



RESEARCH CENTER  
**Nancy - Grand Est**

FIELD

# Activity Report 2013

## Section Dissemination

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## ALGORILLE Project-Team

## 8. Dissemination

### 8.1. Scientific Animation

Since October 2001, J. Gustedt is Editor-in-Chief of the journal *Discrete Mathematics and Theoretical Computer Science* (**DMTCS**). He is member of the recruiting committee for PhDs and postdocs of Inria research center and has been member in a recruitment committee for a position at university of Franche Comté in 2013. For the French evaluation organization AERES, J. Gustedt has been one of the evaluators of the LRI Lab near Paris.

For SUPÉLEC, S. Vialle is now leader of the IDMaD research group (focussed on distributed computing and big data) inside the IMS team.

Since 2010, J. Gossa serves as expert for the French ministry of science and education and is in charge of reviewing industrial R&D expenses and *Credit Impôt Recherche* reports. He is also a member of the following boards: IUT Robert Schuman, ICube laboratory computer science department, and University of Strasbourg.

Since march 2013, S. Genaud is dean of the ENSIIE engineering school in Computer Science.

Since 2013, S. Contassot-Vivier is director of the Computer Science Department of the Faculty of Science at Université Lorraine. Since 2011, he also serves as an expert for the French ministry of education and research in the DGRI/MEI mission and is in charge of reviewing academic projects between French and foreign teams.

L. Nussbaum is appointed as an expert on production facilities by the direction of the Inria Nancy–Grand Est center.

M. Quinson has served as program committee member of the 28th ACM/IEEE International Parallel & Distributed Processing Symposium (IPDPS'14), of the 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH, co-organized with ACM SIGSIM), of the 2013 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (PADS'13), and of the 4th International Workshop on Analysis Tools and Methodologies for Embedded and Real-time Systems (WATERS'13).

M. Quinson served as a member of the recruitment committees for associate professor in computer science at University of Lorraine and for junior researcher at Inria Nancy.

M. Quinson is elected of the AM2I board, in charge of voting the budget for 6 laboratories at Université de Lorraine (450 researchers in computer science, mathematics and control theory).

### 8.2. Teaching - Supervision - Juries

#### 8.2.1. Teaching

IUT Charlemagne: Lucas Nussbaum, Installation of Linux, 20 ETD, Licence pro ASRALL (L3), Université de Lorraine, France

IUT Charlemagne: Lucas Nussbaum, Outils Libres, 16 ETD, Licence pro ASRALL (L3), Université de Lorraine, France

IUT Charlemagne: Lucas Nussbaum, Administration des infrastructures avancées, 12 ETD, Licence pro ASRALL (L3), Université de Lorraine, France

Licence: Sylvain Contassot-Vivier, "Informatique graphique", 42 ETD, Licence informatique (L1), Université de Lorraine, France

Licence: Sylvain Contassot-Vivier, "Algorithmique 3", 12 ETD, Licence informatique (L2), Université de Lorraine, France

Licence: Sylvain Contassot-Vivier, “Algorithmique 4”, 32 ETD, Licence informatique (L3), Université de Lorraine, France

Licence, Stephane Vialle, “modèle de programmation”, 21 TD, L1, SUPELEC, France

MIAGE Nancy: Marion Guthmuller, “Réseaux”, 50 ETD, M1, Université de Lorraine, France

Master: Sylvain Contassot-Vivier, “Algorithmique répartie et systèmes distribués”, 45 ETD, M1, Université de Lorraine, France

Telecom Nancy: Sylvain Contassot-Vivier, “Algorithmique des systèmes parallèles et distribués”, 32 ETD, 2ème année (M1), université de Lorraine, France

Telecom Nancy : Martin Quinson, “Algorithmique et Programmation,”, 48 ETD, 1ere année (L3), Université de Lorraine, France.

Telecom Nancy : Martin Quinson, “Programmation Système,”, 24 ETD, 2ème année (M1), Université de Lorraine, France.

ESSTIN Nancy: Sylvain Contassot-Vivier, “Calcul haute performance”, 42 ETD, 4ème année (M1), université de Lorraine, France

Master, Stephane Vialle, “systèmes d’information”, 39 TD, M1, SUPELEC, France

Master, Stephane Vialle, “calcul haute performance”, 62 TD, M2, SUPELEC, France

Engineering School, Stéphane Genaud, “systèmes informatiques et réseaux”, 72 TD, niveau L3, ENSIIE, France

Engineering School, Stéphane Genaud, “middleware”, 32 TD, niveau M1, ENSIIE, France

Master, Stéphane Genaud, “parallélisme, systèmes distribués et grilles”, 21 TD, M2, University of Strasbourg, France

Master, Stephane Vialle, “parallélisme, systèmes distribués et grilles”, 21 TD, M2, University of Strasbourg, France

Master, Stephane Vialle, “systèmes distribués et grilles”, 28 TD, M2, University of Strasbourg, France

### 8.2.2. Supervision

PhD in progress: Tomasz Buchert, *Orchestration of experiments on distributed systems*, since Oct 2011, Jens Gustedt & Lucas Nussbaum

PhD in progress: Marion Guthmuller, *Dynamic verification of distributed applications, using a model-checking approach*, since Oct 2011, Sylvain Contassot-Vivier & Martin Quinson

PhD stopped: Thomas Jost, *Solveurs linéaires creux sur GPU*, started in Jan 2010, Bruno Lévy & Sylvain Contassot-Vivier

PhD: Soumeia Hernane, *Models and algorithms for consistent data sharing in high performance parallel and distributed computing*, defense Jul 2013, Jens Gustedt & Mohamad Benyettou

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

### 8.2.3. Juries

Jens Gustedt was reviewer and member of the jury of the thesis of Lilia Ziane Khodja at Franche-Comté university.

Martin Quinson was a member of the jury of the thesis of Rafael Ferreira Da Silva at INSA-Lyon.

Stéphane Genaud was a member of the jury of thesis of Imen Chakroun at Lille 1 university.

## 8.3. Popularization

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

L. Nussbaum currently serves as the (elected) Debian Project Leader since April 2013.

M. Quinson develops a pedagogic platform in collaboration with G. Oster (Score team of Inria Nancy Grand Est). This tool aims at providing an environment that is both appealing for the student, easy to use for the teacher, and efficient for the learning process. It is available from [its page](#).

M. Quinson is co-leading a working group on the teaching of computer science in the LORIA laboratory. He served both as a program chair and a local chair for a nation-wide two-days workshop gathering about hundred people involved in the introduction of computer science in the French secondary education: university lecturers in charge of teaching to the prospective CS teachers, regional heads of the Education minister accompanying this reform and producer of teaching resources. He also served both as a program chair and local chair for a regional gathering of CS teachers of the secondary wanting to exchange their good practices. This initiative, initiated in Nancy, will spread in several other French cities in 2014.

M. Quinson participated to several events toward the popularization of computer science (either as a speaker or as a co-organizer), targeting either kids and pupils (Telecom Nancy in November), students (Inria in March), maths teachers (APMEP Lorraine in March), CS teachers (SIF-ISN day in June), or all public (Fête de la science in November).

M. Quinson serves on the editorial board of the Interstices website of Inria for the popularization of computer science.

## ALICE Project-Team

## 7. Dissemination

### 7.1. Scientific Animation

#### 7.1.1. Program Committee

Sylvain Lefebvre: Eurographics 2014 (Full papers, and co-chair for State of the Art Reports) and SIGGRAPH Asia.

Bruno Lévy: ACM SIGGRAPH 2014, Eurographics 2013 & 2014 (co-chair), ACM/Eurographics Symp. on. Geom. Proc. 2013, Discr. Geom. for Comp. Imagery 2013, Comput. Graphics. Intl. 2013, Pacific Graphics 2013 (chair), CAD Graphics 2013 (co-chair).

Nicolas Ray: Pacific Graphics 2013 and Eurographics 2014 (Full papers).

Rhaleb Zayer: Pacific Graphics 2013 and Eurographics 2014 (Full papers).

Xavier Antoine: Waves 2013 (International Conference on Mathematical and Numerical Aspects of Waves).

#### 7.1.2. Reviewing

Laurent Alonso: *ACM Transaction on Algorithms, Information Processing Letter, Theoretical Computer Science*.

Dobrina Boltcheva: *IEEE Transaction on Visualization & Computer Graphics*.

Samuel Hornus: *ACM Transactions on Graphics, Eurographics 2014*, *Revue Française d'Informatique Graphique*.

#### 7.1.3. Organization

Dobrina Boltcheva co-organized the “Journées Informatique & Géométrie”, that took place on November 14 and 15 in LORIA, Nancy.

#### 7.1.4. Other

Since 2013, Xavier Antoine is “scientific delegate” at ANR, in charge of mathematics & interactions.

Since 2013, Xavier Antoine is in charge of the “Accueil de Chercheuses et Chercheurs de Haut Niveau” at ANR (Attractivité de la France et Espace Européen de la Recherche).

Since 2013, Xavier Antoine is associate editor for ISRN Applied Mathematics.

Bruno Lévy is associate editor of TVCG (IEEE) and Graphical Models (Elsevier).

B. Lévy was president of the hiring committee for Inria junior researchers (“concours Chargé de Recherche”).

B. Lévy is vice head of the Charles Hermite federation (that regroups the laboratories in CS, mathematics and control theory in the Lorraine region).

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Sylvain Lefebvre was involved in the following courses:

- Cours École Centrale (9h)
- Cours École de Géologie: introduction to parallelism (3h TP) and introduction to computer graphics (3h cours, 6h TP)
- OpenCL, master M2, avec Dmitry Sokolov.
- Course on Video Game programming at “École des Mines de Nancy”. Taught with Guillaume Bonfante.

Samuel Hornus was involved in the following courses:

- "Functional programming with OCaml" at ÉPITECH Nancy (private school training programmers, <http://nancy.epitech.eu/>). Lecture: 9h. Lab work: 18h. 3 student projects.

Dmitry Sokolov was involved in the following courses:

- Algorithmique avancée, 28h, M2 Math de l'UL, France
- Géométrie et représentation dans l'espace, 35h, L2 Informatique de l'UL, France
- Logiques et Modèles de calcul, 30h, M1 Informatique de l'UL, France
- Infographie 76h, M1 Informatique de l'UL, France
- Modèles de perception et raisonnement, 56h, M1 Informatique de l'UL, France
- Parallélisme de données, 15h, M1 Informatique de l'UL, France

Dobrina Boltcheva had 200 hours teaching duty:

- Licence ISN, IUT Saint-Dié-des-Vosges
- 2A DUT INFO, IUT Saint-Dié-des-Vosges
- 1A DUT INFO, IUT Saint-Dié-des-Vosges

Xavier Antoine gave the following invited courses:

6 hours course on numerical methods for Schrödinger equations, Workshop "Non-linear optical and atomic systems: deterministic and stochastic aspects" – January 2013, Lille, France.

3 hours course at 7th Montréal Scientific Computing Days, CRM, Montréal, QC, Canada, May 2013.

Bruno Lévy taught:

- "Numerical Geometry" (15 h) in the National School of Geology and in Nancy School of Mines.
- "initiation to computer programming" in collaboration with the Microtel association (1h per week, 10 kids aged between 7 and 12 years old).

## 7.2.2. Supervision

### 7.2.2.1. Master 2

- Jean Hergel, advised by Sylvain Lefebvre.
- Aytac Kanaci, co-advised by Sylvain Lefebvre and Amaury Habrard (St Étienne, Université Jean Monnet).

### 7.2.2.2. PhD thesis defended

- Sergey Podkorytov (Université de Bourgogne, co-advised by Dmitry Sokolov), "Tangent subspace of self-similar shapes". Defended on December 20 2013.
- Romain Duboscq, co-advised by Xavier Antoine, with Renaud Marty (équipe probabilité IECL).
- Romain Merland, "Generation of finite volume grids accounting for structural, petrophysical and dynamic information", advised by Guillaume Caumon and Bruno Lévy. Defended on April 18, 2013.

### 7.2.2.3. PhD thesis in preparation

- Kun Liu (now post-doc in London), "Modèle discret guidé par l'acquisition pour les objets déformables", Started August 2010, Rhaleb Zayer and Bruno Lévy. Kun should defend his PhD in 2014.
- Alejandro Patricio Galindo, "Traitement de l'image et video tracking pour l'extraction d'informations pertinentes", Rhaleb Zayer and Bruno Lévy.
- Arnaud Botella, "Génération de maillages non-structurés hex-dominants conformes aux domaines géologiques", Started January 2013, Guillaume Caumon and Bruno Lévy.
- Jeanne Pellerin, "Hybrid meshing for geosciences", Guillaume Caumon and Bruno Lévy.



- David Lopez, “Dynamic meshing of free surfaces in fluid simulation”, Bruno Lévy.
- Jean Hergel, “Approches pour la prise en compte conjointe de la fonctionnalité des objets modélisés et des contraintes du procédé de fabrication additive”, Started February 2013, Bruno Lévy.
- Jérémie Dumas, “By-example shape synthesis for 3D printing”, Started September 2013, Sylvain Lefebvre and Bruno Lévy.

### 7.2.3. *Juries*

Sylvain Lefebvre was *examineur* during the PhD defense of Matthias Holländer, who was supervised by Tamy Boubekeur (Telecom ParisTech). Title: Real-time Geometry Synthesis.

Bruno Lévy participated to the following Ph.D. and habilitation juries:

- Hunbin Li (Ph.D., Centrale Lyon)
- Kenneth Vanhoey (Ph.D, ICube, Strasbourg)
- Lionel Untereiner (Ph.D., ICube, Strasbourg)
- Alexandre Derouet-Jourdan (Ph.D., Inria Grenoble)
- Yuan Zhan (Ph.D., Hong-Kong University)
- David Salinas (Ph.D., Gipsa Lab, Grenoble)
- Guillaume Lavoué (Habilitation thesis, LIRIS, Lyon)

## 7.3. Popularization

Sylvain Lefebvre is a member of the *commission de médiation scientifique* and of the *comité espace transfert*.

## BIGS Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

- Journée Identification de systèmes biologiques, 11 April 2013, within the framework of the MACS network. Organizer: Thierry Bastogne.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

BIGS is a team whose composition includes University staff only. All members teach numerous courses, ranging from L1 to M2 levels.

- Samy Tindel (192h, University)
- Thierry Bastogne (192h, University).
- Sandie Ferrigno (192h, Engineering schools)
- Céline Lacaux (192h, Engineering schools)
- Jean-Marie Monnez (192h, IUT and University)
- Aurélie Muller-Gueudin (192h, Engineering schools)
- Pierre Vallois (192h, University)
- Sophie Wantz-Mézières (192h, IUT)

**Note:** An innovative teaching program specialized in Biocybernetics (L3,M1,M2) has been proposed by Thierry Bastogne and started in Sep. 2013 at the Faculté des Sciences et Technologies.

#### 9.2.2. Supervision

PhD: Jean Baptiste Tylcz, Identification et contrôle de systèmes biologiques. Application à la thérapie photodynamique, Université de Lorraine, 4 décembre 2013. Advisors: T. Bastogne and E. Bullinger (U. de Liège).

PhD : Romain Bar, Développement de méthodes d'analyse de données en ligne, Université de Lorraine, 29 novembre 2013. Advisor : J-M. Monnez.

PhD : Benoît Lalloué, Méthodes d'analyse de données et modèles bayesiens appliqués au contexte des inégalités socio-territoriales de santé et des expositions environnementales, Université de Lorraine, 6 décembre 2013. Advisors : J-M. Monnez and S. Deguen.

PhD: Rémi Bonidal, Sélection de modèle par chemin de régularisation pour les machines à vecteurs support à coût quadratique, Université de Lorraine, 19 juin 2013. Advisors: Y. Guermeur and S. Tindel.

#### 9.2.3. Juries

- PhD : Ilham Ben Abbes, Développement d'un nouveau modèle dédié à la commande du métabolisme glucidique appliqué aux patients diabétiques de type 1, Supélec Rennes, 28 juin 2013. Referee: T. Bastogne.
- HDR: Landy Rabehasaina, Contribution à quelques problèmes de premier passage et de ruine multidimensionnels; Lien avec les réseaux de files fluides, Université de Franche Comté, 3 décembre 2013. Referee: P. Vallois.

## CALVI Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

#### 9.1.1. Invitations at conferences and schools

- S. Labrunie gave the invited talk «Singular Solutions and Large Solutions to some Nonlinear Elliptic Equations in Polygonal Domains», Journées Singulières Augmentées en l'honneur de Martin Costabel, Rennes, 2013. <http://jsa2013.sciencesconf.org/>
- G. Manfredi gave the invited talk «Non-relativistic limits of Maxwell's equations» at the Workshop Asymptotic and Multiscale methods, Ile de Porquerolles, 9-15 June 2013, <http://www.math.univ-toulouse.fr/~cnegules/WAMs2013.html>
- E. Frénod gave
  - the invited talk « Sand transport in coastal ocean waters submitted to tide » at the Workshop Asymptotic and Multiscale methods, Ile de Porquerolles, 9-15 June 2013.
  - the invited course «Two-Scale Convergence and Two-Scale Numerical Methods », at “École de mécanique des fluides numérique”, Ile de Porquerolles, 3-8 June 2013, <http://ecolemf.n.limsi.fr/doku.php?id=programme>.
  - the invited talk « The Geometrical Gyro-Kinetic Approximation » at the Institute of Natural Sciences, Shanghai Jiao Tong University, China, 8–27 May 2013.
  - the invited course « Two-Scale Convergence and Two-Scale Numerical Methods » at the Institute of Natural Sciences, Shanghai Jiao Tong University, China, 8–27 May 2013.
- M. Bostan, N. Crouseilles, P. Helluy, S. Hirstoaga and M. Mehrenberger gave invited talks at NumKin 2013, 2-6 September 2013, Garching, Germany, <http://www.ipp.mpg.de/ippcms/eng/for/veranstaltungen/konferenzen/2013/numkin2013/>.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

Licence :

A. Hamiaz, Analyse numérique, 28h, L3, Université de Strasbourg, France.  
 P. Helluy, Analyse numérique, 50h, L3, Université de Strasbourg, France.  
 S. Hirstoaga, Analyse numérique, 42h, L3, Université de Strasbourg, France.  
 S. Labrunie, Mathématiques générales en DUT génie civil, 100h, L1, Université de Lorraine, France  
 S. Labrunie, Mathématiques générales en DUT génie civil, 20h, L2, Université de Lorraine, France  
 M. Mehrenberger, Optimisation non linéaire, 39h, L3, Université de Strasbourg, France.  
 M. Mehrenberger, Analyse numérique, 36h30, L2, Université de Strasbourg, France.  
 M. Mehrenberger, Méthodes d'Analyse Numérique, 39h, L3, ENSIIE (ecole d'ingenieur, antenne de Strasbourg), France.  
 Jean R. Roche, Mathématiques, 162h, L2, ESSTIN, Univ. de Lorraine, France.

Master :

A. Hamiaz, Mathématiques, 20h, Agrégation, Université de Strasbourg, France.  
 M. Mehrenberger, Modélisation : Option Calcul Scientifique, 20h, M2, Université de Strasbourg, France.  
 Jean R. Roche, Optimization, 30h, M1, ESSTIN, Univ. de Lorraine, France.  
 Jean R. Roche, Décomposition de domaines , Cours 15h, Univ. de Hamman Sousse, Tunisie.

### 9.2.2. Supervision

PhD in Progress : Pierre Glanc, Méthodes numériques pour Vlasov par remapping conservatif, Université de Strasbourg, Advisors: Philippe Helluy, Michel Mehrenberger.

PhD in Progress : Nhung Pham, Méthodes numériques pour Vlasov, Université de Strasbourg, Advisors: Philippe Helluy, Laurent Navoret.

PhD in Progress : Michel Massaro, Résolution numérique de lois de conservation sur architectures multicores, Université de Strasbourg, Advisors: Philippe Helluy, Vincent Loechner (EPI CAMUS).

PhD in progress : Mohamed Ghattassi, Analyse et Contrôle d'un Four, Université de Lorraine, Advisor: Jean R. Roche

PhD in progress : Takashi Hattori, Full wave modeling of lower hybrid current drive in tokamaks, Université de Lorraine, Advisors: Simon Labrunie and Jean R. Roche.

PhD in progress : Christophe Steiner, Résolution numérique de l'opérateur de gyromoyenne, schémas d'advection et couplage. Applications à l'équation de Vlasov. Université de Strasbourg Advisors: Michel Mehrenberger.

PhD in progress : Thomas Strub, Résolution des équations de maxwell tridimensionnelles instationnaires sur calculateur massivement multicoeur. Université de Strasbourg Advisors: Philippe Helluy.

### 9.2.3. Juries

N. Besse (advisor) and S. Labrunie participated in the PhD defense committee of David Coulette, Université de Lorraine, 6 December 2013.

E. Frénod participated in the following PhD defense committees :

Céline Caldini-Queiros, PhD at Université de Besançon, 15 November 2013. E. Frénod was referee.

Mathieu Lutz, PhD at Université de Strasbourg, 24 October 2013. E. Frénod was advisor.

G. Manfredi participated in the following PhD and HdR defense committees :

Philippe Coche, PhD at Université de Toulouse, 23 May 2013.

Stephen Jowan GALLAGHER, PhD at Warwick University (Royaume Uni), 2 October 2013.

Nicolas Lemoine, HdR at Université de Lorraine, 10 December 2013.

P. Helluy participated in the following PhD and HdR defense committees :

Clément Durochat, PhD at Inria Sophia Antipolis, 30 January 2013.

Jean-Baptiste Laurent, PhD at ONERA Toulouse, July 2013.

Yu Jie, PhD at EDF Chatou, 11 September 2013.

Sophie Gerald, PhD at ONERA Chatillon. November 2013.

Mathieu Lutz, PhD at Université de Strasbourg, October 2013.

## 9.3. Popularization

C. Caldini-Queiros wrote the popularization paper "Les schémas numériques : les mathématiques au service de la physique", published in "Presses universitaires de Franche-Comté", rewarded with Prix A'Doc de la jeune recherche en Franche-Comté 2013.

