Activity Report 2016

Section Popularization

ARIC Project-Team

9.3. Popularization

Claude-Pierre Jeannerod gave an invited talk at *Journés Nationales de l'APMEP* (Lyon, October 2016), on the theme of algorithms for computer arithmetic.

Paolo Montuschi (Politecnico di Torino) and Jean-Michel Muller wrote a short paper on Computer Arithmetic for Computer Magazine [51].

Nathalie Revol is a member of the steering committee of the MMI: Maison des Mathématiques et de l'Informatique, and in particular she was involved in the creation of the *Magimatique* exhibition. She presented some magic tricks during *Forum des Associations de Lyon 7e* and during the Science Fair, and she helped a class of high-school pupils (2nd) of Lycée Juliette Récamier (Lyon) to prepare a show for other pupils. She belonged to the selection committee for the MathInfoLy summer school for high-school pupils (around 90 french-speaking pupils). As an incentive for high-school pupils, and especially girls, to choose scientific careers, she gave talks at Lycée Lucie Aubrac (Ceyzériat), Lycée Xavier Bichat (Nantua) and Mondial des Métiers (in January and February 2016). She presented computer science for primary school pupils (CM2, École Guilloux, St-Genis-Laval: 12 lectures and hands-on of 1h30 in 2015-2016, for each of the 2 classes). She presented this work during the *Journées Passeurs de Science Informatique* of SIF in June 2016 and during the workshop *Robots pour l'éducation*. She also presented this work at a TEDxINSA talk and for IESF (Ingénieurs et Scientifiques de France). She took part in a training session for teachers, sponsored by Google, in September 2016. She co-organized two days on "Info Sans Ordinateur" gathering researchers interested in unplugged activities. With Jérôme Germoni and Natacha Portier, she co-organized a day *Filles & Maths* in May 2016 and a day *Filles & Info* in November 2016, each gathering about 100 high-school girls of 1e S. She is one of the editors of Interstices: https://interstices.info. She taught how to disseminate (computer) science for PhD students in a 20h module of *Insertion Professionnelle*.

Damien Stehlé will give a talk at the CNRS 'Colloque Sociétal Sécurité Informatique' (December 2016), on Fully Homomorphic Encryption.

COMPSYS Team

10.3. Popularization

The interdisciplinary spring school organized in May 2016 (see Section 10.1) is a form of popularization of compiler technology (in particular polyhedral optimizations) towards HPC users from the numerical simulation community.

CONVECS Project-Team

9.3. Popularization

H. Garavel participates to the program committee and organization committee of FMF (Formal Methods Forum [0]), a series of industrial conferences on formal methods set up by the competitivity clusters Aerospace Valley and Minalogic, with the support of Inria and many other partners. The 6th FMF conference, devoted to safety engineering, was held on January 26, 2016. The 7th FMF conference, devoted to formal methods and cybersecurity, is scheduled on January 31, 2017.

H. Garavel and R. Mateescu co-operated with Gérard Berry to prepare his lecture on explicit-state enumerative verification given at Collège de France on April 22, 2016.

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[0]http://projects.laas.fr/IFSE/FMF

CORSE Project-Team (section vide)

DICE Team

9.3. Popularization

Aurélien Faravelon: 12/05/2016, Débats Citoyens, Musée Galo Romain de Lyon

Robert Riemann: 28/12/2016, Chaos Communication Congress/We fix the Net assembly, Hambourg

PRIVATICS Project-Team

9.3. Popularization

9.3.1. Interview

Privatics team has participated to an episode of X:enius entitled: "Données personnelles : à quel point sommes-nous prévisibles ?". It features an interview of Claude Castelluccia, Daniel Le Métayer and Mathieu Cunche. The episode was broadcasted the 12th december 2016 on Arte.

9.3.2. Articles

D. Le Métayer in *France Stratégie, Algorithmes, libertés et responsabilités*, 10/03/2016.

C. Castelluccia in Le Monde, *Que reproche-t-on au TES, le « mégafichier » des 60 millions de Français*, 08/11/2016.

M. Cunche and C. Matte in GNU/Linux Magazine HS 84, *Traçage Wi-Fi : applications et contre-mesures*, 05/2016.

M. Cunche in Arte Futuremag, *Données personnelles, nos smartphones nous espionnent-ils?*, 05/2016.

9.3.3. Conferences

C. Castelluccia, *An Introduction to DataVeillance (Data + Surveillance)*, LIG UGA Keynote, 07/04/2016

V. Roca, *Vie privé et smartphones font ils bon ménage?*, Cours Universite´ Ouverte, Lyon 1, cycle Impact de l'informatique sur la socie´te´ et sur nos vies, 11/2016.

