Activity Report 2017

Section Dissemination

ALICE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

We organized a free workshop on February 2017 (http://shapeforge.loria.fr/workshop/) in-between the PhD defenses of Jean Hergel and Jérémie Dumas. International jury members gave talks; the workshop was open to the public. We recorded all the talks and made them available online (https://www.youtube.com/playlist?list=PLfUzw-QfoyuWLPJpCCp6xwTAPMIjt7Q-k).

10.1.1.2. Member of the Organizing Committees

B. Lévy is an elected member of the steering committee of Shape Modeling Association (since 2017).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Sylvain Lefebvre was program co-chair for SMI 2017. B. Lévy was conference co-chair of WSOM 2017.

10.1.2.2. Member of the Conference Program Committees

B. Lévy was program committee member of Eurographics 2017, SGP 2017, SPM 2017

10.1.2.3. Reviewer

Members of the team were reviewers for SoCG'17, Eurographics, SIGGRAPH, Computer Aided Design, Pacific Graphics, and SPM.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- B. Lévy is a member of the editorial board of ACM Transactions on Graphics.
- B. Lévy is a member of the editorial board of Graphical Models (Elsevier)
- B. Lévy is a member of the editorial board of Computer Graphics and Applications
- Sylvain Lefebvre was associated editor for ACM Transactions on Graphics.

10.1.3.2. Reviewer - Reviewing Activities

Members of the team were reviewers for Computer Aided Design (CAD),Discrete Applied Mathematics (Elsevier), Transactions on Visualization and Computer Graphics (IEEE), and Computers & Graphics (Elsevier).

10.1.4. Invited Talks

B. Lévy gave an invited keynote talk at Eurographics 2017

10.1.5. Research Administration

Samuel Hornus was a moderator of the CDT (Technological Development Commission) of CRI Nancy.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Samuel Hornus, Module « mathématiques appliquées à l'informatique » (MAI). 64h eq. TD, niveau L3. à Télécom Nancy, France.

Licence: Cédric Zanni, Informatique 2, 40h ETD, L3, École des Mines de Nancy, France.

Licence: Cédric Zanni, Informatique 1, 20h ETD, L3, École des Mines de Nancy, France.

Master: Nicolas Ray, Initiation à la recherche, 10 heures, M1, université de Lorraine, France.

Master: Sylvain Lefebvre, Programmation pour le jeux vidéo, 30h ETD, Ecole des Mines de Nancy, France.

Master: Sylvain Lefebvre, Introduction au parallélisme et au graphisme, 9h ETD, ENSG Nancy, France.

Master: Sylvain Lefebvre, Introduction à la fabrication additive, 9h ETD, ENSEM Nancy, France.

Master: Cédric Zanni, Database essentials, 24h ETD, M1, École des Mines de Nancy, France.

Master: Cédric Zanni, Techniques de l'animation et du jeu vidéo, 27h ETD, M1, École des Mines de Nancy, France.

Master: Cédric Zanni, Software Engineering, 18h ETD, M1, École des Mines de Nancy, France.

Master: Cédric Zanni, Operating System, 17h ETD, M1, École des Mines de Nancy, France.

Master: Cédric Zanni, Introduction au C/C++, 34h ETD, M1, École des Mines de Nancy, France.

Master: Cédric Zanni, UML, 4h ETD, M1, École des Mines de Nancy, France.

Master: B. Lévy teaches Numerical Methods in École nationale supérieure de géologie de Nancy, France (12h).

Master: B. Lévy teaches Algorithmic Gems in École des Mines de Nancy, France (8h).

10.2.2. Supervision

Ph.Ds in progress supervised by B. Lévy:

- Maxence Reberol, Finite elements on hex-dominant meshes, third year. Funding: ERC ShapeForge and région Lorraine. Defense: February 15th 2018.
- Pierre Anquez, Robust meshing of geological data, consortium GOCAD, second year, co-supervised with Guillaume Caumon.
- Julien Renaudeau, Constrained geo-modelling using implicit functions, second year, Cifre Schlumberger, co-supervised with Guillaume Caumon.

Jérémie Dumas and Jean Hergel, supervised by Sylvain Lefebvre, defended their PhD theses in February 2017. Jérémie Dumas received the University of Lorraine award for the best 2017 PhD thesis in Computer Science.

10.2.3. Juries

Sylvain Lefebvre was "rapporteur" for the PhD of Benoit Arbelot (Grenoble Universities, defended April 7 2017), for the PhD thesis of Luigi Malomo (CNR Pisa) and Christian Santoni (Computational Design Lab, University of Rome).

10.3. Popularization

Haichuan Song, Sylvain Lefebvre and Salim Perchy presented IceSL at a booth at the Maker Faire Rome 2017 (http://www.makerfairerome.eu/en/). This is a major event with 100K+ visitors every year. We presented the software to students, general public and 3D printing enthusiasts. We received a Maker of Merit award for our project.

Sylvain Lefebvre participated to the radio program "La méthode scientifique" on France Culture, aired on November 8 2017 (https://www.franceculture.fr/emissions/la-methode-scientifique/la-methode-scientifique-mercredi-8-novembre-2017).

B. Lévy gave an invited talk at "Forum Art Inovation" organized by IRCAM, Paris, Pompidou center (16-03-2017): http://medias.ircam.fr/stream/ext/video/files/2017/04/04/Vertigo_16mars2017_%20BrunoLevy_GB.mov.webm.

BIGS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

- BIGS team has organized a two-days workshop "Statistique pour les processus de Markov déterministes par morceaux" in Nancy, with about 40 participants, among which most members of the team. See http://pdmp2017.iecl.univ-lorraine.fr/

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

- A. Gégout-Petit is chair of 2017 "Congrès Francophone International de l'Enseignement de la Statistique" (CFIES), Grenoble, September, 2017.

9.1.3. Journal

P. Vallois is in the editorial board of "Risk and Decision Analysis".

9.1.3.1. Reviewer - Reviewing Activities

All the BIGS members are regular reviewers for journals in probability, statistics and machine learning as: Bernoulli, Scandinavian Journal of statistics, Stochastics, Journal of Statistical Planning Inference, Journal of theoretical Biology, IEEE Trans. Biomedical Eng., Theoretical Biology and Medical Modelling, Royal Society of Chemistry, Signal Processing: Image Communication, Mathematical Biosciences, LIDA, Annals of Applied Probability, Annals of Operations Research and Journal of Machine Learning Research, as well as conferences such as ICML, World IFAC Congress, FOSBE, ALCOSP...

9.1.4. Leadership within the Scientific Community

- Anne Gégout-Petit is member of the board of the European Regional Council of the Bernoulli society
- Céline Lacaux is responsible of the *Statistic team*, Laboratory of Mathematic of Avignon (since September 2016)

9.1.5. Scientific Expertise

- T. Bastogne: scientific expert in Biostatistics and Signal Processing in Nanomedicine for CYBERnano (start-up).

9.1.6. Research Administration

- A. Gégout-Petit: elected member of the laboratory of mathematics "Institut Elie Cartan de Lorraine".
- Céline Lacaux is
  - member of the bord of the SMAI-MAS group,
  - elected member of the council of the Laboratory Mathematics of Avignon,
  - correspondant AMIES pour Avignon,
  - Member of the scientific committee of GDR 3477 Stochastic Geometry.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

R. Azaïs and B. Scherrer excepted, BIGS members have teaching obligations at "Université de Lorraine" and are teaching at least 192 hours each year. They teach probability and statistics at different level (Licence, Master, Engineering school). Many of them have pedagogical responsibilities.

9.2.2. Supervision

- PhD : Clémence Karmann, " Network inference for zero-inflated models", Grant : Inria-Cordis. Advisors: A. Gégout-Petit, A. Muller-Gueudin.

- PhD : Florine Gréciet, " Modèles markoviens déterministes par morceaux cachés pour la propagation de fissures", grant CIFRE SAFRAN AIRCRAFT ENGINES, Advisors : R. Azaïs, A. Gégout-Petit.

- PhD : Kévin Duarte, "Aide à la décision médicale et télémédecine dans le suivi de l'insuffisance cardiaque", Advisors : J.-M. Monnez and E. Albuisson.

- Post-doc: Florian Bouguet. Advisors: Romain Azaïs, Anne Gégout-Petit, Aurélie Muller-Gueudin.

- Post-doc: Benoît Henry (starting in Dec. 2016). Advisors: Romain Azaïs with Inria team Madynes.

- Master: all BIGS members regularly supervise project and internship of master IMOI students

- Engineering school: all BIGS members regularly supervise project of "Ecole des Mines ", ENSEM or EEIGM students

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Selection

10.1.1.1. Member of the Conference Program Committees

Philippe Clauss and Cédric Bastoul have been part of the program committee of IMPACT 2017 and 2018 (International Workshop on Polyhedral Compilation Techniques), held in conjunction with the international conference HiPEAC.

Cédric Bastoul has been part of the program committee of the international conference on Compiler Construction 2017 and 2018 (CC'2017 and CC'2018).

Cédric Bastoul and Vincent Loechner have been part of the program committee of the HIP3ES workshop 2017 and 2018 (International Workshop on High Performance Energy Efficient Embedded Systems), co-organized by Cédric Bastoul in conjunction with the international conference HiPEAC.

Arthur Charguéraud has been part of the program committee for the Conference on Verified Software: Theories, Tools, and Experiments (VSTTE 2017).

10.1.1.2. Reviewer

Philippe Clauss has been reviewer for the following conferences and workshops: IMPACT 2017 and 2018 (International Workshop on Polyhedral Compilation Techniques), CC 2017 (International Conference on Compiler Construction).

Cédric Bastoul has been reviewer for the following international conferences and workshops: CC 2017 and 2018 (International Conference on Compiler Construction), PARMA 2017 (International Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures), IMPACT 2017 and 2018 (International Workshop on Polyhedral Compilation Techniques), HIP3ES 2017 and 2018 (International Workshop on High Performance Energy Efficient Embedded Systems).

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

Since October 2001, J. Gustedt is Editor-in-Chief of the journal *Discrete Mathematics and Theoretical Computer Science* (DMTCS).

10.1.2.2. Reviewer - Reviewing Activities

Philippe Clauss has been reviewer for the following journals: Journal of Computer and System Sciences, Journal of Software: Practice and Experience, IEEE Transactions on Computers.

Cédric Bastoul has been reviewer for the following journals: Journal of Parallel, Emergent and Distributed Systems, and IEEE Transactions on Computers.

Arthur Charguéraud has been reviewer for JAR (Journal of Automated Reasoning), DMTCS (journal of Discrete Mathematics and Theoretical Computer Science), and JFP (Journal of Functional Programming).

Vincent Loechner has been reviewer for: JAR (Journal of Automated Reasoning, Springer), STTT (Int. J. on Software Tools for Technology Transfer, Springer), ComCom (Computer Communications, Elsevier).

10.1.3. Invited Talks

Philippe Clauss has been invited to give a talk at a seminar dedicated to Jean-Luc Gaudiot, organized by the French Computer Science Engineering school ENSIEE, Paris, September the 21st 2017. The topic of his talk was: *Le modèle polyédrique au delà de la compilation statique, des fonctions affines et des boucles.*

Arthur Charguéraud has been invited to give a talk at ENS Rennes, on November 21st, 2017, to present the CFML interactive program verification tool.

10.1.4. Scientific Expertise

Cédric Bastoul as been an expert for the French research ministry and the French finance ministry for the research tax credit programme.

10.1.5. Standardization

Since Nov. 2014, Jens Gustedt is a member of the ISO working group SC22-WG14 for the standardization of the C programming language and serves as co-editor of the standards document. He participates actively in the defect report processing, the planning of future versions of the standard, and publishes an ongoing document to track inconsistencies and improvements of the C threads interface.

In 2017, he was the one of the main forces behind the elaboration of C17, the new version of the C standard that is expected to go into ballot in the member states end of 2017.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : Philippe Clauss, Architecture des ordinateurs, 45h, Université de Strasbourg, France

Licence : Philippe Clauss, Systèmes d'exploitation, 40h, Université de Strasbourg, France

Master : Philippe Clauss, Compilation, 78h, Université de Strasbourg, France

Master : Philippe Clauss, Système et programmation temps-réel, 25h, Université de Strasbourg, France

Master : Philippe Clauss, Compilation avancée, 30h, Université de Strasbourg, France

2nd year engineering school: Jens Gustedt, programmation avancée, 20h, ENSIIE Strasbourg, France

Licence : Jens Gustedt, systèmes concurrents, 20h, Université de Strasbourg, France

Master : Jens Gustedt, parallélisme, 14h, M1, Université de Strasbourg, France

IUT d'Informatique : Alain Ketterlin, Architecture et programmation des mécanismes de base d'un système informatique, 68h, Université de Strasbourg, France

Licence : Alain Ketterlin, Algorithmique et programmation L1, 82h, Université de Strasbourg, France

Master (Informatique) : Alain Ketterlin, Ingénierie de la preuve en Coq, 18h, Université de Strasbourg, France

Master (Calcul Scientifique et Mathématiques de l'Information) : Alain Ketterlin, Compilation et optimisation, 26h, Université de Strasbourg, France

Licence : Cédric Bastoul, Computer architecture, 68h, L1 (IUT), Université de Strasbourg, France

Licence : Cédric Bastoul, Concurrent Systems, 20h, L3, Université de Strasbourg, France

Master : Cédric Bastoul, Compiler Design, 48h, M1, Université de Strasbourg, France

Master : Cédric Bastoul, Parallelism, 19h, M1, Université de Strasbourg, France

Master : Cédric Bastoul, Introduction to Research, 11h, L2+M1, Université de Strasbourg, France

Licence : Eric Violard, Programmation Fonctionnelle (licence informatique), 64h eq. TD, L2, Université de Strasbourg, France

Licence : Eric Violard, Architecture des Ordinateurs (licence informatique), 54h eq. TD, L2, Université de Strasbourg, France

Licence : Eric Violard, Logique et Programmation Logique (licence informatique), 34h eq. TD, L2, Université de Strasbourg, France

Licence : Eric Violard, Algorithmique et Structure de Données (licence mathématique), 39h eq. TD, L3, Université de Strasbourg, France

Licence : Eric Violard, Modèles de Calcul (licence informatique), 29h eq. TD, L1, Université de Strasbourg, France

Licence : Eric Violard, Systèmes Concurrents (licence informatique), 7h eq. TD, L3, Université de Strasbourg, France

Master : Arthur Charguéraud, Proof of Programs (MPRI), 12h, M2, Université Paris Diderot, France

Licence : Vincent Loechner, responsable pédagogique de la licence professionnelle SIL spécialité ARS (Administration de Réseaux et Services), 24h, L3, université de Strasbourg, France

Licence : Vincent Loechner, systèmes d'exploitation, 13h, L2, université de Strasbourg, France

Licence : Vincent Loechner, administration système et internet, 54h, L3, université de Strasbourg, France

Master : Vincent Loechner, calcul parallèle, 32h, M1, université de Strasbourg, France

Master : Vincent Loechner, OS embarqués, 34h, M2, université de Strasbourg, France

Master : Vincent Loechner, calcul parallèle, 30h, 3ième année école d'ingénieur (TPS), université de Strasbourg, France

10.2.2. Supervision

PhD: Nabil Hallou, *Dynamic binary optimizations*, University of Rennes, December the 18th 2017, Erven Rohou (PACAP team) and Philippe Clauss

PhD in progress: Salwa Kobeissi, *Dynamic parallelization of recursive functions by transformation into loops*, September 2017, Philippe Clauss

PhD in progress: Mariem Saied, *Ordered Read-Write Locks for Multicores and Accelerators*, since Nov 2013, Jens Gustedt & Gilles Muller.

PhD in progress: Daniel Salas, *Integration of the ORWL model into parallel applications for medical research*, since Mar 2015, Jens Gustedt & Isabelle Perseil.

PhD in progress: Yann Barsamian, *Optimization and parallelization of particle and semi-Lagrangian methods for multi species plasma simulations*, since Oct 2014, Eric Violard.

PhD in progress: Armaël Géneau, *Formal verification of complexity analyses*, since Sept 2016, co-advised by Arthur Charguéraud and François Pottier, from team Gallium (Inria Paris), where Armaël is located.

PhD in progress: Harenome Ranaivoarivony-Razanajato, *Hierarchical Parallelization and Optimization*, Oct. 2016, Cédric Bastoul and Vincent Loechner

PhD in progress: Maxime Schmitt, *Automatic Generation of Adaptive Codes*, September 2016, Cédric Bastoul and Philippe Helluy

PhD in progress : Paul Godard, *Parallelization and Scalability of a Graphical Pipeline for Professionnal Inkjet Printing*, Jun. 2016, Cédric Bastoul and Vincent Loechner

10.2.3. Juries

Philippe Clauss participated to the following PhD committees in 2017:

Date	Candidate	Place	Role
Dec. 11	Alexandre Maréchal	Université de Grenoble	Examiner
Dec. 18	Nabil Hallou	Université de Rennes	Co-advisor
Dec. 21	Jordy Ruiz	Université de Toulouse	Reviewer

Vincent Loechner participated as examiner to the PhD committee of Maroua Maalej, defended on Sept. 26th 2017 at Université Claude Bernard (Lyon 1).

10.3. Popularization

A. Charguéraud is one of the three organizers of the *Concours Castor informatique*http://castor-informatique.fr/. The purpose of the Concours Castor in to introduce pupils (from *CM1* to *Terminale*) to computer sciences. More than 500,000 teenagers played with the interactive exercises in November 2017.

Jens Gustedt is blogging about efficient programming, in particular about the C programming language. He also is an active member of the stackoverflow community a technical Q&A site for programming and related subjects.

Cédric Bastoul prepared activities and participated to *Fête de la Science* at University of Strasbourg in October 2017.

CAPSID Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

Marie-Dominique Devignes is a member of the Steering Committee for the European Conference on Computational Biology (ECCB).

Marie-Dominique Devignes organised a workshop on "Security issues in health data processing" for the Fédération Charles Hermite, Nancy.

Sabeur Aridhi co-chaired the workshop on "Large scale time-dependent graphs" (TD-LSG) as part of ECML-PKDD-2017.

9.1.1.2. Member of Organizing Committees

David Ritchie participated in the organisation of GGMM-2017 (Reims).

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

David Ritchie was a member of the programme committee for GGMM-2017, Reims.

Sabeur Aridhi was a member of the programme committee for TDLSG/ECML-PKDD, Skopje, Macedonia.

9.1.2.2. Reviewer

Marie-Dominique Devignes was a reviewer for IWBBIO, NETTAB, KDIR, and BIBM.

David Ritchie was a reviewer for IJCAI and JOBIM.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

David Ritchie is a member of the editorial board of Scientific Reports.

Sabeur Aridhi is a member of the editorial board of Intelligent Data Analysis.

9.1.3.2. Reviewer - Reviewing Activities

The members of the team have reviewed manuscripts for *Algorithms for Molecular Biology, Bioinformatics, BMC Bioinformatics, Computational Biology and Chemistry, Current Opinion in Structural Biology, Journal of Biomedical Semantics, Journal of Computational Chemistry, Journal of Chemical Information and Modeling,* and *Proteins: Structure, Function & Bioinformatics.*

9.1.4. Invited Talks

David Ritchie gave a presentation at the Unité de Mathématiques et Informatique Appliquées de Toulouse (MIAT).

9.1.5. Scientific Expertise

Marie-Dominique Devignes reviewed grant applications for the Institut Pasteur and the Institut de Recherche en Santé Publique (IRESP).

Sabeur Aridhi reviewed grant applications for the French Committee for the Evaluation of Academic and Scientific Cooperation with Brazil (COFECUB).

David Ritchie is a member of the Bureau of the GGMM (Groupe de Graphisme et Modélisation Moléculaire).

Marie-Dominique Devignes participated in a Recruitment Committee for a MdC at Univ Lille.

9.1.6. Research Administration

Marie-Dominique Devignes is Chargée de Mission for the CyberBioHealth research axis at the LORIA and is a member of the "Comipers" recruitment committee for Inria Nancy – Grand Est.

David Ritchie is a member of the Commission de Mention Informatique (CMI) of the University of Lorraine's IAEM doctoral school, and is a member of the Bureau of the Project Committee for Inria Nancy – Grand Est.

Isaure Chauvot de Beauchêne is an elected member of the scientific council of the AM2I (Automatique, Mathématiques, Informatique et leurs Interactions) pole of the University of Lorraine.

Sabeur Aridhi is responsible for the major in IAMD (Ingénierie et Applications des Masses de Données) at TELECOM Nancy (Univ. Lorraine), and a member of the "Commission du Développement Technologique" recruitment committee at Inria Nancy – Grand Est.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence: Sabeur Aridhi, *Programming Techniques and Tools,* 24 hours, L1, Univ Lorraine.

Licence: Sabeur Aridhi, *Databases,* 82 hours, L1, Univ Lorraine.

Licence: Sabeur Aridhi, *Massive Data Management,* 68 hours, L2, Univ Lorraine.

Licence: Sabeur Aridhi, *Big Data Hackathon,* 8 hours, L3, Univ Lorraine.

Licence: Marie-Dominique Devignes, *Relational Database Design and SQL,* 30 hours, L3, Univ Lorraine.

Licence: Isaure Chauvot de Beauchêne, *TD Bioinformatique et Modelisation,* 10 hours, L3, Univ Lorraine.

Doctorat: Isaure Chauvot de Beauchêne, *Bioinformatics and Visualisation,* 10 hours, M1–PhD, ISCD (Institute for Computing and Data Sciences) Summer School, Roscoff.

9.2.2. Supervision

PhD in progress: Bishnu Sarker, *Developing distributed graph-based approaches for large-scale protein function annotation and knowledge discovery,* 01/11/2017, David Ritchie, Sabeur Aridhi.

PhD in progress: Maria Elisa Ruiz Echartea, *Multi-component protein assembly using distance constraints,* 01/11/2016, David Ritchie, Isaure Chauvot de Beauchêne.

PhD in progress: Gabin Personeni, *Apport des ontologies de domaines pour l'extraction de connaissances à partir de données biomédicales,* 01/10/2014, Marie-Dominique Devignes, Adrien Coulet.

PhD in progress: Seyed Ziaeddin Alborzi, *Automatic discovery of hidden associations using vector similarity: application to biological annotation prediction,* 01/10/2014, David Ritchie, Marie-Dominique Devignes.