E. Frénod wrote the following popularization papers

- Mon littoral, c'est de la dynamique. Brève pour : 2013 - Mathématiques pour la planète Terre - <http://mpt2013.fr/mon-littoral-cest-de-la-dynamique/>.
- Aquaculture en milieux confinés : le cas de l'étang de Thau. Brève pour : 2013 Mathématiques pour la planète Terre. - <http://mpt2013.fr/aquaculture-en-milieus-confines-le-cas-de-letang-de-thau/>.
- Un exemple d'application des mathématiques à l'environnement littoral : La dynamique à long terme des dunes marines dans les zones soumises à la marée. Modélisation, Analyse, Homogénéisation et Simulation. Matapli (Smai), No 100, pp 129–140.

## CAMUS Team

## 9. Dissemination

### 9.1. Scientific Animation

Philippe Clauss, Cédric Bastoul and Vincent Loechner have been part of the program committee of IMPACT 2013 and IMPACT 2014 workshops (International Workshop on Polyhedral Compilation Techniques), held in conjunction with the international conferences HiPEAC 2013 and HiPEAC 2014.

Cédric Bastoul has been co-organizing the HIP3ES 2014 workshop (High Performance Energy Efficient Embedded Systems) held in conjunction with the international conference HiPEAC 2014. Vincent Loechner has been part of its program committee.

Cédric Bastoul is part of the program committee of PARMA+DITAM 2014 (5th Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures 3rd Workshop on Design Tools and Architectures for Multicore Embedded Computing Platforms), Vienna, Austria.

Cédric Bastoul has been part of the program committee of PACT 2013 (International Conference on Parallel Architecture and Compilation Techniques), Edinburgh, Scotland.

Cédric Bastoul has been part of the program committee of PARMA 2013 (Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures), Berlin, Germany.

Philippe Clauss has been part of the program committee of the MSPC 2013 workshop (Memory Systems Performance and Correctness) held in conjunction with the international conference PLDI 2013, Seattle, USA.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

Philippe Clauss did not teach in 2013 since he was detached at Inria during the whole year (*délégation*). Alain Ketterlin had teaching activities during the first semester of 2013, while he was detached in the Inria team ALF in Rennes during the second semester.

Licence : Cédric Bastoul, Operating Systems, 30h, L2, Paris-Sud University, France

Licence : Cédric Bastoul, Information Security, 8h, L3, Paris-Sud University, France

Licence : Cédric Bastoul, Networks, 60h, L2, Paris-Sud University, France

Licence : Cédric Bastoul, System Programming, 28h, L2, Strasbourg University, France

Licence : Cédric Bastoul, Network Programming, 42h, L2, Strasbourg University, France

Master : Cédric Bastoul, Compilation, 72h, M1, Strasbourg University, France

Master : Cédric Bastoul, Parallelism, 13h, M2, Strasbourg University, France

Licence : Éric Violard, Functional Programming, 42h, L2, Strasbourg University, France

Licence : Éric Violard, Computer Architectures, 21h, L2, Strasbourg University, France

Licence : Éric Violard, Algorithms and Data Structures, 37h, L2, Strasbourg University, France

Master : Éric Violard, Compiler Design, 57h, M1, Strasbourg University, France

Master : Éric Violard, Semantics, 48h, M1, Strasbourg University, France

Licence : Vincent Loechner, System Programming, 15h, L2, Strasbourg University, France

Licence : Vincent Loechner, Operating Systems, 28h, L2, Strasbourg University, France

Master : Vincent Loechner, Python Programming, 42h, M1, Strasbourg University, France

Master : Vincent Loechner, Real-time Programming, 22h, M1, Strasbourg University, France

Master : Vincent Loechner, Parallelism, 41h, M1, Strasbourg University, France

Master : Vincent Loechner, Parallel Programming, 52h, M2, Strasbourg University, France

Master : Vincent Loechner, Embedded Systems, 32h, M2, Strasbourg University, France

### 9.2.2. Supervision

PhD in progress : Aravind Sukumaran-Rajam, Enlarging the scope of polyhedral speculative parallelization, November 2012, Philippe Clauss and Alain Ketterlin

PhD in progress : Juan Manuel Martinez Caamaño, Dynamic and flexible generation of parallel loops using a dedicated intermediate representation, November 2013, Philippe Clauss and Philippe Helluy (IRMA lab., University of Strasbourg)

PhD in progress : Jean-François Dollinger, Heterogeneous speculative parallelization, September 2010, Vincent Loechner and Philippe Clauss

PhD in progress : Imen Fassi, Multifor for Multicore, June 2013, Philippe Clauss and Yosr Slama (University El Manar, Tunisia)

PhD in progress : Nabil Hallou, Dynamic binary optimizations, January 2013, Erven Rohou (ALF team) and Philippe Clauss

PhD in progress : L  na  c Bagn  res, Automatic parallelization and optimization for manycore architectures, November 2012, Christine Eisenbeis and C  dric Bastoul

PhD in progress : Alexander Zinenko, Interactive program manipulation, September 2013, St  phane Huot and C  dric Bastoul

### 9.2.3. Juries

Philippe Clauss participated to the following HDR jury in 2013:

Date	Candidate	Place	Role
Oct. 11	Fabien Coelho	��cole des Mines de Paris	Reviewer

Philippe Clauss participated to the following PhD juries in 2013:

Date	Candidate	Place	Role
Oct. 17	Alexandre Carbon	Univ. Pierre et Marie Curie, Paris	Reviewer
June 28	Antoine Morvan	ENS Cachan	Reviewer
June 12	Damien Hedde	Institut polytechnique de Grenoble	Examiner

C  dric Bastoul participated to the following HDR jury in 2013:

Date	Candidate	Place	Role
Oct. 11	Fabien Coelho	��cole des Mines de Paris	Examiner

C  dric Bastoul participated to the following PhD juries in 2013:

Date	Candidate	Place	Role
March 13	Ramakrishna Upadrasta	Paris-Sud University	Examiner
November 27	Dounia Khaldi	��cole des Mines de Paris	President

Alain Ketterlin participated to the following PhD jury in 2013:

Date	Candidate	Place	Role
Dec. 3	Nathana��l Premilieu	Universit�� de Rennes 1	Examiner

### 9.3. Popularization

- C  dric Bastoul participated to the *Rencontres Inria-Industrie* in June 2013
- C  dric Bastoul participated to *F  te de la Science* at University of Paris-Sud in October 2013

## CAMEL Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

#### 9.1.1. *Caramel seminar*

Sixteen speakers were invited to our seminar in 2013: Pierre-Jean Spaenlehauer, Maike Massierer, Emmanuel Jeandel, J  r  my Parriaux, Adeline Langlois, Antoine Joux, Fran  ois Morain, Mourad Gouicem, Hamza Jeljeli, Svyatoslav Covanov, Alice Pellet-Mary, Bastien Vialla, Julia Pieltant, Cl  ment Pernet, C  cile Pierrot, and Luca De Feo.

#### 9.1.2. *Joint security seminar with the university master in informatics*

The team is involved with other teams and the university master in informatics in the organization of the security seminar which started in 2013. Six speakers were invited during the last months of 2013: Olivier Heen, Fr  d  ric Raynal, St  phanie Lacour, Alexandre Dulaunoy, Vincent Strubel and C  dric Blancher.

#### 9.1.3. *Committees memberships*

- J  r  mie Detrey
  - was a member of the program committee of the International Conference on Pairing-Based Cryptography (Pairing 2013).
- Pierrick Gaudry
  - was a member of the program committee of the ASIACRYPT 2013 conference,
  - was in a hiring committee (Comit   de S  lection) in Universit   de Lorraine.
- Emmanuel Thom  
  - is an elected member of the Inria Evaluation Committee for the period 2011-2014,
  - is an elected member of the Inria Nancy *Comit   Hygi  ne, S  curit  , et Conditions de Travail*,
  - is an appointed member of the Inria Nancy *Comit   de d  veloppement durable*,
  - is a member of the *Bureau du d  partement de formation doctorale* in computer science at Universit   de Lorraine,
  - was in a hiring committee (Comit  s de S  lection) in Universit   de Lorraine,
  - was in the hiring committee for the Inria *Charg   de recherches* positions both in Bordeaux and Rocquencourt.
- Marion Videau
  - is a member of the scientific committee of the CCA seminar (*Codage, Cryptologie, Algorithmes*),
  - is a member of the program committee of the *Symposium sur la s  curit   des technologies de l'information et des communications* (SSTIC 2013),
  - was a member of the program committee of the 16th annual International Conference on Information Security and Cryptology (ICISC 2013),
  - is an elected member of the LORIA laboratory council,
  - is a member of the *Commission des d  veloppements technologiques* (CDT) of the Inria-NGE research center.
- Paul Zimmermann

- is an elected member of the Inria Scientific Board,
- is (from September) “délégué scientifique” of the Nancy Grand Est center, and as a consequence member of the Inria Evaluation Committee.

#### 9.1.4. Invited Conferences

- Pierrick Gaudry was invited to give a talk at the Workshop on Elliptic Curve Cryptography (ECC 2013) in Leuven, Belgium and to give two lectures at the Summer School that preceded it; he was invited to give a talk at the Pairing 2013 conference in Beijing, China; he was also invited to give a talk at the Workshop on Emerging Applications of Finite Fields at Linz, Austria.

#### 9.1.5. Calcul mathématique avec Sage

Together with nine other colleagues, Paul Zimmermann wrote a book about doing mathematics with Sage [18]. This book is available in electronic version under a Creative Commons license, and is also available in paper form from Amazon under a very low price.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Jérémie Detrey:
  - Security of websites: 2 hours (lecture), L1, IUT Charlemagne, Nancy, France.
- Pierrick Gaudry
  - Algorithmic Number Theory: 5 hours (lectures), M2, University Paris 7 (Master Parisien de Recherche en Informatique), Paris, France.
- Emmanuel Thomé:
  - Cryptology: 24 hours, M1, ESIAL, Nancy, France.
  - Introduction to cryptology: 3 hours (lecture), M2, École des Mines de Nancy, France.
  - Training for “Informatique et Sciences du Numérique”, Cryptology, Networks: 9 h, Université de Lorraine, Nancy, France. (Training for high school teachers who intend to teach this topic in high school).
- Marion Videau, teaching at the faculty of technology and sciences, Université de Lorraine, Nancy, France:
  - Introduction to algorithmic and programming: 40 hours (lectures and tutorial sessions), 20 hours (practical sessions), L1.
  - Programming methodology in C: 21 hours (lectures and tutorial sessions), L1.
  - Students supervisor for about 12 L1 students: 12 hours, L1.
  - Introduction to information system security: 15 hours (lectures), 15 hours (tutorial sessions), M1.
  - Information System Security: 21 hours (lectures and tutorial sessions), M2, IGA, Maroc
  - Information System Security: 12 hours (lectures and tutorial sessions), M2
  - Software Validation, Verification and Certification: 12 hours (lectures and tutorial sessions), M2
  - Supervision of two M1 students for their *Introduction to research* practical course throughout one semester
  - Supervision of M2 students projects: 15 hours
  - Supervision and jury of M2 students internships: 10 hours.
  - Responsibility of the M2 *parcours Services, Sécurité des Systèmes et des Réseaux / Sécurité des Architectures Web*



### 9.2.2. Internships

- Svyatoslav Covanov, École Polytechnique, “Fürer’s integer multiplication algorithm”, Apr–July 2013, supervised by Emmanuel Thomé.
- David Lucas, Télécom Nancy, “Recherche de bitcoins : implémentation et accélération sur le MPPA-256 de Kalray”, May–Jul 2013, supervised by Jérémie Detrey.
- Fabien Nollet, Télécom Nancy, “Parallelization of the multiplication of polynomials over  $\text{GF}(2)$ ”, May–Jul 2013, supervised by Emmanuel Thomé.
- Alice Pellet Mary, ÉNS Lyon, “Test rapide de cubicité modulaire”, Jun–Jul 2013, supervised by Pierrick Gaudry.
- Alexandre Talon, ÉNS Lyon, “Non linear polynomial selection for NFS”, Jun–Jul 2013, supervised by Paul Zimmermann.
- Sébastien Vandeneekhoutte, Télécom Nancy, “Énumération efficace des polynômes irréductibles sur un corps fini” Feb–Jun, 2013, supervised by Marion Videau and Pierrick Gaudry.

### 9.2.3. Supervision

Defended PhDs:

- Nicolas Estibals, “Algorithmes et arithmétique pour l’implémentation de couplages cryptographiques”, started in 2009, co-supervised by Jérémie Detrey and Pierrick Gaudry [9]. Defended on 2013/10/30.
- Răzvan Bărbulescu, “Number and function field sieve for discrete logarithm”, started in 2011, supervised by Pierrick Gaudry [8]. Defended on 2013/12/04.

PhD in progress:

- Hamza Jeljeli, “Using graphics accelerators for problems arising in the Number Field Sieve and Function Field Sieve algorithms”, started in 2011, supervised by Jérémie Detrey and Emmanuel Thomé.
- Cyril Bouvier, “Integer Factoring on High-Performance Architectures”, started in 2012, supervised by Paul Zimmermann.
- Laurent Grémy, “Analysis and optimization of sieves arithmetic algorithms” started in oct. 2013, co-supervised by Pierrick Gaudry and Marion Videau.
- Hugo Labrande, “Explicit computation of isogenies between Jacobians of curves using a complex analytic method”, started in sep. 2013, cotutelle supervision between Emmanuel Thomé and Michael J. Jacobson, University of Calgary.

### 9.2.4. Juries

- Jérémie Detrey
  - was a member of the jury of the Polytechnique/ÉNS competitive entrance exam,
  - was a member of the PhD thesis jury of Nicolas Estibals (Université de Lorraine).
- Pierrick Gaudry was a member of the PhD thesis jury of Razvan Barbulescu (Université de Lorraine), Nicolas Estibals (Université de Lorraine), Jean-Gabriel Kammerer (Université de Rennes 1), Aurore Guillevic (École Normale Supérieure), Louise Huot (Université de Paris 6).
- Emmanuel Thomé was a member of the PhD thesis jury of Kisoon Yoon (Université de Caen Basse-Normandie).
- Marion Videau was president of one of the scientific baccalaureate juries in Nancy in July 2013.

## 9.3. Popularization

- Jérémie Detrey gave a presentation on the Enigma machine and its cryptanalysis to high-school teachers as part as the “journée EPI-ISN”.

- Pierrick Gaudry gave a presentation at the “journée de l’Association francophone des spécialistes de l’investigation numérique”.
- Marion Videau:
  - gave a talk for the awards ceremony of the *Olympiades de maths* in Lorraine.
  - gave a practical session of cryptography and information security for students from *lycées* taking part in an immersion day at the faculty.
  - participated to events on information about university studies for pupils and students (Clés de la réussite, Portes ouvertes de la faculté des sciences, Oriaction).
- Paul Zimmermann takes part in the “Maths-en-Jeans” program, with about 20 students in “troisième” at the Collège Pierre Brossolette in Réhon.

## CARTE Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

#### 9.1.1. Conference organization and program committee

Mathieu Hoyrup was in the Program Committee of **Computability, Complexity and Randomness (CCA) 2013**. He is guest editor for the post-proceedings of CCA 2013, special issue of Logical Methods in Computer Science. He has been invited to organize the special session **Algorithmic Randomness** of the conference Computability in Europe (CiE) 2013.

Simon Perdrix is a member of the Program Committee of the first Workshop on **Parallel Quantum Computing (ParQ)**.

Guillaume Bonfante was in the Program Committee of **Malware 2013** and **Symposium on Foundations & Practice of Security (FPS) 2013**.

The Carte Team has organized a few conferences and workshops in Nancy this year:

- **Journées Calculabilités 2013**, April
- **Analysis, Randomness and Applications (ARA) 2013**, June.
- **Computability and Complexity in Analysis (CCA) 2013**, July.
- **Journées Informatique Quantique**, October.

#### 9.1.2. Talks

Emmanuel Jeandel gave an invited Talk at the conference (**Computability, Complexity and Randomness (CCR) 2013**) on entropy of Turing machines. He also presented his work on multidimensional symbolic dynamics in the **PIMS Workshop on Automata Theory and Symbolic Dynamics**.

Guillaume Bonfante was invited to present his work to workshop “Proof Theory and Rewriting” (Kanazawa, february) and “Journées Francophones d’Investigation Numérique” (Neuchâtel, october).

Guillaume Bonfante, Hugo Férée and Jean-Yves Marion were invited to workshop “Advances in implicit computational complexity” in Shonan Village in november.

Mathieu Hoyrup, Emmanuel Hainry, Emmanuel Jeandel, were invited to present their work to (**workshop DySyCo**) in Lyon, december 2013.

Emmanuel Hainry presented *Complexité d’ordre supérieur, de l’Analyse Récursive aux Basic Feasible Functionals* at the Séminaire d’algorithmique et de complexité du plateau de Saclay (<http://www.lix.polytechnique.fr/~bodirsky/seminaire/>) in LIX, Palaiseau in June 2013.

#### 9.1.3. Referees

Emmanuel Hainry reviewed articles for the journal *Computability*, for *SIAM Journal on Computing*, and for the *STACS 2014* conference.

Emmanuel Jeandel reviewed articles for the *LICS 2013* and the *STACS 2014* conference.

Romain Péchoux reviewed articles for the *WORDS 2013* conference

Mathieu Hoyrup reviewed articles for the CiE 2013, STACS 2014, STOC 2014 conferences and the journals Logical Methods in Computer Science and Theory of Computing Systems.

#### 9.1.4. Others

Isabelle Gnaedig is member of the scientific mediation committee of Inria Nancy Grand-Est and researcher social referee at Inria Nancy-Grand Est.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Unless specified otherwise, all teaching is done at Université de Lorraine, France.

Licence :

- Guillaume Bonfante
  - Java, L3, Mines Nancy
- Emmanuel Hainry
  - Operating Systems, 60 hours, L1, IUT Nancy Brabois
  - Algorithms and Programs, 60 hours, L1, IUT Nancy Brabois
  - Object Oriented Programming, 24 hours, L1, IUT Nancy Brabois
  - Databases, 24 hours, L2, IUT Nancy Brabois
  - Complexity, 28 hours, L1, IUT Nancy Brabois
  - Algorithmics, 12 hours, DU PFST (eq. L1), IUT Nancy Brabois
- Emmanuel Jeandel
  - Statistics for Computer Science, 46 hours, L3 Informatique
  - Linear Programming, 46 hours, L3 Informatique
  - Algorithmics and Programming 1, 60 hours, L1 Maths-Info
  - Algorithmics and Programming 4, 30 hours, L3 Informatique
  - Networking, 20 hours, L2 and L3 Informatique
- Romain Péchoux
  - Introduction to OO programming, 55 hours, L3 MIASHS parcours MIAGE.
  - Databases, 42 hours, L3 SG, ISAM-IAE
  - Propositional logic, 35 hours, L1 MIASHS
  - Algorithmic complexity, 30 hours, L3 MIASHS parcours MIAGE, IGA Casablanca, Marocco.

Master

- Guillaume Bonfante
  - Modelling and UML, M1, Mines Nancy
  - Video Games, M1, Mines Nancy
  - Semantics, M1, Mines Nancy
  - Safety of Software, M2, Mines Nancy
- Isabelle Gnaedig
  - Design of Safe Software, Coordination of the module, M2, Telecom-Nancy
  - Rule-based Programming, 20 hours, M2, Telecom-Nancy
- Emmanuel Jeandel
  - Algorithmics and Complexity, M1 Informatique and M1 ENSEM, 60 hours
  - Combinatorial Optimization, M1 Informatique, 30 hours.
- Romain Péchoux
  - Mathematics for computer science, 20 hours, M1 SC
  - Advanced Java, 52 hours, M1 MIAGE
- Simon Perdrix
  - Pépites Algorithmiques — Informatique Quantique, 14 hours, M1/M2, Ecole des Mines de Nancy.

### 9.2.2. Supervision

PhD : Joan Calvet, Analyse Dynamique de Logiciels Malveillants, Université de Lorraine and Ecole Polytechnique de Montreal, defended August 23rd, supervised by Jean-Yves Marion and José M. Fernandez.

PhD in progress: David Cattaneo, Combinatorial Modelization in Quantum Computation and Generalized Cover Problems, started sept. 2012, Pablo Arrighi (director), Simon Perdrix (co-advisor)

PhD in progress: Hugo Férée, Computational Complexity in Analysis, defense planned in December 2014, Jean-Yves Marion (director) and Mathieu Hoyrup (co-advisor).

PhD in progress: Hubert Godfroy, Semantics of Self-modifying Programs, Jean-Yves Marion

PhD in progress: Jérôme Javelle, Quantum Cryptography: Protocols and Graphs, started Jan. 2011, Pablo Arrighi (director), Mehdi Mhalla (co-advisor), Simon Perdrix (co-advisor)

PhD in progress: Thanh Dinh Ta, Malware Algebraic Modeling and Detection, started Sept. 2010, Jean-Yves Marion (director) and Guillaume Bonfante (co-advisor)

PhD in progress: Aurélien Thierry, Morphological Analysis of Malware, started Oct. 2011 supervised by Jean-Yves Marion.

### 9.2.3. Juries

Isabelle Gnaedig:

- participation to the Telecom-Nancy admission committee.

Emmanuel Jeandel

- Selection committee for a research assistant position in Nice (MCF 1114).
- Jury of Razvan Barbulescu's PhD Defense on "Algorithmes de logarithmes discrets dans les corps finis", defended in Université de Lorraine, December 5th.

## 9.3. Popularization

Isabelle Gnaedig is member of the scientific vulgarization committee of Inria Nancy Grand-Est. This committee is a choice and guidance instance helping the direction of the center and the person in charge of popularization events, to elaborate a strategy, to realize events and to help researchers to get involved in various actions aiming at popularizing our research themes, and more generally computer science and mathematics.

This year, in particular, the center participated to organization of mathematics competitions and projects for high school students, to conferences for computer science high school teachers, to the "Fête de la Science", to the "Moments d'invention" exhibition of the "Nancy Renaissance" event, and received several high school classes in various research teams of Inria Nancy Grand-Est. Details can be found at <https://iwww.inria.fr/NanSciNum/#.UsGBEWuKY8>.

