



RESEARCH CENTER
Paris - Rocquencourt

FIELD

Activity Report 2013

Section Popularization

Edition: 2015-04-10

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AXIS Project-Team (section vide)

ABSTRACTION Project-Team

9.3. Popularization

Xavier Rival gave an interview about the verification of safety critical embedded softwares to the “Inriality” online magazine, in July 2013.

AOSTE Project-Team

9.3. Popularization

We held a thematic Spring School in late April in Shanghai, based on the topics of the DAESD associated-team 8.4.1.1 . It was open to students from all over China, and we invited also chinese speakers (but the attendance of around sixty students was mostly from several universities in and around Shanghai).

CASCADE Project-Team (section vide)

CONTRAINTEs Project-Team (section vide)

CRYPT Team

6.3. Popularization

Phong Nguyen gave several invited talks:

- [17] at the Workshop on Number Theory, Geometry and Cryptography in UK.
- [16] at the Workshop on Algebraic Aspects of Cryptography in Japan.

DEDUCTEAM Exploratory Action

8.3. Popularization

- **Seminars in international workshops without peer review**
 - Alejandro Díaz-Caro. Identifying isomorphic propositions. In *First Workshop of ANR-NSFC project LOCALI*. Beijing, China. November 4–6.
 - Pierre Halmagrand. Proof compression and certification in Zenon Modulo. In *Third Workshop of the Amadeus Project for Proof Compression*. Nancy, France. September 16.
 - Gilles Dowek has participated to the workshop Locali in Beijing where he has given a talk.
- **Seminars in national workshops without peer review**
 - Alejandro Díaz-Caro. Identifying isomorphic propositions. In *Journées LAC*. Créteil, France. November 28–29.
 - Alejandro Díaz-Caro. Vectorial types, non-determinism and probabilistic systems: Towards a computational quantum logic. In *Quantum Computing in Nancy*. Nancy, France. March 21.
 - Gilles Dowek has participated to the workshop Rochebrune 2013 *La preuve et ses moyens*, where he has given a talk.
 - Gilles Dowek has given several talks on Computer Science in Education, at the congrès de la SIF, the workshop EPI in Nancy, the workshop UPS in Luminy, the journée ISN in Orsay, the journée Pascaline in Paris, etc.
 - Gilles Dowek has given several popular science talks: in Paris for the young kangaroos, in Athens, and in the Lycée Raoul Folleraux.
- **Other seminars**
 - Alejandro Díaz-Caro. Hacia una lógica computacional cuántica. FCEIA, Universidad Nacional de Rosario. Rosario, Argentine. August 9.
 - Alejandro Díaz-Caro. Vectorial types, non-determinism and probabilistic systems: Towards a quantum computational logic. PPS, Université Paris-Diderot. Paris, France. May 7.
 - Alejandro Díaz-Caro. Vectorial types, non-determinism and probabilistic systems: Towards a quantum computational logic. LIAFA, Université Paris-Diderot. Paris, France. April 16.
 - Alejandro Díaz-Caro. Non determinism (and probabilities) through type isomorphism. LIP, École Normale Supérieure. Lyon, France. February 21.
 - Alejandro Díaz-Caro. Quantum computing, non-determinism, probabilistic systems...and the logic behind. Modal'X. Université Paris X. Nanterre, France. January 31.
 - Pierre Halmagrand. Zenon Modulo: When Achilles outruns the tortoise using Deduction modulo. Mines ParisTech laboratory CRI. Fontainebleau, France. October 30.

FORMES Team (section vide)

GALLIUM Project-Team

9.3. Popularization

Jacques-Henri Jourdan and Arthur Charguéraud participated in the organization of the Castor computer science contest (<http://castor-informatique.fr/>). This contest aims at making computer science more popular in French high schools and junior high schools. It attracted over 170,000 participants.

Fabrice Le Fessant is one of the organizers of the OCaml meetup in Paris. Four events were organized in 2013, each featuring four short presentations on topics related to OCaml. Each event was attended by about 60 participants.


Xavier Leroy gave a tutorial on using theorem provers in programming language research at the 2013 ACM SIGPLAN Programming Languages Mentoring Workshop, which was attended by about 80 undergraduate, graduate and post-doctoral students.

Since 2012, the Gallium team publishes a research blog at <http://gallium.inria.fr/blog/>, edited by Gabriel Scherer. This blog continued its activity in 2013, with 26 posts by 12 different authors. It covered various changes in the OCaml language, announced small software libraries from members of the team, and discussed Gallium's research, notably the Mezzo language.