9.2.3. Juries

Bernard Maigret was a "rapporteur" for the PhD thesis of N. Madeleine, *Recherche d'inhibiteurs de l'interaction Lu–Laminine par des techniques de modélisation et de la simulation moléculaire,* Université de La Réunion, 18/09/2017 (PhD supervisor Dr F. Gardebien).

9.3. Popularization

The team presented its activities during the Inria Nancy – Grand Est centre's Open Day for the "Fête de la Science 2017" (14 Oct 2017).

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Together with Anne-Lise Charbonnier (Inria Nancy – Grand Est), the Caramba team organized the "Journées Codage et Cryptographie 2017", whose objective is to regroup the French speaking community working on error-correcting codes and on cryptography. It is affiliated with the "Groupe de travail C2" of the GDR-IM.

10.1.2. Scientific Events Selection

10.1.2.1. Member of steering committees

- Pierrick Gaudry is a member of the steering committee of the Workshop on Elliptic Curve Cryptography (ECC).
- Emmanuel Thomé is a member of the steering committee of the conference series "Algorithmic Number Theory Symposium" (ANTS).
- Emmanuel Thomé is a member of the scientific directorate of the Dagstuhl computer science seminar series.

10.1.2.2. Member of the Conference Program Committees

- Jérémie Detrey was a member of the Program Committee of ECC 2017.
- Pierrick Gaudry was a member of the Program Committee of EUROCRYPT 2017.
- Aurore Guillevic was a member of the Program Commitee of PKC 2018, Latincrypt 2017 and JC2 2017.
- Marine Minier was a member of the Program Commitee of WCC 2017 and JC2 2017.
- Pierre-Jean Spaenlehauer was a member of the Program Commitee of ISSAC 2017.

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

Members of the project-team did their share in reviewing submissions to renowned conferences and journals. Actual publications venues are not disclosed for anonymity reasons.

10.1.4. Invited Talks

- Jérémie Detrey was invited to give a talk at the Rencontres "Arithmétique de l'Informatique Mathématique" (RAIM 2017), Lyon, France.
- Aurore Guillevic was invited to give a talk at the Elliptic Curve Cryptography Conference (ECC17), Nijmegen, Netherlands.
- Emmanuel Thomé was invited to give a talk at the Elliptic Curve Cryptography Conference (ECC17), Nijmegen, Netherlands.
- Marine Minier was invited to give a talk at the Journées Nationales du pré-GDR Sécurité, Paris, France and at the CCA seminar, Paris, France.

10.1.5. Other committees

- Jérémie Detrey is chairing the *Commission des Utilisateurs des Moyens Informatiques* (CUMI) of the Inria Nancy – Grand Est research center.
- Emmanuel Thomé
    - is a member of the management committee for the research project "CPER Cyberentreprises" (co-chair).
    - is a member of the *Comité Local Hygiène, Sécurité, et Conditions de Travail* of the Inria Nancy – Grand Est research center.
    - was a member of the hiring committee for the 2015 junior research positions (CR2) at Inria Bordeaux.
- Pierrick Gaudry is vice-head of the *Commission de mention Informatique* of the *École doctorale IAEM* of the University of Lorraine;
- Pierre-Jean Spaenlehauer is a member of the *Commission développement technologique* (CDT) of the Inria Nancy – Grand Est research center.
- Paul Zimmermann is member of the Scientific Committee of the EXPLOR *Mésocentre*, of the "groupe de réflexion" *Calcul, Codage, Information* of the GDR-IM, of the advisory board of the OpenDreamKit european project, of the scientific council of the LIRMM laboratory in Montpellier, and chair of the organizing committee of the EJCIM (*École Jeunes Chercheurs Informatique Informatique Mathématique*) which will take place in Nancy in 2018.
- Marine Minier is
    - member of the CoS, poste MCF number 27MCF4376, Université de Rouen, November 2017.
    - member of the CoS, poste MCF number 27MCF575, Université de Grenoble Alpes, May 2017.
    - president of the CoS, poste MCF number 27MCF0955, Université de Lorraine, May 2017.
    - member of the CoS, poste MCF number 27MCF4191, Université de Lyon, May 2017.
    - member of the CoS, poste PR number 27PR0154, Université de Toulouse, May 2017.
    - in charge of the redaction for the LORIA of the Impact Project *Digital Trust*.

10.1.6. Research Administration

- Laurent Grémy was a member of the *Conseil de laboratoire* of the Loria.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Marine Minier, *Sécurité des systèmes d'information*, 40h eq. TD, M2 Informatique, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Master: Marine Minier, *Introduction à la cryptographie*, 18h eq. TD, M1 Informatique, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Master: Marine Minier, *Introduction à la sécurité des systèmes et à la cryptographie*, 32h eq. TD, M2 Mathématiques IMOI, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Master: Emmanuel Thomé, *Introduction to Cryptography*, 24 hours (lectures + exercises), M1, Télécom Nancy, Villers-lès-Nancy, France.

Master: Emmanuel Thomé, *Cryptography and Security*, 20 hours (lectures + exercises), M2, Télécom Nancy and École des Mines de Nancy, France.

Master: Pierre-Jean Spaenlehauer, *Initiation aux méthodes analytiques de la théorie des nombres, applications à la cryptographie*, 15h eq. TD, M2 Mathématiques MFA, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Licence: Jérémie Detrey, *Méthodologie*, 24 hours (practical sessions), L1, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Licence: Jérémie Detrey, *Sécurité des applications Web*, 2 hours (lecture), L1, Université de Lorraine, IUT Charlemagne, Nancy, France.

Master: Jérémie Detrey, *Introduction à la cryptographie*, 8 hours (lectures) + 10 hours (tutorial sessions) + 12 hours (practical sessions), Master Spécialisé, École des Mines de Nancy, France.

Licence: Marine Minier, *Introduction à la sécurité et à la cryptographie*, 10 hours (lectures) + 10 hours (tutorial sessions) + 10 hours (practical sessions), L3, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-les-Nancy, France.

Licence: Pierrick Gaudry, *Méthodologie*, 24 hours (practical sessions), L1, Université de Lorraine, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

2e année École Polytechnique, Aurore Guillevic, *Les bases de la programmation et de l'algorithmique*, (INF411), 32 hours (lab sessions), Palaiseau, France ("chargée d'enseignement").

10.2.2. Supervision

Internship: Léo Barré, *cube attacks and cube testers*, Université de Bordeaux, March–September (6 months), Pierre-Jean Spaenlehauer and Marine Minier.

Internship: Nicolas David, *Impact des racines réelles sur la sélection polynomiale pour le crible algébrique*, ENS Cachan, June–July (6 weeks), Paul Zimmermann.

Internship: Quentin Deschamps, *Étude de la sécurité du logarithme discret dans* $GF(p^n)$ *lorsque* n *est composé*, ENS Lyon, July–August (6 weeks), Aurore Guillevic.

Internship: Joël Felderhoff, *infrastructures in complex cubic fields*, ENS-Lyon, June–July (6 weeks), Pierre-Jean Spaenlehauer.

Ph.D. in progress: Sandra Rasoamiaramanana, *Délivrance de contextes sécurisés par des approches hybrides*, since May 2017, Ph.D. CIFRE Orange Gardens, Marine Minier.

Ph.D. in progress: Paul Huynh, *analyse et conception de chiffrements authentifiés à bas coût*, since October 2017, Marine Minier.

Ph.D. in progress: Simon Abelard, *Comptage de points de courbes algébriques sur les corps finis et interactions avec les systèmes polynomiaux*, Univ. Lorraine; since Sep. 2015, Pierrick Gaudry & Pierre-Jean Spaenlehauer.

Ph.D. in progress: Svyatoslav Covanov, *Algorithmes de multiplication : complexité bilinéaire et méthodes asymptotiquement rapides*, since Sep. 2014, Jérémie Detrey et Emmanuel Thomé.

Ph.D. defended [1]: Laurent Grémy, *Sieve algorithms for the discrete logarithm in medium characteristic finite fields*, defended on September 29th, 2017, Pierrick Gaudry & Marion Videau.

10.2.3. Juries

Marine Minier: president of the jury of the PhD: *Synchronisation et systèmes dynamiques : application à la cryptographie* defended by Brandon Dravie, July 2017, Université de Lorraine.

Marine Minier: president of the jury of the PhD: *Réseaux de capteurs et vie privée* defended by Jessye Dos Santos, August 2017, Université de Grenoble Alpes.

Marine Minier: president of the jury of the PhD: *Système de détection d'intrusion adapté au système de communication aéronautique ACARS* defended by Eric Asselin, June 2017, Université de Toulouse.

Marine Minier: president of the jury of the PhD: *Probabilistic models of partial enforcement in distributed systems* defended by Jordi Martori-Adrian, June 2017, Université de Lorraine.

Marine Minier: president of the jury of the PhD: *Méthodes de calculs sur les données chiffrées* defended by Marie Paindavoine, January 2017, Université de Lyon.

Emmanuel Thomé: reviewer of the PhD thesis: *Formules de Thomae pour les courbes algébriques résolubles* defended by Alexandre Le Meur, August 2017, Université de Rennes 1.

Paul Zimmermann: member of the jury of the PhD thesis: *Investigations in Computer-Aider Mathematics: Experimentation, Computation, and Certification* defended by Thomas Sibut-Pinote, December 2017, École polytechnique.

10.3. Popularization

- Pierrick Gaudry organized and participated in a debate fed by excerpts from movies on the topic of cryptography and privacy in March 2017. He also gave a podcast interview about electronic voting for Interstices [15].

- Pierre-Jean Spaenlehauer did a short presentation of asymetric cryptography to middle school students who were award winners of the Alkindi competition.

- Paul Zimmermann co-animated a "Math-en-Jeans" atelier with lycée Vauban in Luxembourg city (Luxembourg).

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Mathieu Hoyrup is member of the Steering Committee of the Conference Series *Computability in Europe* (CiE) for the period 2017-2021.

10.1.1.2. Member of the Organizing Committees

- Mathieu Hoyrup organized the workshop Continuity, Computability, Constructivity - From Logic to Algorithms (CCC) 2017, Nancy, June 2017.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Mathieu Hoyrup was co-chair of the workshop Continuity, Computability, Constructivity - From Logic to Algorithms (CCC) 2017, Nancy, June 2017.
- Emmanuel Jeandel was PC member of STACS 2017 (https://stacs2017.thi.uni-hannover.de/) and CIE 2017 (http://math.utu.fi/cie2017/).
- Romain Péchoux is PC member of the ETAPS affiliated workshop DICE 2018 (http://cl-informatik. uibk.ac.at/users/zini/events/dice18/).
- Simon Perdrix was PC member of QPL'17 (14th International Conference on Quantum Physics and Logic, 2017, Nijmegen, the Netherlands) ; IQFA'17 (Quantum Information: Foundations and Applications, 8th IQFA's Colloquium, 2017, Nice, France). He is PC member of the forthcoming MCU'18 (8th Conference on Machines, Computations and Universality) and DCM'18 (12th International Workshop on Developments in Computational Models, FLoC 2018, Oxford, UK).
- Nazim Fatès was a member of the PC of AUTOMATA 2017.

10.1.2.2. Reviewer

- Mathieu Hoyrup reviewed articles for CiE and LICS.
- Romain Péchoux reviewed articles for ISMVL and STACS.
- Simon Perdrix reviewed articles for LICS.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Emmanuel Jeandel is member of the editorial board of RAIRO-ITA.
- Simon Perdrix is co-editor of the ERCIM issue on Quantum Computing.

10.1.3.2. Reviewer - Reviewing Activities

- Mathieu Hoyrup reviewed articles for Foundations of Computational Mathematics, Theory of Computing Systems, Mathematical Reviews.
- Romain Péchoux reviewed articles for Journal of Automated Reasoning and AMS Mathematical Reviews.
- Nazim Fatès served as a reviewer for *Natural computing* and *Theoretical computer science*.

10.1.4. Invited Talks

- Emmanuel Jeandel gave a course on Computability in Symbolic Dynamics on the Pingree Park Dynamics Workshop, http://web.cs.du.edu/~rpavlov/Pingree2017
- Emmanuel Jeandel gave a course on the Undecidability of the Domino Problem in the Winter School "Tiling Dynamical System" in Marseille, http://akiyama-arnoux.weebly.com/school.html
- Emmanuel Jeandel gave an invited talk on Higman-like theorems in symbolic dynamics at Logic Colloquium 2017, http://www.math-stockholm.se/konferenser-och-akti/logic-in-stockholm-2/logic-colloquium-201
- Romain Péchoux gave an invited talk on Higher order interpretations for higher order programs, cs department, Trinity College, Dublin.
- Simon Perdrix gave an invited talk on Measurement-based quantum computation at QPL'17 (14th International Conference on Quantum Physics and Logic, 2017).
- Simon Perdrix gave an invited talk on quantum algorithms at the event "l'Ordinateur Quantique" organised at IHP by the Fondation Sciences Mathématiques de Paris.

10.1.5. Leadership within the Scientific Community

Nazim Fatès is the vice-chair of the IFIP international working group 1.5 on Cellular automata and discrete dynamical systems.

Simon Perdrix is

- head of the GT IQ (groupe de Travail Informatique Quantique) @ GdR IM.
- board of GdR IQFA (Ingénierie Quantique, des aspects Fondamentaux aux Applications).

10.1.6. Scientific Expertise

Nazim Fatès was a project reviewer for the CONYCIT, the Chilean state agency for scientific research.

10.1.7. Research Administration

- Emmanuel Jeandel is the leader of the CARTE team.
- Isabelle Gnaedig is:
    - vice-leader of the CARTE team,
    - member of the scientific mediation committee at Inria Nancy Grand-Est.
- Emmanuel Hainry is:
    - member of the CNU (Conseil National des Universités), Section 27.
    - organizer of the CARTE Seminar.
- Simon Perdrix is Scientific Secretary at CoNRS Section 6.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence :
- Isabelle Gnaedig:
    - To the limits of the computable, 6 hours, Opening course-conference of the collegium "Lorraine INP", Nancy, France
- Emmanuel Hainry:
    - Systèmes d'exploitation, 30h, L1, IUT Nancy Brabois, Université de Lorraine, France
    - Algorithmique, 40h, L1, IUT Nancy Brabois, Université de Lorraine, France
    - Web dynamique, 60h, L1, IUT Nancy Brabois, Université de Lorraine, France

- – Bases de données, 30h, L1, IUT Nancy Brabois, Université de Lorraine, France
  - – Programmation objet, 12h, L2, IUT Nancy Brabois, Université de Lorraine, France
  - – Complexité, 30h, L2, IUT Nancy Brabois, Université de Lorraine, France
- Mathieu Hoyrup:
  - – Bases de la Programmation Orientée Objet, 20 HETD, L2, Université de Lorraine, France
  - – Interfaces Graphiques, 10 HETD, L2, Université de Lorraine, France
- Emmanuel Jeandel:
  - – Algorithmics and Programming 1, 60h, L1 Maths-Info
  - – Algorithmics and Programming 4, 30h, L3 Informatique
  - – Modelling Using Graph Theory, 30h, L3 Informatique
  - – Networking, 15h, L2 Informatique
  - – Formal Languages, 30h, L3 Informatique
- Romain Péchoux:
  - – Programmation orientée objet, 61,5h, L3 MIASHS
  - – Programmation orientée objet, 53,5h, L2 MIASHS
  - – Outils logiques pour l'informatique, 35h, L1 MIASHS
  - – Bases de données, 40h, L3 Sciences de la Gestion

Master:

- Isabelle Gnaedig:
  - – Design of Safe Software, Coordination of the module, M2, Telecom-Nancy (Université de Lorraine), Nancy, France,
  - – Rule-based Programming, 20 hours, M2, Telecom-Nancy (Université de Lorraine), Nancy, France.
- Emmanuel Jeandel:
  - – Algorithmics and Complexity, 30h, M1 Informatique
- Romain Péchoux:
  - – Mathematics for computer science, 30h, M1 SCA
  - – Implicit Complexity, 15h, M2 Informatique
- Simon Perdrix:
  - – Pépites Algorithmiques, 6h, M1/M2 at Ecole des Mines de Nancy.
- Nazim Fatès:
  - – Systèmes complexes adapatatifs, M2, 10h, Informatique (UL)
  - – Agents intelligents et collectifs M1, 15h, Sciences cognitives (UL)

10.2.2. Supervision

- Emmanuel Jeandel and Simon Perdrix supervised the Master Thesis of David Zonneveld on quantum circuits.
- Nazim Fatès and Irène Marcovici supervised the Erasmus Mundus master's thesis of Jordina Francès de Mas [34].
- Emmanuel Jeandel and Simon Perdrix are advisors of Renaud Vilmart, PhD student (UL) since October 2016.

- Romain Péchoux is coadvisor of Pierre Mercuriali, PhD student, Université de Lorraine (50%, advisor: Miguel Couceiro, PR, Université de Lorraine).

10.2.3. Juries

- Emmanuel Jeandel reviewed the PhD thesis of Guilhem Gamard (Université Paul-Valery-Montpellier) and participated in the PhD defense of Laurent Grémy (Université de Lorraine), David Cattanéo (Université de Grenoble) and Sebastian Barbieri (ENS Lyon)
- Simon Perdrix participated in the PhD defense of Ruben Cohen (U. Paris Sud).

10.3. Popularization

- Nazim Fatès contributed to a booklet on the theme "Mathématiques et langages" edited by the Commission française pour l'enseignement des mathématiques (CFEM) for the forum "Mathématiques vivantes" (see http://forum-maths-vivantes.fr/-Panorama).
- This text appeared in a revised version on the CNRS website "images des mathématiques" [27].
- Nazim Fatès participated to a meeting ("projection-debat") at the Réseau et transport de l'électricité (RTE) at Villers-lès-Nancy on the these "Visages de la robotique", organised by "Sciences en lumière" (formerly Festival du film de chercheur).
- Nazim Fatès participated to a workshop on ethics in the "Forum des Sciences cognitives" organised by the "UFR mathématiques et informatique".
- Simon Perdrix gave an invited talk on quantum algorithms at the event "Mathématiques en mouvement sur l'Ordinateur quantique" organised by the Fondation Sciences Mathématiques de Paris at IHP.

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COAST Project-Team

</div>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

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

8.1.2. Scientific Events Selection

8.1.2.1. Member of the conference program committees

- Claude Godart was PC member of the conference program committee of BPMDS (Business Process Modeling, Development and Support), EDOC (The enterprise computing conference), ICSOC (International Conference on Services Oriented Computing), IEEE CLOUD Computing, ICWS (IEEE International Conference on Web Services), SCC (IEEE International Conference on Services Computing), S2 ICIOT (S2 International Conference on Internet of Things), IEEE/WIC/ACM WI (Web Intelligence conference), WISE (Web Information Systems Engineering) conferences.

- Claudia-Lavinia Ignat was PC member of CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2017 and The Fifteenth International Workshop on Collaborative Editing Systems in conjunction with CSCW 2017

- Olivier Perrin was PC Member of ICSOC 2017, CoopIS 2017, ATC 2017, MoLS 2017 and some workshops.

- François Charoy was PC Member of ICEBE (International Conference on Business Engineering) 2017, CTS 2017 (International Symposium on Collaborative Technologies and Systems), DG.O (International Conference on Digital Government Research) 2017, IEEE WETICE 2017, ICSOC 2017, IEEE International Conference on Business Information Systems, ISCRAM 2017 and of several workshops.

- Gérald Oster was a PC member of CoopIS (International Conference on Cooperative Information Systems) 2017, CSCW (21st ACM Conference on Computer-Supported Cooperative Work and Social Computing) 2018 (Online-first).

- Khalid Benali was PC Member of WorldCIST'17 (World Conference on Information Systems and Technologies), I3E 2017 (IFIP Conference on e-Business, e-Services and e-Society), ICICS 2017 (8th International Conference on Information and Communication Systems), INFORSID'2017, CloudTech'17 (Third International Conference of Cloud Computing Technologies and Applications), MEDES 2017 (9th International Conference on Management of Digital EcoSystems),

8.1.3. Journal

8.1.3.1. Member of the editorial boards

- Claude Godart is member of the editorial board of IEEE Transactions on Service Computing, International Journal of Services Computing, and member of the review board of the International Journal of Next Generation Computing.

- Claudia-Lavinia Ignat is member of the editorial board of Journal of CSCW (Computer Supported Cooperative Work).

- François Charoy is member of the editorial board of Service Oriented Computing and Applications Journal (Springer).

8.1.3.2. Reviewer - Reviewing activities

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

8.1.4. Scientific Expertise

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

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Permanent members of the COAST project-team are leading teachers in their respective institutions. They are responsible of lectures in disciplines like software engineering, database systems, object oriented programming and design, distributed systems, service computing and more advanced topics at all levels and in different of departments in the University. Most of the PhD Students have also teaching duties in the same institutions. As a whole, the COAST team accounts for more than 2500 hours of teaching. Members of the COAST team are also deeply involved in the pedagogical and administrative life of their departments.

- Claude Godart is responsible for the Computer Science department of the engineering school ESSTIN.
- Khalid Benali is responsible for the professional Master degree speciality "Distributed Information Systems" of MIAGE and of its international branch in Morocco.
- François Charoy is responsible of the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- Pascal Urso was responsible for the "Security, Services, Systems and Network" track of the master degree in computer science at University of Lorraine from September 2013 to June 2017.

8.2.2. Supervision

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

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

8.2.3. Juries

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

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

- Hala Skaf Molli, HdR, Université de Nantes, October 2017 (François Charoy)
- Mourad Bouneffa, HdR, Université du Littoral Côte d'Opale (Claude Godart)
- Elian Aubry, PhD, Université de Lorraine, December 2017 (François Charoy)
- Mohsen Sayed, PhD, Université de Lorraine, July 2017 (François Charoy)
- Fatma Slaimi, PhD, Université d'Aix Marseille (Claude Godart)
- Cheick Salmi, PhD, Ecole Nationale Supérieure de Mécanique et d'Aéronautique (Claude Godart)
- Emma Hachicha Belghith, PhD, Université Paris-Saclay (Claude Godart)
- Jihane Lakhrouit, PhD, ENSIAS Rabat (Claude Godart)
- Hafida Naim, PhD, Université d'Aix Marseille (Claude Godart)

8.3. Popularization

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

8.4. Institutional commitment

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

GAMBLE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Sylvain Lazard organized with S. Whitesides (Victoria University) the 16th Workshop on Computational Geometry at the Bellairs Research Institute of McGill University in Feb. (1 week workshop on invitation).

Monique Teillaud co-organized with Claire Mathieu Celebrating Claude Puech's birthday, Paris, June 12.

