIAM Journal on Optimization*, the *Transactions on Mathematical Softwares*.

8.1.4. Invited Talks

Laurent Busé was invited to give a talk at the Inria project-team ARIC seminar, May 26, at the conference "Computational Algebra, Algebraic Geometry and Applications", in honor of Alicia Dickenstein, that took place at Buenos Aires, Argentina, August 1-3 2016, at the *H2020 day* organized at the CRI-SAM to give a testimony on the writing of the successful MCA-ITN proposal ARCADES.

Ioannis Emiris gave an invited talk at ACM International Symposium on Symbolic & Algebraic Computation, Waterloo, Canada, July 2016.

Evelyne Hubert was invited to give a talk at the *Computational Mathematics Colloquium* at University of Waterloo, Canada (January 2016); at the workshop on *Théorie Effective des Invariants*, at the Insitut de Mathématiques de Marseille (June 2016); at the workshop on *Symmetry, Invariants, Reduction* in RWTH Aachen University (September 2016); at the BIRS-CMO conference *Sparse Interpolation, Rational Approximation and Exponential Analysis* in Oaxaca, Mexico (November 2016). She was also invited (and supported) to partitipate to the American Institute of Mathematics workshop *Algebraic Vision* in San Jose, California (May 2016); and the BIRS-CMO conference *Computational Algebra and Geometric Modeling* in Oaxaca, Mexico (August 2016); and to the CIRM conference *Multivariate Approximation and Interpolation with Applications* where she presented a poster (September 2016).

Bernard Mourrain was invited to give a talk at the MFO workshop *Mathematical Foundations of Isogeometric Analysis* Oberwolfach, Germany (February 2016), at the conference "Computational Algebra, Algebraic Geometry and Applications", in honor of Alicia Dickenstein, that took place at Buenos Aires, Argentina, August 1-3 2016, at the BIRS-CMO conference *Computational Algebra and Geometric Modeling* in Oaxaca, Mexico (August 2016), at the CIRM conference *Multivariate Approximation and Interpolation with Applications* Marseille, France (September 2016), at the BIRS-CMO conference *Sparse Interpolation, Rational Approximation and Exponential Analysis* in Oaxaca, Mexico (November 2016).

8.1.5. Leadership within the Scientific Community

Evelyne Hubert, in collaboration with Géraldine Morin, lead a collaborative research group at the workshop *Women in Shape: Modeling Boundaries of Objects in 2- and 3-Dimensions*.

8.1.6. Scientific Expertise

Bernard Mourrain was member of the committee of the HCERES for the evaluation of IRMAR, University of Rennes.

Evelyne Hubert was a member of the admissibility jury for the *Chargé de Recherche* position in CRI-Rennes Bretagne Atlantique.

Laurent Busé was a member of the CRI-SAM committee "Actions Marquantes", March 25. He is also a board member of the (national) labex AMIES (CRI-SAM representative) and a member of the steering committee of the MSI, *Maison de la Modélisation, de la Simulation et des Interactions* of the University Côte d'Azur.

8.1.7. Research Administration

Evelyne Hubert is an elected member of the Inria national *Commission d'Evaluation*.

Laurent Busé is an elected member of the CPRH (Commission Permanente de Ressources Humaines) of the math laboratory of the university of Nice. He was also appointed Inria representative at the "Academic Council" and the "Research Commission" of the university of Nice.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Ioannis Emiris, Discrete Math, 53, L1, NKU Athens, Greece.

Licence : Ioannis Emiris, Soft development for algorithmic problems, 53, L3, NKU Athens, Greece

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

Master : Laurent Busé, Geometric Modeling, 27h ETD, M2, EPU of the university of Nice-Sophia Antipolis.

8.2.2. Supervision

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: Ahmed Blidia, New geometric models for the design and computation of complex shapes. ARCADES Marie Skłodowska-Curie ITN, started in September 2016, supervised by Bernard Mourrain.

PhD in progress: Jouhayna Harmouch, Low rank structured matrix decomposition and completion. Cotutelle Univ. Liban, started in November 2015, cosupervised by Houssam Khalil and Bernard Mourrain.

PhD in progress: Anna Karasoulou, Exploiting structure in polynomial systems. Excellence awards (Greece), started in November 2011, supervised by Ioannis Emiris.

PhD in progress: Ioannis Psarros, Geometric approximation algorithms. Thales network (Greece), started in May 2015, supervised by Ioannis Emiris.

PhD in progress: Evangelos Bartzos, Modeling motion. ARCADES Marie Skłodowska-Curie ITN, started in May 2016, supervised by Ioannis Emiris.

PhD in progress: Evangelos Anagnostopoulos, Geometric algorithms for massive datasets. Started in May 2016, supervised by Ioannis Emiris.

PhD in progress: Clement Laroche, Change of representation in CAGD. ARCADES Marie Skłodowska-Curie ITN, started in Nov. 2016, supervised by Ioannis Emiris.

PhD in progress: Alvaro-Javier Fuentes-Suarez, Skeleton-based modeling of smooth shapes. ARCADES Marie Skłodowska-Curie ITN, started in October 2016, supervised by Evelyne Hubert.

Master in Computer Science: Paul Görlach, University of Bonn. Rotational invariants of ternary quartics. CRI-SAM tranverse action AROMATH-ATHENA. August-December 2016, supervised by Evelyne Hubert.

PhD in progress: Fatmanur Yildirim, Distances between points, rational Bézier curves and surfaces by means of matrix-based implicit representations. ARCADES Marie Skłodowska-Curie ITN, started in October 2016, supervised by Laurent Busé.

8.2.3. Juries

Evelyne Hubert was a referee for the PhD of Louis Dumont entitled *Algorithmes rapides pour le calcul symbolique de certaines intégrales de contour à paramètre*, Université Paris-Saclay, École Polytechnique, Inria Saclay Île-de-France.

Bernard Mourrain was a referee for the PhD of Emil Horobet, entitled *Tensors of low rank*, Univ. of Technology, Eindhoven, Netherland.

Laurent Busé was a referee for the PhD of Thibaut Verron entitled *Régularisation du calcul de bases de Gröbner pour des systèmes avec poids et déterminantiels, et application en imagerie médicale*, Université Pierre et Marie Curie, Paris, France, September 26.

<p style="text-align:center;color:red;">**DATASHAPE Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Jean-Daniel Boissonnat and Frédéric Chazal co-organized the joint GUDHI-TOPDATA workshop in Porquerolles, October 17-20.

Frédéric Chazal co-organized the SMAI-SIGMA Conference 2016 at Luminy (CIRM) in November.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Maks Ovsjanikov: Paper co-chair of the Symposium on Geometry Processing 2016 (SGP 2016).

10.1.2.2. Member of the Conference Program Committees

Frédéric Chazal: Symposium on Geometry Processing 2016 (SGP 2016).

Steve Oudot: Symposium on Geometry Processing 2016 (SGP 2016).

Marc Glisse: Symposium on Computational Geometry (SoCG 2016).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

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

Frédéric Chazal is a member of the Editorial Board of *SIAM Journal on Imaging Sciences*, *Discrete and Computational Geometry (Springer)*, *Graphical Models (Elsevier), and Journal of Applied and Computational Topology (Springer)*.

Steve Oudot is a member of the Editorial Board of *Journal of Computational Geometry*.

10.1.4. Invited Talks

Frédéric Chazal, ACCAPT conference, Aalborg, Danmark, April 2016.

Frédéric Chazal, Joint Mathematical Meetings, Seattle, USA, January 2016.

Frédéric Chazal, Séminaire Parisien de Géométrie Algorithmique, Paris, October 2016.

Frédéric Chazal, 9th International Conference of theERCIM WG on Computational and Methodological Statistics, December 2016.

Steve Oudot, ACCAPT conference, Aalborg, Danmark, April 2016.

Steve Oudot, Workshop SIGMA 2016, CIRM, France, November 2016.

Steve Oudot, Applied Topology Seminar, Brown University, USA, November 2016.

Steve Oudot, Topology and Neuroscience Seminar, Princeton University, USA, November 2016.

10.1.5. Scientific Expertise

Frédéric Chazal was a member of the ANR committee, CES 40 (Mathematics and Computer Science).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master : Frédéric Chazal, Analyse Topologique des Données, 30h eq-TD, Université Paris-Sud, France.

Master : Jean-Daniel Boissonnat and Marc Glisse, Computational Geometry Learning, 36h eq-TD, M2, MPRI, France.

Doctorat : Frédéric Chazal and Bertrand Michel, An introduction to Topological Data Analysis, 18h eq-TD, Universitad Autonoma de Barcelona, Spain.

Master : Steve Oudot, Topological Data Analysis, 45h eq-TD, M1, École Polytechnique, France.

Master : Steve Oudot and Frédéric Cazals, Geometric Methods for Data Analysis, 30h eq-TD, M1, École Centrale Paris, France.

Master : Jean-Daniel Boissonnat, Winter School on Computational geometry and Topology, Inria Sophia Antipolis Méditerrannée, January 2016.

Doctorat : Steve Oudot, École Mathématique en Afrique on *Topologie différentielle, géométrie algébrique et applications*, La Marsa, Tunisia, March-April 2016.

Doctorat : Steve Oudot, Summer School on Mathematical Methods for High-Dimensional Data Analysis, Technical University of Munich, Germany, July 2016.

10.2.2. Supervision

PhD: Thomas Bonis, Statistical Learning Algorithms for Geometric and Topological Data Analysis, December 1st, 2016, Frédéric Chazal.

PhD : Mael Rouxel-Labbé, Génération de maillages anisotropes, december 16, 2016, Jean-Daniel Boissonnat.

PhD: Ruqi Huang, Algorithms for topological inference in metric spaces, December 14, 2016, Frédéric Chazal.

PhD in progress: Eddie Aamari, A Statistical Approach of Topological Data Analysis, started September 1st, 2014, Frédéric Chazal (co-advised by Pascal Massart).

PhD in progress: Claire Brécheteau, Statistical aspects of distance-like functions , started September 1st, 2015, Frédéric Chazal (co-advised by Pascal Massart).

PhD in progress: Bertrand Beaufils, Méthodes topologiques et apprentissage statistique pour l'actimétrie du piéton à partir de données de mouvement, started November 2016, Frédéric Chazal (co-advised by Bertrand Michel).

PhD in progress: Mathieu Carrière, Topological signatures for geometric data, started November 1st, 2014, Steve Oudot.

PhD in progress: Jérémy Cochoy, Decomposition and stability of multidimensional persistence modules, started September 1st, 2015, Steve Oudot.

PhD in progress: Nicolas Berkouk, Categorification of topological graph structures, started November 1st, 2016, Steve Oudot.

PhD in progress: Alba Chiara de Vitis, Concentration of measure and clustering.

PhD in progress: Siargey Kachanovich, Approximate algorithms in higher dimensional geometry.

PhD in progress: François Godi, Data structures and algorithms for topological data analysis and high dimensional geometry.

10.2.3. Juries

Frédéric Chazal was a member (and reviewer) of the PhD defense committee of Mariia Fodetenkova (Inria Nancy).

<p style="text-align:center">**MARELLE Project-Team**</p>

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Selection

7.1.1.1. Chair of Conference Program Committees

Yves Bertot is program co-chair, with Viktor Vafeiadis from MPI-SWS in Germany for the ACM conference *Certified Programs and Proofs* (CPP) to be held in Paris in January 2017. Most of the editorial activities took place in 2016.

7.1.1.2. Member of the Conference Program Committees

- Yves Bertot and Laurent Théry were members of the conference program committee for the conference *Interactive Theorem Proving* (ITP) and *User-Interfaces for Theorem Provers* (UITP).
- Cyril Cohen was a member ot the program committee for the 8th Coq workshop.

7.1.1.3. Reviewer

Cyril Cohen was reviewer for the conferences CSL 2016 and ITP 2016. Laurent Théry was a reviewer for the conferences TACAS'17 and CPP'17. Benjamin Grégoire was a reviewer for TACAS. Benjamin Grégoire was a reviewer for PoPL 2017.

7.1.2. Journal

7.1.2.1. Reviewer - Reviewing Activities

Cyril Cohen was a reviewer for *Journal of Automated Reasoning*. Laurent Théry was a reviewer for *Journal of Automated Reasoning* and *Journal of Symbolic Computation*. Yves Bertot was a reviewer for *Journal of Automated Reasoning* and *Computational Geometry: Theory and Applications*.

7.1.3. Invited Talks

Laurent Théry gave an invited talk at MAP'16 (*Mathematics, Algorithms, and Proofs*).

Cyril Cohen gave an invited talk at the ELFIC seminar on the Paris-Saclay campus (Elfic stands for *Éléments finis formellement vérifiés*).

7.1.4. Leadership within the Scientific Community

Yves Bertot and Maxime Dénès have been working on setting up a Consortium of users for the Coq system. The consortium should start in the early days of 2017. Yves Bertot, Enrico Tassi, and Maxime Dénès were invited to the kick-off meeting of the *Expedition in Computing* entitled "the science of deep specification" funded by the NSF foundation, along with three other developers from the pi.r2 project-team, as expert developers of the Coq system. This kick-off meeting took place in June.

7.1.5. Scientific Expertise

- Laurent Théry evaluated projects for the French national agency for research funding (ANR),

7.1.6. Research Administration

- José Grimm is a member of the local committee for Hygiene and Work safety,
- Cyril Cohen served several times as secretary for the local committee of project-team leaders,
- Benjamin Grégoire is a member of the committee on computer tools usage (CUMI) for the Sophia-Antipolis Méditerranée Inria center.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence : Cyril Cohen, mathematics oral exam, 30 hours, Classes préparatoires aux grandes écoles

Master : Laurent Théry gave a course at ENS Lyon (9 hours), a course at École des Mines (3 hours), and a course at University de Marseille (3 hours). Yves Bertot gave a one-week introductory course on Coq at University of Nice (21 hours). Enrico Tassi organized a one-week advanced course on Coq and Mathematical Components for students of ENS Lyon and University of Nice (30 hours). There were two instances of this school, in January and in November, teachers for this course were Enrico Tassi, Yves Bertot, Cyril Cohen, Laurence Rideau, and Laurent Théry.

7.2.2. Supervision

PhD in progress : Boris Djalal, started in October 2015, supervised by Yves Bertot and Cyril Cohen

PhD in progress : Cécile Baritel-Ruet, started in October 2016, supervised by Yves Bertot and Benjamin Grégoire

PhD in progress : Sophie Bernard, started in October 2016, supervised by Yves Bertot and Laurence Rideau

PhD in progress : Damien Rouhling, started in October 2016, supervised by Yves Bertot and Cyril Cohen.

7.2.3. Juries

Yves Bertot was member of the defense committee for the thesis of Jacques-Henri Jourdan.

7.3. Popularization

Laurent Théry gave talks in the context of "Fête de la science".

<p style="text-align:center;color:red;font-weight:bold;">ACUMES Project-Team</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- P. Goatin was member of the scientific committee of *"PED2016 - Conference on Pedestrian and Evacuation Dynamics"*, Hefei (China), October 2016.

- P. Goatin is member of the the scientific committee of the annual seminar CEA-GAMNI *"Numerical fluid-mechanics"*.

- A. Habbal was member of the scientific committee of the *CARI 2016 Colloque Africain sur la Recherche en Informatique et Mathematiques Appliquees*, Tunis (Tunisia) 10-14 October 2016.

9.1.1.2. Member of the Organizing Committees

- P. Goatin organized the Workshop *"TRAM3 Terminus"*, Sophia Antipolis (France), January 2016.

- R. Duvigneau was co-organizer of the mini-symposium "Surrogate Models for Efficient Robust Optimization and Data Assimilation in Computational Mechanics", part of SIAM Conference on Uncertainty Quantification, Lausanne, April 2016.

9.1.2. Journal

9.1.2.1. Reviewer - Reviewing Activities

- J.-A. Désidéri has made reviews for the *International Journal of Information Technology & Decision Making*, and *Comptes Rendus de l'Académie des Sciences*,

- R. Duvigneau is a reviewer for the following international journals : Computers & Fluids, International Journal for Numerical Methods in Fluids, Computer Methods for Applied Mechanical Engineering, Computer Aided Geometric Design, Applied Mathematics & Mechanics, Engineering Optimization.

- 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 ; Journal of Structural and Multidisciplinary Optimization ; Journal of Math. Model. Nat. Phenom. ; International Journal of Mechanical Sciences ; Modern Applied Science ; Asian Journal of Control ; Applied Mathematics and Computation ; Computer Methods in Applied Mechanics and Engineering ; Bulletin of Mathematical Biology ; Journal of Pure and Applied Functional Analysis ; AMS reviews.

9.1.3. Invited Talks

- J.-A. Désidéri: ONERA Palaison, April 2016.
  Invited talk: *"Multiple Gradient Descent Algorithm for Multiobjective Optimization"*,

- R. Duvigneau: Ecole Navale, Brest, January 2016.
  Invited talk: *"The Sensitivity Equation Method for optimization, fast estimation of neighboring solutions and uncertainty propagation".*

- R. Duvigneau: Ecole des Mines Paris-Tech, Sophia-Antipolis, June 2016.
  Invited talk: *"Optimization of complex fluid systems using a statistical learning strategy".*

- P. Goatin: EU-US Frontiers of Engineering Symposium, Helsinki (Finland), October 2016.
  Session: "The road to future urban mobility".
  Invited talk: *"Traffic management by macroscopic models".*

- P. Goatin: SIMAI 2016 - XIII Congress of the Italian Society of Industrial and Applied Mathematics, Milano (Italy), September 2016.
  Mini-symposium: "Analysis and numerics for the modeling through conservation laws".
  Invited talk: *"A Riemann Solver at junctions preserving priorities".*
  Mini-symposium: "Mean-field models in pedestrian dynamics".
  Invited talk: *"Non-local macroscopic models of traffic flow".*

- P. Goatin: 11th Meeting on Nonlinear Hyperbolic PDEs and Applications, Trieste (Italy), June 2016.
  Invited talk: *"Conservation laws with local constraints arising in traffic modeling".*

- P. Goatin: SIAM Conference on Uncertainty Quantification, Lausanne (Switzerland), April 2016.
  Mini-symposium: "Data-driven methods for uncertainty quantification".
  Invited talk: *"Parametric uncertainty in macroscopic traffic flow models calibration from GPS data".*

- P. Goatin: Workshop "Analysis and control on networks: trends and perspectives", Padova (Italy), March 2016.
  Invited talk: *"Optimization based control of networks of discretized PDEs: Application to road traffic management".*

- P. Goatin: ANR HJNet 5th Meeting, Tours (France), January 2016.
  Invited talk: *"Conservation laws with local and unilateral flux constraints".*

- A. Habbal: IX NPU-UTC Sino-French Seminar on Virtual Prototyping for Design and Fabrication, 11-15 April 2016.
  Invited talk: *"Pareto optimality and game equilibria, two approaches to solve multiobjective optimization".*

- A. Habbal: Lorentz Center workshop SAMCO: Surrogate-Assisted Multi-Criteria Optimization, February 29 - March 4, 2016.
  Invited senior participant: *"Many objectives and selection algorithms".*

9.1.4. Scientific Expertise

J.-A. Désidéri has been a consultant for ONERA (since 2007) at DMFN-Châtillon (Dept. of Numerical Fluid Mechanics) and DAAP-Meudon (Dept. of Applied Aerodynamics), and also directs a thesis at DADS-Châtillon (Dept. of Aeroelasticity and Structural Dynamics).

9.1.5. Research Administration

- P. Goatin is member of BCP ("Bureau du Comité des Projets") at Inria Sophia Antipolis Méditerranée.

9.2. Teaching - Supervision - Juries

9.2.1. 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: 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 and R. Duvigneau).

Master: Concurrent design in building structures, M2 Students Project, Ecole Polytechnique Universitaire (EPU), Nice Sophia Antipolis (A. Habbal).

9.2.2. Supervision

PhD in progress : Cédric Durantin, *Meta-modelling for the optimization of nanophotonic devices*, October 2014. Supervisors : J.-A. Désidéri and A. Glière (CEA LETI).

PhD in progress : Quentin Mercier, *Multicriterion optimization under uncertainties : the stochastic multiple gradient approach. Application to aerelasticity*, October 2015. Supervisors : J.-A. Désidéri and F. Poirion.

PhD in progress : Maroua Mokni, *Development, analysis and numerical evaluation of MGDA*, October 2013. Supervisors : J.-A. Désidéri and M. Ayadi (LAMSIN-ENIT, Tunisia).

PhD in progress : Sosina Mengistu-Gashaw (EURECOM), *Mobility and connectivity modelling of 2-wheels traffic for ITS applications* , March 2015. Supervisors: P. Goatin and J. Härri (EURECOM).

PhD in progress: Boutheina Yahyaoui, *Validation of mecano-chemo-biological models for cell sheet wound closure*, Jan 2013, Supervisors: A. Habbal, Mekki Ayadi (LAMSIN, ENIT, Tunis)

PhD in progress: Rabeb Chamekh, *Game strategies for thermo-elasticity*, Jan 2015, Supervisors: A. Habbal, Moez Kallel (LAMSIN, ENIT, Tunis)

PhD in progress: Kelthoum Chahour, *Modeling and optimal design of coronary angioplastic stents*, Nov 2015, Supervisors: A. Habbal, Rajae Aboulaich (LERMA, EMI, Rabat)

PhD in progress: A. Azaouzi, *isogeometric analysis methods for hyperbolic systems*, ENIT (Tunisia) / University of Nice - Sophia Antipolis, Oct. 2013, supervisors: R. Duvigneau and M. Moakher (ENIT).

PhD in progress: M. Sacher, *advanced methods for numerical optimization of yacht performance*, Ecole Navale , Oct. 2014, supervisors: R. Duvigneau, O. Le Maitre (LIMSI), F. Hauville and J.-A. Astolfi (Ecole Navale).

PhD in progress: C. Fiorini, *Sensitivity equation method for hyperbolic systems*, Univ. Versailles, Oct. 2014, supervisors: R. Duvigneau, C. Chalons (Univ. Versailles).

PhD in progress : Nicolas Laurent-Brouty (ENPC), *Macroscopic traffic flow models for pollution estimation and control*, September 2016. Supervisor: P. Goatin.

PhD in progress : Emanuele Marrone (Université de Nice Sophia Antipolis), *Conservation laws with non- local flux*, October 2016. Supervisor: P. Goatin .

PhD in progress : Nikodem Dymski (Maria Curie Sklodowska University & Université de Nice Sophia Antipolis), *Conservation laws in the modeling of collective phenomena*, October 2016. Supervisors: P. Goatin and M.D. Rosini (UMCS).

9.2.3. Juries

- P. Goatin was member of the committee of C. Perrin's PhD thesis *"Modèles hétérogènes en mécanique des fluides : phénomènes de congestion, écoulements granulaires et mouvement collectif"*, Université de Grenoble, July 8th, 2016.

- P. Goatin was referee of R. Sainct's PhD thesis *"Etude des instabilités dans les modèles de trafic"*, Université Paris-Est, September 22th, 2016.

- P. Goatin was member of the committee of M. Campanella's PhD thesis *"Microscopic modelling of walking behaviour"*, Delft University of Technology, November 21st, 2016.

- R. Duvigneau was member of the committee of Kevin Kasper's PhD thesis *"Apprentissage d'estimateurs sans modèle avec peu de mesures - Application à la mécanique des fluides"*, ENS Cachan, October 12th, 2016.

<h1 style="color:red; text-align:center">APICS Project-Team</h1>

8. Dissemination

8.1. Promoting Scientific Activities

- L. Baratchart gave a talk at the Shanks workshop "Mathematical methods for inverse magnetization problems arising in geosciences", organized at Vanderbilt University (Nashville, USA), March 2016, a talk at "SEAM", organized by the AMS at USF (Tampa, USA), a talk at "AppOpt" organized by ICIMAF in Havana (Cuba) http://gama.uc3m.es/claroline1811/courses/APPOPT16/document/index.html and a talk at ' SIGMA'2016 (Signal-Image-Géométrie-Modélisation-Approximation). http://programme-scientifique.weebly.com/1506.html, organized by the SMAI at CIRM (Luminy, France).

- S. Chevillard gave a talk at the Shanks workshop "Mathematical methods for inverse magnetization problems arising in geosciences", organized at Vanderbilt University (Nashville, USA), March 2016.

- B. Hanzon gave a presentation at the CDC 2016 pre-workshop on "realization theory and its role in system identification" (joint work with M. Olivi and R. Peeters) https://sites.google.com/site/mihalypetreczky/workshop-cdc-2016, Las-Vegas, USA, December 11.

- J. Leblond presented a communication at the above-mentioned Shanks Workshop, at the conference PICOF 2016 (Problèmes Inverses, Contrôle, Optimisation de Formes, Autrans, France, June 1-3 2016, http://picof.sciencesconf.org/), and at the seminar Mécanique, Modélisation Mathématique et Numérique, LMNO, Univ. Caen, France, December 5, 2016.

- M. Olivi gave a talk at the conference SIGMA'2016 (Signal-Image-Géométrie-Modélisation-Approximation). http://programme-scientifique.weebly.com/1506.html, Marseille, France, October 30-November 4.

- F. Seyfert presented a communication at the 22nd International Symposium on Mathematical Theory of Netowrks and Systems https://sites.google.com/a/umn.edu/mtns-2016/, USA, Mineapolis, July 12-15, 2016.

- K. Mavreas presented a communication at the Conference Advances in Lunar Magnetism: from Paleomagnetism to Dynamos, Cargèse, France, June 1-3, 2016, http://maglune.cerege.fr/?page_id=416. Together with C. Papageorgakis, they participated to the Semaine d'Étude Mathématiques-Informatique Entreprises, Grenoble, France, October 24-28, 2016. Grenoble.

- C. Papageorgakis presented a communication at the Conference PICOF 2016 and at the Science Day in BESA company, Munich, Germany, December 15, 2016.

- D. Ponomarev presented a communication at the above-mentioned Shanks Workshop and a poster at the Conference PICOF 2016.

- D. Martinez Martinez gave a seminar at the department ELEC of the Vrije Uniniversiteit of Brussels (sept. 18) and at the Universidad Polit´ecnica de Cartagena, ETSI (December 14). He gave a talk at the 2016 IEEE International Conference on Antenna Measurements & Applications, Syracuse (NY), USA, October 23-27.

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

K. Mavreas and C. Papageorgakis were among the PhD students in charge of the PhD students Seminar within the Research Center.

J. Leblond was one of the co-organizers of the 3rd "Journée Mathématiques et Parité", IHP, Paris, July 8, 2016, http://postes.smai.emath.fr/apres/parite/journee2016/.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

L. Baratchart was a member of the program committee of "Mathematical Theory of Network and Systems" (MTNS) 2016, Minneapolis, Minnesota, USA.

J. Leblond was a member of the Scientific Committee of the Conference PICOF 2016.

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

L. Baratchart is sitting on the Editorial Board of the journals *Constructive Methods and Function Theory* and *Complex Analysis and Operator Theory*.

8.1.3.2. Reviewer - Reviewing Activities

L. Baratchart served as a reviewer for several journals (Annales Inst. Fourier, SIMA, Numerical Algorithms, Journal of Approx. Theory, Complex Variables and Elliptic Equations, ...)

J. Leblond was a reviewer for the journal *Multidimensional Systems and Signal Processing, Czechoslovak Mathematical Journal*.

M. Olivi was a reviewer for the journals *Automatica* and *IEEE Transactions on Automatic Control* and for the IEEE Conference on Decision and Control.

F. Seyfert was a reviewer for the journal *IEEE Microwave Theory and Techniques*.

8.1.4. Invited Talks

L. Baratchart was an invited speaker at the "25-th Summer Meeting in Mathematical Analysis", organized by the Russian Academy of Sciences at the Euler Institute (St-Petersburg, Russia) http://gauss40.pdmi.ras.ru/ma25/, an invited speaker at the workshop "New Trends in Approximation Theory" organized by the CSM at the Fields Institute (Toronto, Canada) http://www.fields.utoronto.ca/activities/16-17/approximation, an invited speaker at the conference "Quasilinear equations, Inverse Problems and their Applications" organized by EAIP, RFBR,MIPT and Ecole Polytechnique at the Moscow Institute of Physics and Technology (Dolgoprundy, Russia) http://www.cmap.polytechnique.fr/~novikov/miptip16/, and an invited speaker at the "Complex Analysis Day" in Marne-la-Vallée.

S. Chevillard was invited to give a talk at the Fifth Approximation Days, International conference on constructive complex approximation, http://math.univ-lille1.fr/~bbecker/ja2016/, Lille, France, May 20, 2016.

J. Leblond was a plenary speaker at the Conference WiS&E 2016 (Waves in Sciences and Engineering), http://qro.cinvestav.mx/index.php/wise2016, Queretaro, Mexico, August 22-26, 2016, and an invited speaker at the Workshop SIGMA'2016 (Signal, Image, Geometry, Modelling, Approximation), https://www.ceremade.dauphine.fr/~peyre/sigma2016/, Luminy, France, October 31 - November 4, 2016.

F. Seyfert was invited to give a talk at the Workshop on Mathematical Aspects of Network Synthesis http://www-control.eng.cam.ac.uk/Main/Workshop8, Cambridge, UK, September 21-22, 2016.

8.1.5. Scientific Expertise

L. Baratchart is a member of the Mathematical panel of experts of ANR.

8.1.6. Research Administration

S. Chevillard was representative at the "comité de centre" and at the "comité des projets" (Research Center Inria-Sophia) until September 2016.

J. Leblond is an elected member of the "Conseil Scientifique" and of the "Commission Administrative Paritaire" of Inria. Until May, she was in charge of the mission "Conseil et soutien aux chercheurs" within the Research Center. She is also a member of the "Conseil Académique" of the Univ. Côte d'Azur (UCA).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

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

8.2.2. Supervision

PhD: D. Ponomarev, *Some inverse problems with partial data*, Université Nice Sophia Antipolis, defended on June 14, 2016 (advisors: J. Leblond, L. Baratchart).

PhD: M. Caenepeel, *The development of models for the design of RF/microwave filters*, Vrije Universiteit Brussel (VUB), defended on October 19, 2016 (advisors: Y. Rolain, M. Olivi, F. Seyfert).

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

PhD in progress: K. Mavreas, *Inverse source problems in planetary sciences: dipole localization in Moon rocks from sparse magnetic data*, since October 2015 (advisors: S. Chevillard, J. Leblond).

PhD in progress: D. Martinez Martinez, *Méthodologie et Outils de Synthèse pour des Fonctions de Filtrage Chargées par des Impédances complexes*, since October 2015, advisors: L. Baratchart and F. Seyfert.

PhD in progress: G. Bose, Filter Design to Match Antennas, since December 2016, advisors: F. Ferrero and F. Seyfert.

PhD in progress: S. Fueyo, Cycles limites et stabilité dans les circuits,since October 2016, advisors: L. Baratchart and J.B. Pomet.

8.2.3. Juries

L. Baratchart sat on the PhD defense committee of d'Alexey Agaltsov (Ecole Polytechnique, http://www.adum.fr/script/detailSout.pl?mat=65164&site=PSaclay) and on the committee for the defense of *Habilitation à diriger des recherches* of E. Abakumov (Université Paris-Est, Marne-la-Vallée, http://umr-math.univ-mlv.fr/evenements/soutenances/?type=101).

J. Leblond was a member of the "Jury d'admissibilité du concours CR" of the Inria Research Center and of the "Comités de Sélection" for professors at UNSA (Polytech Nice) and at the University Paris-Sud Orsay (March-May 2016). She was a reviewer for the PhD thesis of Silviu Ioan Filip, Univ. Lyon, December 2016.

F. Seyfert was a member of the PhD jury of Adam Cooman at the ELEC. department of the VUB (Bruxelles, Belgium). The PhD's title is "Distorsion Analysis of Analog Electronic Circtuits Using Modulated Signals".

8.3. Popularization

- M. Olivi is responsible for Scientific Mediation and president of the Committee MASTIC (Commission d'Animation et de Médiation Scientifique) https://project.inria.fr/mastic/. She animated two half-day workshop sessions "activités débranchées" at "l'ESPE de Nice" for primary school students (March 08 & 15), 200 students each session). She participates to the event "la fête de la science" in Nice (October 13) for scholars and in Antibes (October 22 & 23, 6200 people). She gave a talk "180'" at the "Journées Scientifiques Inria" in Rennes.

- K. Mavreas and C. Papageorgakis actively participated to events organized by the Committee MASTIC (Fête de la Science, ...).

ECUADOR Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the organizing committees

- Laurent Hascoët is on the organizing commitee of the EuroAD Workshops on Algorithmic Differentiation.

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 : Ala Taftaf, "Extensions of Algorithmic Differentiation by Source Transformation to meet some needs of Scientific Computing", started july 2013, advisor L. Hascoët.

PhD in progress : Éléonore Gauci, "Norm-oriented criteria for CFD and coupled CSM-CFD systems", started october 2014, advisor A. Dervieux

9.2.3. Juries

- Alain Dervieux, jury, PhD defense of Laure Billon, Mines Paristech, december 9.
- Laurent Hascoët, jury, PhD defense of Vladimir Groza, University of Nice, november 9.

9.3. Popularization

Laurent Hascoët wrote an article about AD for the blog "binaire", hosted by "Le Monde". May 9.

MCTAO Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

The cut locus: A bridge over differential geometry, optimal control and transport, Bangkok, August 2016 (B. Bonnard, J.-B. Caillau, K. Kondo, L. Rifford, M. Tanaka). The conference was organized with the support of the Thai KMITL University and gathered 30 people mostly from Japan, Thailand and France.

9.1.1.2. Member of the Organizing Committees

Séminaire de géométrie hamiltonienne, Paris 6 (J.-B. Caillau). Bi-mensual seminar.

Journée McTAO, Inria Sophia, January 2016. One day event organized by the team with four invited speakers.

10th International Young Researcher Workshop on Geometry, Mechanics and Control, Paris (IHP), January 2016 (J.-B. Caillau). The workshop gathered 50 people for conferences and mini-courses.

Journées SMAI-MODE, Toulouse, March 2016 (J.-B. Caillau). The conference gathered 140 researchers, and was coupled with a series of two mini-courses co-organized with GdR MOA.

Journée MokaTAO, Inria Paris, October 2016. Two-day event co-organized by Mokaplan (Inria Paris) and McTAO teams, with talks by members of these teams. The two teams share common interests in optimization and optimal transportation.

Groupe de travail "Optimisation et applications", Inria Sophia Antipolis, November 2016 (J.-B. Caillau). One day event with four invited speakers.

9.1.2. Books

9.1.2.1. Springer briefs

B. Bonnard and J. Rouot, together with M. Chyba, have written the series of notes [28], submitted as Springer briefsPublications. They were the basis of courses at the Phd level given at the University of Burgundy and at the institute of Mathematics for industry at Fukuoka (Japan)

9.1.2.2. Springer Maths and Industry

B. Bonnard, together with M. Chyba, served as an editor of the volume [18], which gather contributions on the subject by specialists of both academics and space agencies.

9.1.2.3. Radon Series on Comput. and Applied Math.

J.-B. Caillau, together with M. Bergounioux, G. Peyré, C. Schnörr and T. Haberkorn, served as an editor for the volume [21]. With a focus on the interplay between mathematics and applications of imaging, the first part covers topics from optimization, inverse problems and shape spaces to computer vision and computational anatomy. The second part is geared towards geometric control and related topics, including Riemannian geometry, celestial mechanics and quantum control.

9.1.3. Journals

9.1.3.1. Member of the Editorial Boards

L. Rifford has been a member of the Editorial Board of the journal "Discrete and Continuous Dynamical Systems - A" since 2014.

9.1.3.2. Reviewer - Reviewing Activities

The team members have reviewed articles in 2016 for the following journals: SIAM J. Control & Optim., ESAIM Control Optim. and Calc. Var., Automatica, J. Dyn. Control Syst., J. Optim. Theory Appl., J. Math. Pures Appl., Inventiones Mathematicae, Mathematische Zeitschrift, Advances in Differential Equations, Memoirs of the American Mathematical Society, Annales Scientifiques de l'ENS, Nonlinear Analysis, Communications in Mathematical Physics

9.1.4. Invited Talks

J.-B. Caillau
03/2016: *Séminaire Géométrie et dynamique*, Nice
04/2016: *Séminaire de Géométrie hamiltonienne*, Paris
05/2016: *Emerging Trends in Applied Mathematics and Mechanics*, Perpignan
06/2016: *Alicante-Limoges-Elche Meeting on Optimization*, Cartagena
08/2016: *The cut locus: A bridge over differential geometry, optimal control and transport*, Bangkok
09/2016: *Séminaire Astrogéo*, Observatoire de la côte d'azur, Sophia

L. Giraldi
11/2016: *Controllability and hysteresis*, Trento, Italie

L. Rifford
02/2016: *Rencontre d'Analyse Mathématique et ses Applications*, Ouargla (Algeria)
02/2016: *Séminaire de Calculs des Variations et EDP*, Aix-Marseille University
03/2016: *CIMPA Research School "Géométrie et Analyse"*, Abidjan (Ivory Coast)
03/2016: *Séminaire Bourbaki*, Institut Henri Poincaré, Paris
04/2016: *Colloquium de l'Institut de Mathématiques*, University of Neuchâtel (Switzerland)
04/2016: *International Conference of the GE2MI*, Hammamet (Tunisia)
05/2016: *Colloquium du Département de Mathématiques*, University of Orsay
05/2016:*Geometric control and sub-Riemannian geometry*, Course given at the University of Isfahan (Iran)
06/2016: *Analysis, Geometry, and Optimal Transport*, KIAS, Seoul (South Korea)
08/2016: *The cut locus*, KIMTL, Bangkok (Thailand)
11/2016: *Dynamical Systems Seminar*, ETH Zurich
11/2016: *Dynamics and Geometry Seminar*, University Nice Sophia Antipolis
12/2016: *Seminar of Hamiltonian Geometry*, Paris VI
12/2016: *2016 Analysis School in Benin*, IMPS, Benin

9.1.5. Leadership within the Scientific Community

J.-B. Caillau has been head of the SMAI-MODE group (2014-2016), the group on optimization of the French Society for Applied and Industrial Mathematics.