MUTANT Project-Team

9.3. Popularization

MuTant team was featured in the 2nd edition of **Made In France (MIF) Expo** in the major Exhibition Hall in Paris (Porte de Versaille) with a **dedicated stand** for Antescofo with more than 3 million visitors during 3 days.



.../mutant/IMG/ONFI3.jpg

Figure 6. Antescofo demo in Ministry of Industry featuring Marlène Schaff (French *THE VOICE*, Season 2)

Antescofo was featured by the French Ministry of Industry for a public talk and largely diffused demo featuring the french star singer Marlène Schaff from *The Voice*.

Arshia Cont was invited for a public presentation/demo of *Antescofo* for the 20th anniversary of the **Prix La Recherche**. [Click for video](#).

Jean-Louis Giavitto has co-animated the public discussion following the movie "Codebreaker: Alan Turing" with C. Villani and G. Berry at the Cinema Grand Action. He gave several seminars for a non computer scientist audience:

“Analyse formelle des concepts, Q-analyse et programmation spatiale : quelques aspects philosophiques du nœud mathématique/musique/ informatique, séminaire MaMuPhi, l’Ecole Normale (february 2013);

“Écriture du temps et de l’interaction en informatique musicale”, séminaire Philosophie de l’informatique, de la logique et de leurs interfaces, Centre Cavallès, Ecole Normale, (mars 2013);

“Modélisation spatiale et approche géométrique en musique”, Journées nationales du RNSC (octobre 2013);

“Simultanéité, succession et durée dans l’interaction musicale en temps-réel”, séminaire MaMux Temps, rythme et arithmétique, (décembre 2013).

As the redactor-in-chief of TSI, Jean-Louis Giavitto has initiated a new section devoted to portraits and talking with french personalities in computer science. These articles are also published in the SIF journal.

José Echeveste has presented Antescofo and participated to the event organized for the “Fête des Sciences” at Forum des Halles and UPMC.

We have published a popularization article on "Computer Assisted Music" in the review [DocSciences](#), number 15.

PARKAS Project-Team (section vide)

PL.R2 Project-Team

7.3. Popularization

Yann Régis-Gianas organised the "Fête de la Science" event for the computer science department of the University Paris 7.

Yann Régis-Gianas co-organised the "Journée Francilienne de Programmation", a programming contest between undergraduate students of three universities of Paris (UPD, UPMC, UPS).

Yann Régis-Gianas gave several conferences about computer science in several primary schools of Paris.

POLSYS Project-Team (section vide)

PROSECCO Project-Team

9.3. Popularization

9.3.1. Vulnerability Reports

- Benjamin Smyth and Alfredo Pironti reported TLS truncation vulnerabilities to Helios, Microsoft, and Google, and presented a talk at BlackHat USA. They were acknowledged in Google's Hall of Fame.
- Karthikeyan Bhargavan and Antoine Delignat-Lavaud reported HTTPS header truncation vulnerabilities in Google Chrome and Apple Safari, resulting in a security update to Google Chrome.
- Karthikeyan Bhargavan and Antoine Delignat-Lavaud reported TLS protocol-level vulnerabilities in Internet Explorer, Google Chrome, and Mozilla Firefox, resulting in security updates to all three.
- Antoine Delignat-Lavaud reported new vulnerabilities in Akamai-hosted websites, resulting in an update to Akamai's web caching network.

SECRET Project-Team (section vide)

CAD Team (section vide)

CLASSIC Project-Team

8.3. Popularization

Gilles Stoltz

- wrote a blog post for MPT2013 and an article for The Huffigon Post, in the researchers' blog;
- gave a conference for high school teachers in Orléans;
- gave a mini-course on statistics to “classes préparatoires” professors at ENS Paris and a mini-course of game theory at ENS Rennes, targeted to inspectors of high-school-teachers.

GAMMA3 Project-Team (section vide)

MATHRISK Project-Team (section vide)

MICMAC Project-Team (section vide)

MOKAPLAN Exploratory Action

8.2. Popularization

Jean-David Benamou run a Ipython Notebook web site <https://mathmarx.rocq.inria.fr:9999> on which simple Optimal Mass Transportation algorithm are coded in python and can be tested and modified.

SIERRA Project-Team

9.3. Popularization

- A. d'Aspremont, Journée Big Data, ENSAI, Rennes, November 2013.

