informatics *mathematics*

Inria

RESEARCH CENTER
Grenoble - Rhône-Alpes

FIELD

Activity Report 2015

Section Popularization

AIRSEA Team

10.3. Popularization

- A.Vidard has Animated the stand Inria at the exposition "Solutions - COP 21", December,9, 2015
- A.Vidard has given a Conference «Le numérique au service de l'observation et de l'anticipation des changements climatiques» at the Exposition "Solutions - COP 21", December,9, 2015
- C.Prieur has given an interview to Interctices.info https://interstices.info/jcms/p_86521/mieux-modeliser-le-climat-grace-aux-statistiques
- E. Blayo participated to a Journée numérique, at the French Senate (Paris), on Feb. 11th, 2015. http://www.senat.fr/evenement/journee_numerique_inria.html
- E. Blayo gave several outreach talks, in particular for high school students and for groups of teachers.
- M. Nodet co-organises a year-round weekly math club in two secondary schools, where pupils research open mathematical problems.
- M. Nodet organised a two-month weekly meeting at a secondary school to explain mathematical research, in particular modelling for ocean and climate.
- M. Nodet gave an outreach talk about maths and oceanic currents in a secondary school during the mathematical week 2015.
- M. Nodet wrote, with J. Ehrel, two outreach papers for Interstices about glaciology and inverse problems [32], [31].
- M. Nodet gave an outreach talk about mathematical modelling for the environment at the IREM Lille 2015 conference [33].
- Several members of the AIRSEA team have contributed to the 2015 Science Festival through an information stand entitled "Understanding oceanic and atmospheric circulations".
- 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.
- Ch. Kazantsev and E. Blayo participate in the creation of "La Grange des maths" in Varces
- Ch. Kazantsev has organized two stages of one or two days for children 14 or 15 years old during the holidays in the framework of "MathC2+", participation in these stages for one or two animations (in calculus and in modelisation), 2x2h for each animation
- A.Vidard gave an outreach talk at the Summer school "Traitement du signal et des images", Peyresq, juin 2015
- M. Nodet and Ch.Kazantsev are involved in an IREM group which aims to bring interdisciplinarity into secondary school curriculum and proposes activities for teachers.
- M. Nodet co-organised a two day training session for secondary and high school teachers, about modelling and mathematics for the newly created Maison Pour la Science Alpes Dauphiné.
- M. Nodet is involved in various events and groups related to pedadogy at university levels.

<p align="center" style="color:red;font-weight:bold">ARIC Project-Team</p>

10.3. Popularization

Nicolas Brisebarre co-organizes scientific conferences, called «Éclats de sciences», at Maison du Livre, de l'Image et du Son in Villeurbanne. Around three conferences take place per year.

Nathalie Revol is a member of the steering committee of the MMI: Maison des Mathématiques et de l'Informatique. She led a "Coding morning" for Inria assistants at Montbonnot (February 2015). She gave two conferences for high-school teachers (Montbonnot, February and Grenoble, May 2015). As an incentive for high-school pupils, and especially girls, to choose scientific careers, she gave talks at Lycée Simone Veil (Châtillon d'Azergues) and Mondial des Métiers (both in March 2015). She gave conferences for Rallye des Maths (May 2015) and during the Science Fair (2 high-school classes, October 2015). During the Science Fair, she was also present one afternoon at Médiathèque du Bachut - Lyon 8e. She presented computer science unplugged for primary school pupils (CM1, École Guilloux, St-Genis-Laval: 8 lectures of 45mn each) and computer science plugged (CM2, École Guilloux, St-Genis-Laval: 10 lectures of 1h in 2015-2016, 2 classes). She presented this work during Forum Maths Vivantes (October 2015). She also met people from Ébulliscience and FERS (Fondation Entreprise Réussite Scolaire) to give advice on their projects of popularization of computer science towards primary schools and high school pupils.

AVALON Project-Team

10.3. Popularization

Eddy Caron has participated to the following interview:

- Interview for NSmag N°9, Editeur: Imaginove. «Pipeline de production: Optimisation des temps de calcul et parallélisme». January 2015.