L. Rifford has been executive director of CIMPA since September 2016.

9.1.6. Scientific Expertise

J.-B. Caillau is member of the scientific committees of the "Institut de Mécanique Céleste de Calcul des Éphémérides" and of the GdR Calcul, and corresponding member in Dijon for the Labex AMIES.

J.-B. Pomet is a member of the steering committee of "C4PO", a structuring project of the IDEX UCA[JEDI].

9.1.7. Research Administration

J.-B. Caillau is the joint head of the CNRS team Statistique, Probabilités, Optimisation & Contrôle at the Math. Institute of Univ. Bourgogne & Franche-Comté.

J.-B. Pomet has been an elected member of the Inria Evaluation Committee (commission d'évaluation) since 2014.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

J.-B. Caillau has managed L1 math and the master of applied mathematics (M2 MIGS) of Univ. Bourgogne Franche-Comté (2014-2016). He has been a designated member of the Conseil pédagogique du Département de Mathématiques at UBFC (2014-2016), and of the Conseil de l'UFR Mathématiques & Informatique at Univ. Paris I (2014-2016). His teaching duties in 2016 include:

Licence : cours d'analyse (analysis), 100 H équivalent TD, niveau L1, Univ. Bourgogne Franche-Comté, France

Master : approximation géométrique (geometric approximation), 50 H équivalent TD, niveau M1, Univ. Bourgogne Franche-Comté, France

Master : optimisation, 50 H équivalent TD, niveau M2, Univ. Bourgogne Franche-Comté, France

Master : contrôle optimal (optimal control), 20 H équivalent TD, niveau M2, ENSTA-Paristech, France

L. Giraldi is responsible of the following courses:

Licence : *"colles de mathématiques", MPSI and MP*, 4 H équivalent TD/week, L1 L2, Lycée International de Valbonne,

Licence : numerical analysis, 20 H équivalent TD, L3, Polytech Nice Sophia,

Master : numerical analysis project, 30 H équivalent TD, M1, Polytech Nice Sophia.

9.2.2. Supervision

PhD: Zheng Chen, L^1-minimization in space mechanics, Univ. Paris Saclay, defended September, 2016, J.-B. Caillau (co-supervised with Y. Chitour) [1]

PhD: Jérémy Rouot, , Univ. Nice Sophia Antipolis, Geometric and numerical methods in optimal control and application to orbit transfer and swimming at low Reynolds number. Defended November, 2016, co-supervised by B. Bonnard and J.-B. Pomet. [2]

PhD in progress: Achille Sassi, to be defended 01/2017, Numerical methods for hybrid control and chance-constrained optimization problems, Univ. Paris Saclay, J.-B. Caillau (co-supervised with M. Cerf, E. Trélat and H. Zidani)

PhD in progress: Michaël Orieux, started 10/2015, Dynamical systems and optimal control, Univ. Paris Dauphine, J.-B. Caillau (co-supervised with J. Féjoz)

PhD in progress: Zeinab Badreddine, started 09/2014, Sub-Riemannian Geometry and Optimal Transport, co-supervised by L. Rifford and B. Bonnard.

PhD in progress: Sébastien Fueyo, started 09/2016, Testing stability of nonlinear amplifier by frequency-domain methods. J.-B. Pomet (co-supervised with L. Baratchart).

PhD in progress: Alice Nolot, started 09/2016, Sub-Riemannian geometry and optimal swimming at low Reynolds number. B. Bonnard.

9.2.3. Juries

In 2016, J.-B. Caillau referee for Jiamin Zhu (Univ. Paris 6) and Maxime Chupin (Univ. Paris 6) PhD theses, for the HDR of Aude Rondepierre (Univ. Toulouse), and jury member for the PhD thesis of Clément Royer (Univ. Toulouse).

9.3. Popularization

Conference for high school students, "Ne votez pas, jugez !" (J.-B. Caillau), semaine des maths 2016, Lycée Charles de Gaulle (Dijon) and MASTIC initiative (Inria Sophia Antipolis).

<div align="center" style="color:red">**NACHOS Project-Team**</div>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific events organisation

9.1.1.1. Member of the Conference Program Committees

Stéphane Lanteri, Claire Scheid and Wilfried Blanc (LPMC, Université Nice Sophia Antipolis, Nice) have co-organized the meeting "CompNano2016: Modelling and simulation for nanophotonics" that took place at Inria Sophia Antipolis-Méditerranée, October 5-7, 2016.

Stéphane Lanteri and Frédéric Valentin (LNCC, Petropolis, Brazil) have co-organized a mini-symposium on "Hybridized and multiscale methods for waves" in the framework of the Icosahom 2016 conference that took place in Rio de Janeiro, Brazil, June 27-July 1st, 2016.

9.1.2. Invited Talks

Claire Scheid, "Numerical modelling of light-matter interaction at the nanoscale", BioComp seminar, Simula, Oslo, Norway, November 9, 2016.

Claire Scheid, "A structure preserving numerical discretization framework for the Maxwell Klein Gordon equation in 2D", Workshop on Structure and Scaling in Computational Field Theories, University of Oslo, Norway, October 26-28, 2016.

Claire Scheid, "A high order discretization framework for the numerical modelling in nanoplasmonics", Colloque Couplages Numériques, LJAD, Université Nice Sophia Antipolis, Nice, France, September 27-29, 2016.

Claire Scheid, "A discontinuous Galerkin framework for the numerical modelling in nanoplasmonics" Workshop on Recent Advances in Discontinuous Galerkin Methods, University of Reading, UK, June 13, 2016.

Claire Scheid, "A discontinuous Galerkin framework for the numerical modelling of light-matter interaction at the nanoscale", 28th CEA-GAMNI Seminar on CFD, IHP, Paris, January 25-26, 2016.

Stéphane Lanteri, "Recent advances on a finite element type simulation method for nanoscale light/matter interactions", 8èmes Journées Scientifiques du C'Nano PACA, Porquerolles, France, May 25-27, 2016.

Stéphane Lanteri, "Development of finite element type simulation methods for nanoscale light/matter interactions", ONERA Palaiseau, France, June 15, 2016.

Stéphane Lanteri, "High order HDG method for frequency-domain electromagnetics", Institut fuer Physik, Humboldt-Universitaet zu Berlin, Germany, February 9-11, 2016.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Stéphane Descombes, *Scientific computing*, M1, 36 h, Université Nice Sophia Antipolis.

Stéphane Descombes, *Principal components analysis*, M2, 30 h, Université Nice Sophia Antipolis.

Stéphane Lanteri, *Computational electromagnetics*, MAM5, 20 h, Polytech Nice Sophia.

Claire Scheid, *Lectures and practical works, Analysis, Agrégation*, 27 h, Université Nice Sophia Antipolis.

Claire Scheid, *Lectures and practical works, Numerical Analysis, Agrégation*, 34 h, Université Nice Sophia Antipolis.

9.2.2. Supervision

PhD in progress: Alexis Gobé, *Multiscale hybrid-mixed methods for time-domain nanophotonics*, November 2016, Stéphane Lanteri.

PhD in progress: Nikolai Schmitt, *Numerical modeling of electron beam interaction with nanostructures*, October 2015, Stéphane Lanteri and Claire Scheid.

PhD in progress: Hao Wang, *High order DGTD method for multiscale electromagnetic wave propagation problems*, September 2015, Bin Li and Li Xu (UESTC, Chengdu, China) and Stéphane Lanteri.

<h1 style="text-align:center;color:red;">TOSCA Project-Team</h1>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Promotion of Mathematics in the industry

- M. Deaconu and A. Lejay were invited to give a talk at ILAC, Luxembourg in March 2016.
- A. Lejay has been appointed as representative of Inria Nancy-Grand Est in the Agence Mathématiques et Entreprise (AMIES).
- D. Talay continued to serve as the Vice-President of the Fondation d'Entreprise Natixis which aims to contribute to develop research in quantitative finance. He also serves as a member of the Scientific Committee of the Foundation.
- D. Talay continued to serve as a member of the Scientific Committee of the AMIES National Agency aimed to promote interactions between Mathematics and Industry.

9.1.2. Scientific Events Organisation

- N. Champagnat and M. Deaconu organized the mini-symposium "Un panorama de progrès récents sur les méthodes numériques probabilistes" at CANUM 2016 (Congrès d'Analyse Numérique) at Obernai in July 2016.

9.1.2.1. Member of the Organizing Committees

- A. Lejay was member of the conference organizing committees of *CANUM 2016* (Obernai, France).

9.1.3. Scientific Events Selection

9.1.3.1. Member of the Conference Program Committees

- N. Champagnat served as a member of the program committee of CARI 2016 (13ème Colloque Africain sur la Recherche en Informatique et Mathématiques Appliquées), Tunis, 10–14 octobre 2016.
- A. Lejay is member of the conference program committees of *CANUM 2016* (Obernai, France) and *Journées de Probabilités 2016* (Le Mans, France).
- D. Talay served as a member of the XIIIth France-Romania Colloquium in Applied Mathematics.
- E. Tanré served as a member of the program committee of the International Conference on Mathematical NeuroScience (ICMNS 2016), Juan les Pins.

9.1.4. Journal

9.1.4.1. Member of the Editorial Boards

- M. Bossy served as an Associate Editor of *Annals of Applied Probability*.
- N. Champagnat served as an Associate Editor of *Stochastic Models*.
- A. Lejay is one of the three editors 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*, *SIAM Journal on Scientific Computing*, *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*.

9.1.4.2. Reviewer - Reviewing Activities

- M. Deaconu wrote reviews for manuscripts submitted to *Journal of Computational and Applied Mathematics*.

- A. Lejay wrote reviews for manuscripts submitted to *Journal of Computational Mathematics*, *Mathematics and Computers in Simulation*, *Mathematical Reports*, *SIAM Journal of Control and Optimization*, *Communications in Mathematical Physics,*, *Real Analysis Exchange* , *Annals of Probability*, *Electronic Journal of Probability*.

- E. Tanré wrote reviews for manuscripts submitted to *Applied Mathematical Finance*, *Bernoulli*, *European Journal of Applied Mathematics*.

- E. Tanré serves has a permanent reviewer of *Mathematical Reviews of the American Mathematical Society (MathSciNet)*

- D. Villemonais wrote reviews for *Mathematical Reviews of the American Mathematical Society (MathSciNet)* and for manuscripts submitted to *Stochastic processes and applications* and *Theoretical Population Biology*.

9.1.5. Invited Talks

- M. Bossy has been invited to give a talk at the seminar of the Laboratoire Jacques-Louis Lions, in May.

- M. Bossy has been invited to give a seminar talk at the Rencontre Niçoise de Mécanique des Fluides, at the Observatoire de la Côte d'Azur in Nice, June

- M. Bossy has been invited to give a talk at the symposium *SDE approximation* at the International Conference on Monte Carlo techniques, In Paris, July.

- N. Champagnat has been invited to give talks at the conference *Stochastic PDE's, Large Scale Interacting Systems and Applications to Biology* in Orsay in March, to the CMO-BIRS workshop *Stochastic and Deterministic Models for Evolutionary Biology* in Oaxaca, Mexico, in August and at the conference *Probabilistic structures in deterministic population genetics* in Vienna in November.

- N. Champagnat has been invited to give seminar talks at *TOSCA seminar* in Inria Sophia Antipolis in April, at the *MAPMO probability seminar* in October and at the seminar *Méthodes probabilistes et statistiques en dynamique des populations* in Grenoble in December.

- N. Champagnat has been invited to give a lecture at the CIMPA School *Mathématiques pour la Biologie* (4h) in Tunis in October.

- M. Deaconu was invited to give a talk at the *Colloque Franco Roumain de Mathématiques Appliquées*, Iaşi (Romania) in August 2016.

- C. Fritsch has been invited to give talks at the *Workshop on "Approche Interdisciplinaire en Evolution"* in Saint-Martin-de-Londres in December.

- A. Lejay has been invited to give talk at the *Workshop on Numerical Schemes of SDE and SPDE* in Lille in June 2016, and at the *International Conference on Monte Carlo techniques* in Paris in July 2016.

- A. Lejay has ben invited to give a seminair talk at the Université de Reims in February 2016.

- P. Pigato gave talks at the Probability Seminar of Luxembourg University, in January, at the Seminar of TOSCA-Sophia Antipolis, in February, at the Seminar of CIMFAV (Valparaíso) in March, at the Journées de Probabilités 2016, in May, at the Probability Seminar of Università degli studi di Padova, in June, and at the London-Paris Bachelier Workshop on Mathematical Finance in September.

- A. Richard gave seminar talks at the LPMA (Paris 6) Probability seminar and the IMT (Toulouse) probability seminar in February, at the Groupe de Travail on stochastic models in finance at Ecole Polytechnique and at the Barcelona probability seminar in April.

- A. Richard had an accepted talk at ICMNS 2016.

- D. Talay gave a lecture at the Mean-field and population-level descriptions of brain dynamics Meeting in February at the EITN, Paris, the opeing lecture at the conference in V. Konokov's honor in Moscow in June, a mini-course at Lille University in June, and an invited lecture at the Workshop on the Numerics for Stochastic Partial Differential Equations and their Applications at RICAM, Linz (Austria) in December.

- E. Tanré gave talks at LPMA (Paris 6) and at the workshop on Numerical schemes for SDEs and SPDEs in Lille in June.

- D. Villemonais has been invited to give talks at the workshop *Stochastic processes under constraints* in July in Augsburg, Germany, at the conference *Colloque franco-roumain de mathématiques* in August in Iaşi, Romania, and at the *School on Information and Randomness* in December in Santiago, Chile.

- D. Villemonais has been invited to give seminar talks at *Institut Montpelliérain Alexander Grothendieck* in February, at the *Institut de Recherche Mathématique Avancée* in Strasbourg in November, and at the *Modal'X seminar* in Nanterre in December.

9.1.6. Leadership within the Scientific Community

- A. Lejay is the head of the Probability and Statistics team of the Institut Élie Cartan since September 2016.

- A. Lejay was a member of the Administration Council of the SMAI until June 2016.

- D. Talay continued to chair the Scientific Council of the French Applied Math. Society SMAI.

- D. Talay served as a member of the scientific council of the Complex System academy of the UCA Idex.

- D. Talay is serveing as a member of the committee in charge of preparing the application of Paris to the International Congress of Mathematicians 2022.

9.1.7. Scientific Expertise

- N. Champagnat reported on an application submitted to CONICYT (Chilean Funding Agency).

- M. Deaconu has been a member of the Committee for junior permanent research positions of Inria Nancy - Grand Est.

- A. Lejay reported on applications to National Science Centre of Poland.

- A. Lejay participated in a Professor position recruitment committee at Université de Lorraine.

9.1.8. Research Administration

- M. Bossy is an elected member of the Inria Evaluation Board.

- M. Bossy has been a member of the DTK-Committee.

- N. Champagnat is a member of the *Commission de Développement Technologique* and the *Commission Information Scientifique et Technique* of Inria Nancy - Grand Est, a subsitute member of the *Comité de Centre* of Inria Nancy - Grand Est (until Nov. 2016), *Responsable Scientifique* for the library of Mathematics of the IECL, member of the *Conseil du laboratoire* of IECL (as *responsable scientifique* of the library). He is also local correspondent of the COERLE (*Comité Opérationel d'Évaluation des Risques Légaux et Éthiques*) for the Inria Research Center of Nancy - Grand Est. This year, together with Aline Wagner (Inria Nancy - Grand Est), he finished to write the new version of the application form for research approval by the COERLE.

- M. Deaconu is a member of the *Bureau du Comité de Projets* of Inria Nancy - Grand Est, and of the *Comité de Projet* of Inria Nancy - Grand Est.

- A. Lejay is a member of the COMIPERS of Inria Nancy Grand-Est and of *Commission des thèses* of the Institut Élie Cartan (Nancy).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: M. Bossy, *Continuous time stochastic models for quantitative Finance*, 30h, 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 Pierre et Marie Curie, France.

PhD-level lectures : M. Bossy *McKean SDEs and related stochastic methods for PDEs*, 18h, University of Edinburgh (UK).

PhD-level lectures : M. Bossy *Stochastic numerical methods for turbulence*, Winter school Numerics for Stochastic Partial Differential Equations and their Applications, 10h, at RICAM - University of Linz.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 18h, M1, École des Mines de Nancy, France.

Master: N. Champagnat, *Introduction to Quantitative Finance*, 13.5h, M2, École des Mines de Nancy, France.

Master: N. Champagnat, *Chaînes de Markov*, 22.5h, M2 "double diplôme" Mathématiques et Applications - École Supérieure des Sciences et de Technologie de Hammam Sousse, Tunisie (lieu des cours) - Université de Lorraine, France.

Master: M. Deaconu, *Équations différentielles stochastiques : résolution numérique et applications*, 21h, M2, 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.

Master: C. Fritsch, *Introduction à la finance quantitative*, 3h, M1, École des Mines de Nancy, France.

Licence: C. Fritsch, *Décision et Prévision Statistiques*, 20h, L3, École des Mines de Nancy, France.

Licence: C. Fritsch, *Supervision d'un projet de recherche*, 6h, M2, École des Mines de Nancy, France.

Licence: B. Henry, *Statistiques*, 20h, L3, École des Mines de Nancy, France.

Licence: B. Henry, *Probabilités*, 36h, L3, École des Mines de Nancy, France.

Master: A. Lejay, *Simulation des marchés financiers*, 28.5h, M2, Université de Lorraine (Metz), France.

Master: P. Pigato, *Calcul Intégral*, 15h, M1, Université de Lorraine (Nancy), France.

Licence: K. Salhi, *Mathématiques Appliquées et Probabilités*, 24h, L3, Télécom Nancy, France.

Master: K. Salhi, *Statistiques et analyse de données*, 20h, M1, Télécom Nancy, France.

Master: K. Salhi, *Probabilités et Statistiques*, 20h, M1, ENSEM Nancy, France.

Master: D. Talay *Invariant measures of diffusion processes*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

Master: E. Tanré (courses) and M. Tomasevic (exercices), *Advanced Numerics for Computational Finance*, 30h (20h + 10h), M2, UCA (Mathmods Erasmus Mundus), France.

Master: E. Tanré, *Mathematical Methods for Neurosciences*, 37h, M2, ENS - Master MVA / Paris 6 - Master Maths-Bio, France.

Master: E.Tanré (courses) and A. Richard (practical classes) *Numerical probability for mathematical finance*, 20h (8h + 12h), M2, EPU (Master IMAFA), France.

9.2.2. Supervision

PhD: Maxime Bonelli, *Behavioral finance approach to risk assessment in quantitative portfolio management*, Univ. Nice Sophia Antipolis, September 2016, M. Bossy.

PhD : Benoît Henry, *Processus de branchements non markoviens en dynamique et génétique des populations*, Univ. Lorraine, 17/11/2016, Nicolas Champagnat, D. Ritchie (EPI CAPSID).

PhD : Khaled Salhi, *Risques extrêmes en finance : analyse et modélisation*, Univ. Lorraine, 05/12/2016, M. Deaconu and A. Lejay.

PhD in progress: Antoine Brault, *Formules de Trotter-Kato pour les trajectoires rugueuses*, Université Toulouse 3, L. Coutin (U. Toulouse 3), A. Lejay.

PhD in progress: Baldwin Dumortier, *Contrôle acoustique des éoliennes*, October 2014, M. Deaconu and E. Vincent (EPI MULTISPEECH).

PhD in progress: Pascal Helson, *Plasticity in networks of spikking neurons in interaction*, October 2016, E. Tanré and R. Veltz (MATHNEURO Inria team).

PhD in progress: Kouadio Jean Claude Kouaho, *Modélisations stochastique et déterministe de croissance de tumeurs cancéreuses*, Mar. 2016, N. Champagnat, Pierre Vallois (EPI BIGS, Modest N'Zi (UFHB, Abidjan).

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 solutions of stochastic differential equations with multiplicative noise*, Universidad de Concepción, A. Lejay, C. Mora (U. Concepción).

PhD in progress: Milica Tomasevic, *Stochastic approaches to Keller–Segel equations*, October 2015, D. Talay.

9.2.3. Juries

- M. Bossy served as a referee for the Ph.D. theses of Anthony LE CAVIL, *Représentation probabiliste de type progressif d'EDP nonlinéaires nonconservatives et algorithmes particuliers associés.* Université Paris Saclay, December 9, 2016.

- M. Bossy served as an examiner for the Ph.D. thesis of Ahmed MTIRAOUI , *EDS Progressives Rétrogrades couplées contrôlées, EDDS Rétrogrades et EDP Stochastiques.* Université de Toulon, November the 25th, 2016.

- N. Champagnat served as a referee for the Ph.D. theses of Elma Nessar, *Modèles probabilistes de l'évolution d'une population dans un environnement variable*, Univ. Aix-Marseille, July 4, 2016, and of Joseba Dalmau, *La quasi-espèce pour une population finie*, Univ. Orsay, November 25, 2016.

- N. Champagnat served as an examiner for the Ph.D. thesis of Lucas Mercier, *Grands graphes et grand arbres aléatoires : Analyse du comportement asymptotique*, Univ. Lorraine, May 11, 2016, and of Benoît Henry, *Processus de branchements non markoviens en dynamique et génétique des populations*, Univ. Lorraine, November 17, 2016.

- A. Lejay served as a referee for the Ph.D. theses of Sarav Mazzonetto, *On the exact simulation of (Skew) Brownian Diffusions with Discontinuous Drift*, Potsdam Universität / Université Lille 1, November 2016, of Anis Al Gerbi, *Ninomiya-Victoir scheme: strong convergence, asymptotics for the normalized error and multilevel Monte Carlo methods*, Université Paris-Est, October 2016, and of Joseph El Maalouf, *Méthodes de Monte Carlo stratifiées pour la simulation des chaînes de Markov*, Université de Grenoble / Université Saint Joseph de Beyrouth, December 2016.

- A. Lejay served as an examiner for the Habilitation Thesis of Pierre Étoré, *Quelques contributions à l'étude et à la simulation des diffusions asymétriques*, Université de Grenoble, December 2016.

- M. Deaconu and A. Lejay served as examiners for the Ph.D. thesis of Khaled Salhi, *Risques extrêmes en finance : analyse et modélisation*, Université de Lorraine, December 2016.

- D. Talay chaired the Ph.D. thesis jury of Ahmed Mtiraoui, *Equations différentielles stochastique rétrogrades progressives et leurs applications aux théories de contrôles*, Université de Toulon.

- D. Talay served as a referee for the Ph.D. theses of Daoud Ounaissi, *Méthodes Quasi Monte-Carlo et Monte-Carlo applications aux calculs des estimateurs Lasso et Lasso bayésien*, université de Lille I; and of Ahmed Bel Hadj Ayed *Robustesse de la stratégie de trading optimale*, École Centrale Paris;

- D. Talay chaired the Habilitation à Diriger les Recherches juries of Christophette Blanhet-Scalliet, *Contribution a` l'analyse des risques financiers : risque de crédit, asymétrie d'information, analyse chartiste*, École Centrale de Lyon, and of Pierre Étoré, *Quelques contributions à l'étude et à la simulation des diffusions asymétriques*, INP Grenoble.

9.3. Popularization

- D. Talay participated in a scientific France Culture radio program in December.

ABS Project-Team

8. Dissemination

8.1. Promoting scientific activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

Frédéric Cazals, together with C. Robert (IBPC, CNRS Paris) and J. Cortés (LAAS, CNRS Toulouse) organized the *energy landscapes* workshop, an international gathering devoted to all topics revolving around energy landscapes, as encountered in physics, chemistry, biochemistry, biology, applied mathematics, and computer science. See details at https://eland2016.inria.fr/.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

– Frédéric Cazals was member of the following program committees:

- Symposium On Geometry Processing
- Shape Modeling International: 2016
- Symposium on Solid and Physical Modeling
- Intelligent Systems for Molecular Biology (ISMB), PC member of Protein Interactions & Molecular Networks
- International Conference on Pattern Recognition in Bioinformatics

8.1.3. Journal

8.1.3.1. Reviewer - Reviewing Activities

– Frédéric Cazals reviewed papers for the following journals:

- The International Journal of Computational Geometry and Applications
- Bioinformatics
- The Journal of Immunology

8.1.4. Invited Talks and Presentations

– Frédéric Cazals gave the following invited talks:

- *Energy landscapes: sampling, analysis*, Congrès de la Société Française de Biophysique – Structural biology meets biophysics, Obernai. December 2016.
- *Modeling energy landscapes of biomolecular systems*, Ecole Normale Supérieure de Cachan. September 2016.
- *Novel structural parameters of Ig-Ag complexes yield a quantitative description of interaction specificity and binding affinity*, Structural Aspects of Infectious Disease, Cambridge, UK, August 2016.
- *Energy landscapes: sampling, analysis, and comparison*, Energy Landscapes Workshop, Porquerolles. July 2016.
- *Improved understanding of protein dynamics via energy landscape sampling, analysis, and comparison*, TSRC on protein dynamics. Les Houches, March 2016.

– Romain Tetley gave the following invited talk:

- *A bootstrap method for detecting structurally conserved motifs*, Energy Landscapes Workshop, Porquerolles. July 2016.

– Poster presentations:

- Dorian Mazauric presented the following poster:
  Unveiling Contacts within Macro-molecular Assemblies by solving Minimum Weight Connectivity Inference Problems, Congrès de la Société Française de Biophysique – Structural biology meets biophysics, Obernai. December 2016.

- Augustin Chevallier presented the following poster:
  Towards free energy calculations for biomolecules: generic Wang-Landau algorithm with automatic parameters selection, Congrès de la Société Française de Biophysique – Structural biology meets biophysics, Obernai. December 2016.

- Dorian Mazauric presented the following poster:
  Mass Transportation Problems with Connectivity Constraints and Energy Landscape Comparison, Energy Landscapes Workshop, Porquerolles. July 2016.

8.1.5. Leadership within the Scientific Community

– FrédéricCazals:

- 2010-.... Member of the steering committee of the *GDR Bioinformatique Moleculaire*, for the *Structure and macro-molecular interactions* theme.

8.1.6. Scientific Expertise

– Frédéric Cazals acted as expert for the *Italian Research and University Evaluation Agency (ANVUR)*.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: Frédéric Cazals (Inria ABS) 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: Frédéric Cazals and Dorian Mazauric (Inria ABS), *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.

8.2.2. Supervision

PhD thesis, defended, December 2016. Simon Marillet, *Modeling the antibody response: from the structure of immunoglobulins - antigen complexes to the clonal complexity of heavy chain repertoires*, University of Nice Sophia Antipolis. The thesis is co-advised by Frédéric Cazals and Pierre Boudinot (INRA Jouy-en-Josas).

PhD thesis, ongoing. Romain Tetley, *Structural alignments: beyond the rigid case*, University of Nice Sophia Antipolis. Under the supervision of Frédéric Cazals.

PhD thesis, ongoing. Augustin Chevallier, *Sampling biomolecular systems*, University of Nice Sophia Antipolis. Under the supervision of Frédéric Cazals.

Postdoctoral research of Rémi Watrigant, 2016 - 2018. Projet de Recherche Exploratoire (Inria). *Improving inference algorithms for macromolecular structure determination*. Under the supervision of Dorian Mazauric and Frédéric Havet (Inria COATI project-team).

8.2.3. Juries

– Frédéric Cazals:

- Huaxiong Ding, University of Lyon, December 2016. Committee member. *Combining 2D facial Texture and 3D face morphology for estimating people soft biometrics: gender, facial expression.* Advisors: Liming Chen and Jean-Marie Morvan.

8.3. Popularization

8.3.1. Dissemination of scientific culture

Participant: Dorian Mazauric, member of the group of Médiation et Animation des MAthématiques, des Sciences et Techniques Informatiques et des Communications (MASTIC), Inria Sophia Antipolis - Méditerranée.

8.3.1.1. Publications and ressources.

- 2016. *Graphes et Algorithmes – Jeux grandeur nature*. Dorian Mazauric, en collaboration avec Laurent Giauffret, Direction des Services Départementaux de l'Éducation Nationale (DSDEN) des Alpes-Maritimes. [https://hal.inria.fr/hal-01366804]

- 2016. *Graphes et Algorithmes - Diffusion de l'information scientifique*. Dorian Mazauric. [https://hal.inria.fr/hal-01383665]

- 2016. *Information et communication : la Théorie des Graphes*. Jean-Claude Bermond et Dorian Mazauric. Fondation la main à la pâte. To appear.

8.3.1.2. Fête de la Science en PACA.

- 22-23/10/2016. Village des sciences et de l'innovation au Palais des Congrès d'Antibes Juan-les-Pins. Fête de la Science 2016. *a) La magie des graphes et du binaire. b) Algorithmes grandeur nature. c) Pas besoin de réfléchir, les ordinateurs calculent tellement vite ? Théorie des graphes et algorithmique pour les réseaux*. [https://www.inria.fr/centre/sophia/agenda/fete-de-la-science-2016]

- 10-12/10/2016. Fête de la Science au collège Yves Montand, Vinon-sur-Verdon. Institut Esope 21. *a) La magie des graphes et du binaire. b) Algorithmes grandeur nature. c) Pas besoin de réfléchir, les ordinateurs calculent tellement vite ? Théorie des graphes et algorithmique pour les réseaux*. [https://www.inria.fr/centre/sophia/agenda/fete-de-la-science-2016]

8.3.1.3. Stage MathC2+ à Inria Sophia Antipolis - Méditerranée.

- 15-16/06/2016. Activité pour une quarantaine de lycéens des Alpes-Maritimes (accueillis à Inria Sophia Antipolis - Méditerranée durant 4 jours). *Algorithmes grandeur nature pour le calcul d'un arbre couvrant de poids minimum (application pour la conception d'un réseau électrique)*. Présentation aux lycéens du stage. *Pas besoin de réfléchir, les ordinateurs calculent tellement vite ? Théorie des graphes et algorithmique pour les réseaux*. [http://www.inria.fr/centre/sophia/actualites/mathc2-40-lyceens-des-alpes-maritimes-en-immersion-au-coeur-d-un-centre-de-recherche] [https://youtu.be/rLj5I1Gu1uI]

8.3.1.4. Interventions à l'ÉSPÉ de l'Académie de Nice.

- 8-15/03/2016. Organisation d'un atelier à l'École Supérieure du Professorat et de l'Éducation (ÉSPÉ) de l'Académie de Nice (site de Stéphen Liégeard) en collaboration avec l'Inspection Académique (avec Laurent Giauffret). Animation, avec des étudiants de l'ÉSPÉ, pour 360 élèves de CM1 et de CM2. *La magie des graphes et du binaire, algorithmes et jeux (réseaux de tri)*. [http://www.inria.fr/actualite/agenda/semaine-des-mathematiques-au-mois-de-mars?utm_content=buffer4b539&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer] [http://www2.ac-nice.fr/DSDEN06/cid101665/des-chercheurs-de-retour-a-l-ecole.html]

8.3.1.5. Formations pour les enseignants en collaboration avec la DSDEN des Alpes-Maritimes.

- 15-19/09/2016. Préparation avec Laurent Giauffret d'une formation pour 17 enseignants de cycle 3 (cours moyen d'enseignement élémentaire). *a) Présentation d'Inria et du dispositif ASTEP.b) Graphes et Algorithmes : théorie et mise en pratique avec des jeux.c) Présentation de Thymio et mise en avant des possibilités offertes.d) Présentation du logiciel Scratch par le Maître Assistant Informatique de circonscription.*

8.3.1.6. Conférences dans des lycées dans le cadre du dispositif régional "Science Culture".

- 26/01/2016. Conférence au lycée Amiral de Grasse (classes de seconde). *a) Pas besoin de réfléchir, les ordinateurs calculent tellement vite ? Théorie des graphes et algorithmique pour les réseaux. b) La magie des graphes et du binaire.*
- 21/01/2016. Conférence au lycée Amiral de Grasse (classes de terminale). *a) Pas besoin de réfléchir, les ordinateurs calculent tellement vite ? Théorie des graphes et algorithmique pour les réseaux. b) La magie des graphes et du binaire.*

8.3.1.7. Conférences dans des collèges des Alpes-Maritimes.

- 05/12/2016. Conférence au collège Jules Verne de Cagnes-sur-Mer (deux classe de sixième) (avec Rémi Watrigant). *La magie des graphes et du binaire.*

8.3.1.8. Conférences dans des écoles primaires des Alpes-Maritimes dans le cadre d'ASTEP.

- 22/03/2016. Conférence à l'école élémentaire de La Tournière, Antibes (classe de CE2). *La magie des graphes et du binaire, algorithmes et jeux (algorithmes grandeur nature pour trier, jeux combinatoires...).*
- 18/03/2016. Conférence à l'école élémentaire Langevin 2, Vallauris (classe de CP). *La magie des graphes et du binaire, algorithmes et jeux (algorithmes grandeur nature pour trier, jeux combinatoires...).*

8.3.1.9. Autres présentations.

- 05/01/2016. Présentation à des lycéens d'Australie et de Nouvelle-Zélande (classes de secondes) à Inria Sophia Antipolis - Méditerranée. *La magie des graphes et du binaire.*

ASCLEPIOS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- **X. Pennec** organized a workshop on the Geometry of shapes Workshop (Math in the Mine) from June 26 to July 2, 2016, at la Minière de Vallauria, Alpes Maritimes, FR.

9.1.1.2. Member of the Organizing Committees

- **M. Sermesant** was a co-chair of the MICCAI 2016 Workshop Statistical Atlases and Computational Models of the Heart (STACOM 2016), which was held in Athens, Greece, on October 17, 2016. He also co-organised the Cardiac Imaging Research Day at the French Radiologists Conference.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- **X. Pennec** was a member of the program committee of RFIA RFP 2016 (Reconnaissance de Formes et Perception) (Clermont-Ferrand, FR), the 2nd Int. W. on Differential Geometry in Computer Vision Diff-CVML'16, Las Vegas, USA), and of the Workshop on Biomedical Image Registration (WBIR 2016, Las-Vegas, USA).
- **H. Delingette** was program committee member of the conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2016), the MICCAI 2016 workshop on Simulation and Synthesis of Medical Imaging (SASHIMI'16), and the Eurographics conference on Visual Computing for Biology and Medicine (VCBM'16).

9.1.2.2. Reviewer

- **H. Delingette** was a reviewer for the International Symposium on Biomedical Imaging (ISBI'16), the international conference on computer-aided interventions (IPCAI'16), the conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2016), the European Conference on Computer Vision (ECCV 2016), the International Conference on Computer Vision and Pattern Recognition (CVPR 2016).
- **M. Sermesant** was a reviewer for the MICCAI 2016 conference.
- **X. Pennec** was a reviewer for the conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2016), the European Conference on Computer Vision (ECCV 2016) and the int. Workshop on Representation, analysis and recognition of shape and motion FroM Imaging data (RFMI 2016).

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

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

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[0]http://www.elsevier.com/wps/find/journaleditorialboard.cws_home/620983/editorialboard

9.1.3.2. Reviewer - Reviewing Activities

- **H. Delingette** was a 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, Computers in Biology and Medicine and Journal of Fluids and Structures.

- **X. Pennec** was a reviewer for the following journals: Biometrika, Chaos, Proceedings on the London Mathematical Society (PLMS), SIAM journal on Imaging Sciences (SIIMS), Medical Image Analysis (MedIA), IEEE Transactions on Pattern Analysis (PAMI), NeuroImage (NIMG).

- **M. Sermesant** was a reviewer for the following journals: Journal of the American College of Cardiology, IEEE Transactions on Medical Imaging, IEEE Transactions on Biomedical Engineering, Medical Image Analysis and Computers in Biology and Medecine.

9.1.4. Invited Talks

- **Nicholas Ayache** gave the following invited lectures:
  - To honor Michel Lazdunski, Nice Hospital, January 2016
  - Science and Society event, Toulouse, May 2016
  - Institut Universitaire de France, Annual Event, Rennes, June 2016
  - Connected Health, Monaco, June 2016
  - SSIMA Summer School, Bucharest, July 2016
  - MISS Summer School, Favigna, August 2016
  - Academy of Sciences , Sept 2016
  - IHU Liryc, Bordeaux, Sept 2016

- **Hervé Delingette** gave the following invited lectures at the:
  - MICCAI 2016 Programme Committee Workshop on May 27th in London.
  - Biomedical Image Analysis Seminar at University of Basel on November 22nd.

- **Xavier Pennec** gave invited lectures at the following events:
  - Colloquium of the Dieudonné Lab (LJAD), Nice University, October 10, 2016.
  - VIth Int. W. on Representation, analysis and recognition of shape and motion FroM Imaging data (RFMI 2016), Sidi Bou Said village, Tunisia, October 27-29 2016.
  - International Workshop on Geometry, PDE's and Lie Groups in Image Analysis, Eindhoven (NL) 24-26 August 2016.
  - Workshop on Geometry and Stochastics of Nonlinear, Functional and Graph Data, Bornholm (DK), 15-19 August 2016.
  - 12th IEEE IVMSP Workshop 2016, Bordeaux (FR), July 11-12, 2016.
  - Statistical Analysis of Manifold-Valued Data and Beyond: Nottingham workshop, 4-6 April 2016, UK.
  - Mathematical Imaging and Surface Processing, Mathematisches Forschungsinstitut Oberwolfach (DE), 24-30 January 2016.

- **Maxime Sermesant** gave an invited lecture at the Virtual Physiological Human Summer School, Barcelona.