Monique Teillaud co-organized the workshop Geometric Aspects of Materials Science with Vanessa Robins and Ileana Streinu, Brisbane, Australia, July 4–5.

Monique Teillaud co-organized with the Astonishing partners the Astonishing workshop at Loria/Inria nancy, September 25–26.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Sylvain Lazard was a member of the program committee of SoCG, *Symposium on Computational Geometry*.

Monique Teillaud was a member of the program committee of WADS, *Algorithms and Data Structures Symposium*.

10.1.2.2. Reviewer

All members of the team are regular reviewers for the conferences of our field, namely the *Symposium on Computational Geometry* (SoCG) and the *International Symposium on Symbolic and Algebraic Computation* (ISSAC) and also SODA, CCCG, EuroCG.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Monique Teillaud is a managing editor of JoCG, *Journal of Computational Geometry* and a member of the editorial board of IJCGA, *International Journal of Computational Geometry and Applications*.

Marc Pouget and Monique Teillaud are members of the CGAL editorial board.

10.1.3.2. Reviewer - Reviewing Activities

All members of the team are regular reviewers for the journals of our field, namely *Discrete and Computational Geometry* (DCG), *Computational Geometry. Theory and Applications* (CGTA), *Journal of Computational Geometry* (JoCG), *International Journal on Computational Geometry and Applications* (IJCGA), *Journal on Symbolic Computations* (JSC), *SIAM Journal on Computing* (SICOMP), *Mathematics in Computer Science* (MCS), etc.

10.1.4. Invited Talks

Monique Teillaud was an invited speaker of CATS, *Computational & Algorithmic Topology*, Sydney, Australia, June 27 – July 1st.

Guillaume Moroz was invited to give a talk at the Effective Geometry and Algebra seminar at IRMAR.

10.1.5. Leadership within the Scientific Community

10.1.5.1. Steering Committees

Monique Teillaud is chairing the Steering Committee of the Symposium on Computational Geometry (SoCG). She was a member of the Steering Committee of the European Symposium on Algorithms (ESA) until September.

10.1.5.2. Learned societies

Monique Teillaud is a member of the Scientific Board of the *Société Informatique de France* (SIF).

10.1.6. Scientific Expertise

Monique Teillaud acted as a reviewer for the DFG, *Deutsche Forschungsgemeinschaft* (German Research Foundation).

10.1.7. Research Administration

10.1.7.1. Hiring committees

Olivier Devillers was the representative of LORIA in the hiring committee for an Associate Professor (MCF) position (IUT St Dié/LORIA) and composed the committee with the president.

10.1.7.2. National committees

L. Dupont is the secretary of *Commission Pédagogique Nationale Carrières Sociales / Information-Communication / Métiers du Multimédia et de l'Internet* (since May).

M. Teillaud is a member of the working group for the BIL, *Base d'Information des Logiciels* of Inria.

10.1.7.3. Local Committees and Responsabilities

O. Devillers: Elected member to *Pole AM2I* the council that gathers labs in mathematics, computer science, and control theory at *Université de Lorraine*.

L. Dupont Instigator (June 2016) and head of the Bachelor diploma *Licence Professionnele Animation des Communautés et Réseaux Socionumériques*, Université de Lorraine.

S. Lazard: Head of the PhD and Post-doc hiring committee for Inria Nancy-Grand Est (since 2009). Member of the *Bureau de la mention informatique* of the *École Doctorale IAE+M* (since 2009). Head of the *Mission Jeunes Chercheurs* for Inria Nancy-Grand Est (since 2011). Head of the Department Algo at LORIA (since 2014). Member of the *Conseil Scientifique* of LORIA (since 2014).

G. Moroz is member of the Mathematics Olympiades committee of the Nancy-Metz academy. G. Moroz is member of the *Comité des utilisateurs des moyens informatiques*

M. Pouget is elected at the *Comité de centre*, and member of the board of the Charles Hermite federation of labs. M. Pouget is secretary of the board of *AGOS-Nancy*.

M. Teillaud is a member of the BCP, *Bureau du Comité des Projets* and of the CDT, *Commission de développement technologique* of Inria Nancy - Grand Est.

10.1.7.4. Websites

M. Teillaud is maintaining the Computational Geometry Web Pages http://www.computational-geometry.org/, hosted by Inria Nancy - Grand Est since December. This site offers general interest information for the computational geometry community, in particular the Web proceedings of the Video Review of Computational Geometry, part of the Annual/international Symposium on Computational Geometry.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Olivier Devillers, *Synthèse, image et géométrie*, 12h (academic year 2017-18), IPAC-R, Université de Lorraine. https://members.loria.fr/Olivier.Devillers/master/

Master: Olivier Devillers and Monique Teillaud, *Computational Geometry*, 24h (academic year 2017-18), Master2 Informatique, ENS Lyon https://members.loria.fr/Monique.Teillaud/Master2-ENS-Lyon/.

Licence: Sény Diatta, *Algorithme et Programmation*, 54h, L1, Université de Lorraine, France.

Licence: Sény Diatta, *Outils Informatiques et Internet*, 42h, L1, Université de Lorraine, France.

Licence: Charles Duménil, *Mathématiques*, 42h, L2, Université de Lorraine, France.

Licence: Charles Duménil, *Logiciel*, 20h, L2, Université de Lorraine, France.

Licence: Charles Duménil, *Algorithmique et programmation avancée*, 34h, M2, Université de Lorraine, France.

Licence: Laurent Dupont, *Algorithmique*, 78h, L1, Université de Lorraine, France.

Licence: Laurent Dupont, *Web development*, 75h, L2, Université de Lorraine, France.

Licence: Laurent Dupont, *Traitement Numérique du Signal*, 10h, L2, Université de Lorraine, France.

Licence: Laurent Dupont *Databases* 30h L3, Université de Lorraine, France,

Licence: Laurent Dupont *Web devloppment and Social networks* 80h L3, Université de Lorraine, France.

Licence: Iordan Iordanov, *Algorithmique et Programmation*, 64h, L1, Université de Lorraine, France.

Licence: Iordan Iordanov, *Systèmes de gestion de bases de données*, 20h, L2, Université de Lorraine, France.

Licence: Iordan Iordanov, *Algorithmique et développement web*, 28h, L2, Université de Lorraine, France.

Licence: Iordan Iordanov, *Programmation objet et événementielle*, 16h, L3, Université de Lorraine, France.

Licence: Sylvain Lazard, *Algorithms and Complexity*, 25h, L3, Université de Lorraine, France.

Master: Marc Pouget, *Introduction to computational geometry*, 10.5h, M2, École Nationale Supérieure de Géologie, France.

10.2.2. Supervision

PhD in progress: Sény Diatta, Complexité du calcul de la topologie d'une courbe dans l'espace et d'une surface, started in Nov. 2014, supervised by Daouda Niang Diatta, Marie-Françoise Roy and Guillaume Moroz.

PhD in progress: Charles Duménil, Probabilistic analysis of geometric structures, started in Oct. 2016, supervised by Olivier Devillers.

PhD in progress: Iordan Iordanov, Triangulations of Hyperbolic Manifolds, started in Jan. 2016, supervised by Monique Teillaud.

PhD in progress: George Krait, Topology of singular curves and surfaces, applications to visualization and robotics, started in Nov. 2017, supervised by Sylvain Lazard, Guillaume Moroz and Marc Pouget.

Postdoc: Vincent Despré, Triangulating surfaces with complex projective structures, started in Nov. 2017, supervised by Monique Teillaud.

10.2.3. Internships

Jian Qian, from École Normale Supérieure Paris, did a L3 internship from Jul 2017 until Aug 2017 co-advised by Guillaume Moroz and Marc Pouget on a topic of ANR SingCAST.

Guillermo Alfonso Reyes Guzman, from Université de Lorraine, did a Master internship from March 2017 until July 2017 advised by O. Devillers on deletion in 3D Delaunay triangulation.

Camille Truong-Allie (Master 1, "research path", École des Mines de Nancy), Lloyd algorithm in the flat torus, started in October, supervised by Monique Teillaud.

10.3. Popularization

L. Dupont participated to several days of popularization of computerscience: Open Bidouille Camp March, 26th 2017, popularization of programming, general audience ; ISN day March, 30th 2017, popularization of computerscience for high-school teachers ; Fête de la Science 14th October 2017 Inria event, general audience, and Google Day in Nancy 21st October 2017, general audience.

LARSEN Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Co-organized an international workshop at IROS 2017 (*Micro-Data Learning: the next frontier of Robot Learning?*) [Jean-Baptiste Mouret].
- Co-organized an international workshop at ECAL'2017 (*Evolution in Physical System*) [Jean-Baptiste Mouret].
- Co-organized an international workshop at HUMANOIDS 2017 (*Human-Humanoid collaboration: the next industrial revolution?*) [Serena Ivaldi].
- Co-organized "Expressions, simulations, perceptions - Journées PsyPhINe 2017", the third workshop of the PsyPhINe project (http://poincare.univ-lorraine.fr/fr/manifestations/psyphine-2017) [Amine Boumaza].

10.1.1.2. Member of the Organizing Committees

- Serena Ivaldi was Publicity Chair of the international conferences HUMANOIDS 2017 (IEEE/RSJ International Conference on Humanoid Robots) and of ICDL 2017 (IEEE Conference on Development and Learning)

10.1.2. Scientific Events Selection

10.1.2.1. Member of Conference Program Committees

- CEC 2017 (Congress on Evolutionary computation) [Amine Boumaza]
- CoRL (Conference on Robot Learning) [Serena Ivaldi, Jean-Baptiste Mouret]
- ECAL 2017 (European Conference on Artificial Life) [Amine Boumaza, Jean-Baptiste Mouret]
- EVO* 2017 (EvoStar) [Jean-Baptiste Mouret]
- GECCO2017 (Genetic and Evolutionary Computation Conference) [Amine Boumaza, Jean-Baptiste Mouret]
- HFR 2017 (Human-Friendly Robotics Conference) [Serena Ivaldi]
- HUMANOIDS 2017 (IEEE/RSJ International Conference on Humanoid Robots) [Serena Ivaldi, associate editor]
- ICRA 2017 & ICRA 2018 (IEEE International Conference on Robotics and Automation) [Serena Ivaldi, associate editor]
- IROS 2017 (IEEE/RSJ International Conference on Intelligent Robots and Systems) [Serena Ivaldi, associate editor]
- JFPDA 2017 (Journée Francophones sur la Planification, la Décision et l'Apprentissage pour la conduite de systèmes) [Vincent Thomas]
- NIPS Bayesian Optimization Workshop [Jean-Baptiste Mouret]

10.1.2.2. Reviewer for Peer-reviewed Conferences

- ICRA 2018 (2018 IEEE International Conference on Robotics and Automation) [Karim Bouyarmane, Francis Colas, Serena Ivaldi, Jean-Baptiste Mouret]
- IROS 2017 (IEEE/RSJ International Conference on Intelligent Robots and Systems) [Karim Bouyarmane, Francis Colas, Jean-Baptiste Mouret]

- HUMANOIDS 2017 (IEEE/RSJ International Conference on Humanoid Robots) [Jean-Baptiste Mouret, Karim Bouyarmane]
- ICDL-EPIROB 2017 (EEE International Conference on Development and Learning and on Epigenetic Robotics) [Francis Colas]

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Jean-Baptiste Mouret co-edited a special issue of the Artificial Life journal (MIT Press), called "Evolution in Physical Systems" [19]
- Serena Ivaldi was an Associate Editor of IEEE Robotics and Automation Letters (RAL) and an Editorial Board member for the Springer Journal of Intelligent Service Robotics

10.1.3.2. Reviewer - Reviewing Activities

- Frontiers in AI and Robotics [Amine Boumaza, Serena Ivaldi, Jean-Baptiste Mouret]
- Robotics and Automation Letters [Karim Bouyarmane, Francis Colas, Jean-Baptiste Mouret]
- Autonomous Robots [Francis Colas]
- IEEE Transactions on Robotics [Karim Bouyarmane, Serena Ivaldi]
- International Journal of Robotics Research [Karim Bouyarmane]
- IEEE Transactions on Systems, Man and Cybernetics [Karim Bouyarmane]

10.1.4. Invited Talks

- Jean-Baptiste Mouret was invited to talk at as the Centre for BioRobotics – University of Southern Denmark (distinguished speaker), at the LIRIS (CNRS / Univ. Lyon) at the "Evolution in Cognition Workshop" (GECCO 2017), and at the GT8 (Robotique et Neurosciences) meeting of the GDR Robotique (CNRS).
- Serena Ivaldi was invited to talk at XEROX Research in Grenoble, at IHEST in Paris, at the GT Robotique Humanoide in Montpellier, at the IEEE ICDL 2017 Workshop on Perception of Self, and at the the GT8 (Robotique et Neurosciences) meeting of the GDR Robotique (CNRS).
- Karim Bouyarmane was invited to give a presentation at the Seminaire Francilien de Geometrie Algorithmique et Combinatoire at Institut Henri Poincarre in Paris.

10.1.5. Leadership within the Scientific Community

- Jean-Baptiste Mouret is the chair of the "evo-devo-robot" task force of the IEEE technical committee "Developmental and Cognitive Systems".
- Serena Ivaldi is the co-chair of the web task force of the IEEE technical committee "Developmental and Cognitive Systems".

10.1.6. Scientific Expertise

- Serena Ivaldi was vice-president of the CES33 committee for evaluation of national projects for the ANR
- Francis Colas was member of the CES33 committee for evaluation of national projects for the ANR
- Serena Ivaldi is a member of the scientific experts committee for the upcoming Robots exhibition at the Cite de la Science in Paris.
- François Charpillet was member of the hiring committees:
  - CR2 Inria: Committee member (Bordeaux)
  - Maitre de conferences: Committee member for jury (UTT)
  - Professeur des Universités: Committee member for jury PR 4036 "Traitement du signal, conception de méthodes de décision, fusion de données" (UTT)

10.1.7. Research Administration

- Amine Boumaza is a board member of the Évolution Artificielle association.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master [Vincent Thomas]

- "Modèles probabilistes et Apprentissage par renforcement", 15h eq. TD, M2 "Informatique - Image Perception Raisonnement Cognition", Univ. Lorraine, France.
- "Optimisation et méta-heuristiques", 15h eq. TD, M1 "Informatique", Univ. Lorraine, France.
- 'Game Design", 20h eq. TD, M1 "Sciences Cognitives", Univ. Lorraine, France.
- "Agent intelligents et collectifs", 20h eq. TD, M1 "Sciences Cognitives", Univ. Lorraine, France.
- "Serious Game", 12h eq. TD, M2 "Sciences Cognitives", Univ. Lorraine, France.
- "Robotique Autonome", 18h eq. TD, M2 "Systèmes Interactifs et Robotiques", Centrale-Supélec, France.

Formation IHEST [Serena Ivaldi] "Robotique collaborative", 2h.

Tutorial in an international conference [Jean-Baptiste Mouret] "Evolutionary Robotics", GECCO 2017, Berlin, Germany [1h].

Engineering School [Karim Bouyarmane]:

- "Programmation et algorithmique Java", Polytech Nancy School of Engineering
- Engineering school: Karim Bouyarmane, "Langages C et C++", Polytech Nancy School of engineering
- Engineering school: Karim Bouyarmane, "Introduction to Computer Science", Polytech Nancy School of engineering
- Engineering school: Karim Bouyarmane, "Operating Systems", Polytech Nancy School of engineering

10.2.2. Supervision

- HDR: Francis Colas, "*Modélisation bayésienne et robotique*", 17 May 2017 [7].
- PhD: Van Quan Nguyen, "*Mapping of a sound environment by a mobile robot*", 3 Nov. 2017, Emmanuel Vincent (advisor), Francis Colas, François Charpillet.
- PhD: Nassim Kaldé, "*Exploration et reconstruction d'un environnement inconnu par une flottille de robots*", 12 Dec. 2017, François Charpillet (advisor), Olivier Simonin.
- PhD: Iñaki Fernández Pérez, "*Apprentissage incrémental évolutionnaire*", 19 Dec. 2017, F. Charpillet (advisor), Amine Boumaza.
- PhD: Vincent Samy, "*Humanoid fall control by postural reshaping and adaptive compliance*", 13 Nov. 2017, Abderrahmane Kheddar (advisor), Karim Bouyarmane.
- PhD in progress: Yassine El Khadiri, "Apprentissage automatique pour l'assistance à l'autonomie à domicile", started in June 2017, François Charpillet (advisor).
- PhD in progress: Adrien Malaisé, "*Capteurs porte´s dans la robotique collaborative : de l'apprentissage du mouvement humain a` l'acceptabilite´ de cette technologie*", started in January 2017, Francis Colas (advisor), Serena Ivaldi
- PhD in progress: Adam Gaier ,"*Optimisation aerodynamic design through illumination of surrogate models*", started in June 2017, Jean-Baptiste Mouret (advisor), Alexander Asteroth.

- PhD in progress: Rituraj Kaushik, "Fast adaptation to damage by exploiting trajectory data", started in Oct. 2016, Jean-Baptiste Mouret (advisor).
- PhD in progress: Konstantinos Chatzilygeroudis, "*Diagnosis-free Damage Recovery in Robotics with Machine Learning*", started in Oct. 2015, Jean-Baptiste Mouret (advisor).
- PhD in progress: Oriane Dermy, "*Learning to control the physical interaction of a humanoid robot with humans*", started in Nov. 2015, François Charpillet (advisor), Serena Ivaldi.
- PhD in progress: Adrian Bourgaud, "*Multi-sensor Fusion and Active Sensing*", started in Jul. 2015, François Charpillet (advisor).

10.2.3. Juries

- Jean-Baptiste Mouret was:
    - a reviewer of the PhD of Valerio Modugno (Univ. Sapienza, Rome, Italy);
    - the president of the jury for the PhD of Charles Rocabert (Univ. Lyon / Inria).
- Serena Ivaldi was
    - an examiner of the PhD of Ganna Pugach (Univ. Cergy-Pontoise);
    - a reviewer of the PhD of Oskar Palinko (IIT & Univ. Genoa, Italy);
    - an external reviewer in the VIVA / PhD exam of Valerio Ortenzi (Univ. of Birmingham, UK).
- François Charpillet was:
    - a reviewer of the PhD of Kabalan Chaccour (Tech. Univ. Belfort-Montbéliard);
    - a reviewer of the PhD of Alexis Brenon (Univ. Grenoble Alpes);
    - a reviewer of the PhD of Chu Xing (Ecole Centrale Lille);
    - a reviewer of the PhD of Viet-Cuong Ta (Univ. Grenoble Alpes);
    - an examiner of the HDR of Olivier Buffet (Univ. Lorraine).

10.3. Popularization

One of the main general audience event of the team has been the "Fête de la Science" on the 13th and 14th of October, 2017. The team hosted about 10 groups of 15-20 persons (150 to 200 visitors) over two days, with the following demonstrations:

- "smart appartment", with the "smart tiles" and the Pepper Robot;
- AnDy project: activity recognition with the "inertial" motion capture suit, muscle sensing with EMG sensors;
- iCub robot: performing squats with the iCub robot and a whole-body motion controller; interactive demonstrations of iCub following a red-ball (given to a child) with the gaze and the head;
- ResiBots project: damage recovery with a damaged 6-legged robot.

The team also presented numerous videos of additional results with the robots. Involved members of the team: François Charpillet, Konstantinos Chatzilygeroudis, Brice Clément, Francis Colas, Oriane Dermy, Dorian Goepp, Waldez Gomes, Aurore Husson, Serena Ivaldi, Yassine El Khadiri, and Adrian Bourgaud, Adrien Malaisé, Jean-Baptiste Mouret, Kazu Otani and Olivier Rochel.

In addition:

- Vincent Thomas gave tutorials on "physics simulation" and "stochastic decision making" for teachers during "journées ISN-EPI" (30th of Mars 2017).

- Vincent Thomas participated in the preparation and reviewing of "Computer Science Exporoute" (conducted by Inria Nancy Grand-Est) presented in 2017.

- Vincent Thomas animated discussions and tutorials on "planning in mazes" for students from 6 to 20 years old during "fetes de la sciences" organized by Univ. Lorraine (13th of October 2017).

- Vincent Thomas presented "Bayesian reasonning" during "journées portes ouvertes" organized by Inria Nancy-Grand Est (14th of October 2017).

- Vincent Thomas accompanied computer science DUT students during the "Nancy acceuille Google" event (20th of October 2017).

- Serena Ivaldi was panelist in public conferences/debates in Futur en Seine and 50 ans of Inria, both in Paris.

- Amine Boumaza is a member of the editorial board of "Interstice".

- Karim Bouyarmane was the academic advisor for the Polytech School of Engineering students team of robotics that particpated to the 2017 Coupe de France de Robotique.

- Francis Colas participated in a Sciences en Lumières event "Visages de la robotique" at RTE (14th of December 2017).

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Rémi Badonnel: IEEE/IFIP International Symposium on Integrated Network Management (IEEE/IFIP IM 2017), IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2017), IEEE/IFIP International Network Operations and Management Symposium (IEEE/IFIP NOMS 2018).

Lucas Nussbaum: 4th International Workshop on Reproducibility in Parallel Computing (REPPAR 2017).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Isabelle Chrisment was a TPC co-chair of the 2nd IEEE/IFIP Workshop on Analytics for Network and Service Management (AnNet 2017). She was member of the steering committee for RESSI'17 (Rendez-vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information).

Rémi Badonnel is a TPC co-chair for the Third IEEE/IFIP International Workshop on Analytics for Network and Service Management (AnNet 2018).

Jérôme François was a co-chair of the 3rd IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DISSECT).

Lucas nussbaum was a co-chair of the *High Performance Computing in/with the Cloud* track at 9th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2017).

10.1.2.2. Member of the Conference Program Committees

Rémi Badonnel: IFIP/IEEE International Conference on Network and Service Management (IFIP/IEEE CNSM 2017) ; IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2017) ; IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS 2017) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2017) ; IEEE International Conference on Communications (IEEE ICC - SAC 2017).

Olivier Festor: IFIP/IEEE International Conference on Network and Service Management (IFIP/IEEE CNSM 2017) ; IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS 2017) ; IFIP Networking 2017.

Abdelkader Lahmadi: IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2017) ; 1st Cyber Security in Networking Conference (CSNET 2017).