Laurent Lefevre has participated to the following interviews and publications :

- Interview for Sciences pour tous, "Le numérique écologique, c'est possible ?", "A digital ecological world, is it possible ?", September 2015.
- Interview : "Internet au bord de la saturation ?", Le MAG de la Science, Science et Vie TV, 26 Septembre 2015
- Interview : "Comment Internet pollue (vraiment) la planète", BFM Business, May 29, 2015
- Interview Industrie et Technologies : Un blackout d'Internet en 2023 ? 5 raisons de ne pas y croire", May 13, 2015
- Interview in "Le Monde" NewsPaper : "Internet congestionné d'ici à 2023 ? Pas si vite !", May 12, 2015
- Interview in "#2020 program", "Internet Crunch" : La mort du web est pour 2023", Mouv' Radio, May 12, 2015
- Combined Short papers in "Liberation NewsPaper" and "CNRS Le Journal" : "Le Big Data est il polluant ?", Laurent Lefevre, Jean-Marc Pierson, April 3, 2015
- Interview in Sciences et Avenir Journal : "Coup de chaud sur les data centers", Number 816, February 2015

Olivier Glück has participated to the following interview:

- Interview for Radio France Mouv in LE 20#20 radio broadcasting on "La mort du web & Naruto", 12 mai 2015 20h30. Podcast http://www.mouv.fr/player/reecouter?play=198336

BEAGLE Project-Team

9.3. Popularization

- Eric Tannier gave a series of three lectures to the "Université populaire de Lyon", entitled "Biocritique"

BIPOP Project-Team

9.3. Popularization

- Florence Bertails-Descoubes co-authored the paper "Approcher des courbes par des hélices" in the journal Quadrature (making the cover of the journal), together with Alexandre Derouet-Jourdan, April 2015.
- Pierre-Brice Wieber gave a lecture on "The best way to walk for a robot" to 100 high-school students during the national Mathematics week, March 2015.

Chroma Team (section vide)

COMPSYS Project-Team

10.3. Popularization

Compsys was involved in the proposal of the inter-disciplinary project EMI, with the maison des mathématiques et de l'informatique (MMI), and the Grame laboratory (computer music). See Section 9.1.3 .

Tomofumi Yuki has given a one-day lecture at the École Jeunes Chercheurs en Programmation 2015 (http://ejcp2015.inria.fr/), entitled "Research in Compilers and How it Relates to Software Engineering".

CONVECS Project-Team

9.3. Popularization

H. Garavel participates to the committee in charge of organizing the Aerospace Valley series of industrial conferences on formal methods.

The fifth conference [0], devoted to testing, held on June 16 in Toulouse and retransmitted by video-conference in Grenoble and Saclay, attracted participants from industry and academia. W. Serwe gave a talk (with Thierry Jéron, Inria Rennes), entitled "*TGV: Génération de tests de conformité à partir de modèles formels*", and a talk (with Massimo Zendri, STMicroelectronics), entitled "*Génération de tests basés sur les modèles pour des systèmes sur puce avec cohérence de caches*".

The sixth conference [0], devoted to safety, is to be held on January 26, 2016.

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[0]http://projects.laas.fr/IFSE/FMF/J5/index.html
[0]http://projects.laas.fr/IFSE/FMF/J5/index.html

CORSE Team (section vide)

CTRL-A Team (section vide)

DANTE Project-Team (section vide)

DICE Team

9.3. Popularization

- Stéphane Grumbach, Big Data : quel impact sur la relation aux citoyens ? Journée #ComDemainIDF de la Région Ile de France, Paris, 13 octobre 2015

- Stéphane Grumbach, Comment le numérique change-t-il la société ? Cycle de conférences Homo numericus, Fête de la science, Bourg-en-Bresse, 10 octobre 2015

- Stéphane Grumbach, Les données numériques : une nouvelle matière première ? Pint of Science, Lyon, 20 mai 2015

- Stéphane Grumbach, A qui profitent les Big Data? Soirée-débat Et si on en parlait, "La Révolution Big Data : chance ou menace?" Grand Amphithéâtre, Université de Lyon, 28 avril 2015

DRACULA Project-Team

9.3. Popularization

- Fabien Crauste : conference "grippe saisonnière, épidémie, pandémie : quel apport des mathématiques ?" à l'Université Ouverte, Lyon, 20 January 2015.
- Thomas Lepoutre is one of the organizer of Mathalyon (Mathematcial exhibitions in highschool with 4 researchers, 20 days of intervention in 2015).