ANGE Team

9.3. Popularization

08/01/13 J. Sainte-Marie together with O. Bernard (Inria BIOCORE) and B. Sialve (Naskeo) published a short article named “Un zeste de mathématiques pour les biocarburants de demain” on the french Mathematics for Planet Earth website.

30/05-02/06/13 N. Seguin participated to the “Salon de la culture et des jeux mathématiques” at the UPMC stand. This forum aims at explaining the job of researcher in Mathematics to pupils and high school students.

10-11/10/13 E. Audusse gave a talk for high school students at “Savante Banlieue”.

10-12/10/13 E. Audusse, E. Godlewski, R. Hamouda, Y. Penel and J. Sainte-Marie run the Inria stand at the 2013 edition of the “Fête de la Science”. They presented animations of past tsunamis to a general public.

2013 E. Audusse intervened in a secondary school (Pontault Combault) for “Maths en Jeans”.

2013–2014 E. Audusse, R. Hamouda and J. Sainte-Marie implemented a software (“Tsunamath”) for simulating tsunamis in the context of a worldwide exhibition for Mathematics of Planet Earth. The first stage will be held in Berlin in March 2014.

ARAMIS Team

9.3. Popularization

The team is involved in the BrainCatalogue project (coordinator: Roberto Toro, Institut Pasteur) dedicated to the popularization of neuroanatomical knowledge. The project features MRI scans and 3D reconstructions for various vertebrates species (bear, mouse, macaque, dolphin, leopard, rhinoceros, human, squirrel ...).

The team has participated to the ICM "Donor days".

BANG Project-Team

8.3. Popularization

- Jean Clairambault: (1) 1 h Forum des métiers UPMC, September; (2) 2 h Exposé “Animath” lycée St Laurent, Lagny, November
- Marie Doumic: movie on the ERC grants for "Horizon 2020", <http://www.horizon2020.gouv.fr/cid75865/video-lancement-horizon-2020-decembre-2013.html>

CLIME Project-Team

9.3. Popularization

- Marc Bocquet made a presentation on employment in the environment sector at the second “Forum Maths Emploi”, January 2013, Paris.
- Marc Bocquet wrote a paper [32] on “Modélisation numérique de la dispersion atmosphérique accidentelle des radionucléides : l’état de l’art de la recherche” in the journal “Revue du Centre de Défense NBC”.
- Isabelle Herlin and Vivien Mallet wrote an introduction to air quality simulation [33] for a special issue on Mathematics for Planet Earth dedicated to teachers in french “collèges” and “lycées” and an internet contribution [35] “Votre air, votre santé”: <http://mpt2013.fr/votre-air-votre-sante/>
- Vivien Mallet introduced numerical simulation of air pollution at the 2013 edition of “Mathématiques en mouvement”.
- Vivien Mallet and Anne Tilloy took part to the festival “Futur en Seine” and presented, during four days, research advances in air quality simulation at urban scale.

POMDAPI Project-Team

7.3. Popularization

J. Ch. Gilbert has written the following pages on Wikipedia.fr in 2013: [Algorithme des directions alternées](#), [Borne d'erreur](#), [Complémentarité](#), [Cône dual](#), [Ensemble de sous-niveau](#), [Gradient projeté](#), [Inéquation variationnelle](#), [Lagrangien \(optimisation\)](#), [Lemme de Hoffman](#), [Matrice complètement positive](#), [Matrice copositive](#), [Méthode de Gauss-Seidel](#), [Optimisation complètement positive](#), [Optimisation conique](#), [Optimisation convexe](#), [Optimisation copositive](#), [Optimisation SDP](#).

M. Kern gave a talk on “Mathematics and Simulation” at the *Palmarès académique des Olympiades de mathématiques de l'Académie de Paris*, on May 29th, 2013.

M. Kern gave a talk on “Mathematics and Subsurface Water”, as part of the *Promenades mathématiques* program for students in Terminale S and 1ère S, at Lycée Émilie du Châtelet (Serris), on May 22nd, 2013.

REO Project-Team

8.3. Popularization

- Ayman Moussa
 - Participation at “Fête de la science” at Paris 7

SISYPHE Project-Team

9.3. Popularization

The high profile publications in *Nature* and *Science* are popularizing the new field of quantum engineering.

ALPINES Team

9.3. Popularization

Xavier Claeys dedicated an afternoon to participation to the "fête de la science".