9.1.5. Leadership within the Scientific Community

- **H. Delingette** is a member of the MICCAI Society Board of Directors from 2016 to 2019.

- **Nicholas Ayache** is a member of the French Academy of Sciences in the section of Mechanics and Informatics.

9.1.6. Scientific Expertise

- **Nicholas Ayache** was invited in Nagoya, Japan in February 2016 to evaluate a national program on the "Multidisciplinary Computational Anatomy Initiative" funded by the MEXT. He has been a member of the Research Council of the "Fondation pour la Recherche Médicale (FRM)" since January 2015.

- **Xavier Pennec** was an evaluator for the Fonds de la Recherche Scientifique-FNRS, Belgium, the Alpes Grenoble Innovation Recherche (AGIR) projects, and for the PhD fellowships of Ecole Normale cachan.

- **H. Delingette** was an evaluator for the ECOS Sud France-Chili program, for the European Research Concil, for the Comet program in Austria (FWF), for the International Graduate School of Science and Engineering (IGSSE) of the Technical University of Munich.

- **M. Sermesant** is a member of the Medical Simulation Working Group of Aviesan.

9.1.7. Research Administration

- **Nicholas Ayache** is a member of the scientific council of the Ile de France region since 2016.

- **Xavier Pennec** is a member of the Doctoral follow-up Committee (CSD) at Inria Sophia Antipolis, of the the "Comité de la Recherche Biomédicale en Santé Publique (CRBSP)" of the Nice hospitals, in charge of the relationships of Inria-Sophia with the Nice University Hospital (CHU), of and the board of the Ecole doctorale STIC.

- **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.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: H. Delingette and X. Pennec, Introduction to Medical Image Analysis, 21h course (28.5 ETD), Master 2 MVA, ENS Cachan, France.

Master: X. Pennec and H. Delingette, Advanced Medical Imaging, 21h course (28.5 ETD), Master 2 MVA and École Centrale de Paris, France.

Master: X. Pennec and H. Delingette, Computational Anatomy and Physiology, 21h course (28.5 ETD), Master CBB - Computational Biology and Biomedicine, Univ. Nice-Sophia Antipolis.

Master: M. Sermesant, Computational Anatomy and Physiology, 3h course (4.5 ETD), Master CBB - Computational Biology and Biomedicine, Univ. Nice-Sophia Antipolis.

Master: X. Pennec is co-responsible of the Master CBB - Computational Biology and Biomedicine, Univ. Nice-Sophia Antipolis.

9.2.2. Theses Defended

- 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. Defended on January 8, 2016.

- Mehdi Hadj-Hamou, *Biophysical modeling of the anatomical evolution of the brain*, Nice Sophia Antipolis University. Co-directed by N. Ayache and X. Pennec. Defended on December 14, 2016.

- Bishesh Khanal, *Modeling the atrophy of the brain in Alzheimer's disease*, Nice Sophia Antipolis University. Co-directed by X. Pennec and N. Ayache. Defended on July 20, 2016.

- Nina Miolane, *Geometric Statistics in Computational Anatomy: Template Estimation and Subspace Learning in Manifolds, Lie groups and Stratified Spaces*, Nice-Sophia Antipolis University. Directed by X. Pennec. Defended on December 16, 2016.

- Anant Vemuri, *Inter-operative biopsy site relocalization in gastroscopy : application to oesophagus*, Nice Sophia Antipolis University. Co-directed by S. Nicolau and N. Ayache. Defended on April 26th 2016.

- Matthieu Lê, *Brain tumor growth modeling : application to radiotherapy imaging*, Nice Sophia Antipolis University. Co-directed by H. Delingette and N. Ayache. Defended on June 23rd 2016.

- HdR : Maxime Sermesant, When Cardiac Biophysics Meets Groupwise Statistics: Complementary Modelling Approaches for Patient-Specific Medicine, Universite Nice Sophia Antipolis, June 9.

9.2.3. PhD in progress

Marc-Michel Rohé, *Analyse statistique spatio-temporelle des formes, déformations, flots et propriétés physiologiques du cœur*, Nice Sophia Antipolis University. Started in 2014. Co-directed by X. Pennec and M. Sermesant.

Sophie Giffard-Roisin, *Non-invasive Estimation of Cardiac Electrophysiological Parameters*, Nice Sophia Antipolis University. Started in 2014. Co-directed by N. Ayache and M. Sermesant.

Roch Molléro, *Uncertainty quantification in personalized electromechanical models. Application to cardiomyopathies and obesity*, Nice Sophia Antipolis University. Started in 2014. Co-directed by N. Ayache and M. Sermesant.

Thomas Demarcy, *Segmentation and anatomic variability of the cochlea and other temporal bone structures from medical images*, Nice Sophia Antipolis University. Started in 2014. Directed by H. Delingette.

Loïc Devilliers, *Consistency of statistics on infinite dimensional orbifolds – Applications to computational anatomy*, Nice Sophia Antipolis University. Started in October 2015. Co-directed by X Pennec and St. Allassonière.

Raphaël Sivera, *Analyse statistique de l'évolution de structures morphologiques partir de séquences temporelles d'IRM*, Nice Sophia Antipolis University. Started in October 2015. Co-directed by N. Ayache and H. Delingette.

Pawel Mlynarski, *Tumor segmentation based on Random Forests and Convolutional Neural Networks trained on partially annotaded data*, Nice Sophia Antipolis University. Started in December 2015. Co-directed by N. Ayache and H. Delingette.

Qiao Zheng, *Deep learning for cardiac image analysis*, Nice Sophia Antipolis University. Started in January 2016. Co-directed by N. Ayache and H. Delingette.

Shuman Jia, *Population-based Model of Atrial Fibrillation: from Shape Statistics to Group-wise Physiology*, Nice Sophia Antipolis University. Started in 2016. Co-directed by M. Sermesant and X. Pennec.

Wen Wei, *Learning Brain Alterations in Multiple Sclerosis from Multimodal Neuroimaging Data*, Nice Sophia Antipolis University. Started in 2016. Co-directed by N.Ayache and O.Colliot.

Julian Krebs, *Robust image registration based on machine learning*, Nice Sophia Antipolis University. Started in 2016. Co-directed by H. Delingette and N. Ayache.

9.2.4. Juries

N. Ayache was co-supervisor of the PhD theses of Matthieu Lê (Univ. of Nice Sophia Antipolis), Anant Vemuri (Univ. of Nice Sophia Antipolis), Pietro Gori (University of Paris), Mehdi Hadj-Hamou (Univ. of Nice Sophia Antipolis), and Bishesh Khanal (Univ. of Nice Sophia Antipolis). He was a member of the PhD thesis committee of Nina Miolane (Univ. of Nice Sophia Antipolis).

Hervé Delingette was co-supervisor of the PhD thesis of Matthieu Lê (Univ. of Nice Sophia Antipolis). He was a reviewer in the PhD thesis committee of Vincent Jaouen (Univ. of Tours) and of Tom Haeck (University KUL Leuven, Belgium). He was a member of the PhD thesis committee of Bishesh Khanal (Univ. of Nice Sophia Antipolis).

Xavier Pennec was supervisor or co-supervisor of the PhD theses of Bishesh Khanal (Univ. of Nice Sophia Antipolis), Mehdi Hadj-Hamou (Univ. of Nice Sophia Antipolis) and Nina Miolane (Univ. of Nice Sophia Antipolis).

Maxime Sermesant was a reviewer and a member of the PhD jury of Andjela Davidovic, Bordeaux University (Dec 9).

9.3. Popularization

- Nina Miolane participated to the following popularization events:
    - Speaker at Unesco France's Ceremony for 70th Anniversary.
    - Speaker at the Women Forum Global Meeting 2016. How to bring more women in the sci-tech workforce?
    - Speaker at the L'Oreal-Unesco Prizes Ceremony 2016.
    - Journal regional de France 3 Azur (Oct. 31 2016)
    - Invited on "Le Club de la Tete au Carre". France Inter (National Radio), Oct. 14 2016.
- M. Sermesant gave general audience lectures in regional high schools, during the Science Festival in Juan-les-Pins Congress center (Oct 23), and during the Inria-Industry meeting (Dec 1).

<h1 style="text-align:center; color:red;">ATHENA Project-Team</h1>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- R. Deriche is Adj. Director at the Doctoral School EDSTIC (Website: http://edstic.i3s.unice.fr/index.html)
- T. Papadopoulo (since september 2011) is a co-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).

10.1.1.2. Member of the Organizing Committees

- M. Clerc organized, with Bruno Cessac from Biovision team,the conference neurostim2016.inria.fr on neurostimulation of the sensory and central nervous systems.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- R. Deriche is member of the conference Programme Committee (PC) of the International Symposium on Biomedical Imaging (ISBI), member of the PC of MICCAI 2016 Workshop on Computational Diffusion MRI and member of the PC of MFCA 2016 MICCAI workshop on Mathematical Foundations of Computational Anatomy.
- Demian Wassermann, member of the Program Committee of MICCAI 2016.
- Maureen Clerc was member of the BCI Meeting 2016 Program Committee.

10.1.2.2. Reviewer

- R. Deriche serves several international institutions in reviewing applications : ERC Grants, Swiss National Science Foundation, the Netherlands Organisation for Scientific Research (NWO)...
- R. Deriche serves several international conferences (Isbi, MICCAI, ISMRM...) and international workshops (CD-MRI Miccai, MFCA Miccai...).
- T. Papadopoulo serves several international conferences as a reviewer (ICIP, EMBC, MICCAI, ISBI, CDMRI, HBM).
- D. Wassermann serves several international institutions in reviewing applications: ANR, the Netherlands Organisation for Scientific Research (NWO), ...
- D. Wassermann serves several international conferences as a reviewer (MICCAI, ISMRM, HBM, CDMRI, etc)

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- R. Deriche is member of the Editorial Board of the Journal of Neural Engineering, Associate Editor of SIAM Journal on Imaging Sciences (SIIMS), editorial board member at Springer for the book series entitled Computational Imaging and Vision and member of the Editorial Board of the Medical Image Analysis Journal

- M. Clerc is member of the Editorial Board of Biomedical Engineering OnLine, and of the ISTE-Wiley book series.

10.1.3.2. Reviewer - Reviewing Activities

- R. Deriche serves several international journals (NeuroImage, IEEE Transactions on Medical Imaging, Magnetic Resonance in Medicine, Journal of Mathematical Imaging and Vision, Medical Image Analysis Journal,...).
- T. Papadopoulo serves several international journals (IEEE Transactions on Biomedical Engineering, Frontiers Neuroscience, Journal of Physics A, International Journal on Computer Vision,...).
- D. Wassermann serves several international journals (NeuroImage, IEEE Transactions on Medical Imaging, Human Brain Mapping, Medical Image Analysis Journal,...).

10.1.4. Invited Talks

- M. Clerc gave invited talks at: Seminar SIESTE (ENS Lyon, March 2016), Imaging Seminar in Paris (Institut Henri Poincaré, November 2016)
- R. Deriche gave two plenary talks at the *13th IEEE International Conference on Signal Processing, November 7, 2016* in Chengdu and at the *Big Data in Medical Imaging Forum, November 10th, 2016* in Guiyang, both in China.
- R. Deriche gave a plenary talk at the *Summer school on Brain Connectomics, September 20, 2016* in Verona, Italy.
- T. Papadopoulo gave an invited talk in the ChildBrain symposium at the *Biomag conference, October 6, 2016* in Seoul, Korea [20].
- D. Wassermann gave a invited talks at: Stanford Medical School and at the Brain and Spine Institute, Paris.

10.1.5. Leadership within the Scientific Community

- M. Clerc coordinates the Inria Project Lab BCI-LIFT.
- R. Deriche is the P.I of the ERC AdG CoBCoM.

10.1.6. Scientific Expertise

- M. Clerc is a member of the Inria Evaluation Committee since 2015.
- M. Clerc is a member of the Scientific Committee of Académie 4 of University Côte d'Azur.
- R. Deriche is a member of the Scientific Committee of Académie 2 of University Côte d'Azur.
- R. Deriche serves several international institutions in reviewing applications : ERC Grants, Swiss National Science Foundation, the Netherlands Organisation for Scientific Research (NWO).

10.1.7. Research Administration

- M. Clerc is Déléguée Scientifique Adjointe (vice-head of Science) of the Sophia Antipolis Inria Research Center since 2014.
- M. Clerc is member of the Commission Scientifique Interne (CoSI) of Inria since 2014.
- R. Deriche is Chair of the 2015 and 2016 Inria Sophia Antipolis recruitment commitees
- 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) and member of the Academic Council of UCA (Nice Côte d'Azur University)
- T. Papadopoulo is the head of the DTK platform committee of the Sophia Antipolis Inria Research Center since 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Tutorial course by M. Clerc at ChildBrain Winter School (Jyväskylä, Finland, January 2016) : "Advanced Signal Processing".

Tutorial course by M. Clerc at IEEE International Conference on Systems Man and Cybernetics (Budapest, Hungary, October 2016): "Why bother with avanced modeling in BCI ? Lessons from neuroimaging".

Master: R. Deriche, Variational approaches and Geometrical Flows for Computational 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: T. Papadopoulo, *3D Computer Vision*, 12 ETD, M1 International Ubinet, University of Nice Sophia Antipolis, France.

Master: T. Papadopoulo, *Inverse Problems in Brain Functional Imaging*, 36 ETD, M2 "Computational Biology and Biomedicine", 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.

Master: D. Wassermann, *Introduction to Computer Science*, 24 ETD, M2, "Computational Biology and Biomedicine", University of Nice Sophia Antipolis, France.

Master: D. Wassermann, *Machine Learning in Neuroimaging*, 36 ETD, University of Buenos Aires, Argentina

10.2.2. Supervision

PhD in progress: Rutger Fick, "Microstructure Recovery via dMRI", started Oct. 2013, Université Nice Sophia Antipolis. Supervisor: Rachid Deriche.

PhD in progress: Kai Dang, "Modeling and characterizing electrical conductivity for cochlear implantation", started Dec. 2013, Université Nice Sophia Antipolis. Supervisor: Maureen Clerc.

PhD defended in April 20, 2016: 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: Abib Alimi, "Diffusion & PLI" started Nov, 1st, 2016, Université Nice Sophia Antipolis. Supervisor: Rachid Deriche.

PhD in progress: Isa Costantini, "Brain Connectomics" started Oct. 1st, 2016, Université Nice Sophia Antipolis. Supervisor: Rachid Deriche.

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 Oct. 2013, Supervisor: Theo Papadopoulo.

PhD in progress: Kostiantyn Maksymenko, "Inverse problem in EEG/MEG/SSEG: towards a better consideration of anatomo-functional constraints ", Université Nice Sophia Antipolis, started Oct. 2016, Supervisor: Theo Papadopoulo and Maureen Clerc.

PhD in progress: Guillermo Gallardo Diez, "Connectivity-Based Brain Parcellation", started Nov. 2015, Université Nice Sophia Antipolis. Supervisors: D. Wassermann/ R. Deriche

PhD in progress: Nathalie Gayraud, "Structured Dictionary Learning", University Nice Sophia Antipolis, started November 2015, supervisor: Maureen Clerc.

PhD in progress: Federica Turi, "User-adapted Brain Computer Interaction", University Nice Sophia-Antipolis, started October 2016, supervisor: Maureen Clerc.

Master: Kostiantyn Maksymenko, "Efficient lead field computation a la Reduced Basis Methods", Supervised by T. Papadopoulo and M. Clerc.

Master: Paul Görlach, "Rotational Invariants of Ternary Quartics", Supervised by E. Hubert and T. Papadopoulo. Clerc.

Master: Nahuel Lascano, "Weigthed Newtwork Representations of Structural Connectivity", Supervised by D. Wassermann.

Master: Leonel Exequiel Gomez, "Super-resolution approaches to Multi-Shell dMRI", Supervised by D. Wassermann.

Internship: Federica Turi, "Novel flashing strategies for the P300-speller", Supervised by M. Clerc.

10.2.3. Juries

- M. Clerc participated in PhD juries of: Michaël Acquadro (Grenoble, April 2016) as reviewer, Tafkarinas Medani (Paris 6, September 2016) as reviewer, Flavie Torrecillos (Marseille, October 2016) as examiner, Andéol Evain (Rennes, December 2016) as examiner.

- M. Clerc participated in HDR jury of Sophie Achard as reviewer (Grenoble, March 2016) and Fabien Lotte (Bordeaux, September 2016) as examiner.

- M. Clerc participated in the recruitment jury of Professor in section 26 in University Nice Sophia Antipolis.

- M. Clerc participated in the recruitment jury for CR2/CR1 in Inria Sophia Antipolis.

- R. Deriche chaired the recruitment jury for CR2/CR1 in Inria Sophia Antipolis.

- R. Deriche chaired the PhD jury of Simona Schiavi at Ecole Polytechnique, Paris Saclay, Dec. 1st, 2016.

- R. Deriche chaired the PhD jury of Mehdi Hadj-Hamou at Nice University, Dec. 14th, 2016.

- R. Deriche participated in the PhD Jury of P. Gori at ICM, Paris, Jan. 8th, 2016

- R. Deriche participated in the PhD Jury of G. Girard at Sherbrooke University, April, 20, 2016.

- T. Papadopoulo participated in the PhD Jury of G. Girard as reviewer at Sherbrooke University, April, 20, 2016.

- T. Papadopoulo participated in the PhD Jury of A. Pillain as reviewer at Telecom Bretagne, October, 12, 2016.

10.3. Popularization

During the "Semaine du Cerveau" (Brain Awareness week) in March 2016, Maureen Clerc organized a "Cafe Technologique" about Brain-Computer Interfaces, in which over 100 attendees could see a live demo of the P300 speller with both clinical-grade and consumer-grade devices.

Maureen Clerc participated in a "Gala for Amyotrophic Lateral Sclerosis" at the AXA Headquarters in Paris, a fundraising event, where she presented the P300 speller project.

<p style="text-align:center; color:red;">**BIOCORE Project-Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

J.-L. Gouzé organized with P. Brest, H. Barelli and F. Besse the Signalife Maths-Bio workshop held at the Inria Sophia Antipolis center, on November 25.

10.1.1.1. Members of the conference program committee

J.-L. Gouzé is a member of the program committee for the conference BIOMATH, held in Sofia (Bulgaria), and POSTA (Rome, Italy). He is in the scientific committees of several summer schools.

O. Bernard is in the technical committee of the Computer Applied to Biotechnology (CAB) conferences, of the FOSBE conference (Foundations of Systems Biology in Engineering) and of the Algae Europe conference.

Valentina Baldazzi co-organised the HortiModel2016 international symposium on *Models for plant growth, environment control and farming management in protected cultivation*, Avignon, 16–22 September 2016.

10.1.1.2. Reviewers

All BIOCORE members have been reviewers for the major 2016 conferences in our field: CDC, IFAC NOLCOS,...

10.1.2. Journal

10.1.2.1. Members of the editorial board

M. Chaves is an Associated Editor of SIAM Journal on Applied Dynamical Systems (SIADS), since January 2015

10.1.2.2. Reviewers

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

10.1.3. Invited talks

J.-L. Gouzé was invited to give the plenary introductory lecture at POSTA, the 5th International Symposium on Positive Systems, Università Campus Bio-Medico di Roma , Italy.

M. Chaves gave a talk at the workshop on "Asynchronous dynamics of logical models: assessing biologically relevant properties", at CIRM, Marseille (November 2016).

O. Bernard was invited to give a conference on microalgae at Ecole Centrale de Paris ("Biotechnological challenge") 'Use of microorganisms for biofuel production" (December, 8th, 2016).

O. Bernard was invited to give a talk at the ALgoReso workshop related to the development of innovative photobioreactors (May, 12th, 2016).

O. Bernard was invited for a presentation at the Metabolism in Systems Biology (Lille, 24th of November, 2016) workshop organized by the BIOSS working group.

O. Bernard was invited for a talk at the Days of the SFR Condorcet (Namur, 5-6 july, 2016).

10.1.4. Scientific expertise

J.-L. Gouzé was in several evaluation committees or juries: Stic Amsud, Région Région Aquitaine- Limousin - Poitou Charentes, Université de Grenoble, Centrale-Supelec.

O. Bernard is a member of the scientific committee of the companies Fermentalg and BioEnTech.

10.1.5. Research administration

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 in the scientific committee of Académie 4 of UCA-Jedi. He is a member of the board of the SFBT (French Speaking Society for Theoretical Biology).

M. Chaves and J.-L. Gouzé were part of the committee for the selection of the 2016 Signalife PhD students.

M. Chaves is a member of the COST-GTRI (working group on International Relations at 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 is a member of the CLHSCT (local committee for the safety of working conditions)

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

S. Touzeau is an elected member of the scientific committee of the MIA department at INRA (2011–2016). She is a member of the steering committee of the metaprogramme SMaCH *Sustainable Management of Crop Health*, INRA (since 2016).

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. Since 2015, F. Grognard is a member of the MBIA CSS (Specialised Scientific Commission), in charge of the research scientists evaluation at INRA. He is member of the steering committee of Academy 3, Space, Environment, Risk & Resilience of UCA-JEDI.

L. Mailleret is the head of the M2P2 team (Models and Methods for Plant Protection) of ISA.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Bachelor: F. Grognard (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.

Bachelor: N. Bajeux (192h ETD) is ATER at IUT Nice Côte d'Azur of Université of Nice Sophia Antipolis, France.

Master: F. Grognard (33h ETD) and L. Mailleret (33h 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 (9h ETD), "Discrete and continuous approaches to model gene regulatory networks", Master of Science in Computational Biology (M2), University of Nice - Sophia Antipolis.

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

Master: O. Bernard (4.5h 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: S. Touzeau (30.75h ETD), "Analyse de données", M1, 2nd engineering year in Génie Biologie, Polytech'Nice – Université Nice Sophia Antipolis, France.

Doctorat: M. Chaves gave courses at the Research School on "Modelling Complex Biological Systems in the Context of Genomics, advances in Systems and Synthetic Biology" (1.5h, Évry, March 2016) and the Summer School on "Modélisation formelle de réseaux de régulation biologique" (3h, Porquerolles, June 2016).

Doctorat: S. Touzeau (8h), "Mathematical modelling in animal and plant epidemiology", CIMPA-Cameroun-CETIC research school *Mathematical and Computer Models in Epidemiology, Ecology and Agronomy*,Yaoundé, Cameroon, September 2016.

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 three groups of 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.

10.2.2. Supervision

HDR: F. Mairet, "Control theory applied to microorganism growth: from physiological insights to bioprocess management", December 7th, 2016.

PhD : C. Combe, "Quantitative and qualitative effects of light on the Growth of microalgae in dense cultures ", May, 9th, 2016, UPMC. Supervisors: A. Sciandra, S. Rabouille and O. Bernard.

PhD : E. Rousseau, "Impact of genetic drift and selection on the durability of plant resistance to viruses" ", May 27th, 2016, Univ. Nice Sophia Antipolis. Supervisors: F. Grognard, L. Mailleret, B. Moury, and F. Fabre (INRA Avignon).

PhD : G. Grimaud, "Modeling of the effect of temperature on phytoplankton: from acclimation to adaptation", June, 14th, 2016 Univ. Nice Sophia Antipolis. Supervisors: O. Bernard, F. Mairet and S. Rabouille.

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

PhD in progress : N. Bajeux, "Influence d'une densité dépendance dans les modèles impulsionnels de dynamiques des populations", since October 2013, Univ. Nice Sophia Antipolis. Supervisors: F. Grognard and L. Mailleret.

PhD in progress : S. Casagranda. "Analysis and control of cell growth models", since November 2013, Univ. Nice Sophia Antipolis. 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, Univ. Nice Sophia Antipolis. Supervisors: M. Chaves and F. Delaunay (Univ. Nice, iBV).

PhD in progress : M. Caïa, "Characterization and modelling of a mixotrophic algae - bacteria ecosystem for waste recovery", since September 2015, University Montpellier. Supervisors: J.-P. Steyer and O. Bernard.

PhD in progress : M. Haond. "Causes et conséquences des fronts de colonisation poussés", since October 2015, Univ. Nice Sophia Antipolis. Supervisors: E. Vercken (UMR ISA), L. Mailleret and L. Roques (UR BioSP).

PhD in progress : C. Martinez von Dossow . "Modélisation et optimisation de consortia microalgues-bactéries", since February 2016, UPMC. Supervisors: O. Bernard, F. Mairet and A. Sciandra.

PhD in progress : L. Pereira. "Experimental and computational approaches to understanding the molecular origins of drug response heterogeneity, underlying resistance to cancer therapies", since October 2016, Univ. Nice Sophia Antipolis. Supervisors: M. Chaves and J. Roux (IRCAN, Nice).

PhD in progress : L. Chambon. "Control of models of genetic regulatory networks". since October 2016, Univ. Nice Sophia Antipolis. Supervisor J.-L. Gouzé.

PhD in progress : C. Lopez-Zazueta. "Use of Perturbation Theory to optimize metabolic production of biofuels by microalgae.", since January 2016, Univ. Nice Sophia Antipolis, supervisors O. Bernard and J.-L. Gouzé.

PhD in progress: S. Nilusmas, "Gestion durable des nématodes à galles en cultures maraîchères : modélisation et optimisation du déploiement des résistances et des pratiques agronomiques", since December 2016, Univ. Nice Sophia Antipolis. Supervisors: S. Touzeau, C. Caporalino (ISA), V. Calcagno (ISA), P. Castagnone (ISA) and L. Mailleret.

Master theses and engineering internships supervision

M1: Ambre Vaisseix, "Effet de la température pour des cultures de microalgues sous serre", Université de Nantes

M1: Anais Bacquet, "Modélisation métabolique de Chlorella sorokiniana, en condition mixotrophe pour identifier des stratégies optimales de consommation de déchets organiques", Univ. Nice Sophia Antipolis.

Engineer: Jérome Grenier, "Développement et modélisation d'un système innovant de production de microalguessous forme de biofilm", Ecole Centrale de Paris

M2: Christina Kozia, "Dynamical representation and analysis of models of genetic regulatory networks", Univ. Nice Sophia Antipolis.

Engineer: Arthur Péré, "Évaluation in silico de la durabilité de résistances variétales avec interaction entre gènes par une approche de modélisation", INSA Lyon.

M2: Samuel Nilusmas, "Évolution de la virulence chez un nématode phytoparasite : déploiement optimal et robuste de plantes résistantes", Université Claude Bernard Lyon 1.

10.2.3. Juries

M. Chaves was reviewer for the PhD defense of Simona Catozzi "Retroactivity in signal transduction: a comparative study of forward and backward responses in signaling cascades", University of Nice Sophia Antipolis, December 15, 2016.

J.-L. Gouzé was reviewer for the PhD of Hafiz Ahmed "Modeling and synchronization of biological rhythms: from cells to oyster behavior", University of Lille 1, September 22, 2016.

J.-L. Gouzé was reviewer for the PhD of Clément Aldebert, "Uncertainty in predictive ecology: consequence of choices in model construction ", Univ Aix-Marseille, November 29, 2016.

J.-L. Gouzé was in the jury of the HDR of Francis Mairet, " Control theory applied to microorganism growth: from physiological insights to bioprocess management ", University of Nice Sophia Antipolis, December 7, 2016.

J.-L. Gouzé was in the jury of the PhD of Dominique Lamonica, "Capturer les interactions écologiques en microcosme sous pression chimique à travers le prisme de la modélisation", Université Claude Bernard Lyon 1,April 8, 2016.

J.-L. Gouzé was in the jury of the PhD of Elsa Rousseau "Effect of genetic drift and selection on plant resistance durability to viruses", University of Nice Sophia Antipolis, May 27, 2016. F. Grognard and L. Mailleret were invited members of this jury

O. Bernard was reviewer for the HDR of S. Tebbani "Contribution à l'étude des systèmes non linéaires incertains : application à la commande de systèmes biotechnologiques ", University of Paris-Sud, November 7th, 2016.

O. Bernard was reviewer for the PhD thesis of C. E. Robles Rodriguez " Modeling and optimization of bio-lipid production by oleaginous yeasts ", University of Toulouse, October 19th, 2016.

O. Bernard was in the PhD jury of J. Rumin "Non-GMO improvement of microalgae performances", University of Nantes, March, 16th, 2016.

O. Bernard was in the PhD jury of G. Grimaud, "Modeling of the effect of temperature on phytoplankton: from acclimation to adaptation", Univ. Nice, June 14th, 2016.

O. Bernard was in the PhD jury of C. Combe, "Quantitative and qualitative effects of light on the Growth of microalgae in dense cultures ", UPM, May 9th, 2016.

S. Touzeau is in the thesis committees of David Demory (UPMC, 2013–2016).

10.3. Popularization

The activities related to microalgae have generated many articles in national newspapers (Le Monde, Nice Matin, journal du CNRS,...) where ...), and broadcasts on national radio (Europe 1) and TV (France 2, France 3). Several articles were written by the team members explaining the hurdles and potential of microalgae.

M. Chaves was part of the jury for the PhD student contest "Ma thèse en 180 sec" (regional stage, April 2016, Nice).

Biocore, especially Stefano Casagranda and Lucie Chambon, was involved in the "Spring of Researchers" and in the "Fête de la Science".

P. Bernhard has given conferences in Lycée René Gosciny, in Drap on January 12th (Le nombre d'or: mythes et curiosités), in Lycée Alexandre Dumas, in Cavaillon on February 29th ("Game Theory") and in Lycée Costebelle, in Hyères on March 15th (Le nombre d'or: mythes et curiosités).

BIOVISION Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

- Bruno Cessac: "Neural Network Dynamics in Health and Disease", 12-14 October 2016, Institut de Neurosciences de la Timone (INT), Marseille, France, http://www.gdr-neuralnet.cnrs.fr/en.
- Bruno Cessac: "Neurostim2016", http://neurostim2016.inria.fr/ 22 November 2016.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

- Pierre Kornprobst was a member of the program committee of the 24th European Signal Processing Conference (EUSIPCO 2016).

8.1.2.2. Reviewer

Pierre Kornprobst has been a reviewer for SIGGRPAH 2016.

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

Pierre Kornprobst is associate editor for the Computer Vision and Image Understanding Journal (CVIU).

8.1.4. Invited Talks

- Bruno Cessac, Toulon, March 2016.
- Bruno Cessac, Theoretical Physics lab, Geneve, March 2016.

8.1.5. Research Administration

- Pierre Kornprobst is an elected member of the Conseil Académique d'Université Côte d'Azur (UCA).
- Pierre Kornprobst leads the project UCAGate to provide UCA a new tool aiming at (i) giving a clear view of skills and competences of UCA for internal and external users, (ii) facilitate the emergence of new transdisciplinary synergies between UCA partners, (iii) provide UCA tools to show the transformation effect from the IDEX for the next evaluation. A first prototype is expected in February 2017.
- Pierre Kornprobst is member of the editorial committee of the Sophia Antipolis internal letter SAM & YOU.
- Pierre Kornprobst has been appointed by Inria Direction representative of the administration in the advisory committee of Inria contractual doctoral candidates[0] (on July 16, for two years).

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[0]Représentant de l'administration suppléant au sein de la Commission consultative des doctorants contractuels d'Inria

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Theodora Karvouniari, "Transmissions numériquese , 1ere année de l' IUT, Departement Réseaux et Telecommunications, 64h/ an, 50 students.

Master 2: Bruno Cessac, *Neuronal dynamics*, 36 hours, Master 2 of Computational Biology and Biomedicine, Université Nice Sophia Antipolis, France.

8.2.2. Supervision

- PhD in progress: Selma Souihel, "Generic and specific computational principles for the visual anticipation of motion trajectories". Started in November 2016. Supervisor B. Cessac

- PhD in progress: Theodora Karvouniari, "Retinal waves in the retina: theory and experiments". Started in October 2014. Supervisor, B. Cessac.

- PhD defended: Kartheek Medathati, "Towards synergistic models of motion information processing in biological and artificial vision", co-supervised by Pierre Kornprobst and Guillaume S. Masson (Institut de Neurosciences de la Timone, Marseille, France), December 13, 2016.

8.2.3. Juries

Bruno Cessac, member of the Jury's thesis: "Vers des modèles synergiques de l'estimation du mouvement en vision biologique et artificielle", by Kartheek Medathati.

Bruno Cessac, member of the Jury's thesis: "Structuration temporelle de la mémoire de travail dans les réseaux de neurones récurrents" by Guillaume Rodriguez.

8.3. Popularization

- Rencontre avec le public à la suite de la projection du film "La nuit qu'on suppose" de Benjamin d'Aoust, Médiathèque d'Antibes, 16 Janvier 2016.

- Bruno Cessac. Cafe In Sophia. La rétine, fonctionnement et thérapie, 28 Janvier 2016.

<p style="text-align:center">**CAMIN Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Christine Azevedo Coste was general chair of IFESS conference. http://ifess2016.inria.fr
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/ieeehmu/

10.1.1.2. Member of the Organizing Committees

François Bonnetblanc, Mitsuhiro Hayashibe were membres of the IFESS organizing committee;

We organized the third European Computational Motor Control Summer School, June 26- July 2, 2016, Montpellier (Nicolas Schweighofer, Denis Mottet, Mitsuhiro Hayashibe) and Mitsuhiro Hayashibe organized Hands-on seminar for Friday July 1st. Motor Synergies. (AM : Andrea D'Avella, PM: Mitsuhiro Hayashibe)

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- David Guiraud was associate editor of Theme 6 (rehabilitation Engineering) at IEEE EMBC conference
- David Guiraud was member of the IFESS program committee
- François Bonnetblanc was member of the IFESS program committee
- David Andreu was member of the IFESS program committee
- Mitsuhiro Hayashibe was member of the IFESS program committee
- Daniel Simon, ETFA 2016 and ICINCO 2016
- Mitsuhiro Hayashibe was Associate Editor of IEEE ICRA'17 (International Conference on Robotics and Automation) in charge of handling reviews on 6 papers in Nov.2016.

10.1.2.2. Reviewer

- Christine Azevedo was reviewer for IFESS and Engineering in Medicine and Biology Conference conferences
- David Guiraud was reviewer for IFESS, IEEE EMBC conferences
- François Bonnetblanc was reviewer for the IFESS and IEEE EMBC conferences;
- Daniel Simon was reviewer for the ETFA, ICINCO and MED conferences;
- Karen Godary-Dejean was reviewer for the IROS conference

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

M. Hayashibe is member of the Editorial Board of the International Journal of Advanced Robotic Systems, in Rehabilitation Robotics. David Guiraud is member of the editorial board of Journal of Neural Engineering (JNE) M. Hayashibe is member of the Editorial Board of ROBOMECH Journal.

10.1.3.2. Reviewer - Reviewing Activities

- François Bonnetblanc was reviewer for Cerebral Cortex, Neuropsychologia, and for the Journal of Neurophysiology;
- David Guiraud was reviewer for IEEE TNSRE, IEEE TBME, JNE, MEP, IEEE TBIOCAS, JNER, IEEE TCSC, journals
- Christine Azevedo was reviewer for Gait and Posture, IEE Transactions on Robotics (TRO), Artificial Organs, IEEE Journal of Biomedical and Health Informatics, IEEE Transactions on Biomedical Engineering (TBME) and IEEE Transactions on Neural Systems and Rehabilitation Engineering (TNSRE) Journals

10.1.4. Invited Talks

Mitsuhiro Hayashibe gave 2 talks on "Personalized Neuroprosthetics" and " Synergetic Learning Control" for LSRO and BIOROB labs, EPFL respectively at October 2016 (Lausanne, Switzerland).
Mitsuhiro Hayashibe gave a talk on "Synergetic Learning Control Paradigm - Computational Motor Control Principle" at Workshop Human Motor Control and Learning (EUROMOV, Montpellier) on November 21th 2016. In this workshop, Prof. Mark L. Latash (Pennsylvania State University, USA) and Dr. Yen-Hsun Wu were also invited.
Christine Azevedo gave a talk on "Neuroprosthetics in functional assistance: from observation to artificial control of movement" at EUROMOV, Montpellier on November 10th 2016.
Christine Azevedo gave a lecture at the International Symposieum on Electrical Stimulation Applied to Assistive technologies at Brasilia University in May 2016
Christine Azevedo gave a lecture at Genoploys center in June 16th ithin RUREKA cycle of conferences

10.1.5. Leadership within the Scientific Community

Christine Azevedo Coste is member of the board of International Functional Electrical Stimulation Society.

10.1.6. Scientific Expertise

Karen Godary-Dejean is member of COSTI «Acquisition de données traitement et visualisation de données numériques – Mécatronique » at Transfert LR, and member of the tranfer commission at LIRMM.

10.1.7. Research Administration

Christine Azevedo Coste is member of Inria Evaluation Committee.
She is involved in the working group for DEFROST and CHROMA Inria teams creation.
David Guiraud is involved in the working group for BIOVISION Inria team creation.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master : Christine Azevedo, Ethics consideration in bioengineering research, 3h, M1, Master STIC SANTÉ, Montpellier University, France
- Master: Mitsuhiro Hayashibe, Neuroprotheses I and II (module coordinator), EMG and EEG signal processing and other rehabilitation modeling issues, 12h, Master STIC pour la Sante, Univ. de Montpellier, France;
- Master: Karen Godary-Dejean, computer engineering: embedded network, real time, DES (Discrete event system) modeling and control, dependability, formal validation, 230h, Polytech Montpellier.
- Master: David Guiraud, FES and Neuroprosthesis, M2 SMH, 12h, M1 and M2 Stic Santé 6h
- Master : D. Andreu, Software engineering, real time OS, discrete event systems, control architectures, networks, neuro-prosthesis, 200h, master and engineers degrees, Polytech Montpellier, France;

The team is leading 2 modules in Master Stic-Santé in Montpellier: Neuroprosthesis I (HMSN216) and II and (HMESN321). The objective is to initiate students to techniques used for the design of neuroprotheses in order to compensate for sensory motor deficiencies. This course aims at: investigating uses and needs for basic medical systems, as well as active and implantable ones and teaching of theoretical tools required for theirs understanding, settings and their conception (command, signal processing of physiological and physical signals, physical interfacing between living and artificial systems, bases in neurophysiology). Students will have to learn the following skills: electro- and neurophysiology bases required to understand active medical implantable systems, bases in signal processing, bases in embedded informatics and electronics, knowledge about sensory-motor functions and their deficiencies, bases on simulations and closed loop control for living and artificial systems.