ERABLE Project-Team (section vide)

EXMO Project-Team

10.3. Popularization

- Jérôme Euzenat gave a talk to the Grilog networking business meeting "Big data" on "Publication et exploitation des données avec les technologies sémantiques (Publishing and exploiting data with semantic technologies)", Meylan (FR), 2015-04-28.

IBIS Project-Team (section vide)

IMAGINE Project-Team

8.3. Popularization

- The images of the flat torus rendered by Damien Rohmer within the collaboration with the HEVEA team were presented during the mathematical Abel Price ceremony in favor of John Nash.

LEAR Project-Team (section vide)

MAVERICK Project-Team

9.3. Popularization

Every year, "MobiNet" (see section 5.7) 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.

MESCAL Project-Team

9.3. Popularization

- fête de la science: atelier sciences manuelles du numérique.
- MathC2+: sciences manuelles du numérique.
- Interventions dans des classes de seconde sur la simulation simcity.
- Participation à l'IREM de Grenoble, groupe algorithmique.

MISTIS Project-Team

10.3. Popularization

Pixyl communication.   F. Forbes gave several large audience presentations related to the Pixyl startup and more recently interviews for journals such as Presence and INSERM Science et Santé Magazines.

MOAIS Project-Team (section vide)

MORPHEO Project-Team

10.3. Popularization

- Edmond Boyer gave invited talks at the ENS Cachan and at the Inria Paris, and the inaugural talk at the Kinovis platform inauguration.

- Franck Hétroy-Wheeler gave two talks on digital geometry to secondary school pupils and their families.

- Interactive Kinovis platform demonstration over 2 days for the "Fête de la Science" (within Morpheo: M. Heudre and J. Pansiot).

NANO-D Project-Team

9.3. Popularization

- NANO-D participated to the 2015 Fete de la Science (science fair): SAMSON was used by high school students to perform various activities related to computational nanoscience.

- Emilie Neveu participated with the AirSea team to the 2015 Fete de la Science (science fair).

- Emilie Neveu is part of the group "Cafes Sciences et Citoyens de l'Agglomeration Grenobloise", which organises public roundtables every month.

- Stephane Redon gave a talk at TEDx Grenoble https://www.youtube.com/watch?v=Atpigmv529E

NECS Project-Team

10.3. Popularization

The team's work on traffic prediction and control, with Grenoble Traffic Lab, has been popularized as follows:

- an interview reported in an article in CNRS 'Le Journal', and a related video (in French, see https://lejournal.cnrs.fr/articles/quelle-voiture-pour-demain)

- a video prepared by Inria for RII–Rencontres Inria-Industrie (in English, see https://www.youtube.com/watch?v=Uia4Y-9c6k0&index=5&list=PLV1fJrIaqWlMe5savY102Oz-M_hVmXg30).

- H. Fourati gave a talk 'Prédiction et contrôle du trafic routier sur Grenoble : une solution automatisée avec MATLAB' at the 'journée Nouveautés MATLAB 2015a, Data Analytics & Calcul Parallèle', Grenoble, March 26th.

NUMED Project-Team

7.3. Popularization

- Paul Vigneaux is a member of the board of "Images des Maths", a pedagogic website of CNRS.
- Vincent Valvez is coordinator of Math à Lyon, a monthly two-days mathematical exhibition in public highschools.

PERCEPTION Project-Team (section vide)

PRIMA Project-Team (section vide)

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

9.3. Popularization

Article of C.Castelluccia and D.Le Métayer in le Monde, Oui, la loi sur le renseignement prépare bien une surveillance de masse, 09/06/2015.

Article of C.Castelluccia and D.Le Métayer in Pour La Science, Renseignement : le traitement massif de données est aussi dangereux qu'inefficace, 11/06/2015.

