*informatics* *mathematics*

**Ínría**

RESEARCH CENTER
**Nancy - Grand Est**

FIELD

# Activity Report 2014

# Section Dissemination

## CAMUS Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

*9.1.1.1. member of the organizing committee*

Cédric Bastoul has been co-organizing the HIP3ES 2015 workshop (High Performance Energy Efficient Embedded Systems) held in conjunction with the international conference HiPEAC 2015.

### 9.1.2. Scientific events selection

*9.1.2.1. member of the conference program committee*

Philippe Clauss, Cédric Bastoul and Vincent Loechner have been part of the program committee of IMPACT 2014 (International Workshop on Polyhedral Compilation Techniques), held in conjunction with the international conferences HiPEAC 2014. Philippe Clauss, and Vincent Loechner have been part of the program committee of IMPACT 2015, held in conjunction with HiPEAC 2015.

Vincent Loechner and Cédric Bastoul have been part of the program committee of HIP3ES 2015 workshop (High Performance Energy Efficient Embedded Systems), held in conjunction with the international conference HiPEAC 2015.

Cédric Bastoul has been part of the program committee of PARMA+DITAM 2015 (6th Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures 4th Workshop on Design Tools and Architerctures for Multicore Embedded Computing Platforms), held in conjunction with HiPEAC 2015.

*9.1.2.2. reviewer*

Vincent Loechner has been reviewer for the IMPACT 2015 workshop.

Philippe Clauss has been reviewer for the following conferences: ISMM '14 (International Symposium on Memory Management), IMPACT 2015.

Cédric Bastoul has been reviewer for the following conferences: CGO 2014 (International Conference on Code Generation and Optimization), PARMA 2014 and 2015 (International Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures), IMPACT 2014 (International Workshop on Polyhedral Compilation Techniques), HIP3ES 2015 (International Workshop on High Performance Energy Efficient Embedded Systems).

### 9.1.3. Journal

*9.1.3.1. reviewer*

Philippe Clauss has been reviewer for the following journals: IEEE Transactions on Computers, ACM Transactions on Programming Languages and Systems (TOPLAS), ACM Transactions on Architecture and Code Optimization (TACO), IEEE Transactions on Parallel and Distributed Systems (TPDS).

Cédric Bastoul has been reviewer for the following journals: Journal of Parallel and Distributed Computing (JPDC), ACM Transactions on Architecture and Code Optimization (TACO), Parallel Computing (ParCo).

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Philippe Clauss and Alain Ketterlin did not teach during the first semester of 2014 since they were detached at Inria (*délégation*).

>   Licence : Vincent Loechner, Operating Systems, 38h, L2, Strasbourg University, France
>
>   Master : Vincent Loechner, Python Programming, 38h, M1, Strasbourg University, France
>
>   Master : Vincent Loechner, Parallelism, 15h, M1, Strasbourg University, France
>
>   Master : Vincent Loechner, Parallel Programming, 32h, M1, Strasbourg University, France
>
>   Master : Vincent Loechner, Parallel Programming, 30h, M2, Strasbourg University, France
>
>   Master : Vincent Loechner, Advanced compilation, 8h, M1, Strasbourg University, France
>
>   Master : Vincent Loechner, Embedded Systems, 32h, M2, Strasbourg University, France
>
>   Master : Vincent Loechner, Real-time Programming, 22h, M1, Strasbourg University, France
>
>   Licence : Philippe Clauss, Computer Architecture, 45h, L2, Strasbourg University, France
>
>   Master : Philippe Clauss, Compilation, 78h, M1, Strasbourg University, France
>
>   Licence : Cédric Bastoul, System Programming, 49h, L2, Strasbourg University, France
>
>   Master : Cédric Bastoul, Compiler Design, 48h, M1, Strasbourg University, France
>
>   Master : Cédric Bastoul, Advanced compilation, 29h, M1, Strasbourg University, France
>
>   Master : Cédric Bastoul, Parallelism, 20h, M2, Strasbourg University, France
>
>   Master : Cédric Bastoul, Introduction to Research, 7h, M1, Strasbourg University, France
>
>   Licence : Éric Violard, Functional Programming, 42h, L2, Strasbourg University, France
>
>   Licence : Éric Violard, Computer Architectures, 23h, L2, Strasbourg University, France
>
>   Licence : Éric Violard, Algorithms and Data Structures, 34h, L2, Strasbourg University, France
>
>   Master : Éric Violard, Compiler Design, 54h, M1, Strasbourg University, France
>
>   Master : Éric Violard, Semantics, 48h, M1, Strasbourg University, France
>
>   Master : Éric Violard, Introduction to Research, 6h, M1, Strasbourg University, France
>
>   Licence : Alain Ketterlin, Computer Networks, 66h, L3, Strasbourg University, France
>
>   Licence : Alain Ketterlin, Algorithms and Data Structures, 40h, L3, 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 : Lénaïc Bagnères, Automatic parallelization and optimization for manycore architectures, November 2012, Christine Eisenbeis and Cédric Bastoul
>
>   PhD in progress : Alexander Zinenko, Interactive program manipulation, September 2013, Stéphane Huot and Cédric Bastoul

PhD in progress : Yann Barsamian, A Parallel Programming Environment based on the Xfor Control Structure, October 2014, Éric Violard

### 9.2.3. Juries

Philippe Clauss participated to the following PhD jurys in 2014:

| Date | Candidate | Place | Role |
|------|-----------|-------|------|
| Sept. 22 | Michael KRUSE | Univ. Paris Sud | Reviewer |
| June 20 | Pierre ESTERIE | Univ. Paris Sud | Reviewer |

Cédric Bastoul participated to the following PhD jurys in 2014:

| Date | Candidate | Place | Role |
|------|-----------|-------|------|
| November 19 | Rachid Habel | École des Mines de Paris | Reviewer |

## 9.3. Popularization

Cédric Bastoul participated to the event *Kids University* at the University of Strasbourg in November 2014

Cédric Bastoul prepared activities for *Fête de la Science* at University of Paris-Sud in October 2014

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

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

*9.1.1.1. Steering committee membership*

- Pierrick Gaudry is a member of the steering committee of the ECC (Elliptic Curve Cryptography) conference series.
- Emmanuel Thomé is a member of the steering committee of the ANTS (Algorithmic Number Theory Symposium) conference series (which gathers the program committee chairs and proceedings editors of previous conference editions).

### 9.1.2. Scientific events selection

*9.1.2.1. Conference program committee chairing*

- Jérémie Detrey was program chair for the poster session of the *Conférence en Parallélisme, Architecture et Système* (ComPAS 2014).

*9.1.2.2. Conference program committee membership*

- Jérémie Detrey was a member of the program committee of
    - the architecture track of the *Conférence en Parallélisme, Architecture et Système* (ComPAS 2014),
    - the Third International Conference on Cryptology and Information Security in Latin America (Latincrypt 2014).
- Pierrick Gaudry was a member of the program committee of
    - the 18th International Conference on Practice and Theory of Public-Key Cryptography (PKC 2015),
    - the 5th International Workshop on the Arithmetic of Finite Fields (WAIFI 2014).
- Emmanuel Thomé was a member of the program committee of
    - Selected Areas in Cryptography (SAC 2014),
    - the Third International Conference on Cryptology and Information Security in Latin America (Latincrypt 2014).
- Marion Videau was a member of the program committee of
    - Selected Areas in Cryptography (SAC 2014),
    - the 17th Annual International Conference on Information Security and Cryptology (ICISC 2014),
    - the *Symposium sur la sécurité des technologies de l'information et des communications* (SSTIC 2014).

*9.1.2.3. Reviewing activities*

- Jérémie Detrey reviewed submissions to
    - the architecture track of the *Conférence en Parallélisme, Architecture et Système* (ComPAS 2014),
    - Selected Areas in Cryptography (SAC 2014),

- the Third International Conference on Cryptology and Information Security in Latin America (Latincrypt 2014),
- the 16th Workshop on Cryptographic Hardware and Embedded Systems (CHES 2014),
- the 6th International Conference on Post-Quantum Cryptography (PQCrypto 2014).
- Pierre-Jean Spaenlehauer reviewed submissions to
    - the 39th International Symposium on Symbolic and Algebraic Computation (ISSAC 2014),
    - Symbolic-Numeric Computation (SNC 2014).
- Hugo Labrande reviewed submissions to
    - Selected Areas in Cryptography (SAC 2014).
- Pierrick Gaudry reviewed submissions to
    - the 20th Annual International Conference on the Theory and Application of Cryptology and Information Security (Asiacrypt 2014),
    - the 12th International Conference on Applied Cryptography and Network Security (ACNS 2014).
- Emmanuel Thomé reviewed submissions to
    - Selected Areas in Cryptography (SAC 2014),
    - the Third International Conference on Cryptology and Information Security in Latin America (Latincrypt 2014),
    - the 33rd Annual International Conference on the Theory and Applications of Cryptographic Techniques (Eurocrypt 2014),
    - the 34rd International Cryptology Conference (Crypto 2014),
    - the 39th International Symposium on Symbolic and Algebraic Computation (ISSAC 2014).
- Marion Videau reviewed submissions to
    - Selected Areas in Cryptography (SAC 2014),
    - the 17th Annual International Conference on Information Security and Cryptology (ICISC 2014),
    - the *Symposium sur la sécurité des technologies de l'information et des communications* (SSTIC 2014).

### 9.1.3. Journal activities

*9.1.3.1. Editorial board membership*

- Pierrick Gaudry is an editor of the journal Applicable Algebra in Engineering, Communication and Computing.

*9.1.3.2. Reviewing activities*

- Jérémie Detrey reviewed submissions to
    - the IEEE Transactions on Computers (IEEE TC),
    - the Journal of Cryptographic Engineering (JCEN),
    - the ACM Transactions on Mathematical Software (TOMS).
- Pierre-Jean Spaenlehauer reviewed submissions to Designs, Codes and Cryptography.
- Paul Zimmermann reviewed submissions to Mathematics of Computation, and declined several reviews for open-access and hybrid journals.
- Pierrick Gaudry reviewed submissions to Finite field and their applications and Mathematics of Computation.

- Emmanuel Thomé reviewed submissions to Designs, Codes, and Cryptography and Security and Communication Networks.

### 9.1.4. Invited Conferences

- Pierrick Gaudry gave invited talks at
    - the DLP 2014 workshop, in Ascona (Switzerland, May);
    - the SAC 2014 conference, in Montreal (Canada, August);
    - the *Journées nationales du calcul formel 2014*, in Marseilles (November).
- Emmanuel Thomé gave invited talks at
    - the ECC 2014 conference, in Chennai (India, October);
    - the *Journées nationales du GDR IM 2014*, in Paris (January);
    - the *École de printemps Codage et Cryptographie 2014*, in Grenoble (March);
    - the *Journées de Sécurité des Systèmes d'information*, in Rouen (November).
- Pierre-Jean Spaenlehauer gave invited talks at
    - the *Journées nationales Codage et Cryptographie 2014*, in Les Sept Laux (March);
    - the conference on Effective Moduli Spaces and Applications to Cryptology, in Rennes (June).

### 9.1.5. Other committees

- Pierrick Gaudry was a member of
    - the hiring committees for *chargé de recherche* positions in INRIA Nancy – Grand Est, and associate professor positions in Univ. Lorraine and Univ. Montpellier 2.
- Marion Videau was a member of
    - the scientific committee of the CCA seminar (*Codage, Cryptologie, Algorithmes*),
    - the scientific committee of the *Journées Codage et Cryptographie* of GT-C2 of GdR-IM,
    - the LORIA laboratory council (elected),
    - the *Commission des développements technologiques* (CDT) of the INRIA Nancy – Grand Est research center,
    - hiring committee for an associate professor position in Univ. Lorraine,
    - hiring committee for temporary teaching and research attaché (ATER) positions in Univ. Lorraine,
    - hiring committee for teaching contracts for PhD students (DCCE) in Univ. Lorraine,
    - admission committee for student applications for a master degree in informatics in Nancy.
- Paul Zimmermann was a member of
    - the *jury d'admissibilité* for *chargé de recherche 1e classe* and *directeur de recherche 2e classe* positions at Inria, and the *jury d'admission* for *directeur de recherche 2e classe* positions at Inria.

### 9.1.6. Seminar organization

#### 9.1.6.1. Caramel seminar

Ten speakers were invited to our seminar in 2014: Armand Lachand, Pierre-Jean Spaenlehauer, Guillaume Moroz, Irene Márquez-Corbella, Nicholas Coxon, Christian Eder, Andrea Miele, Thomas Richard, Enea Milio, and Sebastian Kochinke.

*9.1.6.2. 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. Fourteen speakers were invited during 2014: Éric Leblond, Philippe Biondi, Eric Jaeger, Pierre-Michel Ricordel, Pascal Urien, Jérôme François, Thomas Voegtlin, Mathieu Cunche, Sébastien Bardin, Gwendall Legrand, Pierrick Gaudry, Sylvain Ruhault, Aline Gouget, and Raphaël Rigo.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

**Licence:**

Jérémie Detrey, Security of websites, 2 hours, L1, IUT Charlemagne, Nancy, France.

Marion Videau, Introduction to algorithmic and programming, 16 hours, L1, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, Programming methodology in C, 21 hours (lectures and tutorial sessions), L1, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, Introduction to cryptology and information security, 20 hours (lectures and tutorial sessions), L3, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, student supervisor (for about 12 L1 students): 12 hours, L1, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

**Master:**

Marion Videau and Pierrick Gaudry, Supervision of two M1 students for their *Introduction to research* practical course throughout one semester, M1, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, Introduction to cryptology, 12 hours (lectures), M1, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, Introduction to information system security, 24 hours (lectures and tutorial sessions), M1, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, Information system security, 12 hours (lectures and tutorial sessions) and responsibility of coordinating with security seminars, M2, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, Information system security, 21 hours+21 hours (lectures and tutorial sessions), M2, Faculté des sciences et technologies agreement with IGA, Maroc.

Marion Videau, Software validation, verification and certification: 4 hours (tutorial sessions) and responsibility of coordinating external teachers from industry.

Marion Videau and Stéphane Glondu, Supervision of the semester applied project for all M2 students from *parcours Sécurité des Architectures Web*, M2, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, local supervision of M2 students engineering internships in industry, M2, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

Marion Videau, head of *parcours Sécurité des Architectures Web*, M2, Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

**Misc.:**

Marion Videau, teaching supervisor (*tuteur*), of a PhD student with a teaching contract (DCCE), Faculté des sciences et technologies, Vandœuvre-lès-Nancy, France.

### 9.2.2. Internships

- David Lucas, Télécom Nancy, "Problème du rang bilinéaire : calcul et recherche de formules optimales", Apr–Sep 2014, supervised by Jérémie Detrey.
- Théo Karaboghossian, École Normale Supérieure de Cachan, "Nombres premiers à faiblesse cachée pour le problème du logarithme discret", Jun–Jul 2014, supervised by Pierrick Gaudry.

### *9.2.3. Supervision*

**PhD in progress:**

Cyril Bouvier, Algorithmes pour la factorisation d'entiers et le calcul de logarithme discret, since Sep 2012, Paul Zimmermann.

Svyatoslav Covanov, Algorithmes de multiplication : complexité bilinéaire et méthodes asymptotiquement rapides, since Sep 2014, Jérémie Detrey & Emmanuel Thomé.

Laurent Grémy, Analyse et optimisation d'algorithmes de cribles arithmétiques, since Oct 2013, Pierrick Gaudry & Marion Videau.

Hamza Jeljeli, Accélérateurs logiciels et matériels pour l'algèbre linéaire creuse sur les corps finis, since Oct 2011, Emmanuel Thomé.

Hugo Labrande, Calcul effectif d'isogénies entre jacobiennes de courbes algébriques par une méthode d'analyse complexe, since Sep 2013, Emmanuel Thomé & Michael J. Jacobson, Jr. (Univ. Calgary, Canada).

### *9.2.4. Juries*

- Jérémie Detrey was a member of the jury of the ÉNS competitive entrance exam.
- Paul Zimmermann was reviewer and member of the jury for the PhD thesis of Fredrik Johansson (RISC, Linz).
- Pierre-Jean Spaenlehauer was a member of the jury for the PhD thesis of Jules Svartz (EPI POLSYS, Paris).
- Pierrick Gaudry was a reviewer of the PhD thesis of Christophe Tran (Univ. Rennes 1), and a member of the jury for the PhD thesis of Ivan Boyer (Univ. Paris 7).

## 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", where Paul Zimmermann gave a presentation of the Sage computer algebra system.
- Paul Zimmermann animated a "Maths-en-Jeans" group with students from the "collège" Pierre Brossolette in Réhon.
- Pierrick Gaudry gave a presentation at the "journée de l'Association francophone des spécialistes de l'investigation numérique".
- Marion Videau
  - participated to events on information about university studies for pupils and students (Cap sur l'enseignement supérieur, Portes ouvertes de la faculté des sciences, Oriaction), and about university studies and research to the general public (Sciences en marche),
  - gave a presentation at the "journée de l'Association francophone des spécialistes de l'investigation numérique".

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

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

- Journées SDA2 and FRAC 2014, April.
- JFIN (Journée Française d'investigation numérique), October.
- Botconf'14 (The botnet fighting conference - Second edition), December.

Simon Perdrix organised JIQ'14 (Journées Informatique quantique) in Lyon in November.

### 8.1.2. Scientific events selection

#### 8.1.2.1. Conference program committee membership

- Guillaume Bonfante was in the Program Committee of the conference FPS (Foundations and Practice of Security) and the following workshops: Termgraph (Vienna), Caesar (Rennes), PPREW (New Orleans).
- Mathieu Hoyrup was in the Program Committee of Computability and Complexity in Analysis (CCA) 2014.
- Romain Péchoux was in the Program Committee of DICE 2014 (Developpements in Implicit Computational complExity).
- Simon Perdrix was in the Program Committee of STACS 2014 (Symposium on Theoretical Aspects of Computer Science) and QPL 2014 (Quantum Physics and Logic).

#### 8.1.2.2. Reviewing activities

- Mathieu Hoyrup reviewed articles for LICS 2014, CiE 2014.
- Emmanuel Jeandel reviewed articles for STACS 2015.
- Romain Péchoux reviewed articles for DICE 2014 (Developpements in Implicit Computational complExity), ISMVL 2015 (International Symposium on Multi-Valued Logics), RTA-TLCA 014 (Rewriting Techniques and Applications - Typed Lambda-Calculi and Applications).
- Simon Perdrix reviewed articles for CONCUR'14.

### 8.1.3. Journal

#### 8.1.3.1. Editorial board membership

- Emmanuel Jeandel is in the editorial board of RAIRO-ITA.

#### 8.1.3.2. Reviewing activities

- Mathieu Hoyrup reviewed articles for *Theory of Computing Systems*, *Logical Methods in Computer Science*, *Mathematical Structures in Computer Science*.
- Emmanuel Jeandel reviewed articles for *Journal of Computer and System Sciences* and for *Ergodic Theory and Dynamical Systems*.
- Simon Perdrix reviewed articles for *Information Processing Letters*, *Quantum Information & Computation*.

### 8.1.4. Invited Talks

- Jean-Yves Marion gave an invited talk at the Journées Francophones de l'Investigation Numérique (JFIN).
- Emmanuel Jeandel gave an invited talk at the Journées Montoises.
- Simon Perdrix gave an invited talk at the Workshop on Quantum Metrology, Interaction, and Causal Structure 2014 (Tsinghua University, Beijing) and an invited talk at the Chinese Academy of Sciences.