## CASSIS Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

#### 9.1.1. Editorial board

- Information & Computation (Véronique Cortier)
- Journal of Computer Security (Véronique Cortier)

#### 9.1.2. Conferences

- FroCoS 2013, 9th Symposium on Frontiers of Combining Systems, 18–20 September 2013, Nancy, France, (Christophe Ringeissen, conference chair)

#### 9.1.3. Program committees

- Fabrice Bouquet: ICST 2013 (Publicity Chair), MoDeVVA 2013
- Véronique Cortier: CSF 2013 (PC Chair), CCS 2013, LICS 2013, POST 2013
- Frédéric Dadeau : CSTVA'2013 (PC Chair), QSIC'2013.
- Abdessamad Imine: AICCSA 2013 (co-chair), CIIA 2013, DEXA 2013, DEXA 2014
- Steve Kremer: ACNS 2014, POST 2014 (PC Chair), Security Track of ACM SAC 2014 (PC Chair), ESORICS 2013, ICICS 2013, ISPEC 2013, POST 2013, RV 2013
- Christophe Ringeissen: CADE-24, FroCoS 2013, UNIF 2013, UNIF 2014 (co-chair)
- Michael Rusinowitch: LATA 2013, CRISIS 2013, ESSOS DS 2013, GRSRD 2013.
- Laurent Vigneron: UNIF 2013.

#### 9.1.4. Steering committees

- Véronique Cortier: FCS (Chair), CSF
- Steve Kremer: CSF, ETAPS, POST

#### 9.1.5. Spring school

- Spring School on Trusted and Secure Composite Services, 27–31 May 2013, Malaga, Spain, (Abdessamad Imine, Lecturer)
- JDEV'2013 National Day for Software development, 4–6 September 2013, Ecole polytechnique (Palaiseau), France (Bouquet F., Gauthier J.-M. and Enderlin I., 5 tutorials and 1 Lecturer) - 500 participants.
- School of INRA on the Testing for Software Development, in PEPI IDL 2013 ("*Partage d'Expérience et de Pratiques en Informatique*" visant l'"*Ingénierie Développement Logiciel*"), 9–12 December 2013, Ecullly (69) France (Bouquet F., Gauthier J.-M. and Enderlin I., 3 days of tutorials) - 30 participants.
- 13th International School on Foundations of Security Analysis and Design, 2–7 September 2013, Bertinoro, Italy (Mathieu Turuani, Tutorial).
- AFADL'2013 ("*Approches Formelles dans l'Assistance au Développement de Logiciels*"), during the GDR - GPL - CIEL - AFADL Days, 2–5 april 2013, Nancy, France (Mathieu Turuani, Tutorial) - 135 participants.

#### 9.1.6. Working groups

- GT-Verif, Verification, GDR IM Working Group (Véronique Cortier, chair)

- IFIP WG-1.7 Foundations of Security Analysis (Véronique Cortier, vice-Chair)
- IFIP WG-1.6 - Term Rewriting (Michael Rusinowitch, Laurent Vigneron)
- MTV2, Testing Methods for Verification and Validation, GDR GPL Working Group (Frédéric Dadeau, co-chair)
- FORWAL, Formalisms and Tools for Verification and Validation, GDR GPL Working Group (Pierre-Cyrille Héam, co-chair)

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Licence :
  - Frédéric Dadeau, Programming, 37 hours (ETD), L1, Université de Franche-Comté
  - Frédéric Dadeau, Databases, 39 hours (ETD), L1, Université de Franche-Comté
  - Frédéric Dadeau, Web Languages, 24 hours (ETD), L2, Université de Franche-Comté
  - Frédéric Dadeau, Object-Oriented Modelling and Design, 44 hours (ETD), L3, Université de Franche-Comté
  - Alain Giorgetti, Logics and Deduction, 52 hours (ETD), L2, Université de Franche-Comté, France.
  - Alain Giorgetti, Formal Methods, 81 hours (ETD), L3, Université de Franche-Comté, France
  - Olga Kouchnarenko, Formal Languages, 65 hours (ETD), L3, Université de Franche-Comté, France
  - Olga Kouchnarenko, Languages, Specification and Proof, 25 hours (ETD), L3, Université de Franche-Comté, France
  - Olga Kouchnarenko, Parsing Algorithms and XML, 30 hours (ETD), L3, Université de Franche-Comté, France
- Master :
  - Fabrice Bouquet, Artificial Intelligence (also in e-learning), 53 hours (ETD), M2, Université de Franche-Comté
  - Fabrice Bouquet, Compilation, 54 hours (ETD), M2, Université de Franche-Comté
  - Fabrice Bouquet, Testing (also in e-learning), 71 hours (ETD), M2, Université de Franche-Comté
  - Frédéric Dadeau, Testing, 13 hours (ETD), M2, Université de Franche-Comté
  - Alain Giorgetti, Program Proofs, 58 hours (ETD), M1, Université de Franche-Comté, France.
  - Alain Giorgetti, Decision Procedures, 13 hours (ETD), M2, Université de Franche-Comté, France.
  - Steve Kremer, Security Theory, 24 hours (ETD), M2 Computer science, Lorraine University, France.
  - Christophe Ringeissen, Decision Procedures for Software Verification, 24 hours (ETD), M2 Computer science, Lorraine University, France.
  - Laurent Vigneron, Security of information systems, 15 hours (ETD), M2 Computer science, Lorraine University, France.
  - Laurent Vigneron, Formal methods, 24 hours (ETD), M2 MIAGE, Lorraine University, France.

- Pierre-Cyrille Héam, Calculability, 23 hours (ETD), M2 Computer science, Université de Franche-Comté, France.
- Pierre-Cyrille Héam, Introduction to Büchi Automata, 18 hours (ETD), M2 Computer science, Université de Franche-Comté, France.
- Abdessamad Imine, Security for XML Documents, 12 hours (ETD), M1, University of Lorraine, France.
- Olga Kouchnarenko, Specification, Verification and Validation, 12 hours (ETD), M2, Université de Franche-Comté, France.
- Olga Kouchnarenko, Compositional approaches in verification, 18 hours (ETD), M2, Université de Franche-Comté, France.
- Olga Kouchnarenko, Security and Components, 10,5 hours (ETD), M2, Université de Franche-Comté, France.
- Doctorat:
  - Steve Kremer, Les protocoles de sécurité : modélisation et vérification, 4,5 hours (ETD), École jeunes chercheurs en programmation (EJCP), Rennes, France

### 9.2.2. Supervision

- PhD :
 

Kalou Cabrera Castillos, Automated Test Scenario Generation from Property Patterns and Behavioral Models, November 28, Frédéric Dadeau and Jacques Julliand

Jérôme Cantenot, Management of consistence in verication conditions in the test generation context, Université de Franche Comté, 13 November, Fabrice Ambert and Fabrice Bouquet.

Vincent Hugot, Approximations and Constraints: Application to the Verification of Embedded Systems, Université de Franche Comté, September 27, Pierre-Cyrille Héam and Olga Kouchnarenko

Elena Tushkanova, Specification and formal certification of (combinations of) decision procedures, Université de Franche Comté, July 19, Alain Giorgetti, Olga Kouchnarenko and Christophe Ringeissen
- PhD in progress :
 

Hadrien Bride, Validation and Reconfiguration of Modal Petri Nets within Constraint Logic Programming, started in October 2013, Olga Kouchnarenko and Fabien Peureux

Rémy Chrétien, Decision procedures of equivalence properties, started in October 2012, Véronique Cortier and Stéphanie Delaune

Aloïs Dreyfus, Efficient approches for systems validation, started in November 2010, Pierre-Cyrille Héam and Olga Kouchnarenko

Ivan Enderlin, Test Data Generation for Unit Testing in PHP, started in October 2011, Fabrice Bouquet, Frédéric Dadeau and Alain Giorgetti

Jean-Marie Gauthier, Method for validation and simulation of SysML model: Applied on micro-systems, started in October 2012, Fabrice Bouquet, Fabien Peureux and Ahmed Hammad

Richard Genestier, Formal specification and verification of programs generating structured data, started in October 2012, Alain Giorgetti and Olga Kouchnarenko

Bao-Thien Hoang, Secure Collaboration in Social Networks, started in April 2011, Abdessamad Imine and Christophe Ringeissen

Jean-Luc Joly, Randomized approaches for validation and verification procedures, started in December 2011, Pierre-Cyrille Héam

Robert Künnemann, Verification of Security APIs, started in October 2010, Steve Kremer and Graham Steel



Éric Le Morvan, Secure composition of cryptographic protocols, started in October 2013, Véronique Cortier

Houari Mahfoud, Access Control Models for XML Documents, started in September 2010, Abdessamad Imine and Michaël Rusinowitch

Guillaume Scerri, Symbolic and automatic security proofs in computational models, started in September 2011, Hubert Comon-Lundh and Véronique Cortier

Cyrille Wiedling, Formal analysis of E-voting protocols, started in September 2011, Véronique Cortier

Hiep Nguyen Huu, Secure Collaboration in Mobile Social Networks, started in November 2013, Abdessamad Imine and Michaël Rusinowitch

### 9.2.3. *Juries*

Inria evaluation committee (Véronique Cortier, Michaël Rusinowitch)

Jury starting/advanced Inria positions and jury international chair Inria 2013 (Véronique Cortier)

Jury Junior Research Position Inria Nancy Grand Est (Michaël Rusinowitch)

Referee for David Cadé's PhD, December 2013: Proved Implementations of Cryptographic Protocols in the Computational Model (Véronique Cortier)

Referee for Matthijs Melissen's PhD, October 2013: Game Theory and Logic for Non-repudiation Protocols and Attack Analysis (Steve Kremer)

Referee for Jannik Dreier's PhD, November 2013: Formal Verification of Voting and Auction Protocols: From Privacy to Fairness and Verifiability (Steve Kremer)

Referee for Naipeng Dong's PhD, November 2013: Enforced Privacy: from Practice to Theory (Michaël Rusinowitch)

Referee for Mohamed Iguernelala's PhD, June 2013: Renforcement du Noyau d'un Démonstrateur SMT (Michaël Rusinowitch)

Referee for Sarah Nait Bahloul's PhD, December 2013: Inférence de règles de contrôle d'accès pour assurer la confidentialité des données au niveau des vues matérialisées (Michaël Rusinowitch)

Referee for Robert Guduvan's PhD, April 2013, A model driven Development of tests for avionics embedded systems (Fabrice Bouquet)

Referee for Taha Triki's PhD, October 2013, Filtering and reduction techniques combinational tests (Fabrice Bouquet)

Examiner for Florent Pompigne's PhD, December 2013, Nancy: Modélisation logique de la langue et Grammaires Catégorielles Abstraites (Laurent Vigneron).

Examiner for Asma Tafat's PhD, September 2013, Orsay: Preuves par raffinement de programmes avec pointeurs. (Alain Giorgetti).

Committee chair for Lilia Ziani Khodja's PhD, May 2013, Besançon: Résolution de systèmes linéaires et non linéaires creux sur grappes de GPU's (Pierre-Cyrille Héam).

## 9.3. Popularization

Invited conference of Véronique Cortier at the conference "Sciences et Société", Nancy, January 17th, 2013.

"Vote par internet", popularization science paper on e-voting. In Interstices, January 2013. Véronique Cortier and Steve Kremer.

Fête de la Science 2013: Science popularization action during one week on a workshop "a cryptographic treasure hunting". Véronique Cortier, David Galindo, Stéphane Glondu, Steve Kremer, Éric Le Morvan, Cyrille Wiedling.

Video gaming month at the “Fabrikà Science”, University of Franche-Comté, December 2013. Popularization of computer science using the topic of video games. Frédéric Dadeau.

## CORIDA Project-Team

## 7. Dissemination

### 7.1. Scientific Animation

Most of the members of our team have regular editorial activities in the leading journals and conferences of the field.

For instance, Marius Tucsnak is a member of the editorial boards of ESAIM COCV, Journal of Mathematical Fluid Mechanics, Mathematical Reports and Revue Roumaine de Mathématiques Pures et Appliqués.

The notable changes with respect to 2012 are

- Xavier Antoine joined the editorial board of ISRN Applied Mathematics in 2013. He also became “délégué scientifique” in charge of the department “Mathematical sciences and Interactions” of the national funding agency ANR and was nominated head of the program “Accueil de Chercheuses et Chercheurs de Haut Niveau” in 2013.
- Thomas Chambrier joined the IFAC Technical Chair for control of PDE’s in 2013.

### 7.2. Teaching - Supervision - Juries

#### 7.2.1. Teaching

Most of the members of the team have a teaching position (192 hours a year) in Université de Lorraine.

- Fatiha Alabau has a full time full professor position (Metz site);
- Xavier Antoine has a full time full professor position at École des Mines and ENSEM;
- Thomas Chambrier has a full time associate professor position at ESSTIN;
- Antoine Henrot has a full time full professor position at École des Mines;
- Bruno Pinçon has a full time associate professor position at Telecom Nancy;
- Lionel Rosier has a full time full professor position at ESSTIN;
- Jean-François Scheid has a full time associate professor position at Telecom NancyL;
- Marius Tucsnak has a full time full professor position at (Nancy site);
- Julie Valein has a full time associate professor position at ESSTIN.

#### 7.2.2. Supervision

PhD in progress : Chi Ting Wu, “Approximations des problèmes de contrôle optimal”, from 2012, Supervisor: Marius Tucsnak, co-supervisor: Julie Valein.

PhD in progress : Tatiana Manrique, “commande robuste de systèmes à commutations”, from 2011, Supervisor: Gilles Millerioux (Université de Lorraine), co-supervisor: Thomas Chambrier.

PhD in progress : Ibrahim Zambre, “méthodes numériques hybrides en diffraction haute-fréquence”, Supervisors: Xavier Antoine and Christophe Guezaine (University of Liege).

#### 7.2.3. Juries

Jean-François Scheid has been a PhD examiner for the thesis of S. Flotron - EPFL (Switzerland), april 2013.

Karim Ramdani has been member of the PhD juries Giovanni Migliorati (Ecole Polytechnique and Politecnico di Milano, april 2013) and of Alexandre Impériale (Paris 6 University, december 2013).

Marius Tucsnak was president of the PhD jury of Sarah MECHHOUD (Grenoble), referee for the PhD jury of Morgan MORANCEY (Ecole Polytechnique) and a member of the PhD jury of Pierre Lissy (Paris 6).

### 7.3. Popularization

In December 2013, Karim Ramdani organized with Estelle Carciofi a **workshop dealing with issues related to scientific edition**.

## CORTEX Team

## 8. Dissemination

### 8.1. Scientific Animation

#### 8.1.1. Responsibilities

- Head of the Complex systems and AI department of the LORIA laboratory (B. Girau)
- Organization of a talk series on Image, Perception, Action & Cognition on a monthly basis at the Inria-Nancy Grand Est laboratory (<http://ipac.loria.fr/>, Y. Boniface with researchers of other teams).

#### 8.1.2. Review activities

- Reviewing for journals and conferences: Artificial Intelligence in Medicine journal (P. Hénaff), International Journal of Advanced Robotic Systems (P. Hénaff), Progress in Artificial Intelligence (B. Girau)
- Member of program committees: Reconfig (B. Girau), IEEE 34th International Conference on Electronics and Nanotechnology ELNANO-2014 (P. Hénaff)
- Evaluation of ANR Blanc SIMI 3 projects (B. Girau)

### 8.2. Teaching - Supervision - Juries

#### 8.2.1. Teaching

Many courses are given in universities and schools of engineers at different levels (LMD) by most team members, in computer science, in applied mathematics and in cognitive science. Moreover, several members of the team are implied in various kinds of academic responsibilities: Laurent Bougrain is head of the IPAC speciality of the Master In Computer Science, Bernard Girau is member of the Conseil de Collegium Science et Technologie of the University of Lorraine, as well as of the Conseil de Secteur Scientifique MIAE.

#### 8.2.2. Supervision

PhD: Maxime Rio, Modèles bayésiens pour la détection de synchronisations au sein de signaux électro-corticaux, Université de Lorraine, 16/07/2013, B. Girau and A. Hutt (work in relation with the Neurosys team)

PhD: Georgios Detorakis, Plasticité corticale, champs neuronaux dynamiques et auto-organisation, Université de Lorraine, 23/10/2013, N. Rougier

PhD: Carolina Saavedra, Méthodes d'analyse et de débruitage multicanaux à partir d'ondelettes pour améliorer la détection de potentiels évoqués sans moyennage, Université de Lorraine, 14/11/2013, B. Girau and L. Bougrain (work in relation with the Neurosys team)

PhD in progress: Carlos Carvajal-Gallardo, Faisabilité d'une Rétine Artificielle pour la Vision Humaine : Étude Critique des Solutions Électroniques et Contre-Solutions, from 23/02/12, F. Alexandre

PhD in progress: Benoît Chappet, Champs neuronaux dynamiques impulsionnels aléatoires, from october 2012, B. Girau

PhD in progress: Artem Melnyk, Perfectionnement des algorithmes de contrôle-commande des robots manipulateur électriques en interaction physique avec leur environnement par une approche bio-inspirée, from january 2010, co-supervision between Donetsk Technical University (Ukraine) and University of Cergy Pontoise, P. Hénaff

#### 8.2.3. Juries

PhD: Maxime Rio , Modèles bayésiens pour la détection de synchronisations au sein de signaux électro-corticaux, Université de Lorraine, 16/07/2013 (B. Girau, as advisor)

PhD: Carolina Saavedra, Méthodes d'analyse et de débruitage multicanaux à partir d'ondelettes pour améliorer la détection de potentiels évoqués sans moyennage, Université de Lorraine, 14/11/2013 (B. Girau, as advisor)

HDR: Slim Ouni, Parole multimodale : de la parole articulatoire à la parole audiovisuelle, Université de Lorraine, 29/11/2013 (B. Girau, president)

PhD: Nicolas Estibals, Algorithmes et arithmétique pour l'implémentation de couplages cryptographiques, Université de Lorraine, 30/10/2013 (B. Girau, president)

PhD: Julie Busset, Inversion acoustique articulatoire à partir de coefficients cepstraux, Université de Lorraine, 25/03/2013 (B. Girau, president)

PhD: Srikishna Bhat, Mots visuels pour le calcul de pose, Université de Lorraine, 22/01/2013 (B. Girau, president)

PhD: Hoda Sbaiti, Optimisation sur un modèle de comportement pour la thérapie en oncologie, Université de Versailles St Quentin en Yvelynes, 30/09/2013 (P. Hénaff as referee)

PhD: Gatean André, Modélisation oscillatoire de l'écriture manuscrite, Université de Toulouse, 11/12/2013 (P. Hénaff as referee)

## MADYNES Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

Abdelkaer Lahmadi served as a reviewer for the following journals: IEEE Communications Magazine, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Network and Service Management.

Abdelkader Lahmadi served as a Technical Program Committee member for the following conferences: Autonomous Infrastructure, Management and Security (AIMS'2013, PhD student workshop), The 1st International Workshop on Crowdsensing Methods, Techniques, and Applications (CROWDSENSING 2014).

Abdelkader Lahmadi participated to the Dagstuhl Seminar "Global Measurement Framework".

Isabelle Chrisment is the Co-Chair together with Ahmed Serhrouchni from Telecom ParisTech of the IFIP Task Force 6.5 on Secure Networking. This Task Force provides a framework for the organization of activities within the scope of secure networking. It facilitates international cooperation activities and exchanges in this area.

Isabelle Chrisment is a member of AFNIC<sup>6</sup> 's scientific board since January 2013.

Isabelle Chrisment served as a TPC member of : the 7th International IFIP Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS'2013); the 14th joint TC6 and TC11 International IFIP Conference on Communications and Multimedia Security (IFIP CMS'2013); the IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'13); the 4th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN-2013), Security and Privacy Track. the 8th national conference on Sécurité des Architectures Réseaux et des Systèmes d'Information (SARSSI 2013).

Olivier Festor is Chair of the IFIP Working-Group 6.6 on Network and systems management. This working group is actively involved the animation of most major conferences in this research area and organizes frequent meetings and workshops on the domain.

Olivier Festor is the Co-chair together with Lisandro Zambenedetti Grandvile from the Federal University of Rio Grande do Sul (UFRGS) of the Internet Research Task Force (IRTF) Network Management Research Group since march 2011. In 2013, we organized four workshops leading to a new work-plan for the design of new management protocols and services within the IRTF.

Olivier Festor served as a Technical Program Committee Member of the following 2013 events:

IFIP/IEEE Integrated Management Symposium (IM'2013), IFIP/IEEE in conjunction with ACM CNSM'2013. Asia-Pacific Network Operations and Management Symposium (APNOMS'2013 and IEEE GLOBECOM 2013.

Olivier Festor is member of the board of editors of the Springer Journal of Network and Systems Management. He is member of the editorial board of the IEEE Transactions on Network and Service Management.

In December 2012, Olivier Festor joined the University of Lorraine on a Full Professor position. There he became Director of the TELECOM Nancy Engineering School (350 students at Masters level, 50 faculty and staff).

Remi Badonnel served as a TPC member of the following conferences:

- the IFIP International Conference on Autonomous Infrastructure, Management and Security (IFIP AIMS'2013);
- the IEEE International Conference on Integrated Management (IEEE/IFIP IM'2013);
- the IEEE/IFIP International Workshop on Management of the Future Internet (IEEE/IFIP MANFI'2013).

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<sup>6</sup><http://www.afnic.fr>

Remi Badonnel served as a session chair and was part of the Best Paper Award Committee at the IEEE International Conference on Integrated Management (IEEE/IFIP IM'2013).

Remi Badonnel served as an expert for the "Futur et Ruptures" program of the Mines-Telecom institute.

Thibault Cholez was invited to present a tutorial [38] on the Management of Content-Centric Networking at ResCom 2013, a CNRS summer school.

Thomas Silverston leads in 2013 the activity CityCrowdSource from EIT ICT Labs. He also co-organized the SDN Days (GdR CNRS RESCOM) in Loria (Nancy), November 26/27<sup>th</sup> 2013. Thomas is co-chair (General Chair) of the 1st International Workshop on Crowdsensing Methods, Techniques, and Applications (CROWDSENSING) organized with IEEE Percom 2014. Thomas is a TPC member of the Named-Oriented Mobility Workshop organized with IEEE Infocom 2014. Thomas was a speaker at the CNRS GdR RESCOM summer school on Information-Centric Networks. Thomas was an invited speaker at the Internet for the Future Society Workshop in Tokyo, organized by the *Societe Franco-Japonaise des Techniques Industrielles* and sponsored by the « Ambassade de France au Japon ».