10.2.2. *Supervision*

PhD defended on December 14th 2016 : Wafa Tigra, Assistance à la préhension par stimulation électrique fonctionnelle chez le patient tétraplégique, 01/10/2013, Christine Azevedo Coste, David Guiraud,

PhD defended on December 9th 2016 : Thomas Guiho, Évaluation de l'efficience de la stimulation électrique médullaire en vue de la restauration des fonctions urinaires et intestinales chez le patient lésé médullaire, 01/10/2013, David Guiraud, Christine Azevedo Coste

PhD in progress : Antony Boyer, Neuroplasticité et récupération dans les structures corticales et sous corticales distantes suite à une chirurgie éveillée des gliomes infiltrants de bas grades, 01/09/2016, François Bonnetblanc and Sofiane Ramdani.

PhD in progress : Marion Vincent, Mesures des potentiels évoqués par la stimulation électrique directe lors de la chirurgie éveillée des gliomes infiltrants de bas grades vers une compréhension des effets électrophysiologiques, 01/12/2013, François Bonnetblanc, David Guiraud and Hugues Duffau.

PhD in progress : Maxence Blond, Commande et modélisation d'un véhicule sous-marin, 18/01/2016, Daniel Simon, Vincent Creuze (LIRMM) and Ahmed Chemori (LIRMM).

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

PhD in progress : Mélissa Dali, modèles de génération et de propagation de potentiel d'action neurla en condition de stimulation sélective multipolaire, since october 2014, David Guiraud and Olivier Rossel (up to july 2016).

PhD in progress : Benoît Sijobert, Stimulation électro-fonctionnelle pour l'assistance aux mouvements des membres inférieurs dans les situations de déficiences sensori-motrices, Since Dec. 2015, Christine Azevedo Coste and D. Andreu.

PhD in progress: Victor VAGNE, "Couplage de la Spectroscopie en proche infrarouge et de la stimulation Transcrânienne (NIRS-tDCS) à courant continu dans l'Evaluation diagnostique de l'ischémie cérébrale lors d'un AVC", Oct. 2016, M. Hayashibe, D. Guiraud, Vincent Costalat (CHU Montpellier) and Emmanuelle Le Bars (CHU Montpellier)

10.2.3. *Juries*

Daniel Simon was reviewer and member of the PhD jury of Wael Zouaoui (LAAS Toulouse, january 15, 2016).

Karen Godary-Dejean was member of the PhD jury of Louis Marie Givel,École Centrale de Nantes, december 16, 2016.

David Guiraud was reviewer of 2 PhD thesis at UTC and Univ. Of Toulon.

David Guiraud was member of the selection committee, CNU61, for an assistant professor position at the university of Nantes.

Christine Azevedo was member of the selection committee, Inria, Young graduate scientist ("CR2") in Paris.

David Andreu was reviewer and member of the PhD jury of Nicolas Gobillot, INPT Toulouse, april 29, 2016, and member of the PhD jury of Lotfi Jaiem, University of Montpellier, november 21, 2016.

10.3. Popularization

- Large cover in general media (radio, TV, newspapers) of Cybathlon project http://freewheels.inria. fr/

- Christine Azevedo presented Cybathlon project at DIRCOM Inria, Rocquencourt, in the context of Handicap national week.

- Christine Azevedo presented Freewheels experience at Carrefour du Pôle EUROBIOMED (Marseille).

- Christine Azevedo presented the job of researcher in secondary school Collège Léon Cordas (Montpellier)

CASTOR Project-Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Organisation

7.1.1.1. Member of the Organizing Committees

- D. Auroux, C. Boulbe and L. Busé (Aromath - Inria) have organized a SEME (Semaine d'Etudes Maths-Entreprises) under the initiative of AMIES.
    - Project proposed by Option Way, Optis, Thales Alenia Space, Wever, Exact Cure
    - 25-29 Juanary 2016, Campus Sophia Tech (Inria, Univ. Nice Sophia Antipolis)
    - http://math.unice.fr/~auroux/SEME/
- From April 12th to 15th 2016, CASTOR (Boniface Nkonga, Hervé Guillard, Afeintou Sangam) has organized in Sophia Antipolis, the annual user meeting of the Jorek code that has gathered 25 plasma specialists around the development of this code dedicated to MHD studies in Tokamaks.
- Minisymposium: Numerical Methods for Magnetohydrodynamics/Méthodes numériques pour les équations de la magnétohydrodynamique, CANUM 2016, 43e Congrès National d'Analyse Numérique, Obernai, France, May 09-13, 2016.

  The simulation of electrical conducting fluids relies on numerical methods from computational fluid dynamics and computational electrodynamics. As the underlying magnetohydrodynamic (MHD) models are non-standard coupled systems of non-linear partial differential equations, the main ingredients of numerical solution methods such as preconditioners, iteration schemes and stability require special attention. Moreover, in many applications such as plasmas, where we have no unique canonical MHD formulation in terms of PDEs, the development of numerical methods goes hand in hand with modelling: the models depend on the time and length scales of interest, but particular variations can avoid pitfalls in the numerical simulation.

  In this minisymposium we gathered talks from different application areas. Contributions included numerical analysis and computational methods for both established MHD models as well as specialized models for applications in plasma physics:
    - José Costa, CASTOR, Inria, SAM: High order stabilized finite element method for MHD and Reduced-MHD plasma modelling
    - Emmanuel Franck, Inria NANCY GRAND EST: Analyse des préconditionneurs physiques pour les équations d'Euler et de la MHD linéarisée
    - Céline Caldini-Queiros, MPI Garching: Couplage de modèles MHD et cinétiques dans des géométries complexes
    - Tahar Boulmezaoud, Université de Versailles: Equilibres magnétohydrostatiques et champs force-free

7.1.2. Journal

7.1.2.1. Member of the Editorial Boards

- C. Boulbe is layout editor of the free journal SMAI-Journal of Computational Mathematics.
- J. Blum is member of
    - the editorial board of the Journal of Scientific Computing (JSC),
    - the scientific commitee of the collection "Mathématiques et Statistiques" of the ISTE publications,

- – editor in chief of the ISTE Open Science journal: "Mathématiques appliquées et stochastiques".

7.1.2.2. Reviewer - Reviewing Activities

H. Guillard is reviewer for several journals including

- Journal of computational physics
- Computers and Fluids

7.1.3. Invited Talks

- J. Blum, The use of optimal control theory for equilibrium identification and optimization of plasma scenarios, Swiss Plasma Center, EPFL, Switzerland, November 28, 2016
- H.Heumann, Control methods for the optimization of plasma scenarios in a tokamak. Oberseminar Scientific Computing, University Würzburg, Würzburg, Germany, November 14, 2016
- H.Heumann, Numerical methods for tokamak plasma equilibrium evolution at the resistive diffusion timescale, Zurich Colloquium in Applied and Computational Mathematics, ETH Zurich, Zurich, Switzerland, March 16, 2016
- H.Heumann, Free-Boundary Axisymmetric Plasma Equilibria: Computational Methods and Applications , Theory Group Seminar, Princeton Plasma Physcis Laboratory, Princeton, USA, March 3, 2016
- H.Heumann, Quasi-static Free-Boundary Equilibrium of Toroidal Plasma: Computational Methods and Applications, Magneto-fluid dynamics seminar, Courant Institut, New York University, New York, USA, February 23, 2016

7.1.4. Leadership within the Scientific Community

- J. Blum is:
  - – a member of the scientific committee of Academy 1 of UCA-IDEX JEDI: «Networks, Information and Digital society»,
  - – member of the "bureau" and the director committee of the Fédération FR-FCM (Fédération de Recherche Fusion par Confinement Magnétique - ITER).
- H. Guillard is coordinator of the topic "Turbulence and transport of edge plasma" within the Fédération FR-FCM
- C. Boulbe is task coordinator of the ACT2: Free boundary equilibrium and Control within the Eurofusion WPCD workpackage.
- B. Nkonga is chairman of the GAMNI ("Groupe pour l'Avancement des Méthodes Numériques de l'Ingénieur"), group of the SMAI.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

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

Ecole d'ingénieur: D. Auroux, Méthodes numériques, 36h, M2, Polytech Nice Sophia, Université de Nice Sophia Antipolis, France

Ecole d'ingenieur: D. Auroux, Projet, 35h, L3, Polytech Nice Sophia Antipolis, France

Master: B. Faugeras, Optimisation, 18h, M1, Université de Nice Sophia Antipolis, France

Master: J. Blum, Optimisation et contrôle, 20h, M2, Université de Nice Sophia Antipolis, France

Master: J. Blum, Optimisation, 18h, M1, 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'ingenieur: C. Boulbe, Méthodes numériques - EDP, 66h, M1, Polytech Nice Sophia Antipolis, France

Ecole d'ingenieur: C. Boulbe, Projet, 35h, L3, Polytech Nice Sophia Antipolis, France

Licence: S. Minjeaud, module Eléments de calcul différentiel, 18 h, L3, Université de Nice Sophia Antipolis, France.

Master: S. Minjeaud, module Méthodes numériques en EDP, 36 h, M1, Université de Nice Sophia Antipolis, France.

Master: S. Minjeaud, module Analyse et simulations numériques pour les EDP, 20 h, M2, Université de Nice Sophia Antipolis, France.

Master: S. Minjeaud, module Simulations numériques des problèmes d'évolution, 20 h, M2, Université de Nice Sophia Antipolis, France.

Master: S. Minjeaud, Méthodes numériques en EDP, 18 h, M1, Université de 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, Eléments finis mixtes, 24h, M2, Polytech Nice Sophia, France

Ecole d'ingénieur/Master: B. Nkonga, Scilab, 28h, L3, Polytech Nice Sophia, France

Licence: A. Sangam, Analyse, 40h, L1, Université 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 Elements, 25h, M1, Université Nice Sophia Antipolis, France

7.2.2. Supervision

- 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 : X. Song, "Model based control oriented scenario construction in Tokamak", october 2016, Blaise Faugeras, Holger Heumann.

- PhD in progress : J. Llobell, "Schémas numériques sur grilles décalées pour la dynamique des gaz", October 1st 2015, T. Goudon, S. Minjeaud.

7.2.3. Juries

R. Pasquetti was in the following juries:

- HdR : Pascal Henri Biwole, Université Côte d'Azur,

- PhD : Benjamin Gaume, Université d'Evry Val-d'Essonne.

B. Nkonga was referee in the following juries:

- HdR: Jérôme Breil, Université de Bordeaux,
- PhD: Quentin Viville, Université de Bordeaux,
- PhD: Sara Pavan, Université Paris-Est.

H. Guillard was in the PhD jury thesis of

- PhD: José Costa, Université Côte d'Azur.
- PhD:: Léo Nouveau, Université de Bordeaux.

J. Blum was in the PhD jury thesis of

- PhD: Vladimir Groza, Université Côte d'Azur,
- PhD: Bienvenu Youmbi, Université Côte d'Azur,
- PhD: Michel Massaro, Université de Strasbourg.

7.3. Popularization

J. Blum has been invited to a dinner-conference organized by the Rotary Club of Grenoble Sud.
Title of the talk: "L'énergie de demain, ITER un soleil miniature?"

COFFEE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

We do not keep track of such activities.

9.1.1.2. Member of the Organizing Committees

We do not keep track of such activities.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

We do not keep track of such activities.

9.1.2.2. Member of the Conference Program Committees

We do not keep track of such activities.

9.1.2.3. Reviewer

We do not keep track of such activities.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

T. Goudon if founding editor and co-Editor in chief of SMAI-J. Computational Mathematics

9.1.4. Invited Talks

We do not keep track of such activities.

9.1.5. Scientific Expertise

FONDECYT (Chili), CERG (Hong-Kong), National Evaluation and Foresight Agency (Espagne), FRS-FNRS (Belgique), ANR and AERES/HCERES.

T. Goudon is member of Scientific Committees of CIRM and FSMP.

9.1.6. Research Administration

Roland Masson is the head of the team PDE and Numerical Analysis of the laboratory J.A. Dieudonné.

Thierry Goudon is member of the Evaluation Committee of Inria.

Thierry Goudon is Scientific Officer at the French Ministry of Education and Research.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Members of the team are faculties of University Nice Sophia Antipolis and they teach in all degrees of the University.

T. Goudon is President of the national competition to hire teachers (agregation de mathematiques).

9.2.2. Supervision

PhD : Arthur Vavasseur, Kinetic models for particles interacting with their environment , Univ. Côte d'Azur, Oct. 2016, supervised by T. Goudon

PhD : Nathalie Ayi, Influence of stochasticity on many-scale problems, Univ. Côte d'Azur, Sept. 2016, supervised by F. Berthelin & L. Saint Raymond (DMA-ENS)

PhD : Bastien Polizzi, Modeling and numerical simulations for fluid mechanics systems with constraints ; application to biology and road traffic, Univ. Côte d'Azur, Sept. 2016, supervised by M. Ribot & T. Goudon

PhD : Maya Grozza, Modelization and discretization of two-phase flows in porous media with discrete fracture networks Univ. Côte d'Azur, Nov. 2016, supervised by R. Masson with Laurent Jeannin (GDFSuez EP), and Jean Frédéric Thebault (Storengy)

PhD in progress : Laurence Beaude, started in november 2015, co-supervised by R. Masson, K. Brenner from LJAD and S. Lopez, F. Smai from BRGM, Discretization of high energy geothermal systems in faulted porous media

PhD in progress : Julian Hennicker, started in june 2014, co-supervised by R. Masson, K. Brenner and P. Samier from TOTAL, Discretization of multiphase Hybrid dimensional Darcy flow models in fractured porous media.

PhD in progress : Julie Llobell, stated Sept. 2015, co-supervised by T. Goudon and S. Minjeaud (team Castor), Staggered schemes for conservation laws of gas dynamics.

PhD in progress : Giulia Lissoni, started Sept. 2016, co-supervised by T. Goudon and S. Krell, Domain decomposition and DDFV methods.

PhD in progress : Thi Huong, started June 2014, Le, supervised by S. Junca, vibrations and mechanical systems, nonlinear modes with an unilateral constraint.

PhD in progress : Pierre Castelli, started Sept. 2013, supervised by S. Junca, smoothing effect for conservation laws (P. Castelli is teacher at Lycée d'Audiberti, Antibes)

The bibliography is automatically extracted form hal; it looks far from complete.

LEMON Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Journal

10.1.1.1. Member of the editorial board

Vincent GUINOT : Journal of Hydroinformatics.

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

10.1.1.2. 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.

10.1.2. Invited talks

Carole DELENNE workshop « Modelling the flood peril » Paris, May 30th and 31st, Université Pierre et Marie Curie

Antoine ROUSSEAU : Café Scientifique (Institut Français de Santiago, Ambassade de France), August 6th, 2016

Antoine ROUSSEAU : 4th French-Chilean workshop on Bioprocess Modeling, Santiago, Sept. 2016

10.1.3. Research administration

Antoine ROUSSEAU belongs to the workgroup dedicated to the development of SELECT, an Inria internal software to manage scientific recruitment. Carole DELENNE responsable d'année EGC3, direction des études EGC et tutorat de 5 apprentis (je sais pas où ca se met. . .)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

F. Campillo, Stochastic modelling of ecosystems, 20 h, M2R Biostatistics, Univ. Montpellier

F. Campillo, Object oriented programming: probabilistic modeling and statistical numerics for biology, 20 h, Doctoral lectures, Univ. Montpellier

C. Delenne, Méthodes mathématiques pour l'ingénieur, 10.5H CM, 22.5hTD, L3, Polytech Montpellier

C. Delenne, Hydraulique, 60hTP, M1, Polytech Montpellier

C. Delenne, Hydraulic transients, 27hTD, M1, Polytech Montpellier

C. Delenne, Modélisation hydraulique à surface libre 2D, 6h TD, M2, Polytech Montpellier

C. Delenne, Tutorat de stages et projets, 77hETD, L3-M2, Polytech Montpellier

C. Delenne, Mathématiques, 15h CM, 15hTD, L3 (apprentissage), Polytech Montpellier

C. Delenne, Hydraulique, 28hTD, L1, IUT Génie Civil, Nîmes

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

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

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

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

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

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

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

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

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

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

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

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

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

A. Rousseau, Towards Coupling Coastal and Large Ocean Models, 6h, Master, PUC, Santiago, Chile

A. Rousseau, Introduction to numerical methods in CFD, 6h, Master, Inria Chile, Santiago, Chile

A. Rousseau, Introduction to ROMS, 12h, Master, Inria Chile and CIGIDEN, Santiago, Chile

10.2.2. Supervision

PhD: Mehdi Pierre Daou, *Développement d'une méthodologie de couplage multi-modèles avec changements de dimension. Validation sur un cas-test réaliste en dynamique littorale*, Univ. Grenoble, Sept. 2016, Eric Blayo (EPI MOISE) and Antoine Rousseau

PhD in progress: Mohsen Chebbi, Modélisation stochastique de procédés membranaires de traitement des eaux usées. September 2014, S. Toumi (ENIT, Tunis) and F. Campillo

PhD in progress: Oussama Hadj-Abdelkader, Filtrage particulaire pour le chemostat. September 2014, A. Hadj-Abdelkader (Univ. Tlemcen) and F. Campillo

10.2.3. Juries

Carole DELENNE : Jury member: Andriarimina Daniel Rakotonirina, *Fluid-solid interactions in a non-convex granular media: application to rotating drums and packed bed reactors*, december 2016, ENS Lyon

Antoine ROUSSEAU : Referee and jury member: Mrs Souad Khiari, *Problèmes Inverses de Points Sources dans les Modèles de Transport Dispersif de Contaminants Identifiabilité et Observabilité*, October 2016, Université de Technologie de Compiègne & Université de Tunis El-Manar / ENIT

Antoine ROUSSEAU : Jury member: M. Mehdi Pierre Daou, *Développement d'une méthodologie de couplage multi-modèles avec changements de dimension. Validation sur un cas-test réaliste en dynamique littorale*, September 2016, Univ. Grenoble

Antoine ROUSSEAU : Jury member: M. Victor Riquelme, *Problemas de control óptimo para la bioremediación de recursos acuíferos*, September 2016, Univ. de Chile, Santiago & Univ. Montpellier

Fabien MARCHE : Jury member: Mrs Nora Aissiouene, *Analyse numérique et approximation discrète d'un modèle dispersif en eau peu profonde*, December 2016, Univ. Pierre et Marie Curie, Paris

Antoine ROUSSEAU : Jury member: Mrs Carine Lucas, *Modélisation de problèmes de me´canique des fluides : approches théoriques et numériques*, December 2016, Université d'Orléans

Teaching manager of the department "Water and Civil Engineering", Polytech Montpellier, in charge of the first year of the training. Academic supervisor of 5 apprentices.

10.3. Popularization

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

> *Fête de la Science*, Oct. 2016, Genopolys Montpellier

> *Café Cientificó*, Aug. 2016, Instituto Francés, Santiago, Chile

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

Antoine ROUSSEAU is member of the editorial board of Interstices

Antoine ROUSSEAU co-authored the Calendrier Mathématique 2017

MATHNEURO Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Organisation

7.1.1.1. General Chair, Scientific Chair

Romain Veltz was the General Chair of the 2nd International Conference on Mathematical Neuroscience, held in Antibe-Juan les Pins, May 30 - June 1 2016.

7.1.1.2. Member of the Organizing Committees

Mathieu Desroches was on the Organizing Committee of the MURPHYS-HSFS 2016 Workshop on Hysteresis and Slow-Fast Dynamics held at the Centre de Recerca Matemàtica (CRM) in Barcelona, June 13-17, 2016.

7.1.2. Scientific Events Selection

7.1.2.1. Member of the Conference Program Committees

Pascal Chossat and Martin Krupa were on the Program Committee of the 2nd International Conference on Mathematical Neuroscience, held in Antibe-Juan les Pins, May 30 - June 1 2016.

7.1.3. Journal

7.1.3.1. Member of the Editorial Boards

Olivier Faugeras is the co-editor in chief of the open access Journal of Mathematical Neuroscience.

7.1.3.2. Reviewer - Reviewing Activities

Mathieu Desroches acts as a reviewer for Physica D, SIAM Journal on Applied Dynamical Systems (SIADS), PLoS Computational Biology, Journal of Nonlinear Science, IMA Journal of Applied Mathematics, Journal of Mathematical Neuroscience.

Olivier Faugeras acts as a reviewer for the Journal of Mathematical Neuroscience, the Journal of Computational Neuroscience, the SIAM Journal on Applied Dynamical Systems (SIADS).

Martin Krupa acts as a reviewer for Nonlinearity, Proceedings of the National Academy of Sciences of the USA (PNAS), the SIAM Journal of Applied Dynamical Systems (SIADS).

Romain Veltz acts as a reviewer for Neural Computation, Elife, SIADS, Journal of the Royal Society Interface.

7.1.4. Invited Talks

R. Veltz, "Some applications of hybrid systems in neurosciences", University of Bristol, April 2016

M. Desroches, "Simplifying singular perturbation theory in the canard regime with piecewise-linear dynamics; application to neuronal models", Invited Plenary talk, *10th NoLineal Conference*, University of Seville (Spain), June 2016.

M. Desroches, "Canards, folded singularities and bursting", Invited talk in the mini-symposium *Slow-fast dynamics in neuroscience* at the *10th ECMTB Conference*, Nottingham (UK), July 2016.

M. Desroches, "Spike-adding in parabolic bursters: the role of folded-saddle canards", Invited talk in the workshop *Dynamics in Life Science, Neuroscience* at the *Volga Neuroscience meeting 2016*, St-Petersburg/Nizhny-Novgorod (Russia), July 2016.

M. Desroches, "Canards in piecewise-linear slow-fast systems", Invited seminar talk, *Applied Mathematics Seminar*, University of Sydney (Australia), August 2016.

M. Desroches, "Canards in planar piecewise-linear slow-fast systems", Invited seminar talk, *Applied Mathematics Seminar*, University of Auckland (New Zealand), September 2016.

M. Desroches, "Understanding synaptic mechanisms: why a multi-disciplinary approach is important", Invited talk in the Symposia meeting *New Techniques in Electro- and Optophysiology*, SFN conference, San Diego (USA), November 2016.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Chalk-learning

Master 2 MVA/UPMC: Romain Veltz, Mathematical Methods for Neurosciences, 20 hours, Paris, France.

Master 1 BIM/UPMC: Mathieu Desroches, Modèles Mathématiques et Computationnels en Neuroscience, 30 hours, Paris, France.

7.2.2. Supervision

PhD in progress: Pascal Helson, "Study of plasticity laws with stochastic processes", started in September 2016, co-supervised by Romain Veltz and Etienne Tanré (Inria TOSCA).

PhD in progress: A. Dolcemascolo, "All optical neuromimetic devices", started in January 2016, co-supervised by Romain Veltz and S. Barland (INLN).

PhD completed: Lucile Mégret, "Explosions de cycles: Analyse qualitative, simulations numériques et modèles", defended on 25 November 2016, co-supervised by Mathieu Desroches and J.-P. Françoise (UPMC).

PhD completed: Giovanni Carmantini, "Dynamical Systems Theory for Transparent Symbolic Computation in Neuronal Networks", defended on 28 November 2016, co-supervised by Mathieu Desroches and S. Rodrigues (Plymouth University, UK).

PhD completed: Elif Köksal-Ersöz, "A mathematical study on coupled multiple timescale systems, synchronization of populations of endocrine neurons", defended on 13 December 2016, co-supervised by Mathieu Desroches, J.-P. Françoise (UPMC) and F. Clément (Inria Paris).

7.2.3. Juries

Mathieu Desroches was a jury member for the PhD defence of Catalina Vich (University of the Balearic Islands, Spain) on 4 July 2016. He was also jury member for the PhD defence of Lucile Mégret (UPMC, France) on 25 November 2016 and that of Elif Köksal-Ersöz (Inria Paris / UPMC, France) on 13 December 2016.

<p style="text-align:center;color:red;font-weight:bold;">MORPHEME Project-Team</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

Florence Besse was a co-organizer of the SIgnalife Maths-Bio workshop (Sophia, Nov 2016)

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

Laure Blanc-Féraud was associate editor of the workshops: New Computational Methods in Inverse Problems - NCMIP 2016 (NCMIP) in ENS Cachan, and Optimization Techniques for Inverse Problems III, Modena Italy 1-21 September 2016

Eric Debreuve: Advanced Concepts for Intelligent Vision Systems (ACIVS) and Reconnaissance des Formes et l'Intelligence Artificielle (RFIA)

Grégoire Malandain was in charge of a special session "Approches RF et vision en imagerie biologique et médicale" at RFIA.

8.1.2.2. Reviewer

Laure Blanc-Féraud was a reviewer for the conference ICIP.

Eric Debreuve was a reviewer for the conferences IEEE International Conference on Image Processing (ICIP) and International Symposium on Biomedical Imaging (ISBI)

Xavier Descombes was reviewer for the conferences ISBI, ICASSP and ICIP.

Grégoire Malandain was reviewer for the conferences EMBC, ISBI, ICPR, MICCAI, and the Second Workshop on BioImage Computing at ECCV 2016.

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

Laure Blanc-Féraud is Associate Editor of SIAM Journal Imaging Sciences and Traitement du Signal Journal.

Xavier Descombes is associated editor of DSP (Digital Signal Processing).

8.1.3.2. Reviewer - Reviewing Activities

Laure Blanc-Féraud was reviewer for the Journal Signal Processing.

Eric Debreuve was reviewer for the journals IEEE Transactions on Medical Imaging, Signal Processing: Image Communication (Elsevier), and Digital Signal Processing (Elsevier).

Xavier Descombes was reviewer for the journals IEEE on IP, Pattern Recognition and DSP.

Grégoire Malandain was reviewer for the journals CVIU NeuroImage and MedIA.

8.1.4. Invited Talks

Laure Blanc-Féraud was invited to give a talk at the workshops: NCMIP'16 in Cachan in May, AT-LAS Workshop organized by the GdR MaDICS in Grenoble in May, and Optimization Techniques for Inverses Problems III in Modena Italy in September.

Xavier Descombes was invited to give a talk at the workshop "Mathématiques et Biologie" organized within the labex Signalife programm.

8.1.5. Leadership within the Scientific Community

Florence Besse is a member of the scientific council (CAC) of the University Cote d'Azur (UCA), a member of the scientific council of the IDEX JEDI Academy 2, and a member of the scientific council of the LabeX Signalife program.

Laure Blanc-Féraud is director of GdR 720 ISIS of CNRS, a group for the animation of research at national french level on the thematics Signal Image and Vision. This group includes around 160 academic laboratories and twenty industrial partners totaling almost 3,000 members. She heads the scientific committee of academy 1 of UCA (COMUE université Côte d'Azur) and Idex UCA JEDI.

Xavier Descombes is member of the Scientific Committee of the competitivness pole Optitech, member of IEEE BISP (Biomedical Imaging Signal Processing) Technical Committee and member of the Scientific Committee of Labex SIGNALIFE.

Grégoire Malandain is member of the IEEE/EMB Technical Committee on Biomedical Imaging and Image Processing (BIIP). He is an member of the Scientific Committee of the MIA department of INRA.

8.1.6. Scientific Expertise

Laure Blanc-Féraud is part of the scientific committee of the Institut des Technologies Avancées en sciences du Vivant" (ITAV, USR CNRS 3505). She headed the HCERES expert committee (18 members) of LabSTICC Lab in Brest and headed the recruitment panel "Comité de sélection" of a MCF at University Paris Descartes in section 26. Sha was member of the scientific committee of the "rencontres du numériques" of ANR. She is expert member of the MIUR: Italian Ministry for Education, University and Research (Italy) and expert for the Fund for Scientific Research - FNRS (Belgium). She was expert for an application at a director of research position in ONERA DTIM.

Xavier Descombes is an expert for the DRRT within the CIR ("Crédit Impot Recherche") and JEI ("Jeunes Entreprise Innovantes") programs.

8.1.7. Research Administration

Laure Blanc-Féraud was member of the steering committee of the "défi 7" of the ANR. She was member of the CNRS admission for chargé de recherche at INS2I of CNRS. She is member of the academic council of UCA (COMUE université Côte d'Azur).

Xavier Descombes is member of the "comité des projets" and the "comité de centre" of Inria CRI-SAM.

Grégoire Malandain is the head of the committee "Comité de suivi doctoral" of the Inria CRI-SAM.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master: Florence Besse, Genetic control of neuronal branching, 2h, Université Côte d'Azur, France.

Master: Florence Besse, Dissection of neuronal circuits, 4h, Université Côte d'Azur, France.

Master: Florence Besse, Post-transcriptional regulation of neuronal development and maturation, 2h, Nancy, France.

Master : Laure Blanc-Féraud, Fluorescence image restoration, 18h Eq. TD, M2 Computational Biology , University Nice Sophia Antipolis, France.

Master : Laure Blanc-Féraud, Traitement numérique des images, 12h Eq. TD, M2 VIM , EPU University Nice Sophia Antipolis, France.

Master/Engineer: Eric Debreuve, Data Mining, 27.5h équivalent TD, M2/Engineer 5th year, Université Côte d'Azur, France

Master: Eric Debreuve, Introduction to Inverse Problems in Image Processing, 28.5h équivalent TD, International M2, Université Côte d'Azur, France

Master: Xavier Descombes, Traitement d'images, Analyse de données, Techniques avancées de traitement d'images, 10h Eq. TD, Niveau M2, ISAE, France.

Master: Xavier Descombes, Traitement d'images, master VIM, 12h Eq. TD, Niveau M2, Université Côte d'Azur, France.

Master: Xavier Descombes, Bio-imagerie, master IRIV, 6h Eq. TD, Niveau M2, Université de Strasbourg, France

Master: Xavier Descombes, Analyse d'images, master GBM, 9h Eq. TD, Niveau M2, Université Côte d'Azur, France.

Master: Gaël Michelin, Traitement Numérique des Images, 8h Eq. TD, Niveau M2, EPU, Université Côte d'Azur, France.

IUT : A. Razetti, initiation à la mesure du signal, 30h Eq. TD, IUT Nice Côte d'Azur, Université Côte d'Azur, France.

Licence : Emmanuel Soubies, Images et Filtres, 54h Eq.TD, Niveau L3 , EPU, Université Côte d'Azur, France.

8.2.2. Supervision

PhD: Emmanuel Soubies, Sur quelques problèmes de reconstruction en imagerie MA-TIRF et en optimisation parcimonieuse par relaxations continue exacte de critères pénalisés en norme ℓ_0, Université Côte d'Azur, 14 october 2016.

PhD: Gaël Michelin, Outils d'analyse d'images et recalage d'individus pour l'étude de la morphogénèse animale et végétale, 28 october 2016.

PhD in progress: Lola Baustista, DIC microscopy image reconstruction, 1st november 2013, Laure Blanc-Féraud.

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: Emmanuelle Poulain, Fluoroscopy/CTA dynamic registration, 1st february 2016, Grégoire Malandain.

PhD in progress: Anca-Ioana Grapa, Characterization of the organization of the Extracellular Matrix (ECM) by Image Processing , 19 September 2016, Laure Blanc-Féraud, Xavier Descombes.

8.2.3. Internships

Nicolas Cedilnik: M1 BIM, UNS, Small particle detection. Supervisors: X. Descombes.

Simon Gazagnes: M2 INSA Lyon. Sparse 3D reconstruction for TIRF-PALM Imaging. Supervisors: L. Blanc-Féraud, E. Soubies.

Djampa Kozlowski: M2 BIM, UNS, Nuclei detection and classification in genome-wide RNAi screens. Supervisors: X. Descombes, F. Besse, F. de Graeve (iBV).

Raphaël Meunier: M1 INSA Toulouse. Classification of the extracellular matrix. Supervisors: X. Descombes, L. Blanc-Féraud.

8.2.4. Juries

Laure Blanc-Féraud participated to the PhD thesis committee of Sébastien Combrexelles (IRIT Toulouse), as reviewer of the HDR of Gabriele Facciolo (ENS Cachan) and reviewer of the 2 PhD thesis: Fred NGole MBoula (CEA Saclay), Meriem Ben Abdallah (CRAN Nancy).

Xavier Descombes participated to the PhD thesis committee of A. Sarr (Univ. de Bretagne)

Grégoire Malandain participated as chair to the PhD thesis committee of D. Chen (Paris Dauphine univ.), G. Michelin (Côte d'Azur univ.) as reviewer to the PhD thesis committee of O. Merveille (Paris Est univ.), A. Sironi (EPFL), and as committee head to the PhD thesis committee of P. Samarakoon (Grenoble Alpes univ.).

8.3. Popularization

Xavier Descombes was invited to give a talk at "La fête de la science" in Juan Les Pins.

The Morpheme team has animated a stand during the "fête de la science" in Juan Les Pins.

<p style="text-align:center">**VIRTUAL PLANTS Project-Team**</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

Yann Guédon was member of the organizing committee of the 48ème journées de statistique de la SFdS.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

Christophe Godin and Yann Guédon were members of the program committee of the IEEE International Conference on Functional-Structural Plant Growth Modeling, Simulation, Visualization and Applications (FSPMA 2016).

9.1.2.2. Reviewer

Frédéric Boudon was referee for papers submitted to Eurographics and Siggraph Asia and was a rewiewer and a member of the jury for best paper of the Journée Francaise d'Informatique Graphique (jFIG).

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Christophe Godin is a member of the Editorial Board of Frontiers in Plant Sciences. He was also a guest editor for PLoS Computational Biology,

9.1.3.2. Reviewer - Reviewing Activities

- Yann Guédon was referee for papers submitted to Functional Ecology and Journal of Internet Services and Applications.
- Christophe Godin reviewed papers for several journals in plant sciences and modelling.

9.1.4. Invited Talks

- C. Godin gave invited talks at RDP-ENS-Lyon research unit in Lyon (January), at the African Institute for Mathematical Sciences (AIMS), Dakar, Senegal, (February), at the University of Lund, Sweden (June), at the Journées scientifiques Inria, Rennes, (June), at the European Conference on Computational Biology and Bioinformatics, The Hague, The Netherlands (September), Inria/Inra joint meeting programme, Aix-en-Provence, (October), at CRBM research unit in Montpellier (October), BPMP research unit in Montpellier (December), and a plenary talk at the International workshop on multiscale modeling of complex systems in plant and developmental biology, U. Riverside, USA (December).
- F. Boudon gave invited talks at the workshop "Tree data and modelling", Tampere, Finland (June), in the AGAP scientific seminar and at the journée AGAP.
- Y Guédon gave an invited talk at the AGAP scientific seminar.
- C. Pradal gave invited talk at the "Agricultural Model Exchange Initiative" in Bologna, Italy (June), at the workshop "Multi-scale Plant Modeling" at the Pacific Northwest National Laboratory, USA (August), and at the workshop SUCCES, in Paris (November).

9.1.5. Leadership within the Scientific Community

- Christophe Godin is member of the Board of the Functional Structural Plant Models series of conferences.

- Christophe Godin is co-coordinator with Patrick Lemaire of the 4th Research Axis on Imaging in Biology and Modeling of the Institute for Computational Biology (IBC) of Montpellier.
- Christophe Godin spent 3 days at the African Institute for Mathematical Sciences (AIMS) to study potential future collaborations between Inria and AIMS in Dakar.

9.1.6. Scientific Expertise

- Christophe Godin is a member of the International Scientific Advisory Committee of the new Plant Phenotyping and Imaging Research Centre (P2IRC), Saskatchewan, Canada.
- Christophe Godin is a member of the Review and Mentoring committee of James Lock's group in Sainsbury Lab, Cambridge, UK.
- Christophe Godin is a member of the scientific councils of the Environnement-Agronomie department (up to August 2016) and of the Biologie et Amélioration des Plantes Department at Inra (Starting September 2016).

9.1.7. Research Administration

- Christophe Godin is a member of the project committee board at Sophia-antipolis Mediterrannée Reacher Center
- Christophe Godin is also part of the steering board of the Institute for Computational Biology (IBC) of Montpellier.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master Computer Science: Frédéric Boudon, Guillaume Cerutti, Christophe Godin, Christophe Pradal and David Vanderhaege and Loïc Barthe [IRIT, Toulouse], Computer graphics, 45h, M2, University Montpellier, France.

Master Computer Science: Christophe Godin, Frédéric Boudon, Computational and Discrete Geometry and graphics, 15h, M1, University Montpellier, France.

Master Functional Plant Biology: Christophe Godin, Introduction to plant modeling, 25h, M2, University Montpellier, France.

Master Life Sciences (IMaLiS): module co-organized by Patrick Lemaire and Christophe Godin, Animal and Vegetal Morphogenesis, 6 days, 4 h + TD supervision every afternoon, ENS Paris, Montpellier, France.

Master Functional Plant Biology: Christophe Godin, Phyllotaxis class in a module on Mathematical modeling in biology, 4h, M2, University Montpellier, France.

Master Functional Bioinformatics: Christophe Godin and Patrick Lemaire (Coordination O. Radulescu), Modeling in biology, 5h, M2, University Montpellier, France.

Master Biostatistics: Yann Guédon and Pierre Fernique, Stochastic processes, 32h, M2, University Montpellier, France.

Master Bioinformatique - Biomathématiques: Christophe Godin, iPlant, Modeling organ development, 4h, M2, Cheikh Anta Diop University (UCAD), Dakar, Senegal.