### 8.1.5. *Collective Responsibilities*

Isabelle Gnaedig is:

- member of the scientific mediation committee of Inria Nancy - Grand Est,
- researcher social referee at Inria Nancy - Grand Est.

Simon Perdrix is responsible of GT IQ (groupe de travail Informatique quantique) at the CNRS GdR IM (groupe de recherche Informatique Mathématique).

## 8.2. Teaching - Supervision - Juries

### 8.2.1. *Teaching*

Licence :

- Guillaume Bonfante
    - Java, L3, Mines Nancy
- Emmanuel Hainry
    - Operating Systems, 30h, L1, IUT Nancy Brabois
    - Algorithmics, 40h, L1, IUT Nancy Brabois
    - Dynamic Web, 60h, L1, IUT Nancy Brabois
    - Databases, 30h, L1, IUT Nancy Brabois
    - Object Oriented Languages, 12h, L2, IUT Nancy Brabois
    - Complexity, 30h, L2, IUT Nancy Brabois
- Mathieu Hoyrup
    - Programmation en JAVA, 56h, DUT d'informatique 1ère année, IUT Charlemagne, France
- Emmanuel Jeandel
    - Algorithmics and Programming 1, 60h, L1 Maths-Info
    - Algorithmics and Programming 4, 30h, L3 Informatique
    - Modelling Using Graph Theory, 30h, L3 Informatique
    - Networking, 15h, L3 Informatique
- Romain Péchoux
    - Programmation orientée objet, 37,5h, L3, Université de Lorraine, France
    - Programmation orientée objet, 33,5h, L2, Université de Lorraine, France
    - Outils logiques pour l'informatique, 25h, L1, Université de Lorraine, France
    - Bases de données, 42h, L3, Université de Lorraine, France
    - Algorithmic complexity, 30h, L3 MIASHS parcours MIAGE, IGA Casablanca, Marocco.
- Simon Perdrix
    - Structure de données, 72h, DUT d'informatique 1ère année, IUT Charlemagne, France

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, 20h, M2, Telecom-Nancy
- Emmanuel Jeandel
    - Algorithmics and Complexity, M1 Informatique and M1 ENSEM, 30h
    - Combinatorial Optimization, M1 Informatique, 36h.
- Romain Péchoux
    - Mathematics for computer science, 30h, M1 SC
    - Advanced Java, 52,5h, M1 MIAGE
- Simon Perdrix
    - Pépites Algorithmiques — Informatique Quantique, 6h, M1/M2, Ecole des Mines de Nancy.

### 8.2.2. Supervision

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

PhD : Hugo Férée, Complexité d'ordre supérieur et analyse récursive, Université de Lorraine, 10 December 2014, Jean-Yves Marion and Mathieu Hoyrup.

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

PhD: Jérôme Javelle, Quantum Cryptography: Protocols and Graphs, June 2nd 2014, 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.

### 8.2.3. Juries

Isabelle Gnaedig was a:
- member of the Inria hiring committee for young researchers,
- member of the Telecom-Nancy engineering school admission committee.

Emmanuel Jeandel was in the:
- Selection committee for a research assistant position in Nice (MCF 1313).
- Selection committee for a professor position in Marseille (PR 174).
- Jury of Jérôme Javelle's PhD Defense on "Crytographie Quantique: Protocoles et Graphes", defended in Université de Grenoble, June 2nd.
- Jury of Benjamin Hellouin de Menibus's PhD Defense on "Asymptotic Behaviour of Cellular Automata: Computation and Randomness", defended in Aix-Marseille Université, September 26th.
- Jury of Bastien Le Gloannec's PhD Defense on "Coloriage du plan discret par jeux de tuiles déterministes", defended in Université d'Orléans, December 12th.

## 8.3. 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.

# CASSIS Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

The CNIL (Commission Nationale Informatique et Liberté) has official recommendations in terms of electronic voting [0]. These recommendations influence the design of e-voting systems that are deployed in France. However, some of the recommendations seem a bit outdated and dedicated to particular classes of systems. Even more importantly, the CNIL recommendations focus on vote privacy but do not say much about verifiability. Véronique Cortier, David Galindo, and Stéphane Glondu have formulated new recommendations, submitted to the CNIL. They have met some CNIL members to discuss how to integrate some of the propositions to the new version of the CNIL recommendations that should appear in 2015.

### 9.1.1. Scientific Events Organisation

*9.1.1.1. General Chair, Scientific Chair*

Véronique Cortier: FMS 2014, 5th Workshop on Formal Methods for Security.
Christophe Ringeissen: UNIF 2014, 28th International Workshop on Unification.

### 9.1.2. Scientific Events Selection

*9.1.2.1. Program Committee Chair*

- Steve Kremer: Post 2014, ACM SEC@SAC 2014, GRSRD'15

*9.1.2.2. Program Committee Member*

- Véronique Cortier: ACNS 2014, CCS 2014, Esorics 2014, FCC-FCS 2014, FoSSaCs 2014, Icalp 2014, Movep 2014, Concur 2015, LICS 2015, POST 2015.
- Christophe Ringeissen: CADE-25, FroCoS 2015.
- Frédéric Dadeau : CSTVA 2014, NFM 2014, QSIC 2014.
- Abdessamad Imine : AICCSA 2014, DEXA 2014, DEXA 2015, ICEIS 2015, DASFAA 2015
- Steve Kremer : ACNS 2014, ICFEM 2014, AsiaCCS 2015, ESORICS 2015, FCS 2015, TGC 2015.
- Michaël Rusinowitch: LATA 2014, CRISIS 2014, STP 2014, GRSRD 2014, TGC 2015, POST 2016.
- Fabrice Bouquet : ICST 2014, MoDeVVa 2014, AMOST 2015

### 9.1.3. Journal

*9.1.3.1. Editorial Board Member*

- Véronique Cortier: Information & Computation, Journal of Computer Security.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

- Summer School:

  Fabrice Bouquet, Test techniques and validation for Software, ENVOL 2014, Organized by: CNRS, INRA, VetAgro-Sup and Inria, November 18-21, 2014 (https://www.projet-plume.org/envol-2014)

  Steve Kremer, Formal Modeling and Automated Analysis of Security Protocols, 14th International School on Foundations of Security Analysis and Design (FOSAD'14)

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[0] http://www.cnil.fr/documentation/deliberations/deliberation/accessible/non/delib/249/

- Master:

  Fabrice Bouquet, Functional Testing, 18 hours, M2 Computer science, Franche-Comté University, France.

  Fabrice Bouquet, Artificial Intelligence, 42 hours, M1 Computer science, Franche-Comté University, France.

  Frédéric Dadeau, Structural testing, 9 hours (ETD), M2 Computer science, Franche-Comté University, France.

  Alain Giorgetti, Program Proofs, 58 hours, M1 Computer science, Franche-Comté University, France.

  Alain Giorgetti, Decision Procedures, 13 hours, M2 Computer science, Franche-Comté University, France.

  Olga Kouchnarenko, Specification, Verification and Validation, 12 hours (ETD), M2 Computer science, Franche-Comté University, France.

  Olga Kouchnarenko, Security and Components, 10,5 hours (ETD), M2 Computer science, Franche-Comté University, France.

  Steve Kremer, Security Theory, 24 hours (ETD), M2 Computer science, Lorraine University, France.

  Abdessamad Imine, Security for XML Documents, 12 hours (ETD), M1, 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, 22.5 hours (ETD), M2 Computer science, Lorraine University, France.

  Laurent Vigneron, Security of information systems, 24 hours (ETD), M2 MIAGE – Distributed Information Systems, Lorraine University, France.

- Licence:

  Alain Giorgetti, Logics and Deduction, 52 hours, L2 Computer science, Franche-Comté University, France.

  Olga Kouchnarenko, Formal Languages, 65 hours (ETD), L3 Computer science, Franche-Comté University, France.

- E-Learning:

  Fabrice Bouquet, Artificial Intelligence, 78 (ETD), M1 Computer science, Franche-Comté University, France.

  Fabrice Bouquet, Specification Validation and Test, 39 (ETD), M2 Computer science, Franche-Comté University, France.

  Alain Giorgetti, Formal Methods, 81 hours, L3 computer science, Franche-Comté University, France.

  Olga Kouchnarenko, Languages, Specification and Proof, 25 hours (ETD), L3 Computer science, Franche-Comté University, France.

  Olga Kouchnarenko, Compositional approaches in verification, 18 hours (ETD), M2 Computer science, Franche-Comté University, France.

## 9.2.2. Supervision

- PhD (defended in 2014):

  Robert Künnemann, Verification of Security APIs, January 7, Steve Kremer and Graham Steel

Houari Mahfoud, Access Control Models for XML Documents, February 18, Abdessamad Imine and Michaël Rusinowitch

Cyrille Wiedling, Formal analysis of E-voting protocols, November 21, Véronique Cortier

Ivan Enderlin, Test Data Generation for Unit Testing in PHP, July 16, Fabrice Bouquet, Frédéric Dadeau and Alain Giorgetti

Aloïs Dreyfus, Contribution to the efficient model-based verification and testing, October 22, Pierre-Cyrille Héam and Olga Kouchnarenko

Bin Yang, Contribution to a kernel of a symbolic asymptotic modeling software, December 16, Michel Lenczner and Alain Giorgetti

- 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

Maxime Bride, Automated Synthesis and Verification of Security Services, started in October 2014, Michaël Rusinowitch

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

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

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

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

Ludovic Robin, Verification of cryptographic protocols using weak secrets, started in October 2014, Steve Kremer

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

### 9.2.3. *Juries*

Inria evaluation committee (Véronique Cortier, Steve Kremer, Michaël Rusinowitch)

Vice-president of the Jury Junior Research Position Inria Nancy Grand Est (Véronique Cortier)

Jury Junior Research Position Inria Paris-Rocquencourt (Véronique Cortier)

Preselection Jury for Inria Advanced and Starting Research Positions (Michaël Rusinowitch)

Member of the ANR scientific evaluation committee, challenges 7 and 9 (Olga Kouchnarenko)

Examiner for Guillaume Laville PhD, Besançon, June 27, 2014, *Exécution efficace de systèmes multi-agents sur GPU* (Fabrice Bouquet)

Reviewer for Maxime Fonda PhD, Bourges, May 21, 2014, *Protection obligatoire des serveurs d'application web : application aux processus métiers* (Fabrice Bouquet)

Examiner for Yufang Dan PhD, CITI Lyon (France), Security and self-healability enforcement of dynamic components in a service-oriented system, May 14, 2014 (Frédéric Dadeau)

Examiner for Xiaoping Che PhD, Telecom SudParis (France), Cross-Fertilizing Formal Approaches for Protocol Conformance and Performance Testing, June 26, 2014 (Frédéric Dadeau)

Examiner for Kaim Hossem PhD, LIG Grenoble (France), *Inférence automatique de modèles d'applications web et protocoles pour la détection de vulnérabilités*, December 15, 2014 (Frédéric Dadeau)

Reviewer for Valérie Murat PhD, Rennes, June 26th 2014, Tree automata extensions for the infinite states systems verification (Pierre-Cyrille Héam)

Examiner for Rafik Kheddam PhD, Valence (France), Safety software approaches for RFID systems, April 9, 2014 (Pierre-Cyrille Héam)

Examiner for Sven DeFelice PhD, Marne-la-Vallée, Codeterministic automata and acyclic automata: analysis of algorithm and random generation, July 1, 2014 (Pierre-Cyrille Héam)

Examiner for Maguy Medlej PhD, Besançon, June 30, 2014, Data Management in Periodic Wireless Sensor Networks (Olga Kouchnarenko)

Reviewer for Hikmat Farhat PhD, Toulouse, September 25, 2014, Composition of Services Behavior via Orchestrator Synthesis (Olga Kouchnarenko)

Examiner for Evelyne Contejean HDR, Orsay, June 13, 2014, Facets of Deduction (Michaël Rusinowitch)

Examiner for Myriam Paiola PhD, Paris, May 28, 2014, Verification of Security Protocols with Lists (Michaël Rusinowitch)

Examiner for Joshua Amavi PhD, Orléans, November 28, 2014, *Comparaison et évolution de schémas XML* (Michaël Rusinowitch)

Examiner for Lakhdar Akroun PhD, Clermont-Ferrand, December 8, 2014, Decidability and complexity of simulation preorder for data-centric web services (Michaël Rusinowitch)

Reviewer for Abdelkader Kersani PhD, Grenoble, October 30, 2014, *Preuves par induction dans le calcul de superposition* (Laurent Vigneron)

## 9.3. Popularization

Presentation of security protocols to high school teachers in Computer Science (April 17th, 2014, Véronique Cortier).

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events selection

*8.1.1.1. Conference program committee membership*

Horatiu Cirstea:

- PC member of RuleML 2014 (International RuleML Symposium on Rule Interchange and Applications).
- Steering committee of RULE.

Sergueï Lenglet:

- PC member of WPTE'14 (Workshop on Rewriting Techniques for Program Transformations and Evaluation)

Pierre-Etienne Moreau:

- PC member of TERMGRAPH'2014 (8th International Workshop on Computing with Terms and Graphs)
- PC member of WRLA'2014 (10th International Workshop on Rewriting Logic and its Applications)

Sorin Stratulat:

- PC member of CISIS 2014 (7th International Conference on Computational Intelligence in Security for Information Systems)
- PC member of IAS 2014 (10th International Conference on Information Assurance and Security)
- PC member of SYNASC 2014 (16th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing)

*8.1.1.2. Reviewing activities*

Horatiu Cirstea:

- Reviewer for ESOP'2014, ICTAC'2014, LOPSTR'2014

Sergueï Lenglet:

- Reviewer for CSL-LICS'2014, RTA-TLCA'2014, FOSSACS'2015

Pierre-Etienne Moreau:

- Reviewer for TERMGRAPH'2014, WASDETT'2014

### 8.1.2. Journal

*8.1.2.1. Editorial board membership*

Pierre-Etienne Moreau:

- Advisory Board of Science of Computer Programming, software track

*8.1.2.2. Reviewing activities*

Horatiu Cirstea:

- Reviewer for Journal of Symbolic Computation

Sergueï Lenglet:

- Reviewer for Fundamenta Informaticae and HOSC (Higher-Order and Symbolic Computation)

Pierre-Etienne Moreau:

- Reviewer for Electronic Proceedings in Theoretical Computer Science (EPTCS)

Sorin Stratulat:

- Reviewer for Journal of Symbolic Computation

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Licence: Sergueï Lenglet, teaching at IUT Charlemagne, first year and second year students.

Licence: Horatiu Cirstea, Responsible for the first year of the Licence in Computer Science, Université de Lorraine.

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

Master: Horatiu Cirstea, Responsible for the Master speciality "Logiciels: Théorie, méthodes et ingénierie", Université de Lorraine.

Master: Pierre-Etienne Moreau, Head of the Computer Science Department at Mines Nancy, Université de Lorraine.

Doctorate: Pierre-Etienne Moreau, Implementing Term Rewriting, International School on Rewriting, Valparaíso, Chile.

### 8.2.2. Supervision

PhD: Jean-Christophe Bach, A formal Island for qualifiable model transformations, Université de Lorraine, September 12th 2014, Pierre-Etienne Moreau

PhD in progress: Duy Duc Nguyen, Aided design of multi-physics and multi-scale systems based on asymptotic methods, Horatiu Cirstea (co-supervised with Michel Lenczner and Federic Zamkotsian)

PhD in progress: Amira Henaien, Certification du raisonnement formel porté sur des systèmes d'information critiques, November 2010, Sorin Stratulat (co-supervised with Maurice Margenstern)

### 8.2.3. Juries

Horatiu Cirstea:

PhD committee of Julien Ferté, reviewer, "Régularité et contraintes de descendance, équations algébriques+", Marseille 2014

PhD committee of Hernan Vanzetto, examiner, "Automatisation des preuves et synthèse des types pour la théorie des ensembles dans le contexte de TLA+", Nancy 2014

PhD committee of Bin Yang, reviewer, "Contribution to a kernel of a symbolic asymptotic modeling software", Besançon 2014

Pierre-Etienne Moreau:

PhD committee of Jean-Christophe Bach, superviser, "Un îlot formel pour les transformations de modèles qualifiables", Nancy 2014

PhD committee of Faiez Zalila, reviewer, "Methods and Tools for the Integration of Formal Verification in Domain-Specific Languages", Toulouse 2014

PhD committee of Cyrille Wiedling, examiner, "Formal Verification of Advanced Families of Security Protocols: E-Voting and APIs", Nancy 2014

Sorin Stratulat:

PhD committee of Abdelkader Kersani, examiner, "Preuves par induction dans le calcul de superposition", Grenoble 2014

## 8.3. Popularization

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.

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. He 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.

Pierre-Etienne Moreau is member of the national committee for Inria "Médiation Scientifique". He also participated to "Fête de la Science 2014" at Mines Nancy.

<span style="color:red">**VEGAS Project-Team**</span>

# 7. Dissemination

## 7.1. Promoting Scientific Activities

### 7.1.1. Scientific events organisation

#### 7.1.1.1. Organizing committee membership

Sylvain Lazard organized with S. Whitesides (Victoria University) the 13th Inria - McGill - Victoria Workshop on Computational Geometry [0] at the Bellairs Research Institute of McGill University in Feb. (1 week workshop on invitation).

Marc Pouget and Guillaume Moroz organized the first ANR-SingCAST meeting on subdivision methods for singular systems in Nantes in December. [0]

Guillaume Moroz co-organizes the *Journées Nationales de Calcul Formel 2015 (JNCF)*.

### 7.1.2. Scientific events selection

#### 7.1.2.1. Conference program committee membership

Monique Teillaud is a member of the program committee of the 2015 *Symposium on Computational Geometry* SoCG'15.

#### 7.1.2.2. Reviewing activities

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

### 7.1.3. Journal

#### 7.1.3.1. Editorial board membership

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

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

Marc Pouget and Monique Teillaud are members of the <span style="color:red">CGAL</span> editorial board.

#### 7.1.3.2. Reviewing activities

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

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[0]<span style="color:red">Workshop on Computational Geometry</span>
[0]<span style="color:red">SingCAST</span>

### 7.1.4. Steering Committees

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

### 7.1.5. National committees

Monique Teillaud has been a member of the Scientific Board of the Société Informatique de France (SIF) since November.

Laurent Dupont is a member of "Commission Pédagogique Nationale" (CPN) Information-Communication / Métiers du Multimédia et de l'Internet.

### 7.1.6. Web site

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

G. Moroz is maintaining the ANR Presage website http://webloria.loria.fr/~goaoc/ANR-Presage

M. Pouget is maintaining the ANR SingCAST website https://project.inria.fr/singcast/

## 7.2. Teaching - Supervision - Juries

### 7.2.1. Teaching

Master : O. Devillers, *Synthèse, image et géométrie* , 12h (academic year 2014-15), IPAC-R, Université de Lorraine. http://www.loria.fr/~odevil/master/

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

Master: Guillaume Moroz, *Introduction à la résolution réelle de systèmes bivariés et topologie de courbes*, 20h (April 2014), Université de Ziguinchor, Sénégal.

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*, 70h, L1, Université de Lorraine (IUT Charlemagne).

Licence: Laurent Dupont, *Programmation Objet et Évènementielle*, 50h, L2, Université de Lorraine (IUT Charlemagne).