Ye-Qiong Song served as a TPC Member of the following 2013 events: the 18th IEEE international conference on Emerging Technologies & Factory Automation (ETFA'2013); the 11th International Conference On Smart homes and health Telematics (ICOST 2013); IROS'13 Workshop on Robots and Sensors integration in future rescue INformation system (ROSIN'13); the International Workshop on Cooperative Robots and Sensor Networks (RoboSense 2013); the 12th International Workshop on Real-Time Networks (RTN 2013).

Ye-Qiong Song served as track co-chair of Ubimob2013.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

There is a high demand on networking courses in the various universities in which LORIA is par. This puts high pressure on MADYNES members which are all in charge of numerous courses in this domain. Especially the team professors and associate professors ensure more than the required amount of teaching obligation in their respective institutions: IUT, bachelor, master, TELECOM Nancy, ENSEM and École des Mines de Nancy engineering schools.

Laurent Andrey is the Head of Department of the Charlemagne IUT specialization on multimedia networking.

Olivier Festor is the Director of the TELECOM Nancy Engineering School. Isabelle Chrisment is co-directing the school and is in charge of the students recruitment process. Remi Badonnel is heading the Telecommunications and Networks specialization of the 2nd and 3rd years at the TELECOM Nancy engineering school, and is also in charge of the 2nd year design and development projects at the same school. They teach the networking related courses in this cursus.

Laurent Ciarletta is 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). He is most notably in charge of Advanced Networking, Middleware, Component-based software development, Pervasive Computing, Networking and Systems courses at the Ecole des Mines de Nancy. Notably, within the ARTEM alliance (ICN - Business School, Mines Nancy, Ecole d'Art / School of Art), he is a member of the Research Comitee, more specifically with the "Smart Working Spaces" research theme, and he is co-responsible for the "Businesses: the digital challenge *CORP 3.0*, *Entreprises : le défi numérique* and the *Imagineries and the Workspaces*, 2 classes within the ARTEM alliance (over 90 hours).

Team members are teaching the following courses:

Abdelkader Lahmadi

- Ecole Ingénieur : Elements of Distributed Computing: algorithms and systems, 20, niveau M2 Ingénieur, ENSEM, France
- Ecole Ingénieur : Wireless Sensor Network Programming, 12, niveau M2 Ingénieur, ENSEM, France

- Ecole Ingénieur : Operating Systems and C language programming, 30, niveau M1 Ingénieur, ENSEM & Ecole des Mines de Nancy, France
- Ecole Ingénieur : Real time systems: concepts and programming, 30, niveau M1 Ingénieur, ENSEM, France
- Ecole Ingénieur : Relational Database, 20, niveau M1 Ingénieur, ENSEM, France
- Ecole Ingénieur : Algorithmic and Programming (Java), 50, niveau L1 Ingénieur, ENSEM, France
- Ecole Ingénieur : Computer Architecture ,50, niveau L1 Ingénieur, ENSEM, France

Bernardetta Addis

- Ecole d'ingénieur : Optimisation Discrete et Deterministe, 21, 2A, Université de Lorraine-ENSMN, France
- Ecole d'ingénieur : Recherche Operationelle, 28, 2A, Université de Lorraine-ENSMN, France

Isabelle Chrisment

- Ecole Ingénieur : Langage C et Shell, 42hTD, niveau L3, Telecom Nancy
- Ecole Ingénieur : Réseaux et Systèmes, 60hTD, niveau M1, Telecom Nancy
- Ecole Ingénieur : Réseaux et Systèmes Avancés, 30hTD, niveau M1, Telecom Nancy
- Ecole Ingénieur : Routage Internet, 50hTD, niveau M2, Telecom Nancy
- Ecole Ingénieur : Sécurité des Réseaux et des Applications, 18hTD, niveau M2, Telecom Nancy

Laurent Andrey

- Licence : Introduction to networks, 56, niveau L1 (DUT), IUT nancy-Charlemagne, France
- Licence : Introduction to network services, 38, niveau L2 (DUT), IUT nancy-Charlemagne, France

Laurent Ciarletta

- Ecole Ingénieur : Networking and Information System, 8, niveau L3 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Bootcamp (programming bootcamp), 9, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Operating Systems, 10, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Networking, 27, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Advanced Networking and Ambient Systems, 18, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Embedded Systems, 18, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Advanced Software Engineering, 18, niveau M1 Ingénieur, Mines Nancy, France
- Ecole Ingénieur : Android development, 12, niveau M1 and M2 Ingénieur, Collegium Ingenieur and Mines Nancy, France
- Ecole Ingénieur : Ateliers ARTEM "Smart and new workspaces", 90, niveau M1 and M2 Ingénieur, Collegium Ingenieur and Mines Nancy, Nancy National School of Art, ICN Business School, France

Emmanuel Nataf

- DUT : Introduction to computer system and network, 60, niveau L1, IUT nancy-Charlemagne, France



- DUT : Network, 30, niveau L1 , IUT Nancy-Charlemagne, France
- DUT : System, 30, niveau L2, IUT Nancy-Charlemagne, France
- Licence : Network monitoring, 30, niveau L3, IUT Nancy-Charlemagne, France
- Master : Network monitoring, 30, niveau M2, Université de Lorraine, France

Olivier Festor

- Ecole Ingénieur : P2P Algorithms, Protocols and Applications, 12, niveau M2 Ingénieur, Telecom Nancy & ENSEM, France
- Ecole Ingénieur : Voix sur IP, Protocols and Applications, 9, niveau M2 Ingénieur, Telecom Nancy, France

Rémi Badonnel

- Ecole Ingénieur : Networks and Services Management, 24, niveau M2 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Cloud Computing, 22, niveau M2 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Industrial Project, 20, niveau M2 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Networks and Systems, 28, niveau M1 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Advanced Courses on Networks and Systems, 28, niveau M1 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Algorithmics, Data Structures and Algebra, 30, niveau L3 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Design and Development Project, 16, niveau M1 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Initiation to Research Project, 18, niveau M1 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Object-Oriented Programming, 32, niveau L3 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : XML Design and Development, 18, niveau L3 Ingénieur, TELECOM Nancy, France

Thibault Cholez

- Ecole Ingénieur : Principles and architecture of computers (ASM), 18h, niveau L3 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : C and Shell programming, 22h, niveau L3 Ingénieur, TELECOM Nancy, France
- Ecole Ingénieur : Reliable C++ programming, 10h, niveau M2 Ingénieur, TELECOM Nancy, France

Thomas Silverston

- Master : Réseaux Avancés, 57, niveau M2, Université de Lorraine, France
- Master : Sécurité des réseaux, 45, niveau M2, Université de Lorraine, France
- Master : Architecture des Réseaux, 22, niveau M1, Université de Lorraine
- Master : VoIP, 24, niveau M1, Université de Lorraine
- Master : Introduction aux Réseaux, 26, niveau M2 Math, université de Lorraine, France
- Master : Convergence IP et Mobilité, 24, M2, Université de Lorraine, France
- Ecole d'ingénieur : Voix sur IP, 28, 3A, Telecom Nancy, France
- Master : Convergence et Multimédia, 15, Université de la Réunion

Ye-Qiong Song

- Master : Embedded and Sensor Networks, 8, niveau M2, Université de Lorraine, France
- Ecole Ingénieur : Networking, 40, niveau M2, ENSEM - Université de Lorraine, France
- Ecole Ingénieur : Wireless Sensor Network protocols, 8, niveau M2 Inge´nieur, ENSEM, France
- Ecole Ingénieur : Database, 6, niveau M1, ENSEM - Université de Lorraine, France
- Ecole Ingénieur : Algorithmic and programming (Java), 90, niveau L3, ENSEM - Université de Lorraine, France
- Ecole Ingénieur : Computer Architecture , 30, niveau L1 Ingénieur, ENSEM, France

### 9.2.2. Supervision

PhD : Oussema Dabebbi, Dynamic risk management in Voice over IP services, defended the 3rd June 2013, supervised by Remi Badonnel and Olivier Festor

PhD : Juan Pablo Timpanaro, Monitoring and Security in P2P file sharing networks, defended the 6th November 2013, supervised by Isabelle Chrisment

PhD in progress : Martin Barrere, Vulnerability management in autonomic networks and services, since Mar 2011, supervised by Remi Badonnel and Olivier Festor

PhD in progress : César Bernardini, Réseau orienté-contenu basé sur les communautés d'utilisateurs, since Nov 2011, supervised by Olivier Festor et Thomas Silverston

PhD in progress : François Despau, Delay evaluation in wireless sensor networks for providing QoS, since Oct 2011, supervised by Ye-Qiong Song and Abdelkader Lahmadi

PhD in progress : Patrick Olivier Kamgoue, Routing management in WSNs, since Jun 2012, supervised by Emmanuel Nataf and Olivier Festor in France, Thomas Djotio in Cameroun

PhD in progress : Kevin Roussel : Dynamic management of QoS and energy in heterogenous sensor and actuator networks for e-health applications, since Dec 2012, supervised by Ye-Qiong Song

PhD in progress : Anthéa Mayzaud, Monitoring and Security in the Internet of Things, since May 2013, supervised by Isabelle Chrisment and Remi Badonnel

PhD in progress: Evangelia Tsiontsiou, Multi-constrained QoS routing for wireless sensor networks with applications to smart space for ambient assisted living, since Oct 2013, supervised by Ye-Qiong Song and Bernardetta Addis

PhD in progress : Elian Aubry, Security and Management of Content-Centric Networks, since Oct 2013, supervised by Isabelle Chrisment and Thomas Silverston

PhD in progress : Wazen Shbair, An open and flexible architecture for monitoring the uses of Internet, since Dec. 2013, supervised by Isabelle Chrisment and Thibault Cholez

PhD in progress : Dorin Maxim, Probabilistic Analysis of Real-Time Systems, since Dec 2013, supervised by Françoise Simonot-Lion and Liliana Cucu-Grosjean

PhD in progress : Mohamed Said Seddiki, Allocation des ressource dans la virtualisation des réseaux, since Mar 2013, supervised by Ye-Qiong Song, and by Mounir Frikha in Tunisia

### 9.2.3. Juries

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

- Yosra Ben Saied, Ph.D in Computer Science from TELECOM SudParis and Université Pierre et Marie Curie. Title: *Sécurité Collaborative pour l'Internet des Objets*, June 2013. (Isabelle Chrisment)
- Chrystel Gaber, Ph.D. in computer Science from Université de Caen Basse-Normandie. Title: *Sécurisation d'un système de transactions sur terminaux mobiles*. October 2013. (Isabelle Chrisment)

- Leila Benacer, Ph.D in Computer Science from University Paris Est Créteil. Title: *Contributions à l'autodiagnostic de pannes dans les réseaux de communication à large échelle*. December 2013. (Olivier Festor)
- Véronique Legrand, Ph.D in Computer Science from INSA Lyon. Title: *Confiance et risque pour engager un échange en milieu hostile*. March 2013. (Olivier Festor)
- Florian Many, Combinaison des aspects temps réel et Sureté de fonctionnement pour la conception des plateformes avioniques, February 2013. (Françoise Simonot-Lion)
- Zhe Li, Ph.D. in Computer Science from TELECOM Bretagne. Title *Optimization d'un réseau de distribution de contenus géré par un opérateur*, January 2013. (Olivier Festor)
- Sylvain Cherrier, Ph.D in Computer Science from University Paris Est. Title: *Architecture et protocoles applicatifs pour la chorégraphie de services dans l'Internet des objets*. December 2013. (Olivier Festor)
- Ludovic Jacquin, Ph.D in Computer Science from University of Grenoble. Title: *Compromis Performance Sécurité pour des passerelles très haut débit pour Internet*, December 2013. (Olivier Festor)
- Jamila Ben Slimane, Ph.D in Computer Science from both University of Lorraine and SupCom Tunis. Title: *Allocation conjointe des canaux de fréquence et des créneaux e temps et routage avec QoS dans les réseaux de capteurs dans fil denses et étendus*, March 2013. (Ye-Qiong Song)
- Xiaoting LI, Ph.D in Computer Science from University of Toulouse - INPT. Title: *Worst-case delay analysis of real-time switched Ethernet networks with flow local synchronization*, September 2013. (Ye-Qiong Song)
- Cédric Mauclair, Ph.D in Computer Science from University of Toulouse - ISAE. Title: *Analyse statistique de réseaux embarqués temps réel*, September 2013. (Ye-Qiong Song)
- Juan Lu, Ph.D in Computer Science from University of Toulouse. Title: *Modeling, simulation and implementation of an 802.15.4 based adaptive communication protocol in wireless sensor network: application to monitoring the elderly at home*, February 2013. (Ye-Qiong Song)
- Mohamed-Anis Gallas, Ph.D in Architecture Science from University of Lorraine. Title: *De l'intégration à la solution architecturale: proposition d'une méthode d'assistance à la prise en compte de la lumière naturelle durant les phases amont de conception*, September 2013. (Ye-Qiong Song)
- Soumeiya-Leila Hernane, Ph.D in Computer Science from University of Lorraine. Title: *Modèles et algorithmes de partage de données cohérents pour le calcul parallèle distribué à haut débit*, June 2013. (Ye-Qiong Song)

Team members participated to the following Habilitation Degree defense committees :

- Joaquin Garcia-Alfaro, Habilitation Degree in Computer Science from Université Pierre et Marie Curie Paris 6. Title: *Contributions to the Security of EPC/RFID Wireless Technologies*, 2013. (Olivier Festor)
- Martin Quinson, Habilitation Degree in Computer Science from Université de Lorraine. Title: *Méthodologies d'expérimentation pour l'informatique distribuée à large échelle*, March 2013. (Isabelle Chrisment)

## MAGRIT Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

- The members of the team reviewed articles for IEEE Transactions on Visualization and Computer Graphics, IEEE Transactions on Pattern Analysis and Machine Intelligence, Elsevier Optics and Lasers in Engineering, Computer & Graphics, the Journal of Computer Science and Technology.
- M.-O. Berger was a member of the program committee of the following conferences: IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2013), International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2013), the IEEE International Symposium on Biomedical Imaging (ISBI) 2013 and of the french conference on computer vision ORASIS 2013.
- Gilles Simon was a member of the program committee of ISMAR 2013 and Eurographics 2013.
- P.-F. Villard was a member of the program committee of MICCAI 2013 and ISBI 2013.
- E. Kerrien was a member of the program committee of MICCAI 2013.
- Members of the team are members of local management committees (Conseil de Laboratoire, Comité de Centre and Pôle Scientifique AM2i).
- Pierre-Frédéric Villard gave a seminar on "Respiration Simulation : Application in Treatment Planning and Training Simulators" for the Visualization and Medical Graphics Group of the School of Computer Science, Bangor University, UK, on the Wednesday 5 June 2013. This talk was also given for the Computer Vision And Medical Image Analysis Group of the School of Computer Science, Swansea University, UK, on the Friday 14 June 2013
- Frédéric Sur gave a talk within the GDR ISIS day dedicated to *mesure dimensionnelle*, IUT Auxerre. He also gave a talk entitled *dérivation et intégration de mesures de champ* within GDR 2519 day (Mesures de Champs et Identification en Mécanique des Solides), ENSAM Paris.

### 9.2. Teaching - Supervision - Juries

#### 9.2.1. Teaching

Licence: Graphic and haptic rendering, 30h, IUT Saint-Dié des Vosges, France  
 Licence: Image processing, 30h, IUT Saint-Dié des Vosges, France  
 Licence: 3D programming, 30h, IUT Saint-Dié des Vosges, France  
 Licence: Object oriented programming, 110h, IUT Saint-Dié des Vosges, France  
 Licence: Outils informatiques et internet, 14 h, L1, Université de Lorraine, France  
 Licence: Algorithmique et programmation (python), 48h, L1, Université de Lorraine, France  
 Licence: Introduction à la programmation objet (java); conception d'interfaces graphiques, 50 h, L2, Université de Lorraine, France  
 Licence: Système : synchronisation et communication de processus sous Linux, 48 h, L3, Université de Lorraine, France  
 Licence: Modélisation 3D, 40 h, LP, Université de Lorraine, France  
 Master: Perception et raisonnement, 50 h, M1, Université de Lorraine, France  
 ENSAN : Géométrie, 30h, 1A, École Nationale Supérieure d'Architecture de Nancy, France  
 Licence : Informatique graphique, 10h, L1, Université de Lorraine, France  
 Master: Réalité augmentée, 24 h, M2, Université de Lorraine, France

Master : Vision par ordinateur, 12h, M1, Université de Lorraine, France  
 Master: Reconnaissance des formes statistiques, 15 h, M2, Université de Lorraine, France  
 Master: Outils pour le traitement et l'analyse d'images, 21 h, 2A, École des Mines de Nancy, France  
 Master: Recherche opérationnelle, 59 h, École des Mines de Nancy, France  
 Master: Méthodes et outils pour la conception informatique, 34 h, 2A, Télécom-Nancy, Université de Lorraine, France  
 SUPELEC: Réalité augmentée, 3 h, 3A, SUPELEC Metz, France  
 DIU: Robotique chirurgicale, 1 h, CHU Nancy Univ. Hospital, France.  
 Primary and secondary school teacher training: 3h, Maison pour la Science de Lorraine, Nancy, France.

### 9.2.2. Supervision

PhD in progress: Ahmed Yureidini, Modélisation implicite des vaisseaux sanguins pour la simulation interactive d'actes de radiologie interventionnelle, janvier 2010, Erwan Kerrien, Stéphane Cotin (Shacra, Lille).  
 PhD in progress: Nazim Haouchine, Modèles physiques pour la réalité augmentée des organes déformables, janvier 2012, Marie-Odile Berger, Stéphane Cotin (Shacra, Lille).  
 PhD in progress: Pierre Rolin, Calcul de pose par simulation de points de vue pour la réalité augmentée, octobre 2013, Marie-Odile Berger et Frédéric Sur.  
 PhD in progress: Charlotte Delmas, Reconstruction 3D des outils chirurgicaux en radiologie interventionnelle, avril 2013, Marie-Odile Berger, Erwan Kerrien.

### 9.2.3. Juries

- Marie-Odile Berger was external reviewer of the PhD of A. Dufour, G. Gaullier and M. Tamaazousti.

## 9.3. Popularization

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

- Erwan Kerrien heads the local Scientific Mediation Committee. Among other activities, he was invited to last Didapro5-DidaSTIC conference (didactics of computer science) as a panelist and was an associate researcher to a MATH.en.JEANS workshop.
- Pierre-Frédéric Villard participated to various activities in the IUT of Saint-Dié des Vosges: open days, science festival, science café, Film screening following by a debate and computer science presentations to schoolgirls to promote science.
- In an exploratory experiment conducted in collaboration with the IUFM de Lorraine (teacher training institute), we investigated the use, the usefulness and the impact of an innovative Augmented Reality Environment for teaching/learning astronomy at primary school [15]. An AR learning environment has been designed whose aim is to show augmented views of some celestial bodies and support the pupils' investigations using spatial visual guides and views from a terrestrial observer. Each child was asked to solve problems related to astronomy in two different conditions in which they had to use and manipulate: (1) the traditional learning environment (i.e., with physical models), or (2) the Augmented Reality environment. Preliminary results show that the declarative knowledge related to astronomy was higher with the AR Environment. Only AR users have developed scientific conceptions of the explored astronomical phenomena and learnings have been significantly improved. Furthermore, we presented some arguments in order to support the assumption that the AR model assists the process of scaffolding, promotes collaborative learning by reducing cognitive load, and takes part to the motivation dynamic by enhancing task controllability.
- We have designed and developed a software whose aim is to support students with learning computer programming. This software, named artEoz, enables a pedagogical view of the computer memory, dynamically changing while the user program is running [26]. Using a nice visualization helps to understand the behavior on an object oriented program. This software concerns beginners as well experimented students thanks to its facilities to draw complex data structures. artEoz can be freely downloaded for academic use only from <http://arteoz.loria.fr>. This software is licensed by the APP (French agency for software protection).

## MAIA Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

- François Chappillet is member of the scientific concil of the Robotic GDR

#### 9.1.1. Conference organization, Program committees, Editorial boards

- Amine Boumaza was a member of the program committee of GECCO'13 (The Genetic and Evolutionary Computation Conference) and CEC'13 (Congress on Evolutionary Computation). He was a reviewer for ANR *jeune chercheur programme blanc*.
- Olivier Buffet is a member of the editorial boards of the “*revue d'intelligence artificielle*” (RIA), and the “Journal of Artificial Intelligence Research” (JAIR).
- Olivier Buffet was a reviewer for the journals: AIJ (Artificial Intelligence Journal), JAIR (Journal of Artificial Intelligence Research), RIA (Revue d'Intelligence Artificielle); for the conferences AAAI'13 (National Conference on Artificial Intelligence), ICAPS'13 (International Conference on Automated Planning and Scheduling), IJCAI'13 (International Joint Conference on Artificial Intelligence), JFPDA'13 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes); and for the workshop WRLComp'13 (ICML Workshop on the 2013 Reinforcement Learning Competition).
- Vincent Chevrier was a reviewer for the journal: ActaBiotheroretica (ACBI), for the conferences IJCAI'13 (International Joint Conference on Artificial Intelligence), JFSMA'13 (Journées franco-phones sur les Systèmes multi-Agents).
- Vincent Chevrier was an expert for the following project calls: ANR Blanc Program and Digiteo, for the best PhD thesis price of the AFIA.
- François Chappillet was in the program committees of ICAART, MSDM, WACAI, the 2013 IEEE/RSJ IROS Workshop “Assistance and Service Robotics in a Human Environment” and has also reviewed papers for IROS, ICRA, and RIA.
- Alain Dutech was a reviewer for the journals : JMLR (Journal of Machine Learning Research), RIA (Revue d'Intelligence Artificielle); for the conferences IJCAI'13 (International Joint Conference on Artificial Intelligence), JFPDA'13 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes);
- Nazim Fatès co-organised **WPCA'13**, the First European workshop on probabilistic cellular automata, held in Eindhoven, June 10-12, 2013. He was a reviewer for the following journals: *Theoretical Computer Science*, *Physica D*, *Journal of cellular automata*. He was a program committee member of the following conferences: AUTOMATA'13 (Workshop on cellular automata), CAAA'13 (cellular automata Algorithms & Architectures), SCW'13 (spatial computing workshop). He was an external referee for the conference CiE'13 (Computation in Europe). He was invited to give a talk and a tutorial at AUTOMATA'13.
- Bruno Scherrer was a reviewer for the journals Mathematics of Operations Research, Annals of Operations Research, Applied Mathematics and Optimization, and Transactions on Neural Networks and Learning Systems, for the international conferences ICML'13 (International Conference on Machine Learning) and NIPS'13 (Neural Information Processing Systems), and for the national conference on learning CAP'13 (Conférence Francophone sur l'Apprentissage Automatique).
- Bruno Scherrer was invited to give a talk at the Reinforcement Learning seminar of the Gatsby Unit (University College of London).