Master Plant Breeding: Christophe Pradal, Plant modelling, 4h, M2, Project CultiVar, University Montpellier, France.

Engineering Degree: SupAgro Montpellier. Christophe Pradal and Christian Fournier. "Introduction to modelling" (1st year, 12h).

9.2.2. Supervision

- PhD in progress : Anne Schneider, *"Modeling branching in Roses"*, Angers University, Jessica Bertheloo, C. Godin, F. Boudon.

- PhD in progress : Hadrien Oliveri, *"Mechanical modeling of organ growth"*, Montpellier University, C. Godin, J traas and O. Ali.

- PhD in progress : Jean-Louis Dinh, *"Coupling flux and growth models in plant development"*, Nottingham University, C. Hodgman, C. Godin.

- PhD in progress : Jean-Philippe Bernard, *"Meshless methods for organ development"*, Montpellier University, C. Godin, B. Gilles.

- PhD in progress : Severine Persello, *"Structural-Functional modeling of yield and fruit quality build-up of the mango, and integration of the effects of cultural practices"*, Montpellier University, F. Normand, I. Grechi, F. Boudon.

- PhD : Beatriz Moreno-Ortega, Developmental instability in lateral roots of maize: a multi-scale analysis, Montpellier SupAgro, December 12th 2016, Betrand Muller, Yann Guédon.

- PhD : Sixtine Passot, Exploring pearl millet root system and its outcome for drought tolerance, Montpellier University, September 30th 2016, Laurent Laplaze, Yann Guédon.

- PhD in progress : Marc Labadie, Study of the alternation between vegetative and floral development in strawberry: spatio-temporal architecture and analysis of key flowering genes, Bordeaux University, Béatrice Denoyes, Yann Guédon.

9.2.3. Juries

- Christophe Godin was the Opponent of Beruz Bozorg, June, University of Lund, Sweden, a member of the PhD Jury of Gaël Michelin, October University Cote d'Azur, Président of the PhD Jury of Sam Caullodin, December ENS-Lyon. He also participated in the PhD committees of Adrien Corot (AgroparisTech), Léo Serra (AgroParisTech) and Mathilde Dumond (ENS-Lyon).

- Yann Guédon was referee of Philippe Cuvillier PhD: On temporal coherency of probabilistic models for audio-to-score alignment, Pierre and Marie Curie University, Paris, December 15th 2016, Arshia Cont (supervisor).

9.3. Popularization

- Olivier Ali is a member of the writing committee of the newsletter of the Sophia-Antipolis Méditerrannée Inria Centre.

- High School: Christophe Godin gives regular 2h classes at Lycée Pompidou (Montpellier) and in other Lycées.

- Christophe Godin gave two invited seminars in the context of the Maths Week (March), at the Lycée International de Valbonne, France.

- Christophe Godin gave an interview to the European Journal Labtimes about their paper published in eLife: Alejandrolvido (2016). Green noise. Labtimes 5, 34–35.

<h2 style="text-align:center; color:red">COATI Project-Team</h2>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Frédéric Havet

GCO 2016: 2nd French Brazilian Workshop on Graphs and Combinatorial Optimization, Redonda, Ceara, Brazil, May 28-April 1, 2016;

4th STINT meeting, January 25-27, Saint Bonnet de Champsaur, France;

Workshop on Shannon capacity, September 11-16, Cassis, France.

Bruce Reed

Workshop on Shannon capacity, September 11-16, Cassis, France.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

David Coudert

ONDM'16 : 20th International Conference on Optical Networking Design and Modeling, Cartagena, Spain, May 9-12, 2016;

IEEE ICC'16 : IEEE International Conference on Communications, Kuala Lumpur, Malaysia, May 23-27, 2016;

USRR'16 : 4th International Workshop on Understanding the Inter-play between Sustainability, Resilience and Robustness in networks, Halmstad, Sweden, September 15, 2016;

IEEE Globecom'16 : IEEE Global Communications Conference, Washington, DC, USA, December 4-8, 2016.

Frédéric Havet

AAIM 2016: 11th International Conference on Algorithmic Aspects in Information and Management, Bergamo, Italy, July 18-20, 2016;

JGA 2016: 18th Journées Graphes et Algorithmes, Paris, France, November 16-18, 2016.

Nicolas Nisse

AlgoTel 2016: 18es Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications, Bayonne, France, 24-27 May, 2016.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Jean-Claude Bermond

Computer Science Reviews, Discrete Mathematics, Discrete Applied Mathematics, Journal of Graph Theory, Journal Of Interconnection Networks (Advisory Board), Mathématiques et Sciences Humaines, Networks, Parallel Processing Letters the SIAM book series on Discrete Mathematics, Transactions on Network Optimization and Control , Discrete Mathematics, Algorithms and Applications.

David Coudert

Discrete Applied Mathematics (Elsevier); Networks (Wiley).

Frédéric Havet

> Discrete Mathematics and Theoretical Computer Science;

Nicolas Nisse

> Guest editor of Special issue on Theory and Applications of Graph Searching Problems for Theoretical Computer Science (December 2016).

Bruce Reed

> Journal of Graph Theory, Electronic Journal of Combinatorics;

10.1.3.2. Reviewer - Reviewing Activities

Members of COATI have reviewed numerous manuscripts submitted to international journals, including: Algorithmica, Algorithms, Bulletin of the Malaysian Mathematical Sciences Society, Computer Communications, Computer Networks, Computers & Operations Research, Discrete Applied Mathematics, European Journal of Operational Research, IEEE/OSA Journal of Lightwave Technology, Networks, Photonic Network Communications, The Computer Journal, Theoretical Computer Science, IEEE/ACM Transactions on Communications, IEEE/ACM Transactions on Networking, IEEE Transactions on Network and Service Management, etc.

10.1.4. Invited Talks

David Coudert

> *On the design of reliable wireless backhaul networks*. International Conference on Ad Hoc Networks and Wireless (AdHoc-Now'16), Lille, France (July 4-5, 2016);
>
> *On the notion of hyperbolicity in graphs*. Seminar of the Complex Networks team, LIP6, UPMC, Paris (October 12, 2016).

Nicolas Nisse

> *Spy Games*. Groupe de travail de l'équipe CRO, LIF, Marseille, July 18th, 2016;
>
> *Recovery of disrupted airline operations*. Seminar of LIMOS, Univ. Blaise Pascal, Clermont-Ferrand, January 28th, 2016.

Bruce Reed

> The Typical Structure of H-Free Graphs. Sao Paulo Advanced School on Algorithms, Combinatorics, and Optimization, Sao Paulo, Brazil, July 216;
>
> How To Determine If A Random Graph With A Fixed Degree Sequence Has A Giant Component. Sao Paulo Advanced School on Algorithms, Combinatorics, and Optimization, Sao Paulo, Brazil. July 2016;
>
> On The Structure Of Typical H-Free Graphs. University of Birmingham Combinatorics Seminar, Birmingham, United Kingdom, May 2016;
>
> How To Determine If A Random Graph With A Fixed Degree Sequence Has A Giant Component. Simon Fraser University, July 2016;
>
> 40th Australian Conference on Combinatorial Mathematics and Combinatorial Computing, NewCastle Australia, December 2016;
>
> How To Determine If A Random Graph With A Fixed Degree Sequence Has A Giant Component. 13th Workshop on Algorithms and Models for the Wb Graph, Montreal, Canada, December 2016.

10.1.5. Leadership within the Scientific Community

David Coudert

> Member of the steering committee of *Pôle ResCom du GDR RSD du CNRS* (since 2005);
>
> Member of the steering committee of *Rencontres francophones sur les aspects algorithmiques des télécommunications* (AlgoTel).

Frédéric Havet

Member of the steering committee of *GT Graphes du GDR IM du CNRS*;

Member of the steering committee of *Journées Graphes et Algorithmes (JGA)*;

Member of the steering committee of *Journée Combinatoire et Algorithmes du Littoral Méditerranéen (JCALM)*.

Bruce Reed

Member of the selection committee for the CRM-Fields-Pims Prize.

10.1.6. Scientific Expertise

Jean-Claude Bermond

Expert for DRTT-MESR (Crédit impôt recherche(CIR et agréments) and various projects outside France.

David Coudert

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

Frédéric Giroire

Expert for ANR.

Frédéric Havet

Expert for ANR.

Michel Syska

Expert for DRTT PACA.

10.1.7. Research Administration

Jean-Claude Bermond

Responsible fo the cooperation between Inria and Greece (meeting with the french Embassy in greece, obtention of join grants and of financial support for internships via the Bodossakis Fundation).

David Coudert

Scientific coordinator of the evaluation seminar of the Inria theme "Networks and Telecommunications", Rungis, France, March 22-24, 2016.

Frédéric Havet

Responsible of the ComRed Team of I3S;

Recruiting committee (comité de sélection) University of Nice Sophia Antipolis.

Michel Syska

Elected member of CPRH (Comité Permanent de Ressources Humaines) University of Nice Sophia Antipolis;

Recruiting committee (comité de sélection) University of Nice Sophia Antipolis.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence

Pierre Aboulker

Recherche opérationnelle, 74h ETD, Niveau L2, IUT de Nice Côte d'Azur, UNS.

Julien Bensmail

Système d'information et logistique, 36h ETD, niveau S3, IUT Nice Côte d'Azur, UNS.

Christelle Caillouet

Database and advanced information system, 36h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Delivery Optimization, 30h ETD, Level L3, IUT Nice Côte d'Azur, UNS;

Introduction to Programming, 60h ETD, Level L1, IUT Nice Côte d'Azur, UNS;

Guillaume Ducoffe

Introduction au Web, 28h30 ETD, Level L2, Polytech Nice Sophia, France

Programmation Orientée Objet, 39h ETD, Level L2, Polytech Nice Sophia, France

Principes des systèmes d'exploitation, 26h ETD, Level L2, IUT de Nice Côte d'Azur, UNS.

Valentin Garnero

Introduction aux systèmes informatiques, 108h, niveau S1, IUT Nice Côte d'Azur, UNS.

Luc Hogie

Programmation Répartie, 36h ETD, IUT Nice Côte d'Azur, UNS.

Nicolas Huin

Introduction aux réseaux, 21h ETD, niveau S1, IUT Nice Côte d'Azur, UNS.

William Lochet

Paradigmes et interprétation, 18h ETD, L3, Univ. Côte d'Azur

Programmation objet, 18h ETD, L3, Univ. Côte d'Azur

Compilation, 18h ETD, L3, Univ. Côte d'Azur

Projet scientifique, 30h ETD, L2, Univ. Côte d'Azur

Informatique générale, 36h ETD, L1, Univ. Côte d'Azur

Intro programmation C, 12h ETD, L1, Univ. Côte d'Azur

Joanna Moulierac

Networks, 100h ETD, L1, IUT Nice Côte d'Azur, UNS.

Nicolas Nisse

Introduction à l'algorithmique, 24h ETD, MPSI, Lycée International Valbonne, France.

Steven Roumajon

Architecture des réseaux, 48h ETD, L2, IUT Nice Côte d'Azur, UNS.

Michel Syska

Operating Systems: Advanced Programming, 40h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Data Structures and Algorithms, 20h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Algorithmics, 30h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Distributed Programming, 30h ETD, Level L2, IUT Nice Côte d'Azur, UNS;

Bash Scripting, 30h ETD, Level L3, IUT Nice Côte d'Azur, UNS;

Introduction to Algorithms and Complexity, 60h ETD, Level L3, IUT Nice Côte d'Azur, UNS;

Linux System Administration, 35h 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, UNS;

Green Networks, 18h ETD, stream UbiNet of Master 2 IFI, UNS;

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

Frédéric Havet

Graph colouring, 4h ETD, M2 MDFI, Aix Marseille Univ., France.

Nicolas Nisse

Graph Algorithms, 18h ETD, M2 IFI, parcours UBINET, UNS, France.

Resolution Methods, 15h ETD, M1 international, UNS, France;

Graph decompositions, 4h ETD, M2 MDFI, Aix Marseille Univ. , France

Stéphane Pérennes

Calcul concurrent et distribué en Java, 30h TP, Master 1 Miage. Polytec Nice.

Responsabilités pédagogiques

Julien Bensmail

Co-organizer of the « Forum sur les poursuites d'études », IUT Nice Côte d'Azur (November 10, 2016);

Representative of the QLIO department at « Salon de l'étudiant », Palais des expositions, Nice (November 26, 2016).

Christelle Caillouet

Co-Responsible of QLIO Department, until February 2016.

Joanna Moulierac

Co-Responsible of the DUT Informatique en Alternance, Computer Science Department, from January 2014 to March 2016.

10.2.2. Supervision

PhD : Guillaume Ducoffe, *Metric properties of large graphs* https://team.inria.fr/coati/phd-defense-of-guillaume-ducoffe/, Université Nice Sophia Antipolis, December 9, 2016. Supervisor : David Coudert;

PhD in progress : Nicolas Huin, *Energy efficient Software Defined Networks*, since Oct. 2014, Supervisors: Frédéric Giroire and Dino Lopez (I3S);

PhD in progress : William Lochet, *Forcing subdivisions in digraphs*, since Sept. 2015, Supervisors: Frédéric Havet and Stéphan Thomassé (ENS Lyon);

PhD in progress : Fionn McInerney, *Combinatorial Games in Graphs*, since Oct. 2016, Supervisor: Nicolas Nisse;

PhD in progress : Steven Roumajon, *Les déterminants de la compétitivité régionale : données microéconomiques et réseaux d'innovation*, since Nov. 2015, Supervisors: Patrick Musso (Gredeg) and Frédéric Giroire;

PhD in progress : Andrea Tomassilli, *Diffusion of information on large dynamic graphs*, since Oct. 2016, Supervisors: Stéphane Pérennes and Frédéric Giroire.

10.2.2.1. Internships

Rohit Agarwal

>   Date: from Jul 2016 until Aug 2016

>   Institution: Univ. Nice Sophia Antipolis (France)

>   Supervisor: Nicolas Nisse

Theodoros Karagkioules

>   Date: until March 2016

>   Institution: NKUA, Athens (Greece)

>   Supervisor: Nicolas Nisse

Raul Wayne Teixeira Lopez

>   Date: from Sep 2016 until Nov 2016

>   Institution: UFC, Fortaleza (Brazil)

>   Supervisor: Frédéric Havet

Ioannis Mantas

>   Date: from Mar 2016 until Aug 2016

>   Institution: Univ. Nice Sophia Antipolis (France)

>   Supervisor: David Coudert

Simon Nivelle

>   Date: from Jun 2016 until Jul 2016

>   Institution: ENS Cachan (France)

>   Supervisor: Guillaume Ducoffe et Nicolas Nisse

Stefano Ponziani

>   Date: from Mar 2016 until Aug 2016

>   Institution: Univ. Nice Sophia Antipolis (France)

>   Supervisor: Guillaume Ducoffe et Frédéric Giroire

Konstantinos Priftis

>   Date: until March 2016

>   Institution: Univ. of Patras (Greece)

>   Supervisor: David Coudert

Panagiotis Pylarinos

>   Date: from Nov. 2016

>   Institution: NKUA, Athens (Greece)

>   Supervisor: David Coudert

Andrea Thomassilli

>   Date: from Mar 2016 until Aug 2016

>   Institution: Univ. Nice Sophia Antipolis (France)

>   Supervisor: Nicolas Huin et Frédéric Giroire

Vladyslav Zaika

>   Date: from Mar 2016 until Aug 2016

>   Institution: Univ. Nice Sophia Antipolis (France)

Supervisor: Nicolas Nisse

10.2.3. Juries

David Coudert :

Member of the PhD jury of Guillaume Ducoffe, Univ. Nice Sophia Antipolis, December 9, 2016;

Referee and member of the PhD jury of Mohamad Kanj, Univ. Rennes, December 20, 2016;

Frédéric Giroire:

Member of the PhD jury of Leonardo Linguaglossa, Université Paris Diderot (Paris 7), September 9, 2016.

Frédéric Havet :

Member of the PhD jury of G. Duvillié, Université Montpellier, October 7 2016.

Nicolas Nisse :

Referee and member of the PhD jury of Valentin Garnero, Université Montpellier, July 4 2016.

Referee and member of the PhD jury of Jean-Florent Raymond, Université Montpellier, November 18 2016.

Member of the PhD jury of Guillaume Ducoffe, Univ. Nice Sophia Antipolis, December 9, 2016;

10.3. Popularization

Guillaume Ducoffe:

Fête de la Science: presented the stand "Introduction à l'algorithmique" at Valrose, Univ. Nice Sophia Antipolis, France, October 12nd, 2016.

Frédéric Havet:

Fête de la Science: co-organised the Village des Sciences at Vinon-sur-Verdon, France (November 10-14, 2016). F. Havet gave many talks and animated several stands during the whole week.

Semaine des Mathématiques : presented the stand "Les formes de largeur constantes" at Vinon sur Verdon (March 17, 2016)

Culture Science au Lycée : gave thé conference "Magie mathématique et binaire" at Lycée Caucadis Vitrolles (April 28, 2016) and the conferences "La magie du bonaire" and "La Science du Ballon de Football" at Lycée Caucadis Vitrolles (December 9, 2016).

Vendredis de la Science: conducted scientific workshops for school children (6-11 year old) on friday afternoon. Weekly in Januray-February and May-June 2016.

General audience conference : gave the conference "La Science du Ballon de Football" at Rians, Var, France (January 29, 2016).

Nicolas Nisse:

Fête de la Science: animated several stands during the Village des Sciences at Vinon-sur-Verdon, France (November 10-14, 2016).

Fête de la Science: animated several stands in Palais des Congrès de Juan-Les-Pins, October 22-23rd, 2016

Steven Roumajon:

Fête de la Science: presented the stand "Introduction à l'algorithmique" at Valrose, Univ. Nice Sophia Antipolis, France, October 12nd, 2016.

DIANA Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

Chadi Barakat is on the editorial board of the *Computer Networks* journal, on the Technical Program Committee for the ACM Internet Measurement Conference (IMC) 2017, the ACM CoNext Conference 2016, the International Teletraffic Congress (ITC) 2017, the Passive and Active Measurement (PAM) Conference 2016, the IEEE Measurement and Networking (M&N) Workshop 2017, the Algotel Conference 2016, and the Asian Internet Engineering Conference (AINTEC) 2016. He is currently the scientific referee for international affairs at Inria Sophia Antipolis and member of the Conseil d'Orientation Scientifique et Technologique at Inria within the working group of international affairs (COST-GTRI).

Walid Dabbous is in member of the technical program committee of the IEEE INFOCOM International Workshop on Computer and Networking Experimental Research Using Testbeds, CNERT 2016. He is founding member of the ns-3 consortium. He co-organizeed the workshop on Future challenges in User-Centric Networks, co-located with Sigmetrics 2016 in June 2016. He is member of the scientific council of the Inria Bell-Labs laboratory on Communication networks of the future. He also servers as a chair of the scientific committee of the User Centric Networking (UCN@Sophia) Laroratory of Excellence. He was member of board of directors of the Telecom Platform Association responsible for the deployment and operation of the Com4Innov mutualized platform until July 2016. He is also member of the Ubinet International Master program steering committee. He is member of the Inria Sophia Antipolis project committee's bureau (Bureau du CP).

Arnaud Legout is on the editorial board of the *Computer Networks* journal, and was PC member of the ACM IMC 2016 conference. Arnaud Legout is the president of the Commission of the users of IT resources of Sophia Antipolis Inria research center.

Damien Saucez was co-organizer of the GdR RSD – Journées Cloud 2016 – with Fabien Hermenier (I3S). The conference over 2 days was composed of 16 presentations and two industrial keynotes (Amazon Web Services and Amadeus) with 50 attendees. The objective of this annual conference is to provide a forum for French researchers from the networking community and the distributed system community to exchange their latest findings. Damien Saucez was TPC member of IEEE ICC 2017, IEEE CCNC 2017, ACM CoNEXT Student Workshop 2016, DRCN 2016, IEEE CCNC 2016, ACM WNS3 2016, and IEEE Globecom 2016 SAC CN.

Thierry Turletti, Senior ACM and IEEE member, served in 2016 in the program committees of the following international workshops and conferences: the ACM SIGCOMM 2016 Posters and Demos, Salvador, Brazil, August 2016, the 7th Workshop on ns-3 at Seattle, Washington, June 15-16, 2016 and the 11th ACM Workshop on Challenged Networks (CHANTS), New York, USA, October 2016. Thierry Turletti is member of the Editorial Boards of the *Journal of Mobile Communication, Computation and Information* (WINET) published by Springer Science and of the *Advances in Multimedia Journal* published by Hindawi Publishing Corporation. He is chairman of the Committee for Technological Development (CDT) and member of the committee NICE that studies postdoc and visiting researcher applications at Inria Sophia Antipolis.

9.2. Teaching - Supervision - Juries

9.2.1. *Teaching*

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

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

Master 1 International: Chadi Barakat, Algorithms for Networking, 22.5 hours, M1, University of Nice-Sophia Antipolis, 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, Oral and written communications, 18 hours, M1, University of Nice-Sophia Antipolis, France.

Master IUP GMI: Damien Saucez, Security and privacy in networks, 38h, M2, University of Avignon, France.

IUT : Damien Saucez, Advanced Network Services and Operator Network Technologies, 27h, L1 and L2, University of Nice-Sophia Antipolis, France.

E-learning

Python: Arnaud Legout and Thierry Parmentelat are co-authors of the MOOC "Python : des fondamentaux à l'utilisation du langage" that lasts 7 weeks on FUN (https://www.france-universite-numerique-mooc.fr/), Inria. For the third session there were 12954 registered persons among them 1603 qualified for the final attestation of achievement.

Bioinformatics: As part of our contribution to E-learning activities, Thierry Parmentelat was co-author in a MOOC published on the FUN platform and named "Bioinformatique : algorithmes et génomes". This MOOC is dedicated to an introduction to the algorithmic techniques used in the interpretation of DNA sequences. It was played for the second time in French in 2016, and Thierry's contribution, as compared with the first session that was played in 2015. has been the addition of notebooks where the various algorithms are brought to the students' disposal, so they can run them interactively, or any variation they would want to study, on any DNA fragment they want, including all the ones from the ENA database https://www.ebi.ac.uk/ena/data/sequence/search. The first notebook-enhanced version of this MOOC in French was played in spring 2016 https://www.fun-mooc.fr/courses/inria/41003S02/session02/info, and attracted 3270 students. An English version of the notebook-enhanced MOOC is scheduled to run on the same FUN platform in spring 2017.

9.2.2. Supervision

PhD: Maksym Gabielkov defended his PhD on "Information propagation in social networks" in June 2016. His thesis was supervised by Arnaud Legout.

PhD: Xuan Nam Nguyen defended his PhD on "Software Defined Networking in challenged environments" April 22, 2016. His thesis was co-supervised by Thierry Turletti and Walid Dabbous. Damien Saucez also actively contributed to the thesis direction.

PhD: Riccardo Ravaioli defended his PhD on "Active and Passive Inference of Network Neutrality" on July 13th 2016. His thesis was co-supervised by Chadi Barakat and Guillaume Urvoy-Keller (I3S).

PhD in progress: Karyna Gogunska works on "Empowering Virtualized Networks with Measurement As a Service (MaaS)". Her thesis is co-supervised by Chadi Barakat and Guillaume Urvoy-Keller (I3S).

PhD in progress: Muhammad Jawad Khokhar works on "From Network Level Measurements to Expected Quality of User Experience". His PhD is supervised by Chadi Barakat.

PhD in progress: Mohamed Naoufal Mahfoudi works on cross-layer optimization techniques for next generation MIMO-based networks since November 2015. His thesis is co-supervised by Walid Dabbous and Robert Staraj (LEAT).

PhD in progress: Ghada Moualla works on "the problem of network faults and how to circumvent them by the means of Software Defined Networking, virtualization, and service function chaining" since November 2015. Her thesis is co-supervised by Thierry Turletti and Damien Saucez.

PhD in progress: Vitalii Poliakov works on "the application of Software Defined Networking on 5G networks in order to optimise the Quality of Experience of network services" since November 2015. His thesis is co-supervised by Damien Saucez and Lucile Sassatelli (I3S).

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

PhD in progress: 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 and Thrasyvoulos Spyropoulos (Eurecom).

9.2.3. *Juries*

Chadi Barakat served as reviewer of Panagiotis Matzakos PhD thesis, "Scheduling and Congestion Management Policies for QoS Provision in Disruption Tolerant Networks" defended in October at Eurecom.

Walid Dabbous served as reviewer of Leonardo Linguaglossa PhD thesis, "Two challenges of Software Networking: Name-based Forwarding and Table Verification", defended on September 9th 2016 at the Université Sorbonne Paris Cité.

Walid Dabbous served as jury member of Nikolaos Spountzis PhD thesis, "Network Layer Optimization for Next Generation Heterogeneous Networks", defended on December 14th 2016 at Eurecom.

Walid Dabbous served as reviewer for mid-term PhD defense of Sumit Kumara at Eurecom for his thesis entitled "Simultaneous multi-standard SDR platform".

Arnaud Legout served as reviewer of Riccardo Petrocco PhD thesis, "Scalable Video Coding Support for P2P Networks", defended on April 9, 2016, at TU Delft.

Damien Saucez served as reviewer for mid-term PhD defense of Sergio Livi at Université de Nice Sophia Antipolis for his thesis entitled "Towards NFV-based Green Networks".

Thierry Turletti served as reviewer of Sadaf Yasmin PhD thesis, "Cost-effective routing and cooperative framework or opportunistic networks", defended on February 17 2016 at the Faculty of Computing Mohammad Ali Jinnah University, Islamabad, Pakistan.

Thierry Turletti served as reviewer of Guillaume Gaillard PhD thesis, "Opérer les réseaux de l'Internet des Objets à l'aide de contrats de qualité de service (SLA)", defended on December 19 at University of Lyon, INSA Lyon, France.

9.3. Popularization

Chadi Barakat keeps participating to the organization of the Mediterranean Students Days @ Campus SophiaTech. The fourth edition took place on March 9-11, 2016, and the fifth edition will took place on February 28-March 2, 2017. All details on this event can be found at http://univ-cotedazur.fr/events/meddays.

Walid Dabbous contributed to a large audience book on Big Data ("Les Big Data à Découvert", CNRS Editions, 2017). His participation [29] is on "Networks for Big Data".

Arnaud Legout gave a presentation on Internet Privacy to high school students at Lycée Amiral in Grasse.

Damien Saucez was invited at AuvernIX to give a tutorial on the Locator/ID Separation Protocol (LISP) in December 2016.

Damien Saucez was invited in December 2016 to present Future Internet challenges to high school students at Lycée Aubrac de Bollène in the context of "Science culture au lycée".

Damien Saucez was invited at the Amadeus Global Forum in June 2016 to present the future of Software Defined Networking.

<p align="center" style="color:red">FOCUS Project-Team</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

I. Lanese: Co-chair and local organizer for the 8th Conference on Reversible Computation (RC 2016), Bologna, July 7th-8th, 2016.

9.1.1.2. Chair of Conference Program Committees

I. Lanese: 36th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE 2016)

D. Sangiorgi: 43rd International Colloquium on Automata, Languages, and Programming (ICALP 2016), Rome, July 2016

9.1.1.3. Member of the Conference Program Committees

M. Bravetti: 5th European Conference on Service-Oriented and Cloud Computing (ESOCC 2016); 14th International Conference on Software Engineering and Formal Methods (SEFM 2016); 10th IEEE International Conference on Big Data Science and Engineering (IEEE BigDataSE 2016); 2016 IEEE International Conference on Big Data (IEEE BigData 2016) 32nd Symposium on Applied Computing, track on Software Verification and Testing (SAC-SVT 2016); 7th International Conference on Fundamentals of Software Engineering (FSEN 2017).

U. Dal Lago: 13th IFIP WG 1.3 International Workshop on Coalgebraic Methods in Computer Science (CMCS 2016); 1st International Conference on Formal Structures for Computation and Deduction (FSCD 2016); 15th International Workshop on Termination (WST 2016); 17th International Workshop on Logic and Computational Complexity (LCC 2016, Chair).

I. Lanese: 1st International Workshop on Pre- and Post-Deployment Verification Techniques (PrePost 2016); 9th Interaction and Concurrency Experience (ICE 2016); 25th European Symposium on Programming (ESOP 2016); Special Track on Microservices: Science and Engineering of the 9th IEEE International Conference on Service-Oriented Computing and Applications (MSE @ SOCA 2016).

S. Martini: DIDAMATICA - Informatica per la Didattica (DIDAMATICA 2016).

D. Sangiorgi: 10th International Conference on Language and Automata Theory and Applications (LATA'16).

V. Vignudelli: 9th Interaction and Concurrency Experience (ICE 2016).

G. Zavattaro: 21st International Symposium on Formal Methods (FM2016); 5th European Conference on Service-oriented and Cloud Computing (ESOCC'16); 27th International Conference on Concurrency Theory (CONCUR'16); 31st ACM/SIGAPP Symposium On Applied Computing - track on Software Verification and Testing (ACM-SAC 2016).

9.1.1.4. Member of the Editorial Boards

U. Dal Lago: Logical Methods in Computer Science.

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

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

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

The Scientific World Journal (Hindawi Publishing Corporation): editor till August 3, 2016

F. Montesi: Guest editor for "Special issue on Service-Oriented Architecture and Programming (SOAP 2013)". Science of Computer Programming.

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

9.1.2. Invited Talks

U. Dal Lago: gave an invited course "Implicit Complexity and the Curry-Howard Correspondence" at 'Days in Logic 2016', Lisboa, Portugal.

D. Hirschkoff: gave an invited course "Mechanised Coinductive Proofs" at East China Normal University (Shanghai, China), in november 2016 (a course mainly targeted towards master students).

S. Martini: gave the invited talk "Types in programming languages, between modelling, abstraction and correctness" at 'Computability in Europe' (Cie 2016), special session on History and Philosophy of Computing, Paris, June 2016.

G. Zavattaro: gave an invited course on cloud computing management at the 'Bertinoro International Spring School 2016' (BISS'16), Bertinoro, Italy, 6-11 March, 2016.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Mario Bravetti

  Master: "Linguaggi, Compilatori e Modelli Computazionali", 120 hours, 1st year, University of Bologna, Italy.

- Ugo Dal Lago

  Undergraduate: "Introduction to Programming in Python", 20 hours, 1st year, University of Bologna, Italy.

  Undergraduate: "Optimization", 36 hours, 2nd year, University of Bologna, Italy.

  Master: "Cryptography", 36 Hours, 2nd Year, University of Bologna, Italy.

- Daniel Hirschkoff

  Master: "Coinductive Methods in Computer Science", 2nd year, Ecole Normale Supérieure de Lyon.

- 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.

- Saverio Giallorenzo

  Undergraduate: "Laboratorio di Operating Systems", 40 hours, 2nd year, University of Bologna, Italy.

- Ivan Lanese

  Undergraduate: "Programmazione", 32 hours, 1st year, University of Bologna, Italy.

  Undergraduate: "Algoritmi e Strutture Dati", 45 hours, 2nd year, University of Bologna, Italy.

  Master: "Ingegneria del Software Orientata ai Servizi", 22 hours, 2nd year, University of Bologna, Italy.

- Cosimo Laneve

Undergraduate: "Programmazione", 70 hours, 1st year, University of Bologna, Italy.

Master: "Analisi di Programmi", 42 hours, 1st year, University of Bologna, Italy.

- Simone Martini

    Undergraduate: "Introduction to programming in Python", 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.

- 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

    Undergraduate: "UNIX system programming", 48 hours, 3rd year, Université Paris Diderot

    Undergraduate: "Network programming", 48 hours, 3rd year, Université Paris Diderot

- Gianluigi Zavattaro

    Undergraduate: "Computer Architectures", 60 hours, 1st year, University of Bologna, Italy

    Undergraduate: "Programming Languages", 60 hours, 2nd year, University of Bologna, Italy

9.2.2. Supervision

PhD thesis completed in 2016:

- Alberto Cappai, " On Equivalences, Metrics, and Computational Indistinguishability", University of Bologna, April 2016.
- Alessandro Rioli, " Coinductive Techniques on a Linear Quantum λ-calculus", University of Bologna, April 2016.
- Marco Solieri, "Sharing, Superposition and Expansion — Geometrical Studies on the Semantics and Implementation of λ-calculi and Proof-Nets", S. Guerrini (Paris Nord) and S. Martini. [11].
- Saverio Giallorenzo, "Real-World Choreographies", University of Bologna, April 2016 [10].

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.

- Adrien Durier, september 2016, "Proving behavioural properties of higher-order concurrent languages", ENS de Lyon and University of Bologna. Supervisors Daniel Hirschkoff and Davide Sangiorgi.
- Abel Garcia, January 2014, "Analysis of Cloud Computing Systems". Supervisor C. Laneve.
- Francesco Gavazzo, October 2015, "Coinductive Techniques for Effectful Lambda Calculi". Supervisors U. Dal Lago and D. Sangiorgi.
- Raphaelle Crubillé, October 2015, "Bisimulation Metrics and Probabilistic Lambda Calculi", Université Denis Diderot and University of Bologna. Supervisors Thomas Ehrhard and Ugo Dal Lago.
- Vincenzo Mastandrea, October 2015, "Deadlock analysis in ASP". Supervisors Cosimo Laneve and Ludovic Henrio (CNRS Sophia Antipolis).
- Valeria Vignudelli, January 2014, "Probabilities in Higher-Order languages". Supervisor D. Sangiorgi.

9.2.3. *Juries*

U. Dal Lago has been member of the PhD evaluation committee for Charles Grellois (April 2016, Université Paris 7), and Thomas Leventis (December 2016, Université Aix-Marseille).

D. Hirschkoff has been referee (rapporteur) for the Habilitation à Diriger les Recherches of Nicolas Tabareau, Université de Nantes), November 2016, and member of the PhD committee of Martin Bodin (Université Rennes 1), Nov. 25, 2016.

S. Martini has been supervisor and member of the PhD evaluation committee for Marco Solieri (Université Paris 13 and Università di Bologna).

G. Zavattaro: has been member of the PhD jury of Laura Nenzi and Andrea Morichetta, IMT Lucca, Italy, July 2016.

9.3. Popularization

Simone Martini has carried out extended work of scientific divulgation, including

- member of the technical committee of Olimpiadi del Problem Solving (at Italian Ministry of Education), http://www.olimpiadiproblemsolving.com;
- invited talks ("Il pensiero computazionale spiegato ai manager", given at 'Il codice del futuro', Teatro anatomico dell'Archiginnasio, Bologna, May 2016, and "Pensare computazionale: una quarta competenza dopo scrivere, leggere e far di conto", given at 'Trasformazioni sociali e trasmissione delle conoscenze nell'Università italiana', Bologna, November 2016);
- various talks at institutes and workshops on the teaching methods for Computer Science;
- coordinator of some initiatives for the 'Hour of Code', see https://italia.code.org/ and http://www.programmailfuturo.it.

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

9.3.1. *Other duties*

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

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

D. Sangiorgi has been coordinator of undergraduate studies at the Department of Computer Science and Engineering, University of Bologna (Informatica per il Management), till October 2016, when G. Zavattaro has taken over from him.

<p style="text-align:center">**INDES Project-Team**</p>

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Organisation

7.1.1.1. General Chair, Scientific Chair

- Ilaria Castellani co-organised (with Mohammad Reza Mousavi) the workshop TRENDS 2016, which took place in Québec City in association with the CONCUR conference.

7.1.1.2. Member of the Organizing Committees

- Ilaria Castellani participated in the organisation of the 2nd Summer School of the BETTY project, which took place in Cyprus.

7.1.2. Scientific Events Selection

7.1.2.1. Member of the Conference Program Committees

- Ilaria Castellani served in the programme committee of the workshop EXPRESS/SOS 2016.
- Tamara Rezk served in the programme committee of POST, SEC@SAC, PLAS, IEEE SecDev, and APLAS 2016.

7.1.2.2. Reviewer

The team members have been reviewers for FSTJCS conference, SEC@SAC conference, USENIX Security 2016, POST 2016, NDSS 2016, and CCS 2016.

7.1.3. Journal

7.1.3.1. Member of the Editorial Boards

- Ilaria Castellani is a member of the editorial board of the french journal *Technique et Science Informatiques*.
- Tamara Rezk is a member of the editorial board of the french journal *Interstices*.

7.1.3.2. Reviewer - Reviewing Activities

The team members have been reviewers for the international journals JLAMP (*Journal of of Logical and Algebraic Methods in Programming*), LMCS (*Logical Methods in Computer Science*), International Journal of Information Security (IJIS), EEE TDCS, and ACM TISSEC.

7.1.4. Invited Talks

Manuel Serrano gave a presentation on "Diffuse Web programming" at The Open Source Innovation Spring 2016 (http://open-source-innovation-spring.org/techniques-de-programmation-web-letat-de-lart-date-conf/).

Nataliia Bielova has been invited to give a talk on Price discrimination of Online Airline Tickets at the Collaborative Action on the Protection of Privacy Rights in the Information Society (CAPRIS) project meeting, Sophia Antipolis, France.

7.1.5. Leadership within the Scientific Community

- Ilaria Castellani is the chair of the IFIP TC1 WG 1.8 on Concurrency Theory since May 2014. In this quality, she co-organises every year (together with the WG Secretary Mohammad Reza Mousavi) the annual business meeting of the working group as well as the workshop TRENDS, which is always affiliated with the CONCUR conference. Ilaria Castellani was a member of the european COST Action IC1201 BETTY on Behavioural Types (October 2012-October 2016). She also belonged to the Management Committee of BETTY and was the chair of its working group on security. Ilaria Castellani is a member of the COST Action IC1405 on Reversible Computation (November 2014-November 2018). She is also a deputy Management Committee member of this action.