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

Licence: Laurent Dupont, *Algorithmique*, 30h, L1, Université de Lorraine (IUT Charlemagne)

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

Licence: Yacine Bouzidi, *Programmation orientée objet*, 46h, L2, Université de Lorraine.

Master: Yacine Bouzidi, *Java avancé*, 20h, M1, Université de Lorraine.

### 7.2.2. Supervision

PhD in progress : Rémy Thomasse, Smoothed complexity of geometric structures and algorithms, started December 1st 2012, Olivier Devillers. (The student is hosted in EPI GEOMETRICA but supervised by O. Devillers).

PhD in progress : Ranjan Jha, Étude de l'espace de travail des mécanismes à boucles fermées, started in Oct. 2013, supervised by Damien Chablat, Fabrice Rouillier and Guillaume Moroz.

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

PhD: Yacine Bouzidi, Solving bivariate algebraic systems and topology of plane curves, defended in March 2014, supervised by Sylvain Lazard and Marc Pouget.

Postdoc: Rémy Imbach, Topology and geometry of singular surfaces with numerical algorithms, supervised by Guillaume Moroz and Marc Pouget.

Postdoc: Laurent Veysseire, Probabilistic analysis of geometric structures, supervised by Olivier Devillers.

### *7.2.3. Juries*

O. Devillers was a member (advisor) of the PhD defense committee of Ross Hemsley (Univ. Nice - Sophia Antipolis).

M. Pouget and S. Lazard were member (adivisors) of the PhD defense committee of Yacine Bouzidi (Univ. Lorraine).

G. Moroz was a member (external examiner) of the PhD defense committee of Esmaeil Mehrabi (Univ. of Western Ontario)

## 7.3. Popularization

Guillaume Moroz is a member of the organizing committee of the *Olympiades académiques de mathématiques*.

# VERIDIS Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Organization of scientific events

#### 9.1.1.1. General Chair, Scientific Chair

Pascal Fontaine co-organized the SAT/SMT Summer School 2014, affiliated with Vienna Summer of Logic, in Semmering, Austria.

Stephan Merz is a member of the steering committee of the workshop on Automated Verification of Critical Systems (AVoCS). He co-organized the TLA$^+$ Community Event, a satellite of ABZ 2014 in June in Toulouse.

Thomas Sturm is chair of the steering committee of the conference series *Mathematical Aspects of Computer and Information Sciences* (MACIS). He coordinated the CDZ Workshop GZ1115 *Computation and Reasoning with Constraints*, Beijing, China, 2014.

Christoph Weidenbach is a member of the steering committee of *Bundeswettbewerb Informatik*, the German competition among high-school students in computer science.

#### 9.1.1.2. Membership in Organizing Committees

The International Summer School on Verification Techniques, Systems, and Applications (VTSA) has been organized since 2008 in the Greater Region (Nancy, Saarbrücken, Luxembourg, and Liège), and Stephan Merz and Christoph Weidenbach are co-organizers of VTSA. In 2014, VTSA took place during the last week of October in Luxembourg.

### 9.1.2. Service in Program Committees

#### 9.1.2.1. Chairmanship of Conference Program Committees

Dominique Méry was co-chair of the program committee of the 11th International Colloquium on Theoretical Aspects of Computing, held in Bucharest, Romania in September, and of the First Workshop on Formal Integrated Development Environments, a satellite of ETAPS in Grenoble, France, in April.

Stephan Merz was co-chair of the program committee of the 16th International Conference on Formal Engineering Methods, held in Luxembourg in November, and of the First International Workshop on Formal Reasoning in Distributed Algorithms (FRIDA) in July, as part of Vienna Summer of Logic.

Christoph Weidenbach was co-chair of the program committee for the 7th International Joint Conference on Automated Reasoning (IJCAR) that took place in Vienna, Austria, as part of Vienna Summer of Logic.

#### 9.1.2.2. Membership in Conference Program Committees

Pascal Fontaine served on the program committees of the International Joint Conference on Automated Reasoning (IJCAR) and of the workshops PAAR and SMT.

Dominique Méry served on the program committees of ABZ, AFADL, CSDM, MedicalCPS, FHIES, FM, ICFEM, iFM, and FACS.

Stephan Merz served on the program committees of the international conferences ABZ, IJCAR, SAC, SEFM, SSS, and of the workshops AVoCS, GRSRD, SETS, and VERIFY.

Uwe Waldmann served on the program committee of IJCAR.

### 9.1.3. Journal Edition

Stephan Merz (together with Gerald Lüttgen of University of Bamberg) edited a special issue of Science of Computer Programming on the Automated Verification of Critical Systems, following AVoCS 2012.

Thomas Sturm is a member of the editorial boards of the *Journal of Symbolic Computation* (Elsevier) and *Mathematics in Computer Science* (Springer).

Christoph Weidenbach is an editor of the Journal of Automated Reasoning.

### 9.1.4. Scientific Bodies and Self-Administration

Pascal Fontaine was an elected member of the SMT Steering Committee (2012–2014), and he is one of three SMT-LIB managers. He was elected CADE trustee in October 2014.

Dominique Méry is a member of the IFIP Working Group 1.3 on *Foundations of System Specification*. He is the head of the Doctoral School IAEM Lorraine for the University of Lorraine and head of the Formal Methods department of the LORIA laboratory. He is an expert for the French Ministry of Education (DS9), an expert for the French Agence Nationale de la Recherche (ANR) and for AERES.

Stephan Merz is a member of the IFIP Working Group 2.2 on *Formal Description of Programming Concepts*. He is a member of the Scientific Directorate of the International Computer Science Meeting Center in Schloss Dagstuhl. He is the delegate for the organization of conferences at the Inria Nancy Grand Est research center and co-head of the PhD committee for computer science in Lorraine. He was a member of the hiring committee for an associated professor at Université Toulouse 3 and an expert for Agence Nationale de la Recherche (ANR), for Haut Conseil de l'Évaluation de la Recherche et de l'Enseignement Supérieur (HCERES), for the German DFG, the Dutch NWO, and for the European Research Council (ERC).

Thomas Sturm is a member of the selection committee for MSc and PhD students at the International Max Planck Research School.

Christoph Weidenbach is a trustee of CADE (elected 2009, reelected 2012). He is a member of the selection committee of the Saarbrücken Graduate School in Computer Science.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

The university employees of VeriDis (in Nancy) have statutory teaching obligations of 192 hours per year. We indicate the graduate courses that members of the team have been teaching in 2014.

Marie Duflot-Kremer taught a course on Introduction to Algorithmic Verification (first-year master level at Université de Lorraine). She and Stephan Merz also taught a course on Algorithmic Verification in the second year of master and for students of Erasmus Mundus Dependable Software Systems.

Pascal Fontaine is head of the Master MIAGE (Business Informatics) at Université de Lorraine since September 2014.

Stephan Merz taught a course on formal specification using TLA$^+$ at the SPES_XT summer school on model-based development of embedded systems at the University of Twente (The Netherlands) in September.

Uwe Waldmann gave courses on Automated Reasoning I and II at Saarland University.

Christoph Weidenbach gave a course on Automated Reasoning I.

### 9.2.2. Supervision

PhD: Arnaud Fietzke, Labelled Superposition, Universität des Saarlandes. Supervised by Christoph Weidenbach, defended on June 5, 2014.

PhD: Hernán Pablo Vanzetto, Proof Automation and Type Synthesis for Set Theory in the Context of TLA$^+$, Université de Lorraine. Supervised by Kaustuv Chaudhuri and Stephan Merz, defended on December 8, 2014.

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 Stephan Merz and Christoph Weidenbach, since 11/2012.

PhD in progress: Haniel Barbosa, Refutational Completeness in Satisfiability Modulo Theories, Université de Lorraine and UFRN (Natal, Brazil). Supervised by David Déharbe, Pascal Fontaine, and Stephan Merz, since 12/2013.

PhD in progress: Martin Bromberger, Arithmetic Reasoning, Saarland University. Supervised by Christoph Weidenbach, since 07/2014.

PhD in progress: Pablo Federico Dobal, Satisfiability Modulo Arithmetic Theories, Université de Lorraine and Saarland University. Supervised by Pascal Fontaine, Stephan Merz, and Thomas Sturm, since 09/2014.

PhD in progress: Marek Košta, Computational Logic, Universität des Saarlandes. Supervised by Thomas Sturm, since 11/2011.

PhD in progress: Manuel Lamotte Schubert, Automatic Authorization Analysis, Saarland University. Supervised by Christoph Weidenbach, 07/2010.

PhD in progress: Marco Voigt, Decidable Hierarchic Combinations, Saarland University. Supervised by Christoph Weidenbach, since 11/2013.

PhD in progress: Daniel Wand, First-Order Extensions to Support Higher-Order Reasoning, Saarland University. Supervised by Christoph Weidenbach, since 02/2011.

### 9.2.3. *Juries*

Stephan Merz served as a reviewer for the PhD theses of Nadezhda Baklanova (Univ. Toulouse 3), Claire Dross (Univ. Paris Sud), and Giuliano Losa (EPFL Lausanne).

## 9.3. Popularization

Marie Duflot-Kremer took part in various popularization activities, with a public ranging from primary school kids (with unplugged activities concerning sorting, programming, error detection) to non-scientific staff of the Inria center. She is also a member of the steering committee preparing an itinerant exposition intended for explaining computer science to high-school students and took part in an event of the European Code Week in Paris.

Pascal Fontaine and Stephan Merz illustrated some subjects and techniques that underly formal verification of protocols and algorithms at events like "Fête de la Science". Using wooden puzzles and Sudoku sheets, they explained how real-life problems can be represented in logical form and then solved using automated tools based on formal logic.

Christoph Weidenbach lectured within the series "Perspektiven der Informatik" at Saarland University and within the public lecture series of the federal state of Saarland.

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

*8.1.1.1. Organizing committee membership*

In April 2014, CORIDA organized in Nancy a workshop on "Observers for finite and infinite dimensional systems" gathering people working in the field of control theory for finite and infinite dimensional systems.

Takéo Takahashi and Marius Tucsnak organized a workshop "Workshop in Mathematical Fluid Dynamics", in Nancy from November 26th-28th, 2014. There were 10 invited speakers from France, India, Portugal and Germany.

Marius Tucnsak is a member of the organizing Committee of SIAM Conference on Control, Paris 2015.

*8.1.1.2. Conference program committee membership*

Xavier Antoine was a member of the program committee for The Ninth International Conference on Engineering Computational Technology (ECT2014), Naples, Italy, 2-5 September 2014.

### 8.1.2. Journal

*8.1.2.1. Editorial board membership*

Jean-Claude Vivalda is an associate editor of the *Journal of Dynamical and Control Systems*.

Xavier Antoine is a member of the editorial board of the collection *Mathématiques Appliquées pour le Master* for SMAI/DUNOD Ed.

Marius Tucsnak is a member of the editorial board of *MCSS*, *Journal of Mathematical Fluid Mechanics*, *ESAIM COCV*, *Mathematical Reports* and *Revue Roumaine de Mathématiques Pures et Appliquées*

*8.1.2.2. Reviewing activities*

Most members of the team are reviewers for major journals in the field, including *Automatica*, *IEEE Transactions on Automatic Control*, *ESAIM Contrôle optimal et calcul des variations*, *SIAM Journal of Control*, *Journal of Functional Analysis*.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. 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;
- Xavier Antoine has a full time full professor position at ENSEM;
- Thomas Chambrion has a full time associate professor position at ESSTIN;
- Antoine Henrot has a full time full professor position at ENSEM-Mines Nancy;
- 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 Nancy;
- Marius Tucsnak has a full time full professor position;
- Julie Valein has a full time associate professor position at ESSTIN.

We only detail below the teaching activities of the Inria researchers:

Master : Takahashi, *Résolution numérique des EDP*, 21 hours, Mines Nancy, France

Master : Takahashi, *Analyse numérique*, 18 hours, Mines Nancy, France

Master : Ramdani, *Analyse numérique*, 18 hours, Mines Nancy, France

### 8.2.2. Supervision

HdR : Thomas Chambrion, *Méthodes mathématiques pour la commande de systèmes mécaniques de dimension infinie*, Université de Lorraine, May 29 2014.

HdR: Jean-François Scheid, , Université de Lorraine, December 11 2014.

PhD : Tatiana Manrique, *Optimisation de stratégie de conduite d'un véhicule à basse consomatio,n sous contraintes temps réel*, Université de Lorraine, December 9 2014, supervisors: T. Chambrion and G. Millerioux.

PhD: Jérémy Dalphin, "Etude de fonctionnelles géométriques dépendant de la courbure par des méthodes d'optimisation de formes", Universite´ de Lorraine, December 5th, 2014. Supervisors: Antoine Henrot and Takéo Takahashi.

PhD in progress : Chi-Ting WU, since 2013. Supervisors: Marius Tucsnak and Julie Valein.

### 8.2.3. Juries

X. Antoine has been a member of the committee for A. Vion (PhD thesis, Univ. de Liège, Décembre 2014) and M. Darbas (HDR thesis, Amiens, Décembre 2014).

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

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

- E. Tanré animates with H. Delingette (EPI Asclepios) a transverse working group on "Uncertainties in mathematical and numerical models". In 2014, a three days lectures given by O. Le Maître was organized with around 50 participants issued from 10 teams.

### 9.1.2. Scientific events selection

*9.1.2.1. member of the conference program committee*

- A. Lejay served as member of the conference program committee of the *CANUM 2014* (Carry-le-Rouêt, May 2014) and the *Journées de Probabilités 2014* (Marseille, May 2014).

### 9.1.3. Journal

*9.1.3.1. member of the editorial board*

- M. Bossy serves as an Associate Editor of *Annals of Applied Probability*.

- N. Champagnat serves as an Associate Editor of *Stochastic Models*.

- Together with T. Lelièvre (Ecole des Ponts-ParisTech) and A. Nouy (Ecole Centrale Nantes), N. Champagnat served as co-editor in chief of the special issue of *ESAIM:ProcS* devoted to the CEMRACS 2013.

- A. Lejay serves as co-Editor of the *Séminaire de Probabilités*.

- D. Talay served as an Associate Editor of: *Stochastic Processes and their Applications*, *ESAIM Probability and Statistics*, *Stochastics and Dynamics*, *Journal of Scientific Computing*, *Monte Carlo Methods and Applications*, *Oxford IMA Journal of Numerical Analysis*, *Communications in Applied Mathematics and Computational Science*, *Éditions de l'École Polytechnique*. He also served as the Co-editor in chief of *MathematicS in Action*.

- D. Talay is serving as a member of the Advisory Board of the Centro de Mathematica da Universidade do Porto (Portugal).

- D. Talay participated in Professor position recruitment committees at Paris 6 University.

*9.1.3.2. reviewer*

- M. Bossy wrote reviews for manuscripts submitted to *ESAIM:ProcS*, *Progress in Energy and Combustion Science*, *Bernoulli Journal*.

- N. Champagnat wrote reviews for manuscripts submitted to *ESAIM:ProcS*, *Stochastic Processes and their Applications* (twice), *New Phytologist*, *Bernoulli Journal*, *Electronic Journal of Probabiliy*, *The Annals of Applied Probability*, *Applied Mathematics and optimization*.

- M. Deaconu wrote reviews for manuscripts submitted to *Potential Analysis*, *M2AN*, *Journal of Computational and Applied Mathematics*, *Mathematics and Computers in Simulation* and *Statistics and Computing*.

- B. Henry wrote a review for a manuscript submitted to *Stochastic Models*.

- J. Inglis wrote reviews for manuscripts submitted to the *Annales de l'Institut Henri Poincaré* and the *Journal of Mathematical Neuroscience*.

- A. Lejay wrote reviews for manuscripts submitted to *Mathematical finance*, *Séminaire de Probabilités*, *Journal of Computational and Applied Mathematics*, *Electronic Journal of Probability*, *Electronic Communication of Probability*, *Journal of Scientific Computing*, *International Journal of Stochastic Analysis*, *SIAM Journal on Control and Optimization*, ...
- E. Tanré wrote reviews for manuscripts submitted to *Journal of Theoretical Biology*, *Journal of Scientific Computing*, *Annales de l'Institut Henri Poincaré* and *The Journal of Mathematical Neuroscience*.
- D. Villemonais wrote reviews for manuscripts submitted to *The Annals of Applied Probability*, *Applied Mathematics and Optimization*, *Applied Probability Trust*, *Electronic Communications in Probability* and *Electronic Journal of Probability*.

### 9.1.4. Reviewing for fundings

- M. Bossy wrote reports about research projects submitted to the PACA Region council.
- N. Champagnat wrote reports about research projects submitted to ANR, the Leverhulme trust (UK) and FONDECYT (Chile).
- D. Talay reported on applications to Research Grants Council (RGC) of Hong Kong and grants of the Chilean National Science and Technology Commission.

### 9.1.5. Institutional commitments

- M. Bossy is a elected member of the Inria Evaluation Board.
- M. Bossy is a member of the Scientific Committee of the *École Doctorale "Sciences Fondamentales et Appliquées"* of the Université de Nice - Sophia Antipolis.
- M. Bossy participated to the junior position recruitment committee at the UPMC.
- M. Bossy has been a member of the Committee for junior permanent research positions of Inria Paris-Rocquencourt.
- M. Bossy is a member of the *Collectif Andromede* of the PACA Region council.
- N. Champagnat is a member of the *Commission de Développement Technologique* of Inria Nancy - Grand Est, a subsitute member of the *Comité de Centre* of Inria Nancy - Grand Est and a member of the *Commission bibliothèque* of IECL. He is also local correspondent of the COERLE (*Comité Opérationel d'Évaluation des Risques Légaux et Éthiques*) for the Inria Research Center of Nancy - Grand Est.
- M. Deaconu is member of *Comité des Projets* and *Bureau du Comité des Projets* at Inria Nancy - Grand Est.
- M. Deaconu has been a member of the Committee for junior permanent research positions of Inria Nancy - Grand Est.
- A. Lejay has been General Secretary of Société des Mathématiques Appliquées et Industrielles (SMAI) up to July 2014, and is a member of the Administration Council of the SMAI.
- A. Lejay is the member of the COMIPERS of Inria Nancy Grand-Est.
- A. Lejay has been a member of the hiring committee for a position of Professor in Dijon (2014).
- D. Talay continued to serve as the Head of Science and Chair of the Project-Teams Committee of Inria Sophia Antipolis - Méditerrannée up to the end of August 2014.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

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

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

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

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

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

Master: N. Champagnat, *Processus de Markov et génétique des populations*, 22.5h, M2 MFA, Université de Lorraine, France.

Master: M. Deaconu, *Simulation de variables aléatoires*, 12h, M1, École des Mines de Nancy, France.

Master: M. Deaconu, *Modélisation stochastique*, 30h, M2, Université de Lorraine, France.

Master: M. Deaconu, *Simulation Monte Carlo*, 24h, M1, Faculté de Droit, Sciences Economiques et Gestion, Université de Lorraine, France.

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

Licence: B. Henry, *Analyse numérique*, 18h, L3, École des Mines de Nancy, France.

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

Master: J. Inglis and E. Tanré, *Advanced Numerics for Computational Finance*, 40h (2*20h), M2, UNSA (Mathmods Erasmus Mundus), France.

Master: A. Lejay, *Simulation des marchés financiers*, 23h, M2, Université de Lorraine (Metz), France.