Jérôme François: IEEE Conference on Network Softwarization (IEEE NetSoft 2017) ; IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM 2017) ; Asia-Pacific Network Operations and Management Symposium (APNOMS 2017) ; IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS 2017) ; Principles, Systems and Applications of IP Telecommunications (IPTComm'17); IFIP/IEEE International Workshop on Management of SDN and NFV Systems (IFIP/IEEE ManSDN 2017).

Thibault Cholez: IEEE/IFIP Workshop on Security for Emerging Distributed Network Technologies (DIS-SECT 2017); 4th ACM Conference on Information-Centric Networking: Demos and Posters tracks (ICN 2017).

Lucas Nussbaum: 4th International Workshop on Computer and Networking Experimental Research Using Testbeds (CNERT'2017) ; 26th IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE'2017) ; 23nd IEEE International Conference on Parallel and Distributed Systems (ICPADS'2017).

Isabelle Chrisment: IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'17) ; Rencontres Francophones sur la Conception de Protocoles, l'évaluation de Performance et l'Expérimentation Aspects Algorithmiques de Télécommunications (CoResl'17) ; IEEE/IFIP International Symposium on Network Operations and Management (IFIP/IEEE IM'17).

Ye-Qiong Song: IEEE International Workshop on Factory Communication Systems (WFCS 2017); IEEE International Conference on Communications and Networking (ComNet 2017) ; IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2017) ; 25th International Conference on Real-Time Networks and Systems (RTNS 2017) ; IEEE Clobecom 2017; ICOST 2017; IEEE RTCSA 2017.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Rémi Badonnel is Associate Editor for the Wiley International Journal of Network Management (IJNM), and serves as a Guest Editor for a Special Issue on Management of SDN/NFV-based Systems in the same journal.

Jérôme François serves as a Guest Editor for a Special Issue on Security for Emerging Open Networking Technologies in Wiley International Journal of Network Management (IJNM).

Ye-Qiong Song is an Associate Editor for the Elsevier Computers and Electrical Engineering journal, and for the Journal of Multimedia Information System.

10.1.3.2. Reviewer - Reviewing Activities

The following reviews for journals has been made by team members:

Rémi Badonnel: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer Journal of the Network and Systems Management (JNSM), Wiley International Journal of Network Management (IJNM), IEEE Communications Magazine (COMMAG), Elsevier Journal on Computer Communications (COMCOM), Elsevier Journal on Communication Networks (COMNET), Elsevier Journal on Computers and Security (COSE).

Olivier Ferstor: Elsevier Computers & Security.

Abdelkader Lahmadi: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer Journal of the Network and Systems Management (JNSM), Wiley International Journal of Network Management (IJNM), International Journal of Distributed Sensor Networks (IJDSN), IEEE Communications Magazine (COMMAG).

Jérôme François: IEEE Communications Magazine (COMMAG), Wiley International Journal of Network Management (IJNM).

Thibault Cholez: Wiley International Journal of Network Management (IJNM), Elsevier Journal on Communication Networks (COMNET).

Lucas Nussbaum: PLOS ONE ; Springer Journal of Internet Services and Applications (JISA) ; International Journal of Grid and Utility Computing (IJGUC) ; IEEE Transactions on Services Computing (TSC).

Isabelle Chrisment: IEEE Transactions on Network and Service Management (IEEE TNSM), IEEE Communications Magazine (COMMAG). Elsevier Journal Computer Communications (COMCOM)

Ye-Qiong Song: Elsevier Computers and Electrical Engineering journal, IEEE Transactions on Industrial Informatics, IEEE Communications surveys and tutorials.

10.1.4. Invited Talks

Jérôme François:

- IRTF NMRG (IETF 100), Singapore: "Network traffic analysis for encrypted traffic and security monitoring"
- 7th annual Inria@SiliconValley workshop, Berkeley, CA, USA: panelist on "Blockchain Technology for Cybersecurity and Social Impact" and presenter in session "Scaling up for IoT"
- Annual CODE event of the Universität der Bundeswehr, Munich, Germany: panelist on "Smart Atttacks requires smart defence"

Lucas Nussbaum:

- École ARCHI 2017: "Experimenting on Architectures for High Performance Computing"
- Reproducible Research Webinars: "Testbeds in Computer Science"
- École RESCOM 2017: "Scaling Your Experiments"

Vassili Rivron:

- CERReV/Université de Caen Normandie Conference on *Les services gratuits du web entre empowerment et hégémonie : contradictions et régulations de l'économie collaborative*, "Sites d'information et bloqueurs de publicité : intermédiaires de l'auto-régulation publicitaires dans le champ journalistique", March 2017.
- SHS Seminar in Loria, "News-sites and adblockers : intermediaries of advertising self-regulation in the field of journalism", in collaboration with Thibault Cholez, June 2017.

10.1.5. Scientific Expertise

Abdelkader Lahmadi served as a member of the Selection Committee of the 2017 ComSoc Student Competition "Communications Technology Changing the World".

Jérôme François serves as reviewer for ANRT to evaluate a CIFRE PhD proposition and as reviewer for ANR.

Yeqiong Song serves as reviewer for ANRT to evaluate a CIFRE PhD proposition and as reviewer for ANR.

10.1.6. Research Administration

Abdelkader Lahmadi is a member of the CDT of Inria Nancy Grand Est.

Jérôme François is a member of the Horizon Startup local committee in Nancy Grand Est.

Isabelle Chrisment is a member of :

- AFNIC's scientific council
- scientific pole AM2I (Automatique, Mathématiques, Informatique et leurs Interaction) at Université de Lorraine
- COMIPERS at Inria Nancy Grand Est.
- CMI (Commission de la Mention Informatique), part of the doctoral school IAEM.

She also served as a member of the working group "Plan Stratégique Scientifique Inria".

Olivier Festor is member of the Scientific Council of Telecom Sud Paris. Olivier Festor is leading the IFIP TC6 Working Group 6.6 : Network and Service Management. He is also in charge of the CERI initiative between France and Germany.

Yeqiong Song is head of Department 3 of LORIA.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Olivier Festor is the Director of the TELECOM Nancy Engineering School.

Rémi Badonnel is heading the Internet Systems and Security specialization of the 2nd and 3rd years at the TELECOM Nancy engineering school, and is coordinating the Security Pathway Program at the same school, elaborated in the context of the International Master of Science in Security of Computer Systems built with the Mines Nancy school.

Laurent Ciarletta is co-heading the specialization Safe Systems Architecture of the Computer Science and IT department of the Ecole des Mines de Nancy ("Grande Ecole", Engineering School, Master degree level).

Team members are teaching the following courses:

Rémi Badonnel 242 hours - L3, M1, M2 - Networks, Systems and Services, Software Design and Programming, Cloud Computing, Network and Security Management - TELECOM Nancy, Université de Lorraine

Abdelkader Lahmadi 280 hours - L3, M1, M2 - Real time and Embedded Systems Programming, Distributed Systems and Algorithms, Green IT, Algorithms and Advanced Programming - ENSEM Engineering School

Yeqiong Song 200 hours - L3, M1, M2 - Green IT, Algorithms and Advanced Programming, Databases networking - ENSEM Engineering School

Jérôme François 70 hours - M1, M2 -Network security, Big Data - TELECOM Nancy, Université de Lorraine, University of Lorraine

Thibault Cholez 300 hours - L3, M1, M2 - Techniques and Tools for Programming, Computer Networks, Object-Oriented Programming, Network Services, Constraint development on small Connected Objects, Mobile applications and Internet of Things, Project Management - TELECOM Nancy, Université de Lorraine, University of Lorraine

Isabelle Chrisment 220 hours -L3, M1, M2 -C and Shell Programming, Computer Networking, Operating Systems, Network Security. - TELECOM Nancy, Université de Lorraine

E-learning

MOOC: Thibault Cholez, Supervision de réseaux et services (concept clés avec SNMP), 1 semaine (5 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

MOOC: Rémi Badonnel, Laurent Andrey, Supervision de réseaux et services (monitoring avec Nagios), 1 semaine (5 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

MOOC: Olivier Festor, Abdelkader Lahmadi, Supervision de réseaux et services (instrumentation avec JMX), 1 semaine (3 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

MOOC: Jérôme François, Supervision de réseaux et services (évolution des protocoles), 1 semaine (4 leçons), FUN, Université de Lorraine, Ingénieur, formation initiale et continue, ouverture en janvier 2018.

10.2.2. Supervision

PhD: Wazen Shbair, *Service-Level Monitoring of HTTPS Traffic* [1] defended on May 3rd 2017, University of Lorraine, supervised by Isabelle Chrisment and Thibault Cholez.

PhD: Julien Vaubourg, *Intégration de modèles de réseaux IP à un multi-modèle DEVS, pour la co-simulation de systèmes cyber-physiques* [2], defended in April 2017, Université de Lorraine, supervised by Vincent Chevrier and Laurent Ciarletta.

PhD: Evangelia Tsiontsiou, *Multi-constrained QoS Routing and Energy Optimization in Wireless Sensor Networks*, defended on December 15th 2017, University of Lorraine, supervised by Ye-Qiong Song and Bernardetta Addis.

PhD: Patrick-Olivier Kamgueu, *Configuration Dynamique et Routage pour l'Internet des Objets*, defended on December 18th 2017, Université de Yaoundé & Universiité de Lorrain, supervised by Olivier Festor, Emmanuel Nataf and Thomas Djotio

PhD: Elian Aubry, *Protocole de routage pour l'architecture NDN*, defended on December 19th 2017, University of Lorraine, supervised by Isabelle Chrisment and Thomas Silverston

PhD in progress: Thomas Paris, *Mo, délisation de systèmes complexes par composition*, since September 2015, supervised by Vincent Chevrier and Laurent Ciarletta.

PhD in progress: Maxime Compastie, *Software-Defined Security for the Cloud*, since December 2015, supervised by Olivier Festor and Rémi Badonnel.

PhD in progress: Florian Greff, *QoS and fault-tolerance of distributed real-time systems over mesh networks*, since Feb. 2015, supervised by Ye-Qiong Song and Laurent Ciarletta.

PhD in progress: Nicolas Schnepf, *Orchestration and Verification of Security Functions for Smart Environments*, since October 2016, supervised by Stephan Merz, Rémi Badonnel and Abdelkader Lahmadi.

PhD in progress: Giulia De Santis, *Data Analytics for Security*, since October 2015, supervised by Olivier Festor, Abdelkader Lahmadi and Jérôme François.

PhD in progress: Paul Chaignon, *Mécanismes de supervision de la sécurité dans un réseau programmable de type SDN/NFV*, since November 2015, supervised by Olivier Festor, Kahina Lazri and Jérôme François.

PhD in progress: Xavier Marchal, *Secure operation of virtualized Named Data Networks*, since December 2015, supervised by Olivier Festor and Thibault Cholez.

PhD in progress: Salvatore Signorello, *A multifold approach to address the security issues of stateful forwarding mechanisms in Information- Centric Networks*, since December 2014, supervised by Olivier Festor, Jérôme François and Radu State.

PhD in progress: Abdulqawi Saif, *Open Science for the scalability of a new generation search technology*, since December 2015, supervised by Ye-Qiong Song and Lucas Nussbaum.

PhD in progress: Pierre-Olivier Brissaud, *Anomaly detection in encrypted traffic*, since July 2016, supervised by Isabelle Chrisment, Jérôme François and Thibault Cholez.

PhD in progress: Petro Aksonenko, *Positionnement robuste pour véhicules autonomes à base de fusion de données de capteurs reposant sur les systèmes de navigation inertielle*, since October 2016, supervised by Patrick Henaff (Biscuit, Dep 5, loria), Vadim Avrutov (Kiev Polytechnic institute in Urkaine) and Laurent Ciarletta.

PhD in progress: Lakhdar Meftah, *Cartography of the quality of experience for mobile internet access*, since November 2016, supervised by Romain Rouvoy and Isabelle Chrisment.

PhD in progress: Haftay Gebreslasie Abreha, *Compressed and Verifiable Filtering Rules in Software-defined Networking*, since Octobrer 2017, supervised by Michael Rusinowitch, Abdelkader Lahmadi and Adel Bouhoula.

PhD in progress: Mingxiao Ma, *Cyber-physical systems defense through smart network configuration*, since December 2017, supervised by Isabelle Chrisment and Abdelkader Lahmadi.

PhD in progress: Louis Viard, *Environnement de développement et d'analyse de propriétés pour des systèmes cyber-physiques mobiles*, since November 2017, supervised by Pierre-Etienne Moreau and Laurent Ciarletta.

10.2.3. Juries

Team members participated to the following Ph.D. defense committees in:

- Maryam Barshan, PhD in Computer Science from Ghent University, Belgium. Title: Cloud Resource Provisioning and Bandwidth Management in Media-Centric Networks, August 2017 – (Rémi Badonnel as reviewer).

- Jose Jair Cardoso de Santanna, PhD in Computer Science from University of Twente, The Netehrlands. Title: DDOS-as-a-Service - Investigating Booter Websites, November 2017 – (Olivier Festor as reviewer).
- Amina Boubendir, PhD in Computer Science from TELECOM ParisTech, France. Title: Flexibility and Dynamicity for Open Network-as-a-Service : From Architecture Modeling to Deployment, March 2017 – (Olivier Festor as reviewer).
- Merve Sahin, PhD in Computer Science from TELECOM ParisTech, France. Title: Understanding Telephony Fraud as an Essential Step to Better Fight It, September 2017 – (Olivier Festor as reviewer).
- Christian Hammerschmidt, PhD in Computer Science from the University of Luxembourg, Luxembourg Title: Learning Finite Automata via Flexible State-Merging and Applications in Networking – (Jérôme François as reviewer).
- Pascal Thubert, PhD in Computer Science from IMT Atlantique - Bretagne -Pays de Loire, France. Title: Converging over Deterministic Networks for an Industrial Network, March 2017 – (Isabelle Chrisment as reviewer).
- Yoann Bertrand, PhD in Computer Sciencce from Université Côte d'Azur, France. Title: Access control policies and companies data transmission management, March 2017 – (as examiner).
- Eric Asselin, Phd in Computer Science from Université de Toulouse, France. Title: Système de détection d'intrusion adapté au système de communication aéronautique ACARS, June 2017 – (Isabelle Chrisment as reviewer)
- Xiao Han, Phd in Computer Science from TELECOM ParisTech, France. Title: Measurement and Monitoring of Security from the Perspective of a Service Provider, September 2017 – (Isabelle Chrisment as reviewer)
- Bruno Dorsemaine, Phd in Computer Science from TELECOM ParisTech, France. Title: Conception et expérimentation d'un modèle de sécurité dédié à un système d'information interagissant avec des infrastructures d'objets connectés, October 2017 – (Isabelle Chrisment as examiner)
- Rishikesh SAHAY, Phd in Computer Science from TELECOM ParisTech, France. Title: Policy-Driven Autonomic Cyberdefense using Software Defined Networking, November 2017 – (Isabelle Chrisment as examiner)
- Florian Grandhomme, Phd in Computer Science from Université de Rennes 1, France. Title: Études de protocoles de routage dynamique externe de type BGP dans un environnement réseaux tactiques ad hoc mobiles : faisabilité et performance, November 2017 – (Isabelle Chrisment as examiner)
- Celestin Matte, Phd in Computer Science from Université de Lyon, Insa, France. Title: Wi-Fi Tracking: Fingerprinting Attacks and Counter-Measures, December 2017 – (Isabelle Chrisment as examiner)
- Zied Aouini, Phd in Computer Science from Université de la Rochelle, France. Title: Traffic Monitoring in Home Networks: From Theory to Practice, December 2017 – (Isabelle Chrisment as reviewer)
- Deepak Subramanian, Phd in Computer Science from CentraleSupélec, France. Title: Information Flow Control for the Web Browser through a Mechanism of Split Qddress, December 2017 – (Isabelle Chrisment as reviewer)
- Emilie Bérard-Deroche, Phd in Computer Science from Université de Toulouse - INP Toulouse, France. Title: Distribution d'une architecture modulaire intégrée dans un contexte hélicoptère, December 2017 – (Yeqiong Song as reviewer)
- Alemayehu Addisu Desta, Phd in Computer Science from Université de Paris-Est, France. Title: Energy Supply and Demand Side Management in Industrial Microgrid Context, December 2017 – (Yeqiong Song as examinator)
- Muhammad Agus Zainuddin, Phd in Computer Science from Université de Franche-Comté, France. Title: Efficient Low Layer Techniques for Electromagnetic Nanocommunication Networks, March 2017 – (Yeqiong Song as reviewer)

Team members participated to the following mid-term Ph.D. defense committees in:

- Philippe Pittoli, PhD Student in Université de Strasbourg, France. Title : Architecture de sécurité pour l'Internet des Objets, July 2017 – (Isabelle Chrisment as external reviewer)

- Antoine Vastel, PhD Student in Université de Lille, France. Title; Browser Fingerprinting: Privacy, Security and tracking, September 2017 – (Isabelle Chrisment as external reviewer)

- John Harrison Kurunathan, PhD Student in the University of Porto, Portugal. Title: Improving QoS for IEEE 802.15.4e Networks, September 2017 – (Yeqiong Song as external reviewer)

Team members participated to the following Habilitation Degree defense committees:

- Mathieu Bouet, Habilitation Degree in Computer Science from Université Pierre et Marie Curie - Sorbonne Universités, France. Title: Software networks : Orchestration, resilience, and programmability concerns, July 2017 – (Olivier Festor as reviewer).

- Nader Mbarek, Habilitation Degree in Computer Science from Université de Bourgogne, France. Title: Contributions à la Gestion Autonome et la Garantie du Niveau de Service dans les Environnements Cloud, Radio Maillés et Mobiles, July 2017 – (Olivier Festor as reviewer).

- Osman Salem, Habilitation Degree in Computer Science from Université Paris Descartes, France. Title: Anomaly Detection in Wireless Body Area Networks for Reliable Healthcare Monitoring, April 2017 – (Olivier Festor as reviewer).

- Francis Colas, Habilitation Degree in Computer Science from Université de Lorraine, France. Title: Modélisation bayésienne et robotique, May 2017 – (Yeqiong Song as examinator).

- Hanen Idoudi, Habilitation Degree in Computer Science from Université Jean Jaures, Toulouse 2, France. Title: Contributions à l'amélioration des communications dans les réseaux sans fil multi-sauts, December 2017 – (Yeqiong Song as reviewer).

- Karine Deschinkel, Habilitation Degree in Computer Science from Université de Franche-Comté, France. Title: Nouveaux modèles de programmation linéaires et de flots pour la résolution de problèmes d'optimisation difficiles, June 2017 – (Yeqiong Song as president).

10.3. Popularization

- Isabelle Chrisment was in charge of the scientific part of the 4th module (connecter le réseau) in the Class'Code project https://project.inria.fr/classcode/classcode-in-english/, aiming at helping teachers and educators for introducing computer science to childrens aged from 8 to 14 years;

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- M.-O Berger co-organized with E. Marchand (IRISA) a one-day workshop on Augmented Reality in Paris in June 2017.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- M.-O. Berger was a member of the program committee of: International Conference on Robotic and automation (ICRA 2016), International Conference on Information Processing in Computer assisted interventions (IPCAI 2017), International Conference on Robotics and Automation (IROS 2017), International Symposium on Mixed and Augmented Reality (ISMAR 2017)
- E. Kerrien was a member of the program committee of the Medical Image Computing and Computer Assisted Interventions Conference (MICCAI 2017).
- G. Simon was a member of the program committee of IEEE Virtual Reality 2018
- P.-F Villard was a member of the program committee of IADIS Computer Graphics, Visualization, Computer Vision and Image Processing 2017, and of the Eurographics Workshop on Visual Computing for Biology and Medicine 2017.

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

The members of the team reviewed articles in IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Multimedia, Experimental Mechanics, Traitement du Signal, IEEE Transactions on Biomedical Engineering.

10.1.4. Invited Talks

- Marie-Odile Berger was a keynote speaker at ISMAR'2017.
- Pierre-Frederic gave a seminar at the department of information technology of Uppsala University on August 30th. Title: 'Application in treatment planning, training simulators and on-line treatment' http://user.it.uu.se/~maya/seminar_abstracts/sem_fall17/PFVillard.
- Pierre-Frederic Villard gave a talk at the Harvard Biorobotics Lab on October 31st. Title: 'Automatic Reconstruction of Mitral Valve Chordae'.

10.1.5. Scientific Expertise

- Marie-Odile Berger is the president of the Association française pour la reconnaissance et l'interprétation des formes (AFRIF)

10.1.6. Research Administration

- Marie-Odile Berger is a member of the Inria evaluation committee.
- Gilles Simon is Chargé de Mission Loria to take part in an EIT's KIC (Knowledge and Innovation Communities) proposal on the topic of manufacturing (KIC Added-value Manufacturing).
- E. Kerrien and G. Simon were members of selection committees for Assistant Professor hiring.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

The four associate professors of the MAGRIT team actively teach at Université de Lorraine with an annual number of around 200 teaching hours in computer sciences, some of them being accomplished in the field of image processing. Inria researchers have punctual teaching activities in computer vision and shape recognition mainly in the computer science Master of Nancy and in several Engineering Schools near Nancy (ENSMN Nancy, SUPELEC Metz, ENSG). Our goal is to attract Master students with good skills in applied mathematics towards the field of computer vision.

The list of courses given by staff members which are tightly related to image processing and computer vision is detailed below:

- Licence: Graphic and haptic rendering, 30h, IUT Saint-Dié des Vosges (P.-F. Villard).
- Licence: Image processing, 30h, IUT Saint-Dié des Vosges (P.-F. Villard).
- Licence: 3D programming, 30h, IUT Saint-Dié des Vosges (P.-F. Villard).
- Game design with Unity3D , 15h, IUT Saint-Dié des Vosges (P.-F. Villard).
- Introduction to augmented reality, 6h, IUT Saint-Dié des Vosges (P.-F. Villard).
- Master: Signal analysis, 50 h, Université de Lorraine (F. Sur).
- Master: Augmented reality, 24 h, Télécom-Nancy, Université de Lorraine (G. Simon).
- Master : Introduction to computer vision, 12h, Université de Lorraine ((M.-O. Berger).
- Master : Shape recognition, 15 h, Université de Lorraine (M.-O. Berger).
- Master : Computer vision: foundations and applications, 15 h, Université de Lorraine (M.-O. Berger).
- Master : Introduction to image processing, 21 h, École des Mines de Nancy (M.-O. Berger, R. Kerrien)
- Master : Image processing for Geosciences, ENSG, 12h (M.-O. Berger).
- Master : Introduction to signal processing and applications, 21 h, Ecole des Mines de Nancy (F. Sur).
- Master : Augmented reality, 24h, M2 IHM Metz (G. Simon).
- Master : Augmented reality, 3 h, SUPELEC Metz (G.simon).
- Master : Virtual worlds, 10h, M2 Cognitive Sciences and Applications, UFR Math-Info, Université de Lorraine (P.-F. Villard).