- Nataliia Bielova has co-organised a Dagstuhl Seminar on Online Privacy and Web Transparency [0] with researchers from Telefonica (Spain), Stony Brook University (USA) and Princeton University (USA).

- Nataliia Bielova is a member of the W3C Tracking Protection Working Group. This group works towards creating a "DoNotTrack" specification. Its goal is to help users express their preferences on third-party tracking and help companies ensure their compliance with the specification.

7.1.6. Scientific Expertise

During 2016, Tamara Rezk has been an international research proposal evaluator for the following research agencies: Ministerio de Ciencia y Tecnología e Innovación Productiva (Foncyt, Argentina), Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI, Romania).

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence : Vincent Prunet, Algorithms and Data Structures, 8 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 : Nataliia Bielova, Information Flow Security in Web Applications, 15 ETD, University of Pierre et Marie Curie, France

Master : Tamara Rezk, Web Application Security, 28H ETD, University of Nice Sophia Antipolis, France

Master : Tamara Rezk, Proofs of Cryptography, 28H ETD, University of Nice Sophia Antipolis, France

Master : Tamara Rezk, Information Flow Security in Web Applications, 15 ETD, University of Pierre et Marie Curie, France

7.2.2. Supervision

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

PhD in progress : **Dolière Francis Some**, *Web Tracking Prevention*, University of Nice, 1/11/2015, **Nataliia Bielova** and **Tamara Rezk**.

PFE Master in progress: Leila Kuntar, Analysis of web tracking technologies that use 1x1 pixel image, University of Nice, Nataliia Bielova

7.2.3. Juries

- Nataliia Bielova was an examiner of the PhD thesis of Willem De Groef, KU Leuven, Belgium.
- Ilaria Castellani was a member of the "Comité de sélection " for a position of Maître de conférences at the University of Paris Diderot (Paris 7), IRIF Laboratory.

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[0]https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=17162

- Ilaria Castellani was a reviewer of the PhD thesis of Saverio Giallorenzo, University of Bologna. She took part in the jury of this PhD thesis, as well as of ten other PhD theses defended in the same round.

- Ilaria Castellani was an examiner for the PhD thesis of Aurélien Deharbe, Université Pierre et Marie Curie (Paris 6).

- Tamara Rezk was an examiner of the PFE juries for Security and Privacy and Mobile Cloud and IoT at Univesity of Nice Sophia Antipolis.

- Manuel Serrano was an examiner of the PhD thesis of Rabah Laouadi, Université de Montpellier.

- Manuel Serrano was an examiner of the PhD thesis of Julien Pagès, Université de Montpellier.

7.3. Popularization

- Web users are continuously tracked as they browse the Web. One of the techniques for tracking is device fingerprinting that distinguishes users based on their Web browser and operating system properties. Together with Inria Celtique team, we have proposed solutions to detect and prevent device fingerprinting via runtime monitoring of JavaScript programs. We have published an article in a general public ERCIM News magazine [0] about prevention of device fingerprinting via program monitoring [10].

- We have implemented the *WebStats* website [0]. This website collects, on a monthly basis, a number of JavaScript and security statistics about top 10 000 webpages: the usage of popular JavaScript libraries; the usage of different language constructs in these libraries; use of Content Security Policies and secure cookies, etc. The *WebStats* website can be used by programmers (to understand which JavaScript libraries are more popular), researchers in programming languages (when designing a subset of JavaScript, to safely exclude the language constructs that are rarely used according to *WebStats*), and researchers in privacy (to analyse which tracking libraries are the most prevalent).

7.4. Transfer

7.4.1. *WebRobotics*

The WebRobotics initiative aims at developing collaborations with partner academic and industry teams to jointly prototype and experiment end user applications involving assistive robots and sensor devices (depending on the size and number of the embedded components, applications may be either classified as robotic or IoT ones). Each WebRobotics project is structured around partner medical institutions that provide key requirements to specifications and use the actual prototype throughout their daily activity. WebRobotics Applications all use Hop.js as their core framework, natively supporting web protocols for communication and distribution of tasks, and any web enabled device such as a smartphone or tablet to drive the robots and applications. In 2016, the initiative accounted to two full time engineers until the completion of the project, mid year.

The Top Three Benefits of WebRobotics:

- WebRobotics focuses on key societal issues, developing real applications for demanding users.

- Application developers and users feedback to Hop.js framework developers, helping identify and prioritize key requirements.

- The WebRobotics application portfolio fosters the dissemination and transfer of the Hop.js technology to the Industry.

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[0] http://ercim-news.ercim.eu/en106/special/using-javascript-monitoring-to-prevent-device-fingerprinting
[0] http://webstats.inria.fr/

The WebRobotics initiative now encompasses several prototypes in use by medical foundations and hospitals.

- RAPP. The WebRobotics project is part of the RAPP FP7 european project, to be completed in December 2016, where Hop.js technology is used by several academic and SME R&D teams to develop a distributed software platform and applications for assistive robotics. Two prototypes have been developed, the first one is a personal coach robot (a Nao humanoid robot embedding Hop.js 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). Both prototypes are being evaluated by partner medical institutions.

- Hopcare. Indes collaborates 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.js technology. An expert engineer is dedicated to this project (grant from UCN@Sophia Labex, until April 2016).

  - ICP (Institut Claude Pompidou Hospital, in Nice) is now using the Alzheimer diagnosis tool developed using Hop.js. User Data generated from Inria/Stars sensors and image analysis software are collected by a Hop.js server and processed before being delivered to the Physician's web tablet, as an editable web report, or paper ready PDF reports.

  - The activity monitoring application enables real-time monitoring of various events generated by hardware/software monitoring tools (such as the video monitoring applications from Inria/Stars) as well as user defined events. Hop.js is the common framework for the whole application (communications with remote information servers, processing of input data, database management, user authentication and authorization, custom views for web clients). The application will soon be deployed at the Nice Valrose EHPAD (a specialized institution for elderly who need medical care), where Inria runs an experimentation lab.

  - A third application has been developed to enable the configuration and use of Inria/Stars video analysis tools through a web interface. The application is used by researchers to tune their data processing algorithms.

7.4.2. *Hop.js for IoT*

As more and more software developers come to IoT, teams are facing critical challenges due to the inherent complexity of multi-platform distributed development, leading to team building issues, long and costly development cycles to deliver products with the highest quality, usability, and security standards

The Hop.js software suite enables agile software teams to build flexible, robust and secure end-to-end IoT applications with a single language and a consistent set of API and built-in software components.

Building on the Hop.js technology and the successful WebRobotics experiments, a startup project has been launched in 2016 as a spin-off of the Indes team, with the support of Inria DGD-T, funding two engineers from July 2016.

The team has initiated partnerships with IoT hardware vendors, adapted Hop.js to highly constrained execution environments on microcontrollers, and participated to a number of public and business events to promote the solution and meet future customers. The startup company is expected to launch in 2017.

<p style="text-align:center">**MAESTRO Project-Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- S. Alouf and A. Jean-Marie are the general chairs of the 13th SIGMETRICS/PERFORMANCE Joint International Conference on Measurement and Modeling of Computer Systems (ACM SIG-METRICS/IFIP PERFORMANCE 2016, Antibes Juan-les-Pins, France).

10.1.1.2. Member of the Organizing Committees

- A. Kadavankandy, J. Kazhuthuveettil Sreedharan, H. Mykhailenko, D. Politaki, and D. Tsigkari, were in the local organization committee of the 13th SIGMETRICS/PERFORMANCE Joint International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS/IFIP PERFORMANCE 2016, Antibes Juan-les-Pins, France).

- A. Kadavankandy, H. Mykhailenko, D. Politaki, D. Tsigkari, and A. Tuholukova were volunteer students at the 13th SIGMETRICS/PERFORMANCE Joint International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS/IFIP PERFORMANCE 2016, Antibes Juan-les-Pins, France).

- D. Politaki was a volunteer student at the Journées Cloud 2016, Nice, France.

- D. Politaki and E. Vatamidou are members of the organizing committee of the workshop "Monde des mathématiques industrielles (MOMI)", to be held on 27-28 February 2017 at Inria, Sophia Antipolis. Additional information:

- L. Vermeersch was the local organization chair of the 13th SIGMETRICS/PERFORMANCE Joint International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS/IFIP PERFORMANCE 2016, Antibes Juan-les-Pins, France).

10.1.1.3. Member of Conference Steering Committees

- E. Altman chairs the Steering Committee of the Intl. Conference on NETwork Games, COntrol and OPtimization (this year: NETGCOOP 2016, Avignon, France).

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- 13th European Workshop on Performance Engineering (EPEW 2016, Chios, Greece) (**A. Jean-Marie**);

- IEEE Intl. Conference on Computer Communications (INFOCOM 2017, Atlanta, GA, USA) (**G. Neglia**);

- Intl. Conference on NETwork Games, COntrol and OPtimization (NETGCOOP 2016, Avignon, France) (**K. Avrachenkov**);

- 16th Intl. Conference on Next Generation Wired/Wireless Networking (NEW2AN 2016, St. Petersburg, Russia) (**K. Avrachenkov**);

- 10th Intl. Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS 2016, Taormina, Italy) (**K. Avrachenkov**);

- 31st Intl. Symposium on Computer and Information Sciences (ISCIS 2016, Krakow, Poland) (**A. Jean-Marie**);

- 17th Intl. Symposium of Dynamic Games and Applications (ISDG 2016, Urbino, Italy) (**E. Altman**);
- Intl. Workshop on Bio-inspired Security, Trust, Assurance and Resilience (BioSTAR 2016, Fairmont, San Jose, CA, USA) (**E. Altman**);
- 9th Intl. Workshop on Multiple Access Communications (MACOM 2016, Aalborg, Denmark) (**K. Avrachenkov**);
- 5th International Conference on Computational Social Networks (CSoNet 2016, Ho Chi Minh City, Vietnam) (**K. Avrachenkov**);
- 1st Mini-Symposium on Stochastic Models: Methods and Applications (SAMMA 2016, Rhodes, Greece) (**E. Vatamidou**);
- 13th Workshop on Algorithms and Models for the Web Graph (WAW 2016, Montreal, Canada) (**K. Avrachenkov**).

10.1.2.2. Session organizer

- Session on Stochastic Modeling at the 17th Conference of the Société Française de Recherche Opérationnelle et d'Aide à la Décision (ROADEF 2016, Compiègne, France) (**A. Jean-Marie**).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- *ACM Transactions on Modeling and Performance Evaluation of Computing Systems* (ToMPECS) (**K. Avrachenkov** since 2015).
- *Dynamic Games and Applications* (DGAA) (**E. Altman** since 2011);
- *Elsevier Computer Communications* (COMCOM) (**G. Neglia** since 2014);
- *IEEE/ACM Transactions on Networking* (ToN) (**E. Altman** since 2013);
- AIMS (American Institute of Mathematical Sciences) *Journal of Dynamics and Games* (JDG) (**E. Altman** since 2015);
- *Performance Evaluation* (PEVA) (**K. Avrachenkov** since 2008);
- *Wiley Transactions on Emerging Telecommunications Technologies* (ETT) (**S. Alouf** since July 2016).

10.1.3.2. Member of Advisory Boards

- E. Altman is Member of the advisory board of the international journal *IRAN Journal of Computer Science* published by University of Tabriz. Since 2016.

10.1.4. Invited Talks

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

- Eitan Altman gave a keynote talk at *The International Symposium on Ubiquitous Networking, UNet 2016*, Casablanca, May 30 – June 1st, 2016. Title: Game theory applied to SIS Epidemics in Networks.
- Eitan Altman gave a keynote lecture at *ITC 28* in Würzburg on 15 September 2015. Title: Dynamic Games for Analyzing Competition in the Internet.
- Alain Jean-Marie gave a keynote lecture at the *11th Workshop on Retrial Queues (WRQ11)*, in Amsterdam, 31 August – 2 September, 2016. Title: Impatient Customers and Optimal Control.

and the following invited talks (in alphabetical order):

- *Access-time aware cache algorithms*, at UCN'16 Workshop on Future challenges in User-Centric Networks, Antibes Juan-les-Pins, France, 14 June a workshop of ACM Sigmetrics / IFIP Performance 2016 (**G. Neglia**);
- *Distributed spectral decomposition and quantum random walk*, at Workshop on critical and collective effects in graphs and networks, MIPT, Moscow, April 2016 (**K. Avrachenkov**);
- *Distributed spectral decomposition and quantum random walk*, at the 20th Conference of the International Linear Algebra Society (ILAS), Leuven, Belgium, July 2016 (**K. Avrachenkov**);
- *Overview and comparison of random walk based techniques for estimating network averages*, at COSTNET Conference, Ribno, Slovenia, September 2016 (**K. Avrachenkov**);
- *Hitting Times in Markov Chains with Restart and their Applications to Ranking*, at Workshop dedicated to W. Stadje, Osnabruck, Germany, October 2016 (**K. Avrachenkov**).

10.1.5. Leadership within the Scientific Community

- E. Altman is a fellow member of IEEE (Class of 2010).
- E. Altman, A. Jean-Marie and P. Nain are (elected) members of IFIP WG7.3 on "Computer System Modeling". E. Altman is also Member of WG 6.3 of IFIP on Performance of Communication Systems.

10.1.6. Research Administration

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".

S. Alouf
- – was member of the recruitment committee for junior Inria researchers (CR1, CR2);
- – is member of the scientific committee of the joint laboratory Inria-Alstom since May 2014.

K. Avrachenkov
- – together with Arnaud Legout (DIANA team) and Fabien Gandon (WIMMICS team) is co-responsible of the multi-disciplinary research theme (Action Transversale) "Semantic and Complex Networks" at Inria Sophia Antipolis - Méditerranée.

A. Jean-Marie
- – is the scientific coordinator of Inria activities in Montpellier (since 2008); as part of this duty, he represents Inria at the Scientific Council of the Doctoral School "Sciences and Agrosciences" of the Univ. of Avignon, at the Regional Conference of Research Organisms (CODOR);
- – is a member of the Steering Committee of the GDR RO, a national research initiative on Operations Research sponsored by the CNRS;
- – is Head of project-team MAESTRO since October 2014;

G. Neglia
- – is the scientific delegate for European partnerships for Inria Sophia Antipolis – Méditerranée since 2014;
- – is member of the Inria COST GTRI (International Relations Working Group of Inria's Scientific and Technological Orientation Council since 2016.

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

- CLFP: Training Committee (**S. Alouf**, since November 2014);
- CSD: Doctoral Committee (**S. Alouf**, since February 2006);
- MASTIC: a commission in charge of popularization and regional and internal scientific animation (**D. Politaki**, since July 2016);
- NICE: Invited Researchers Committee (**K. Avrachenkov**, since 2010).

MAESTRO members are in charge of the following tasks for the research center and the project-team:

- Supervision and validation of the project-teams' yearly activity reports (**K. Avrachenkov**, since 2010);
- Organizing the fortnightly PhD seminars of the research center (**D. Politaki**, since November 2016);
- Organizing the fortnightly MAESTRO internal meetings (**J. K. Sreedharan**, since November 2013).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence:

G. Neglia, "Probability", 50.5H, 1st year Water Engineering degree (L3), niv. of Nice Sophia Antipolis (UNS), France.

D. Politaki, "Intro Web", 36H, (L1), UNS, France.

Master:

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

A. Jean-Marie, "Foundations of Network Modeling", 12H, MPRI, Univ. Paris Diderot/ENS Ulm/Univ. Paris Saclay, France.

G. Neglia, "Distributed Optimization and Games", 31.5H, M2 IFI Ubinet, UNS, France.

G. Neglia, responsible for the "Winter School on Complex Networks", 22.5H, M1 Computer Science, UNS, France.

K. Avrachenkov, "Random-walk based algorithms for complex network analysis" at "Winter School on Complex Networks", 2H, M1 Computer Science, UNS, France.

10.2.2. Supervision

- PhD defended:

  Alexandre Reiffers-Masson, "Competition over visibility and popularity in on line social networks", UAPV, 12 January 2016, advisors: Eitan Altman and Yezekael Hayel.

  Jithin Kazhuthuveettil Sreedharan, "Sampling and Inference in Complex Networks", Univ. Côte d'Azur, 2 December 2016, advisor: Konstantin Avrachenkov.

  Nessrine Trabelsi, "A Generic Framework for User Association and Interference Management in LTE Cellular Networks", UAPV, 20 December 2016, advisors: Eitan Altman and Rachid El Azouzi.

- PhD in progress:

  Zaid Allybokus, 1 July 2016, advisors: Konstantin Avrachenkov and Lorenzo Maggi (Huawei).

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

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

  Dimitra Politaki, "Greening data center," 1 February 2016, advisors: Sara Alouf and Fabien Hermenier (UNS).

  Alina Tuholukova, "Caching at the Edge: Distributed Phy-aware Caching Policies for 5G Cellular Networks," 1 July 2016, advisors: Petros Elia (Eurecom) and Giovanni Neglia.

10.2.3. Juries

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

- Patrick Loiseau, "Game theory and statistical learning in security, privacy and networks", Univ. Pierre et Marie Curie (Paris), 8 December 2016 (**E. Altman** as reviewer and jury president);

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

- Alexandre Reiffers-Masson, "Competition over visibility and popularity in on line social networks", UAPV, 12 January 2016 (**E. Altman** as advisor);
- Nesrine Ben Khalifa, "Evolutionary games with non-uniform interactions and delays", UAPV, 16 December 2016 (**E. Altman** as examiner).
- Mikael Touati, "Cooperative Game Theory and Stable Matchings in Networks", Telecom ParisTech, 1st December 2016 (**E. Altman** as advisor);
- Jithin Kazhuthuveettil Sreedharan, "Sampling and Inference in Complex Networks", Univ. Côte d'Azur, 2 December 2016 (**K. Avrachenkov** as advisor, **A. Jean-Marie** as jury president);
- Nessrine Trabelsi, "A Generic Framework for User Association and Interference Management in LTE Cellular Networks", UAPV, 20 December 2016 (**E. Altman** as advisor);
- Osti Prajwal, "Resource allocation in wireless access network: A queueing theoretic approach", Aalto Univ., Helsinki, Finland, 11 August 2016 (**K. Avrachenkov** as opponent).

10.3. Popularization

Activities are presented in chronological order:

- S. Alouf delivered a conference titled "Comment marche le Web ?" at Lycée Pierre et Marie Curie, Menton, for one classe of high school students (25 November 2016).
- D. Politaki participated to the "Fête de la science" at the Campus Valrose, Nice (13 October 2016) and at the Congress Center, Antibes Juan-les-Pins (22 October 2016). She animated the game "Datagramme" and the programming of Thymio.
- D. Politaki managed two sessions MEDITES in two middle schools (22 November 2016).
- D. Politaki participated to the Thymio competition (26 November 2016) which was organized by Hackathon Women Creativity 2016 in Nice.

D. Politaki is a member of MASTIC, a commission in charge of popularization and regional and internal scientific animation (since July 2016).

10.4. Participation in scientific events

10.4.1. Conferences and workshops

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

- 9th International Conference on Matrix Analytic Methods in Stochastic Models (MAM9), Budapest, Hungary, 28–30 June 2016 (**E. Vatamidou**).
- 4th International workshop on Big Data and Social Networking Management and Security (BDSN), Barcelona, Spain, 5-7 December 2016 (**H. Mykhailenko**).
- 1st International Conference on Reliability, Safety and Security of Railway Systems (RSSR 2016), Paris, France, 28-30 June 2016, (**A. Tuholukova**).
- 2016 Americal Control Conference (ACC 2016), Boston, USA, July 6-8 2016, (**G. Neglia**).

10.4.2. Schools and doctoral courses

MAESTRO members have attended the following events (list in alphabetical order):

- E3-RSD Summer School on "Efficacité Energétique des Réseaux et Systèmes Distribués" (20H), Dinard, France, 23-27 May 2016 (**S. Alouf**, **D. Politaki**);
- WAW 2015 School on complex networks and graph models (16H), Eindhoven, Netherlands, 7-8 December 2015 (**A. Kadavankandy** and **J. K. Sreedharan**).

<p style="text-align:center; color:red;">**AYIN Team**</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

- Josiane Zerubia in collaboration with Farzad Kamalabadi from UIUC organized a special session at the Symposium URSI-France (http://ursi-france.telecom-paristech.fr/evenements/journees-scientifiques/2017.html) in Sophia Antipolis (February 2017).
- Josiane Zerubia is part of the organizing committee and will be co-Chair of the EARTHVISION workshop at CVPR'17 (http://cvpr2017.thecvf.com/) in Hawaii, USA, in July 2017.
- Josiane Zerubia is part of the organizing committee of the 50th GRETSI conference (http://gretsi.fr/colloque2017/2016/10/bienvenue-au-gretsi-2017/) which will take place in Juan-les-Pins, in September 2017.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

- Josiane Zerubia was part of the conference program committee of SYNASC'16 (http://synasc.ro/2016/) in Timisoara, Romania, in September 2016.
- Josiane Zerubia was part of the conference program committee of ISPRS/SPIE Remote Sensing'16 (http://spie.org/Documents/ConferencesExhibitions/ERS-ESD16-Final-lr.pdf) in Edinburgh, UK, in September 2016.

8.1.2.2. Reviewer

- Josiane Zerubia was a reviewer for the conferences IEEE ICASSP'16, IEEE ICIP'16, ISPRS-SPIE Remote Sensing'16, ECCV'16, IEEE CVPR'16, IAPR ICPR'16, IEEE EMBC'16, IEEE-EURASIP EUSIPCO'16 and SYNASC'16.

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

- Josiane Zerubia is an Associate Editor of the collection "Foundation and Trends in Signal Processing" (http://www.nowpublishers.com/SIG).
- Josiane Zerubia is a member of the Editorial Board of the "Revue Française de Photogrammétrie et de Télédétection of SFPT" (http://www.sfpt.fr/rfpt/).
- Josiane Zerubia is an Associate Editor of the electronic journal Earthzine (http://www.earthzine.org/).

8.1.3.2. Reviewer - Reviewing Activities

- Ihsen Hedhli was a reviewer for IEEE TGRS, TGRL and TIP journals and Elsevier Pattern Recognition Letters.

8.1.4. Invited Talks

- As IEEE SPS Distinguished Lecturer, Josiane Zerubia gave in 2016 ten invited talks: at DITEN Dept., University of Genoa, Italy, at the Faculty of Mathematics and Computer Science from the West University of Timisoara, Romania, at the Faculty of Electronics, Telecommunications & IT and the Faculty of Medical Engineering, University Politehnica of Bucharest, Romania, at the Georgia Tech Research Institute in Atlanta, USA, at the SenSIP Center, School of Electrical, Computer & Energy Engineering, Arizona State University, Tempe, USA, at both the Sine Seminars and the Remote Sensing Seminars, within the Coordinated Science Laboratory, University of Illinois at Urbana Champaign, USA, at the Signal and Communications laboratory in the Dept. of Engineering, University of Cambridge, UK, at the Faculty of Engineering, University of Bristol, UK, and finally a plenary talk at the international symposium ISIVC2016 in Tunis, organized by Sup'Com (see http://www.supcom.mincom.tn/Fr/Fr/Fr/actualites-de-l-ecole_7_280_D875#.WG0L9jU5ReR).

8.1.5. Leadership within the Scientific Community

- Josiane Zerubia is IEEE Fellow (http://www.ieee.org/membership_services/membership/fellows/index.html) since 2003 and IEEE SPS Distinguished Lecturer since 2016 (http://signalprocessingsociety.org/newsletter/2015/11/sps-announces-2016-class-of-distinguished-lecturers/).

8.1.6. Scientific Expertise

- Josiane Zerubia was a reviewer for the Israeli Ministry of Science, Technology and Space (http://most.gov.il/english/Pages/default.aspx)
- Josiane Zerubia is part of the Scientific Council of Academy 3 of UCA-Jedi (http://univ-cotedazur.fr/english/idex-uca-jedi/academies-of-excellence) dedicated to "Space, Environment, Risks and Resilience".

8.1.7. Research Administration

- Josiane Zerubia is part of the Board of Directors of the French Photogrammetry and Remote Sensing Society (http://www.sfpt.fr/sfpt/bureau/).
- Josiane Zerubia is a member of the Inria-SAM Center Committee since 2016.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- 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 M2 of Applied Mathematics at the University Toulouse III Paul Sabatier, 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).
- Summer School (PhD and Post-doc level): Josiane Zerubia gave a presentation at the Summer School SSMIA'16 in Budapest, Romania.

8.2.2. Supervision

PhD (defended with best honors): Ihsen Hedhli, Change detection methods for multisensor and multiresolution remote sensing images for applications to environmental disaster management, University of Genoa and Université Nice Sophia Antipolis, started in January 2013, defended in March 2016, Gabriele Moser and Josiane Zerubia.

8.2.3. Juries

- Josiane Zerubia was a member of a PhD defense committee at University of Genoa, in Italy, in March 2016.

8.3. Popularization

- Josiane Zerubia presented Inria and Inria-SAM to Masters, PhDs and Post-docs of the following foreign universities during 2016: University of Genoa, West University of Timisoara, Georgia Tech, Arizona State University, University of Illinois at Urbana Champaign, University of Cambridge, University of Bristol.

- Josiane Zerubia was interviewed in August with two other French women scientists working in remote sensing by a journalist for Earthzine (webzine supported by IEEE and NASA) see https://earthzine.org/2016/10/13/the-three-musketeers-making-an-impact-in-french-remote-sensing-and-breaking-down-gender-barriers/

- In September, Josiane Zerubia actively participated to a debate about Women in Signal Processing at the IEEE International Conference ICIP'16 (http://2016.ieeeicip.org/) in Phoenix, USA

- Josiane Zerubia, with Gabriele Moser and Sebastiano Serpico from University of Genoa, wrote in December an article about natural disaster monitoring for ERCIM News, see http://ercim-news.ercim.eu/en108/special/natural-disaster-monitoring-multi-source-image-analysis-with-hierarchical-markov-models.

GRAPHDECO Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

George Drettakis chairs the Eurographics working group on Rendering.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Adrien Bousseau is co-chair of the Tutorial program of Eurographics 2017.

9.1.2.2. Member of Conference Program Committees

Adrien Bousseau was on the program committee of Eurographics 2017 and of SIGGRAPH Asia 2016 technical briefs and posters.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Adrien Bousseau is Associate Editor of The Visual Computer journal (Springer)

George Drettakis is Associate Editor of ACM Transactions on Graphics (TOG) and of Computational Visual Media (CVM).

9.1.3.2. Reviewer - Reviewing Activities

Adrien Bousseau was reviewer for ACM TOG, IEEE TVCG, SIGGRAPH, SIGGRAPH Asia, Computers & Graphics, ACM CHI, ACM UIST, AFIG.

George Drettakis was reviewer for SIGGRAPH, Computer Graphics Forum.

9.1.4. Leadership within the Scientific Community

George Drettakis chairs the local "Jacques Morgenstern" Colloquium organizing committee.

9.1.5. Scientific Expertise

G. Drettakis is a member of the Scientific Advisory Board (SAB) of Aalto University, Finland, and participated in the SAB meeting at Aalto in October.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Abdelaziz Djelouah, TP système d'information, niveau L1, Université Nice Sophia Antipolis, 24h

Licence : Johanna Delanoy, TP Bases de données and personal project, niveau L1, IUT - Université Nice Sophia Antipolis, 64h

Masters II: G. Drettakis, A. Bousseau: Foundations of Image Synthesis, CentralSupelec, Paris, 28h

Masters I: A. Bousseau, G. Drettakis: Image Synthesis International Masters I, University of Nice Sophia-Antipolis, 12h

Masters I: G. Drettakis, A. Bousseau: Image Synthesis, Masters MAPI Cannes, University of Nice Sophia-Antipolis, 12h

9.2.2. *Supervision*

PhD in progress : Rodrigo Ortiz-Cayon, Mixed image-based rendering, Nice Sophia Antipolis University, started Dec. 2013, to be defended in Feb. 2017, advisor: G. Drettakis

PhD in progress : Théo Thonat, Multi-view image processing for image-based rendering, Nice Sophia Antipolis University, started Oct. 2015, advisor: G. Drettakis

PhD in progress : Johanna Delanoy, Data-driven sketch-based modeling, Nice Sophia Antipolis University, started Oct. 2015, advisor: A. Bousseau

PhD in progress : Jean-Dominique Favreau, geometric analysis of line drawings, Nice Sophia Antipolis University, started Oct. 2014, advisor: A. Bousseau and F. Lafarge (Titane)

PhD in progress : Valentin Deschaintre, lightweight material capture, Nice Sophia Antipolis University, started Nov. 2016, advisor: A. Bousseau and G. Drettakis

PhD in progress : Julien Philip, Mixed rendering for cultural heritage, Nice Sophia Antipolis University, started Nov. 2016, advisor: G. Drettakis

PhD in progress : Simon Rodriguez, Combining image-based and procedural modeling, Nice Sophia Antipolis University, started Nov. 2016, advisor: G. Drettakis

9.2.3. *Juries*

Adrien Bousseau was in the PhD committees of Boris Raymond (Inria Bordeaux) and Elena Garces (University of Zaragoza)

George Drettakis was in the PhD committees Oriel Frigo (Paris Descartes) and was an evaluator (rapporteur) for Kaan Yucer (ETH Zurich) and Yitzchak Lockerman (Yale).

9.3. Popularization

George Koulieris described his research in an interview for the Inria@SiliconValley Newsletter [0].

Adrien Bousseau described his research in two interviews for the Inria website [0][0].

Adrien Bousseau gave demos of his tool to help people practice drawing-by-observation techniques during the "Rencontres du numérique" organized by ANR (Nov. 16th) and during the "Rencontres Inria-Industrie" on e-learning (Dec. 1st).

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[0]https://project.inria.fr/siliconvalley/2016/06/21/post-doc-george-koulieris/
[0]https://www.inria.fr/en/centre/sophia/news/adrien-bousseau-receives-an-erc-starting-grant
[0]https://www.inria.fr/centre/sophia/actualites/adrien-bousseau-laureat-du-prix-jeune-chercheur

<p style="text-align:center;color:red;">GRAPHIK Project-Team</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

9.1.1.1.1. 2016 Events

- We were local co-organizers (with the Coconut team at LIRMM) of the French workshop JIAF (Journées d'Intelligence Artificielle Fondamentale), held in Montpellier in June 2016, in conjunction with the JFPC, the Journées de Programmation par Contraintes (JFPC). https://www.supagro.fr/jfpc_jiaf_2016/index_jiaf.php
- Still with Coconut team at LIRMM, we also welcomed the opening days of the National CNRS Group on theoretical and algorithmic aspects of Artificial Intelligence (pre-GDR IA) in Jun. 2016.
- Marie-Laure Mugnier co-organized the workshop "Ontologies and logic programming for query answering" co-located with IJCAI 2016 http://ontolp.lsis.org/

9.1.1.1.2. 2017 Events

- We are organizing the 30th Workshop on Description Logics, to be held in July 2017 in Montpellier. The general chairs are Meghyn Bienvenu and Marie-Laure Mugnier. https://project.inria.fr/dl2017/
- Madalina Croitou will co-organise the 5th International Workshop of Graph Based Knowledge Representation and Reasoning collocated with IJCAI 2017 in Melbourne Australia. The organiser list is the same as GKR 2015. More information about past editions can be found at: https://www.lirmm.fr/~croitoru/GKR/
- Madalina Croitoru and Pierre Bisquert will organize a special session "Agronomy and AI" at IEA-AIE 2017 (30th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems) http://www.cril.univ-artois.fr/ieaaie2017/main/specialtracks/

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

We are regularly members of the program committees of the main generalist conferences in AI (i.e., IJCAI, AAAI, ECAI) and more specialized conferences and workshops (KR, the main conference in knowledge representation and reasoning, RR —Web reasoning and Rule Systems, SUM — International Conference on Scalable Uncertainty Management, COMMA — International Conference on Computational Models of Argument, Metadata and Semantics Research Conference, etc.)

For 2016, we served in the following program committees:

- IJCAI 2016 (21st International Conference on Artificial Intelligence): 1 senior PC + 3 PC
- ECAI 2016 (22nd European Conference on Artificial Intelligence): 2 PC
- ISWC 2016 (15th International Semantic Web Conference): 1 PC
- AAAI 2016 (30th AAAI Conference on Artificial Intelligence): 2 PC
- DL 2016 (29th International Workshop on Description Logics): 2 PC
- RR 2016 (10th International Conference on Web Reasoning and Rule Systems): 2 PC
- FOIS 2016 (9th International Conference on Formal Ontology in Information Systems): 1 PC
- BDA 2016 (Gestion de Données — Principes, Technologies et Applications): 1 PC
- FoIKS 2016 (9th International Symposium on Foundations of Information and Knowledge Systems): 1 PC
- CARI 2016 (13ème Colloque Africain sur la Recherche en Informatique et Mathématiques Appliquées): 1 PC
- IC 2016 (27es journées francophones d'Ingénierie des Connaissances): 1 PC
- MTSR 2016, AgroSEM Special track (10th Metadata and Semantics Research Conference): 1 PC
- LFA 2016 (25ème Conférence sur la Logique Floue et ses Applications): 1 PC

For 2017, we will serve in the following program committees (list not exhaustive yet):

- IJCAI 2017 (22nd International Conference on Artificial Intelligence): 1 senior PC, 1 PC
- AAAI 2017 (31st AAAI Conference on Artificial Intelligence): 2 PC
- PODS 2017 (36th International Conference on the Principles of Database Systems): 1 PC
- ICDT 2017 (20th International Conference on Database Theory): 1 PC
- SIGMOD 2017 (ACM SIGMOD International Conference on Management of Data): 1 PC
- EGC 2017 (Extraction et Gestion des Connaissances): 1 PC
- IC 2017 (28èmes journées francophones d'Ingénierie des Connaissances): 1 PC

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Patrice Buche Member of the ARIMA Editorial Board (http://arima.inria.fr/docs/04redaction.html)

Rallou Thomopoulos is chapter coordinator in 2016 special issue of the IFSET journal, and member of the proposal committee of the special issue 2011 of the RNTI journal (Revue des Nouvelles Technologies de l'Information) on the topic of the evaluation of methods in EKD (Extraction of Knowledge from Data).

9.1.3.2. Reviewer - Reviewing Activities

Reviews for *Artificial Intelligence* and *Journal of Artificial Intelligence Research* (JAIR).

9.1.4. Invited Talks

- Meghyn Bienvenu was invited speaker at IJCAI 2016 (International Joint Conference in Artificial Intelligence), Early Career Spotlight track: "Ontology-mediated query answering : Harnessing knowledge to get more from data"
- Meghyn Bienvenu was keynote speaker at RR 2016 (International Conference on Web Reasoning and Rule Systems): "Query rewriting : Limits and possibilities"
- Meghyn Bienvenu was invited speaker at Reasoning Web (RW) Summer School 2016: "Inconsistency-Tolerant Querying of Inconsistent Description Logic Knowledge Bases"
- Meghyn Bienvenu (with Magdalena Ortiz)) was invited speaker at ESSLLI 2016 (European Summer School in Logic, Language and information): "Ontology- Mediated Query Answering with Horn Description Logics"

9.1.5. Invited Seminars

- Efstathios Delivorias gave a talk at the Computational Logic Group Seminar Dresden 2016.
- Meghyn Bienvenu gave a talk at the Séminaire Inria CEDAR 2016.
- Marie-Laure Mugnier, Rallou Thomopoulos, Bruno Yun and Patrice Buche gave talks at the INRA research school "intégration de connaissances et modèles", Nantes, Nov. 2016

9.1.6. Leadership within the Scientific Community

- **Scientific animation at INRA**: Patrice Buche co-animates the national network INRA IN-OVIVE, devoted to methods and tools for big data management in life sciences, agronomy and food processing http://www6.inra.fr/reseau-in-ovive
  In particular, he co-organized three editions of the IN-OVIVE workshop dedicated to heterogeneous data sources integration in life sciences during the French conference IC (ingénierie des connaissances) from 2013 to 2016 https://workshop.inra.fr/in_ovive_2016/Programme
  Patrice Buche is also co-animator (2012-2017) at the national level of the INRA CATI ICAT "Ingénierie des connaissances et analyse textuelle" http://www6.inra.fr/cati-icat/Presentation. Moreover, he co-animates the regional seminar MIAD (Mathematical models for decision making in environment, agronomy and processing of agricultural resources).

- **Scientific animation at the national level**: Marie-Laure Mugnier is member of the animating committee of the pre-GDR "Aspects algorithmiques de l'Intelligence Artificielle" http://www.gdria.fr and of the organizing committee of the workshop "Journées d'Intelligence Artificielle Fondamentale" (JIAF, the annual meeting of the French community on the foundations of AI) http://icube-web.unistra.fr/gdri3/index.php/Thème_1_:_Intelligence_Artificielle_Fondamentale

  Rallou Thomopoulos is co-leader (together with César Acéves, INSA Toulouse) of the trans-unit program "InCom" (Knowledge and Model Integration) of the CEPIA Division of INRA.

9.1.7. Scientific expertise

- Rallou Thomopoulos and Madalina Croitoru are members of the management committee of the European cooperation network (COST) "Mathematical and Computer Science Methods for Food Science and Industry", accepted in Nov. 2105. http://www.cost.eu/COST_Actions/ca/CA15118http://www.cost.eu/COST_Actions/ca/CA15118?management

- Marie-Laure Mugnier is member of the scientific advisory board of the Food and Bioproducts department (CEPIA) at INRA (2011-2016).

- Michel Chein is member of the scientific advisory board of ABES (French Agency for Academic Libraries), (2010-2016)

- Patrice Buche participates to the Wheat Data initiative of Research Data Alliance, whose objective is to propose recommandations for wheat and other cereals data http://ist.blogs.inra.fr/wdi/ (2015-2016)

- Marie-Laure Mugnier was member of the HCERES 2016 evaluation committee for IRISA.