Master: A. Lejay, *Probabilités Appliquées*, 15h, M2, Université de Lorraine (Nancy), France.

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

Master: E. Tanré, *Numerical Probability in Finance*, 44h, M2, Ecole PolytechNice (IMAFA), France.

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

### 9.2.2. Supervision

- PhD: Julien Claisse, *Dynamique des populations : contrôle stochastique et modélisation hybride du cancer*, Université de Nice Sophia Antipolis, 4 July 2014, N. Champagnat, D. Talay.

- PhD in progress: Maxime Bonelli, *Behavioral finance approach to risk assessment in quantitative portfolio management*, September 2013, M. Bossy.

- PhD in progress: Paul Charton, *Hedging strategies for wind energy prices*, September 2010, M. Deaconu and A. Lejay.

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

- PhD in progress: Benoît Henry, *Modeling Evolutionary Relationships Between Three-Dimensional Protein Structures*, October 2013, N. Champagnat, D. Ritchie (EPI ORPAILLEUR).

- PhD in progress: Lionel Lenôtre, *Monte Carlo Simulation in fissured and porous media*, September 2012, J. Erhel (Irisa), A. Lejay, G. Pichot (Irisa). L. Lenôtre has a grant from the MESR and stays at Rennes.

- PhD in progress: Radu Maftei, *A stochastic approach to colloidal particle agglomeration in turbulent flows*, November 2014, M. Bossy.

- PhD in progress: Hernán Mardones, *Numerical Solution of Stochastic Differential Equations with Multiplicative Noise*, 2009, A. Lejay, C. Mora (Universidad de Concepción, Chile). H. Mardones has a CONYCIT grant and spent 7 months (Nov. 2013-June 2014) in Nancy with a grand Becas Chile.

- PhD in progress: Sebastian Niklitschek-Soto, *Discretized stochastic differential equations related to one-dimensional partial differential equations of parabolic type involving a discontinuous drift coefficient*, September 2010, D. Talay.

- PhD in progress: Khaled Salhi, *Estimation of Risk in Finance*, October 2013, M. Deaconu and A. Lejay.

### 9.2.3. *Juries*

- M. Bossy served as a referee for the HDR thesis of Mathias Rousset, *Probability in computational physics and biology: some mathematical contributions*, Université Paris Est, November 27, 2014.

- N. Champagnat served as an examiner for the Ph.D. theses of Julien Claisse, *Dynamique des populations : contrôle stochastique et modélisation hybride du cancer*, Université de Nice Sophia Antipolis, July 4, 2014; of Julien Sainte-Marie, *Contribution à l'intégration des cycles biogéochimiques dans les modèles de croissance forestier à base phénoménologique. Dynamique saisonnière du couvert forestier et décomposition de la matière organique du sol*, Université de Lorraine, September 9, 2014; of Claire Christophe, *Modélisation aléatoire de l'activité des Lymphocites T Cytotoxiques*, Université Paul Sabatier (Toulouse III), December 2, 2014; of Coralie Fritsch, *Approches probabilistes et numériques de modèles individus-centrés du chemostat*, Université Montpellier II, December 8, 2014.

- A. Lejay served as a referee for the Ph.D. thesis of H.T. Nguyen, *Numerical investigations of some mathematical models of the diffusion MRI signal*, Université d'Orsay, January 29, 2014; of M. Ba, *Homogénéisation des diffusions en milieux périodiques*, Université de Provence, July 8, 2014; of W. Sabbagh, *Some contributions on Probabilistic Intepretation for Nonlinear Stochastic PDEs*, Université du Maine, December 8, 2014.

- D. Talay served as a referee for the HDR theses of J-F. Chassagneux, *Quelques contributions à la Finance mathématique et l'Analyse théorique et numérique des équations différentielles stochastiques rétrogrades*, Université Paris Dauphine, November 26, 2014; of F. Panloup, *Contributions à l'étude en temps long de processus stochastiques*, Université Paul Sabatier, Toulouse, December 4, 2014; of J. Guilleminot, *Modélisations stochastiques en Mécanique multi-échelle des matériaux hétérogènes*, Université Paris–Est, December 12, 2014.

- D. Talay served as a referee for the Ph.D. thesis of K. Hajji, *Accélération de la méthode de Monte–Carlo pour des processus de diffusions et applications en Finance*, December 12, 2014.

## 9.3. Popularization

M. Bossy published in the *Brèves de maths* book [25].

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

- M. Bossy gave talks at the *Energy Workshop* at Inria Chile and an invited talk at the *10th AIMS Conference on Dynamical Systems, Differential Equations and Applications* in Madrid in July.

- M. Bossy gave seminar talks at CINFAV University of Valparaíso and at the *Séminaire du Mésocentre de Calcul* at Centrale Paris.

- N. Champagnat gave talks at the *Schlumberger workshop on Topics in Applied Probability*, at IHES (Bures-sur-Yvette) in March, at the *10th AIMS Conference on Dynamical Systems, Differential Equations and Applications* in Madrid in July, at the workshop *Population Dynamics and Statistical Physics in Synergy* in Eindhoven (Netherlands) in August, and at the workshop on *Discrete, explicit simulations versus continuous, aggregated models* in Lausanne in October.

- N. Champagnat gave seminar talks at the *Séminaire Modèles Probabilistes pour la Biologie* in Montpellier in January, at the *Séminaire PEIPS (Evolution de Populations et Systèmes de Particules en Interaction)* at École Polytechnique, Palaiseau in November, and at the *Séminaire de Statistique et Probabilités Appliquées* in Grenoble in November.

- B. Henry participated in the *École de Printemps de l'ANR MANEGE* in Aussois in April.

- K. Salhi participated in the *Journées de Probabilités* at Marseille, France in May and presented poster at the *Journées MAS* at Toulouse, France in July.

- J. Inglis gave invited talks at the *Mathemacs European Project Meeting*, Max Planck Institute, Leipzig, Germany, at the *Stochastic Analysis Seminar*, Oxford-Man Institute of Quantitative Finance, Oxford, UK, and at the *ALEA seminar*, École Polytechnique, Paris, France, at the *Workshop in Probability and its Applications*, University of Oxford, Oxford, UK.

- J. Inglis participated in the workshop *Inhomogeneous Random Systems*, Institut Henri Poincaré, Paris, France.

- A. Lejay gave a mini-course on rough paths (8 hours) at Université du Maine (Le Mans) in October.

- A. Lejay gave a conference at the *PDE and rough paths* conference in Toulouse in February.

- O. Lupascu gave talks at the *Colloque Franco-Roumain de Mathematiques Appliquees* in Lyon in August and at the *Journées de Probabilités* in Marseille in May. She also presented a poster at the *Journées Modélisation Aléatoire Statistique* in Toulouse in August 2014.

- O. Lupascu gave a seminar talk at the *Seminar of the Partial Derivative Equations* in Chambery in April.

- D. Talay was an invited section speaker at the International Congress of Mathematicians (ICM 2014), Seoul, Korea, in August.

- D. Talay gave a plenary conference at the Colloque Franco-roumain de Mathématiques Appliquées, Lyon, in August.

- D. Talay was an invited speaker at the NASPDE2014 workshop at EPFL, Lausanne, Switzerland, in September; at the 7th symposium on backward stochastic differential equations, Weihai, China, in June; at the Opening workshop 'Advances in stochastic analysis' of the Laboratory of Stochastic Analysis and its Applications at the Higher School of Economics, Moscow, Russia, in September.

- D. Talay gave a seminar at the Mathematics department of the university of Oxford in November.

- E. Tanré gave a talk at the HBP-Brainscales Meeting *Missing interactions in spike-based computation* in October.

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

#### 8.1.1.1. Member of the organizing committee

- Co-organizer of the Journée Fédération Charles Hermite - entreprises, on 2014/01/23, 150 participants and 44 compagnies coming mainly from Lorraine and few of them from Luxembourg (P. Vallois).
- Organizer of the meeting "Around Hidden Markov Chains", at Inria Grand-Est, on 2014/07/08 (P. Vallois).
- Co-organizer of the workshop "PL$^2$US", Nancy, January 2014 (C. Lacaux).
- Organizer of the weekly seminar of the Probability and Statistics group of the Institut Élie Cartan de Lorraine since October 2014 (R. Azaïs).

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

BIGS is a team whose composition included University staff only until October 2014. All members teach numerous courses, ranging from L1 to M2 levels.

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

### 8.2.2. Supervision

- PhD : Geoffrey Nichil, Provisionnement en assurance non vie pour des contrats à maturité longue et à prime unique - Application à la réforme Solvabilité 2, Université de Lorraine, 2014/12/19. Advisor : P. Vallois, S. Hermmann, M. de Calbiac.

### 8.2.3. Juries

- PhD comittee : Clémence Chamard-Jovenin, Modélisation du rôle d'ER$\alpha$36 dans le contrôle de l'initiation et/ou la progression des tumeurs mammaires en réponse aux alkylphénvols, CRAN, Vandœuvre-lès-Nancy, 2014/11/18, examiner: A. Muller-Gueudin.
- PhD Raouf Fakhfakh on 2014/10/02 (Université de Sfax), contribution to the study of Cauchy-Stieltjes kernel families, referee: P. Vallois.
- PhD Raghid Zeineddine, 2014/12/01, Université de Lorraine, Sur des nouvelles formules d'Itô en loi, examiner: P. Vallois.
- PhD : Samuel Ronsin, Régularité et Représentations Localisées de Textures à Phases Aléatoires, MAP 5, Université Paris Descartes, 2014/12/15, examiner: C. Lacaux.

## 8.3. Popularization

- Fête de la Science, Nancy, École des Mines, 2014/10/17 (A. Muller-Gueudin, S. Tindel, P. Vallois).

- Forum Emploi Maths 4, December 2014 (C. Lacaux).

- Advisor of a group of students, "La main à la Pâte" project, Institut médico-éducatif (IME), Commercy, September-December 2014 (S. Ferrigno).

- Advisor of a group of pupils from Lycée Varoquaux, Tomblaine (Maths en Jeans) (P. Vallois).

- Publication of the short science popularization article "Les huîtres ont des oreilles" in the book "Brèves de maths – Mathématiques de la planète Terre". Editions Nouveau Monde, 2014 (pages 214–215). Authors: Romain Azaïs, Raphaël Coudret and Gilles Durrieu.

- C. Lacaux is member of the *comité national universitaire (section 26)* (2011–2015).

<span style="color:red">**MASAIE Project-Team**</span>

# 7. Dissemination

## 7.1. Teaching - Supervision - Juries

### 7.1.1. Supervision

- PhD in progress: Mouhamadou Diaby, "Etude mathématique de l'évolution temporelle et spatiale de certaines épidémies. Applications à la Bilharziose (schistosomiase).", 2010, A. Iggidr.
- PhD in progress: Mamadou Lamine Diouf, "Modélisation, observation et contrôle de la propagation de certaines épidémies en Afrique Subsaharienne.", 2010, A. Iggidr.

# NEUROSYS Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

*8.1.1.1. Organizing committee membership:*

- openVibe Workshop as a satellite event of the international conference on Brain-Computer Interfaces on September 15th, 2014 in Graz (with BrainProduct, TMSi, g.tec) (L. Bougrain & G. Serrière)
- BCI competition, IEEE Neural Engineering Conference , Montpellier, 2015 (L. Bougrain).

### 8.1.2. Scientific events selection

*8.1.2.1. Conference program committee membership:*

IEEE International Conference on Systems, Man, and Cybernetics (SMC2014 [0]) special sessions on Brain-Machine Interfaces, October 5-8, San Diego (L. Bougrain)

*8.1.2.2. Reviewer:*

Programme H2020 (L. Buhry)

### 8.1.3. Journal

*8.1.3.1. Editorial board membership:*

Journal of Proteomics & Computational Biology (A. Hutt)

*8.1.3.2. Reviewing activities:*

Nonlinearity, Neurocomputing, Neural Computation, Journal of Computational Neuroscience, SIAM Journal of Applied Dynamical Systems, Journal of Mathematical Neuroscience, Frontiers in Neurology, Biological Cybernetics, Physical Review E, Physical Review Letters, Journal of Neuroscience, PLoS One, IEEE Transctions on Biomedical Engineering (A. Hutt); Neural Computation, Journal of Computational Neuroscience, Journal of Neural Engineering, Neurocomputing,CCSP (Circuits, Systems & Signal Processing) (L. Buhry)

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Engineer school : L. Bougrain, *Artificial Intelligence*, 109h, (3rd year) Telecom Nancy, France

Engineer school : L. Bougrain, *Brain-Computer interfaces*, 4.5h, (3rd year) Supelec, France

Licence: L. Buhry, *Applications en Sciences Cognitives*, 3h en équivalent TD, niveau L1 MIASHS, University of Lorraine

Licence: L. Buhry, *Programmation Python*, 37h en équivalent TD, niveau L1 MIASHS, University of Lorraine

Licence : L. Buhry, *IA et Résolution de problèmes*, 25h en équivalent TD, niveau L3 MIASHS, University of Lorraine

Licence : L. Bougrain, *mobile development*, 35h, Licence of computer science (3st year), University of Lorraine, France

Licence : L. Bougrain, *artificial intelligence*, 35h, Licence of computer science (3st year), University of Lorraine, France

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[0] http://smc2014.org

Licence : L. Bougrain, *optimization*, 37.5h, Licence of computer science (3st year), University of Lorraine, France

Master : L. Buhry, *Algoritmique pour l'intelligence artificielle (IA)*, 31h en équivalent TD, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine

Master : L. Buhry, *IA fondamentale et fouille de données*, 18h en équivalent TD, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine

Master: L. Buhry, *Formalismes de Représentation et Raisonnement*, 25h en équivalent TD, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine

Master: L. Buhry, *Memory and Machine Learning* (in English), 38h en équivalent TD, niveau Master 1 SCA (Sciences Cognitives et Applications), University of Lorraine

Master : L. Buhry, *Neurosciences Computationnelles*, 25h en équivalent TD, niveau Master 2 SCMN, University of Lorraine

Master : L. Bougrain, *Machine learning*, 18h, Master of computer science (2st year), University of Lorraine, France

Master : L. Bougrain, *Human factors*, 30h, Master of computer science (1st year), University of Lorraine, France

Master : A. Hutt, *Pépites Algorithmiques*, 9h, niveau M1, École des Mines Nancy

### 8.2.2. Supervision

PhD in progress : Meysam Hashemi, *A cortico-thalamic model to describe the power spectrum of EEG under anaesthesia*, May 2012, A. Hutt

PhD in progress : Mariia Fedotenkova, *Detection of EEG-signal features for pain under general anaesthesia*, November 2013, A. 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, L. Bougrain and A. Hutt

PhD in progress : Francesco Giovannini, *Mathematical modelling of the memory system under general anesthesia*, October 2014, L. Buhry and A. Hutt

Spring-Summer 2014 internship: Francesco Giovannini (Laure Buhry)

Summer 2014 internship: Sébastien Rimbert, *Immobility and anesthesia* (L. Bougrain)

Summer 2014 internship: Thomas Tassone *Client-server solution using ØMQ to allow a communication between OpenViBE and the API of the JACO robotic arm* (L. Bougrain)

### 8.2.3. Juries

- PhD defense of Cornelia Petrovic, University of Muenster, January 31 2014, reviewer and committee member (Axel Hutt)
- Recruitment of permanent Inria junior researchers (CR2) at Inria Sophia-Antipolis (Axel Hutt).

### 8.2.4. Commitees

- Member of the CDT (Commission de Développement Technologique) at Inria Nancy–Grand-Est (Laure Buhry)
- Member of the IES committee (Commission Information et Edition Scientifique) at Inria Nancy–Grand-Est (Laurent Bougrain)
- Member of Inria committee COST-GTRI to evaluate Inria Associate Teams (Axel Hutt).

## 8.3. Popularization

- TV interview for France 3 Lorraine, April 7 2014 (L. Buhry)

- Interview for the "Interstices" podcast, May 22 2014 (L. Buhry)
- Brain week: Comment lire dans les pensées d'autrui ? 12 March 2014, central hospital, Nancy (L. Bougrain)
- Exhibit on *controlling a robotic arm using EEG* at Researchers' Film Festival, June 10-15, 2014, Parc de la Pépinière, Nancy (L. Bougrain)
- Computational neuroscience, Inria Scientific Days, June 2014 (Laure Buhry)
- OpenViBE, Inria Scientific Day, June 2014, Lille (L. Bougrain)
- Is it really statistically significant? « Dynamics of neural circuits » NETT workshop, March 2014, Florence (L. Bougrain)
- Multiclass approaches to identify motor imageries, LAGIS sem., Jun. 2014, Lille (L. Bougrain)
- *Additive noise in neural populations on multiple scales*, Bernstein Center for Computational Neuroscience, Berlin, July 2014 (A. Hutt)
- *Modelling neural population activity under anaesthesia*, Humboldt University Berlin, July 2014 (A. Hutt)
- *Pattern storage and transient dynamics in heterogeneous neural fields in the context of cognition*, 3rd International Conference on Neural Field Theory (ICNFT), Reading, June 2014 (A. Hutt)
- *Additive noise tunes the stability in nonlinear delqyed systems*, Conference on Random Dynamics and Stochastic Numerics, Mannheim, June 2014 (A. Hutt)
- *Additive noise tunes the stability in nonlinear systems*, Inhomogeneous random systems, Paris, January 2014 (A. Hutt)
- *Additive noise in neural populations on multiple scales*, Fluctuations in Population Biology, Epidemiology and Evolution, Leiden, August 2014 (A. Hutt)

## SHACRA Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. ISBMS 2014

The 6<sup>th</sup> International Symposium on Biomedical Simulation 2014 (for detailed information, http://www. isbms.org) took place in Strasbourg on the $16 - 17^{th}$ October. Stéphane Cotin and all the team in Strasbourg organized the conference with help from the IHU Strasbourg. The conference was followed by a "SOFA Day". This event was a real success: 65 persons attended the conference and participants gave very positive feedback for both ISBMS conference and "SOFA Day".

### 8.1.2. Scientific events organisation

*8.1.2.1. General chair, scientific chair*

- Stéphane Cotin was member of the HCERES (Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur).

### 8.1.3. Scientific events selection

*8.1.3.1. Chair of conference program committee*

Stéphane Cotin was chair of ISBMS 2014 (6<sup>th</sup> International Symposium on Biomedical Simulation).

*8.1.3.2. Member of the conference program committee*

- Stéphane Cotin was:
    - members of the organizing committee of the 6<sup>th</sup> ISBMS conference,
    - member of the organizing committee of the 2<sup>nd</sup> workshop MICCAI DBSMC (Deep Brain Stimulation Methodological Challenges),
    - scientific member of the 3<sup>rd</sup> Workshop Francophone M-DBS (Modèles en Stimulation Cérébrale Profonde) - Planning, Implantation et Evaluation Post-opératoire.
- Christian Duriez was co-chair of:
    - EuroHaptics 2014 in Paris,
    - VRIPHYS 2014.
- Jeremie Dequidt was PC member of:
    - AFIG'2014,
    - ISBMS 2014.
- Alexandre Bilger was member of the organizing committee of the 2<sup>nd</sup> workshop MICCAI DBSMC (Deep Brain Stimulation Methodological Challenges),
- All members of the team SHACRA were involved in the organization of the ISBMS conference.

