



RESEARCH CENTER  
Nancy - Grand Est

FIELD

Activity Report 2014

# Section Popularization

Edition: 2015-03-26



1. ALGORILLE Project-Team .....	4
2. ALICE Project-Team .....	5
3. BIGS Project-Team .....	6
4. CAMUS Team .....	7
5. CAMEL Project-Team .....	8
6. CARTE Project-Team .....	9
7. CASSIS Project-Team .....	10
8. COAST Team (section vide) .....	11
9. CORIDA Team (section vide) .....	12
10. MADYNES Project-Team (section vide) .....	13
11. MAGRIT Project-Team .....	14
12. MAIA Project-Team .....	15
13. MASAIE Project-Team (section vide) .....	16
14. MULTISPEECH Team .....	17
15. NEUROSYS Team .....	18
16. ORPAILLEUR Project-Team (section vide) .....	19
17. PAREO Project-Team .....	20
18. SEMAGRAMME Project-Team .....	21
19. SHACRA Project-Team .....	22
20. TONUS Team .....	23
21. TOSCA Project-Team .....	24
22. VEGAS Project-Team .....	25
23. VERIDIS Project-Team .....	26

## ALGORILLE Project-Team

### 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.

## **ALICE Project-Team**

### **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.

## BIGS Project-Team

### 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).

## **CAMUS Team**

### **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

## **CAMEL Project-Team**

### **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”.



## **CARTE Project-Team**

### **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**

### **9.3. Popularization**

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

**COAST Team (section vide)**

**CORIDA Team (section vide)**

**MADYNES Project-Team (section vide)**

## **MAGRIT Project-Team**

### **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<sup>0</sup> working group aiming at introducing computer science in secondary and high school curricula. Among other activities, he was also an associate researcher to a MATH.en.JEANS workshop.

---

<sup>0</sup>Institut de Recherche sur l'Enseignement des Mathématiques - *Research Institute for Teaching Mathematics*

## MAIA Project-Team

### 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.

**MASAIE Project-Team (section vide)**



## **MULTISPEECH Team**

### **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)

## NEUROSYS Team

### 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 delayed 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)

**ORPAILLEUR Project-Team (section vide)**

## PAREO Project-Team

### 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.

## SEMAGRAMME Project-Team

### 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).

## SHACRA Project-Team

### 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<sup>th</sup> 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<sup>th</sup> to the 20<sup>th</sup> 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 interventions 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.

## **TONUS Team**

### **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".

## TOSCA Project-Team

### 9.3. Popularization

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



## **VEGAS Project-Team**

### **7.3. Popularization**

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

## **VERIDIS Project-Team**

### **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.