- Alexis Scheuer was a reviewer for the journals Artificial Intelligence (Elsevier), Robotics and Autonomous Systems (Elsevier) and IEEE Transactions on Robotics, as well as for the conference ICRA'14 (IEEE International Conference on Robotics and Automation).
- Olivier Simonin has co-organized the 2013 IEEE/RSJ IROS Workshop "Assistance and Service Robotics in a Human Environment". He is a member of the program committees of ICINCO'13, ICAART'13, and national conferences CAR2013 and JFSMA'13. He was a reviewer for the following international journals, IEEE Transactions on Systems, Man and Cybernetics: Systems, International Journal of Advanced Robotic Systems, and the conference IEEE ICRA'13.
- Vincent Thomas was a reviewer for the journal IEEE Transactions on Cybernetics and for the conference JFPDA'13 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

PhD & Master level: Amine Boumaza, Métaheuristiques, 15h eq TD., Master 1 Computer Science, Université de Lorraine, France.

Master level: Alain Dutech, Numerical Learning in AI, 15h eq TD, Master 1 Cognitive Sciences, Université de Lorraine, France.

PhD & Master level: Nazim Fatès, cellular automata, four lectures for a complex systems doctoral module, University Adolfo Ibañez, Santiago, Chile.

PhD & Master level: Alexis Scheuer & Olivier Simonin, Introduction to Mobile Robotics, 30h eq TD., Master 1 Computer Science, Université de Lorraine, France.

PhD & Master level: Alexis Scheuer & Olivier Simonin, Additional Mobile Robotics, 30h eq TD., Master 2 Computer Science, Université de Lorraine, France.

Master level: Olivier Simonin, Artificial Life, 15h eq TD., last year course (equivalent to Master 2), Ecole Supérieure d'Électricité de Metz, France.

PhD & Master level: Vincent Thomas, Métaheuristiques, 15h eq TD., Master 1 Computer Science, Université de Lorraine, France.

PhD & Master level: Vincent Thomas, Optimisation et systèmes dynamiques stochastiques, 22h eq TD., Master 2 Computer Science, Université de Lorraine, France.

Master level: Vincent Thomas, Agents Intelligents, 25h eq TD., Master 1 Cognitive Sciences, Université de Lorraine, France.

Master level: Vincent Thomas, Serious Game and Game Design, 15h eq TD., Master 2 Cognitive Sciences, Université de Lorraine, France.

### 9.2.2. Supervision

PhD: Mauricio Araya, "*Near-Optimal Algorithms for Sequential Information-Gathering Decision Problems*", Université de Lorraine, Feb. 4th, F. Charpillat (advisor), O. Buffet, V. Thomas.

PhD: Antoine Bautin, "*Stratégie d'exploration multirobot fondée sur le calcul de champs de potentiels*", Université de Lorraine, Oct. 3rd, F. Charpillat (advisor), O. Simonin.

PhD: Olivier Bouré, "*'Le simple est-il robuste ?' Une étude de la robustesse des systèmes complexes à travers les automates cellulaires*", Université de Lorraine, Sep. 13th, Nazim Fatès, Vincent Chevrier (advisor).

PhD: Lucie Daubigny, "*Gestion de l'Incertitude pour l'Optimisation de Systèmes Interactifs*", Université de Lorraine, Oct. 1st, Olivier Pietquin, Alain Dutech (advisor).

PhD in progress Mihai Andries, "*Calcul spatialisé pour l'assistance à la personne: étude d'un réseau de dalles intelligentes*", Université de Lorraine, Oct. 2012, F. Charpillat (advisor), O. Simonin.

PhD in progress: Benjamin Camus, “*Un laboratoire virtuel pour la multi-modélisation*”, Université de Lorraine, Oct 2012, Christine Bourjot, Vincent Chevrier (advisor).

PhD in progress: Amandine Dubois, “*Assistance à la personne en perte d'autonomie: étude de l'apport d'un réseau de Kinects à la détection et la prévention des chutes*”, Université de Lorraine, Oct. 2011, F. Charpillat (advisor).

PhD in progress: Abdallah Dib, “*Assistance à la personne en perte d'autonomie: étude de l'apport d'un robot compagnon*”, Université de Lorraine, March. 2013, F. Charpillat (advisor).

PhD in progress: Arsène Fansi Tchango, “*Suivi multi-caméra en environnement partiellement observé*”, Université de Lorraine, Oct. 2011, A. Dutech (advisor), O. Buffet, V. Thomas.

PhD in progress: Nassim Kaldé, “*Exploration et reconstruction d'un environnement inconnu par une flottille de robots*”, Université de Lorraine, Oct. 2012, F. Charpillat (advisor), O. Simonin.

PhD in progress: Manel Tagorti, “*Approximating the Value Function for Heuristic Search in Factored MDPs*”, Université de Lorraine, Nov. 2011, J. Hoffmann (advisor), B. Scherrer, O. Buffet.

PhD in progress: Mohamed Tlig, “*Reactive coordination for traffic adaptation in large situated multi-agent systems*”, Université de Lorraine, Dec. 2010, O. Simonin (advisor), O. Buffet.

PhD in progress: Julien Vaubourg, “*Multi-modélisation, multi-simulation dans le cadre des Smart-grids*”, Université de Lorraine, Oct 2013., Laurent Ciarletta, Vincent Chevrier (advisor).

PhD in progress: Jano Yazbeck, “*Secure and robust immaterial hanging for automated vehicles*”, Université de Lorraine, Oct. 2010, F. Charpillat (advisor), A. Scheuer.

### 9.2.3. Juries

#### 9.2.3.1. PhD and HDR committees

- Amine Boumaza was a member of the PhD committee of
  - Charles Olion, October 18th 2013, ISIR/UPMC.
- Olivier Buffet was a member of the PhD committee of
  - Caroline Ponzoni Carvalho Chanel, 12th Apr. 2013, Université de Toulouse / ISAE, and
  - Adrien Couëtoux, 30th Sept. 2013, Université Paris Sud.
- Vincent Chevrier was a member of the PhD committee of
  - Yishuai Lin, 10th Sept. 2013, Université de Technologie de Belfort-Monbéliard, as a referee; and
  - Inaya Lahoud, 10th Sept. 2013, Université de Technologie de Belfort-Monbéliard, as a committee member.
- François Charpillat was a member (as a referee) of the PhD committee of:
  - Jean-Baptiste Soye, 3rd December, Lagis/Université de Lille 1
  - Asma Azim, 17th December, LIG, Université de Grenoble
  - Nicolas Coté, 10th December, GREYC, Université de Caen
  - Rémi Guyanneau, 19th November, LISA, Université d'Angers
  - Zhaoxia Peng, Lagis, Université de Lille
  - Xuan Son Nguyen, 28th Jun., LIP6, Université Pierre et Marie Curie, Paris 6
  - Caroline Ponzoni Carvalho Chanel, 12th Apr., ONERA, Université de Toulouse/ISAE
  - Pedro Chahuara Quispe, 27th march, LIG, Université de Grenoble
  - Joni Pajarinen, 7th February, Aalto University
- François Charpillat was a member of the HdR committee of :
  - Frank Gechter, 4th December, SET, UTBM-Université de Franche-Comté
  - Stéphane Galland, 11th December, SET, UTBM-Université de Franche-Comté



- Alain Dutech was a member of the PhD committee of
  - Tony Pinville, 30th January 2013, Université Paris 6 (referee),
  - Mahuna Akplogan, 15th May 2013, INRA Toulouse (referee),
  - Jean-Baptiste Hoock, 12th June 2013, Université Paris 11 (referee),
  - Joseph El-Gemayel, 25th June 2013, Université de Toulouse 1 (referee),
  - Lucie Daubigny, 1st October 2013, Université de Lorraine.
- Nazim Fatès was a member of the PhD committee of Markus Redeker, June 17th, 2013, Int. Center Unconventional Computing, Bristol University, UK.
- Olivier Simonin was a member was a member of the PhD committee of
  - Benjamin Cogrel, 18th November 2013, Univ. Paris Est Créteil,
  - Remy Guyonneau, 19th November 2013, Univeristé d'Angers,
  - Nicolas Coté, 10th December 2013, Univ. de Caen,
  - Jean-Baptiste Soyez, 3rd December 2013, Univ. de Lille.
- Olivier Simonin was a member (as a referee) of the PhD committee of
  - Jorge Rios Martinez, 8th January 2013, LIG-Inria Rhône-Alpes Grenoble,
  - Cyril Poulet, 23rd April 2013, UPMC LIP6,
  - Yassine Gangat, 27th August 2013, Ile de la Réunion,
  - Feirouz Ksontini, 13th November 2013, Univ. de Valenciennes,
  - Madeleine El Zaher, 22th November 2013, Univ. Technologique de Belfort-Montbéliard,
  - Nicolas Carlesi, 19th December, Univ. Montpellier 2.

#### 9.2.3.2. Specialist Committees

- François Charpillat was a member of "Specialist committee" in University of Grenoble
- Olivier Buffet was a member of the "Specialist committee" in Université de Caen Basse-Normandie.
- Alain Dutech was a member of the "Specialist committee" in Université Paris 13.

### 9.3. Popularization

- François Charpillat participated to the popularization of the robotic and Ambient Intelligence activity of the maia team :
  - <http://videotheque.inria.fr/videotheque/media/25615>
  - <http://videotheque.inria.fr/videotheque/doc/809>
  - <http://vimeo.com/78659657>
  - <http://vimeo.com/83727993>
- The popularization article by Alain Dutech, Bruno Scherrer and Christophe Thiéry on Reinforcement Learning for the game of Tetris, that was first published at Interstices, was revised and published at Images des Mathématiques [44].
- Vincent Thomas has organized, in collaboration with the "Bibliothèque Universitaire du Campus Lettres", an exposition "jeux: les ateliers de la pensée" where the main objective is to promote games as an interesting subject for academics. This exposition included two days of vulgarization seminars with specialists of several scientific fields (economy, psychology, computer science) and animations. See [http://ticri.inpl-nancy.fr/wicri-lor.fr/index.php?title=Exposition\\_Jeu](http://ticri.inpl-nancy.fr/wicri-lor.fr/index.php?title=Exposition_Jeu). The material of the exposition will be presented in several university libraries of the Université de Lorraine in the first half of 2014.

- Vincent Thomas participated in “Journée ISN-EPI” (Jun. 27 2013) whose audience is computer science teachers of secondary school by making a presentation on "games and artificial intelligence" and by organizing a workshop on the same subject. Vincent Thomas is participating in the LORIA IDEES group dedicated to teaching activities <http://idees.loria.fr/index.php?n=Main.ProgrammeJourneeISN-EPI>.
- Vincent Thomas participated in “Dans les coulisses d’un labo d’informatique” (Mar. 21 2013) by proposing an animation about “artificial intelligence and video games” for secondary school students <https://iwww.inria.fr/NanSciNum/dans-les-coulisses-dinria-nancy-grand-est-2/>.
- Vincent Thomas and Olivier Buffet participated in “Fête de la Science” by organizing a workshop on board games and artificial intelligence (Oct. 10 and 12). See <https://iwww.inria.fr/NanSciNum/un-ticet-pour-la-science/>.
- Nazim Fatès animated two debates following the presentation of the film *Codebreaker* which is a “biopic” dedicated to Alan Turing: in January, it was presented at the Lycée Jean-Moulin in Forbach; in November, it was presented in the main cinema of Saint-Dié-des-Vosges (organisation by “Festival du film de chercheur”).
- Christine Bourjot, Alain Dutech and Nazim Fatès participated in a debate on artificial intelligence in the café “l’Irlandais” with a public mainly constituted of university students.

## MASAIE Project-Team

## 7. Dissemination

### 7.1. Scientific Animation

A. Iggridr is an elected member of Inria Evaluation committee (CE).

A. Iggridr served as a member of the CR2 committee (Jury concours CR2) at Inria RHÔNE ALPES, May 2013.

G. Sallet was an invited speaker at the "Workshop on Mathematical Methods and Modeling of Biophysical Phenomena", Cabo Frio, State of Rio de Janeiro, Brazil, March 4th-8th, 2013. <http://w3.impa.br/~zubelli/BIOMATH2013/>.

A. Iggridr was an invited speaker at "III Simpósio de Modelagem do Controle da Dengue", Petrópolis, State of Rio de Janeiro, Brazil, May 8th-10th, 2013. <http://claudia-codeco.github.io/pronex/simposio2013.html>.

G. Sallet was a lecturer at the CIMPA-ICTP-UNESCO research school "Numerical methods in fluid mechanics, mathematical epidemiology and reaction-diffusion systems", September 2-13, 2013, University Gaston Berger, Saint-Louis, Senegal. <http://www.cimpa-icpam.org/spip.php?article500>.

G. Sallet was a speaker at the scientific meeting "Des dynamiques singulièrement perturbées aux dynamiques des populations", La Rochelle, December 16th-18th, 2013.

### 7.2. Teaching - Supervision - Juries

#### 7.2.1. Teaching

Licence and Master : P. Adda, 192h, L1, L2, L3, M1, University Lorraine.

#### 7.2.2. Supervision

- PhD : Derdei Bichara. Application de la théorie des observateurs à l'identification des paramètres de modèles épidémiologiques, Université de Lorraine, February 28, 2013, G. Sallet and A. Iggridr.
- PhD : L. Tendeng. Etude de modèles de transmission de la Schistosomiase: Analyse mathématique, reconstruction des variables d'état et estimation des paramètres, Université de Lorraine, May 2013, G. Sallet.
- PhD in progress : Mouhamadou Diaby, "Etude mathématique de l'évolution temporelle et spatiale de certaines épidémies. Applications à la Bilharziose (schistosomiase).", 01/01/2010, A. Iggridr.
- PhD in progress : Mamadou Lamine Diouf, "Modélisation, observation et contrôle de la propagation de certaines épidémies en Afrique Subsaharienne.", 01/01/2010, A. Iggridr.

#### 7.2.3. Juries

A. Iggridr was member (referee) of the PhD thesis jury of Mamadou Diagne, "Modélisation et étude mathématique de la dynamique de prolifération du Typha dans le Parc National des Oiseaux de Djoudj", defended in November 2013 at Université de Haute-Alsace.

## NEUROSYS Team

## 8. Dissemination

### 8.1. Scientific Animation

#### 8.1.1. Scientific responsibilities

- Responsibility of Master 2-program (speciality TAL) at UFR Math-Info, University of Lorraine (L. Buhry)
- Local coordinator of the Erasmus Mundus program *LCT (Language and Communication Technologies)* (L. Buhry)
- Responsibility of Master program in Computer Science (speciality *Recherche IPAC*), University of Lorraine (L. Bougrain)
- Head of Professional Master Internships in Computer Science, University of Lorraine (L. Bougrain)
- Member of committee IST (L. Bougrain)
- Head of the Communication team of the Computer Science Department of FST (L. Bougrain)
- Member of the Program Committee of the conference on Automatic Learning (CAP) (L. Bougrain)
- Member of the Board of Directors in Organization of Computation Neuroscience (A. Hutt)
- Editor of Journal *ISRN Probability and Statistics* and *Dataset Papers in Medicine – Anesthesiology* (A.Hutt)

#### 8.1.2. Review activity

- For journals: *Frontiers in Computational Neuroscience*, *Cerebral Cortex*, *New Journal of Physics*, *Physical Review Letters*, *Physical Review X*, *Physical Review E*, *Cognitive Neurodynamics*, *Advances in Difference Equations*, *SIAM Journal of Applied Dynamical Systems*, *ISRN Probability and Statistics*, *Scholarpedia* (A. Hutt); *Journal of Neural Engineering*, *Neurocomputing*, *CSSP (Circuits, Systems and Signal Processing)* (L. Buhry)
- Programme FP7-PEOPLE (L. Buhry)
- Programme FP7-FET *Human Brain Project* (A. Hutt)

#### 8.1.3. Conference organization and participation

- Organization of the g.tec-workshop at LORIA (L. Bougrain)
- Organization of a workshop at the Computational Neuroscience Conference in Paris (A. Hutt)
- Organization of a one-day tutorial at the Computational Neuroscience Conference in Paris (A. Hutt)
- Member of the organization committee of *Forum des Sciences Cognitives* at Nancy (L. Buhry)

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Licence : L. Buhry, *Artificial Intelligence and solution of problems*, 25h, level L3 MIASHS, University of Lorraine

Licence: L. Bougrain, *Artificial intelligence and mobile development - Licence of Computer Science*, 70h, level L3, University of Lorraine

Licence: L. Bougrain, *Optimization - Licence of Computer Science*, 37.5h, level L3, University of Lorraine

Licence: L. Bougrain, *Computer Networks - Licence of Computer Science*, 20h, level L2, University of Lorraine

Licence: L. Bougrain, *Artificial intelligence*, 59h, level L3, Telecom Nancy/ESIAL - University of Lorraine

Licence: L. Bougrain, *Immersive and innovative interfaces*, 3h, level L3, Supélec Metz

Master: L. Buhry, *Algorithms for Artificial Intelligence*, 31h, level Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine

Master: L. Buhry, *Fundamentals in Artificial Intelligence and Data Search*, 18h, level Master 1 SCA (Cognitive Science and Applications), University of Lorraine

Master: L. Buhry, *Computational Neuroscience*, 25h, level Master 2 SCMN, University of Lorraine

Licence: L. Bougrain, *Artificial neural networks - Master of mathematics speciality pro. mathematical engineering and computing tools*, 24h, level M3, University of Lorraine

Master: L. Bougrain, *Ergonomics - Master of Computer Science*, 18h, level M1, University of Lorraine

Master : Axel Hutt, *Algorithm Perls*, 9h, level M1, École des Mines Nancy

### 8.2.2. Supervision

PhD: Maxime Rio, *Bayesian model for the detection of synchronisation in electro-cortical signals*, Université de Lorraine, July 16 2013, Bernard Girau and Axel Hutt

PhD: Carolina Saavedra, *Analysis and multi-channel denoising methods based on wavelets to improve the detection of evoked potentials without averaging: application to BCI*, Université de Lorraine, 14 December 2013, Bernard Girau and Laurent Bougrain

PhD in progress: Meysam Hashemi, *Analysis of a cortico-thalamic model in the context of general anaesthesia*, May 2012, Axel Hutt

PhD in progress: Mariia Fedotenkova, *Analysis of single-channel EEG-data by a recurrence analysis*, November 2013, Axel Hutt

PhD in progress: Cecilia Lindig Leon, *Multilabel classification for a 3D control of a robotic arm using band-specific EEG markers associated with a motor task*, November 2013, Laurent Bougrain and Axel Hutt

### 8.2.3. Juries

- PhD defense of Muhammad Yousaf, Norwegian University of Life Sciences, 22 February 2013, reviewer (Axel Hutt)
- PhD defense of Merdan Sarmis, Université de Mulhouse, 4 December 2013, reviewer (Axel Hutt)

## 8.3. Popularization

- Nancy Renaissance 2013 *Moments d'Invention* with stand and talk on conference (L. Bougrain).
- Fête de la Science à Nancy, October 2013 (L. Bougrain et A. Hutt).
- Science Slam Talk on *Sleep and Anaesthesia* at University of Frankfurt / Main, February 2013 (A. Hutt).