*8.1.3.3. Reviewer*

- Stéphane Cotin has been reviewer for:
    - MICCAI,
    - IPCAI.
- Christian Duriez has been reviewer for:
    - EuroHaptics 2014,
    - VRIPHYS 2014,

- – IROS 2014,
    - – ICRA 2014,
    - – ISBMS 2014,
    - – SIGGRAPH ASIA 2014.
- Jeremie Dequidt has been reviewer for:
    - – EuroHaptics 2014,
    - – VRIPHYS 2014,
    - – MICCAI 2014.

### 8.1.4. Journal

*8.1.4.1. Member of the editorial board*

- Stéphane Cotin was:
    - – editor of the proceeding of the 6th International Symposium, ISBMS 2014, Strasbourg, France, October 16-17, 2014, Lecture Notes in Computer Science, Vol. 8789 (Theoretical Computer Science and General Issues) - Bello, Fernando, Cotin, Stéphane (Eds.),
    - – editor for Information processing in computer-assisted interventions, IJCARS. 2014; 9(5): 755–757 (Dean Barratt,corresponding author Pierre Jannin, Gabor Fichtinger, and Stephane Cotin).
- Christian Duriez was editor of the proceedings EuroHaptics 2014.

*8.1.4.2. Reviewer*

- Stéphane Cotin has been reviewer for:
    - – Media,
    - – and IJCARS.
- Christian Duriez has been reviewer for:
    - – the international journal CVIU (Computer Vision and Image Understanding),
    - – IEEE Transaction on Haptics (3 papers),
    - – ACM Transaction on Medical Imaging,
    - – The Visual Computer Journal.
- Jeremie Dequidt has been reviewer for:
    - – the French journal REFIG,
    - – he international journal CMPB (Computer Methods and Programs in Biomedicine),
    - – ACM Transaction on Medical Imaging,
    - – the international journal MedIA (Medical Image Analysis)
- Hugo Talbot has been reviewer for the IBBWIO journal.

## 8.2. Teaching - Supervision - Juries - Invited Talks - Events

### 8.2.1. Teaching

- Christian Duriez teached:
    - – FEM (32h) at the ICAM school in Lille,
    - – real-time simulation (20h - Image Visualization and Interaction MASTER 2 Lille1).
- Jeremie Dequidt teached:
    - – Programming in C (44h - Polytech Lille),
    - – Advanced Programming (14h - Polytech Lille),

- – Introduction to Android (6h - Polytech Lille),
- – Computation Theory (24h - Polytech Lille),
- – Collision Detection (4h - Master2 Univ Lille 1).
- Alexandre Bilger was the supervisor of an intern at Tohoku University,
- Zhifan Jiang teached:
  - – Programming in C (32h - Polytech Lille),
  - – Introduction to Database (17.76h Polytech Lille).

### 8.2.2. Supervision

- Séphane Cotin supervised:
  - – PhD : Alexandre Bilger, *Patient-Specific Biomechanical Simulation for Deep Brain Stimulation*, Université des Sciences et Technologie de Lille - Lille I, December 2014,
  - – PhD : Hugo Talbot, *Interactive Patient-Specific Simulation of Cardiac Electrophysiology*, Université des Sciences et Technologie de Lille - Lille I, July 2014,
  - – PhD : Ahmed Yureidini, *Robust Blood Vessel Surface Reconstruction for Interactive Simulations from Patient Data*, Université des Sciences et Technologie de Lille - Lille I, May 2014,
  - – PhD in progress : Christoph Paulus (co-supervision),
  - – PhD in progress : Rosalie Plantefève (co-supervision).
- Christian Duriez supervised:
  - – PhD : Guillaume Kazmitcheff, *Minimal Invasive Robotics dedicated to Otological Surgery*, Université des Sciences et Technologie de Lille - Lille I, June 2014,
  - – PhD (co-supervision) : Alexandre Bilger, *Patient-Specific Biomechanical Simulation for Deep Brain Stimulation*, Université des Sciences et Technologie de Lille - Lille I, May 2014,
  - – PhD in progress : Julien Bosman,
  - – PhD in progress : Frédérick Largililière,
  - – PhD in progress : Zhifan Jiang.
- Jeremie Dequidt co-supervised the PhD in progress of Nazim Haouchine.

### 8.2.3. Juries

- Stéphane Cotin was in the examination committee of:
  - – the PhD of Elsa Flechon (as president of the jury),
  - – the PhD of Christian Herlin (as reviewer).
- Stéphane Cotin participated in the evaluation of LIRIS lab (December 2014).
- Christian Duriez was member of the jury of:
  - – the PhD of Hugo Talbot (as invited member),
  - – the PhD of Coralie Escande (as reviewer),
  - – the PhD of Xavier Faure (as reviewer),
  - – the PhD of Achille Melingui (as president of the jury).
- Jeremie Dequidt was
  - – invited member in the PhD jury of Ahmed Yureidini,
  - – jury member of the Android Competition for EESTEC

### 8.2.4. Invited talks

Séphane Cotin has been invited speaker:

- at the Advanced Laparoscopy and Computer Vision group (ISIT, UMR 6284 CNRS, Clermont Ferrand, France),
- at winter school (Medical Robotics, March 2014, Strasbourg, France),
- at summer school (July 2014, Design and Development of Medical Training Systems, Lyon, France).

Christian Duriez has been invited speaker:

- at JRL (AIST Lab) Tsukuba in October 2013,
- at BIRDS Workshop in February 2014,
- at Festo Company in march 2014,
- at ICRA workshop on Soft Robots in June 2014.

### 8.2.5. Special events

This year, Stéphane Cotin, team leader of the team, became research director DR1 and Christian Duriez got a position of research director during the competitive evaluation of spring 2014. Congratulations to them !

Christian Duriez also created a new research team: DEFROST working around the soft robotics: model, simulation, control and software.

Jeremie Dequidt was the team Leader of RBQT (from Polytech Lille), which has been involved in two major competitions (German Open Cup and World Cup in Brazil). Jeremie was also nvolved in the organization of the robotic competition for primary schools (CREP: *Coupe de Robotique des Ecoles Primaires) which has gathered more than 300 kids in Polytech Lille.

## 8.3. Popularization

### 8.3.1. Talk at College de France

Our project leader Stéphane Cotin made a talk at the College de France entitled "*Simulation en médecine : présent et futur*". This was done the 17$^{th}$ June 2014 in the scope of the Informatic chair, led by Nicholas Ayache.

### 8.3.2. Journée Francaise de Radiologie, JFR

The SHACRA team was par of the JFR 2014 event in Paris from the 18$^{th}$ to the 20$^{th}$ October. Hugo Talbot and Rosalie Plantefève presented their work and the project developed by the team.

### 8.3.3. Interaction Healthcare

The company Interaction Healthcare organized an event on the 3rd of April 2014 taking place in Paris. With this conference, the company aimed at promoting the field of serious games and virtual simulation training. At this occasion, Hugo Talbot presented the latest version of the training simulator for electrocardiology: "Electrophysiology simulation for RF-ablation of ventricular arrhythmia".

### 8.3.4. IHU Scientific Days

At the occasion of the IHU Scientific days, we visited the IHU Strasbourg and a talk was done by Stéphane Cotin.

### 8.3.5. Visit to the Mentice company

In december 2014, the training simulator for electrocardiology inteventions was presented to the Mentice company in Göteborg (Sweden). This was the opportunity to discuss our mutual technologies and compare our simulators.

### 8.3.6. Euratechnologie

The team presented simulations in the Inria showroom at Euratechnologie in Lille all year long. This was the opportunity to get very positive and interesting feedback from visitors.

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

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events selection

#### 9.1.1.1. Chair of conference program committee

Emmanuel Frénod : AIMS Conference - Special Session "Homogenization Based Numerical Methods - Madrid - 7 - 11 juillet, 2014

### 9.1.2. Journal

#### 9.1.2.1. Member of the editorial board

Emmanuel Frénod : Chinese Journal of Mathematics and Discrete and Continuous Dynamical Systems - Series S from July 2014.

Emmanuel Frénod : invited editor to a special issue in DCDS-S, « Numerical Methods Based on Two-Scale Convergence and Homogenization », to appear in 2015.

#### 9.1.2.2. Reviewer

Michel Mehrenberger for the journals: Journal of Computational Physics, Journal of Graphics Tools, Communications in Computational Physics, Electronic Journal of Qualitative Theory of Differential Equations, Applied Mathematics and Computation, Computer Physics Communications, Journal of Computational and Applied Mathematics.

Philippe Helluy for the journals: maths reviews, SINUM, IJFV, Computers and Fluids, International Journal for Numerical Methods in Fluids, ESAIM Procs, PIER Journal, Journal of Mechanical Science and Technology,

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

Licence :
Philippe Helluy: Calcul scientifique, 69 h eq. TD, L2, Université de Strasbourg, France.
Laurent Navoret, Calcul scientifique, 65 h eq. TD, L3, Université de Strasbourg, France.
Michel Mehrenberger, Analyse Mathématique d'une variable réelle, 87.5 h eq. TD, L1, Strasbourg, France.
Michel Mehrenberger, Outils mathématiques, 26.25h eq. TD, L3, Strasbourg France.
Michaël Gutnic, Mathématiques pour les sciences du vivant, 60 h eq. TD, L1 Sciences du Vivant, Université de Strasbourg, France.
Michaël Gutnic, Statistiques pour les biologistes, 117 h eq. TD, L2 Sciences du Vivant, Université de Strasbourg, France.
Master:
Philippe Helluy, Préparation à l'agrégation, 24 h eq. TD, M2 Agrégation, Université de Strasbourg, France.
Laurent Navoret, Calcul scientifique, 31 h eq. TD, M2 Agrégation, Université de Strasbourg, France.
Michel Mehrenberger, TP Calcul Scientifique Agrégation S3, 28h eq. TD, M2 Agrégation, Strasbourg France.
Ingénieur :
Michaël Gutnic, Probabilités et Statistiques, 30 h eq. TD, Formation d'ingénieur en informatique en apprentissage, Institut des Techniques d'Ingénieur de l'Industrie, Centre de Formation d'Apprentis de l'Industrie, Conservatoire national des arts et métiers, France.

### *9.2.2. Supervision*

PhD in progress : Thi Trang Nhung Pham, Méthodes numériques pour Vlasov, October 2012, Université de Strasbourg, Advisors: Philippe Helluy, Laurent Navoret.

PhD in progress : Thomas Strub, Résolution des équations de Maxwell tridimensionnelles instationnaires sur architecture massivement multicœur, October 2011, Université de Strasbourg, Advisor: Philippe Helluy.

### *9.2.3. Juries*

Nicolas Besse was referee in the PhD defense committee of Christophe Steiner.

Philippe Helluy and Michel Mehrenberger were in the PhD defense committee of Pierre Glanc and of Christophe Steiner.

Emmanuel Frénod was member of the HdR defense committee of Evans Gouno, January 31, 2014.

Philippe Helluy was referee or in the defense committee of: T. Volkert, J. Karel, M. Etancelin, Y. Dugout, M. Mounier.

## 9.3. Popularization

Philippe Helluy has given a conference at the "Maison des sciences" in Strasbourg. This event is proposed for the formation of middle and high school teachers. The title of the conference was "Modèles mathématiques pour la météo".

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

*8.1.1.1. Organizing committee membership*

Lucas Nussbaum was a member of the organizing committee for Reppar (1st International Workshop on Reproducibility in Parallel Computing, held together with Euro-Par 2014).

Martin Quinson was a member of the organizing committee for the Fourth SimGrid Users' Days (Le Bono, Brittany, France), and of the PUF/JLPC Summer school on Performance Metrics, Modeling and Simulation of Large HPC Systems (Sophia Antipolis, France).

### 8.1.2. Scientific events selection

*8.1.2.1. Conference program committee membership*

Lucas Nussbaum was a member of the PC for Reppar (1st International Workshop on Reproducibility in Parallel Computing, held together with Euro-Par 2014), CloudCom'2014 (HPC on Cloud track), WETICE'2014 (Convergence of Distributed Grid, Cloud and their Management track), Grid'5000 Spring School 2014, and ComPAS'2014.

Martin Quinson was a member of the PC for IPDPS'14 (ACM/IEEE International Parallel and Distributed Processing Symposium), SimulTech'14 (In cooperation with ACM SIGSIM) and PADS'14 (ACM SIGSIM Workshop on Principles of Advanced Discrete Simulation).

### 8.1.3. Journal

*8.1.3.1. Editorial board membership*

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

In 2014, the episcience platform for open access journals has been created in a joint effort by Inria and CNRS. DMTCS will be one of the first journals passing to this platform and we have been a driving force in the definition and debugging of the new platform, see [16].

Since 2013, M. Quinson is a member of the editorial board of the Interstices journal (edited by Inria in collaboration), aiming at increasing the scientific outreach of informatic.

*8.1.3.2. Reviewing Activities*

Jens Gustedt has served as a reviewer for *Social Network Analysis and Mining* and *IEEE Transactions on Parallel and Distributed Systems*.

Lucas Nussbaum was a reviewer for *Security and Communication Networks*, and *IEEE Transactions on Emerging Topics in Computing*.

Sylvain Contassot-Vivier is a regular reviewer for the *Engineering Applications of Artificial Intelligence* journal.

### 8.1.4. Standardization

Since Nov. 2014, Jens Gustedt is a member of the ISO working group SC22-WG14 for the standardization of the C programming language.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

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

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

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

École CNRS "Informatique pour le calcul scientifique": Lucas Nusbaum, Gestion de versions avec Git, 3h.

TELECOM Nancy, Université de Lorraine: Lucas Nussbaum, Introduction au Logiciel Libre et au projet Debian, 2h.

TELECOM Physique Strasbourg: Jens Gustedt, parallélisme, 10h ETD.

ENSIIE Strasbourg: Jens Gustedt, programmation avancée, 20h ETD.

Département Informatique, Université de Strasbourg: Jens Gustedt, systèmes concurrents, 20h ETD.

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

TELECOM Nancy, Université de Lorraine: Martin Quinson, "Langage C et programmation shell,", 48 ETD, 1ere année (L3), Université de Lorraine, France.

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

Faculté des Sciences et Technologies, Université de Lorraine: Sylvain Contassot-Vivier, "Architectures logicielles avancées", 19 ETD, M2, Université de Lorraine, France.

Faculté des Sciences et Technologies, Université de Lorraine: Sylvain Contassot-Vivier, "Informatique graphique", 63.5 ETD, L1, Université de Lorraine, France.

Faculté des Sciences et Technologies, Université de Lorraine: Sylvain Contassot-Vivier, "Sécurité", 10 ETD, L3, Université de Lorraine, France.

TELECOM Nancy, Université de Lorraine: Sylvain Contassot-Vivier, "Algorithmique Parallèle", 35 ETD, 2ème année (M1), Université de Lorraine, France.

Faculté des Sciences et Technologies, Université de Lorraine: Sylvain Contassot-Vivier, "Algorithmique et Programmation", 16 ETD, L1, Université de Lorraine, France.

Faculté des Sciences et Technologies, Université de Lorraine: Sylvain Contassot-Vivier, "Algorithmique et Programmation", 12 ETD, L2, Université de Lorraine, France.

Faculté des Sciences et Technologies, Université de Lorraine: Sylvain Contassot-Vivier, "Algorithmique et Programmation", 32.5 ETD, L3, Université de Lorraine, 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 in progress: Mariem Saied, *Ordered Read-Write Locks for Multicores and Accelerators*, since Nov 2013, Jens Gustedt & Gilles Muller.

Internship: Raphaël Rieu-Helft, *Étude de la multiplication binaire et approches dynamiques pour la factorisation de nombres*, June and July 2014, Sylvain Contassot-Vivier & Nazim Fatès (MAIA team).

### 8.2.3. Juries

Lucas Nussbaum was a member of the recruitment committee for an associate professor (MCF) in computer science at ENS Lyon.

Sylvain Contassot-Vivier was member and president of the PhD committee of Carlos Carvajal. He is also the Loria referent of several PhD students (referents have to follow and check the regular progress of the PhD).

## 8.3. Popularization

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

In collaboration with G. Oster, Coast team of Inria Nancy Grand-Est, M. Quinson develops a pedagogic platform. 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. Since 2014, an Inria ADT project aims at changing this practical tool into an experimental platform to study the didactic of programming.

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 2015.

Either as a speaker or as a co-organizer, M. Quinson participated in several events that aim the popularization of computer science. These targeted a large variety of public, kids and pupils (Telecom Nancy in November), university students (Inria in March), mathematics teachers (APMEP Lorraine in March), CS teachers (SIF-ISN day in June), or the general public (Fête de la science in November).

S. Contassot-Vivier has participated to Loria animation days towards high-school visitors. In this context he has used the material and games co-designed by M. Quinson and others in the context of unplugged computer science teaching.

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

*8.1.1.1. Organizing committee membership*

- Claudia-Lavinia Ignat was member of the organizing committee of the workshop IWCES (International Workshop on Collaborative Editing Systems) in 2014 in conjunction of CSCW 2014 conference.

### 8.1.2. Scientific events selection

*8.1.2.1. Chair of conference program committee*

Co-organisation of the first ISCRAM MED conference on Information Systems for Crisis Response and Management in Mediterranean countries in Toulouse http://irit.fr/ISCRAMMED2014/

- Olivier Perrin was demonstration program co-chair of ICSOC 2014

*8.1.2.2. Conference program committee membership*

- Claude Godart was member of the conference program committee of BPM (Business Process Management), BPMDS (Business Process Modeling, Development and Support), CBI (IEEE Conference on Business Informatics), IEEE CLOUD Computing, EDOC (The enterprise computing conference), ESOCC (European Services Oriented and Cloud Computing), ICSOC (International Conference on Services Oriented Computing), ICWS (IEEE International Conference on Web Services), Inforsid, RCIS (Research challenges in Information Systems), and SCC (IEEE International Conference on Services Computing) conferences.

- Claudia-Lavinia Ignat was or is a PC member of CSCW (International Conference on Computer Supported Cooperative Work and Social Computing) 2015 and 2016, SIGMOD Demo 2014 and CDVE (International Conference on Cooperative Design, Visualization and Engineering) 2014

- Olivier Perrin was PC Member of ICSOC 2014, I3E 2014 (13th IFIP Conference on e-Business, e-Services and e-Society), VECOS (8th International Workshop on Verification and Evaluation of Computer and Communication Systems) 2014, SITIS 2014, KASA (International Workshop on Knowledge Aware Service Oriented Applications) 2014, WSS (Web Service Symposium) 2014

- François Charoy was PC Member of ICEBE (International Conference on Business Engineering) 2014, CTS 2014 (International Symposium on Collaborative Technologies and Systems), DG.O (International Conference on Digital Government Research) 2014, IEEE International Conference on Business Information Systems and of several workshops.

- Gérald Oster was a PC member of CoopIS 2014 (International Conference on Cooperative Information Systems).

### 8.1.3. Journal

*8.1.3.1. Editorial boards membership*

- Claude Godart is member of the editorial board of "IEEE transaction on Service Computing", "International Journal of Services Computing", "International Journal of Cloud Computing" and "International Journal of E-adoption".

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

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

### 8.1.3.2. Reviewer

- Claude Godart was member of the review board of the "International Journal of Next Generation Computing".
- Claudia-Lavinia Ignat reviewed in 2014 papers for Concurrency and Computation: Practice and Experience journal.
- François Charoy reviewed papers for ACM Transaction on the Web and IEEE Transactions on Network and Service Management.
- Olivier Perrin reviewed papers for Transactions on Services Computing.
- Gérald Oster reviewed paper in Oxford Computer Journal.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Permanent members of the Coast 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 Coast team accounts for more than 2500 hours of teaching. Members of the Coast team are also deeply involved in the pedagogical and administrative life of their departments.