Frédéric Sur is the head of the Industrial Engineering and Applied Mathematics department at Mines Nancy.

10.2.2. Supervision

PhD: Pierre Rolin, Calcul de pose par simulation de points de vue pour la réalité augmentée, octobre 2013, Marie-Odile Berger, Frédéric Sur. PhD defended in March 2017.

PhD: Charlotte Delmas, Reconstruction 3D des outils chirurgicaux en radiologie interventionnelle, avril 2013, Marie-Odile Berger, Erwan Kerrien. PhD defended in november 2017.

PhD in progress: Antoine Fond, Introduction de sémantique dans la modélisation urbaine dans un contexte de calcul du point de vue, octobre 2014, Marie-Odile Berger, Gilles Simon.

PhD in progress: Jaime Garcia Guevara, Vers une utilisation clinique de la réalité agmentée pour la chirurgie hépatique, octobre 2015, Marie-Odile Berger, Stéphane Cotin (MIMESIS).

PhD in progress: Raffaella Trivisonne, Image-guided real-time simulation using stochastic filtering, novembre 2015, Erwan Kerrien, Stéphane Cotin (MIMESIS).

PhD in progress: Vincent Gaudillière, Reconnaissance de lieux et d'objets pour la réalité augmentée en milieux complexes, décembre 2016, Marie-Odile Berger, Gilles Simon.

PhD in progress: Daryna Panicheva, Image-based Biomechanical Simulation of Mitral Valve Closure, octobre 2017, Marie-Odile Berger, Pierre-Frédéric Villard.

10.2.3. Juries

Marie-Odile Berger was external reviewer of the PhD of Canseng Jiang (Université de Bourgogne), Angélique Loesch (Université de Clarmont Auvergne) and Shaifali Parashar (Université de Clermont Auvergne).

10.3. Popularization

Members of the team participate on a regular basis, to scientific awareness and mediation actions.

- Erwan Kerrien is Chargé de Mission for scientific mediation at Inria Nancy-Grand Est. As such, he is a member of the steering committee of "Maison pour la Science de Lorraine, and member of the IREM [0] steering council. He also serves as the academic referent of an IREM working group aiming at introducing computer science in middle and high school curricula. Among other activites, he was also an associate researcher to a MATh.en.JEANS workshop, and he participated in the creation of a MOOC for teachers of the new ICN option (Informatique et Création Numérique - *Computer Science and Digital Creation*) at the beginning of high school curriculum.

- Gilles Simon participated to the "Fête de la science 2017" at the Faculté de Sciences et Technologies of the Université de Lorraine. He presented unplugged activities of computer science.

- Pierre-Frédéric Villard participated to open days and science festival in the IUT of Saint-Dié des Vosges. He presented augmented and virtual reality demos and their link to the high school mathematics program.

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[0]Institut de Recherche sur l'Enseignement des Mathématiques - *Research Institute for Teaching Mathematics*

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

David Cazier contributed to the organization of the Annual workshop of the *Animation & Simulation* group of the GDR IGRV of the CNRS in Strasbourg.

10.1.1.2. Reviewing Activities

Stephane Cotin provided reviews for: *Int. Conf. on Information Processing in Computer-Assisted Interventions, Workshop on Virtual Reality Interaction and Physical Simulation*

Igor Peterlik provided reviews for: *Int. Conf. of Medical Image Computing and Computer Assisted Intervention Society*

Antoine Petit provided reviews for: *International Conference on Robotics and Automation*

10.1.2. Journal

10.1.2.1. Reviewing Activities

Stephane Cotin provided reviews for: *International Journal of Computer Assisted Radiology and Surgery*

David Cazier provided reviews for: *Computer-Aided Design, Visual Computer, Computer & Graphics, Int. Journal on Virtual Reality*

Igor Peterlik provided reviews for: *Computer and Graphics*

Antoine Petit provided reviews for: *International Journal Of Robotics Research, Robotics and Automation Letters*

Christoph Paulus provided reviews for: *MDPI Journal Symmetry*

Lionel Untereiner provided reviews for: *Special Issue on Parallel and Distributed Algorithms of Concurrency and Computation*

10.1.3. Invited Talks

Keynote lecture by S. Cotin at 10th Medical Korea conference (Seoul, South Korea)

Invited lecture by S. Cotin FMTS conference (Strasbourg, France)

Invited lecture by S. Cotin B.E.S.T. symposium (Strasbourg, France)

Invited talk by S. Cotin at Fraunhofer MEVIS lab (Bremen, Germany)

Invited lecture by S. Cotin at European Computer-Assisted Liver Surgery Society (Mainz, Germany)

Invited lecture by S. Cotin at 127th annual meeting of the French Ophthalmology Association (Paris, France)

Invited lecture by S. Cotin at the French Academy of Surgery (Paris, France)

10.1.4. Scientific Expertise

Igor Peterlik has been providing a scientific expertise at Masaryk University, Czech Republic as a consultant and co-investigator of a project unded by Grant Agency of the Czech Republic: Development of Reliable Methods for Automated Quantitative Characterization of Cell Motility in Fluorescence Microscopy.

10.1.5. Research Administration

David Cazier is a member and local coordinator for a CITEPH project Paleo GTM: *A Paleo Geological and Topological Modeler*. Subject and expected contributions: multiresolution meshing and visualization for handling of massive geological data.

The project started in Sep 2017 (duration 2 years) and involves following partners:

- GEOSIRIS SAS (StartUp)
- Laboratoire ICUBE, UMR 7357 (Université de Strasbourg)
- Laboratoire XLIM, UMR 7352 (Université de Poitiers)
- Laboratoire LSIS, UMR 7296 (Université d'Aix-Marseille)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Igor Peterlik, Modélisation des systèmes vivants, 17h, M2, University of Strasbourg

Master: Igor Peterlik, Visualisation des données et simulation, 10h, M1, University of Strasbourg

Master: Hadrien Courtecuisse, Real time simulation, 30h, M2, University of Strasbourg

Master: Hadrien Courtecuisse, Visualisation des données et simulation, 10h, M2, University of Strasbourg

Master: Hadrien Courtecuisse, Visualisation des données et simulation, 10h, M1, University of Strasbourg

Licence: David Cazier, Web technologies and programming, 96h, L3, University of Strasbourg

10.2.2. Supervision

PhD: Christoph Paulus, *Modeling and real-time simulation of topological changes in soft tissue*, University of Strasbourg, 03/04/2017 [11]

PhD: Fanny Morin, *Non linear simulation for intra-operative guidance for neurosurgery*, Université Grenoble Alpes, 05/10/2017

PhD in progress: Jaime Garcia Guevara, *Augmented ultrasound imaging for hepatic surgery*, 01/09/2015, supervised by Stéphane Cotin, Marie-Odile Berger

PhD in progress: Raffaella Trivisonne, *Computer-aided vascular interventions*, 01/09/2015, Stéphane Cotin, Erwan Kerrien

PhD in progress: Yinoussa Adagolodjo, *Coupling between robotics and medical simulation for automated procedures*, 01/02/2015, supervised by Hadrien Courtecuisse

PhD in progress: Nicolas Golse, *Navigation using the augmented reality during hepatic surgery*, 01/09/2016, supervised by Stéphane Cotin

PhD in progress: Lukáš Ručka, *Validation and verification of soft tissue models*, 01/09/2016, co-supervised by Igor Peterlik, supervised by Prof. Ludek Matyska at Masaryk University, Czech Republic

PhD in progress: Sergei Nikolaev, *Characterization of boundary conditions for biomechanical modeling of liver*, 01/05/2017, supervised by Stéphane Cotin, co-supervised by Igor Peterlik and Hadrien Courtecuisse

PhD in progress: Jean-Nicolas Brunet, *Characterization of boundary conditions for biomechanical modeling of liver*, 01/09/2017, supervised by Stéphane Cotin

PhD in progress: Andrea Mendizabal, *Numerical simulation of soft tissues and machine learning*, 01/09/2017, supervised by Stéphane Cotin

10.2.3. Juries

Stéphane Cotin was a member of jury of HDR of Christian Herlin (MD): *Imagerie et simulation pour la chirurgie plastique et reconstructrice*. Université de Montpellier. Nov 2017

10.3. Popularization

Demonstration at *50 Years Inria* on Nov 10 in Paris, attended by Mr. Mounir Mahjoubi, secrétaire d'état auprès du premier ministre, chargé du numérique.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Elected chair, Steering Committee of the Latent Variable Analysis and Signal Separation (LVA/ICA) conference series (E. Vincent)

General co-chair, AVSP 2017 - 14th International Conference on Auditory-Visual Speech Processing (S. Ouni)

10.1.1.2. Member of the Organizing Committees

Co-organizer of the Task "Large-scale weakly supervised sound event detection for smart cars", DCASE 2017 Challenge on Detection and Classification of Acoustic Scenes and Events (E. Vincent)

Member of the organizing committee, 2017 IEEE Automatic Speech Recognition and Understanding Workshop, Okinawa, Japan, December 2017 (E. Vincent)

Member of the steering committee, Detection and Classification of Acoustic Scenes and Events (DCASE) challenge series (E. Vincent)

Co-organizer of AVSP 2017 - International Conference on Auditory-Visual Speech Processing (S. Ouni)

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Program chair, DCASE 2017 Workshop on Detection and Classification of Acoustic Scenes and Events (E. Vincent)

Review chair, IEEE Technical Committee on Audio and Acoustic Signal Processing, responsible for organizing the review of the 313 papers submitted to the 2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) in the general AASP domain (E. Vincent)

Proceedings co-chair (editor), AVSP 2017 - 14th International Conference on Auditory-Visual Speech Processing [76] (S. Ouni)

10.1.2.2. Member of the Conference Program Committees

AVSP 2017 - 14th International Conference on Auditory-Visual Speech Processing (S. Ouni)

ICNLSSP'2017 - International Conference on Natural Language, Signal and Speech Processing (D. Fohr, D. Jouvet, O. Mella)

Area chair, 2017 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) (E. Vincent)

ISSP 2017 - International Seminar On Speech Production (Y. Laprie)

10.1.2.3. Reviewer

ASRU'2017 - IEEE Automatic Speech Recognition and Understanding Workshop (D. Jouvet, I. Illina, E. Vincent)

AVSP 2017 - 14th International Conference on Auditory-Visual Speech Processing (S. Ouni)

DCASE'2017 - Workshop on Detection and Classification of Acoustic Scenes and Events (R. Serizel, E. Vincent)

EUSIPCO'2017 - European Signal Processing Conference (D. Jouvet, A. Liutkus)

GLU'2017 - International Workshop on Grounding Language Understanding (D. Jouvet)

GRETSI 2017 - Colloque du Groupe d'Etudes du Traitement du Signal et des Images (R. Serizel)

HSCMA'2017 - Joint Workshop on Hands-free Speech Communication and Microphone Arrays (E. Vincent)

ICASSP'2017 - IEEE International Conference on Acoustics, Speech and Signal Processing (D. Jouvet, A. Liutkus, R. Serizel, E. Vincent)

ICNLSSP'2017 - International Conference on Natural Language, Signal and Speech Processing (D. Jouvet, O. Mella, E. Vincent)

INTERSPEECH 2017 (A. Bonneau, D. Jouvet, I. Illina, Y. Laprie, S. Ouni, E. Vincent)

ISSP 2017 - International Seminar On Speech Production (Y. Laprie)

LVA/ICA'2017 - International Conference on Latent Variable Analysis and Signal Separation (A. Liutkus, E. Vincent)

PaPE 2017 - Phonetics and Phonology in Europe (A. Bonneau)

SLaTE'2017 - ISCA Workshop on Speech and Language Technology in Education (A. Bonneau, D. Jouvet)

WASPAA 2017 - IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (A. Liutkus, R. Serizel, E. Vincent)

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

ANAE Approche Neuropsychologique des Apprentissages chez l'enfant. Coordination of a special issue: N°147 : "Troubles de l'apprentissage du langage écrit et prise en charge multidisciplinaire: De la science à la salle de classe" (A. Piquard-Kipffer)

Computer Speech and Language, special issue on Multi-Microphone Speech Recognition in Everyday Environments (E. Vincent)

EURASIP Journal on Audio, Speech, and Music Processing (Y. Laprie)

Speech Communication (D. Jouvet)

Speech Communication, special issue on Realism in Robust Speech and Language Processing (E. Vincent)

Traitement du signal (E. Vincent)

10.1.3.2. Reviewer - Reviewing Activities

Computer Speech and Language (D. Jouvet)

Computers in Biology and Medicine (R. Serizel)

IEEE Transactions on Audio, Speech and Language Processing (A. Liutkus, S. Ouni, R. Serizel)

IEEE Transactions on Emerging Topics in Computational Intelligence (R. Serizel)

IET Signal Processing (R. Serizel)

Journal of the Acoustical Society of America (B. Elie, Y. Laprie)

Jasa Express Letters (Y. Laprie, S. Ouni, R. Serizel)

Logopedics Phoniatrics Vocology (S. Ouni)

Speech Communication (V. Colotte, S. Ouni)

10.1.4. Invited Talks

Dyslexia-dysorthographia, « Dyslexie-Dysorthographie. Du repérage à la prise en charge ». Unaape, Le Chesnay, Jan 2017 (A. Piquard-Kipffer)

New paradigms in speech recognition, SIIE 2017, Feb 2017 (D. Fohr, I. Illina) [35]

Speech processing techniques for far-end spoken interactions in noisy environments, Sonos, Santa Barbara (US), March 2017 (R. Serizel)

A tutorial on probabilistic modeling for audio source separation, Kyoto University, March 2017 (A. Liutkus)

An articulatory model of the complete vocal tract from medical images, Electronic Speech Signal Processing 2017, Saarbrücken, March 2017 (Y. Laprie)

Language pathology, Séminaire "Dépistage des troubles des apprentissages" in EHESP, Rennes, March 2017 (A. Piquard-Kipffer)

Speech synthesis, Ecole Nationale d'Ingénieurs de Tunis (Tunisia), May 2017 (V. Colotte)

Speech recognition, Ecole Nationale d'Ingénieurs de Tunis (Tunisia), May 2017 (D. Jouvet)

Deep learning for distant-microphone enhancement and recognition — Expected and unexpected results, Audio Analytic, Cambridge (UK), June 2017 (E. Vincent)

Deep learning for speech and audio processing, Journées scientifiques Inria, Sophia-Antipolis, June 2017 (R. Serizel)

Deep learning for distant-microphone enhancement and recognition — Expected and unexpected results, Inria Rennes - Bretagne Atlantique (France), July 2017 (E. Vincent)

When mismatched training data outperform matched data, Erwin Schroedinger Institute Workshop on "Systematic approaches to deep learning methods for audio", Vienna (Austria), Sep 2017 (E. Vincent)

Rehaussement et reconnaissance robuste de la parole, Université Grenoble - Alpes (France), Nov 2017 (E. Vincent)

Reading predictors, "les habiletés associées à la lecture. Comment être le mieux outillé(e) pour apprendre à lire ?". Canopé, Nancy, Nov 2017 (A. Piquard-Kipffer)

Beginning of reading, "Les premiers apprentissages de la lecture". Conférences de circonscriptions 1 et 2. Longwy, Nov 2017 (A. Piquard-Kipffer)

10.1.5. Leadership within the Scientific Community

Elected chair, ISCA Special Interest Group on Robust Speech Processing (E. Vincent)

Secretary/Treasurer, executive member of AVISA (Auditory-VIsual Speech Association), an ISCA Special Interest Group (S. Ouni)

10.1.6. Scientific Expertise

Expertise of an ANR project proposal (D. Jouvet, Y. Laprie)

Expertise of an ERC project proposal (E. Vincent)

Expertise of the ÖAW - Austrian Academy of Sciences Fund (S. Ouni)

10.1.7. Research Administration

Vice Scientific Deputy of Inria Nancy - Grand Est from Sep 2017 (E. Vincent)

Elected Member of the board of the AM2I Scientific Pole - Université de Lorraine (E. Vincent)

Member of Comité Espace Transfert (E. Vincent)

Member of the Comipers of Inria Nancy - Grand Est until Aug 2017 (E. Vincent)

Member of the Comité de Centre of Inria Nancy - Grand Est until Aug 2017 (E. Vincent)

Vice-Chair of the Recruitment Jury for Junior Research Scientists, Inria Nancy - Grand Est (E. Vincent).

Member of the "Commission de développement technologique" (A. Bonneau)

Head of the AM2I Scientific Pole of Université de Lorraine (Y. Laprie)

Member of the Scientific Committee of an Institute for deaf people, La Malgrange (A. Piquard-Kipffer)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

DUT: I. Illina, Programming in Java, 150 hours, L1, University of Lorraine, France

DUT: I. Illina, Linux System, 65 hours, L1, University of Lorraine, France

DUT: I. Illina, Supervision of student projects and stages, 50 hours, L2, University of Lorraine, France

DUT: S. Ouni, Programming in Java, 24 hours, L1, University of Lorraine, France

DUT: S. Ouni, Web Programming, 24 hours, L1, University of Lorraine, France

DUT: S. Ouni, Graphical User Interface, 96 hours, L1, University of Lorraine, France

DUT: S. Ouni, Advanced Algorihms, 24 hours, L2, University of Lorraine, France

DUT: R. Serizel, Computer science basics, 90 hours, L1, University of Lorraine, France

DUT: R. Serizel, Introduction to office software applications, 18h, L2, University of Lorraine, France

DUT: R. Serizel, Multimedia and web applications, 20h, L1, University of Lorraine, France

DUT: R. Serizel, Digital image processing basics

Licence: V. Colotte, C2i - Certificat Informatique et Internet, 50h, L1, University of Lorraine, France

Licence: V. Colotte, System, 115h, L3, University of Lorraine, France

Licence: O. Mella, C2i - Certificat Informatique et Internet, 20h, L1, University of Lorraine, France

Licence: O. Mella, Introduction to Web Programming, 30h, L1, University of Lorraine, France

Licence: O. Mella, Computer Networking, 128h, L2-L3, University of Lorraine, France

Licence: O. Mella Supervision of student internships, 4 hours, L3, University of Lorraine, France

Licence: A. Piquard-Kipffer, Education Science, 32 hours, L1, Departement Orthophonie, University of Lorraine, France

Licence: A. Piquard-Kipffer, Learning to Read, 34 hours, L2, Departement Orthophonie, University of Lorraine, France

Licence: A. Piquard-Kipffer, Psycholinguistics, 12 hours, L2, Departement Orthophonie, University Pierre et Marie Curie-Paris, France

Licence: A. Piquard-Kipffer, Dyslexia, Dysorthographia, 22 hours, L3, Departement Orthophonie, University of Lor- raine, France

Master: A. Bonneau, Ecole d'audioprothèse (Phonetics), 16h, University of Lorraine, France

Master: A. Bonneau, Ecole d'orthophonie (Speech Manipulation with Praat), 2h, University of Lorraine, France

Master: V. Colotte, Introduction to Speech Analysis and Recognition, 18h, M1, University of Lorraine, France

Master: D. Jouvet, Modélisation sensorielle (partie reconnaissance de la parole), 12h, M2, University of Lorraine, France

Master: Y. Laprie, Master de Sciences Cognitives (Analyse, perception et reconnaissance de la parole), 30h, University of Lorraine, France

Master: O. Mella, Computer Networking, 60h, M1, University of Lorraine, France

Master: O. Mella, Introduction to Speech Analysis and Recognition, 12h, M1, University of Lorraine, France

Master: S. Ouni, Multimedia in Distributed Information Systems, 31 hours, M2, University of Lorraine, France

Master: A. Piquard-Kipffer Agnès, Dyslexia, Dysorthographia diagnosis, 4 hours, Departement Orthophonie, University of Lor- raine, France

Master: A. Piquard-Kipffer, Deafness & reading, 21 hours, Departement Orthophonie, University of Lorraine, France

Master: A. Piquard-Kipffer, French Language Didactics, 73 hours, ESPE, University of Lorraine, France

Master: A. Piquard-Kipffer, Special educational needs, 18 hours, ESPE, University of Lorraine, France

Master: A. Piquard-Kipffer, Psychology, 6 hours, University of Lorraine, France

Continuous training : O. Mella, Computer science courses for secondary school teachers (ISN courses), 10h, ESPE, University of Lorraine, France

Doctorat: A. Piquard-Kipffer, Language Pathology, 20 hours, EHESP, University of Sorbonne- Paris Cité, France

Doctorat: A. Piquard-Kipffer, Language Pathology, 20 hours, University of Lorraine, France

Other: V. Colotte, Responsible for "Certificat Informatique et Internet" for the University of Lorraine, France (50000 students, 30 departments)

Other: S. Ouni, Responsible of Année Spéciale DUT, University of Lorraine, France

10.2.2. Supervision

PhD : Quan Nguyen, "Mapping of a sound environment by a mobile robot", University of Lorraine, November 3, 2017, Francis Colas and Emmanuel Vincent.

PhD : Aditya Nugraha, "Deep neural networks for source separation and noise-robust speech recognition", December 5, 2017, Antoine Liutkus and Emmanuel Vincent.

PhD in progress: Ken Deguernel, "Apprentissage de structures musicales en situation d'improvisation", March 2015, Emmanuel Vincent and Gérard Assayag (Ircam).

PhD in progress: Amal Houidhek, "Élaboration et analyse d'une base de parole arabe pour la synthèse vocale", December 2015, cotutelle, Denis Jouvet and Vincent Colotte (France) and Zied Mnasri (Tunisia).

PhD in progress: Imène Zangar, "Amélioration de la qualité de synthèse vocale par HMM pour la parole arabe", December 2015, codirection, Denis Jouvet and Vincent Colotte (France) and Zied Mnasri (Tunisia).

PhD in progress: Amine Menacer, "Traduction automatique de vidéos", May 2016, Kamel Smaïli and Denis Jouvet.

PhD in progress: Mathieu Fontaine, "Processus alpha-stable pour le traitement du signal", May 2016, Antoine Liutkus and Roland Badeau (Télécom ParisTech).

PhD in progress: Anastasiia Tsukanova, "Coarticulation modeling in articulatory synthesis", May 2016, Yves Laprie.