## ORPAILLEUR Project-Team

# 9. Dissemination

## 9.1. Scientific Animation

- The scientific animation in the Orpailleur team is based on two seminars, the Team Seminar and the BINGO seminar. The Team Seminar is held twice a month and is used either for general presentations of members of the team or for invited presentations of external researchers. The BINGO seminar is also held twice a month and is used for more specific presentations focusing on biological, chemical, and medical topics. Actually, both seminars are active and are useful instruments for researchers in the team.
- Members of the Orpailleur team are all involved, as members or as head persons, in various national research groups (mainly GDR CNRS I3 and BIM).
- The members of the Orpailleur team are involved in the organization of conferences and workshops, as members of conference program committees (ECAI, IJCAI, PKDD, ICFCA ...), as members of editorial boards, and finally in the organization of journal special issues.
- Valmi Dufour-Lussier, Emmanuelle Gaillard and Alice Hermann have organized the 21<sup>th</sup> French workshop on case-based reasoning in the framework of PFIA-2013 (*Plateforme IA 2013*). This workshop is an annual meeting gathering junior and senior researchers from different communities.
- Emmanuel Nauer co-organized the “Cooking with Computers” workshop at IJCAI 2013 (Beijing, China). This workshop aims at bringing together researchers from every possible fields of artificial intelligence applying their research on food and cooking.
- Amedeo Napoli organized with Sergei O. Kuznetsov (HSE Moscow) and Sebastian Rudolph (TU Dresden) the second workshop FCA4AI (“What can do FCA for Artificial Intelligence”) which was associated with the last IJCAI Conference in Beijing (China, August 2013, <http://ijcai13.org/program/workshop/30>).
- Amedeo Napoli organized with Claudio Carpineto (Fondazione Ugo Bordoni, Roma) and Sergei O. Kuznetsov (HSE Moscow) a Workshop in Moscow, March 24 2013, on “Formal Concept Analysis meets Information Retrieval” (<http://www.hse.ru/en/org/hse/fcair>). This was a joint workshop with the ECIR Conference.
- Amedeo Napoli organized with Francisco Carvalho of the organization of a Workshop in Recife (Brazil), April 24-26, namely the s“French-Brazilian Workshop on Numerical and Symbolic Methods of Data Analysis -WFB2013” (<http://www.cin.ufpe.br/~wfb2013/>). This workshop took place within an Inria-Facepe joint project where Amedeo Napoli and Francisco Carvalho are the scientific leaders.
- Amedeo Napoli was in charge of the organization of the so-called “Journées de la Société Francophone de ChemoInformatique” (SFCI) in October 2013 at LORIA (October 10th and 11th), which is the meeting of researchers working on chemoinformatics and computational chemistry in France, gathering around 100 persons (<http://sfci2013.loria.fr/>).
- Jean-Sébastien Sereni organized a workshop on combinatorics and distributed computing in the scope of the LEA STRUCO, with 21 participants, on November 12th–15h, 2013, in Pont-à-Mousson, France (<http://www.liafa.univ-paris-diderot.fr/~sereni/STRUCO/CDCMeeting/>).
- Mario Valencia has organized the Graph Days in Nancy on May 23th-24th 2013 (see <http://www.loria.fr/news/journees-graphes-les-23-et-24-mai-2013-en>).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

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

## PAREO Project-Team

# 8. Dissemination

## 8.1. Scientific Animation

Jean-Christophe Bach:

- Member of the LORIA laboratory council
- Member of the organizing committee of the “Journées GDR–GPL” colocated with the AFADL and CIEL conferences

Christophe Calvès

- Member of the organizing committee of the “Journées GDR–GPL” colocated with the AFADL and CIEL conferences

Horatiu Cirstea:

- PC member of RuleML 2013 (International RuleML Symposium on Rule Interchange and Applications).
- PC member of SCSS 2013 (International Symposium on Symbolic Computation in Software Science).
- Steering committee of RULE.
- Responsible for the Master speciality “Logiciels: Théorie, méthodes et ingénierie”.
- Member of the organizing committee of the “Journées GDR–GPL” colocated with the AFADL and CIEL conferences

Sergueï Lenglet:

- Member of the organizing committee of the “Journées GDR–GPL” colocated with the AFADL and CIEL conferences
- Invited speaker at the “Journées LAC”
- Reviewer for the TCS (Theoretical Computer Science) journal

Pierre-Etienne Moreau:

- Member of the GDR–GPL (CNRS Research Group on Software Engineering) board.
- Member of the national committee for Inria “Médiation Scientifique”.
- Head of the local committee for Inria “détachements” and “délégations”.
- Head of the Computer Science department at Ecole des Mines de Nancy.
- President of the organizing committee of the “Journées GDR–GPL 2013” colocated with the AFADL and CIEL conferences
- PC member of SLE 2013 (6th International Conference on Software Language Engineering), SCSS 2013 (5th International Symposium on Symbolic Computation in Software Science),
- Member of the organizing committee of WASDeTT 2013 (4th International Workshop on Academic Software Development Tools and Techniques)



Sorin Stratulat:

- Member of the LITA Laboratory Council.
- Member of the program committee of the 9th International Conference on Information Assurance and Security (IAS '13)
- Member of the program committee of the 6th International Conference on Computational Intelligence in Security for Information Systems (CISIS'13)
- Member of the program committee of the 5th International Symposium of Symbolic Computation in Software Science (SCSS '13)
- Tutorial speaker at the Conference on Automated Reasoning with Analytic Tableaux and Related Methods (TABLEAUX 2013)
- Speaker at
  - Workshop on Inductive Theorem Proving 23-24 November 2013, Imperial College London, UK
  - LIX Colloquium on the Theory and Application of Formal Proofs, 5-7 November 2013, Ecole Polytechnique, Palaiseau, France
  - Workshop on Proof Search in Axiomatic Theories and Type Theories (PSATTT), 8 November 2013, Ecole Polytechnique, Palaiseau, France

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Licence : Pierre-Etienne Moreau, Responsible of the course "Introduction to Algorithms and Programming" (<http://www.depinfo Nancy.net/s5/tcs13>), first year at Mines-Nancy (150 students), Université de Lorraine, France

### 8.2.2. Supervision

PhD in progress : Jean-Christophe BACH, "Transformation de modèles et certification", November 1st 2010, Pierre-Etienne Moreau

PhD in progress : Amira HENAIEN, "Certification du raisonnement formel porté sur des systèmes d'information critiques.", November 1st 2010, Sorin Stratulat

### 8.2.3. Juries

Horatiu Cirstea:

PhD committee of Henri Debrat, "Certification formelle de la correction d'algorithmes de Consensus", Nancy 2013

Pierre-Etienne Moreau:

PhD committee of Mathieu Giorgino, reviewer, Toulouse, 2013: "Inductive Representation, Proofs and Refinement of Pointer Structures"

PhD committee of Clément Guy, reviewer, Rennes, 2013: "Facilités de typage pour l'ingénierie des langages"

PhD committee of Pengfei Liu, reviewer, Bordeaux, 2013: "Intégration de politiques de sécurité dans des systèmes ubiquitaires"

PhD committee of Laurent Wouters, Paris, 2013: "Multi-Domain Expert-User Modeling Infrastructure"

## 8.3. Popularization

**Participants:** Jean-Christophe Bach, Pierre-Etienne Moreau.

Jean-Christophe Bach participated to scientific mediation by proposing several activities to demonstrate the *algorithmic thinking* at the core of the Computer Science without requiring any computer or even electric devices. These activities are the first part of the CSIRL (Computer Science In Real Life) project which aims to popularize computer science and to initiate children, school students and non-scientists into this domain. These activities were presented during the high school students welcome at LORIA and Inria - Nancy Grand Est, and also during APMEP<sup>1</sup> days. Jean-Christophe Bach also took part to the "Fête de la science" in October.

Jean-Christophe Bach was also involved in popularization activities with Interstices <sup>2</sup> by writing short debunking articles (“Idées reçues”) for non computer scientists about Church’s thesis and Turing’s work [15]. Other popularization articles are still under work.

Pierre-Etienne Moreau gave two lectures about “Robotics and Programming” in the ISN course (Informatique et Science du Numérique), in order to help professors of “classes de terminale” to teach this discipline.

Pierre-Etienne Moreau organized a three day course about “Algorithms, Programming and Databases” in order to help professors of “classes préparatoires aux grandes écoles” to teach this discipline.

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<sup>1</sup><http://www.apmep.asso.fr/>

<sup>2</sup><http://interstices.info>

## PAROLE Project-Team

## 9. Dissemination

### 9.1. Scientific animation

- Members of the team frequently review articles and papers for the following journals and conferences: Computer Speech and Language, Traitement du Signal, ICASSP, INTERSPEECH, AVSP, ASRU, SLAM, CHiME, JEP.
- Member of editorial boards:
  - Computer Speech and Language, special issue on Speech Separation and Recognition in Multisource Environments (E. Vincent) [15]
  - IEEE Transactions on Audio, Speech, and Language Processing (E. Vincent)
  - Eurasip Journal on Audio speech and Music Processing (Y. Laprie)
- Member of scientific committee of conference:
  - INTERSPEECH'2013 (area chair: D. Jouvét)
  - INTERSPEECH'2013 (K. Smaïli)
  - TALN 2013 (K. Smaïli)
  - IEEE Technical Committee on Audio and Acoustic Signal Processing (E. Vincent)
  - Steering Committee of the LVA conference series (E. Vincent)
- Special session:
  - Special Session at Interspeech 2013 “Articulatory data acquisition and processing” (Co-organizer: S. Ouni)
- General chair:
  - 12th International Conference on Auditory-Visual Speech Processing (AVSP2013), August 2013 (S. Ouni)
  - 2nd International Workshop on Machine Listening in Multisource Environments, Vancouver, June 2013 (E. Vincent)
  - Journée de la Fédération Charles Hermite ‘Incertitudes: approches et défis’, Nancy, December 2013 (E. Vincent)
  - 4th Joint Workshop on Hands-Free Speech Communication and Microphone Arrays, Nancy, May 2014 (E. Vincent)
- Organizer of the 2nd CHiME Speech Separation and Recognition Challenge (E. Vincent).
- Members of the team have been invited as lecturers:
  - Emmanuel Vincent, “Introduction to sound scene analysis - Source localization”, “Source separation” and “Source classification”, Journées Thématiques IRISA ‘Localisation, séparation et suivi de sources audio’, Rennes, February 2013 [32], [35], [34]
  - Emmanuel Vincent, “Leveraging online sound exposure and big data”, 013 Hearing Aid Developers Forum, Oldenburg, June 2013 [33]
  - Emmanuel Vincent, “Uncertainties in speech and audio processing”, Journée de la Fédération Charles Hermite ‘Incertitudes: approches et défis’, Nancy, December 2013 [73]
  - David Langlois, “Uncertainty in Machine Translation”, Journée de la Fédération Charles Hermite ‘Incertitudes: approches et défis’, Nancy, December 2013

- Yves Laprie and Slim Ouni, “Articulatory Data Acquisition and Processing”. Colloque Corpus et Outils en Linguistique Langue et Parole : Statuts, Usages et Mésusages, Jul 2013, Strasbourg, France.[31]
- Anne Bonneau, “Troubles du traitement temporel du langage oral : vers des outils en recherche clinique”, 23ème Congrès de la Société Française de Neurologie Pédiatrique [30]
- Demonstration of VisArtico software at Interspeech 2013 (S. Ouni)

## 9.2. Teaching - supervision - juries

### 9.2.1. Teaching

List below is not exhaustive.

#### PhD

A. Piquard-Kipffer, Language acquisition and language pathology, 25h, Sorbonne Paris Cité University -EHESP, France

#### Master

K. Smaïli, Master research for ERASMUS MUNDUS LCT, Statistical language modeling for speech recognition and machine translation, Course done in English

K. Smaïli, Master for students from Luxembourg, Business Intelligence

D. Langlois, courses on "vigilance juridique" for teachers at primary school in the scope of using electronic resources (25HETD), ESPE of Academy Nancy-Metz, University of Lorraine, France

D. Langlois and V. Colotte, "Introduction to Speech Analysis and Recognition" (35HETD), University of Lorraine, France

O. Mella, Computer Networking (60HETD), M1, University of Lorraine, France

O. Mella, Project and internship supervision in Networking Engineering (18HETD), M2, University of Lorraine, France

A. Piquard-Kipffer, Language acquisition and language pathology, 200h, M1, M2, University of Lorraine, Blaise Pascal University, Paris 6 University, France

#### School of engineers

V. Colotte, XML (35HETD), Telecom Nancy, France

#### Licence

D. Langlois, Algorithmic, C Language (60HETD), Complexity (15HETD), Miage of Nancy, University of Lorraine, France

V. Colotte, C2i - Certificat Informatique et Internet (50HETD), System (80HETP), University of Lorraine, France

A. Piquard-Kipffer, Psycholinguistics, 30h, L3, University of Lorraine, France

O. Mella Networks and Network Programming(30HETD), L3, University of Lorraine, France

O. Mella From Chip to Internet (Introduction about Information Technology) (60 HETD), L1, University of Lorraine, France

I. Illina, Java Programming, 110h, L1, University of Lorraine, France

I. Illina, Graphical Interface, 30h, L1, University of Lorraine, France

I. Illina, Computer Operating System, 50h, L1, University of Lorraine, France

**Adults**

O. Mella, informatic courses for secondary school teachers (Informatique et Sciences du Numérique courses) (35HTED), ESPE of Academy Nancy-Metz, University of Lorraine, France

D. Langlois, informatic courses for secondary school teachers (Informatique et Sciences du Numérique courses) (100HTED), ESPE of Academy Nancy-Metz, University of Lorraine, France

**Other**

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

**9.2.2. Supervision**

HdR : Chiraz Latiri, "Extraction de connaissances à partir de Textes : Méthodes et Applications", University of Lorraine, 24 June 2013.

HdR : Slim Ouni, "Multimodal Speech: from articulatory speech to audiovisual speech, University of Lorraine, 29 November 2013.

PhD : Uptala Musti, "Acoustic-Visual Speech Synthesis by Bimodal Unit Selection", University of Lorraine, 21 Feb 2013, Yves Laprie et Slim Ouni.

PhD: Gabriel Sargent, "Estimation de la structure des morceaux de musique par analyse multi-critères et contrainte de régularité", University Rennes 1, Feb 2013, Emmanuel Vincent

PhD : Imen Jemaa, Inversion acoustique articulatoire à partir de coefficients cepstraux, University of Lorraine - ENIT (Tunis), 19 February 2013, Yves Laprie et Kaïs Ouni.

PhD : Julie Busset, Inversion acoustique articulatoire à partir de coefficients cepstraux, University of Lorraine, 25 March 2013, Yves Laprie.

PhD : Fadoua Bahja, Détection du fondamental de la parole en temps réel : application aux voix pathologiques, Université Mohammed V-Agdal Faculté des Sciences Rabat Morocco, 11 July 2013, Elhassan Ibn Elhadj and Joseph Di Martino.

PhD: Alexis Benichoux, "Fonctions de coût pour l'estimation des filtres acoustiques dans les mélanges réverbérants", University Rennes 1, Oct 2013, Emmanuel Vincent

PhD in progress : Cyrine Nasri, New methods for machine translation, October 2011, K. Smaïli, C. Latiri.

PhD in progress : Othman Lachhab, Automatic speech recognition applied to pathological voices, Institut National des Postes et Télécommunications (INPT) Rabat Morocco, from November 2010, Elhassan Ibn Elhaj and Joseph Di Martino.

PhD in progress : Arseniy Gorin, Handling trajectories and speaker consistency in automatic speech recognition, October 2011, D. Jouvét.

PhD in progress : Motaz Saad, Cross-lingual concept mining, November 2011, K. Smaïli and D. Langlois.

PhD in progress : Dung Tran, Uncertainty handling for noise-robust automatic speech recognition, December 2012, E. Vincent and D. Jouvét.

PhD in progress : Luiza Orosanu, Speech recognition for communication help for deaf or hard of hearing people, December 2012, D. Jouvét.

PhD in progress: Nathan Souviraà-Labastie, "Localisation et séparation de sources sonores pour la reconnaissance de la parole en environnement réel", University Rennes 1, from Jan 2013, Emmanuel Vincent

PhD in progress: Xabier Jaureguiberry, "Fusion et optimisation de modèles pour la séparation de sources audio", Télécom ParisTech, from Feb 2013, Emmanuel Vincent.

**9.2.3. Juries**

Participation in PhD thesis Jury for Souhir Gahbiche (Université de Paris-Sud, September 2013), K. Smaïli, reviewer

Participation in PhD thesis Jury for Marion Potet (Université de Grenoble, April 2013), K. Smaïli, reviewer

Participation in HDR Jury for Chiraz Latiti (University of Lorraine), June 2013, K. Smaïli, co-supervisor.

Participation in PhD thesis Jury for Penny Karanasou (Université Paris-Sud, June 2013), D. Juvet.

Participation in PhD thesis Jury for Mohammed Bouallegue (Université Avignon et Pays du Vaucluse, December 2013), D. Juvet, reviewer.

Participation in PhD thesis Jury for Tiraogo Abdoulaye Yves Zango (Université de Rennes, February 2013, Y. Laprie, reviewer.

Participation in PhD thesis Jury for Utpala Musti (University of Lorraine), February 2013, V. Colotte, member.

Participation in PhD thesis Jury for Julian Andrés VALDES VARGAS (Université de Grenoble), June 2013, Y. Laprie, reviewer.

Participation in PhD thesis Jury for Sebastien Le Maguer (Université de Rennes - ENSAT Lannion), July 2013, V. Colotte, member.

Participation in PhD thesis Jury for Amel Benamrane (Université de Strasbourg), December 2013, Y. Laprie, reviewer.

Participation in PhD thesis Jury for Julie Busset (University of Lorraine), March 2013, Y. Laprie, supervisor.

Participation in PhD thesis Jury for Imen Jemaa (University of Lorraine - ENIT (Tunis)), February 2013, Y. Laprie, co-supervisor.

Participation in HDR Jury for Slim Ouni (University of Lorraine), February 2013, Y. Laprie, supervisor.

Participation in PhD thesis Jury for Benoit Fuentes (Télécom ParisTech, March 2013), E. Vincent, reviewer

Participation in PhD thesis Jury for Ricard Marxer (University Pompeu Fabra, Barcelona, September 2013), E. Vincent, reviewer

Participation in PhD thesis Jury for Sašo Mušević (University Pompeu Fabra, Barcelona, September 2013), E. Vincent, reviewer

Participation in PhD thesis Jury for François Rigaud (Télécom ParisTech, December 2013), E. Vincent, reviewer

Participation in PhD thesis Jury for Charles Fox (Télécom ParisTech, December 2013), E. Vincent, reviewer

Participation in PhD thesis Jury for Alban Portello (University of Toulouse, December 2013), E. Vincent, reviewer

Participation in PhD thesis Jury for Stanislaw Gorlow (University Bordeaux 1, December 2013), E. Vincent, reviewer

#### **9.2.4. Participation to external committees**

Member of a Selection Committee of Le Mans (Université of Maine), LIUM (Laboratoire d'Informatique de l'Université du Maine), D. Langlois

Member of a Selection Committee of University of Lorraine (Ecole des Mines), LORIA, Y. Laprie

Titular member of the National Council of Universities (CNU section 61), E. Vincent

Member of a Visiting AERES Committee (LIMSI), Y. Laprie

### **9.2.5. Participation to local committees**

Titular member of the Comité de Centre Inria, E. Vincent

Member of the Commission de Développement Technologique, A. Bonneau

Member of the Commission développement durable, D. Fohr

Member of Commission de médiation, I. Illina

Member of bureau of Ecole doctorale, I. Illina

Elected member of the Conseil du Pôle Scientifique AM2I of University of Lorraine, Y. Laprie

Elected member of the Conseil de secteur MIAE of University of Lorraine, V. Colotte

Elected member of the Conseil de Laboratoire (LORIA), S. Ouni

Appointed member of the Conseil de Laboratoire (LORIA), Y. Laprie

President of the local "Comité des Utilisateurs des Moyens Informatiques" (Inria NGE), D. Fohr

## **9.3. Popularization**

Demonstration (of audio processing and source separation) to high school students at Inria Nancy in March 2013 (E. Vincent).

Demonstration to students of Mines Nancy at Inria Nancy in December 2013 (S. Ouni).

Participation in the Renaissance festival in Nancy in June 2013 (E. Vincent, D. Fohr, Y. Salaün, Y. Laprie, J. di Martino) Demonstrations of automatic speech recognition, speech analysis, source separation, articulatory modeling and voice conversion were presented.

Participation in the 11th Rencontres européennes CNRS Jeunes "Sciences et Citoyens" in Pont-à-Mousson in November 2013 (E. Vincent).

Participation in the Forum Sciences Cognitives, presentation to students in Cognitive Sciences at the University of Lorraine, in November 2013 (S. Ouni) .

## SCORE Team

## 7. Dissemination

### 7.1. Scientific Animation

- Claude Godart is member of the editorial board of IEEE transaction on Service Computing, International Journal of Services Computing and International Journal of E-adoption journals, and member of the review board of the International Journal of Next Generation Computing. He has been PC co-chair of EIDWT 2013 (4th International Conference on Emerging Intelligent Data and Web Technologies). In 2013, he has been program committee member of BPM (Business Process Management), BPMDS (Business Process Modelling, Development and Support), CBI (IEEE Conference on Business Informatics), IEEE Conference on Big Data, EDOC (The enterprise computing conference), IEEE CLOUD Computing, ICWS (IEEE International Conference on Web Services), RCIS (Research challenges in Information Systems), SCC (IEEE International Conference on Services Computing) conferences.
- Claudia-Lavinia Ignat is member of the editorial board of Journal of CSCW (Computer Supported Cooperative Work). She has been or is PC member of CSCW (International Conference on Computer Supported Cooperative Work and Social Computing) 2015, SIGMOD Demo 2014, CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2013 and 2014, ICEBE (International Conference on Business Engineering) 2013 and the workshop IWCES (International Workshop on Collaborative Editing Systems) in 2013 and 2014. She reviewed papers for IEEE Transactions on Parallel and Distributed Systems and Transactions on Internet Technology.
- Olivier Perrin has been or is Program Committee member of ICSOC 2013, BPM PALS 2013 workshop (3rd International Workshop on Process-Aware Logistics Systems), QASBA 2013 workshop (Quality Assurance for Service-based applications) 2013, BIS 2013 (International Conference on Business Information Systems), SITIS conference 2013 and 2014. He reviewed in 2013 papers for IEEE Transactions on Services Computing, International Journal of Cooperative Information Systems, Automated Software Engineering, IEEE Transactions on the Web journals.
- Gérald Oster was a PC member of CoopIS 2013 (International Conference on Cooperative Information Systems).
- François Charoy has been PC member of ICEBE (International Conference on Business Engineering) 2013, CTS 2013 (International Symposium on Collaborative Technologies and Systems), DG.O (International Conference on Digital Government Research) 2013, and of several workshops. He is member of the editorial board of the Service Oriented Computing and Applications Journal (Springer). He was co-chair of the Third Collaborative Technology for Coordinating Crisis Management Track at WETICE 2013.
- Claudia-Lavinia Ignat is member of the Inria Nancy-Grand Est COMIPERS researchers committee. She is in charge of European affairs for Inria Nancy Grand-Est. She is the Delegate of International Relations for Inria Nancy-Grand Est. She is member of the Inria Nancy - Grand Est committee for health, safety and working conditions. She was a member of the jury for the recruitment of permanent Inria junior researchers at Inria Nancy-Grand Est.
- Olivier Perrin is member of the council of École Doctorale IAEM (Informatique, Automatique, Électronique et Mécanique), and co-head of the Commission de la mention Informatique.
- Gérald Oster is member of the Administration Council of TELECOM Nancy.
- Nacer Boudjlida addressed an invited conference at the 3rd International Symposium ISKO-Maghreb'2013: Concepts and Tools for Knowledge Management. Marrakech, Morocco, November 2013.



- Nacer Boudjlida is a member of the council of the Fédération Charles Hermite (Université de Lorraine) and a member of the council of the Faculté Sciences et Technologies (Université de Lorraine).
- Nacer Boudjlida has been a PC member in many scientific events, including COOPIS, COOPIS/EI2N, CAISE/EMMSAD, IEEE-CBI, BPM/AICCSA, ISKO Maghreb symposium, IFAC, etc.