- Gérôme 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.
- 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.
- François Charoy is responsible of the Software Engineering specialisation at the TELECOM Nancy Engineering School of University of Lorraine.
- Gérald 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.

### 8.2.2. Supervision

PhD in progress : Quang Vinh Dang, Trust-based large scale collaboration, started in 10/2014, Claudia-Lavinia Ignat and François Charoy

PhD in progress: Luc André, Réplication et Maintien de la Cohérence en Temps Réel dans les Réseaux Pair-à-pair, started in 9/2011, François Charoy and Gérald Oster

PhD in progress: Mehdi Ahmed Nacer, Title: Evaluation of CRDT for optimistic replication, started in 9/2011, François Charoy and Pascal Urso

PhD in progress: Elio Goettelman, Exécution en confiance de processsus dans le cloud, started in 9/2011, Claude Godart

PhD in progress: Ahmed Bouchami , Sécurité des données 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: Jordi Martori i Adrian, Data constraints for large-scale collaboration, started in 10/2013, François Charoy and Pascal Urso

### 8.2.3. *Juries*

- Claudia-Lavinia Ignat was a member of the jury for the recruitment in 2014 of permanent Inria junior researchers at Inria Nancy-Grand Est.

Coast members were members of the following PhD and HDR defense committees:

- Walid Gaaloul, HDR, Université Pierre et Marie Curie, September 2014 (Claude Godart)
- Kahina Bessai, PhD, Université de Paris 1 Panthéon-Sorbonne, December 2014 (Claude Godart)
- Samuel Kaluvuri, PHD, EURECOM, November 2014 (François Charoy)
- Mohamadou Lamine DIOUF, Université de Rennes, October 2014 (François Charoy)
- Juan Li, PhD, INSA de Lyon (Olivier Perrin)
- Samu Yangui, PhD TELECOM Sud Paris (Olivier Perrin)
- Michael Mrissa, HDR Université de Lyon 1 (Olivier Perrin)

## 8.3. Institutional commitment

- Claudia-Lavinia Ignat is in charge of European affairs for Inria Nancy Grand-Est. She is the Delegate of International Relations for Inria Nancy-Grand Est. She is member of the Inria Nancy-Grand Est COMIPERS researchers committee. She is member of the Inria Nancy - Grand Est committee for health, safety and working conditions.

## 8.4. Collective Responsibilities outside Inria

Claude Godart is member of the "Conseil d'administration" and "Commisssion de choix" of the engineering school ESSTIN.

Claude Godart was member of the LIRIS laboratory evaluation committee for the HCERES.

François Charoy is head of the "Commission de choix" of TELECOM Nancy.

Gérald Oster is member of the Administration Council of TELECOM Nancy.

Gérald Oster is member of the "Commission de choix" of TELECOM Nancy.

Olivier Perrin is co-responsible of the "Commission de mention Informatique" of Doctoral School IAEM.

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

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

*9.1.1.1. General chair, scientific chair, session chair*

- Abdelkader Lahmadi: CSSMA Symposium – ICC 2014 (session chair), IEEE/IFIP International Workshop on Management of the Future Internet – MANFI (session chair)
- Bernardetta Addis: 2014 10th International Conference on Modeling, Optimization and SIMulation – Mosim (session chair)
- Jérôme François: IFIP/IEEE International Symposium on Integrated Network Management – IM (session chair)

*9.1.1.2. Organizing committee membership*

- Rémi Badonnel: IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS'14), IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15)

### 9.1.2. Scientific events selection

*9.1.2.1. Conference program committee chairing*

- Rémi Badonnel: IEEE Global Information Infrastructure and Networking Symposium - Special Track on Cloud Infrastructures and Networking (IEEE GIIS'14), IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15)
- Thomas Silverston: Crowdsensing 2014

*9.1.2.2. Conference program committee membership*

- Abdelkader Lahmadi: IEEE/IFIP International Workshop on Management of the Future Internet (MANFI'14), Crowdsensing 2014
- Françoise Simonot-Lion: 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014).
- Isabelle Chrisment: International Conference on Applied Cryptography and Network Security (ACNS'14), IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'14), IFIP International Conference on Communications and Multimedia Security (IFIP CMS'14), International Conference on Advanced Networking, Distributed Systems and Applications (INDS'14), IFIP/IEEE International Symposium on Network Operations and Management (IEEE NOMS'14); National conference on Sécurité des Architectures Réseaux et des Systèmes d?Information (SARSSI 2014- Member of the Steering Committee).
- Jérôme François: 8th IFIP International Conference on Autonomous Infrastructure, Management and Security – AIMS, IEEE/IFIP Network Operations and Management Symposium – NOMS, Cyber Security Analytics and Automation colocated with ACM CCS, European Wireless, Principles, Systems and Applications of IP Telecommunications – IPTComm, Global Information Infrastructure and Networking Symposium – GIIS

- Rémi Badonnel: IFIP/IEEE International Symposium on Network Operations and Management (IEEE NOMS'14), IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS'14), IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15), IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'14), IEEE International Conference on Consumer Communications and Networking (IEEE CCNC'15), Conference on Services and Networks Management (GRES'14), International Workshop on Software Defined Networking and Network Function Virtualisation (IEEE ManSDN/NFV'14), IFIP/IEEE International Workshop on Future Internet Management (IFIP/IEEE MANFI'14), Rencontres Francophones sur l'Algorithmique des Té´lécoms (ALGOTEL'14)

- Ye-Qiong Song: 19th IEEE international conference on Emerging Technologies & Factory Automation (ETFA'2014) - Industrial communication systems track ; 12th International Conference On Smart homes and health Telematics (ICOST 2014); 13th International Workshop on Real-Time Networks (RTN 2014); 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014); 7th IFIP Wireless and Mobile Networking Conference (WMNC 2014); 12th International Conference on Embedded Computing (EmbeddedCom 2014); 2nd International Workshop on compressive Sensing in Cyber-Physical Systems, Co-located with the 11th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS 2014).

*9.1.2.3. Reviewing activities*

- Abdelkader Lahmadi: IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15), Special Track on the Management of the Internet of Things (IEEE NOMS'14).

- Bernardetta Addis: 2014 10th International Conference on Modeling, Optimization and SIMulation (Mosim), 2015 IEEE 12th Consumer Communications and Networking Conference (CCNC)

- Françoise Simonot-Lion: 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014).

- Isabelle Chrisment: International Conference on Applied Cryptography and Network Security (ACNS'14), IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'14), IFIP International Conference on Communications and Multimedia Security (IFIP CMS'14), International Conference on Advanced Networking, Distributed Systems and Applications (INDS'14), IFIP/IEEE International Symposium on Network Operations and Management (IEEE NOMS'14).

- Emmanuel Nataf: SENSORSNET 2015

- Rémi Badonnel: IFIP/IEEE International Symposium on Network Operations and Management (IEEE NOMS'14), IEEE Global Information Infrastructure and Networking Symposium (IEEE GIIS'14), IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15), IFIP International Conference on Autonomous Infrastructures, Management and Security (IFIP AIMS'14), IEEE International Conference on Consumer Communications and Networking (IEEE CCNC'15), Conference on Services and Networks Management (GRES'14), International Workshop on Software Defined Networking and Network Function Virtualisation (IEEE ManSDN/NFV'14), IFIP/IEEE International Workshop on Future Internet Management (IFIP/IEEE MANFI'14), Rencontres Francophones sur l'Algorithmique des Télécoms (ALGOTEL'14)

- Thibault Cholez: Applied Cryptography and Network Security 2014, IFIP/IEEE International Symposium on Network Operations and Management (IEEE NOMS'14), IFIP/IEEE International Symposium on Integrated Network Management (IFIP/IEEE IM'15), IEEE International Conference on Communications (ICC'15)

- Ye-Qiong Song: 19th IEEE international conference on Emerging Technologies & Factory Automation (ETFA'2014) - Industrial communication systems track ; 12th International Conference On Smart homes and health Telematics (ICOST 2014); 13th International Workshop on Real-Time Networks (RTN 2014); 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014); 7th IFIP Wireless and Mobile Networking Conference (WMNC 2014); 12th International

Conference on Embedded Computing (EmbeddedCom 2014); 2nd International Workshop on compressive Sensing in Cyber-Physical Systems, Co-located with the 11th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS 2014).

### 9.1.3. Journal

*9.1.3.1. Editorial board membership*

- Françoise Simonot-Lion: IEEE Transactions on Industrial Informatics (associated editor).
- Ye-Qiong Song: Elsevier Computers and Electrical Engineering journal (associate editor); Journal of Multimedia Information System (associate editor).

*9.1.3.2. Reviewing activities*

- Abdelkader Lahmadi: Springer's Journal of Network and Systems Management (JNSM), IEEE Communications Magazine, IEEE Transactions on Network and Service Management (TNSM), International Journal of Network Management (IJNM).
- Bernardetta Addis: Computer Communications, Computers and Operations Research, Computational Optimization and Applications, Discrete and Applied Mathematics, European Journal of Operations Research, Journal of Combinatorial Optimization, Journal of Global Optimization, Mathematical Methods of Operations Research, IEEE/ACM Transactions on Networking
- Françoise Simonot-Lion: Journal Mathematical Problem in Engineering, IEEE Transactions on Industrial Informatics.
- Isabelle Chrisment: IEEE Communications Magazine, Security and Communication Networks, Computer Networks, Privacy in a Digital, Networked World -Technologies, Implications and Solutions (book) , ARIMA Journal (Revue Africaine de la Recherche en Informatique et Mathématiques Appliquées)
- Jérôme François: IEEE Transactions on Network and Service Management, Elsevier Computer Networks, International Journal of Network Management – IJNM
- Rémi Badonnel: IEEE Transactions on Network and Service Management (IEEE TNSM), Springer's Journal of the Network and Systems Management (JNSM)
- Thibault Cholez: IEEE Transactions on Network and Service Management, IEEE Transactions on Information Forensics and Security, IEEE Transactions on Computers, Elsevier Computer Networks, Journal of Communications and Networks
- Ye-Qiong Song: Elsevier Computers and Electrical Engineering journal (associate editor); Journal of Multimedia Information System (associate editor); IEEE Transactions on Industrial Informatics; Journal of distributed sensor networks; IEEE Transactions on Cloud Computing; ACM Transactions on Architecture and Code Optimization.

### 9.1.4. Other animation activities

Isabelle Chrisment is a member of AFNIC scientific board since January 2013

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.

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.

Françoise Simonot-Lion is Scientific Delegate with HCERES.

Françoise Simonot-Lion was member of the review panel of the research evaluation at Mälardalen University (May 2014).

Françoise Simonot-Lion was chair of the review panel of the research evaluation of Department DTIM at ONERA (December 2014).

Ye-Qiong Song is the member of the jury of the Gilles Kahn best PhD thesis award.

# 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 part of. 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 was the Head of Department of the Charlemagne IUT specialization on multimedia networking until the end of the academic year 2014.

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

Isabelle Chrisment was co-directing the school and in charge of the students recruitment process until September 2014.

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 Committee, 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).

Thomas Silverston was in charge of the SSSR Master degree at IGA (Morroco).

Team members are teaching the following courses:

**Abdelkader Lahmadi**
- 280 hours
- Level: Engineering degree (L1, M1, M2)
- Algorithms and Java programming, C language programming, Real Time systems, Databases, Distributed algorithms, constrained systems programming
- ENSEM - Engineering school

**Bernardetta Addis**
- 158 hours
- Level: M2
- Operations Research, Discrete Optimization
- Ecoles de Mines de Nancy

**Isabelle Chrisment**
- 220 hours

- Engineering/Master Degree in Computer Science
- C and Shell Programing, Computer Networking, Operating Systems, Network Security.
- TELECOM Nancy Engineering School of Computer Science

**Jérôme François**

- 28 hours
- Master 2
- Network security, Hadoop
- Univ. Lorraine, Telecom Nancy

**Emmanuel Nataf**

- 192 hours
- L1 L2 M2
- Network, operating system, network monitoring
- IUT Nancy-Charlemagne, Telecom Nancy, Université de Lorraine

**Olivier Festor**

- 192 hours
- Engineering/Master Degreee in Computer Science
- Network, Programming, Algorithmics, Complexity
- TELECOM Nancy Engineering School of Computer Science

**Rémi Badonnel**

- 242 hours
- Engineering/Master Degree in Computer Science
- Networks, Systems and Services, Network Management, Software Design and Programming, Cloud Computing
- TELECOM Nancy Engineering School of Computer Science

**Thibault Cholez**

- 258 hours
- Level: Engineering/Master Degree in Computer Science (L2, M1, M2)
- Main topics: Computer Networks, Databases, Object-Oriented Programming, C and Shell Programming, Techniques and Tools for Programming, Network Services, Constraint development on small Connected Objects, Mobile applications and Internet of Things.
- Main location: TELECOM Nancy Engineering School in Computer Science

**Thomas Silverston**

- 300 hours
- Level: Master Degree in Computer Science
- Networking, Network Security and VoIP
- Main location: University of Lorraine

**Ye-Qiong**

- 242 hours
- Level: Engineering degree (L1, M1, M2)
- Algorithms and Java programming, networking, Databases, sensor networks.
- ENSEM - Engineering school

**E-learning**

MOOC, Introduction to Nagios-based Monitoring (45 minutes, English), Flamingo Network of Excellence, 8900 views in less than 1 year.

### *9.2.2. Supervision*

PhD: Martin Barrere, Vulnerability Management in Autonomic Networks and Systems, University of Lorraine, since Jun 2014, supervised by Olivier Festor, Rémi Badonnel

PhD in progress: Elian Aubry, Using Software Defined Network to manage Content Centric Networks, since October 2013, supervised by Isabelle Chrisment, Thomas Silverston.

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: Francois Despaux, QoS in wireless sensor and actuator networks, since November 2011, supervised by Ye-Qiong Song, Abdelkader Lahmadi

PhD in progress: Gaëtan Hurel, Mobile Cloud Security, since Jan 2014, supervised by Olivier Festor, Rémi Badonnel, Abdelkahder Lahmadi

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

PhD in progress: Samuel Marchal, honeypot and malware analysis, since October 2013, supervised by Olivier Festor in France, Thomas Engel in Luxembourg

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

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 : 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

PhD in progress: Evangelia Tsiontsiou , Multiconstrained QoS routing for wireless sensors networks with applications to smart space for ambient assisted living, since October 2013, supervised by Ye-Qiong Song, Bernardetta Addis

PhD in progress: Shbair Wazen, Contributions for the Management of HTTPS traffic, since December 2013, supervised by Isabelle Chrisment and Thibault Cholez

### *9.2.3. Juries*

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

- Tristan Groléat, Ph.D. in Computer Science from Université Européenne de Bretagne, Télécom Bretagne Title: High Performance traffic monitoring for network security and management, March 2014 – (Isabelle Chrisment)

- Truong Khoa Phan, Ph.D. in Computer Science from Université de Nice - Sophia Antipolis. Title: Design and Management of Networks with Low Power Consumption, September 2014 – (Bernardetta Addis)

- Houari Mahfoud, Ph.D. in computer science from Université de Lorraine. Title: Efficient Access Control to XML Data: Querying and Updating Problems, Feb. 2014 – (Ye-Qiong Song)

- Nadine Abdallah, Ph.D. in control and applied computer science from Université de Nantes. Title: Multiprocessor real-time partitioning with Quality of Service requirements and energy constraints, Feb. 2014 – (Ye-Qiong Song)

- Ridha Soua, Ph.D. in comupter science from Université Pierre et Marie Curie Paris 6. Title: Wireless Sensor Networks in Industrial Environment: Energy Efficiency, Delay and Scalability, Feb. 2014 – (Ye-Qiong Song)

- William Mangoua Sofack, Ph.D. in computer science from Université de Toulouse. Title: Amélioration des délais de traversés pire cas des réseaux embarqués à l'aide du calcul réseau, June 2014 – (Ye-Qiong Song)

- Philippe Thierry, Ph.D. in computer science from Université Paris-Est. Title: Systè`mes véhiculaires à` domaines de sécurité et de criticité multiples : une passerelle systronique, July 2014 – (Ye-Qiong Song)
- Hamdi Ayed, Ph.D. in networking, telecommunications, systems and architectures from Université de Toulouse. Title: Analysis and optimization of multi-cluster avionics networks, November 2014 – (Ye-Qiong Song)
- Yan Han, Ph.D. in computer science from Université de Rennes 1. Title: Smart devices collaboration for energy saving in home networks, December 2014 – (Ye-Qiong Song)

Team members acted as reviewer for the following Ph.D. thesis:

- Inad Nawajah, Ph.D. in Mathematical Models and Methods in Engineering from Politecnico di Milano. Title: Bayesian Analysis of home care longitudinal counts data, 2014 – (Bernardetta Addis)
- Wei You, Ph.D. in Computer Science from Université Européenne de Bretagne, Télécom Bretagne Title: A Content-Centric Networking Node for a Realistic Efficient Implementation and Deployment, January 2014 – (Isabelle Chrisment)
- Antoine Lavignotte, Ph.D. in Computer Science from Université de Saint-Etiienne Title: Prise en compte de la qualité de l'expérrance utilisateur au sein des protocoles de streaming adaptatifs, Mai 2014 – (Isabelle Chrisment)
- Silvia Gil Casals, Ph.D. in Computer Science from Université de Toulouse, Title: Risk Assessment and Intrusion Detection for Airborne Networks, July 2014 – (Isabelle Chrisment)
- Rim Moalla, Ph.D. in Computer Science from Télécom ParisTech and Université Pierre et Marie Curie. Title: Secure Future Cooperative ITS Applications, (September 2014) – (Isabelle Chrisment)
- Ludie Akue, Ph.D. in COmputer Science from Université de Toulouse, Title: Un cadriciel pour la vérification en ligne, générique, flexible et évolutive de configurations de systèmes communicants complexes, (February 2014) – (Olivier Festor)
- Raphael Barbosa, Ph.D. in Computer Science from University of Twente, Title: Anomaly Detection in SCADA systems, (Febrary 2014) – (Olivier Festor)
- Rebecca Steinert, Ph.D. in Computer Science from KTH, Title: Probabilistic Fault Management in Networked Systems, (June 2014) – (Olivier Festor)
- Anthony Dessiatnikoff, Ph.D. in Computer Science from Université de Toulouse, Title: Analyse de Vulnérabilités de systèmes avioniques embarqués: classification et expérimentation, (June 2014) – (Olivier Festor)
- Ghida Ibrahim, Ph.D. in Computer Science and Networking from TELECOM ParisTech, Title: Evolution of the Control Plane for Future Content Distribution Services, (june 2014) – (Olivier Festor)
- Ahmed Amokrane, PhD in Computer Science from Pierre et marie Curie University Title: Green et Effcacité en Energie dans les Réseaux d'Accès et Infrastructures Cloud, ((December 2014) – (Olivier Festor)
- Ridha Soua, Ph.D. in comupter science from UNIVERSITY PARIS 6 PIERRE ET MARIE CURIE. Title: Wireless Sensor Networks in Industrial Environment: Energy Efficiency, Delay and Scalability, Feb. 2014 – (Ye-Qiong Song)
- William Mangoua Sofack, Ph.D. in computer science from Université de Toulouse. Title: Amélioration des délais de traversés pire cas des réseaux embarqués à l'aide du calcul réseau, June 2014 – (Ye-Qiong Song)
- Philippe Thierry, Ph.D. in computer science from Université Paris-Est. Title: Systèmes véhiculaires à domaines de sécurité et de criticité multiples : une passerelle systronique, July 2014 – (Ye-Qiong Song)
- Hamdi Ayed, Ph.D. in networking, telecommunications, systems and architectures from Université de Toulouse. Title: Analysis and optimization of multi-cluster avionics networks, November 2014 – (Ye-Qiong Song)
- Yan Han, Ph.D. in computer science from Université de Rennes 1. Title: Smart devices collaboration for energy saving in home networks, December 2014 – (Ye-Qiong Song)

Team members participated to the following Habilitation Degree defense committees:

- Stefano Secci, , Habilitation Degree in Computer Science from Pierre et Marie Curie - Paris 6 University. Title: Modeling and Evaluating Novel Networked Communications Systems, (September 2014) – (Olivier Festor)

- (Liliana Cucu-Grosjean), Habilitation Degree in (Computer Science) from (Université Paris 6). Title: (Contributions to real-time systems), (May 2014) — (Françoise Simonot-Lion)

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

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events selection

*8.1.1.1. Organizing committee membership*

- Bruno Lévy was program co-chair for Eurographics 2014
- Sylvain Lefebvre was STAR co-chair for Eurographics 2014

*8.1.1.2. Conference program committee membership*

- Sylvain Lefebvre was PC member of Pacific Graphics 2014
- Nicolas Ray was PC member of Eurographics 2014
- Rhaleb Zayer was PC member of Eurographics 2014

### 8.1.2. Journal

*8.1.2.1. Editorial board membership*

- Sylvain Lefebvre is associate editor for ACM Transactions on Graphics
- Bruno Lévy is associate editor for IEEE Transactions on Visualization and Computer Graphics
- Xavier Antoine is associate editor for ISRN Applied Mathematics
- Bruno Lévy is associate editor for Graphical Models (Elsevier)

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

License: Samuel Hornus, "Functional programming with OCaml" at éPITECH Nancy (private school training programmers, http://nancy.epitech.eu/ ). Lecture: 9h. Lab work: 18h. 3 student projects.