PhD in progress: Nathan Libermann, "Deep learning for musical structure analysis and generation", October 2016, Frédéric Bimbot (IRISA) and Emmanuel Vincent.

PhD in progress: Lauréline Perotin, "Séparation aveugle de sources sonores en milieu réverbérant", November 2016, Romain Serizel, Emmanuel Vincent, and Alexandre Guérin (Orange).

PhD in progress: Théo Biasutto, "Multimodal coarticulation modeling: Towards the animation of an intelligible speaking head", December 2016, Slim Ouni.

PhD in progress: Sara Dahmani, "Modeling facial expressions to animate a realistic 3D virtual talking head", January 2017, Slim Ouni and Vincent Colotte.

PhD in progress: Guillaume Carbajal, "Apprentissage profond bout-en-bout pour le rehaussement de la parole", March 2017, Romain Serizel, Emmanuel Vincent, and AÉric Humbert (Invoxia).

PhD in progress: Sunit Sivasankaran, "Exploiting contextual information in the speech processing chain", July 2017, Dominique Fohr and Emmanuel Vincent.

PhD in progress: Ioannis Douros, "Combining cineMRI and static MRI to analyze speech production", July 2017, Pierre-André Vuissoz (IADI) and Yves Laprie.

PhD in progress: Lou Lee, "Du lexique au discours: les particules discursives en français", October 2017, Yvon Keromnes and Mathilde Dargnat (ATILF) and Denis Jouvet.

10.2.3. Participation in HDR and PhD juries

Participation in Habilitation Jury for Damien Lolive (Université de Rennes 1, November 2017), Y. Laprie, reviewer.

Participation in PhD thesis Jury for Dionyssos Kounades-Bastian (Université Grenoble - Alpes, February 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Emilio Molina Martínez (University of Málaga, Spain, March 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Simon Durand (Télécom ParisTech, May 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Mathieu Baqué (Université du Maine, June 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Waad Ben Kheder (Université d'Avignon et des Pays du Vaucluse, July 2017), R. Serizel.

Participation in PhD thesis Jury for Waad Ben Kheder (Université d'Avignon et des Pays du Vaucluse, July 2017), D. Jouvet, reviewer.

Participation in PhD thesis Jury for Gabriel Bustamante (Université Fédérale Toulouse Midi-Pyrénées, September 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Fangchen Feng (Université Paris - Sud, September 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Gregory Gelly (Université Paris-Saclay, September 2017), D. Jouvet, reviewer.

Participation in PhD thesis Jury for Andrew Szabados (Université de Grenoble Alpes, November 2017), Y. Laprie, reviewer.

Participation in PhD thesis Jury for Natalia Tomashenko (Université du Mans, December 2017), D. Jouvet, reviewer.

Participation in PhD thesis Jury for Daniele Battaglino (EURECOM - Télécom ParisTech, December 2017), E. Vincent, reviewer.

Participation in PhD thesis Jury for Mohamed Bouaziz (Université d'Avignon, December 2017), I. Illina, reviewer.

Participation in PhD thesis Jury for Inaki Frenandez (Université de lorraine, December 2017), I. Illina.

10.2.4. Participation in other juries

Participation in CAFIPEMPF Jury - Master Learning Facilitator, Académie de Nancy-Metz & Université de Lorraine, April, May 2017, A. Piquard-Kipffer

Participation in the Competitive Entrance Examination into Speech-Language Pathology Departement, Université de Lorraine, June 2017, A. Piquard-Kipffer.

10.3. Popularization

Interview for "Quand les machines apprennent à parler l'humain — Le Zoom de la Rédaction", *France Inter*, February 2, 2017 (E. Vincent)

Interview for "Les prochains défis de la reconnaissance vocale", *Le Figaro*, April 11, 2017 (E. Vincent)

Interview for "2017 : Alexa, la voix d'Amazon", *Les Échos*, August 31, 2017 (E. Vincent)

Interactions vocales, Grand-Est Numérique, September 2017 (R. Serizel)

Demonstrations at Fête de la Science, University of Lorraine, October 13, 2017 (G. Carbajal, L. Perotin, R. Serizel, E. Vincent)

Demonstrations at the Rencontre Inria Industrie "Les données et leurs applications", October 18, 2017 (E. Vincent)

Interview for "Les assistants vocaux vont bousculer la radio", *Le Monde*, October 19, 2017 (E. Vincent)

Interview for *France Culture*, November 2017 (E. Vincent)

Talk at "Fresh from the Labs", Station F, Paris (France), November 30, 2017 (E. Vincent)

Demonstration at Journée des métiers, Collège Péguy, le Chesnay, March 2017 (A. Piquard-Kipffer).

Demonstration of Dynalips at "50 ans Inria", Paris, November, 7-8, 2017 (S. Ouni)

NEUROSYS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

Laurent Bougrain is a member of the steering committee of the research network in neuroscience of the university of Lorraine.

Laure Buhry is an elected member of the "Pôle Scientifique AM2I" council of university of Lorraine.

Sébastien Rimbert is an elected member of the doctoral school IAEM of university of Lorraine.

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- Member of the organization committee of the launch day of the French society of brain-computer interfaces, January 24th 2017, Paris (L. Bougrain) http://openvibe.inria.fr/the-2nd-international-openvibe-workshop-2016-contents/
- Member of the organization committee of the iPAC seminar (Image, Perception, Action et Cognition) (L. Buhry)
- Member of the organization committee of the scientific days of the research network in neuroscience of the university of Lorraine, June 9th & November 9th 2017, Nancy (L. Bougrain)

9.1.2. Journal

9.1.2.1. Reviewer - Reviewing Activities

PeerJ (S. Rimbert)

9.1.3. Research Administration

Juries for the recruitment of assistant professors: job MCF4289 IUT university of Cergy Pontoise (2017), L.Buhry

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Engineering school: L. Bougrain, *Interfaces cerveau-ordinateur*, 4.5h, 3rd year, Supelec, France

Polytechnical university of Kiev: L. Bougrain, *Brain-Computer Interfaces*, 10h, master, Ukraine

Engineering School: F. Giovannini, *Artificial Intelligence*, 32h, 3rd year, Telecom Nancy, France

UFR Math/Info: S. Rimbert, *Brain-Computer Interface*, 17h, Master 2, UFR Math/Info, France

UFR Math/Info: S. Rimbert, *Introduction to Neurosciences*, 15h, 1st year, UFR Math/Info, France

UFR Math/Info: A. Aussel, *Computational Neurosciences*, 20h, Master 2, UFR Math/Info, France

Engineering school: A. Aussel, *Python Programming*, 40h, 1st year, Mines Nancy, France

9.2.2. Supervision

PhD: Francesco Giovannini, Mathematical modelling of neural oscillations in hippocampal memory networks during waking and under general anaesthesia, university of Lorraine, September 19th 2017, Laure Buhry and Axel Hutt [1]

PhD: Cecilia Lindig-León, Multilabel classification of EEG-based combined motor imageries implemented for the 3D control of a robotic arm, January 10th 2017, A. Hutt and L. Bougrain [2]

PhD in progress: Amélie Aussel, Extraction of electrophysiological markers and mathematical modelling of the epileptic hippocampus, October 1st 2016, Laure Buhry and Radu Ranta (CRAN)

PhD in progress: Sébastien Rimbert, Study of the dynamic of cerebral motor patterns during general anesthesia, January 1st 2016, Axel Hutt and Laurent Bougrain

9.2.3. *Juries*

Ph.D. thesis juries: Loïc Botrel, Brain-computer interfaces (BCIs) based on sensorimotor rhythms Evaluating practical interventions to improve their performance and reduce BCI inefficiency, university of Würzburg, September 27th 2017, L. Bougrain (member)

Ph.D. thesis juries: Marie-Caroline Schaeffer, Traitement du signal ECoG pour Interface Cerveau Machine à grand nombre de degrés de liberté pour application clinique, university Grenoble-Alpes, June 6th 2017, L. Bougrain (member)

9.3. Popularization

Talk during the National Brain Awareness Week: Brain-Robot interactions, Mar. 14th, 2017, middle school Ernest Bichat, Lunéville (L. Bougrain)

Expert for the MGEN (a French mutual benefit insurance company)'s day about "réparer les vivants", Mar. 15th, 2017, Maisons-Alfort (L. Bougrain)

Scientific education on Information Technologgy with Marie Duflot-Kremer in the Marcel Leroy elementary school (20-22 students per class: CM2, CE2 / CM1, CE1 / CE2), 3h (three times 1h), May 30th 2017 (Tamara Tošić)

Exhibit of the Grasp-IT system to improve motor activity at the Interactions Homme-Machine conference 2017, August 2017, Poitier (Sébastien Rimbert)

Exhibit of the Grasp-IT system to improve motor activity at Inria-Industry Meeting on data and their applications, October 18th 2017, Paris (L. Bougrain & Sébastien Rimbert)

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

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organization, General Chairs, Scientific Chairs

- The 25th international conference on case-based reasoning (ICCBR-2017) has taken place in Trondheim (Norway) from 26 to 28 June (http://www.iccbr.org/iccbr17/). The program chairs were David W. Aha and Jean Lieber.
- Amedeo Napoli was the co-chair with Davide Ciucci and Sergei Kuznetsov of the special session "Special Session on Knowledge Discovery with Formal Concept Analysis and related formalisms (FCA4KD++)", held between June 26-29 at ISMIS Warsaw (23rd International Symposium on Methodologies for Intelligent Systems http://ismis2017.ii.pw.edu.pl/s_kd_fca.php).
- Amedeo Napoli was the co-chair with Sergei Kuznetsov of the track "General Topics of Data Analysis" at the AIST Conference in Moscow in July 2017 (6th International Conference on Analysis of Images, Social Networks, and Texts http://aistconf.org/).
- Amedeo Napoli was the general chair of BDA 2017 held between November 14-17 2017 at Inria Nancy Grand Est/LORIA, "33ième conférence sur la Gestion de Données, Principes, Technologies et Applications" https://project.inria.fr/bda2017/.

9.1.1.1. Scientific Animation

- The scientific animation in the Orpailleur team is based on the Team Seminar which is called the "Malotec" seminar (http://malotec.loria.fr/?p=1). The Malotec seminar is held in general twice a month and is used either for general presentations of members of the team or for invited presentations of external researchers.
- Members of the Orpailleur team are all involved, as members or as head persons, in various national research groups.
- The members of the Orpailleur team are involved in the organization of conferences and workshops, as members of conference program committees (AAAI, ECAI, ECML-PKDD, ESWC, ICCBR, ICDM, ICFCA, IJCAI, ISWC, KDD, SDM...), as members of editorial boards, and finally in the organization of journal special issues.

9.2. Teaching - Supervision - Juries

- All the permanent members of the Orpailleur team are involved in teaching at all levels and mainly at University of Lorraine. Actually, most of the members of the Orpailleur team are employed on "Université de Lorraine" positions.
- The members of the Orpailleur team are also involved in student supervision, at all university levels, from under-graduate until post-graduate students, engineers, PhD, postdoc students.
- Finally, the permanent members of the Orpailleur team are involved in HDR and thesis defenses, being thesis referees or thesis committee members.

<p align="center" style="color:red">PESTO Project-Team</p>

10. Dissemination

10.1. Promoting Scientific Activities

V. Cortier was auditioned by the chamber of the workers in Luxembourg, on the security of electronic voting.

10.1.1. Scientific Events Selection

10.1.1.1. Program Committee Chair

- A. Imine: FPS 2017, 10th International Symposium on Foundations & Practice of Security, Nancy, October 23-25, 2017 (co-chair with J. M. Fernandez, Polytechnique Montreal, Canada)
- M. Rusinowitch: SCSS 2017, The 8th International Symposium on Symbolic Computation in Software Science, Gammarth, Tunisie, April 6-9, 2017 (co-chair with M. Mosbah, Univ Bordeaux)

10.1.1.2. Program Committee Member

- V. Cortier: E-VoteID 2018, POST 2018, E-VoteID 2017, CCS 2017, LICS 2017, SAC 2017, HotSpot 2017
- S. Kremer: Voting 2018, EuroS&P 2018, PLAS 2017, ESORICS 2017, Voting 2017, EuroS&P 2017
- C. Ringeissen: IJCAR 2018, UNIF 2018, WRLA 2018, FroCoS 2017, UNIF 2017
- M. Rusinowitch: CRISIS 2017, FPS 2017, ICISSP 2018, IWSPA 2018
- V. Cheval: TMPA 2017, SEC@SAC 2017

10.1.2. Journal

10.1.2.1. Editorial Board Member

- V. Cortier: Information & Computation, Journal of Computer Security, ACM Transactions on Privacy and Security (TOPS, previously TISSEC), Foundations and Trends (FnT) in Security and Privacy
- S. Kremer: ERCIM News

10.1.2.2. Scientific Committee Member

- L. Vigneron: Technique et Sciences Informatiques, Lavoisier

10.1.3. Invited Talks

- V. Cortier. Invited tutorial at Highlights 2017, London, UK, September 12th, 2017
- V. Cortier. Invited talk at FPS 2017, Nancy, France, October 2017
- V. Cortier. Invited talk at CIAA 2017, Marne-la-Vallée, France, June 2017
- V. Cortier. Invited talk at Workshop on the 20th Anniversary of LSV, Cachan, France, May 11th 2017
- V. Cortier. Invited tutorial at ETAPS 2017, Uppsala, Sweden, April 22nd, 2017
- V. Cortier. Invited talk at Models and Tools for Security Analysis and Proofs Workshop, affiliated with Eurocrypt 2017, Paris, France, April 29th 2017

10.1.4. Research Administration

Inria evaluation committee (S. Kremer)

Jury Junior Research Position Inria Rennes-Bretagne Atlantique (S. Kremer)

Jury Junior Research Position Inria Nancy-Grand Est (V. Cortier, committee chair)

Jury Professor at UMPC, LIP6 (V. Cortier)

Computer science commission of the Doctoral School, Univ Lorraine (L. Vigneron, chair)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Licence:

  V. Cheval, Introduction to Theoretical Computer Science (Logic, Languages, Automata), 69 hours (ETD), TELECOM Nancy

  J. Dreier, Introduction to Theoretical Computer Science (Logic, Languages, Automata), 146 hours (ETD), TELECOM Nancy

- Master:

  V. Cortier, Security of flows, 20 hours, M2 Computer Science, TELECOM Nancy and Mines Nancy

  A. Imine, Security for XML Documents, 12 hours (ETD), M1, Univ Lorraine

  S. Kremer, Security Theory, 24 hours (ETD), M2 Computer science, Univ Lorraine

  C. Ringeissen, Decision Procedures for Software Verification, 18 hours (ETD), M2 Computer science, Univ Lorraine

  L. Vigneron, Security of information systems, 22.5 hours (ETD), M2 Computer science, Univ Lorraine

  L. Vigneron, Security of information systems, 24 hours (ETD), M2 MIAGE – Distributed Information Systems, Univ Lorraine

  L. Vigneron, Security of information systems, 16 hours (ETD), M2 MIAGE – Audit and Design of Information Systems, Univ Lorraine

- Summer School:

  V. Cortier and S. Kremer: Summer School on Models and Tools for Cryptographic Proofs, Nancy, June 2017

10.2.2. Supervision

- PhD in progress:

  Younes Abid, Privacy control for social networks, started in March 2015 (M. Rusinowitch)

  Antoine Dallon, Decision procedures for equivalence properties, started in November 2015 (V. Cortier and S. Delaune)

  Alicia Filipiak, Design and validation of security services for mobile platforms: smartphones and tablets, started in March 2015 (V. Cortier)

  Abreha Haftay Gebreslasie, Compressed and Verifiable Filtering Rules in Software-defined Networking, started in September 2017 (A. Lahmadi, M. Rusinowitch and A. Bouhoula)

  Charlie Jacomme, Security protocols: new properties, new attackers, new protocols, started in September 2017 (H. Comon and S. Kremer)

  Joseph Lallemand, Type systems for equivalence properties, started in September 2016 (V. Cortier)

  Itsaka Rakotonirina, Efficient verification of equivalence properties in cryptographic protocols, started in October 2017 (V. Cheval and S. Kremer)

  Ludovic Robin, Verification of cryptographic protocols using weak secrets, started in October 2014, defense scheduled early 2018 (S. Delaune and S. Kremer)

10.2.3. Juries

Examiner for Robin David, CEA and Loria (S. Kremer)

Reviewer for Ryan Stanley-Oakes, Univ Bristol (S. Kremer)

Examiner and president of the jury for Wazen Shbair, Univ Lorraine, Loria (V. Cortier)

Examiner and president of the jury for Hubert Godefroy, Univ Lorraine, Loria (V. Cortier)

Reviewer for Fabienne Eigner, Univ Saarbruecken (V. Cortier)

Reviewer for Mnacho Echenim, HDR, Univ Grenoble (M. Rusinowitch)

10.3. Popularization

- How to Explain Modern Security Concepts to your Children [11] (J. Dreier)
- Vote par Internet [41] (V. Cortier and S. Kremer)
- 2 days of debate on privacy at *Moments d'invention 2016*, organized by Grand Nancy (V. Cortier)
- booth at the *Open Government Summit* organized at Sénat (V. Cortier)
- Conference and debate at the *ISN day*, conference for teachers in computer science (V. Cortier)
- Interview for *silicon.fr* on weakening cryptosystems to allow limited access by authorities (S. Kremer)
- France 3 Lorraine radio interview on computer security (S. Kremer)
- Interview for *AFP* on electronic voting (S. Kremer)
- Interview for *AFP* and *Huffington Post* on electronic voting (V. Cortier)

SEMAGRAMME Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

- Maxime Amblard: General chair of (In)Coherence of Discourse 4, March 2017, Université de Lorraine.
- Bruno Guillaume: General chair of "Acor4French: les corpus annotés du français", workshop of the TALN conference.

8.1.2. Scientific Events Selection

8.1.2.1. Chair of Conference Program Committees

- Philippe de Groote: co-chair of MoL 2017 *15th Meeting on the Mathematics of Language* [20].
- Sylvain Pogodalla: co-chair of FG 2017 *22nd Conference on Formal Grammar* [19].

8.1.2.2. Reviewer

- Maxime Amblard: (In)Coherence of Discourse 4, ACL2017, TALN 17, traitement automatique des langues, and RECITAL17 Rencontre des Étudiants Chercheurs en Informatique pour le Traitement Automatique des Langues, journée EGC-IA.
- Philippe de Groote: (In)Coherence of Discourse 4, MoL 2017, FG 2017, IWCS 2017.
- Bruno Guillaume: ACL2017, LREC2018.
- Sylvain Pogodalla: (In)Coherence of Discourse 4, TAG+13 *13th International Workshop on Tree Adjoining Grammars and Related Formalisms*.

8.1.3. Journal

8.1.3.1. Member of Editorial Boards

- Maxime Amblard: Member of the editorial board of the journal *Traitement Automatique des Langues*, in charge of the final editing process.
- Philippe de Groote: area editor of the *FoLLI-LNCS series*; associate editor of *Higher-Order and Symbolic Computation*; member of the editorial board of *Cahiers du Centre de Logique*.
- Sylvain Pogodalla: Member of the editorial board of the journal *Traitement Automatique des Langues*, in charge of the *Résumés de thèses* section.

8.1.3.2. Reviewer - Reviewing Activities

- Maxime Amblard: Journal of Language, Logic and Information, *Traitement Automatique des Langues*.
- Philippe de Groote: Journal of Language, Logic and Information, Logical Methods in Computer Science.
- Sylvain Pogodalla: Journal of Language, Logic and Information, Mathematical Structures in Computer Science, *Traitement Automatique des Langues*;

8.1.4. Invited Talks

- Maxime Amblard:
    - A Formal Account of Disorders in Dialogues, CLASP seminar, November 2017, University of Gothenburg, Sweden [8].

- Table ronde "TAL et médical", TALN 2017, June 2017, Orléans.
- Le discours des schizophrènes par la formalisation langagière, interpréter les troubles de la pensée par les troubles du langage, Séminaire C2S, June 2017, Université de Reims [9].
- Modélisation sémantique de la langue, une mise en pratique, séminaire SIESTE, computer science department, ENS Lyon, March 2017, Lyon [22].

- Timothée Bernard:
  - A Montagovian semantics for discourse connectives, NYU Semantics Group, October 2017, New York, USA.
  - Negative events, joint work with Lucas Champollion, NYU Semantics Group, December 2017, New York, USA.

- Sylvain Pogodalla: Tutorial at FSMNLP 2017 & TAG+13 [26], Umeå, Sweden, September 2017.
- Guy Perrier: invited talk in the seminar of the TEXTE team (LIRMM, Montpellier), March 2017.

8.1.5. Leadership within the Scientific Community

- Philippe de Groote: president of SIGMOL, *Association for Mathematics of Language, a Special Interest Group of the Association for Computational Linguistics*; member of the LACL steering committee.
- Bruno Guillaume: Management Committee Substitute of the COST Action CA16105 "European Network for Combining Language Learning with Crowdsourcing Techniques" (http://www.cost.eu/COST_Actions/ca/CA16105).
- Sylvain Pogodalla: member of the LACL steering committee; member of the Formal Grammar standing committee.

8.1.6. Scientific Expertise

- Philippe de Groote: member of the scientific council of the LIRMM, *Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier*; member of the scientific council of the AREN e-FRAN project, *ARgumentation Et Numérique*.
- Sylvain Pogodalla: external reviewer for CIMI LabEx, expert for the Research Executive Agency (REA) of the EU.
- Guy Perrier: external rapporteur on the scientific activity of Prof François Lareau (Université de Montréal, Canada) for his promotion as "professeur agrégé".

8.1.7. Research Administration

- Maxime Amblard:
  - Member of *conseil scientifique de l'Université de Lorraine*.
  - Standing invitee at the "pôle scientifique" AM2I of Université de Lorraine.
  - Member of the standing committee of the *conseil de laboratoire du Loria*.
  - Member of the board of the *Maison des sciences de l'homme, MSH-Lorraine*.
  - Head of the master (M2) in Natural Language Processing.
  - In charge of the proposal of a new master in NLP.
  - Member of the McF selection committee 4373 (section 7 and 27), Université Paris Sorbonne.

- Philippe de Groote:
  - Member of the *bureau du comité des projets d'Inria Nancy – Grand Est*.

- Bruno Guillaume:
  - Head of the Loria department NLPKD (Natural Language Processing and Kownledge Discovery).