C. Lauradoux, *Email et vie privée: pourquoi utiliser GPG ?*, Cours Master 2, 01/12/2016

C. Lauradoux, *Cryptographie et grands nombres*, Olympiades académiques de Mathématiques, 04/07/2016

C. Lauradoux, *Cryptographie visuelle*, Collège/Lycée Jean Prévost, 01/06/2016

C. Lauradoux, *Cryptanalyse*, stage MathC2+, 06/2016

C. Lauradoux, *Protéger la confidentialité de ces messages*, Collège Paul Fort Is sur Tille, 04/10/2016

C. Lauradoux, *Internet et vie privée*, Collège Poncet Cluses, 15/12/2016

SPADES Project-Team

9.3. Popularization

Alain Girault gave a lecture to high school math professors, titled "Multi-core architectures, reliability, and optimization" (ISN conference cycle, Grenoble, February 2016). http://www.canal-u.tv/video/inria/architectures_multi_coeurs_ fiabilite_et_optimisation.20829

BIPOP Project-Team

9.3. Popularization

- Modélisation de matériaux granulaires (Florence Bertails-Descoubes, Gilles Daviet) : participation à l'écriture d'un article court pour le CNRS, "Représenter du sable sans poudre aux yeux", http://www.cnrs.fr/ins2i/spip.php?article2175

MISTIS Project-Team

10.3. Popularization

- S. Girard presented his research on extreme-value analysis at the "Conférence ISN et enseignement", March 2016, video. He also gave a talk at the Institut de Maitrise des Risques (IMdR) [38] on a similar topic.
- Julyan Arbel led the Math en Jeans teams at Lycée francais Jean Giono, Turin, working on various subjects spanning from statistics, machine learning, to combinatorics and games.

NANO-D Project-Team (section vide)

NECS Project-Team

10.3. Popularization

The GTL webpage (http://gtl.inrialpes.fr/status) went public in November: more generally the traffic activities have been popularized via the following public talks.

- M. L. Delle Monache. DEMO on the GTL at the "Journées des nouveaux arrivants", Inria, Paris, Dec. 2016
- M. L. Delle Monache, Traffic flow modeling, GIPSA-Lab days, Grenoble, Nov. 2016

AIRSEA Project-Team

10.3. Popularization

E. Blayo gave several outreach talks, in particular for middle school and high school students, and for more general audiences.

Ch. Kazantsev and E. Blayo participate in the creation of "La Grange des maths" in Varces (south of Grenoble). See http://www.la-grange-des-maths.fr/.

Since 2010, Ch. Kazantsev is the Director of the IREM of Grenoble http://www-irem.ujf-grenoble.fr/irem/accueil/. The Institute is under rapid development now, joining about 50 teachers of primary and secondary schools of the Grenoble region and 15 university professors. They work together 16 times a year on the development of the teaching strategy for the educational community. In addition to this, IREM is the editor of two journals: "Grand N" destined to primary schools teachers and "Petit x" – to the secondary schools.

M. Nodet and E. Arnaud co-organises a year-round weekly math club in two secondary schools, where pupils research open mathematical problems.

M. Nodet is a member of "les Emulateurs", a group of Grenoble Univ. professors meeting once a month around the subjects of innovative pedagogy and its applications to universities.

M. Nodet takes part in a maths club "Math en Jeans" involving two secondary schools around Grenoble.

M. Nodet takes part in training modelling in mathematics to secondary school maths teachers through the regional "Maison pour la Science" and is also in charge of an IREM group about building interdisciplinary projects for secondary school classes.

Podcast Interstices Clémentine Prieur's interview https://interstices.info/jcms/p_86521/mieux-modeliser-le-climat-grace-aux-statistiques

BEAGLE Project-Team

8.3. Popularization

- E Tannier gave a series of lectures for a large public at "Université Populaire de Lyon", on "anarchy in biology".

DRACULA Project-Team

9.3. Popularization

- Fabien Crauste : Conference "Grippe saisonnière, épidémie, pandémie : quel apport des mathématiques ?" Université Ouverte, Bibliothèque de Lyon, March 30, 2016.

- Laurent Pujo-Menjouet : Conference "Mathématiques et relations amoureuses : les jeux de l'amour et sans le hasard ?" Université Ouverte, Bibliothèque de Lyon, February 3, 2016.

ERABLE Project-Team (section vide)

IBIS Project-Team (section vide)

NUMED Project-Team (section vide)

STEEP Project-Team

10.3. Popularization

STEEP team has organized a series of conferences entitled "Understanding and Acting" (six conferences in 2016). The conferences has been filmed, edited and posted on the video-sharing website, YouTube. A total of more than 500 people have attended to the conferences. The conferences received more than 2000 YouTube views (December 2016).
https://www.youtube.com/channel/UCJbcXCcOA63M8VMysAbmt_A
https://team.inria.fr/steep/les-conferences-debats-comprendre-et-agir/

Emmanuel Prados gave a "conférence-débat" at "Marie Reynoard" High school on "Sustainable development, territorial governance and democracy" (Villard-Bonnot, France, 16th of December, 2016).

Emmanuel Prados gave a conference at the "Café In" of Inria Sophia-Antipolis entitled "Comprendre les phénomènes d'effondrement de sociétés. Quel avenir pour la nôtre ?" (Sophia-Antipolis, France, 10th of November, 2016).