License: Samuel Hornus, "Mathématique discrètes", à Télécom Nancy

License: Dmitry Sokolov, Géométrie et représentation dans l'espace, 35h, L2 Informatique de l'UL, France

License: Dobrina Boltcheva, Licence ISN, IUT Saint-Dié-des-Vosges

License: Dobrina Boltcheva, 2A DUT INFO, IUT Saint-Dié-des-Vosges

License: Dobrina Boltcheva, 1A DUT INFO, IUT Saint-Dié-des-Vosges

Master: Sylvain Lefebvre, Ecole de Géologie, introduction to parallelism (3h TP) and introduction to computer graphics (3h cours, 6h TP)

Master: Sylvain Lefebvre, OpenCL, UL, master M2, with Dmitry Sokolov.

Master: Sylvain Lefebvre, Course on Video Game programming at "Ecole des Mines de Nancy". Taught with Guillaume Bonfante.

Master: Dmitry Sokolov, Algorithmique avancée, 28h, M2 Math de l'UL, France

Master: Dmitry Sokolov, Logiques et Modèles de calcul, 30h, M1 Informatique de l'UL, France

Master: Dmitry Sokolov, Infographie 76h, M1 Informatique de l'UL, France

Master: Dmitry Sokolov, Modèles de perception et raisonnement, 56h, M1 Informatique de l'UL, France

Master: Dmitry Sokolov, Parallélisme de données, 15h, M1 Informatique de l'UL, France

Master: Bruno Lévy, "Numerical Geometry" (15 h) in the National School of Geology and in Nancy School of Mines.

### *8.2.2. Supervision*

HdR : Sylvain lefebvre, Synthèse de textures par l'exemple, Université de Lorraine, 30 juin 2014

PhD : Jeanne Pellerin, Prise en compte de la complexité géométrique des modèles structuraux dans des méthodes de maillage fondées sur le diagramme de Voronoï, ENSG, 20 mars 2014, Bruno Lévy and Guillaume Caumon (Université de Lorraine)

### *8.2.3. Juries*

Bruno Lévy was chair of the Inria junior position (CR2) hiring committee for the centre Inria Nancy Grand-Est.

## 8.3. Popularization

- Bruno Lévy animates "initiation to computer programming", 1h each Friday evening (10 kids, 7 to 12 years old).
- Members of the team participate each year to "science fair" events, scientific demos, conferences for the general audience.
- Sylvain Lefebvre is a member of the scientific mediation committee of the centre Inria Nancy Grand-Est.

# MAGRIT Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events selection

*9.1.1.1. Organizing committee membership*

M.-O. Berger was chair of the French conference on pattern recognition RFIA 2014.

*9.1.1.2. Conference program committee membership*

- M.-O. Berger was member of the program committee of the following conferences: International Conference on Medical Image Computing and Computer Assisted Intervention: MICCAI 2014, ICPR 2014, ISMAR 2014.
- Erwan Kerrien was a member of the program committee of MICCAI 2014 and of the International Symposium on Biomedical Simulation (ISBMS'14).
- G. Simon was a member of the program committee of ISMAR 2014 and Eurographics 2014.
- P.-F. Villard was a member of the program committee of MICCAI 2014 and of the International Symposium on Biomedical Simulation (ISBMS'14).

### 9.1.2. Journal

*9.1.2.1. reviewer*

The members of the team reviewed articles for Computers & Graphics (Elsevier), The Visual Computer (Springer), Medical Images Analysis (Elsevier), IEEE Transactions on Vizualisation and Computer Graphics, Journal on Imaging Sciences (SIAM), Journal of Electronic Imaging (IS&T / SPIE), Axioms (MDPI), Experimental Mechanics (SEM), Transactions on Pattern Analysis and Machine Intelligence (IEEE), Optics and Lasers in Engineering (Elsevier).

### 9.1.3. Invited Conferences

Pierre-Frédéric Villard was invited to give a talk entitled "Respiration Simulation : Application in Treatment Planning, Training Simulators and On-Line Treatment" during the CIM Workshop on Mathematics and Medicine, November 6-7, 2014, Uppsala, Sweden http://www.math.uu.se/cim/seminarier-och-aktiviteter/cim-workshop-2014/.

### 9.1.4. Other review

E Kerrien was reviewer for one COFECUB project.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

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

- Licence: Graphic and haptic rendering, 30h, IUT Saint-Dié des Vosges.

- Licence: Image processing, 30h, IUT Saint-Dié des Vosges.
- Licence: 3D programming, 30h, IUT Saint-Dié des Vosges.
- Licence : Geometry, 30h, École Nationale Supérieure d'Architecture de Nancy.
- Master: Signal analysis, 50 h, Université de Lorraine.
- Master: Augmented reality, 24 h, Télécom-Nancy, Université de Lorraine.
- Master : Introduction to computer vision, 12h, Université de Lorraine.
- Master : Shape recognition, 15 h, Université de Lorraine.
- Master : Computer vision: foundations and applications, 15 h, Université de Lorraine.
- Master : Introduction to image processing, 21 h, École des Mines de Nancy
- Master : Image processing for Geosciences, ENSG, 12h.
- Master : Introduction to signal processing and applications, 21 h, Ecole des Mines de Nancy
- Master : Augmented reality, 3 h, SUPELEC Metz.
- Inter University Degree: Medical robotics, 1 h, CHU Nancy Univ. Hospital.

### 9.2.2. *Supervision*

PhD: Ahmed Yureidini, Modélisation implicite des vaisseaux sanguins pour la simulation interactive d'actes de radiologie interventionnelle, defended on mai 2014, 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, Frédéric Sur.

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

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

### 9.2.3. *Juries*

Marie-Odile Berger was external reviewer of the PhD of D. Larnaout and L. Younes.

## 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. He also serves as the academic referent of an IREM [0] working group aiming at introducing computer science in secondary and high school curricula. Among other activites, he was also an associate researcher to a MATh.en.JEANS workshop.

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

# MAIA Project-Team

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific events organisation

*9.1.1.1. Selection Committees, AERES*

- François Charpillet was member of two selection committees in University of Lyon and Lorraine University
- François Charpillet was member of the AERES evaluation commitee for IRIT, Toulouse and LISSI, Université Paris Est.

*9.1.1.2. Organizing committee membership*

- François Charpillet is member of the scientific concil of the Robotic GDR.
- Vincent Thomas was part of the organizing committee of the "Expressive game seminar", held in Metz, the 24th and 25th of November (http://exgames.event.univ-lorraine.fr/). This international seminar involved two laboratories of the university of Lorraine, the CREM (Centre de recherche sur les médiations) and the LORIA. It gathered international specialists of game design and was part of the PEPS Majestic research program.
- Vincent Thomas was part of the organizing committee of the conference "From traditional game to digital game" (http://tgdg2014-fr.event.univ-lorraine.fr/), held in Nancy, the 26th, 27th and 28th of November.

### 9.1.2. Scientific events selection

*9.1.2.1. Conference program committee membership*

- Amine Boumaza was a member of the program committee of the following international conferences: GECCO'14 (The Genetic and Evolutionary Computation Conference), CEC'14 (Congress on Evolutionary Computation), Alife'14 Int. Conf. on the Synthesis and Simulation of Living Systems. He was a member of the jury of the AFIA thesis award.
- Olivier Buffet was a reviewer for the conferences ECAI'14 (European Conference on Articial Intelligence), ICAPS'14 (International Conference on Automated Planning and Scheduling), UAI'14 (International Conference on Uncertainty in Artificial Intelligence), JFPDA'14 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes), RFIA'14 (conférence sur la reconnaissance des formes et l'intelligence artificielle).
- François Charpillet was member of the program committees for : Macorex workshop at ECAI'14, MSDM 2014 at AAMAS'14, SENSORNETS 2015, ICAART 2015.
- Vincent Chevrier was a reviewer for IAT'14 (IEEE/WIC/ACM International Conference on Intelligent Agent Technology), ACRI'14 ABSim&CA (International Conference on Cellular Automata for Research and Industry, Agent-Based Simulation & Cellular Automata Workshop) JFSMA'14 (Journées francophones sur les Systèmes multi-Agents).
- Francis Colas was member of the program committee of SAB2014 (Simulation of Adaptive Behaviors).
- Alain Dutech was a reviewer for the conferences JFPDA'14 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes), and ECAI'14 (European Conference on Articial Intelligence).

- Nazim Fatès was a member of the program committe of the international conferences: ACRI'14 (11th International Conference on Cellular Automata for Research and Industry), and the following workshops: ACA'14 (Third International Workshop on Asynchronous Cellular Automata and Asynchronous Discrete Models ) and ABSim&CA'14 (First International Workshop on Agent-Based Simulation & Cellular Automata), ANTS'14 (Ninth Int. Conf. on Swarm Intelligence).

- Bruno Scherrer was part of the program committee for for the international conferences NIPS'14 (Neural Information Processing Systems), ECAI'14 (European Conference on Artificial Intelligence) and MED'14 (Mediterranean Conference on Control and Automation), for the international NIPS'14 Workshop "From Bad Models to Good Policies", and for the French conferences CAP'14 (Conférence d'apprentissage automatique) and JFPDA'14 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes).

- Vincent Thomas was a reviewer for JFPDA'14 (Journées Francophones sur la Planification, la Décision et l'Action pour le contrôle de systèmes).

- Serena Ivaldi was associate editor for the conference Humanoids 2014 (International Conference on Humanoid Robots).

*9.1.2.2. Reviewing activities*

- François Charpillet was reviewer for the IROS 2014 (IEEE/RSJ International Conference on Intelligent Robots and Systems) and ICRA 2015 (IEEE International Conference on Robotics and Automation), ASROB at IROS 2014, Macorex workshop at ECAI'14, MSDM 2014 at AAMAS'14, SENSORNETS 2015, ICAART 2015.

- Francis Colas was reviewer for the IROS 2014 (IEEE/RSJ International Conference on Intelligent Robots and Systems) and ICRA 2015 (IEEE International Conference on Robotics and Automation).

- Nazim Fatès was a reviewer for the ALIFE'14 and MOSIM'14 conferences.

- Serena Ivaldi was reviewer for the HRI'15 conference (International Conference on Human-Robot Interaction).

## 9.1.3. Journal

*9.1.3.1. Editorial board membership*

- Amine Boumaza is a review editor of the International Journal *Frontiers in Robotics and AI: Evolutionary Robotics*.

- Olivier Buffet is a member of the editorial boards of the *"revue d'intelligence artificielle"* (RIA), and the "Journal of Artificial Intelligence Research" (JAIR).

- Serena Ivaldi is a review editor of the International Journal *Frontiers in Robotics and AI: Humanoid Robotics*. She is co-organiser of the Special Issue on "Whole-body control of contacts for Humanoid Robots" in the Autonomous Robots journal.

*9.1.3.2. Reviewing activities*

- Amine Boumaza was a reviewer for the Evolutionary Intelligence journal.

- Olivier Buffet was a reviewer for the journals: AIJ (Artificial Intelligence Journal), JAIR (Journal of Artificial Intelligence Research), and Neurocomputing.

- François Charpillet was a reviewer for Journal of Intelligent and Robotic Systems

- Vincent Chevrier was a reviewer for IEEE Transactions on Services Computing (TSC),

- Francis Colas was a reviewer for the Autonomous Robots journal.

- Alain Dutech was a reviewer for RIA (Revue d'Intelligence Artificielle), EJOR (European Journal of Operationnal Research), and JAIR (Journal of Artificial Intelligence Research).

- Nazim Fatès was a reviewer for *Natural Computing*, *Theoretical Computer Science* and *Proc. of the National Academy of Sciences, Sec. A, India*.

- Serena Ivaldi was a reviewer for the journals: Robotics and Autonomous Systems, Autonomous Robots, IEEE Transactions on Cybernetics.
- Bruno Scherrer made reviews for the following journals: Journal of Machine Learning Research, Annals of Operations Research, Applied Mathematics & Optimization and IEEE Transactions on Neural Networks and Learning Systems.
- Vincent Thomas was a reviewer for IEEE Transactions on Cybernetics.

## 9.2. Teaching - Supervision - Juries

### 9.2.1. Teaching

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

Master: Nazim Fatès, Collective and intelligent agents, 15h eq TD, Master 1 Cognitive Sciences, Université de Lorraine, France.

Master: Nazim Fatès, Complex adaptative systems, 20h eq TD, Master 2 Computer Science, Université de Lorraine, France.

Master: Vincent Thomas, Game Design, 20h eq TD, Master 1 Cognitive Sciences, Université de Lorraine, France.

Master: Vincent Thomas, Serious Game, 10h eq TD, Master 2 Cognitive Sciences, Université de Lorraine, France.

Master: Vincent Thomas, Numerical Learning, 12h eq TD, Master 2 Computer Science IPAC (Image, Perception, Action, Cognition), Université de Lorraine, France.

### 9.2.2. Supervision

PhD: Amandine Dubois, *"Mesure de la fragilité et détection de chutes pour le maintien à domicile des personnes âgées"*, Université de Lorraine, Sept. 2014, F. Charpillet (advisor).

PhD: Jano Yazbeck, *"Secure and precise immaterial hanging for automated vehicles"*, Université de Lorraine, Oct. 2014, F. Charpillet (advisor), A. Scheuer.

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. Charpillet (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: Abdallah Dib, *"Assistance à la personne en perte d'autonomie: étude de l'apport d'un robot compagnon"*, Université de Lorraine, March. 2013, F. Charpillet (advisor).

PhD in progress: Iñaki Fernández-Pérez, *"Apprentissage incremental évolutionnaire"*, Université de Lorraine, Oct. 2013, F. Charpillet (advisor), A. Boumaza.

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

PhD in progress: Manel Tagorti, *"Sur les abstractions et les projections des processus décisionnels de Markov de grande taille"*, Université de Lorraine, Nov. 2011, J. Hoffmann (advisor), B. Scherrer, O. Buffet.

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

PhD in progress: Mohamed Tlig, *"Coordination locale et optimisation distribuée du trafic dans les réseaux de transport de véhicules autonomes"*, 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: Matthieu Zimmer, *"Developmental Reinforcement Learning"*, Université de Lorraine, Oct 2014, Alain Dutech (advisor) and Yann Boniface.

PhD in progress: Van Quan Nguyen, *"Mapping of a sound environment by a mobile robot"*, Université de Lorraine, Dec. 2014, Emmanuel Vincent (advisor), Francis Colas, and François Charpillet.

### 9.2.3. Juries

- François Charpillet was reviewer a member of the PhD committee (as referee) of
  - Alexandru Rusu, Toulouse, dec. 12th 2014,
  - Ricardo CHAVEZ GARCIA, Grenoble, sep. 25th 2014,
  - Abdelhak Chatty, Cergy Pontoise, June 30th 2014.
- Vincent Chevrier was a member of the PhD committee (as referee) of
  - Jérémy Boes, March 28th, 2014, Université de Toulouse;
  - Baudouin Dafflon, Sept. 30th, 2014, Université de Technologie de Belfort-Monbéliard.
- Alain Dutech was a member of the PhD committee of
  - Simon Gay, December 15th, 2014, Université Lyon I.
- Nazim Fatès was a member of the PhD committee of
  - Simon Stuker, December 17th, 2014, Université de Toulouse.
- Bruno Scherrer was a member of the PhD committee of
  - Gabriel Dulac-Arnold, February 7th, 2014, Université Paris 6;
  - Bilal Piot, November 14th, 2014, Supélec (Université de Lorraine).

## 9.3. Popularization

- Nazim Fatès was the president of the Jury of the *Festival du film de chercheur*, see: an article in the Eureka magazine
- Vincent Thomas participated in "Journée ISN-EPI" (Apr. 17 2014) whose audience is computer science teachers of secondary school by organizing a workshop on "artificial intelligence and games". Vincent Thomas is participating in the LORIA IDEES group dedicated to teaching activities.
- Vincent Thomas previously organized an exposition about game design and cognitive sciences. The materiel of the exposition was presented this year in several BU (Biliotheques universitaires) including IUT Charlemagne BU, Campus Medecine BU and Campus Brabois BU. This exposition is planned to be presented in other libraries in 2015 (Epinal, St Die).
- Vincent Thomas is participating in "Exporoute" meetings organized by Inria. The aim of these mettings is to create the content of a mobile scientific exposition about computer science in general. This exposition is planned to be held in 2017.
- Vincent Thomas participated in "la nuit des chercheurs" (Sep. 26 2014, Metz) and "ARTEM fête la science" during "Fête de la Science" (Oct. 18 2014, Nancy) by organizing discussions on video games, artificial intelligence and the links between those two domains.