– Animator of the CPER 2015-2020 project *Langues, Connaissances et Humanités Numériques'* (Languages, Knowledge and Digital Humanities) in which ten laboratories of the *Université de Lorraine* are implied.

– Member of the Comipers (Inria committee for PhD and Post-doctoral selection).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence:

Maxime Amblard, Ingénierie de la langue, 25h, L3, Université de Lorraine, France.

Maxime Amblard, Panorama du TAL, 2h, L1, Université de Lorraine, France.

Timothée Bernard, Algorithmique (TD), 24h, L3, Université Paris Diderot – Paris 7, France.

Clement Beysson, C2I, 18h, L1, Université de Lorraine, France.

Clement Beysson, Linguistique, 14h, L2, Université de Lorraine, France.

Clement Beysson, Représentation Avancé de Donnée, 25h, L2, Université de Lorraine, France.

Clement Beysson, Ingénierie de la langue, 10h, L3, Université de Lorraine, France.

Pierre Ludmann, TD Tronc Commun d'Informatique I, 20h, 1st year Formation Ingénieur Civil, Mines Nancy, France.

Master:

Maxime Amblard, Formalisms: from Syntax to Discourse (english), 50h, M2, Université de Lorraine, France.

Maxime Amblard, Research methodology (english), 10h, M2, Université de Lorraine, France.

Maxime Amblard, Remise à niveau TAL (english), 4h, M2, Université de Lorraine, France.

Maxime Amblard, initiation au TAL, 30h, M1, Université de Lorraine, France.

Maxime Amblard, Programming for NLP (english), 44h, M1, Université de Lorraine, France.

Philippe de Groote, Formal logic, 35h, M2, Université de Lorraine, France.

Philippe de Groote, Computational structures and logics for natural language modeling, 18h, M2, Université Paris Diderot – Paris 7, France.

Bruno Guillaume, Remise à niveau TAL (english), 9h, M2, Université de Lorraine, France.

Bruno Guillaume, Linguistic Resources TAL (english), 15h, M2, Université de Lorraine, France.

Sylvain Pogodalla, Formal Languages, 24h, M2, Université de Lorraine, France.

8.2.2. Supervision

PhD in progress:

Clement Beysson, *Quantificateurs généralisés dynamiques pour l'analyse discursive*, since September 2015, Philippe de Groote and Bruno Guillaume.

Maria Boritchev, *Dialogue Dynamics Modeling in the Simple Theory of Types*, since September 2017, Maxime Amblard and Philippe de Groote.

Pierre Ludmann, *Construction dynamique des structures discursives*, since September 2017, Philippe de Groote and Sylvain Pogodalla.

8.2.3. *Juries*

Maxime Amblard was member of the jury of the master thesis of the master NLP (6 students).

Sylvain Pogodalla was member of the jury of the PhD thesis of Rapaël Salmon, *Natural Language Generation Using Abstract Categorial Grammars* July 10, 2017, Paris Diderot – Paris 7 University.

Sylvain Pogodalla was member of the jury of the *Prix de la thèse 2017* of the *Association pour le Traitement automatique des Langues (ATALA)*.

8.3. Popularization

- Maxime Amblard:
    - Vice head of the editorial board of interstices)i(, a French magazine popularizing computer sciences.
    - Several publication about algorithms, AI and NLP for interstices)i(.
    - Winner of a Blaise Pascal Foundation grant for a project to create a happy families game (*jeu des sept familles*) based on computer science sub-fields and scientists.
- Bruno Guillaume: interviewed by the large audience scientific newspaper *Sciences & Avenir* (January 2017) for the article *Pour aidez la recherche, jouez !*

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

K. Ramdani was member of the Organizing Committee of the Conference "Accès ouvert : rêve ou réalité ?" (CIRM, October 2017) organized by the RNBM (Réseau National des Bibliothèques de Mathématiques). During this conference, two days were more especially scientists-oriented and devoted to new models of publication, and more especially open access journals (for more details, see: http://www.rnbm.org/cirm-2017).

10.1.1.2. General chair, Scientific chair

T. Takahashi co-organized a conference, in the framework of the ANR's project IFSMACS, at the Institut de Mathématiques de Bordeaux from the 2nd to the 5th of October 2017 (see https://indico.math.cnrs.fr/event/1367/).

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

J.-C. Vivalda is a member of the editorial board of the "Journal of Dynamical and Control Systems". David Dos Santos Ferreira is member of the editorial board of "Mathematical Control and Related Fields".

10.1.2.2. Reviewer - Reviewing Activities

J.-F. Scheid is reviewer for the "Applied Mathematics and Optimization" journal.

J.-C. Vivalda is reviewer for the "Mathematical reviews".

10.1.3. Invited Talks

- T. Chambrion has been invited to the "Recife Workshop on Control and Stabilization of PDEs" held from 13 to 17 February 2017 in Recife (Brasil). See https://sites.google.com/site/recontrolpde/.
- T. Chambrion has been invited to the seminar of Université de Nice (analysis) in November 2017 and Strasbourg (December 2017).
- T. Takahashi was an invited speaker at the conference CDPS 2017 in Bordeaux (see https://indico.math.cnrs.fr/event/1363/).

10.1.4. Leadership within the Scientific Community

T. Chambrion has been a co-animator (with F. Di Meglio) of the GT EDP in GDR MACS until the redesign of the working groups in November 2017.

D. Dos Santos Ferreira is one of the coordinators of the GDR "Analyse des EDP".

10.1.5. Research Administration

- Karim Ramdani was deputy delegate for scientific affairs of the Inria Nancy research center until August 31, 2017.
- Karim Ramdani is member of the board of the RNBM (Réseau National des Bibliothèques de Mathématiques) and is in charge with Benoît Kloeckner of Open Access issues.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

With the exception of K. Ramdani, T. Takahashi and J.-C. Vivalda, SPHINX members have teaching obligations at "Universite´ de Lorraine" and are teaching at least 192 hours each year. They teach mathematics at different level (Licence, Master, Engineering school). Many of them have pedagogical responsibilities.

10.2.2. Supervision

PhD in progress: Mohamed ID SAID, Embedded automatic control with limited computational resources, from October 2017, supervisors: T. Chambrion and G. Millerioux;

PhD in progress: Meriem BOUGUEZZI, Reaction-diffusion system for the modeling of a corrosion phenomena, from november 2017, J.-F. Scheid (co-supervisor);

PhD in progress: Imem JBIL, Myocardial infarction as a fluid-structure system : modeling and simulations, from mars 2017, J.-F. Scheid (co-supervisor);

PhD in progress: Imene DJEBOUR, Control and inverse problems on fluid-structure interaction systems, from November 2017, supervisor : Takahashi

PhD in progress: Benjamin Obando, Mathematical study of the dynamics of heterogeneous granular flows, from August 2015, supervisors : Takahashi and San Martín (Universidad de Chile)

10.2.3. Juries

David Dos Santos Ferreira reviewed the application of Joonas Ilmavirta for position of "docent" at Helsinki University. He was also a member of the HDR (Accreditation to Supervise Research) thesis jury of Yavar Kian (defended in November 2017).

TONUS Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

Philippe Helluy is member of the French candidature committee for the organization of the International Congress of Mathematics in 2022 in Paris and Strasbourg https://www.icm2022-paris.com/.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

Philippe Helluy is in the editorial board of

International Journal of Finite Volume

Computational and Applied Mathematics

10.1.2.2. Reviewer - Reviewing Activities

Emmanuel Franck was a reviewer for

Communication in computation physics

Computer Methods in Applied Mechanics and Engineering

Journal of Computational Physics

Philippe Helluy has done reviews for

Numerical Methods for Partial Differential Equations

Journal of Computational Physics

Computers and Fluids

M2AN

Esaim Proceedings and reviews

Sever Hirstoaga was a reviewer for

Journal of Computational and Applied Mathematics (2 papers)

Journal of Approximation Theory

SIAM Journal on Optimization

Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal

MathSciNet/Mathematical Reviews

Michel Mehrenberger participates in reviewing for

SIAM Journal on Scientific Computing

Mathematical Methods in the Applied Sciences

Evolution Equations and Control Theory

Journal of Computational Physics

International Conference on Physics, Mathematics and Statistics 2018

Applied Mathematics and Computation

Computer Physics Communications

Laurent Navoret was a reviewer for

Kinetic and Related Models

10.1.3. Invited Talks

Emmanuel Franck was invited at

Enumath conference, Bergen, September 2017.

the Workshop JOREK, Prague, March 2017.

the IPL Fratres Meeting, Rennes, November 2017.

Philippe Helluy was invited at

NUMKIN 2017, Garching November 2017

Fast high order DG methods for future architectures Heidelberg July 2017

Workshop - "Modeling and Numerical Methods for Hot Plasmas III": 12-13 octobre 2017 Bordeaux

Sever Hirstoaga was invited at

the "Séminaire d'analyse numérique", at IRMAR, Rennes, February 2nd, 2017.

Michel Mehrenberger

gave a talk entitled «About recurrence time for a semi-Lagrangian discontinuous Galerkin Vlasov solver» at Collisionless Boltzmann (Vlasov) Equation and Modeling of Self-Gravitating Systems and Plasmas, CIRM (Marseille), 30 october-3 november 2017.

was invited at the seminar «Analyse Numérique et Calcul Scientifique» of Besançon "Méthodes numériques pour la physique des plasmas", February 16, 2017.

Larent Navoret was invited at

the Seminar of the Interdisciplinary Center for Scientific Computing, Heidelberg, Germany

10.1.4. Scientific Expertise

Philippe Helluy is in the evaluation committee of the "réseau calcul" of CNRS.

10.1.5. Research Administration

Philippe Helluy

has been elected as the Director of the IRMA mathematics institute (official start in september 2018).

Sever Hirstoaga

was member of the hiring committee for an associate professor position at the ENS Mécanique et des Microtechniques, Besançon.

Michel Mehrenberger

is in the IREM ("Institut de recherche sur l'enseignement des mathématiques") team "Modélisation" for the year 2017-2018, Université de Strasbourg.

is in the committee of the Ecole Doctorale ED269, EDMSII, Université de Strasbourg.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

M1: Philippe Helluy, algorithmes pour les graphes 30 HETD

M2: Philippe Helluy, Contrôle optimal 30 HETD

M2: Philippe Helluy, EDP hyperboliques 30 HETD

L2: Philippe Helluy, Calcul scientifique 64 HETD

Ecole d'ingénieurs: Philippe Helluy, recherche opérationnelle 40 HETD, analyse numérique 40 HETD

Licence: Michel Mehrenberger, Calcul scientifique, 65 h eq. TD, L3, Université de Strasbourg, France.

Licence: Michel Mehrenberger, Optimisation Non-Linéaire, 54h eq. TD, Cours et TD, L3 Maths-Eco, Université de Strasbourg, France

Master: Michel Mehrenberger, Calcul scientifique, 32.5h eq. TD, Cours et TP, M1 CSMI, Université de Strasbourg, France.

Master: Michel Mehrenberger, PIP: certification python, 13h eq. TD, TP, M1 Mathématiques, Université de Strasbourg, France.

Master: Michel Mehrenberger, Calcul scientifique, 22 h eq. TD, TP, M2 Agrégation, Université de Strasbourg, France.

Licence : Laurent Navoret, Nonlinear optimization (18h eq. TD), L3 Maths-Eco, Université de Strasbourg, France.

Master 1: Laurent Navoret, Python (32,5h eq. TD), Université de Strasbourg, France.

Master 2 (Agrégation) : Laurent Navoret, scientific computing (60h eq. TD), Université de Strasbourg, France.

Master 2 (Cell physics) : Laurent Navoret, Basics in maths (24h eq. TD), Université de Strasbourg, France.

Master 2 (Agrégation) : Laurent Navoret, Head of the master, Université de Strasbourg, France.

10.2.2. Supervision

Philippe Helluy has been Habilitation "garant" of Olivier Hurisse (EDF) and Marcela Szopos (IRMA), at université de Strasbourg.

PhD in progress: Lucie Quibel (CIFRE support): in collaboration with EDF Chatou, from October 2017, Advisor: Philippe Helluy.

PhD in progress: Marie Houillon: "Modeling of thin wires in electromagnetic software", Advisors: Philippe Helluy and Laurent Navoret, from October 2017, Labex Irmia support.

PhD in progress: Bruno Weber(CIFRE support): "Optimization of DG software on GPU in the AxesSim company". Advisor: Philippe Helluy.

PhD in progress: Maxime Schmitt: "Optimization of scientific software with arbirary mesh refinement", Advisors: Philippe Helluy and Cédric Bastoul (CAMUS team). Labex Irmia support.

PhD in progress: Ksander Ejjaaouani, "Conception of a programmation model, application to gyrokinetic simulations", from October 2016, Advisors: Michel Mehrenberger, Julien Bigot, Olivier Aumage.

PhD in progress: Nicolas Bouzat, "Conception of a programmation model, application to gyrokinetic simulations", from October 2015, Advisors: Michel Mehrenberger, Jean Roman, Guillaume Latu.

PhD in progress: Pierre Gerhard, "Résolution des modèles cinétiques. Application à l'acoustique du bâtiment", from October 2015, Advisors: Philippe Helluy, Laurent Navoret.

Conrad Hillairet: interrupted thesis at the request of the student.

10.2.3. Juries

Philippe Helluy was member of the following juries

> jury of the PhD committee of Tohir Akramov, in astrophysics, université de Strasbourg, 28 September 2017.

> jury of the PhD committee of Thomas Altazin, in scientific computing, université de Toulon, 7 September 2017.

> jury of the PhD committee of Laura Mendoza, in plasma physics, Max Planck Institut for Plasma Physics, Garching.

> jury of the PhD committee of Florence Drui, in multiphase models, Ecole Centrale Paris, 7 July 2017.

Michel Mehrenberger was member of the jury of the PhD committee of Mohammad Akil (Université de Limoges), 6 October 2017.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Promotion of Mathematics in the industry

- M. Deaconu is involved in the Fédération Charles Hermite Forum which will be held in Nancy in January 2018.
- A. Lejay has been appointed as representative of the Agence Mathématiques et Entreprise (AMIES) for the Grand-Est Region.
- 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.
- 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.

10.1.2. Scientific Events Organisation

- M. Bossy co-organized the Closing workshop of the project MECASIF On reduced order methods for wind and marine current power held at Inria Sophia Antipolis, February 20-22, 2017.
- M. Bossy co-organized the Wokshop EDF-UCA : HPC and fluid flow held at Inria Sophia Antipolis, November 23 - 24, 2017.
- N. Champagnat co-organizes with Marianne Clausel (Univ. de Lorraine) the weekly Seminar of Probability and Statistics of IECL, Nancy.
- D. Talay and N. Touzi (Ecole Polytechnique) organized and chaired the conference 'PDE and Probability Methods for Interactions', Inria Sophia Antipolis, March 30-31, 2017 (https://project.inria.fr/pde2017/).
- D. Talay organized the workshop 'Singular Mckean-Vlasov Dynamics', Inria Sophia Antipolis, September 14-15, 2017.
- D. Villemonais and M. Kolb organized (Univ. of Paderborn) a workshop entitled "Quasistationary Distributions: Analysis and Simulation" at Paderborn in September 2017 (http://math.uni-paderborn.de/ag/arbeitsgruppe-wahrscheinlichkeitstheorie/forschung/konferenzen/).

10.1.3. Scientific Events Selection

10.1.3.1. Member of the Conference Program Committees

- A. Lejay is member of the conference program committees of *Journées de Probabilités 2017* (Aussois, France) and of CEMRACS 2017.
- D. Talay is serving as a member of the ICMNS 2018 Conference Program Committee.

10.1.4. Journal

10.1.4.1. Member of the Editorial Boards

- N. Champagnat serves as an Associate Editor of *Stochastic Models* and of *ESAIM: Probability & Statistics* until June.
- N. Champagnat was co-editor-in-chief with Béatrice Laurent-Bonneau (IMT Toulouse) of *ESAIM: Probability & Statistics* since June.
- A. Lejay is one of the three editors of the *Séminaire de Probabilités* and *Mathematics and Computers in Simulation* (MATCOM).

- D. Talay serves as an Associate Editor of *Stochastic Processes and their Applications*, *Probability, Uncertainty and Quantitative Risk*, *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 serves as Co-editor in chief of *MathematicS in Action*.

10.1.4.2. Reviewer - Reviewing Activities

- M. Deaconu wrote reviews for manuscripts submitted to *Proceedings of the London Mathematical Society*, *Journal of Computational and Applied Mathematics* and *Mathematics and Computers in Simulation*.

- C. Fritsch wrote reviews for manuscripts submitted to *Journal of Biological Systems* and *Chaos, Solitons & Fractals*.

- A. Lejay wrote reviews for *Stochastic Processes and Their Applications*, *Séminaire de probabilités*, *Annals of Applied Probability*, *Physical Review E*, *Mathematical Methods of Operations Research*, *Bulletin des Sciences Mathématiques*, *Boundary Value Problems* , *Journal of Hydrology*, *Electronic Journal of Probability*, *Quantitative Finance and Economics* and *Journal of Theoretical Probability*.

- D. Talay reported on applications to the Swiss National Science Foundation (SNSF).

- D. Talay reported on an application to the FONDECYT Program, Chile.

- D. Talay reported on applications to the Research Grants Council (RGC) of Hong Kong.

- D. Talay reported on manuscripts submitted to *Electronic. J. of Probabibility*, *SINUM*, *Annals Applied Probab.*, *J. Mathématiques Pures et Appliquées*.

- E. Tanré wrote reviews for manuscripts submitted to *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 *Complexity*, *Journal of Mathematical Biology* and *Annals of Applied Probability*.

10.1.5. Invited Talks

- M. Bossy has been invited to give a talk at the Forecasting and Risk Management for Renewable Energy conference in Paris June 7-9, 2017.

- M. Bossy has been invited to give a lecture talk at the CEMRACS in Marseille July 2017.

- M. Bossy has been invited to give a seminar talk at CMA MinesParisTech, in Sophia Antipolis November 2017.

- M. Bossy gave a talk at the International Workshop on BSDEs, SPDEs, Edinburgh 2017, at the MECASIF workshop, at the workshop on PDE and Probability Methods for Interactions, at theWorkshop on singular McKean Vlasov in Sophia Antipolis.

- N. Champagnat has been invited to give talks at the conference on *Ecology and evolutionary biology, deterministic and stochastic models* in Toulouse in October, at the Conference on *Quasistationary Distributions: Analysis and Simulation* in Paderborn, Germany in September, at the Workshop on *Singular McKean-Vlasov equations and their applications* in Sophia Antipolis in September, at the *Journées Scientifiques Inria 2017* at Sophia Antipolis in June, at the *Workshop on Multi-Scale Features of Selection in Population Genetics, Eurandom* in Eindhoven, The Netherlands in March and at the *Journées EDP pour la biologie évolutives* in Avignon in March.

- N. Champagnat has been invited to give seminar talks at the *Séminaire Modélisation Mathématiques et Calcul Scientifique de l'Institut Camille Jordan* in Lyon in November, at the *Séminaire du LPMA* in Paris 6 (UPMC) in February, at the *Séminaire de statistique* in Avignon in January, at the *Séminaire de probabilités et statistique du LMV* in Versailles in January and at the *Séminaire Calcul Stochastique de l'IRMA* in Strasbourg in January.

- N. Champagnat gave a colloquium talk at the *Colloquium of the Mathematical Institute* in Mainz, Germany in February.

- N. Champagnat has been invited to give lectures at the *Workshop/School on Stochastic PDEs, Mean Field Games and Biology* (4h) at the Gran Sasso Science Institute (GSSI) in L'Aquila, Italy in September and at the *Doctoral School "New Trends in Markov Processes"* (6h) in Les Diablerets, Switzerland in March.

- M. Deaconu has been invited to give a talk at the *SIAM Conference on Control and its Applications*, 10-12 July 2017, Pittsburgh, USA.

- M. Deaconu has been invited to give a plenary talk at the *Forum des Jeunes Mathématicien-ne-s*, 22-24 November 2017, Nancy.

- M. Deaconu has been invited to give a seminar talk at the *Probability and Statistic Seminar* at the Institut de Mathématiques in Marseille, in November.

- C. Fritsch has been invited to give seminar talks in February at the probability seminars of Paul Painlevé laboratory in Lille and of Fourier Institute in Grenoble, at the meeting of the Chair *Modélisation Mathématique et Biodiversité* in the VEOLIA head office in Aubervilliers and in *MaIAGE seminar* of INRA in Jouy-en-Josas. She has also been invited to give talk at the annual *ModStatSAP* day in Paris in March and at the *HELENA seminar* of the Institute of Groundwater Ecology in Munich and at the *IRMAR probability seminar* in Rennes in June.

- C. Fritsch gave a talk at the conference *Mathematical Models in Ecology and Evolution* in London in July.

- P. Helson gave a talk at the workshop *Computational Neuroscience and Optical Dynamics* in Sophia-Antipolis in May.

- P. Helson presented a poster at the conference *International Conference on Mathematical Neuroscience* in Boulder (US) in June.

- A. Lejay gave a seminar talk at the *Séminaire EDP de l'Institut Élie Cartan de Lorraine* (Metz, France) in April 2017.

- A. Lejay gave talks at the national conference *Brownian motion in cones: algebraic and analytic approaches* at Toulouse in November and at the national conference *Journées de Probabilités 2017* at Aussois in June.

- A. Lejay gave a talk at the international conference *PDE & Probability Methods for Interactions* at Sophia-Antipolis, February 2013; *Monte Carlo Methods and Applications (MCM 2017)* at Montréal in July 2017; *Scicade 2017* at Bath in September 2017; *Rough Paths in Toulouse* at Toulouse in October 2017.

- P. Pigato has been invited to give seminar talks in January, at the Probability and Statistics Seminar of Laboratoire Jean Kuntzmann (Grenoble) and at the Seminar Modern Methods in Applied Stochastics and Nonparametric Statistics of WIAS Berlin.

- In January, Paolo Pigato has given a seminar talk at the Probability and Statistic Seminar of Institut Elie Cartan (Nancy).

- P. Pigato was invited to participate, from February 26th to March 4th, to the meeting "Mathematics of Quantitative Finance" in Oberwolfach, Germany.

- D. Talay gave a lecture at the workshop *Stochastic Differential Equations: Regularity and Numerical Analysis in Finite and Infinite Dimensions*, Mathematisches Forschungsinstitut Oberwolfach, February 5-11.

- D. Talay gave an invited conference at the Moscow National Research University Higher School of Economics, Laboratory of Stochastic Analysis winter meeting, December 4-7.