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Permanent members of the SCORE team are leading teachers in their respective institutions. They are responsible of lecture in disciplines like software engineering, database systems, object oriented programming and design, distributed systems, service computing and even more advanced topics at all levels and in all kind of departments in the University. Most of the PhD Students have also teaching duties in the same institutions. As a whole, the SCORE team accounts for more than 2500 hours of teaching.

- G r me Canals is the head of the Computer science department of the Nancy University Institute of Technology (IUT Nancy Charlemagne) since sept. 2010, and is responsible for the professional licence degree "Web application programming" since sept. 2001.
- Jacques Lonchamp is responsible for the professional licence degree "Free and Open Source Software".
- Claude Godart is responsible for the Computer Science department of the engineering school ESSTIN. He was study director of the master degree "Distributed Services, Security and Networks" until September 2013. Claude Godart is member of the board of directors and the recruitment committee 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.
- Olivier Perrin was responsible of the Certificat Informatique et Internet (C2I) course for DEG collegium of University of Lorraine.
- Fran ois Charoy is responsible of the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- G r ald Oster is responsible of the 3rd year internship program at the TELECOM Nancy Engineering School of University of Lorraine.
- Pascal Urso is responsible for the "Security, Services, Systems and Network" track of the master degree in computer science at University of Lorraine from September 2013.

### 7.2.2. Supervision

PhD: Aymen Baouab, Gouvernance et supervision d centralis e des chor graphies inter-organisationnelles, Universit  de Lorraine, 5/2013, Claude Godart, Olivier Perrin

PhD: Yongxin Liao, Title: Semantic annotations for systems interoperability in a PLM environment, University of Lorraine, 5/2013, Advisors: Nacer Boudjlida (LORIA) and Herv  Panetto (CRAN).

PhD in progress: Luc Andr , R plication et Maintien de la Coh rence en Temps R el dans les R seaux Pair- -pair, started in 9/2011, Fran ois Charoy et G r ald Oster

PhD in progress: Mehdi Ahmed Nacer, Title: Evaluation of CRDT for optimistic replication, started in 9/2011, Fran ois Charoy et Pascal Urso

PhD in progress: Elio Goettelman, Ex cution en confiance de processus dans le cloud, started in 9/2011, Claude Godart

PhD in progress: Ahmed Bouchami , S curit  des donn es collaboratives d'une plateforme PaaS, started in 11/2012, Olivier Perrin

PhD in progress: Adrien Devresse , Study of effective sharing and analysis of very large metadata repositories: application to the High Energy Physics computing community, started on 11/2011, Olivier Perrin

PhD in progress: Badrina Gasmi, Title: Distributed Competence Management, Béjaïa University, Algeria, started in January 2011, Advisors: Nacer Boudjlida and Hassina Talantikite (Béjaïa University).

PhD in progress: Faïza Bouchaib, Title: Toward a Generic Model for Competence Management, Béjaïa University, Algeria, started in January 2011, Advisors: Nacer Boudjlida and Hassina Talantikite.

PhD in progress: Jordi Martori i Adrian, Data constraints for large-scale collaboration, started in 10/2013, François Charoy et Pascal Urso

### 7.2.3. *Juries*

SCORE members were members of the following PhD defense committees:

- Mohammed Oussame Kherbouche, PhD, Université du Littoral Côte d'Opale, December 2013 (François Charoy)
- Oussema Dabbebi; PhD, Université Henri Poincaré Nancy 1, June 2013 (Claude Godart)
- Chedlia Chakroun, PhD, ENSMA Poitiers, October 2013 (Claude Godart)
- Francis Ouedraogo, PhD, INSA Lyon, November 2013 (Claude Godart)
- Hanane Abdeljelil, PhD, Université Claude Bernard Lyon1, November 2013 (Claude Godart)
- Hanaa Mayzad, PhD, Université du Littoral Côte d'Opale, January 2013 (Claude Godart)
- Mohamed Hilia, PhD, Université Paris Est, December 2013 (Claude Godart)
- Fahad Muhammad, PhD, University Lumière, Lyon 2, April 2013 (N. Boudjlida, reviewer and member)
- Karim Doumi, PhD, University Med V-Souissi, Rabat, Morocco, September 2013 (N. Boudjlida, reviewer and member)
- Yonxin Liao, PhD, Université de Lorraine, November 2013 (N. Boudjlida)
- Maryam Eslamichalandar, PhD, CNAM Paris, December 2013 (Olivier Perrin)
- M. Komlan Akpédjé KEDJI, PhD, Université de Toulouse, July 2013 (Khalid Benali)

SCORE members were members of the following Habilitation defense committees:

- Mme Julie Dugdale, HDR, Université Joseph Fourier Grenoble 1, December 2013 (François Charoy)
- Youakim Badr, HDR, INSA Lyon, December 2013 (Claude Godart)

## SÉMAGRAMME Project-Team

## 8. Dissemination

### 8.1. Scientific Animation

- Maxime Amblard:
  - coordinator of the SLAM project (MSH-Lorraine - PEPS HuMaIn),
  - organizer and chair of the workshop (*In*)*Cohérence du discours* <http://webloria.loria.fr/~amblard/SLAM/index.php?n=Main.In-coh%E9rence13>,
  - member (elected) of the “conseil d’UFR” of the UFR mathematics and computer science, Université de Lorraine,
  - membre (elected) of the “conseil de laboratoire” - Loria,
  - member (elected) of the “conseil scientifique” of the Université de Lorraine,
  - member of the CA of the french scientific association for natural language processing : ATALA,
  - member of the “comité de sélection” McF 0542 Loria - Université de Lorraine,
  - member of the scientific committee of conference. *Traitement Automatique des Langues Naturelles (TALN) 2013*.
- 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 (CNRL-NCNL, Belgium).
- Karën Fort:
  - coordinator for the inter-annotator agreement working group, including researchers from LIMSI (Orsay), LNE (Trappes), GREYC (Caen),
  - co-writer of the Ethics and Big Data Charter <http://wiki.ethique-big-data.org>,
  - expert for the CNRS linguistic federations (TUL and ILF) and DGLFLF (Délégation Générale à la Langue Française et aux Langues de France) concerning the digitalization and archiving process for oral corpora, under the supervision of B. Habert (ENS of Lyon): interviews of the participants, analysis of the process and audit report,
  - member of the CA of the french scientific association for natural language processing : ATALA,
  - member of the scientific committee of the conferences *Traitement Automatique des Langues Naturelles (TALN) 2013*, *Linguistic Annotation Workshop (LAW) 2013*, *International Conference on Software Language Engineering (SLE 2013)*,
  - reviewer for the journal *Language and Linguistics Compass*,
  - Subreviewer for the conference *CICLing 2013*.
- Bruno Guillaume:
  - head of the department “Knowledge & Language management” of the LORIA laboratory (since Sep 2013),
  - member (elected) of the “pôle scientifique” AM2I of Université de Lorraine,
  - member of the COMIPERS Inria Nancy Grand-Est.
- Guy Perrier:

- member of the editorial board of the journal *Traitement Automatique des Langues*,
- member of the scientific committee of the conference *Traitement Automatique de Langues Naturelles (TALN) 2013*,
- member of the program committee of the conference PolTAL 2014, which will be held in Warsaw, Poland.
- Sylvain Pogodalla:
  - member of the editorial board of the journal *Traitement Automatique des Langues*,
  - coordinator of the POLYMNIE ANR Project.
  - local coordinator of the Erasmus Mundus Master program Language and Communication Technologies for the Université de Lorraine,
  - member of the program committee of conference *Journées francophones des langages applicatifs (JFLA) 2014*,
  - member of the scientific committee of conference *Traitement Automatique des Langues Naturelles (TALN) 2013*,
  - member of the Inria Nancy research scientist (CR2) hiring committee,
  - commentator of a paper at the Tsinghua Logic Conference, Beijing, 14-16 October 2013. It has been published in [17].

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Licence : Maxime Amblard, *Formalismes de représentation et raisonnement* 20h, L3, Université de Lorraine, France

Licence : Maxime Amblard, *Algorithmique Avancée* 50h, L2, Université de Lorraine, France

Licence : Maxime Amblard, *Introduction au Traitement Automatique des Langues* 20h, L2, Université de Lorraine, France

Master : Philippe de Groote, *Logique formelle*, 50h, M2, Université de Lorraine, France.

Master : Philippe de Groote, *Structures Informatiques et Logiques pour la Modélisation Linguistique*, 18h, M2, MPRI, France.

Licence : Karën Fort, *Introduction à l'informatique*, 65h, L3, Université de Lorraine, France

Licence : Karën Fort, *Séminaire informatique et Internet*, 12h, L3, Université de Lorraine, France

Master : Karën Fort, *E-business*, 30h, M1, Université de Lorraine, France

Master : Karën Fort, *Génie logiciel*, 14h, M1, Université de Lorraine, France

Master : Karën Fort, *UML*, 20h, M1, Université de Lorraine, France

Master : Karën Fort, *Pépites algorithmiques*, 10h, M1, Université de Lorraine, France

Master : Bruno Guillaume, *Linguistic Resources and NLP Toolchain*, 30h, M2, Université de Lorraine, France

Licence : Guy Perrier, *Outils conceptuels*, 24h, L3, Université de Lorraine, France

Master: Guy Perrier, *Initiation au TAL*, 30h, M1, Université de Lorraine, France

Master: Guy Perrier, *Programmation pour le TAL*, 30h, M1, Université de Lorraine, France

Master: Guy Perrier, *Formal Languages*, 30h, M2, Université de Lorraine, France

Licence : Sylvain Pogodalla, *Informatique*, 20h, L1, Université de Lorraine (Mines de Nancy)

Master : Sylvain Pogodalla, *Formalisms of Computational Linguistics*, 25h, M2, Université de Lorraine, France

### 8.2.2. Supervision

PhD: Florent Pompigne, *Modélisation logique de la langue et Grammaires Catégorielles Abstraites*, Université de Lorraine, Dec. 11 2013

PhD in progress: Aleksandre Maskharashvili, *Generation and Discourse with Abstract Categorical Grammars*, since November 2012, Philippe de Groote and Sylvain Pogodalla.

PhD in progress: Sai Qian, *Structure of variable's accessibility for natural language semantics*, since september 2009, Philippe de Groote and Maxime Amblard

PhD in progress: Jiri Marsik, *Modeling Discourse in a Dynamics framework : formal integration and evaluation*, since september 2013, Philippe de Groote and Maxime Amblard

### 8.2.3. Juries

- Philippe de Groote and Sylvain Pogodalla were member of the PhD committee of Florent Pompigne, *Modélisation logique de la langue et Grammaires Catégorielles Abstraites*, Dec. 11 2013, Université de Lorraine.
- Guy Perrier was president of the PhD committee of Laura Perez, *Natural Generation for Language Learning*, Université de Lorraine, April 19 2013

## 8.3. Popularization

- Maxime Amblard is member of editorial board of *interstices* (i), a french virtual revue of popularization for computer science : <http://interstices.info>.
- Maxime Amblard published an article which summarizes the main questions of natural language processing for (i) : [https://interstices.info/jcms/ni\\_74169/real-humans-des-machines-qui-parlent-comme-des-hommes-ou-presque](https://interstices.info/jcms/ni_74169/real-humans-des-machines-qui-parlent-comme-des-hommes-ou-presque).
- Maxime Amblard was organizer of the exhibition *Proj'SC*, about master student's works for the University library, January 2013.

## SHACRA Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

#### 9.1.1. VRIPHYS 2013

VRIPHYS 2013 took place in Lille at the end of November: Christian Duriez and Jeremie Dequidt organized the conference with help from Nazim Haouchine and Hugo Talbot. The conference was preceded by a workshop for the users of the SOFA framework. This event was a real success: 60 persons attended the conference (which is about 15 persons more than the previous years).

#### 9.1.2. IPCAI 2013

Stéphane Cotin, Co-Organizer and PC Co-Chair, 2013, International Conference on Information Processing in Computer-Assisted Interventions (IPCAI, <http://www.ipcai.org>). on June 26, 2013 in Heidelberg, Germany.

#### 9.1.3. Reviewing Activities

- Guillaume Kazmitcheff has been reviewer for the European Archives of Oto-Rhino-Laryngology journal.
- Jeremie Dequidt has been reviewer for the following conferences and journals:
  - Conference IEEE/RSJ IROS 2013
  - Conference IEEE WHC 2013
  - Conference MICCAI 2013
  - the journal Computer Methods and Programs in Biomedicine
 and member of the following program committees:
  - Conference VRIPHYS 2013
  - Conference AFIG 2013
- Christian Duriez has been reviewer for the following conferences and journals:
  - Conference IEEE/RSJ IROS 2013
  - Conference iNaCoMM 2013
  - Conference IEEE VR 2013
  - Conference MICCAI 2013
  - the journal IEEE Transaction on Haptics
  - the journal IEEE Transactions on Visualization and Computer Graphics
  - the journal SCS Simulation
  - the journal the Visual Computer
  - the journal Computer Vision and Visual Understanding
  - ANR projects (Programme CONTINT)
 and member of the following program committees:
  - Conference VRIPHYS 2013
  - Conference IEEE WHC 2013
- Stéphane Cotin has been reviewer for the following conferences and journals:
  - Surgical Innovation (SRI)
  - Advanced Modeling and Simulation in Engineering Sciences

and member of the following program committees:

- MICCAI 2013
- IPCAI 2013

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence : Jeremie Dequidt, Computer Architecture, 25h, GIS3, Polytech Lille, France  
 Licence : Jeremie Dequidt, Advanced Programming, 25h, IMA3, Polytech Lille, France  
 Licence : Christian Duriez, Introduction to Finite Element Method, 16h, L3, ICAM, France  
 Licence : Julien Bosman, Programming, 60h, L1, Univ. Lille 1, France  
 Licence : Julien Bosman, Oriented Object Programming, 32h, L3, Univ. Lille 1, France  
 Master : Christian Duriez, Introduction to Finite Element Method, 16h, M1 Génie Ferroviaire, ICAM, France  
 Master : Christian Duriez, Advanced 3D models, 14h, M2 IVI, Univ. Lille 1, France  
 Master : Christian Duriez, Medical simulation and Haptic Rendering, 3h, M2, École Centrale de Lille, France  
 Master : Julien Bosman, GPU Computing introduction, 3h, M2 IVI, Univ. Lille 1, France  
 Master : Jeremie Dequidt, Advanced 3D models, 2h, M2 IVI, Univ. Lille 1, France  
 Master : Stephane Cotin, Course on advanced biomechanics, 10h, M2, Telecom Physique Strasbourg, France  
 Master : Stephane Cotin, Course on real-time soft tissue simulation, 20h, M2, Telecom Physique Strasbourg, France

### 9.2.2. Supervision

PhD in progress : Hugo Talbot, Interactive Patient-Specific Simulation of Cardiac Electrophysiology, 1st October 2010, Stéphane Cotin and Hervé Delingette  
 PhD in progress : Julien Bosman, Simulations à base de particules et interactions multi-physiques en temps-réel, 1st October 2011, Stéphane Cotin and Christian Duriez  
 PhD in progress : Guillaume Kazmitcheff, Dynamical modeling of the middle ear and interactions between organs and medical tools to develop a simulator applied to the otological surgery, 1st March 2011, Christian Duriez  
 PhD in progress : Ahmed Yureidini, Modélisation d'organes par fonctions implicites, 2009, Stéphane Cotin and Erwan Kerrien  
 PhD in progress : Vincent Majorczyk, Simulation de Fluide GPU, 2010, Stéphane Cotin  
 PhD in progress : Alexandre Bilger, Biomechanical simulation for Deep Brain Stimulation, 2011, Stéphane Cotin and Christian Duriez  
 PhD in progress : Zhifan Jiang, Recalage d'images déformables pour la biomécanique, 2011, Stéphane Cotin, Jérémie Dequidt, Mathias Brieu  
 PhD in progress : Mouhamadou Diallo, Modélisation biomécanique du prolapsus génital, 2011, Mathias Brieu, Pauline Lecomte, Christian Duriez  
 PhD in progress : Nazim Haouchine, Augmented Reality Tools for Minimally Invasive Hepatic Surgery, 2012, Stéphane Cotin, Marie-Odile Berger, Jérémie Dequidt  
 PhD in progress : Francois Dervaux, Image driven simulation for interventional radiology procedures, 2012, Stéphane Cotin, Jérémie Dequidt, Erwan Kerrien  
 PhD in progress : Rosalie Plantefève, 2013, Stéphane Cotin

### 9.2.3. *Juries*

Christian Duriez was in the examination committee of Coralie Escande, PhD, 12/2013.

Stephane Cotin was in the examination committee of Sagar Umale (Strasbourg University, December 19th, 2012) and in the examination committee of Noura Faraj (Telecom ParisTech, June 3rd, 2013)

## 9.3. Popularization

### 9.3.1. *Fête de la Science*

Christian Duriez has been involved as a *Wandering Researcher* in the Fête de la science (french event that promotes science).

### 9.3.2. *Exhibitions*

Christian Duriez and Mario Sanz Lopez have been involved in the design and development of scientific and technological demonstrators for the *Plateau* (e.g. Showroom) Inria at Euratechnologies and for *The Labo* at Inria test laboratory.

### 9.3.3. *Recontre Inria-Industrie 2013*

This was a public event taking place in Paris the 11th of June 2013. The new training system dedicated to electrocardiology and the recent deformable robot was presented.

### 9.3.4. *IHU Scientific Days*

At the occasion of the IHU Scientific days, we visited the IHU Strasbourg and several talks were done by members of the team: Alexandre Bilger, Stéphane Cotin, Jeremie Dequidt, Nazim Haouchine, Igor Peterlik, and Hugo Talbot.

### 9.3.5. *Intergovernmental seminar*

The intergovernmental seminar on digital sciences was held in february at the University of Cergy-Pontoise. Within this context, the team has exhibited a demonstration of a cataract surgery simulator which is dedicated to train surgeons to a new cost-effective cataract surgery procedure MSICS (*manual small incision cataract surgery*). This simulator was developed at Inria and has been transferred to the start-up InSimo.



## TOSCA Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

- M. Bossy is a member of the Scientific Committee of the *École Doctorale "Sciences Fondamentales et Appliquées"* of the Université de Nice - Sophia Antipolis.
- M. Bossy is a member of the *Collectif Andromède* of the PACA Region council.
- M. Bossy is a elected member of the Inria Evaluation Board.
- M. Bossy served as an Associate Editor of *Annals of Applied Probability*.
- M. Bossy participated to the junior position recruitment committee at the University of Nice - Sophia Antipolis.
- M. Bossy has been a member of the Committee for junior permanent research positions of Inria Nancy - Grand Est.
- N. Champagnat is a member of the *Commission de Développement Technologique* of Inria Nancy - Grand Est, a substitute member of the *Comité de Centre* of Inria Nancy - Grand Est since October and a member of the *Commission bibliothèque* of IECL.
- N. Champagnat organized the Team Working Group on Probability and Statistics of IECL until January.
- N. Champagnat serves as an Associate Editor of *Stochastic Models* since October.
- N. Champagnat, with T. Lelièvre and A. Nouy, was member of the organizing committee of the *Centre d'Été de Mathématiques et de Recherche Avancée en Calcul Scientifique* (CEMRACS 2013) held in CIRM, Luminy, from July 22nd until August 30th.
- N. Champagnat, with T. Lelièvre and A. Nouy, was member of the organizing committee of the *Special Event "Mathématiques pour la planète Terre"* held at CIRM, Luminy, on the 23rd July.
- N. Champagnat organized with D. Ritchie a *Journée Scientifique de la Fédération Charles Hermite on Ancestral Inference and Evolutionary Relationships in Biology* at Inria Nancy - Grand Est in September.
- N. Champagnat organized a mini-symposium on *Quasi-stationary distributions and Q-processes* at the *Congrès SMAI 2013* in Seignosse in May.
- M. Deaconu is member of *Comité des Projets* and *Bureau du Comité des Projets* at Inria Nancy - Grand Est.
- M. Deaconu organized with S. Herrmann the Workshop *Hitting times and exit problems for stochastic models* held in Dijon, 27-29 November.
- M. Deaconu organized with E. Vincent (Inria, Centre de recherche Nancy-Grand Est) a *Journée Scientifique de la Fédération Charles Hermite on Uncertainties: approaches and challenges* at IECL in December.
- M. Deaconu and A. Lejay were members of the organizing committee of the *Semaine d'Étude Maths-Entreprises Nancy*, 11-15 February 2013.
- A. Lejay is member of a editorial board of the collection *Séminaire de Probabilités*.
- A. Lejay is member of the scientific committee of the *Journées de Probabilités*.
- A. Lejay is General Secretary of Société des Mathématiques Appliquées et Industrielles (SMAI).
- D. Talay continued to serve as the Head of Science and Chair of the Project-Teams Committee of Inria Sophia Antipolis - Méditerranée.

- D. Talay, jointly with F. Delarue (Université Nice - Sophia Antipolis) organized the workshop ERGONUM at CIRM (Marseille) in February.
- D. Talay served as an Associate Editor of: *Stochastic Processes and their Applications*, *ESAIM Probability and Statistics*, *Stochastics and Dynamics*, *Journal of Scientific Computing*, *Monte Carlo Methods and Applications*, *Oxford IMA Journal of Numerical Analysis*, *Communications in Applied Mathematics and Computational Science*, *Éditions de l'École Polytechnique*. He also served as the Co-editor in chief of *MathematicS in Action*.
- D. Talay is serving as a member of the Advisory Board of the Centro de Mathematica da Universidade do Porto (Portugal).
- D. Talay participated to Professor position recruitment committees at Paris 6 University and Nice Sophia Antipolis University.
- D. Talay chaired the AERES Evaluation Committee of the Mathematics Department of Paris Descartes University.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Master: M. Bossy, *Continuous time stochastic models for quantitative Finance*, 45h, M2 IMAFA (Informatique et Mathématiques Appliquées à la Finance et à l'Assurance), École Polytechnique Universitaire, Univ. Nice - Sophia Antipolis, France.

Master : M. Bossy, *Risk on energetic financial markets*, 27h, Master Ingénierie et Gestion de l'Énergie, Mine ParisTech, France.