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

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### *9.1.1. Scientific events organisation*

*9.1.1.1. General chair, scientific chair*

General chair, 4th Joint Workshop on Hands-Free Speech Communication and Microphone Arrays (HSCMA), Nancy, May 2014 (E. Vincent)

General co-chair, 3rd CHiME Speech Separation and Recognition Challenge, Scottsdale, USA, December 2015 (E. Vincent)

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

Chair, Challenges Subcommittee, IEEE Technical Committee on Audio and Acoustic Signal Processing (E. Vincent)

*9.1.1.2. Organizing committee membership*

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

### *9.1.2. Scientific events selection*

*9.1.2.1. Responsible of conference program committee*

Program chair, 12th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA), Liberec, Czech Republic, August 2015 (E. Vincent)

*9.1.2.2. Conference program committee membership*

Area chair for Audio and Speech Source Separation, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (E. Vincent)

RFIA'2014 - 19ème congrès national sur la Reconnaissance de Formes et l'Intelligence Artificielle (D. Jouvet)

*9.1.2.3. Reviewer*

JEP'2014 - 30ème édition des Journées d'Etudes sur la Parole (D. Jouvet, Y. Laprie)

RFIA'2014 - 19ème congrès national sur la Reconnaissance de Formes et l'Intelligence Artificielle (D. Jouvet)

ISMIR'2014 - International Symposium of Music Information Retrieval (A. Liutkus)

INTERSPEECH'2014 - 15th Annual Conference of the International Speech Communication Association (A. Bonneau, D. Jouvet, Y. Laprie, S. Ouni)

ICASSP'2015 - 40th International Conference on Speech, Acoustic and Signal Processing (A. Bonneau, D. Jouvet, S. Ouni)

### *9.1.3. Journal*

*9.1.3.1. Editorial board membership*

IEEE Transactions on Audio, Speech, and Language Processing (E. Vincent)

Traitement du Signal (E. Vincent)

Speech Communications (D. Jouvet)

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

*9.1.3.2. Reviewing activities*

Computer Speech and Language (D. Jouvet)

Traitement Automatique des Langues (D. Jouvet)

Traitement du Signal (D. Jouvet)

IEEE Transactions on Audio, SPeech, and Language Processing (A. Liutkus)

Digital Signal Processing (A. Liutkus)

IEEE Letters on Signal Processing (A. Liutkus, Y. Laprie)

Signal Processing (A. Liutkus)

Speech Communication (S. Ouni)

Journal of the American Acoustical Society (Y. Laprie)

### 9.1.4. Miscellaneous

*9.1.4.1. Tutorial*

Tutorial on Informed Audio Source Separation at ICASSP 2014 in Florence, Italy (A. Ozerov and A. Liutkus and G. Richard). http://www.icassp2014.org/tutorials.html#3

*9.1.4.2. Invited lecture*

Les sons à domicile [62], Séminaire SAILOR "Imaginer des nouveaux lieux de vie" (E. Vincent)

Evaluation campaigns and reproducibility [68], Journée GdR ISIS "reproductibilité en traitement du signal et des images" (E. Vincent)

Acquisition and processing of X-ray and MRI data, in Spring school "Individualized-centered approaches to speech processing" in Dagstuhl, 7-9 April (Y. Laprie)

Construction of articulatory models and exploitation of articulatory data, in Spring school "Individualized-centered approaches to speech processing" in Dagstuhl, 7-9 April (Y. Laprie)

Language pathology, Séminaire "Dépistage des troubles des apprentissages" in EHESP, Rennes, 6-10 January (A. Piquard-Kipffer)

Phonological processes in beginning reading, Séminaire "Le bilan orthophonique" in ESE-NESR,Poitiers, 25 March (A. Piquard-Kipffer)

Relation of phonemic discrimination to learning to read, Séminaire "Les liens entre langage oral et langage écrit, la place de la discrimination phonémique" in Blaise Pascal University, Clermont-Ferrand, 6 May (A. Piquard-Kipffer)

# 9.2. Teaching - Supervision - Juries

## 9.2.1. Teaching

Master: Cadot Martine, Biostatistics, 60 hours, M1, University of Lorraine, France

Licence: Di Martino Joseph, Programming in C 1, 67 hours, L1, University of Lorraine, France

Licence: Di Martino Joseph, Programming in C 2, 85 hours, L2, University of Lorraine, France

Licence: Di Martino Joseph, Programming in C/C++, 45 hours, L3, University of Lorraine, France

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

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

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

Licence: Odile Mella, C2i - Certificat Informatique et Internet, 28h, L1, University of Lorraine, France

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

Licence: Odile Mella, Computer Networking, 86h, L2-L3, University of Lorraine, France

Master: Odile Mella, Computer Networking, 45h, M1, University of Lorraine, France

Master : Odile Mella, Computer Networking, 14h, M2, University of Lorraine, France

Master : Odile Mella, Supervising students in company internship, M2, University of Lorraine, France

Adults : Odile Mella, Computer science courses for seconday school teachers (Informatique et Sciences du Numérique courses) (10HTED), ESPE of Academy Nancy-Metz, University of Lorraine, France

Ecole Audioprothèse: Anne Bonneau, Phonétique, 16 hours, Université de Lorraine

Licence: Piquard-Kipffer Agnès, Psycholinguistics, 30 hours, L1, University of Lorraine, France

Licence: Piquard-Kipffer Agnès, Reading, 24 hours, L2, Departement Orthophonie, University of Lorraine, France

Master: Piquard-Kipffer Agnès, Dyslexia, 25 hours,Departement Orthophonie, University of Lorraine, France

Master: Piquard-Kipffer Agnès, Deaf people & reading, 9 hours,Departement Orthophonie, University of Lorraine, France

Master: Piquard-Kipffer Agnès, Psycholinguistics, 12 hours,Departement Orthophonie, University Pierre et Marie Curie-Paris, France

Master: Piquard-Kipffer Agnès, Psychology, 70 hours, ESPE, University of Lorraine, France

Master: Piquard-Kipffer Agnès, French Language Didactics, 80 hours, ESPE, University of Lorraine, France

Master: Piquard-Kipffer Agnès, Psychology, 6 hours, University Blaise Pascal, France

Doctorat: Piquard-Kipffer Agnès, Language Pathology, 15 hours, EHESP, University of Sorbonne-Paris Cité, France

School of engineers: Vincent Colotte, XML, 20h, Telecom Nancy, France

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

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

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

DUT: Slim Ouni, Graphical User Interface, 48 hours, L1, University of Lorraine, France

DUT: Slim Ouni, Advanced Algotihms, 24 hours, L2, University of Lorraine, France

Licence: Slim Ouni, Innovation in Computer Science, 38 hours, L3, University of Lorraine, France

Master: Slim Ouni, Game Design, 30 hours, M1, University of Lorraine, France

Master: Slim Ouni, Innovative Information Technology, 30 hours, M1 University of Lorraine, France

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

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

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

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

## 9.2.2. Supervision

PhD : Arseniy Gorin, "Acoustic model structuring for improving automatic speech recognition performance", University of Lorraine, 26 November 2014, Denis Jouvet.

PhD in progress: Othman Lachhab, "Pathological voice recognition using voice conversion techniques", November 2010, El Hassane Ibn Elhaj and Joseph Di Martino.

PhD in progress : Dung Tran, "Uncertainty handling for noise robust automatic speech recognition", December 2012, Emmanuel Vincent and Denis Jouvet.

PhD in progress : Luiza Orosanu, "Speech recognition for helping communication for deaf or hard of hearing people", December 2012, Denis Jouvet.

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

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

PhD in progress: Imran Sheikh, "Exploitation du contexte pour la reconnaissance de noms propres dans les documents diachroniques", January 2014, Irina Illina.

PhD in progress: Baldwin Dumortier, "Contrôle acoustique d'un parc éolien", September 2014, Emmanuel Vincent and Madalina Deaconu.

PhD in progress: Quan Nguyen, "Mapping of a sound environment by a mobile robot", November 2014, Francis Colas and Emmanuel Vincent.

### 9.2.3. Juries

Participation in PhD thesis Jury for Stefan Ziegler (University of Rennes 1, January 2014), D. Jouvet, reviewer.

Participation in PhD thesis Jury for Nicolas López (Télécom ParisTech, July 2014), E. Vincent, reviewer.

Participation in PhD thesis Jury for Thiago Fraga da Silva (University of Paris-South, September 2014), D. Jouvet, reviewer.

Participation in PhD thesis Jury for Antti Hurmalainen (Tampere University of Technology, Finland, October 2014), E. Vincent, reviewer.

Participation in PhD thesis Jury for Raphaël Laurent (University of Grenoble, October 2014), Y. Laprie, reviewer.

Participation in PhD thesis Jury for Lucie Steiblé (University of Strasbourg, December 2014), Y. Laprie, reviewer.

Participation in PhD thesis Jury for Fayssal Bouarourou (University of Strasbourg, December 2014), Y. Laprie.

### 9.2.4. Participation to external committees

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

Member of a Selection Committee of University of Lorraine (UFR Math Info), LORIA, Y. Laprie

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

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

Member of the Conseil du Pôle Scientifique AM2I of University of Lorraine, A. Piquard-Kipffer

Member of an expertise Comittee for specific language disabilities (MDPH 54), A. Piquard-Kipffer

### 9.2.5. Participation to local committees

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

Member of the Comipers Enseignant, E. Vincent

Member of the "Commission de développement technologique", A. Bonneau

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

member of the "Commission locale dévelopement durable", D.Fohr

Leader of the "Commission des utilisateurs des moyens informatiques (CUMI)", D. Fohr

Member of DFD staff, I. Illina

## 9.3. Popularization

Panelist at a public meeting of the SAILOR consortium on the topic of "Imagining new places to live", University of Lorraine, April 2014 (E. Vincent).

Demonstration at Journée Sciences et Musique, IRISA Rennes, October 2014 (N. Souviraà-Labastie, E. Vincent).

Vulgarization of music signal processing at Inria to students of the Lycée Loritz, June 2014 (Y. Laprie, A. Liutkus)

<div align="center">

## <span style="color:red">ORPAILLEUR Project-Team</span>

</div>

# 9. Dissemination

## 9.1. Promoting Scientific Activities

### 9.1.1. Scientific Events Organization, General Chairs, Scientific Chairs

- "ECCB 2014". Several members of the team were involved in the organization of the 13th edition of the European Conference on Computational Biology held in Strasbourg on September 2014. This conference attracted over 1100 participants (http://www.eccb14.org). Marie-Dominique Devignes was the scientific chair of the conference and the scientific editor of the proceedings [7] [76].

- "ECML-PKDD 2014". Amedeo Napoli and Chedy Raïssi were the Conference chairs of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD 2014) which was held in Nancy between September 15th and September 19th, http://www.ecmlpkdd2014.org/, in conjunction with ILP 2014 (September 14-16, http://dtai.cs.kuleuven.be/events/ilp2014/). There were roughly 560 persons attending the ECML-PKDD Conference (50 of which were shared with ILP).

- "CCC". Emmanuel Nauer co-organized the "Computer Cooking Contest" at ICCBR 2014 which held this year in Cork (Ireland) (see http://liris.cnrs.fr/ccc/ccc2014/).

- "FCA4AI 2014". Amedeo Napoli organized with Sergei O. Kuznetsov (HSE Moscow) and Sebastian Rudolph (TU Dresden) the third workshop FCA4AI ("What can do FCA for Artificial Intelligence") which was associated with the ECAI Conference in Prague (Czech Republic, August 2014, see http://www.fca4ai.hse.ru/2014 and http://ceur-ws.org/Vol-1257).

- "ICCBR Workshops". Jean Lieber with David B. Leake was in charge of the organization of the ICCBR-2014 workshops [82] (see http://www.iccbr.org/iccbr14/).

- "LD4KD". Nicolas Jay organized with Mathieu D'Aquin and Ilaria tiddi (Open University, UK) the first workshop on Linked Data for Knowledge Discovery (LD4KD) collocated with the ECML/PKDD conference in Nancy, September 2014 (http://events.kmi.open.ac.uk/ld4kd2014/).

#### 9.1.1.1. 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 in general 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.

- The members of the Orpailleur team are involved in the organization of conferences and workshops, as members of conference program committees (ECAI, ECML-PKDD, ICCBR, ICDM, ICFCA, IJCAI, KDD...), as members of editorial boards, and finally in the organization of journal special issues.

## 9.2. Teaching – Supervision – Committees

- The members of the Orpailleur team are involved in teaching at all levels of teaching, mainly at 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.

# SEMAGRAMME Project-Team

# 8. Dissemination

## 8.1. Promoting Scientific Activities

### 8.1.1. Scientific events organisation

Philippe de Groote, Maxime Amblard have organised a workshop on the occasion of the award of a Doctor Honoris Causa degree from the Université de Lorraine(hk-workshop.loria.fr).

Hans Kamp (Johan Anthony Willem Kamp) is a Dutch philosopher, linguist and logician. His work in formal semantics, most notably his Discourse Representation Theory, is widely used both in linguistics and in natural language processing. The workshop has focused on discourse semantics, especially on issues of its structure and dynamics, based on DRT.

It was held in the International Room of the MSH-Lorraine. The workshop was organised by Archives Poincaré, LORIA and ATILF, and it is supported by MSH-Lorraine, Université de Lorraine, CNRS and Inria.

Maxime Amblard organises the workshop (In)Cohérence du discours 2, with the SLAM project (Schizophrenia and Language: Analysis and Modelling).

The objective of the workshop was to discuss the latest advances in the modelling of discourses, in particular the kind held with pathological (e.g. schizophrenics). The adopted modelling paradigm is that of formal semantics, which falls within the scope of both linguistics and logic while also making ties to the philosophy of language.

#### 8.1.1.1. Organizing committee membership

- Philippe de Groote and Maxime Amblard were members of the organisation committee of the workshop in honnor of Hans Kamp
- Maxime Amblard and Jiří Maršík were members of the organisation committee of the workshop (In)Coherence du discours 2

### 8.1.2. Member of the steering committee

- Philippe de Groote and Sylvain Pogodalla are members of the steering committe of the international conference series *Logical Aspects of Computational Linguistics (LACL)*.

#### 8.1.2.1. Conference program committee membership

- Maxime Amblard:
  - member of the scientific committee of the conference *Traitement Automatique des Langues Naturelles (TALN)* 2014
  - member of the scientific committee of the workshop in honnor of Hans Kamp
  - member of the scientific committee of the workshop (In)Coherence du discours 2
- Philippe de Groote:
  - member of the program committee of the international conference *Formal Grammar (FG'14)*
  - member of the program committee of the international conference *Logical Aspects of Computational Linguistics (LACL'14)*
  - member of the program committee of the EACL 2014 workshop on *Type Theory and Natural Language Semantics (TTNLS)*
  - member of the scientific committee of the workshop in honnor of Hans Kamp
- Guy Perrier:

- – member of the program committee of the international conference PolTAL 2014, which was held in Warsaw, Poland.
- – member of the scientific committee of the conference *Traitement Automatique des Langues Naturelles (TALN) 2014*.
- Sylvain Pogodalla:
  - – member of the scientific committee of the international conference *Traitement Automatique des Langues Naturelles (TALN) 2014*.
  - – member of the scientific committee of international conference *Logical Aspects of Computational Linguistics (LACL) 2014*.

*8.1.2.2. Reviewer*

- Sylvain Pogodalla:
  - – reviewer for the *International Conference on Computational Linguistics (Coling 2014)*.
  - – reviewer for the international workshop on *Logic and Engineering of Natural Language Semantics 11 (LENLS11)*.

### 8.1.3. Journal

*8.1.3.1. Editorial board membership*

- Philippe de Groote:
  - – area editor of the *FoLLI-LNCS series*.
  - – associate editor of *Higher-Order and Symbolic Computation*.
  - – member of the editorial board of *Cahiers du Centre de Logique*.
- Sylvain Pogodalla: member of the editorial board of the journal *Traitement Automatique des Langues*.

*8.1.3.2. Reviewing activities*

- Philippe de Groote: reviewer for the *Journal of Logic and Computation*, and for the conferences *LICS, LACL, and FG*.
- Sylvain Pogodalla: reviewer for the *Journal of Language Modelling*.

## 8.2. Teaching - Supervision - Juries

### 8.2.1. Teaching

Master: Sylvain Pogodalla, *Computational Linguistic Formalisms: Semantics and Discourse*, 25h, M2, Université de Lorraine, France

Master: Jiří Maršík, *Fundamental Artificial Intelligence*, 10h, M2, Université de Lorraine, France

Master: Jiří Maršík, *Cognitif Aspect of Computational Linguistic*, 12h, M1, Université de Lorraine, France

Licence : Guy Perrier, *Initiation au TAL*, 20h, L2, Université de Lorraine, France

### 8.2.2. Supervision

PhD: Sai Qian, *Accessibility of Referents in Discourse Semantics*, Université de Lorraine, Nov. 7 2014, Philippe de Groote and Maxime Amblard

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

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

### 8.2.3. Juries

- Philippe de Groote and Maxime Amblard were members of the PhD committee of Sai Qian, *Accessibility of Referents in Discourse Semantics*, Nov. 11 2014, Université de Lorraine.

- Philippe de Groote was president of the PhD committee of Hugo Férée, *Complexité d'ordre supérieur et analyse récursive*.

- Guy Perrier was president of the PhD committee of Shashi Narayan, *Generation and Simplification of Sentences*, Université de Lorraine, November 7 2014.

- Guy Perrier was member of the PhD committee of Arseniy Gorin, *Acoustic Model Structuring for Improving Automatic Speech Recognition Performance*, November 26 2014.

- Sylvain Pogodalla was member of the jury of the *Prix de thèse en Intelligence Artificielle* awarded by the Association Française pour l'Intelligence Artificielle (AFIA).

## 8.3. Popularization

- Maxime Amblard is member of the editorial board of interstice )i(, a french revue popularisation for computer sciences (http://interstices.info). He is the head of the rubric *informatique -ou presque- dans les films*.

- Maxime Amblard gave an interview for the *journal du CNRS* about Real Humans (a television drama series), may 2014.

- Maxime Amblard has participate to a television report about the SLAM project for *France 3 Lorraine*, may 2014.

- Maxime Amblard wrote an article about the SLAM project for the *Journal du CNRS*, january 2014.

- In November, Bruno Guillaume has demonstrated the prototype ZombiLingo and Jiří Maršík the ACGTK graphical output during the "Forum Sciences Cognitive" in Nancy.

- Jiří Maršík has participated to the regional final of the competition *Ma thèse en 180 secondes*.

- Jiří Maršík gave a talk to high school students at the Summer Camp of Mathematics and Physics (Letní matematicko-fyzikální soustředění) about treating words as fractions and algebraic expression where syntacticality is verified by cancelling out, Faculty of Mathematics and Physics of the Charles University (Matematicko-fyzikální fakulta Univerzity Karlovy).

## 8.4. Other Scientific Animation

- Maxime Amblard is an elected member of the "conseil d'UFR" of the UFR mathematics and computer sciences, until Dec. 2014.

- Maxime Amblard is an elected member of the "conseil de laboratoire" - Loria.

- Maxime Amblard is an elected member of the "conseil scientifique" of the Université de Lorraine (member of the board of the council since Nov. 2014).

- Maxime Amblard is an invited member of the "Pôle scientifique AM2I" of the Université de Lorraine.

- Maxime Amblard was member of the CA of the scientific association ATALA until june 2014.

- Maxime Amblard was member of the "comité de sélection" McF 4169 (CNU section 17 and 72) - Université Paris Descartes

- Bruno Guillaume is an elected member of the "Pôle scientifique AM2I" of the Université de Lorraine.

- Bruno Guillaume is a member of the Comipers (Inria commity for PhD and Post-doctoral selection).

- Bruno Guillaume was one of the two redactors of the CPER 2015-2020 project "Langues, Connaissances et Humanités Numériques" (Languages, Knowledge and Digital Humanities) in which ten laboratories of the Université de Lorrraine are implied.