- D. Talay gave a seminar at Ecole Polytechnique on October 17th.

- E. Tanré gave talks at Université du Maine and Université de Savoie.

- E. Tanré was invited in Edinburg to give a talk at the International Workshop on BSDEs, SPDEs and their Applications in the McKean-Vlasov special session (July).
- E. Tanré was invited to give a talk at the workshop PDE/Probability Interactions: Kinetic Equations, Long time and Propagation of Chaos (Luminy, September).
- D. Villemonais has been invited to give seminar talks at the Stochastic Analysis Seminar of Imperial College (London, UK), at the Séminaire de probabilités of Université de Lille, at the Séminaire de probabilités of Université de Rennes and at the Probability laboratory of the Univeristy of Bath (UK).

10.1.6. Leadership within the Scientific Community

- M. Bossy is serving as a vice president of the Inria Evaluation Committee.
- A. Lejay is the head of the Probability and Statistics team of the Institut Élie Cartan since September 2016.
- A. Lejay is member of the Conseil de Perfectionnement of the Master of Mathematics of the Université de Lorraine.
- 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 serving as a member of the committee in charge of preparing the application of Paris to the International Congress of Mathematicians 2022.
- D. Talay is serving as a member of the CMUP Advisory Commission (University of Porto).
- D. Talay is a member of the Comité National Français de Mathématiciens.

10.1.7. Scientific Expertise

- M. Bossy reported for the Paul Caseau Prize.
- M. Bossy participated in a Associated Professor position recruitment committee at CMA Mines-ParisTech.
- N. Champagnat reported on an research project submitted to the Natural Sciences and Engineering Research Council (NSERC) of Canada.
- M. Deaconu has been a member of the *Committee for junior permanent research positions* of Inria Nancy - Grand Est.
- A. Lejay participated in a Professor position recruitment committee at Université de Lorraine.
- E. Tanré was member of the hiring committee 26 MCF at the 'Ecole Centrale de Paris'.
- E. Tanré reported on an application submitted to CONICYT (Chilean Funding Agency).
- D. Talay served as a member of the committee for positions in Applied Mathematics at the Ecole Polytechnique.
- D. Talay served as a member of the committee for a professor position at UCA University (Nice, France).
- D. Talay served as a member of the committee for an assistant professor position at Lille University.
- D. Talay is chairing the 2019 Pionneer ICIAM prize committee.

10.1.8. Research Administration

- M. Bossy has been a member of the DTK-Committee.
- N. Champagnat is a member of the *Comité de Centre*, the *COMIPERS* and the *Commission Information Scientifique et Technique* of Inria Nancy - Grand Est, *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 local correspondent of the COERLE (*Comité Opérationel d'Évaluation des Risques Légaux et Éthiques*) for the Inria Research Center of Nancy - Grand Est. He is also local responsible of GdR MAMOVI for Univ. Lorraine.

- 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 member of the Pôle AM2I of the Université de Lorraine since 2017.
- A. Lejay is member of the theses committee of the Institut Élie Cartan de Loraine.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

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.

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.

PhD-level lecture: N. Champagnat, *Large population scalings of stochastic population dynamics in ecology and evolution*, Workshop/School on Stochastic PDEs, Mean Field Games and Biology, 6h, at the Gran Sasso Science Institute (GSSI) in L'Aquila (Italy).

PhD-level lecture: N. Champagnat, *Quasi-Stationary Distributions for absorbed Markov processes*, Doctoral School on *New trends in Markov Processes*, 9h, Les Diablerets (Switzerland).

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, supervision of a research project on the *approximation of birth-death processes by stochastic differential equations*, 6h, M2, École des Mines de Nancy, France.

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

Master: K. Salhi, *Statistiques et analyse de données*, 48h, M1, Télécom Nancy, France.

Master: K. Salhi, *Probabilité et Statistiques*, 48h, M1,ENSEM Nancy, France.

Licence: K. Salhi, *Probabilité et mathématiques financières*, 40h, L1, IUT Charlemagne, 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 M. Tomasevic (practical classes) *Numerical probability for mathematical finance*, 20h (8h + 12h), M2, EPU (Master IMAFA), France.

10.2.2. Supervision

PhD in progress: Antoine Brault, *Non-Linear Sewing Lemma*, Université Toulouse 3, October 2015, L. Coutin (U. Toulouse 3), A. Lejay.

PhD in progress: Lorenzo Campana, *Stochastic modeling of non-spherical particle transport and deposition by turbulent flows*, December 2017, M. Bossy.

PhD in progress: Quentin Cormier, *Biological Networks of Spiking Neurons*, September 2017, E. Tanré and R. Veltz (MathNeuro Inria team).

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

PhD: Radu Maftei, *Stochastic Analysis of Lagrangian Particle Simulation Application to colloidal particle collision*, Univ. Nice Sophia Antipolis, December 2017, M. Bossy.

PhD: Hernan Mardones, *Numerical solutions of stochastic differential equations with multiplicative noise*, Université de Concepción (Chile), June 2017, C. Mora (U. Concepción), A. Lejay.

PhD in progress: Milica Tomašević, *On a stochastic interpretation of parabolic-parabolic Keller-Segel systems*, October 2016, D. Talay.

10.2.3. Juries

- M. Bossy served as a referee for the Ph.D. theses of Gerome Faure *Stochastic Lagrangian models to better estimate energy production variability*.

- M. Bossy served as an examiner for the HDR of Ahmed Kebaier *Methodes Multilevel Monte Carlo et Statistiques des Processus en Finance*, Université Paris 13, December 2017.

- N. Champagnat served as a referee for the Ph.D. theses of Brice Samegni-Kepgnou, *Grandes Déviations de systèmes stochastiques modélisant des épidémies*, Aix-Marseille Univ., July 13, 2017, and of Nils Caillerie, *Équations cinétiques stochastiques et déterministes dans le contexte des mathématiques appliquées à la biologie*, Univ. Lyon 1, July 5, 2017.

- N. Champagnat served as an examiner for the Ph.D. thesis of Manon Baudel, *Théorie spectrale pour des applications de Poincaré aléatoires*, Univ. Orléans, December 1, 2017.

- M. Deaconu served as a referee for the Ph.D. thesis of Alizée Geeraert, *Contrôle optimal stochastique des processus de Markov déterministes par morceaux et application à l'optimisation de maintenance*, Université de Bordeaux, June 6, 2017.

- A. Lejay served as referee for the Ph.D. thesis of Yi Lu, *Calcul fonctionnel non-anticipatif et applications aux processus stochastiques*, Université Paris 6, December 2017.

- A. Lejay served as an examiner for the jury of Hernan Mardones, *Numerical solutions of stochastic differential equations with multiplicative noise*, Université de Concepción (Chile) in June 2017.

- A. Lejay served as a referee for the Habilitation thesis of Ahmed Kebaier, *Méthodes Multilevel Monte Carlo et Statistiques des Processus en Finance*, Université Paris 13, December 2017.

- D. Talay served as a referee for the Ph.D. thesis of Liping Xu, *Contribution à l'étude de l'équation de Boltzmann homogène*, Université Pierre et Marie Curie, June 2017.

- D. Talay served as a referee for the Habilitation thesis of Jérôme Lelong, *Quelques contributions aux méthodes numériques probabilistes et à la modélisation stochastique*, Université Grenoble Alpes, September 2017.

- D. Talay served as a referee for the Habilitation thesis of Noufel Frikha, *Stochastic approximation, Markovian perturbation of stochastic processes and their applications*, University Paris-Diderot, November 2017.

- D. Talay served as an examiner for the Habilitation thesis of Xialou Tan, *Martingale optimal transport, non Markovian stochastic control and branching diffusion processes*, December 2017.

- D. Talay served as a referee for the Ph.D. thesis of Guillaume Sall, *Quelques algorithmes rapides pour la finance quantitative*, Sorbonne Universités, December 2017.

VERIDIS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Organization of Scientific Events

10.1.1.1. Member of the Organizing Committees

Jasmin Blanchette co-organized the *(Co)programming in Isabelle/HOL* tutorials at ICFP 2017 in Oxford, UK, and at CADE-26 in Gothenburg, Sweden.

Jasmin Blanchette co-organized the Dagstuhl Seminar on *Deduction beyond First-Order Logic* held at Schloss Dagstuhl in Germany.

Jasmin Blanchette co-organized the *(Co)programming in Isabelle/HOL* tutorials at ICFP 2017 in Oxford, UK, and at CADE-26 in Gothenburg, Sweden.

Dominique Méry was a member of the organizing committees of the workshops F-IDE [43] and IMPEX'2017.

The International Summer School on Verification Techniques, Systems, and Applications (VTSA) has been organized since 2008 in the Greater Region (Nancy, Saarbrücken, Luxembourg, Liège, and Koblenz), and Stephan Merz and Christoph Weidenbach are co-organizers of VTSA. In 2017, VTSA took place in July in Saarbrücken, Germany.

The SC^2 Summer School 2017 took place in Saarbrücken, Germany. It has been co-organized by Thomas Sturm. The school introduced graduate students and researchers from academia and industry into research and methodology in both Satisfiability Checking (SAT/SMT) and Symbolic Computation with one focus on their interconnections. It combined a thorough introduction into the theory of both fields with lectures on state-of-the-art software systems and their implementation. This was supplemented with presentations by lecturers from industry discussing the practical relevance of the topics of the school.

Together with the CADE trustees, Christoph Weidenbach started the first CADE workshop on *Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements* (ARCADE 2017)

10.1.2. Program Committees

10.1.2.1. Chair of Conference Program Committees

Stephan Merz co-chaired the program committee of the Fourth International Workshop on Formal Reasoning in Distributed Algorithms (FRiDA), organized in October 2017 as a satellite of DISC in Vienna, Austria.

10.1.2.2. Member of the Conference Program Committees

Jasmin Blanchette served on the program committees of the Conference on *Computer-Aided Verification* (CAV 2017), the *Conference on Automated Deduction* (CADE-26), the *International Conference on Tests and Proofs* (TAP 2017), and the Conference on *Artificial Intelligence and Theorem Proving* (AITP 2017). He also served on the following workshop committees: *Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements* (ARCADE 2017), *International Workshop on the Implementation of Logics* (IWIL 2017), *Proof Exchange for Theorem Proving* (PxTP 2017), and *Satisfiability Modulo Theories* (SMT 2017).

Pascal Fontaine served on the program committees of the *International Symposium on Frontiers of Combining Systems* (FroCoS 2017), the *Conference on Automated Deduction* (CADE-26) and the *International Conference on Automated Reasoning with Analytic Tableaux and Related Methods* (TABLEAUX 2017). He also served on the following workshop committees: *Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements* (ARCADE 2017), *Satisfiability Modulo Theories* (SMT 2017), *Satisfiability Checking and Symbolic Computation* (SC^2 2017), *Proof Exchange for Theorem Proving* (PxTP 2017)

Stephan Merz served on the program committees of the international conferences *Formal Techniques for Distributed Objects, Components, and Systems* (FORTE 2017), *Foundations of Software Technology and Theoretical Computer Science* (FSTTCS 2017), and *Formal Engineering Methods* (ICFEM 2017), the national conference *Modélisation des Systèmes Réactifs* (MSR 2017), and of the workshops FMICS-AVoCS and GRSRD.

Thomas Sturm served on the program committees of the *Second International Workshop on Satisfiability Checking and Symbolic Computation* (SC^2 2017) and the *19th International Workshop on Computer Algebra in Scientific Computing* (CASC 2017).

Uwe Waldmann served on the program committee of the workshop *International Workshop on the Implementation of Logics* (IWIL 2017) colocated with LPAR.

Christoph Weidenbach served on the program committees of the *Conference on Automated Deduction* (CADE-26) and the *International Symposium on Frontiers of Combining Systems* (FroCoS 2017). He also served on the workshop committee *Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements* (ARCADE 2017).

10.1.3. Journals

Jasmin Blanchette and Stephan Merz are the editors of a special issue of *Journal of Automated Reasoning* following the international conference *Interactive Theorem Proving* 2016.

Dominique Méry is the review book editor of the journal *Formal Aspects for Computing*.

Thomas Sturm is a member of the editorial boards of the *Journal of Symbolic Computation* (Elsevier) and *Mathematics in Computer Science* (Springer).

Christoph Weidenbach is a member of the editorial board of the *Journal of Automated Reasoning* (Springer).

10.1.4. Invited Talks

Jasmin Blanchette was invited to give a joint keynote talk at the FroCoS 2017, ITP 2017, and TABLEAUX 2017 conferences held in Brasília, Brazil. He presented Isabelle/HOL's support for (co)datatypes and (co)recursion [18]. He also gave invited seminar talks at the Big Proof Workshop organized by the Isaac Newton Institute in Cambridge, UK, at the TeReSe (Term Rewriting Systems) meeting in Eindhoven, the Netherlands, and at the Shonan Meeting on Automated Deduction at the Shonan Village Center in Japan.

Stephan Merz gave an invited presentation on "Formal Methods for the Cloud" at the Cloud Resiliency Workshop 2017 in Shenzhen, China.

Thomas Sturm was invited to give a keynote talk at the *3ème BIOSS Journées annuelles du groupe de travail* in Montpellier, France.

Uwe Waldmann gave an invited talk on "Saturation Theorem Proving – Basic Ideas, History, and Recent Developments" at the Seminar on Proof Assistants and Related Tools at DTU Lyngby, Denmark in October 2017.

Christoph Weidenbach gave invited talks on "Design Principles of Automated Reasoning Systems" at VSTTE 2017 and "The Role of Horn Clauses in Automatic Reasoning" at HCVS 2017.

10.1.5. Leadership within the Scientific Community

Jasmin Blanchette was elected as a regular member of the steering committee for the ITP (*Interactive Theorem Proving*) conference series, after serving for two years as an ex officio member. He is also a regular member of the CADE (*Conference on Automated Deduction*) Inc. Board of Trustees.

Pascal Fontaine is an SMT-LIB manager, together with Clark Barrett (Stanford University) and Cesare Tinelli (University of Iowa). He is a member of the FroCoS steering committee. He was an elected CADE trustee since October 2014 until October 2017 and served as a member of the Association for Automated Reasoning (AAR) board until October 2017.

Stephan Merz is a member of the IFIP Working Group 2.2 on *Formal Description of Programming Concepts*. He is a member of the steering committee of the workshop on Automated Verification of Critical Systems (AVoCS).

Thomas Sturm has been a member of the steering committee of the conference series *International Conference on Mathematical Aspects of Computer and Information Sciences (MACIS)*. His term ended in November 2017. In July 2017 he was elected as a member at large of the steering committee of the conference series *International Symposium on Symbolic and Algebraic Computation (ISSAC)*.

Christoph Weidenbach is the president of CADE and a member of the steering committee of IJCAR.

10.1.6. Scientific Expertise

Pascal Fontaine was a panel member for the CASC-26 competition of first-order theorem prover. He served as an expert for the French Agence Nationale de la Recherche (ANR).

Stephan Merz served as an expert for the French Agence Nationale de la Recherche (ANR) and for the European Research Council (ERC).

Christoph Weidenbach served as an expert for the Austrian Science Fund and the University of Stellenbosch.

10.1.7. Research Administration

Dominique Méry was the head of the Doctoral School IAEM Lorraine of University of Lorraine until September 2017.

Stephan Merz is the delegate for scientific affairs at the Inria Nancy – Grand Est research center and a member of Inria's Evaluation Committee. In 2017, he was a member of the hiring committees of junior researchers at Inria Saclay – Île de France as well as of senior researchers at Inria. He is a member of the committee for the SIF thesis award (*Prix Gilles Kahn*). He is a member of the *bureau* of the computer science committee of the doctoral school IAEM Lorraine. Until October 2017, he was a member of the Scientific Directorate of the International Computer Science Meeting Center in Schloss Dagstuhl.

Christoph Weidenbach is a member of the selection committee of the Saarbrücken Graduate School in Computer Science.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Jasmin Blanchette, Logical Verification, 36 HETD, M1/M2, Vrije Universiteit Amsterdam, the Netherlands.

Licence: Marie Duflot-Kremer, Algorithmique et Programmation 1, 70 HETD L1 Mathématiques, Informatiques Sciences pour l'Ingénieur, Université de Lorraine, France.

Licence: Marie Duflot-Kremer, Bases de données 2, 20 HETD, L2 Informatique, Université de Lorraine, France.

Licence: Marie Duflot-Kremer, Projet personnel et communication, 60 HETD, L2 Informatique, Université de Lorraine, France.

Master : Marie Duflot-Kremer, Vérification de systèmes, 30 HETD, M1 Informatique, Université de Lorraine, France.

Master: Marie Duflot-Kremer and Stephan Merz, Vérification algorithmique, 40 HETD, M2 Informatique, Université de Lorraine, France.

Master : Marie Duflot-Kremer and Stephan Merz, Conception et architectures distribuées 24 HETD M1 informatique, Université de Lorraine, France.

Licence : Pascal Fontaine, Structure des ordinateurs, 47 HETD, L2 MIASHS, parcours MIAGE, Université de Lorraine, France.

Master : Pascal Fontaine, Réseaux, 50 HETD, M1 MIAGE, Université de Lorraine, France.

Master : Pascal Fontaine, Génie Logiciel, 30 HETD, M1 MIAGE, IGA Rabbat et Université de Lorraine, Maroc.

Master: Dominique Méry, Models and algorithms, 60 HETD, M1, Telecom Nancy, Université de Lorraine, France.

Master: Dominique Méry, Formal model engineering, 24 HETD, M2, Telecom Nancy, Université de Lorraine, France.

Master: Dominique Méry, Modeling Systems, 30 HETD, M2, Telecom Nancy, Université de Lorraine, France.

Master: Dominique Méry, Modeling Systems, 36 HETD, M2 Informatique and Master Erasmus Mundus DESEM, Université de Lorraine, France.

Master: Dominique Méry, Event-B modeling, 8 HETD, NUI Maynooth, Ireland.

Master: Stephan Merz, Modeling and Verifying Distributed Algorithms in TLA$^+$, 8 HETD, NUI Maynooth, Ireland.

Master: Christoph Weidenbach, Automated Reasoning I & II, 150 HETD, Universität des Saarlandes, Germany.

10.2.2. Supervision

PhD: Haniel Barbosa, New techniques for instantiation and proof production in SMT solving, Université de Lorraine and UFRN (Natal, Brazil) [11]. Supervised by David Déharbe, Pascal Fontaine, and Stephan Merz, since 12/2013. Defended on September 5, 2017.

PhD: Andreas Teucke, *An Approximation and Refinement Approach to First-Order Automated Reasoning*, Saarland University. Supervised by Christoph Weidenbach, thesis submitted in October 2017.

PhD: Daniel Wand, First-Order Extensions to Support Higher-Order Reasoning, Saarland University [12]. Supervised by Christoph Weidenbach and Jasmin Blanchette, since 02/2011. Defended on August 4, 2017.

PhD in progress: Martin Bromberger, Arithmetic Reasoning, Saarland University. Supervised by Christoph Weidenbach, since July 2014.

PhD in progress: Margaux Duroeulx, SAT Techniques for Reliability Assessment, Université de Lorraine. Supervised by Nicolae Brînzei, Marie Duflot-Kremer, and Stephan Merz, since October 2016.

PhD in progress: Daniel El Ouraoui, Higher-Order SMT, Université de Lorraine. Supervised by Jasmin Blanchette, Pascal Fontaine, and Stephan Merz, since November 2017.

PhD in progress: Mathias Fleury, Formalization of Logical Calculi, Saarland University. Supervised by Christoph Weidenbach and Jasmin Blanchette, since September 2015.

PhD in progress: Souad Kherroubi, A framework to formally handle domain knowledge in system design, Université de Lorraine. Supervised by Dominique Méry, since November 2014.

PhD in progress: Nicolas Schnepf, Orchestration and Verification of Security Functions for Smart Environments, Université de Lorraine. Supervised by Rémi Badonnel, Abdelkader Lahmadi, and Stephan Merz, since October 2016.

PhD in progress: Hans-Jörg Schurr, Higher-Order SMT, Université de Lorraine. Supervised by Jasmin Blanchette, Pascal Fontaine, and Stephan Merz, since November 2017.

PhD in progress: Marco Voigt, Decidable Hierarchic Combinations, Saarland University. Supervised by Christoph Weidenbach, since November 2013.

10.2.3. Thesis committees

Stephan Merz served as a reviewer for the PhD theses of Florent Chevrou (Univ. de Toulouse), Sebastian Krings (Univ. Düsseldorf), Ognjen Marič (ETH Zurich), and Yannick Zakowski (ENS Rennes). He was an examiner for the PhD thesis of Zeinab Bakhtiarinoodeh (Univ. de Lorraine) and the habilitation of Alain Giorgetti (Univ. de Bourgogne et Franche Comté).

10.3. Science outreach

Marie Duflot-Kremer took part in various science outreach activities, with a public ranging from primary school kids to teachers and potential university students. A selection of these activities is given below.

General activities.

> She is responsible for the scientific part of the fifth and last module in the Class'Code project (supervising a programming project from scratch), aiming at training teachers and educators for carrying out computer science activities with childrens aged 8 to 14 years.

> Three days at "Fête de la Science" in Nancy (Faculté des Sciences et Technologies) and at Cité des Sciences, Paris, including a visit of the Minister of Higher Education and Research, Frédérique Vidal.

> She is a member of the steering committee of an itinerant exhibition, intended for explaining computer science to the public, and that had its opening in early 2017.

> She co-organized the SCRATCH17BDX international conference on Scratch and creative programming for kids in Bordeaux.

Activities for teachers/trainers.

> She is a member of three working groups (unplugged activities, programming in secondary school and in high school) including university and secondary school teachers, dedicated to the training of math teachers. Two days of training on unplugged computer science activities were given to secondary and high school teachers.

> A training session for kindergarden teachers to include in their "school project" unplugged activities related to programming for kids from 3 to 6 years old.

> Several activities for the "ISN day", aimed at high school teachers teaching computer science courses.

> A publication (post proceedings to appear in 2018) was accepted at the COPIRELEM colloquium, aimed at math trainers for primary school teachers.

Activities for students/pupils.

> Several activities for school kids from 6 to 10 years old at Ecole Marcel Leroy, Nancy.

> She was involved in the *Math en Jeans* project where secondary school kids discover what doing research means.

> Various outreach activities (related to data bases, model checking, algorithms etc.) during two days aimed at presenting the university to high school students.