Master : M. Bossy *Stochastic Particle Methods for PDEs*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

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

Master: N. Champagnat, *Introduction to Quantitative Finance*, 18h, M2, École des Mines de Nancy, France.

Master: N. Champagnat, *Génétique des Population et Généalogies Aléatoires*, 22.5h, M2, École supérieure des sciences et de la technologie de Hammam Sousse, Tunisia.

Master: M. Deaconu, *Simulation de variables aléatoires*, 14h, M1, École des Mines de Nancy, France.

Master: M. Deaconu, *Modélisation stochastique*, 33h, M2, Université de Lorraine, France.

Master: J. Inglis, *Advanced Numerics for Computational Finance*, 15h, M2, UNSA (Mathmods Erasmus Mundus), France.

Master: A. Lejay, *simulation des marchés financiers*, 23h, M2, Université de Lorraine, Metz.

Master : D. Talay *Stochastic Methods for PDEs with Boundary Conditions*, 18h, M2 Probabilité et Applications, Université Paris 6, France.

Master: E. Tanré, *Advanced Numerics for Computational Finance*, 15h, M2, UNSA (Mathmods Erasmus Mundus), France.

Master: E. Tanré, *Numerical Probability in Finance*, 12h, M2, Ecole PolytechNice (IMAFA), France.

Master: E. Tanré, *Mathematical Methods for Neurosciences*, 25h, M2, ENS - Master MVA / Paris 6 - Master Maths-Bio, France.

Master: L. Violeau, *Continuous Probabilistic Models with Applications in Finance* (exercice classes), 20h, M2 IMAFA (Informatique et Mathématiques Appliquées à la Finance et à l'Assurance), École Polytechnique Universitaire, Univ. Nice - Sophia Antipolis, France.

Licence: L. Violeau, *Probabilty and Statistics* (exercice classes), 20h, L3, Ecole Polytechnique Universitaire, Univ. Nice - Sophia Antipolis, France.

### 9.2.2. Supervision

- PhD in progress: Maxime Bonelli, *Behavioral finance approach to risk assessment in quantitative portfolio management*, September 2013, M. Bossy.
- PhD in progress: Paul Charton, *Hedging strategies for wind energy prices*, September 2010, M. Deaconu and A. Lejay.
- PhD in progress: Julien Claisse, *Stochastic control of population dynamics*, September 2010, N. Champagnat, D. Talay.
- PhD in progress: Benoît Henry, *Modeling Evolutionary Relationships Between Three-Dimensional Protein Structures*, October 2013, N. Champagnat, D. Ritchie (ORPAILLEUR team).
- PhD : Dalia Ibrahim, *Étude théorique d'indicateurs d'analyse technique*, Université de Nice - Sophia Antipolis, November 2009, D. Talay and E. Tanré.
- PhD in progress; Lionel Lenôtre, *Simulation of processes in discontinuous media*, 2012, J. Erhel (Irisa), A. Lejay and G. Pichot (Irisa). L. Lenôtre has a grant from the MESR and stays at Rennes.
- PhD in progress: Sebastian Niklitschek-Soto, *Discretized stochastic differential equations related to one-dimensional partial differential equations of parabolic type involving a discontinuous drift coefficient*, September 2010, D. Talay.
- PhD in progress: Hernán Mardones, *Numerical Solution of Stochastic Differential Equations with Multiplicative Noise*, 2009, C. Mora (Universidad de Concepción), A. Lejay. H. Mardones spends six months in France (nov. 2013-april 2014) with a grant Becas Chile.
- PhD in progress: Khaled Salhi, *Estimation of Risk in Finance*, October 2013, M. Deaconu, A. Lejay.
- PhD in progress: Laurent Violeau, *Stochastic Lagrangian Models and Applications to Downscaling in Fluid Dynamics*, October 2010, M. Bossy and A. Rousseau.

### 9.2.3. Juries

- M. Bossy chaired the Committee for the Ph.D. thesis of Paul-Eric Chaudru de Raynal, *Équations différentielles stochastiques : résolubilité forte d'équations singulières dégénérées ; analyse numérique de systèmes progressifs-rétrogrades de McKean-Vlasov*, Université de Nice - Sophia Antipolis, December 2013.
- M. Deaconu served as referee for the Ph.D. thesis of O. Lupaşcu, *Probabilistic and deterministic models for fracture type phenomena*, IMAR Bucarest and Université de Paris 13, Bucarest, December 2013.
- A. Lejay serves as examiner for the Ph.D. thesis of Paul-Éric Chaudru de Raynal, *Équations différentielles stochastiques : résolubilité forte d'équations singulières dégénérées ; analyse numérique de systèmes progressifs-rétrogrades de McKean-Vlasov*, Université de Nice - Sophia Antipolis, December 2013.
- D. Talay chaired the Committees for the Habilitation à Diriger des Recherches de B. de Saporta (université Montesquieu Bordeaux 4), the Ph.D. thesis of O. Aboura (Université Paris 1 Panthéon Sorbonne), the Ph.D. thesis of C.A. Garcia Trillos (Université Nice Sophia Antipolis).
- E. Tanré reported on the Ph.D. thesis of Mauricio Tejo, Pontificia Universidad Católica de Chile (PUC).

## 9.3. Popularization

- M. Bossy contributed as a Guest Blogger on the Mathematics of Planet Earth 2013 web site.
- D. Talay gave lectures to scholars in Nice.

## 9.4. Participation to congresses, conferences, invitations...

- M. Bossy gave a seminar talk at the research sessions of the CEMRACS 2013, Luminy in August.
- M. Bossy gave an invited talk at the Focus Program on Commodities, Energy and Environmental Finance of the Fields Institute, Toronto (Canada) in August.
- M. Bossy gave an invited talk at the European Science Foundation OPTPDE Workshop "Modeling and Control of Large Interacting Dynamical Systems" in September at Université Paris-Dauphine.
- M. Bossy gave an invited talk at the workshop METEO, Université d'Orléans in October.
- N. Champagnat gave a plenary talk at the *57th Annual Meeting of the Australian Mathematical Society* in Sydney (Australia) in October.
- N. Champagnat gave talks at the Conference on *Genetic models and quasi-stationarity* at CIRM, Luminy in March, at the Conference on *Biological invasion and evolutionary biology: stochastic and deterministic models* in Lyon in March, at the *Congrès SMAI 2013* in Seignosse in May, at the Workshop "Mathematics for Planet Earth" of the *Fédération Charles Hermite* in Nancy in October, and at the *International Conference on Stochastic Models in Ecology, Evolution and Genetics* (SMEEG 2013) in Angers in December.
- N. Champagnat gave seminar talks at the *Mark Kac seminar on Stochastics and Physics* in Utrecht (The Netherlands) in May, and at the *Oberseminar Stochastics* of the Probability Theory and Stochastic Analysis Group of the University of Bonn (Germany) in June.
- P. Charton participated at the *Cinquième Semaine d'Étude Maths-Entreprise* at Nancy, France in February. He and his group studied the asymptotic properties of the process Garch(1,1). A report has been written [32].
- P. Charton made a poster on *Optimal operating of a windfarm equipped with a storage device* at the *Congrès SMAI 2013* in Seignosse in May. A proceeding has been written [21].
- P. Charton gave talk at the *Ninth IMACS seminar* at Annecy-le-Vieux (France) in July. A proceeding is being written.
- M. Deaconu gave a invited talk in a special session at the *Joint International Meeting of the American Mathematical Society and the Romanian Mathematical Society*, in Alba Iulia (Romania) in June.
- M. Deaconu gave a talk at the *Ninth IMACS Seminar on Monte Carlo Methods*, Annecy-le-Vieux (France) in July.
- J. Inglis gave seminar talks at the *analysis and probability seminar*, Imperial College London, in January and at the probability seminar, University of Rennes, in February.
- J. Inglis gave an invited talk at the European project MATHEMACS meeting, held at the Max-Planck Institute, Leipzig, in December.
- A. Lejay gave a 4h30 lecture on *Rough paths* at the *35th Finnish Summer School on Probability Theory and Statistics* in Finland.
- A. Lejay gave talks at the workshop *rough paths* (Berlin) *Interplay of Theory and Numerics for Deterministic and Stochastic Homogenization* (Oberwolfach, Germany) in August and at the international conferences *Stochastic processes and their statistics in Finance* (Naha, Okinawa, Japan) in October, and at the Workshop on *Hitting times and exit problems for stochastic models* (Dijon, France) in December.
- A. Lejay gave a talk at the *COMCA-2013 congress* (La Serena, Chile).
- D. Talay gave a series of lectures at the Pauli Institute in June.
- D. Talay gave a talk at the University of Antwerp.
- D. Talay gave a talk at the Workshop on Extreme Events in November in Nice.
- D. Talay gave two lectures at the Conference in the honor of Etienne Pardoux (Marseille) in February.

- E. Tanré gave a talk at the Centro Interdisciplinario de Neurociencia de Valparaíso (Chile) in January.
- E. Tanré gave a talk at the conference on *Mathematical Methods and Modeling of Biophysical Phenomena* in Cabo Frio (Brazil) in March.
- E. Tanré gave a seminar talk at Toulouse in May.
- E. Tanré gave a talks at the workshop on *Hitting times and exit problems for stochastic models* at Dijon in November and at the *First Workshop CIMFAV on Stochastic Analysis and its Applications* at Valparaíso (Chile) in December.
- D. Villemonais gave a 4h lecture at the Conference on *Genetic models and quasi-stationarity* at CIRM, Luminy in March.
- D. Villemonais gave a talk at the *Congrès SMAI 2013* in Seignosse in May.

## TRIO Team

## 8. Dissemination

### 8.1. Scientific Animation

- Liliana Cucu-Grosjean has been the Delegate of International Relations for the Inria Nancy-Grand Est center until September 1st 2013.
- Liliana Cucu-Grosjean is an elected member of Inria Evaluation Commission (CE).
- Liliana Cucu-Grosjean is head of the Inria Committee on Equal Opportunities
- Olivier Zendra is head of the Documentation Committee of Inria Nancy Grand Est (Commission IST); member of the Health, Safety and Work Environment of Inria and of Inria Nancy Grand Est - LORIA Committees (CNHSCT and CLHSCT); member of the Inria Committee on Prevention of Psycho-social Risks and Quality of Life at Work (PRPS-QVT); member of the Permanent Education Committee of Inria Nancy Grand Est - LORIA; member of the new Sustainable Development Local and National Committees; member of the Inria Nancy Grand Est - LORIA Committee for the selection of hardware configurations; member of the Inria Committee on Equal Opportunities
- Liliana Cucu-Grosjean was member of the selection committee at University of Lorraine (position 27MCF0387), University of Toulouse (position 61MCF0789) and Inria Nancy-Grand Est (CR2 contest)
- Olivier Zendra is CIR expert for the Ministry of Research for the scientific evaluation of research in companies.
- Liliana Cucu-Grosjean is an ANRT expert for evaluating CIFRE applications.
- Olivier Zendra was an expert for evaluating COFECUB applications in 2013.
- Olivier Zendra is founder and steering committee member of the ICOOOLPS (International Workshop on Implementation, Compilation, Optimization of Object-Oriented Languages, Programs and Systems) workshop, usually joint to ECOOP.
- Liliana Cucu-Grosjean is steering committee member of RTSOPS (joint workshop of ECRTS) and WMC (joint workshop of RTSS).
- Liliana Cucu-Grosjean was co-chair of RTSOPS (ECRTS 2012) and WMC (RTSS 2013) as well as co-editor of the respective proceedings.
- Liliana Cucu-Grosjean was program committee member of IEEE RTSS 2013, IEEE ETFA 2013, DATE 2013 and IEEE SIES'2013.
- Olivier Zendra was program committee chair of ICOOOLPS 2013.
- Olivier Zendra was program committee member for CIEL 2013.
- Olivier Zendra was workshop organization chair for the 3 collocated conferences ECOOP 2013, ECSA 2013 and ECMFA 2013.
- Olivier Zendra was organization committee member for CIEL 2013 (for which he was primary contact), GDRP GPL 2013 and AFDAL 2013.
- The permanent members of TRIO team are reviewers for numerous international Conferences and Workshops and, in particular for the following journals: IEEE Transactions on Industrial Informatics, Real-Time Systems, IEEE Computer Communications, Journal of Discrete Event Systems, Journal of Systems Architecture, Journal of Embedded Computing, Journal of Scheduling, Theoretical Computer Science, ACM Surveys, ACM Transactions on Embedded Computing Systems, Information Processing Letters, Science of Computer Programming.

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

### **8.2.1. Teaching**

Master : Liliana Cucu-Grosjean, Multiprocessor real-time systems, 30h, Master (M1), University of Lorraine, France

### **8.2.2. Supervision**

PhD & HdR :

PhD : Dorin Maxim, Probabilistic Real-Time Systems, University of Lorraine, December 10th, 2013, Liliana Cucu-Grosjean and Françoise Simonot-Lion

## VEGAS Project-Team

## 7. Dissemination

### 7.1. Scientific Animation

Program and Paper Committee:

- Sylvain Lazard: Program committee of the European Workshop on Computational Geometry (EuroCG'13).

Editorial responsibilities:

- Sylvain Petitjean: Editor of *Graphical Models* (Elsevier).

Workshop organizations:

- Sylvain Lazard co-organized with S. Whitesides (Victoria University) the 12th Inria - McGill - Victoria Workshop on Computational Geometry <sup>3</sup> at the Bellairs Research Institute of McGill University in Feb. (1 week workshop on invitation).
- Marc Pouget co-organized the *Journées Informatiques et Géométrie*<sup>4</sup> at Inria Nancy 14-15 Nov.
- Guillaume Moroz organized the session *Calcul formel et numérique* oh the *Rencontres Arithmétiques de l'Informatique Mathématique*<sup>5</sup> at the *Institut Henri Poincaré* Paris 18-20 Nov.

Other responsibilities:

- Sylvain Lazard: Head of the Inria Nancy-Grand Est *PhD and Post-doc hiring committee* (since 2009). Member of the *Bureau du Département Informatique de Formation Doctorale* of the *École Doctorale IAEM* (since 2009). “Chargé de formation par la recherche” for Inria Nancy-Grand Est.
- Laurent Dupont: *Member* of Commission Pédagogique Nationale Infocom/SRC (since 2011). *Member* of Commission Information Scientifique (Inria/Loria).
- Xavier Goaoc: Chair of the Inria *COST-GTRI committee* (2011– august 2013).
- Guillaume Moroz: *Vice delegate* of the *Commission des Utilisateurs des Moyens Informatiques pour la Recherche*.
- Sylvain Petitjean: Director of the Inria Nancy Grand-Est. Member of Inria's *Executive committee*.
- Marc Pouget: Member of the CGAL Editorial Board (since 2008).

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<sup>3</sup>Workshop on Computational Geometry

<sup>4</sup><http://jig2013.sciencesconf.org/>

<sup>5</sup><http://raim2013.lip6.fr/>



## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Licence: Laurent Dupont, *Systèmes de Gestion de Bases de Données Avancé*, 40h, L3, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Concepts et Outils Internet*, 40h, L1, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Programmation Objet et Évènementielle*, 40h, L2, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Rich Internet Applications*, 40h, L2, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont and Yacine Bouzidi, *Programmation de Sites Web Dynamiques*, 70h, L2, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Algorithmique*, 80h, L1, Université de Lorraine (IUT Charlemagne)

Licence: Laurent Dupont *Programmation Objet*, 40h, L1, Université de Lorraine (IUT Charlemagne)

Master: Marc Pouget, *Introduction à la géométrie algorithmique*, 10.5h, M2, École Nationale Supérieure de Géologie, France.

Doctorat: Marc Pouget, *Postdoctoral Summer: Convex hulls and point location*, 15h, IMPA, Rio de Janeiro, Brazil.

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

Licence: Yacine Bouzidi, *Certification informatique et internet*, 54h, L1, Université de Lorraine.

Licence: Yacine Bouzidi, *Langage orienté objet, Java*, 24h, L3, Université de Lorraine.

Licence: Yacine Bouzidi, *Langage d'interrogation des bases de données*, 20h, L3, Université de Lorraine.

### 7.2.2. Supervision

PhD in progress : Yacine Bouzidi, Résolution de systèmes bivariés et topologie de courbes planes, Oct. 2010, Sylvain Lazard et Marc Pouget.

## 7.3. Popularization

Guillaume Moroz: Member of the organizing committee of the *Olympiades académiques de mathématiques*.

## VERIDIS Project-Team

## 9. Dissemination

### 9.1. Scientific Animation

- Pascal Fontaine co-chaired the International Conference on Frontiers of Combining Systems (Fro-CoS 2013). He served on the program committee of the workshops PxTP 2013, SMT 2013, and the International Conference on Computer Aided Deduction (CADE 2013). He is an elected member of the SMT Steering Committee, and one of three SMT-LIB managers.
- Dominique Méry is
  - a member of the IFIP Working Group 1.3 on *Foundations of System Specification*,
  - head of the Doctoral School IAEM Lorraine for the University of Lorraine,
  - head of the Formal Methods department of the LORIA laboratory,
  - an expert for the French Ministry of Education (DS9),
  - an expert for the French Agence Nationale de la Recherche (ANR) and AERES.
  - He served on the program committees of FHIES, FM, ICECCS, ICFEM, iFM, and FACS.
- The academic duties of Stephan Merz in 2013 included:
  - member of the IFIP Working Group 2.2 on *Formal Description of Programming Concepts*,
  - Inria representative in the Scientific Directorate of the International Computer Science Meeting Center in Dagstuhl,
  - delegate for the organization of conferences at Inria Nancy Grand-Est,
  - co-head of the PhD committee for computer science in Lorraine,
  - member of the program committees of iFM, Memocode, SAC, SBMF, and SEFM conferences, AFADL, AVoCS, Refinement, and SCSS workshops, member of the steering committee of AVoCS,
  - co-organizer of the VTSA summer school between Nancy, Saarbrücken, Luxembourg, and Liège,
  - president of the hiring committee for a professorship at Télécom Nancy and member of the hiring committee for professors at Université de l'Artois in Lens,
  - expert for the French Agence Nationale de la Recherche (ANR), German DFG, and Canadian NSERC.
- Thomas Sturm is a member of the Selection Committees for MSc and PhD students of the International Max-Planck Research School for Computer Science.
- Christoph Weidenbach is:
  - editor of JAR,
  - trustee of CADE Inc (elected 2009, reelected 2012),
  - member of the Appointment Decision Panel of FBK, Trento,
  - member of the Selection Committee of the Saarbruecken Graduate School in Computer Science,
  - member of Steering Committee *Bundeswettbewerb Informatik*,
  - co-organizer of the VTSA summer school between Nancy, Saarbrücken, Luxembourg, and Liège.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

The university employees of VeriDis have significant teaching obligations. We indicate the graduate courses they have been teaching this year.

- Dominique Méry gave courses in the Master program in Nancy on: formal system engineering, modeling and verification of systems, theoretical computer science, development of software systems, distributed algorithms.
- Marie Duflot-Kremer and Stephan Merz taught a course on algorithmic verification in the Master program in Nancy.
- Uwe Waldmann taught a course on Automated Reasoning at Saarland University.
- Christoph Weidenbach gave a course on Automated Reasoning II and lectured within the series “Perspektiven der Informatik” at Saarland University.

### 9.2.2. Supervision

- PhD: Henri Debrat, Certification formelle de la correction d’algorithmes de Consensus, Université de Lorraine. Supervised by Bernadette Charron-Bost and Stephan Merz, defended on December 6, 2013.
- PhD: Tianxiang Lu, Formal Verification of the Pastry Protocol, Université de Lorraine and Universität des Saarlandes. Supervised by Stephan Merz and Christoph Weidenbach, defended on November 27, 2013.
- PhD in progress: Manamiary Andriamiarina, Refinement Techniques for Distributed Algorithms, Université de Lorraine. Supervised by Dominique Méry, since 10/2010.
- PhD in progress: Noran Azmy, On the Automation of Proofs in TLAPS, Saarland University. Supervised by Christoph Weidenbach, since 11/2012.
- PhD in progress: Haniel Barbosa, Refutational Completeness in Satisfiability Modulo Theories, Université de Lorraine. Supervised by Pascal Fontaine and Stephan Merz, since 12/2013.
- PhD in progress: Marek Kořta, Computational Logic, Universität des Saarlandes. Supervised by Thomas Sturm, since 11/2011.
- PhD in progress: Hernán Vanzetto, SMT Techniques for TLA<sup>+</sup> Proof Obligations, Université de Lorraine. Supervised by Kaustuv Chaudhuri and Stephan Merz, since 10/2010.

### 9.2.3. Juries

Stephan Merz wrote reports on the following PhD theses:

- Pierre-Emmanuel Cornilleau: *Certification of Static Analysis in Many-Sorted First-Order Logic*, ENS Cachan-Bretagne;
- Mélanie Jacquél: *Automatisation des preuves pour la vérification des règles de l’Atelier B*, CNAM Paris;
- Chantal Keller: *A Matter of Trust: Skeptical Communication Between Coq and External Provers*, Ecole Polytechnique;
- Yan Zhang: *Semi-Automatic Controller Design in a Java-like Language*, Université Paris 6.

He also was a member of the PhD committees of Dorin Maxim and Faqing Yang in Nancy.

Thomas Sturm was a member of the PhD committee of Evgeny Kruglov in Saarbrücken.

## 9.3. Popularization

Marie Duflot-Kremer, Pascal Fontaine, and Stephan Merz presented some of the subjects and techniques that underly formal verification of protocols and algorithms at events like “Fête de la Science”. Using wooden puzzles, Sudoku sheets or boxes with locks, they explained how real-life problems can be represented in logical form and then solved using automated tools based on formal logic.

Marie Duflot-Kremer presented exercise sessions for high school students on “conducting a police investigation using databases” and “discovering Turing machines with Lego bricks”. She is also a member of the steering committee preparing an itinerant exposition intended for explaining computer science to high-school students.

Thomas Sturm, Uwe Waldmann, and Christoph Weidenbach are involved in the “Computer Science Research Days” which take place every year. Gifted students from all over Germany can actively participate in current research themes within the Max Planck Institute for Informatics, the Computer Science Department of Saarland University and the German Research Center for Artificial Intelligence. The goal is to fill young people with enthusiasm for the subject of computer science as well as to discover and support the development of new talent.