- We also participate to punctual expertise tasks, as experts for ANR, INRA and Inria.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

The six faculty members teach at all university levels (IUT, Licence, Master). The main courses they are in charge of are: Logics (L), Web Technologies (IUT), Artificial Intelligence (M), Knowledge Representation and Reasoning (M), Social and Semantic Web (M). Some full-time researchers give Master courses (J.-F. Baget 40H; M. Bienvenu 15H).

In addition, Rallou Thomopoulos has been lecturer in the 2015-2016 "Multicriteria Decision Methods" training session, and instructor in the "Companion Modeling" and "Data, Knowledge and Model Integration" 2016 training programs of Laval University (Quebec).

Moreover, faculty members have some specific responsibilities in the Computer Science Licence and Master:

- Michel Leclère (Faculty): since 2011, he manages the program "Data, Knowledge and Natural Language Processing" (DECOL), part of the Master of Computer Science (about 30 students). This program is co-managed by Federico Ulliana (Faculty) since 2016.

- Marie-Laure Mugnier (Faculty): since 2011, she is (co)-director of the Master in Computer Science, which gathers 6 programs (about 250 students). She also led the Master project for the next four years (LMD4, from 2015/16 to 2018/2019).

- Madalina Croitoru (IUT): since Sept. 2014, she manages the "année spéciale" (about 25 students).

9.2.2. Involvement in University Structures

- Michel Leclère: since Sept. 2015, he is deputy manager of the Computer Science teaching Department from the Science Faculty, Univeristy of Montpellier.
- Marie-Laure Mugnier: since 2016, she is member of the "pôle de formation et de recherche" MIPS (Mathématiques, Informatique, Physique et Systèmes) of the University of Montpellier.

9.2.3. Supervision

9.2.3.1. Thesis defended in 2016

- Namarata Patel defended her PhD thesis "Mise en oeuvre de préférences dans les problèmes de décision" on Oct., 7 2016 in Montpellier. Advisor: Souhila Kaci (Univ. Montpellier), co-advisor: Roland Ducournau (Univ. Montpellier), reviewers: Jérôme Lang (CNRS, LAMASADE) and Nic Wilson (Univ. College Cork), jury members: Farid Nouioua (Univ. Aix-Marseille) and Nadjib Lazaar (Univ. Montpellier).
- Abdallah Arioua defended his PhD thesis ""Formalizing and Studying Dialectical Explanations in Inconsistent Knowledge Bases" on Oct., 17 2016 in Montpellier. Advisors: Patrice Buche (UMR IATE) and Madalina Croitoru (Univ. Montpellier), reviewers: Anthony Hunter (Univ. College London) and Nicolas Maudet (Univ. Pierre et Marie Curie), jury members: Juliette Dibie (AgroParis-Tech), Leila Amgoud (IRIT), Bernard Cuq (Montpellier SupAgro) and Jérôme Fortin (Univ. Montpellier).
- Fabien Garreau defended his PhD thesis "Extension d'ASP pour couvrir des fragments DL traitables : étude théorique et implémentation" on Nov., 24 2016 in Angers. Advisor: Igor Stephan (Univ. Angers), co-advisors: Jean-François Baget (Inria) and Laurent Garcia (Univ. Angers), reviewers: Andreas Herzig (IRIT) and Philippe Lamarre (INSA Lyon), jury members: Odile Papini (Univ. Aix-Marseille), Claire Lefevre (Univ. Angers) and Marie-Laure Mugnier (Univ. Montpellier).
- Swan Rocher defended his PhD thesis "Querying Existential Rule Knowledge Bases: Decidability and Complexity" on Nov., 25 2016 in Montpellier. Advisor: Marie-Laure Mugnier (Univ. Montpellier), co-advisor: Jean-François Baget (Inria), reviewers: Marie-Christine Rousset (Univ. Grenoble) and Sebastian Rudolph (TU Dresden), jury members: Andreas Pieris (Univ. Edinburgh) and Christophe Paul (CNRS, LIRMM).

9.2.3.2. Ongoing thesis

PhD in progress are:

- Stathis Delivorias. Supervisors: Federico Ulliana, Michel Leclère and Marie-Laure Mugnier. "Boundedness and Module extraction in Existential Rules KBs". Started Oct. 2015.
- Abdelraouf Hecham. Supervisors: Madalina Croitoru and Pierre Bisquert. "Logical argumentation with dual cognitive systems". Algerian National Ministry Grant 2015-2018.
- Bruno Yun. Supervisors: Madalina Croitoru, Rallou Thomopolous, Srdjan Vesic. "Decision Making and Ranking Semantics in Logical Argumentation Frameworks". French National Ministry Grant 2016-2019.

9.2.4. Juries

In the following list, we exclude our participation in the PhD juries of GraphIK PhD Students.

- Marie-Laure Mugnier was PhD jury president - Christopher Beatrix - University of Nantes /LERIA - November 2016
- Meghyn Bienvenu was PhD co-supervisor - Camille Bourgaux - University of Orsay / LRI - September 2016
- Mare-Laure Mugnier was PhD reviewer - Camille Bourgaux - University of Orsay / LRI - September 2016

- Marie-Laure Mugnier was HDR reviewer - Nathalie Pernelle - University of Orsay / LRI - June 2016
- Patrice Buche was PhD reviewer - Fatma Chamekh - University of Jean Moulin / Lyon 3- December 2016
- Patrice Buche was HDR examiner - Nathalie Pernelle - University of Orsay / LRI - June 2016
- Federico Ulliana was member of the selection committee for a "Maître de conférence" position in Paris Dauphine

HEPHAISTOS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- J-P. Merlet was General Chair of ARK 2016, organized by the team in Grasse (70 attendees), [16]

10.1.1.2. Member of the Organizing Committees

- 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
- Y. Papegay is a permanent member of the International Steering Committee of the International Mathematica Symposium conferences series.

10.1.2. Scientific Events Selection

10.1.2.1. Reviewer

- J-P. Merlet has been reviewing Editor for IROS 2016.
- The members of the team reviewed numerous papers for numerous international conferences.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- J-P. Merlet is board member of the Journal of Behavorial Robotics

10.1.4. Invited Talks

- J-P. Merlet has given a talk during the Scientific days of Inria and the Human Robot Interaction workshop

10.1.5. Leadership within the Scientific Community

- J-P. Merlet is Inria representative to the 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 has be re-elected as 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.

10.1.6. Scientific Expertise

- J-P. Merlet was involved in project evaluations for several foreign funding agencies (Israel, Austria, Finland). He was also appointed as *Nominator* for the Japan's Prize. He was a member of the jury of the PhD Award of GDR robotique.

10.1.7. Research Administration

- J-P. Merlet is an elected member of Inria Scientific Council. and member of the CAC of UCA COMUE.
- O. Pourtallier is a board member of SeaTech, an Engineering School of University of Toulon. She is a member of the Inria CSD (doctoral students monitoring), and is responsible of the Inria NICE committee (long term invited scientists and post-doctoral student selection).
- Y. Papegay is a member of the Inria CUMIR and of the ADT committee

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: J-P. Merlet lectured 8 hours on robotics and connected objects to Master NeuroMoteur (M2) at University Paris Est. He has participated to the Parallel Kinematic Machine summer school organized by LIRMM (6h)

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

E-learning

Mooc ICN : J-P. Merlet and Y. Papegay have contributed to this MOOC which is intended top introduce the numerical world to teacher. '

10.2.2. Supervision

- PhD in Progress : A. Massein, Design of Smart Environment for Human Behaviour Recognition, 2013-2016, supervisors: D.Daney, Y. Papegay

10.2.3. Juries

- J-P. Merlet has been a member of 5 PhD and 3 HDR juries, and for 6 of them has been the president of the jury.

10.3. Popularization

- J-P. Merlet has participated to a meeting "Future of robotics" organized by the Académie of Sciences. As a member of Executive Council of IFToMM he has contributed to the organization of the third Students International Olympiad on Mechanism and Machine Science held in Madrid. He is also a regular reviewer for Interstices and a contributor [18]

- Y.Papegay is actively participating to the Math.en.Jeans initiative for Mathematics teaching for undergraduate students. He has organized and animated summer schools in experimental mathematics and computer sciences. A three weeks session has been held at the University of Western Australia in Perth in July and three other one week sessions have been held in Oxford in June and August gathering around 50 high-school students - most of them were awardees in Mathematics Olympiads.

LAGADIC Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organization

10.1.1.1. General Chair, Scientific Chair

- Marie Babel was the Scientific Chair of the workshop "Innovation Robotique et Santé : Assistance à la conduite de fauteuil roulant" organized in Inria Rennes on December 2016 (150 participants).

10.1.1.2. Member of the Organizing Committees

- François Chaumette was in charge of organizing a Tutorial on Vision for Robotics at ICRA'2016: http://www.icra2016.org/conference/tutorials. The plenary speakers were Peter Corke (QUT, Australia), Jana Kosecka (George Mason University, US), Eric Marchand [45] and François Chaumette [44]. Around 200 participants attended this tutorial.

- Patrick Rives was in charge of co-organizing the "Journée Transports Intelligents " on behalf of the RFIA'2016 conference in Clermont-Ferrand: http://rfia2016.iut-auvergne.com/index.php/rfp-ia

- Paolo Robuffo Giordano has co-organized the Invited Session "Rigidity Theory for Problems in Multi-Agent Coordination" at the 54th IEEE Conf. on Decision and Control (CDC 2015), together by D. Zelazo (Technion, Israel) and A. Franchi (LAAS, France).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Paolo Robuffo Giordano: Workshop/Tutorial Session Chair for IROS 2016, Daejeon, Korea

10.1.2.2. Member of the Conference Program Committees

- François Chaumette: ICRA'2016
- Eric Marchand: ICRA 2016
- Patrick Rives: ICRA'2016, CVPR'2016
- Paolo Robuffo Giordano: ICRA'2016

10.1.2.3. Reviewer

- Marie Babel: IROS'2016 (2), ICIP'2016 (4)
- François Chaumette: IROS'2016 (1), ICRA'2017 (1)
- Vincent Drevelle: IFAC 2017 World Congress (1).
- Alexandre Krupa: IROS'2016 (1), ICRA'2017 (1)
- Eric Marchand: IROS 2016, ICRA 2017 (1), RFIA 2016 (2)
- Julien Pettré: SIGGRAPH 2016 (3), Collective Dynamics (1), CASA 2016 (3), IROS 2016 (3), ALIFE 2016 (2), ACM SCA 2016 (1), ACM CIE (1), TVCG (1), SIGGRAPH ASIA 2016 (1), Elsevier CAG (1), Pacific Graphics 2016 (1), Plos ONE (1), ACM MIG 2016 (2), IEEE VR 2017 (1), IEEE TBME (1), Taylor and Francis JMB (1), Eurographics 2017 (4), Elsevier TRB (1).
- Patrick Rives: ICRA'2016, ITSC'2016, CVPR'2016, ECCV'2016, IV'2016, ICINCO'2016, RFIA'2016, ICRA'2017
- Paolo Robuffo Giordano: ACC'2017 (1), DARS'2016 (2), ICRA'2017(2), IROS'2016 (3), RSS'2016 (1)

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- François Chaumette: Editorial Board of the Int. Journal of Robotics Research, Senior Editor of the IEEE Robotics and Automation Letters, Editorial Board of the Springer Tracts in Advanced Robotics, Board Member of the Springer Encyclopedia of Robotics.
- Alexandre Krupa: Associate Editor of the IEEE Robotics and Automation Letters
- Eric Marchand: Associate Editor of the IEEE Robotics and Automation Letters
- Julien Pettré: Associate Editor for Computer Animation and Virtual Worlds, Associate Editor for Collective Dynamics
- Paolo Robuffo Giordano: Associate Editor of the IEEE Transactions on Robotics

10.1.3.2. Reviewer - Reviewing Activities

- Marie Babel: IEEE Trans. on Human-Machine Systems (1)
- François Chaumette: IEEE Trans. on Robotics (2), IEEE/ASME Trans. on Mechatronics (1), Robotics and Autonomous Systems (1), Journal of Intelligent and Robotic Systems (1), Control Engineering Practice (1)
- Vincent Drevelle: Transportation Research Part C (1)
- Eric Marchand : Int. Journal of robotics Research (1), Software, Practice and Experience (1), IEEE Trans. on Visualization and Computer Graphics (1), Visual Computer (1)
- Patrick Rives: IEEE Robotics and Automation Letters (1), Robotics and Autonomous Systems (1)
- Paolo Robuffo Giordano: IEEE Robotics and Automation letters (2), IEEE Trans. on Control of Network Systems (1), IEEE Trans. on Haptics (1)

10.1.4. Invited Talks

- François Chaumette: Plenary talk at RCAR'2016, Angkor Wat, Cambodia [43].
- Paolo Robuffo Giordano. Invited Talk: Collective Control, State Estimation and Human Interaction for Quadrotors in Unstructured Environments. 2016 GIS Micro-Drones Day, ENAC, Toulouse, France, October 2016
- Paolo Robuffo Giordano. Invited Seminar: Estimation and Control for Multi-Robot Systems. 2016 IEEE RAS Summer School on Multi-Robot Systems, Singapore, June 2016

10.1.5. Leadership within the Scientific Community

- François Chaumette is a 2016-2019 elected member of the Administrative Committee of the IEEE Robotics and Automation Society. He is also a member of the Scientific Council of the CNRS INS2I.
- François Chaumette and Patrick Rives are members of the scientific council of the "GdR Robotique".

10.1.6. Scientific Expertise

- François Chaumette is vice-president of the ANR Tremplin-ERC program (in charge of providing grants to recipients of non-funded A and B Starting and Consolidator ERC proposals). He was also a member of the "Institut Universitaire de France (IUF)" selection committee in charge of evaluating senior proposals, and served in the jury to select an Irstea senior researcher (DR2).
- Julien Pettré is project proposal reviewer for the Netherlands Organisation for Scientific Research.
- Paolo Robuffo Giordano is a reviewer for EU FP7 projects, for the ANR (French National Research Agency) ASTRID 2016 Program, for the "Comité ECOS Nord" of the "Ministère des affaires étrangères et du développement international" and the "Ministère de l'Enseignement supérieur et de la Recherche", and for the DGA as expert on algorithms and sensors for drones.

10.1.7. Research Administration

- François Chaumette serves as the president of the committee in charge of all the temporary recruitments ("Commission Personnel") at Inria Rennes-Bretagne Atlantique and Irisa. He is also a member of the Head team of Inria Rennes-Bretagne Atlantique.

- Alexandre Krupa and Julien Pettré are members of the CUMIR ("Commission des Utilisateurs des Moyens Informatiques pour la Recherche") of Inria Rennes-Bretagne Atlantique.

- Eric Marchand served as secretary in the board of the "Association Française pour la Reconnaissance et l'Interprétation des Formes (AFRIF)". He is also in charge of the Irisa Ph.D. students in the committee in charge of all the temporary recruitments ("Commission Personnel") at Inria Rennes-Bretagne Atlantique and Irisa. He is in the board of the "Pôle Images et Réseaux" and in the board of "Ecole doctorale Matisse".

- Julien Pettré is an elected member of the "Comité de Centre" at Inria Rennes-Bretagne Atlantique.

- Patrick Rives is a member of the "Comité des projets" and "Comité de Centre" at Inria Sophia Antipolis-Méditerranée.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Marie Babel:

> Master INSA2: "Robotics", 26 hours, M1, INSA Rennes
>
> Master INSA1: "Architecture", 30 hours, L3, INSA Rennes
>
> Master INSA2: "Computer science project", 30 hours, M1, INSA Rennes
>
> Master INSA2: "Image analysis", 18 hours, M1, INSA Rennes
>
> Master INSA1: "Remedial math courses", 50 hours, L3, INSA Rennes

François Chaumette:

> Master ESIR3: "Visual servoing", 8 hours, M2, Ecole supérieure d'ingénieurs de Rennes

Vincent Drevelle:

> Master ESIR2: "Real-time systems and RTOS", 24 hours, M1, Esir Rennes
>
> Master GLA: "Terrain information systems", 14 hours, M2, Université de Rennes 1
>
> Master Info: "Artificial intelligence", 12 hours, M1, Université de Rennes 1
>
> Licence Info: "Computer systems architecture", 20 hours, L1, Université de Rennes 1
>
> Licence Miage: "Computer programming", 78 hours, M1, Université de Rennes 1
>
> Master CTS: "Instrumentation, localization, GPS", 4 hours, M2, Université de Rennes 1
>
> Licence and Master ET: "Electronics project", 23 hours, L3 and M1, Université de Rennes 1

Alexandre Krupa:

> Master SIBM (Signals and Images in Biology and Medicine): "Medical robotics guided from images", 4.5 hours, M2, Université de Rennes 1, Brest and Angers
>
> Master FIP TIC-Santé: "Ultrasound visual servoing", 6 hours, M2, Télécom Physique Strasbourg
>
> Master INSA3: "Modeling and engineering for Biology and Health applications", 12 hours, M2, INSA Rennes
>
> Master ESIR3: "Ultrasound visual servoing", 9 hours, M2, Esir Rennes

Eric Marchand:

      Master Esir2: "Colorimetry", 24 hours, M1, Esir Rennes

      Master Esir2: "Computer vision: geometry", 24 hours, M1, Esir Rennes

      Master Esir3: "Special effects", 24 hours, M2, Esir Rennes

      Master Esir3: "Computer vision: tracking and recognition", 24 hours, M2, Esir Rennes

      Master MRI: "Computer vision", 24 hours, M2, Université de Rennes 1

      Master MIA: "Augmented reality", 4 hours, M2, Université de Rennes 1

Julien Pettré:

      Licence Info : "Programmation Informatique", 40, LI1, Université de Rennes 1, Rennes

      INSA1: "Programmation Informatique", 40 hours, INSA Rennes

10.2.2. Supervision

- Ph.D.: Le Cui, "Robust micro/nano-positioning by visual servoing", defended on January 2016, supervised by Eric Marchand [15]

- Ph.D.: Vishnu Karakkat Narayanan, "Semi-autonomous navigation of a wheelchair by visual servoing and user intention analysis", defended in November 2016, supervised by Marie Babel and Anne Spalanzani (Chroma group at Inria Rhône-Alpes) [16]

- Ph.D.: Nicolas Cazy, "Commande prédictive pour la réalisation de tâches d'asservissement visuel successives", defended in November 2016, supervised by Paolo Robuffo Giordano, François Chaumette and Pierre-Brice Wieber (Bipop group at Inria Rhône-Alpes) [13]

- Ph.D.: Julien Bruneau, "Studying and modeling complex interactions for crowd simulation", defended in November 2016, supervised by Julien Pettré and Anne-Hélène Olivier (Mimetic group at Inria Rennes-Bretagne Atlantique and Irisa) [12]

- Ph.D.: Aly Magassouba, "Aural servo: towards an alternative approach to sound localization for robot motion control", defended in December 2016, supervised by François Chaumette and Nancy Bertin (Panama group at Inria Rennes-Bretagne Atlantique and Irisa)

- Ph.D.: Lucas Royer, "Real-time tracking of deformable targets in 3D ultrasound sequences", defended in December 2016, supervised by Alexandre Krupa, Maud Marchal (Hybrid group at Inria Rennes-Bretagne Atlantique and Irisa) and Guillaume Dardenne (IRT b<>com)

- Ph.D.: Pierre Chatelain, "Quality-driven control of a robotized ultrasound probe", defended in December 2016, supervised by Alexandre Krupa and Nassir Navab (Technische Universität München) [14]

- Ph.D.: Suman Raj Bista, "Indoor Navigation of Mobile Robots based on Visual Memory and Image-Based Visual Servoing", defended in December 2016, supervised by Paolo Robuffo Giordano and François Chaumette [11]

- 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: Jason Chevrie, "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, "Enhancement of ultrasound elastography by visual servoing and force control", 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 Duflot, "Visual servoing using shearlet transform", started in November 2014, supervised by Alexandre Krupa and Brahim Tamadazte (Minarob group at FEMTO-ST, Besançon)

- Ph.D. in progress: Firas Abi Farraj, "Shared Control Architectures for Visual Servoing Tasks", started in October 2015, supervised by Paolo Robuffo Giordano

- Ph.D. in progress: Salma Jiddi, "Analyses géométrique et photométrique pour des applications de réalité mixte", started in October 2015, supervised by Eric Marchand and Philippe Robert (Technicolor)

- Ph.D. in progress: Ide Flore Kenmogne Fokam, "Cooperative localization in multi-robot fleets using interval analysis", started in October 2015, supervised Vincent Drevelle and Eric Marchand

- Ph.D. in progress: Bryan Penin "Model predictive visual servoing for UAVS", started in October 2015, supervised by Paolo Robuffo Giordano and François Chaumette

- Ph.D. in progress: Guillaume Cortes, "Motion Capture", started in October 2015, supervised Eric Marchand and Anatole Lecuyer.

- Ph.D. in progress: Muhammad Usman, "Robust Vision-Based Navigation for Quadrotor UAVs", started in October 2015, supervised by Paolo Robuffo Giordano

- Ph.D. in progress: Louise Devigne, "Contribution d'une aide technique robotique à l'évaluation de pathologies neurologiques : Application à la navigation d'un fauteuil roulant", started in November 2015, supervised by Marie Babel and Philippe Gallien (Pôle Saint Hélier)

- Ph.D. in progress: Quentin Delamare, "Algorithmes d'estimation et de commande pour des quadrirotors en interaction physique avec l'environnement", started in September 2016, supervised by Paolo Robuffo Giordano

- Ph.D. in progress: Axel Lopes, "Data assimilation for synthetic vision-based crowd simulation algorithms", started in October 2016, supervised by Julien Pettré and François Chaumette

- Ph.D. in progress: Aline Baudry, "Contribution à la modélisation des fauteuils roulants pour l'amélioration de leur navigation en mode semi-autonome", started in October 2016, supervised by Marie Babel and Sylvain Guégan (Mechanical Engineering Dpt/LGCGM at Insa Rennes)

- Ph.D. in progress: Hadrien Gurnel, "Shared control of a biopsie needle from haptic and ultrasound visual feedback", started in October 2016, supervised by Alexandre Krupa and Maud Marchal (Hybrid group at Inria Rennes-Bretagne Atlantique and Irisa)

- Ph.D. in progress: Dayana Hassan, "Plate-forme robotisée d'assistance aux personnes à mobilité réduite", started in November 2016, supervised by Paolo Salaris, Patrick Rives and Frank Anjeaux (Axyn robotique)

- Internship: Valentin Bureau from May 2016 until Sep 2016 (2 months in mobility in University College of London within ISI4NAVE associated team), M1/Second year of Computer Science department, INSA Rennes, supervised by Marie Babel

- Internship: Timothée Collard "Adapting a localization application to ROS and MAV navigation" from Jun 2016 until Aug 2016, M1, Université de Rennes 1, supervised by Vincent Drevelle

- Internship: Benjamin Fasquelle from May 2016 until Aug 2016, M1, ENS Rennes, supervised by Eric Marchand

- Benoit Heintz from Mar 2016 until Jul 2016, L2 level, ENSIL Limoges, supervised by Fabien Spindler and Giovanni Claudio

- Internship: Manutea Huang from Jun 2016 until Sep 2016, L3/First year of Computer Science department, INSA Rennes, supervised by Marie Babel

- Internship: Daniel Huc from May 2016 until Sep 2016, M2, IM2AG Grenoble, supervised by Julien Pettré

- Internship: Valentin Limantour from Sep 2016 until December 2016, M1, ENIB Brest, supervised by Paolo Robuffo Giordano

- Internship: Etienne Moisdon from May 2016 until Jun 2016, M, Univ. Rennes 1, supervised by Julien Pettré

10.2.3. External Ph.D. and HdR Juries

- François Chaumette: Julien Bruneau (Ph.D., president, Inria Rennes), Andrea Cherubini (HdR, president, Lirmm, Montpellier)

- Alexandre Krupa: Laure-Anais Chanel (Ph.D., reviewer, ICube, Strasbourg), Mouloud Ourak (Ph.D., reviewer, FEMTO-ST, Besançon), Paul Mignon (Ph.D., reviewer, TIMC-IMAG, Grenoble)

- Eric Marchand: Vishnu Karakkat Narayanan (Ph.D., president, Inria Rennes), Suman Raj Bista (Ph.D., president, Inria Rennes), Limming Yang (Ph.D., reviewer, EC Nantes), Tu-Hoa Pham (Ph.D., reviewer, Lirmm, Montpellier).

- Julien Pettré: Christian Vassallo (Ph.D., Laas, Toulouse), Fabien Cissé (Ph.D., UPMC, Paris), Thomas Pitiot (PH.D., ICube, Strasbourg)

- Patrick Rives: Zui Tao (Ph.D., president, UTC, Compiègne), Bruno Ricaud (Ph.D., reviewer, Ecole des Mines, Paris), Victor Gibert (Ph.D., member, IRCCyN, Nantes), Yue Kang (Ph.D., reviewer, UTC, Compiègne), Abdelhamid Dine (Ph.D., president, ENS-Cachan, Paris-Saclay), Pierre Merriaux (Ph.D., reviewer, Esigelec, Rouen), Fabrice Mayran de Chamiso (Ph.D., member, CEA-LIST, Paris-Saclay), Bruno Vallet (HdR, member, IGN, Paris).

- Paolo Robuffo Giordano: Osamah Saif (Ph.D., UTC, Compiègne, France), Marco Aggravi (Ph.D., University of Siena, Italy), Leonardo Meli (Ph.D., University of Siena, Italy).

10.3. Popularization

- Due to the visibility of our experimental platforms, the team is often requested to present its research activities to students, researchers or industry. Our panel of demonstrations allows us to highlight recent results concerning the positioning of an ultrasound probe by visual servoing, grasping and dual arm manipulation by Romeo, vision-based shared control using our haptic device for object manipulation, the control of a fleet of quadrotors, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications. Some of these demonstrations are available as videos on VispTeam YouTube channel (https://www.youtube.com/user/VispTeam/videos). This year there were among others, demonstrations organized for the HCERES expert committee that evaluated IRISA, about twenty people affiliated to the CNRS electronics network, students of the "Innovation et entreprenariat" Master, those of the L3 R&I at ENS Rennes, about twenty students from the "Ecole des Mines de Nancy", several classes of high school students around Rennes, without forgetting the members of the Ph.D. thesis juries.

- Fabien Spindler and Giovanni Claudio were interviewed by TV Rennes about Pepper robot (https://www.facebook.com/166100743494694/videos/vb.166100743494694/959489554155805/?type=2&theater).

- Marie Babel participated to "15ᵉ Journée nationale des pôles de compétitivité" in March 2016 (Paris): HandiViz project was selected by the French Ministry of Finance

- Marie Babel participated to the Science Festival in October 2016 with an interview at "Village des Sciences" and a workshop for general public organized in Acigné near Rennes.

- Marie Babel participated to the "Convention Nationale des SATT" (October 2016, Paris).

- Marie Babel gave a talk on "HandiViz: a new driving experience" in October 2016, during the "Semaine des Technologies - Robotique et santé" organized at Insa Rennes.

- Vincent Drevelle participated to the "Journée science et musique" in Rennes, with an interactive demonstration of sound-based tracking of a micro aerial vehicle with a beam projector (in cooperation with the Panama team).

- An article related to the research activity of Alexandre Krupa on robotic needle steering entitled "Un robot qui apprend à viser" has been published in March 2016 in the general-audience magazine "Sciences Ouest": http://www.espace-sciences.org/sciences-ouest/340/dossier/un-robot-qui-apprend-a-viser.

- Paolo Robuffo Giordano has given press releases on the activities involving formation control for multiple quadrotor UAVs to Émergences Inria, Sciences Ouest, and "Industrie & Technologies".

<p align="center" style="color:red">STARS Project-Team</p>

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 the ISG 2016, 10th World Conference of Gerontechnology, Nice,28th to 30th September 2016.

François Brémond was editor of the Crowd Understanding workshop, part of ECCV, Amsterdam, October 2016.

9.1.1.2. Member of the organizing committee

François Brémond was a member of the Management Committee and COST Action IC1307 in 2016.

9.1.2. Scientific events selection

9.1.2.1. Member of the conference program committees

François Brémond was program committee member of the conferences and workshops: KSE 2016, PETS2016, MMM2017.

François Brémond was ACM Multimedia Area Chair for Multimedia and Vision, Amsterdam, 2016.

François Brémond was session chair of AVSS-16, Colorado Springs, USA, 2016.

Jean-Paul Rigault is a member of the *Association Internationale pour les Technologies à Objets* (AITO) which organizes international conferences such as ECOOP.

Antitza Dantcheva was program committee member of the conference International Conference on Biometrics (ICB 2016), the CVPR Workshop ChaLearn Looking at People 2016 and the Healthcare Conference Workshop within the EAIInternational Conference on Pervasive Computing Technologies.

9.1.2.2. Reviewer

François Brémond was reviewer for the conferences : CVPR2016-7, ECCV2016, VOT2016, MARMI2016, WACV 2017.

Carlos Fernando Crispim Junior was reviewer for the conferences: International Conference on Intelligent Robot and Systems, IEEE International Conference on Robotics and Automaton, Brazilian Conference in Biomadical Engineering, AMBIANT Conference, Computer on the Beach.

9.1.3. Journal

9.1.3.1. Member of the editorial boards

François Brémond was handling editor of the international journal "SDECLAREMachine Vision and Application".

9.1.3.2. Reviewer - Reviewing activities

François Brémond was reviewer for the journal revue Retraite et sociétéänd Medical Engineering & Physics.

Carlos Fernando Crispim Junior was reviewer for the journals: Pattern Recognition, Neurocomputing, Computer Vision and Image Understanding Journal, Computers in Biology and Medecine Journal, PLOS One Journal, Frontiers in Neuroscience, Sensors.

Antitza Dantcheva reviewed for the journals: IEEE Transactions on Information Forensics and Security (TIFS), Information Processing Letters, The Computer Journal, IET Biometrics, Multimedia Systems, International Journal for Information Management, Information Fusion (INFFUS), Sensors, Pattern Recognition.

9.1.4. Invited talks

François Brémond was invited by Prof. Ram Nevatia to give a talk on research initiatives and new directions in Video Understanding, USC, LA, USA 17 August 2016.

François Brémond was invited by Prof. Jonathan Ventura to give a talk on People detection, at the SLDP 2016 workshop of AVSS, Colorado Springs, USA,23 August 2016.

François Brémond was invited by Prof. William Robson Schwartz,Department of Computer Science, Federal University of Minas Gerais to give a talk on Video Analytic, at Video Surveillance workshop in Belo Horizonte-Brazil, 03 October 2016.

François Brémond was invited by Prof. William Robson Schwartz to give a talk on People Tracking, at SIBGRAPI 2016, Sao Paulo-Brazil, 05 October 2016.

François Brémond was invited by Prof. Cosimo Distante, Consiglio Nazionale delle Ricerche to give a talk on Activity Recognition, at ACIVS 2016, Lecce, Italy, 26 October 2016.

François Brémond was invited by Sebastien Ambellouis (IFSTTAR) to give a talk on Activity Monitoring, at IEEE IPAS 2016,Hammamet, Tunisia,5-7 November 2016.

Carlos Fernando Crispim Junior was invited to give a talk at the 1st Inter-lalex seminar "Smart Systems", Besançon, France, November 23rd 2016.

Carlos Fernando Crispim Junior was invited to make a presentation at PSI-VISICS seminar at ESAT department in KU Leuven University,October 24th 2016.

Carlos Fernando Crispim Junior was invited to make a presentation at Machine Learning seminar at Computer Science department of KU Leuven University, October 17th 2016.

Carlos Fernando Crispim Junior was invited to give a talk at ISG 2016 - Seminar European FP7 project Dem@care: Automatic Video Analysis for Diagnosis and Care, Nice, France, October 29th 2016.

Carlos Fernando Crispim Junior was invited speaker at the internal seminar of LAAS-CNRS, Toulouse, France, July3rd-4th.

Carlos Fernando Crispim Junior was invited speaker at CPUEX seminar, LABRI-CNRS, Bordeaux, France, February 2016.

9.1.5. Scientific expertise

François Brémond was expert for EU European Reference Network for Critical Infrastructure Protection (ERNCIP) - Video Anlaytics and surveillance Group, at European Commission's Joint Research Centre in Brussels in July 2016.

François Brémond was expert for the Foundation Médéric Alzheimer, for the doctoral fellowship selection, September 2016.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : Annie Ressouche, Safety in Middleware for Internet of Things, 10h, niveau (M2), Polytech Nice School of Nice University.

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 in progress : Auriane Gros, Evaluation and Specific Management of Emotionnal Disturbances with Activity Recognition Systems for Alzheimer patient, Sept 2014, 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, Dec 2014, François Brémond.

PhD in progress : Ines Sarray, Activity Recognition System Design, Oct 2015, Sabine Moisan.

PhD in progress : Farhood Negin, People Detection for Activity Recognition using RGB-Depth Sensors, Jan 2015, François Brémond.

PhD in progress : Ujjwal Ujjwal, Pedestrian Detection to Dynamically Populate the Map of a Crossroad, Sep 2016, François Brémond.

9.2.3. *Juries*

François Brémond was jury member of the following PhD theses:

PhD, Andrei Stoian, CNAM, Paris, 15 January 2016.

PhD, Romain Endelin, University of Montpellier, 2nd June 2016.

PhD, Jean-Charles Bricola, CMM, Mines ParisTech, Fontainebleau, 19 October 2016.

PhD, Salma Moujtahid, LIRIS-Equipe IMAGINE-INSA Lyon, 3 November 2016.

PhD, Marion Chevalier, Laboratoire d'Informatique de Paris 6, Thales Optronique S.A.S., Paris,2 December 2016.

9.3. Popularization

François Brémond was invited to give a talk at Conférence des métiers at International Lycée (CIV) in Sophia, January 2016.

François Brémond was interviewed by the agence Citizen Press February 2016.

François Brémond was invited to give a talk at the Artificial Intelligence Workshop Meeting Amadeus - Inria, June 2016.

François Brémond was invited to give a talk at la rencontre Inria Industrie Ed-Tech, 1 December 2016.

François Brémond has published an article in ERCIM news, December 2016.

<h1 style="text-align:center;color:red;">TITANE Project-Team</h1>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Florent Lafarge was co-chair of the ISPRS working group on point cloud processing.

10.1.1.2. Member of the Organizing Committees

Pierre Alliez is a member of the Steering Board of the EUROGRAPHICS Workshop on Graphics and Cultural Heritage.

Yuliya Tarabalka chaired a session "Classification of Hyperspectral Image" at IEEE IGARSS 2016.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Pierre Alliez was a program committee member of ACM SIGGRAPH, EUROGRAPHICS annual conference, EUROGRAPHICS Symposium on Geometry Processing, Geometric Modeling and Processing, Shape Modeling International and EUROGRAPHICS Workshop on Graphics and Cultural Heritage.
Florent Lafarge was a program committee member for the ISPRS congress in 2016.
Yuliya Tarabalka was a program committee member for ACIVS 2016, Lecce, Italy.

10.1.2.2. Reviewer

Pierre Alliez was a reviewer for the conferences listed above, and for around 25 additional papers in several journals ranging from geometric modeling to computer vision. Florent Lafarge was a reviewer for JPRS.
Yuliya Tarabalka was a reviewer for the conferences IEEE IGARSS (student competition selection committee) and ACIVS 2016.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Pierre Alliez is an associate editor of ACM Transactions on Graphics, Elsevier Graphical Models, Computer Aided Geometric Design and Visual Informatics (since 2016). He is also a member of the editorial board of the CGAL open source project.

Florent Lafarge is an associate editor of The Visual Computer since 2015.

Yuliya Tarabalka was a co-editor of the special issue "Hyperspectral Imaging and Image Processing" of the Springer journal Sensing and Imaging.

10.1.3.2. Reviewer - Reviewing Activities

Florent Lafarge was a reviewer for CVPR, ECCV, and SIGGRAPH.
Yuliya Tarabalka was a reviewer for the journals IEEE TGRS and IEEE JSTARS.

10.1.4. Invited Talks

Pierre Alliez gave an invited talk at the CVPR Workshop on Large Scale 3D Data: Acquisition, Modelling and Analysis. The talk was entitled: *Shape Reconstruction and Approximation: Robustness and Guarantees*. See http://www.multimediauts.org/3DWorkshop_CVPR2016/Program.html.

He also gave a keynote at STAG 2016: Smart Tools and Apps in computer Graphics, organized October 3-4, in Genova, Italy. The talk was entitled: *Low Distortion Inter-surface Mapping via Optimal Mass Transport*. He also gave a course at ACM SIGGRAPH on the CGAL library, in collaboration with Andreas Fabri from GeometryFactory.

10.1.5. Scientific Expertise

Pierre Alliez was an evaluator and reviewer for the H2020, EuroSTARS and ERC programmes from the European commission. He participated to the Scientific Commissions of Belgium FNRS (Fund for Scientific Research). He was a member of the panel GEV 01 (mathematics and computer science) of ANVUR (Italian research evaluation agency). We evaluated the period 2011-2014 through bibliometry and peer-review. He was also a reviewer for PRIN projects (fundamental research projects) for the MIUR (the Italian Ministry for Education, University and Research).

Yuliya Tarabalka was an expert evaluator for an ANR project submission in May 2016. She is since November 2016 a member of the expert panel SBWT (signal processing) of the FWO (Belgian research funding foundation).

10.1.6. Research Administration

Pierre Alliez: member of the BCP (bureau du CP) since 2015, comité MASTIC (popularization), and comité espace immersif.

Florent Lafarge was an elected member of the Comité de Centre from 2013 to 2016, and a member of the CSD (Commission de Suivi Doctorale) from 2011 to 2016.