ARLES Project-Team

8.3. Popularization

- Benjamin Billet was invited to speak at a one-day Android tutorial event organized by the ARAMIS business network at Lyon.
- Animesh Pathak attended the "India-France Technology Summit" in New Delhi, India as part of the Inria delegation, where he was part of a panel on urban rail, and also presented a technology showcase of "TravelDashboard: Smart Mobility for Urban Travelers".
- Animesh Pathak was invited to be part of a panel on the "Chronique marché des applications mobiles" television programme on the French TV channel TVFIL78.
- Emil Andriescu, Sara Hachem, Kim Hwa Khoo, Georgos Mathioudakis Animesh Pathak, and George Rosca represented Inria at the "Futur en Seine" technology expo in Paris.

DYOGENE Project-Team (section vide)

GANG Project-Team

8.3. Popularization

8.3.1. scientific popularization

Participant: Laurent Viennot.

Laurent Viennot is correspondent for the Inria Paris-Rocquencourt center concerning scientific popularization. In that context, he has participated to a document describing how scientific popularization actions could take place at Inria [26]

HIPERCOM2 Team

9.3. Popularization

- **Futur en Seine**, in Paris, June 2013. The HIPERCOM2 team was very active and presented demonstrations of Wireless Sensor Networks with a focus on the context of Smart Cities. The demonstration prepared by Cédric Adjih, Ichrak Amdouni, Hana Baccouch, Ridha Soua and Ala-Edin Weslati concerned the principles of wireless sensor networks, the energy-efficient routing protocol, the node coloring algorithm running in the OCARI network to maximize network lifetime; along with application of wireless sensor networks to Smart Cities. The open testbeds for wireless sensor networks, Senslab and Equipex-FIT were also presented: what do they offer and how to use them.
- Nadjib Achir, Cédric Adjih, Hana Baccouch, Ichrak Amdouni and Ridha Soua explained the principles of communication and routing in wireless sensor networks and organized several demonstrations for undergraduates and students who visited Inria in February 2013.

RAP Project-Team (section vide)

REGAL Project-Team

8.3. Popularization

- Marc Shapiro presented a tutorial on “From strong to eventual consistency: getting it right” at [OPODIS 2014](#).
- Marc Shapiro organized the Dagstuhl workshop on “Consistency in Distributed Systems,” in February 2013 [[24](#)].

ALPAGE Project-Team

9.3. Popularization

- Benoît Sagot has given in December 2013 a tutorial about the MElt POS-tagger for approx. 20 linguists, as part of the activities of the Corpus Écrits consortium, which belongs to the TGIR Hum-Num.
- General NLP presentation at the ISN day (for Math teachers, computer science option, December 4th)
- Interventions at Digilinguo (organized by DGLFLF) on April 15th and June 5th, in particular for the promotion of Mgwiki
- Intervention at the Inria I-Match day, organized during the "Futur en Seine" event (June 14th)

SMIS Project-Team

9.3. Popularization

- "Comment préserver l'anonymat", Pour la Science, n° 433, novembre 2013.
- "Bases de données en Classe Préparatoire", séminaire à Luminy, mai 2013.
- Tutorial on experimental methodology at the BDA summer school 2014 "Masses de données distribuées".
- Participation to the "Futur en Seine" event in Paris: <http://web-tech.fr/linria-nous-devoile-ses-recherches-sur-les-smart-cities/>
- "Une nouvelle approche de la protection de nos données", My Science Work, July 8, 2013, by Abby Tabor <http://www.mysciencework.com/news/10335/une-nouvelle-approche-de-la-protection-de-nos-donnees>

WILLOW Project-Team

9.5. Popularization

- J. Ponce participated in the iMatch meeting at Futur en Seine, June 2013
- J. Sivic participated in the CityLabs@Inria presentation at Futur en Seine, June 2013

IMARA Project-Team

9.3. Popularization

Several members of the team have participated in the exhibition Futur-en-Seine (104, Paris, June 13-16 2013) by presenting the CITRIS association and explaining videos to industry (June 13-14) and public (June 15-16).

Guillaume Tréhard supervised three students from the Lycée Henri Bergson, Angers for their TIPE (TIPE, travaux d'initiative personnelle encadrés) "Assistance au freinage d'urgence par contrôle moteur d'un véhicule électrique".

Jean-Marc Lasgouttes has presented "some solvable models for road traffic" at the *demi-heure de science* of the Paris–Rocquencourt Inria research center.