Emmanuel Prados has organized a workshop in collaboration with the EP SCOT Grenoble on the land-use and transport modelling and on its potential application to the follow up of the Grenoble' SCOT project (Grenoble, France, 14th of October, 2016). Representatives of all the main political and administrative authorities of Grenoble area attended to this workshop (Région Rhône-Alpes, Département of Isère, Grenoble-Alpes Métropole, AURG, municipalities communities of Grenoble employment catchment areas).

AVALON Project-Team

9.3. Popularization

- Laurent Lefevre has been :
    - Interviewed in "Interception" Radio Magazine on "To click, is to pollute" ("Cliquer c'est polluer"), France Inter Radio, 6 November 2016
    - Interviewed with Françoise Berthoud, "Télévision : Changement de norme = grand gâchis écologique - Site Reporterre.net, - 5 April 2016
- Gilles Fedak has been interviewed in Bitcoin.fr, November 2016

CTRL-A Team (section vide)

DANTE Project-Team (section vide)

DATAMOVE Team

9.3. Popularization

In conjonction with the Polaris team, the team (Seniors and PhDs) participates to several "computer science with hands" events, notably the "Fête de la science", every year, but also some visits of classes from high school of the area along the year at Inria Rhône-Alpes.

Talk at the ISN conference organized by Inria, dedicated to present the computer science to teachers of High School

POLARIS Team

9.3. Popularization

The POLARIS team is actively involved in various scientific popularization activities. In addition to participating in the Fête de la Science (Guillaume Huard, Florence Perronnin, Jean-Marc Vincent), the POLARIS team also participates in the organization of the "Conférence Inria". Jean-Marc Vincent has also organized (and/or participated in) several training courses for computer science teachers (at a high school level) and has supervised several MathC2+ trainees.

Jean-Marc Vincent also organized the 2-day-long atelier "Computer Science without Computers" for elementary school students; the atelier was nominated for the Shannon trophy (awarded by the Institut Henri Poincaré).

ROMA Project-Team

10.3. Popularization

Frédéric Vivien gave two lectures about "Approximation algorithms" at the CIRM "Algorithmique et programmation" workshop for Maths teachers in *Classes préparatoires aux grandes écoles*. The two lectures were recorded and are available online (http://library.cirm-math.fr/Record.htm?Record=19278406157910966889).

SOCRATE Project-Team (section vide)

URBANET Team

10.3. Popularization

- Hervé Rivano has been involved in several popularization actions, in particular with the Grand Lyon metropolis (on air quality monitoring, smart cities infrastructure), SPL Lyon Part Dieu (on sensors networks), the TUBA (on sensors, mobility, networking), and Cité du Design et de l'Industrie.

- Hervé Rivano was a panelist at a pubic debate on "revolutions in education, culture, thinking and public space".

CHROMA Team (section vide)

EXMO Project-Team

8.3. Popularization

- Jérôme Euzenat gave a training conference in computer science for high-school teachers on "Language and semantics", Inria, Montbonnot (FR), 2016-02-10

IMAGINE Project-Team

8.3. Popularization

Marie-Paule Cani

- "Façonner l'Imaginaire...": Towards the Expressive Design of Animated Virtual Worlds "Imagination Week de l'ESSEC, Paris, Janvier 2016.

- Formes, mouvements, et mondes virtuels... Quel média pour façonner l'imaginaire ? Forum des savoirs, Rouen, 2016. Exposé également donné à l'Institut de Biologie de Paris VI, octobre 2016.

- participation to a Round Table within the conference:"Mathématiques Oxygène du Numérique", Paris, November 2016.

Damien Rohmer gave a presentation on

- Researches and applications in Computer Graphics to ENS Lyon students.

- Scientific image production to mathematiciens scientists at the MMI (Maison des Mathématiques et de l'Informatique) in Lyon.

- Garment and developable surface modeling at the R3iLab (Réseau innovation immatérielle pour l'industrie).

Rémi Ronfard

- Eye tracking and the arts. Invited talk at Experimenta, Grenoble, October 2016.

- Artificial Intelligence and the arts. Invited talk at Atelier Arts et Science, CEA/Hexagone, Grenoble, October 2016.

MAVERICK Project-Team

9.3. Popularization

Every year, "MobiNet" (see section 4.5) classes are conducted with high school pupils of the large Grenoble area to practice initiation and intuition on Computer Science, Maths and Physics. Depending on the year, we have 2 to 4 groups in the scope of INP-Grenoble "Enginneering weeks", and 0 to 2 groups in the scope of Math-C2+ operations.

MORPHEO Project-Team

10.3. Popularization

Morpheo members have demonstrated the Kinovis platform to the general public on numerous occasions, and most notably for the "Fête de la Science".

PERCEPTION Project-Team (section vide)

PERVASIVE INTERACTION Team (section vide)

THOTH Project-Team (section vide)

TYREX Project-Team (section vide)