Yuliya Tarabalka is an elected member of the Comité de Centre since 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Pierre Alliez and Florent Lafarge, Ingeniérie 3D, 21h, 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: Yuliya Tarabalka, Mathematical methods, 25h, MSc in data sciences and business analytics ESSEC-CS, CentraleSupelec, France.

L2: Yuliya Tarabalka, Advanced algorithms, 28.5h, L2 Networks and Telecoms, IUT Nice Cote d'Azur, Sophia-Antipolis, France.

10.2.2. Supervision

PhD defended November 29th: 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 and Adrien Bousseau.

PhD in progress: Hao Fang, Scale-space understanding in urban scenes, since March 2016, Florent Lafarge.

PhD in progress: Jean-Philippe Bauchet, City modelling from high resolution satellite images, since October 2016, Florent Lafarge.

PhD in progress: Emmanuel Maggiori, Representation and Analysis of Multisensor Remote Sensing Images with Partition Trees, University of Nice-Sophia Antipolis, since January 2015, Yuliya Tarabalka and Pierre Alliez.

10.2.3. Juries

Pierre Alliez:

- Thesis reviewer: Ludovic Blache (CReSTIC-SIC Reims).
- Thesis reviewer: Ruqi Huang (Inria Saclay).
- Thesis examiner: Mael Rouxel-Labbé (Inria Sophia Antipolis)

Florent Lafarge:

- Thesis examiner: Remi Cura (University Paris Est).

Yuliya Tarabalka:

- Monitoring committee for the thesis of Amine Bohi, Southern University of Toulon-Var in October 2016.

10.3. Popularization

Pierre Alliez participated to the "Fête de la science" in Juan-les-Pins, October 22 and 23. He also gave two talks in high schools: April 28 in Celony, and February 25th in Aix Valabre, and organized a workshop for MathC2+ in June.

WIMMICS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Valerio Basile: Area chair for Information Retrieval at CLiC-it 2016.

Elena Cabrio: Area chair (Semantics for applications). The Fifth Joint Conference on Lexical and Computational Semantics (*SEM 2016).

Scientific co-chair. Dagstuhl Seminar on Natural Language Argumentation: Mining, Processing, and Reasoning over Textual Arguments, 2016.

Fabien Gandon: co-chair and organizer of the Q4APS (Question Answering And Activity Analysis in Participatory Sites) Workshop at WWW [0].

Catherine Faron-Zucker: co-chair of the ESWC2016 workshop on Semantic Web for Scientific Heritage (SW4SH 2016),

co-chair of the first scientific day of the Inria Learning Lab, November 16th,

scientific chair of the Inria-Industry meeting (R2I) on Ed-Tech, December 1st.

Serena Villata: Chair together with Elena Cabrio, Graeme Hirst and Adam Wyner of the Dagstuhl Seminar on Mining, Processing, and Reasoning over Textual Arguments (Dagstuhl Seminar 16161), April 17-22, 2016. Local chair of the 29th International Conference on Legal Knowledge and Information Systems (JURIX 2016), December 14-16, 2016.

10.1.1.2. Member of the Organizing Committees

Valerio Basile: local organizer for JURIX 2016 and for the SENTIPOLC challenge at EVALITA 2016.

Elena Cabrio: 6th Open Challenge on Question Answering over Linked Data (QALD-6), ESWC 2016.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Catherine Faron-Zucker: PC co-chair of the 22th Int. Conference on Conceptual Structures (ICCS 2016).

10.1.2.2. Member of the Conference Program Committees

Valerio Basile: *SEM , PEOPLES workshop at COLING, EACL 2017, WebNLG workshop at INLG, ESWC, EKAW, ICRA, CLiC-it, MIREL workshop at JURIX, DSAA, AIC workshop at BICA.

Michel Buffa: Web Audio Conference (WAC), ESWC, ISWC, WWW demo W3C track, Semantic Web Collaborative Spaces (SWCS) workshop.

Elena Cabrio: Association for Computational Linguistics conference (ACL, EACL), the Computational Linguistics conference (COLING), and the Extended Semantic Web Conference (ESWC).

Olivier Corby: Arima, EKAW, GraphQ, IC, ICCS, MoreBI, Top-K Shortest Path in Large Typed RDF Graphs Challenge at ESWC.

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[0]https://project.inria.fr/q4aps2016/

Catherine Faron-Zucker: ESWC (European Semantic Web Conference), ISWC (Int. Semantic Web Conference, P&D), WebEd (WWW Workshop on Web Science and Technology for Education), Q4APS2016 (WWW Workshop on Question Answering And Activity Analysis in Participatory Sites), EKM (EKAW workshop on Educational Knowledge Management), ISW-LOD (Int. Workshop on Semantic Web and Linked Open Data), CNIA (Conf. Nationale d'Intelligence Artificielle), IC (Ingénierie des Connaissances), EGC 2017 (Extraction et Gestion des Connaissances).

Fabien Gandon: IJCAI , ISWC (Senior PC), WWW , WebScience (Senior PC), ESWC, FOIS, IC, Semantics, SemWeb.Pro, CNIA (Conférence Nationale en Intelligence Artificielle), Diversity-Aware AI Workshop at ECAI, EGC, Journée Intelligence Artificielle et Big Data [0].

Alain Giboin is member of the steering committee of the COOP conference series (International Conferences on the Design of Cooperative Systems). He is also member of the program committee of: COOP, ESWC (In-use & Industrial Track), IC, SEMANTICS (Research Track), SEMANTICS (Posters and Demos), UBIMOB, WebSci.

Isabelle Mirbel: 27th International Conference on Advanced Information Systems Engineering (CAISE), IEEE Tenth International Conference on Research Challenges in Information Science.

Alexandre Monnin: WWW, ESWC, SWASH (ESWC workshop), WebSci, IC.

Oscar Rodríguez Rocha: KEOD, KSE

Andrea Tettamanzi: ECG 2017, ESWC, FLAIRS-29, FUZZ-IEEE, IC, LREC, MOD, PPSN, and SAC 2017 conferences, SW4SH workshop of ESWC.

Serena Villata: IJCAI, AAAI, JURIX.

10.1.2.3. Reviewer

Olivier Corby: ESWC, ISWC, WWW, EGC.

Isabelle Mirbel: ESWC.

Alain Giboin: ISWC, WWW, IHM.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Catherine Faron-Zucker: Revue d'Intelligence Artificielle, special issue "Ingénierie des Connaissances".

Fabien Gandon:

- Editor of the special issue of the Semantic Web Journal for best papers at ESWC 2015.
- Special issue RIA, Revue d'intelligence artificielle, Analyse intelligente des réseaux sociaux, volume 30, n. 4/2016.

Nhan Le Thanh: Journal of Science and Technology, Da Nang University- Issue on Information and Communications Technology.

Isabelle Mirbel: Ingénierie des Systèmes d'Information (Hermès).

10.1.3.2. Reviewer - Reviewing Activities

Valerio Basile: Language and Cognition (published by Cambridge University Press), Computer Speech & Language, Interacting with Computers.

Olivier Corby: Semantic Web Journal.

Catherine Faron-Zucker: Semantic Web Journal (SWJ), Journal of Web Science, ACM's Transactions on Internet Technology (TOIT), International Journal of Web Information Systems (IJWIS), International Journal of Metadata, Semantics and Ontologies (IJMSO).

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[0]http://bigia2016.irisa.fr/

Nhan Le Thanh: Journal of Science and Technology, Da Nang University- Issue on Information and Communications Technology.

Isabelle Mirbel: Neurocomp journal.

Alexandre Monnin: Minds and Machines, Big Data and Society, Revue d'intelligence artificielle.

Andrea Tettamanzi: Evolutionary Intelligence, Soft COmputing (SOCO).

Serena Villata: Journal of Logic and Computation, Argument & Computation, Artificial Intelligence.

10.1.4. Invited Talks

Valerio Basile: University of Turin, Building a default knowledge base of objects (and other stories of robots), November 16th.

Michel Buffa:

WWW 2016 W3C Track: HTML5 games, When your browser becomes a game console! Coding games for the Web + Demo of a HTML5 game developed by students in the first session of the W3Cx HTML5 Part 2 MOOC.

Discussion on the future of Web games development using HTML5, special off-conference HTML5 gaming meetup (chair and co-organizer), WWW 2016 Conference, April 13, Montreal, Canada.

AmpSim2, un simulateur d'amplificateur de guitare en Web Audio, Paris Audio #3, September 7, IRCAM.

Michel Buffa, Thierry Bergeron: "Le projet AZKAR : navigation d'un robot mobile temps réel à travers le Web en P2P avec l'API WebRTC", Conférence Blend WebMix 2016, November 2 & 3, Lyon, France.

Elena Cabrio: Bielefeld University, Germany, "Argument mining: our story so far", June 20th.

Catherine Faron-Zucker: Invited research Talk, at the Ministry of Economy and Finance (MEF- DGE), September 23rd.

Fabien Gandon:

- Keynote speaker for the conference Web Intelligence, Mining and Semantics (WIMS 2016) titled "One Web of pages, One Web of peoples, One Web of Services, One Web of Data, One Web of Things... and with the Semantic Web bind them.", June 14th;
- Joint keynote speaker for the International Conference on Conceptual Structures (ICCS 2016) and International Conference on Formal Ontology in Information Systems (FOIS 2016) titled "On the many graphs of the Web and the interest of adding their missing links.", July 7th;
- CafeLecture - Atelier de lecture transdisciplinaire - Learning Centre SophiaTech, Regards Croisés. "Dans l'esprit du Pagerank : regards croisés sur les algorithmes".

Alain Giboin (with Agnès Festré, GREDEG) gave a talk on "Nudges, Affordances et conception d'artefacts" in "Regards croisés" Seminar at Sophia Antipolis Campus.

Alexandre Monnin:

National interLabex symposium "Excellence in Smart Systems" (Besançon), November 17th.

Roundtable as part of the Economique numérique summer school - 3EN (Nice), May 31st.

Master Miage to deliver a talk entitled "La philosophie à partir de l'architecture du Web" (Sophia Antipolis), March 9th.

Hypertopic seminar of Tech-Cico (UTT, Troyes, online presentation), March 21st.

Emilie Palagi:

A presentation in FORUM SPARKS seminar on the evaluation and design of the explanation features of the exploratory search system Discovery Hub, March 1st.

A presentation in Axis-2 of the "Maison des Sciences Humaines et Sociales (MSHS) du Sud-Est (Nice)" : "Exploratory search system and user centered evaluation method", March 14th.

A presentation of Palagi's PhD Subject in a new cycle of seminars on Human Computer Interaction (HCI) and UX Design called "les lundis de l'ergonomie", October 10th.

"Journée rencontre Inria Industrie" in Lille: A demo of Discovery Hub and the presentation of an ongoing work on the design of a user centered evaluation method of exploratory search systems, November 25th.

10.1.5. Leadership within the Scientific Community

Alexandre Monnin organizes a seminar with Lise Arena (UNS, GREDEG) and Bernard Conein (UNS, GREDEG), between Inria and MSHS, entitled "Digital artifacts and materialities". International researchers such as Jérôme Denis [0] (Mines ParisTech), Paul Smart (Southampton) [0], Michael Wheeler (Stirling), David Kirsh (San Diego) [0], Yuk Hui (Lüneburg) [0] and Brian Cantwell Smith (Toronto) participated in the seminar this year.

Alexandre Monnin and Manuel Boutet (UNS, GREDEG) organize the "ateliers de lecture transdisciplinaires" of UCA, hosted by SophiaTech learning centre and later redubbed "Regards croisés" (5 sessions took place, all organized by Alexandre Monnin, with Lise Arena and Fabien Gandon, Alexandre Monnin et Bernard Conein, Ali Douai et Gabriel Plassat, Nathalie Oriol et François Bremond, Alain Giboin and Agnès Festré). The regards croisés have been chosen to be recorded and archived on a future UCA portal and YouTube channel.

Alexandre Monnin participated to the invitation of Brian Cantwell Smith to a Morgenstern colloquium at Inria Sophia Antipolis, December 8th. Alexandre Monnin is extending Brian Cantwell Smith's stay for the Morgenstern Colloquium thanks to fundings provided by the MSHS. Two workshops will be organized around him on Dec. 12th and 13th at the MSHS in Nice in addition to the PhiloWeb day on the 14th.

Alexandre Monnin organized a PhiloWeb conference with B.C. Smith and Harry Halpin,

Alexandre Monnin participated in two events as part of the $Transition^2$ initiative set up by Inria and FING. In January, he created the W3C Community Group "Web We Can Afford" whose goal is to discuss the future of the Web at the time of the Anthropocene [0].

"Les lundis de l'ergonomie" is a new cycle of seminars on Human Computer Interaction (HCI) and UX Design. Organized by Emilie Palagi and Louise Chaussade, this multidisciplinary series of talks may attract academic and professional profiles but also anyone interested in social science's approach to digital matters. Two presentations took place in October (with Emilie Palagi and Louise Chaussade) and December (Patrice Pena).

10.1.6. Scientific Expertise

Elena Cabrio was reviewer for French ANR projects.

Olivier Corby was reviewer for Atlanstic 2020 (Pays de la Loire) project submission.

Catherine Faron-Zucker is the scientific reference of the Inria Learning Lab.

Catherine Faron-Zucker reviewed project proposals for the Academic Research Community (ARC) 6 of Rhône Alpes Region.

10.1.7. Research Administration

Michel Buffa is director of the MIAGE of Nice Sophia Antipolis, composed of Licence, Master 1 and four Master 2 diplomas with about 350 students [0]. He is member of the OpenMiage committee that aims at proposing an online version of the whole MIAGE cursus.

Olivier Corby is member of the PostDoc Inria Sophia committee.

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[0] http://mshs.unice.fr/?p=6799
[0] http://mshs.unice.fr/?p=6725
[0] http://mshs.unice.fr/?p=6908
[0] http://mshs.unice.fr/?p=7644
[0] https://www.w3.org/community/wwca/
[0] http://miage.unice.fr

Catherine Faron-Zucker is General Treasurer of the French Society for Artificial Intelligence (AFIA).

She was member of the 2016 recruitment committee of Telecom Saint Etienne, University Jean Monnet.

She coordinates the Web option of the 5th year of Polytech Nice Sophia engineering school and is in charge of continuous training for the computer science department of Polytech Nice Sophia Antipolis.

Fabien Gandon is:

- representative of Inria at W3C consortium.
- representative of Inria in the Web Science Trust Network.
- member of the Steering Committee of the Scientific Board of Inria Sophia Antipolis (Bureau CP).
- member of the scientific committee of the Labex UCN.
- member of the Scientific Committee academy 1 of IDEX.
- member of the Steering Committee academy 5 of IDEX.
- member of ESWC Steering committee.
- member of IW3C2 Steering committee for WWW conference series.

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 Nadège Camelio-Laurent. Alain Giboin is member of the Commission "Médiation et Animation des MAthématiques, des Sciences et Techniques Informatiques et des Communications" (MASTIC) of Inria Sophia Antipolis – Méditerranée.

Nhan Le Thanh is Animator of a multidisciplinary Idex working group "Connected Healthcare and well Aging INnovative Services" (CHAINS) at UNS. He is animator of a multidisciplinary join working group (TRT eHealth), UNS and Da Nang University, on the themes of IoT services for eHealth and smart city. He is coordinator of the bilateral scientific cooperation program NiceCampus between UNS and Da Nang University. He is director of the computer science department, IUT, UNS.

Isabelle Mirbel is Vice Dean of Science Department at University Nice-Sophia Antipolis.

Andrea Tettamanzi is coordinator of the 3rd year of the *Licence* in Business Informatics (MIAGE) at the UFR Science of the Université Nice Sophia Antipolis (UNS). He is co-animator, together with Johan Montagnat (I3S), of the SPARKS team who hosts Wimmics at I3S.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Amel Ben Othmane, Oracle Database, 64h, L1, IUT Institute of Technology of Nice, France.

Licence: Elena Cabrio, Web Server Programming, 45h, L1, UNS, France.

Licence: Amosse Edouard, Object Oriented Design, 33h, L3, UNS, France.

Licence: Amosse Edouard, Introduction to Web Programming, 16h, L3, UNS, France.

Licence: Catherine Faron-Zucker, Web languages, 36h, Licence 3, Polytech UNS.

Licence: Catherine Faron-Zucker, Statistics, 36h, Licence 3, Polytech UNS.

Licence: Nhan Le Thanh, Databases, 150h, DUT Info S2 at IUT, UNS, France.

Licence: Nhan Le Thanh, Advanced Databases, 105h, DUT Info S3 at IUT, UNS, France.

Licence: Nhan Le Thanh, Logical Data Models and languages, 24h, L3 LPSIL at IUT, UNS, France.

Licence: Nhan Le Thanh, Design and Development of DBMS services, 24h, L3 LPSIL at IUT, UNS, France.

Licence: Isabelle Mirbel, Databases, 58h, L3 MIAGE, UNS, France.

Licence: Isabelle Mirbel, Web programming (Persistence), 54h, L3 MIAGE, UNS, France.

Licence: Alexandre Monnin, Analyse des controverses, 4h30, L1, Telecom ParisTech, France.

Licence: Alexandre Monnin, Analyse des controverses and climate change, 6h, ESC Clermont-Ferrand, France.

Licence: Andrea Tettamanzi, Algorithmique, Programmation Objet, Python, L2, 50h, UNS, France.

Licence: Andrea Tettamanzi, Programmation Web Avancée coté client, L2, 39h, UNS, France.

Licence: Andrea Tettamanzi, Web, 18h, L3 MIAGE, UNS, ETD;

Master: Valerio Basile, Knowledge Engineering, 7h, Master 2 IFI, UNS, France.

Master: Michel Buffa, Web technologies, 40h, M1, UNS, France.

Master: Michel Buffa, Server Side JavaScript, 20h, M2 UNS, France.

Master: Michel Buffa, Web 2.0/Web Services/HTML5, 40h, M2, UNS, France.

Master: Michel Buffa, Java Certification, 25h, M2, Polytech'Nice UNS, France.

Master: Michel Buffa, Programmable Web, 40h, M2, Polytech'Nice students, UNS, France.

Master: Michel Buffa, Distributed Web development, 40h, M2, UNS, France. This course is also given by video conference to M2 students in Marroco, Madagascar and Haïti, that gets the same diploma as students from the UNS, France.

Master: Elena Cabrio, Web Science, 5h, M2, UNS, France.

Master: Olivier Corby, Oscar Rodríguez Rocha, Catherine Faron-Zucker, Fabien Gandon, Semantic Web, 45h, M2, UNS, France.

Master: Olivier Corby, XML, 15H, M2, UNS, France.

Master: Olivier Corby, Semantic Web, 3H, M2, University of Toulouse, France.

Master: Olivier Corby, Semantic Web, 3H, M2, University of Montpellier, France.

Master: Amosse Edouard, Development on the Android platform, 38h, M2, UNS, France.

Master: Amosse Edouard, Web Services, 17h, M2, UNS, France.

Master: Amosse Edouard, Introduction to Near Field Communication, 20h, M2, EMSI, Morocco.

Master: Catherine Faron-Zucker, Web languages, 24h, M1, Polytech UNS.

Master: Catherine Faron-Zucker, Web Science, 4h, M1 IFI, UNS.

Master: Catherine Faron-Zucker, Network Programming, 12h, M1, Polytech UNS.

Master: Catherine Faron-Zucker, XML technologies, 24h, M2 IMAFA, UNS.

Master: Catherine Faron-Zucker, Semantic Web technologies, 28h, M2 IFI, Polytech, UNS.

Master: Catherine Faron-Zucker, Knowledge Engineering, 9h, M2 IFI, Polytech, UNS.

Master: Fabien Gandon, Web Science, 4h, M1 IFI, UNS.

Master: Fabien Gandon, Semantic Web technologies, 4h, M2 IFI, Polytech, UNS.

Master: Fabien Gandon, Semantic Web technologies, 25h, Data Science Technical Institute, Paris.

Master: Alain Giboin, Human-Computer-Interaction Design and Evaluation, 54h, M2, UNS.

Master: Alain Giboin, Interaction Techniques and Multimodality, 8h, 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, HCI Design and Evaluation, 10h, 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, Requirement Engineering, 42h Master MIAGE 1, UNS, France.

Master: Isabelle Mirbel, Advanced databases, 48h Master MIAGE 1, UNS, France.

Master: Alexandre Monnin, Ingénierie des connaissances, 11h, M2, UNS, France.

Master: Oscar Rodríguez Rocha, Ingénierie des connaissances, 12h, M2, UNS, France.

Master: Andrea Tettamanzi, Systèmes Distribués, 18h, M1 MIAGE, UNS, France.

Master: Andrea Tettamanzi, Concurrency and Parallelism, 18h, M1 International, UNS, France.

Master: Andrea Tettamanzi, Fuzzy Description Logics and Ontology Learning, *in Ingénierie des connaissances*, 10h, M2, Polytech'Nice, UNS, France.

E-learning

MOOC: Fabien Gandon, Olivier Corby & Catherine Faron-Zucker, Introduction au Web Sémantique, 7 weeks, https://www.fun-mooc.fr/, Inria, France Université Numérique, Education for Adults, 4870 registered.

MOOC: Fabien Gandon, Olivier Corby & Catherine Faron-Zucker, Introduction to a Web of Linked Data, 4 weeks, https://www.fun-mooc.fr/, Inria, France Université Numérique, Education for Adults, 1703 registered.

MOOC: Michel Buffa, two MOOCs HTML5 for W3Cx / edX (MIT/Harvard). More than 300k registered students since 2015. Finalist for the first-ever edX Prize for Exceptional Contributions in Online Teaching and Learning (11 teachers have been selected among 2500 others and 1200 online courses).

10.2.1.1. Internships

Mihai-Alexandru Dusmanu

Date: June – August

Institution: ENS Paris

Title: Argument Detection on Twitter

Supervisors: Elena Cabrio, Serena Villata

Safaa Rziou

Date: April – September

Title: Semantic Categorization of Segments of Ancient and Mediaeval Zoological Texts

Institution: Université Nice Sophia Antipolis, Master 2 MIAGE

Supervisors: Catherine Faron-Zucker, Andrea Tettamanzi

10.2.2. Supervision

PhD: **Papa Fary Diallo**, *Co-Construction of Community Ontologies and Corpus in a Limited Technological Environment*, Inria, UNS, UGB, September 16th, Isabelle Mirbel, Olivier Corby, Moussa Lo.

PhD: **Zide Meng**, *Temporal and Semantic Analysis of Richly Typed Social Networks from User-Generated-Content Sites on the Web*, UNS, November 7th, Fabien Gandon, Catherine Faron-Zucker.

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 Than.

PhD in progress: **Chihabeddine Bouchenaki**, *Semantic Analysis of Activities in a Learning Environment*, UNS, September 2016, Fabien Gandon, Catherine Faron-Zucker.

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 and Elena Cabrio.

PhD in progress: **Raphaël Gazzotti**, *Conversational Agent Assistant Endowed with Natural Language and Intuition*, UNS & SynchroNext, Fabien Gandon, Catherine Faron-Zucker.

PhD in progress: **Franck Michel**, *Heterogeneous Databases Federation in Distributed Environment*, UNS, Johan Montagnat, Catherine Faron-Zucker.

PhD in progress: **Tran Duc Minh**, *Learning Ontologies from Linked Open Data*, Andrea Tettamanzi, UNS and Nguyen Thanh Binh, University of Danang.

PhD in progress: **Emilie Palagi**, *Design of a Model-based Method for Evaluating Exploratory Search Systems*, UNS, Labex UCN@Sophia, Alain Giboin, Fabien Gandon with Raphaël Troncy (Eurecom).

PhD in progress : **Tuan Anh Pham**, *Study and integration of the mechanism of workflow control in MVC (Model View Controler) architecture: design and implementation of an APM (Activity Process Management) platform for dynamic information systems on the networks*, UNS, Nhan Le Thanh.

10.2.3. Juries

Olivier Corby was jury member for the PhD Thesis of Géraud Fokou Pelap on *Conception d'un framework pour la relaxation des requêtes SPARQL*, November 21st, ENSMA, Poitiers.

Fabien Gandon was:

- President HDR Fabrice Huet entitled "From HPC to Big Data: Models and Tools for Large Scale Middleware", February 15th.
- Reviewer HDR Olivier Dameron entitled "Ontology-based methods for analyzing life science data", IRISA, Université de Rennes, January 11th.
- Reviewer PhD Thesis Andrei-Nicolae Ciortea entitled "Weaving a Social Web of Things: Enabling Autonomous and Flexible Interaction in the Internet of Things", École Nationale Supérieure des Mines de Saint-Étienne and University Politehnica of Bucarest, January 14th.
- Reviewer PhD Thesis Gabriela Montoya entitled "Answering SPARQL Queries using Views", LINA, Université de Nantes Angers Le Mans, March 3rd.
- Reviewer PhD Thesis Luis Redondo Garcia, "Semantically Capturing and Representing Contextualized News Stories on the Web", Eurecom, TELECOM ParisTech, March 4th.
- Jury member PhD Thesis Mazen Alsarem entitled "Semantic Snippets via Query-Biased Ranking of Linked Data Entities", Insa Lyon, University Lyon, Villeurbanne, May 5th.
- Jury member PhD Thesis Luis Galárraga entitled "Rule Mining in Knowledge Bases", TELECOM ParisTech, September 9th.

Nhan Le Thanh was jury member for the PhD of Nourhène Alaya, *Managing The Empirical Hardness of the Ontology*, Paris 8 University, October 13rd; Cheikh Hito Kacfah Emani, *Formalisation automatique et sémantique de règles métier*, Lyon 1 University, December 1st.

Andrea Tettamanzi was reviewer for the PhD Thesis of Regina Ticona Herrera, *Towards RDF Normalization*, Université de Pau et des Pays de l'Adour, Anglet, July 6th.

He was President of the jury for the PhD Thesis of

Papa Fary Diallo, UNS, September 16th (see above); Romaric Pighetti, *Une méthode hybride pour la classification d'images à grain fin*, UNS, November 28th; Atheer Al-Najdi, *Une approche basée sur les motifs fermés pour résoudre le problème de clustering par consensus*, UNS, November 30th.

Alexandre Monnin was president of the jury of 11 Master thesis of graphic design students of ESAD Valence (Ecole supérieure d'art et de design), May. He was president of the "diplôme de fin d'études" of the same students of ESAD Valence, June.

10.3. Popularization

Catherine Faron-Zucker: Article on the Web of Data in the Interstices online journal of scientific culture [0].

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[0] https://interstices.info/jcms/d_80071/le-web-de-donnees

Fabien Gandon:

- Les Révolutions de la Planète Web, Lycée Calmette, – Nice – April 26th.
- Retour d'expérience sur le Mooc Web Sémantique, Journée Pédagogie innovante June 6th.
- SPARKS Day: How to supervise your supervisor?
- Meeting "Alumni" with students from Insa Rouen.

Alexandre Monnin: Café-in (June 2) : *Transition numérique et effondrement écologique : quel monde d'après ?* Stage Maths C2+ (June 16) : same presentation as above. Invitation by the FING to address the issues of "Small Science".

<p align="center">ZENITH Project-Team</p>

10. Dissemination

10.1. Scientific Animation

Editorial board of scientific journals:

- VLDB Journal: P. Valduriez.
- Journal of Transactions on Large Scale Data and Knowledge Centered Systems: R. Akbarinia and E. Pacitti are guest editors of a special issue on data management in internet of things (IoT).
- 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.
- Multimedia Tools and Applications: A. Joly.

Organization of conferences and workshops:

- Alexis Joly was the chair of the LifeCLEF 2016 international workshop [0] dedicated to multimedia biodiversity data management, Evora, sept. 2016
- Alexis Joly was in the organizing committee of the Floris'tic national workshop held in Montpellier, nov. 2016 (http://floristic.org/8-nov-2016)

Conference program committees :

- ACM SIGMOD Conf. 2016: R. Akbarinia, 2017: F. Masseglia
- IEEE Int. Conf. on Data Engineering (ICDE) 2016: R. Akbarinia, E. Pacitti, P. Valduriez (area chair)
- VLDB Joint Workshop on Big Data Open-Source Systems (BOSS) / Polyglot: P. Valduriez (co-chair)
- DataDiversityConvergence workshop, 6th International Conference on Cloud Computing and Services Science (CLOSER 2016): P. Valduriez (co-chair)
- Int. Conf. on Extending DataBase Technologies (EDBT), 2017: E. Pacitti
- 2nd Workshop on Big Data and Data Mining Challenges on IoT and Pervasive Systems (BigD2M), 2016: E. Pacitti
- International Conference and Labs of the Evaluation Forum (CLEF), 2016: A. Joly
- ACM International Conference on Multimedia Retrieval (ICMR), 2016: A. Joly
- IEEE International Conference on Image Processing (ICIP), 2016: A. Joly
- ACM Multimedia conference (ACMMM), 2016: A. Joly
- Int. work.Multimedia Analysis and Retrieval for Multimodal Interactions (MARMI): A. Joly
- Int. Conf. on Scientific and Statistical Database Management (SSDBM), 2016: A. Joly
- European Conf. on Computer Vision (ECCV), 2016: A. Joly
- VLDB 2017: F. Masseglia
- IEEE Int. Conf. on Data Mining, 2016: F. Masseglia
- ACM Symposium on Applied Computing 2017: F. Masseglia
- Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD) 2017: F. Masseglia
- IEEE Int. Conf. on Data Science and Advanced Analytics (DSAA), 2016: F. Masseglia
- Int. Symposium on Information Management and Big Data (SimBig), 2016: F. Masseglia
- Int. Conf. on Data Science, Technology and Applications (DATA), 2016: F. Masseglia

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[0]http://www.imageclef.org/lifeclef/2016

Reviewing in international journals :

- Distributed and Parallel Databases: R. Akbarinia
- ACM Transactions on Database Systems (TODS): A. Joly
- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI): A. Joly
- IEEE Transactions on Knowledge and Data Engineering: R. Akbarinia
- Information Sciences: A. Joly
- Ecological Informatics: A. Joly
- Multimedia Tools and Applications Journal (MTAP): A. Joly
- Multimedia Systems: A. Joly
- Transactions on Information Forensics & Security: A. Joly
- International Journal of Computer Vision: A. Joly
- Transactions on Image Processing: A. Joly
- ACM Trans. on Database Systems: E. Pacitti
- Knowledge and Information Systems (KAIS): F. Masseglia
- IEEE Transactions on Knowledge and Data Engineering (TKDE): F. Masseglia

Other activities (national):

- Alexis Joly gave invited talks in national events: Inria scientific days (https://journees-scientifiques2016.inria.fr/), INRA-Inria days (https://journees.inra.fr/maths-info2016), Award ceremony of « La Recherche 2016 » (http://www.leprixlarecherche.com/).
- P. 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.
- F. Masseglia gave an invited talk at the CNRS national seminar on IST about "Publication Data Analytics" (Meudon, 10 November), and an invited talk to the DSI service of IRD on "Scientific Data Mining" (Montpellier, 18 September). Florent also participates in the Class'Code PIA project dedicated to teaching computational thinking for professionals of education (head of the working group on the definition of fundamental notions).
- P. Valduriez gave invited talks at: "La Science des données à l'IRIT", Toulouse, april 2016, the Junior Conference on Data Science and Engineering, Paris Saclay, sept. 2016, the Orange Summer University "Innovate in IT", sept. 2016.

Other activities (international):

- Alexis Joly was a member of the scientific advisory board of the EU REVEAL project (http://revealproject.eu). He was invited by the ATC innovation lab in Athens to participate in a workshop on social media verification (http://revealproject.eu/reveal-workshop-on-16-sept-2016).
- E. Pacitti gave an invited talk at the 6th workshop on big data and analytics (WOS6), co-organized by Technicolor and Inria (http://www.bretagne-networking.org/wos6) on Experiences on Data Management Techniques for Scientific Application in Rennes, nov. 2016, and a talk at Fundação Getulio Vargas on Experiences on Data Management Techniques for Big Data in Rio de Janeiro, dec. 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Most permanent members of Zenith teach at the Licence and Master degree levels at UM2.

Reza Akbarinia:

    Master Research: New approaches for data storage, 9h, level M2, Faculty of Science, UM

Florent Masseglia:

    Science Popularization: 4 Ph.D students, from 3 different doctoral schools are having a 30h doctoral module under Florent Masseglia'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

Patrick Valduriez:

    Professional: Distributed Information Systems, Big Data Architectures, 75h, level M2, Capgemini Institut

    Professional: XML, 10h, level M2, Orsys Formation

Alexis Joly:

    Master Research: Large-scale Content-based Visual Information Retrieval, 3h, level M2, Faculty of Science, UM

10.2.2. Supervision

- PhD: Ji Liu, Multisite Management of Scientific Worflows in the Cloud, Univ. Montpellier, 3 Nov 2016, Advisors: Esther Pacitti and Patrick Valduriez
- PhD: Valentin Leveau, Spatially Consistent Nearest Neighbor Representations for Fine-Grained Classification, Univ. Montpellier, 9 Nov 2016, Advisor: Patrick Valduriez, co-advisor: Alexis Joly and Olivier Buisson
- PhD : Saber Salah, Optimizing a Cloud for Data Mining Primitives, Univ. Montpellier, 20 Apr 2016 Advisor: Florent Masseglia, co-advisor: Reza Akbarinia
- PhD in progress: Christophe Botella, Lareg-scale Species Distribution Modelling based on crowd-srouced image streams, started Oct 2016, Univ. Montpellier, Alexis Joly, François Munoz (IRD), Pascal Monestiez (INRA)
- PhD in progress: Titouan Lorieul, Pro-active crowdsourcing, started Oct 2016, Univ. Montpellier, Advisor: Alexis Joly
- PhD in progress: Mehdi Zitouni Closed Pattern Mining in a Massively Distributed Environment started sept. 2014, Univ. Tunis, Advisor: Florent Masseglia, co-advisor: Reza Akbarinia
- PhD in progress : Djamel-Edine Yagoubi, Indexing Time Series in a Massively Distributed Environment, started oct. 2014, Univ. Montpellier, Advisors: Florent Masseglia and Patrick Valduriez, co-advisor: Reza Akbarinia
- PhD in progress : Sakina Mahboubi, Privacy Preserving Query Processing in Clouds, started oct. 2015, Univ. Montpellier, Advisor: Patrick Valduriez, co-advisor: Reza Akbarinia
- PhD in progress: Khadidja Meguelati, Massively Distributed Clustering, started Oct 2016, Univ. Montpellier, Advisor: Florent Masseglia, co-advisor : Nadine Hilgert (INRA)

10.2.3. Juries

Members of the team participated to the following PhD committees:

- A. Joly: Zongyuan Ge (Queensland University of Technology), Amel Tuama Alhussainy (Univ. of Montpellier)
- E. Pacitti: Saliha Lallali (UVSQ), Nupur Mittal (Univ. Rennes 1)
- P. Valduriez: Damien Graux (Univ. Grenoble)
- F. Masseglia: Hadi Hashem (Telecom SudParis), Manuel Pozo (CNAM), Martin Kirchgessner (Univ. Grenoble)

10.3. Popularization

F. Masseglia is now "Chargé de mission pour la médiation scientifique Inria" and heads Inria's national network of colleagues involved in science popularization.

Zenith has major contributions to science popularization, as follows.

10.3.1. Code Teaching for Kids

Teaching code is now officially in the school programs in France. Class'Code is a PIA project that aims at training the needed 300,000 teachers and professionals of education France. The project is a hybrid MOOC (both online courses and physical meetings).

Along with Class'Code, the association "La main à la pâte" has coordinated the writing of a school book on the teaching of computer science teaching, with Inria (Gilles Dowek, Pierre-Yves Oudeyer, Florent Masseglia and Didier Roy), France-IOI and the University of Lorraine. The book has been requested by and distributed to 15,000 readers in less than one month.

F. Masseglia is giving a doctoral training at different doctoral schools in Montpellier, in order to train facilitators for helping teachers and people of the education world to better understand the "computational thinking". So far, 12 people have been trained. He is also a member of the management board of "Les Petits Débrouillards" in Languedoc-Roussillon and the scientific responsible for school visits in the LIRMM laboratory.

10.3.2. Science Outreach

In the context of the Floris'tic project, A. Joly participates regularly to the set up of popularization, educational and citizen science actions in France (with schools, cities, parks, etc.). The softwares developed within the project (Pl@ntNet, Smart'Flore and ThePlantGame) are used in a growing number of formal educational programs and informal educational actions of individual teachers. For instance, Smart'Flore is used by the French National Education in a program for reducing early school leaving. Pl@ntNet app is used in the Reunion island in an educational action called Vegetal riddle organized by the Center for cooperation at school. It is also planned to be used in a large-scale program in the Czech republic that is being finalized (in 40 classrooms). An impact study of the Pl@ntNet application did show that 6% of the respondents use it for educational purposes in the context of their professional activity. The Inria movie "Pl@ntNet, the application that helps people identify plants" enjoyed about 350 thousand views on Youtube.

10.3.3. Events

Zenith participated to the following events:

- F. Masseglia co-organized and co-animated the Inria's stand at "La fête de la science", Montpellier, held by Genopolys (a science village).
- F. Masseglia is member of the project selection committee for "La fête de la science" in Montpellier.
- M. Servajean and A. Joly animated a stand at "La fête de la science", Montpellier, held by the LIRMM laboratory.
- A. Joly and J. Champ participated to the set-up of a Pl@ntNet demo within the French pavillon at the Universal Exposition hold in Milan (about 2M visitors on the French pavillon).
- As a member of the organizing committee of the Floris'tic project, A. Joly participated to several popularization and educational actions in collaboration with Tela Botanica NGO (cities, parks, schools, etc.).
- P. Valduriez published an article in Interstices on "the data in question" [58].