Interview of C.Castelluccia and D.Le Métayer in le Monde, Des dizaines de milliers de personnes vont être suspectées à tort, 06/05/2015.

Article of C.Castelluccia and D.Le Métayer in La Recherche, Les failles de la loi sur le renseignement, 11/2015.

Interview of V. Roca on France Culture in Les Nouvelles Vagues, Privacy leaks in smartphones, 10/2015

Article of V. Roca in Interstice, Quand nos smartphones sont espionnés, https://interstices.info/jcms/p_83464/quand-nos-smartphones-sont-espionnes, 09/2015.

Representation of Privatics by V. Roca at Journée numérique au Sénat, 11/02/2015.

Representation of Privatics by M. Cunche at Journée numérique au Sénat, 11/02/2015.

Seminar of C. Lauradoux at the security seminar LORIA, Google Safe Browsing: Security and Privacy, 18/11/2015.

Seminar of C. Lauradoux at GRACE seminar (Inria Saclay), Membership Tests in Security, 18/11/2015.

Seminar CCA of C. Lauradoux, Exploitations concrètes des mauvaises utilisations des fonctions de hachage, 12/06/2015.

Workshop of C. Lauradoux at GREHACK 2015, Sécurité des drones.

Seminar of Marine Miner at LIMOS seminar, CUBE Cipher: Une Famille de Chiffrement par Blocs Quasi-Involutifs et Facile à Masquer, 01/10/2015.

Seminar of Marine Miner at XLIM seminar, CUBE Cipher: Une Famille de Chiffrement par Blocs Quasi-Involutifs et Facile à Masquer, 10/02/2015.

Seminar of Marine Miner at Rennes, Some solutions for security of WSNs, 11/2015.

ROMA Project-Team

10.3. Popularization

Loris Marchal led a "Math en Jeans" workshop at "Lycée Lacassagne" in Lyon.

Frédéric Vivien gave two lectures about "Scheduling" 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)

SPADES Project-Team

9.3. Popularization

Gregor Gössler was the scientific organizer of an In'Tech seminar on *Embedded systems and liability. Failures, accidents: who's to blame*[0] featuring seven invited speakers and a panel. Led by the INRIA Grenoble - Rhône-Alpes research centre, the In'Tech seminars strive to offer an opportunity for SMEs, industrial operators and researchers to come together, thus promoting technology monitoring and the exchange of information among the various participants in the development of the region's Information Sciences and Technologies.

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[0]http://www.inria.fr/centre/grenoble/actualites/logiciel-embarque-et-responsabilite

STEEP Project-Team

9.3. Popularization

Peter Sturm coordinated, together with Antoine Rousseau (LEMON) and the Direction for Communication, Inria's involvement in the general audience fair dedicated to public research institutions, associated with the COP21 Climate Summit held in December 2015 in Paris. Denis Dupré gave a talk at this event and he and Peter Sturm were part of Inria's delegation at the French research institution's booth, presenting the work of STEEP and Inria to the public.

Emmanuel Prados gave a conference-debat at "Marie Reynoard" High school on "Sustainable development, territorial governance and democracy" (Villard-Bonnot, France, 21th of December, 2015).

In the context of the GICN ("*Groupe Interdisciplinaire sur les Contributions Nationales*") and the climate change conference COP21, Emmanuel Prados have participated in the writing of various newspaper articles [17], [18], [15], [16].

TYREX Project-Team

8.3. Popularization

M. Razafimahazo developed a mobile application for the pupils of the école de la paix, Grenoble. The application uses Augmented Reality for a cultural heritage tour of Grenoble City with content produced by the pupils.

M. Razafimahazo animated a brainstorming during CitizenTIC around OpenStreetMap crowd-sourcing: "Les cartes changent la donne autour des parcours accessibles dans l'agglomération Grenobloise".

N. Layaïda animated several workshops on Open Linked Data for Grenoble City and Grenoble Agglomeration (La métro).

TyReX received two pupils from secondary school, Jeremy Andreoletti and Hugo Kersaudy, for a one week initiation to research. We also hosted several pupils from primary school for one day for a presentation and demos.

URBANET Team

10.3. Popularization

- Hervé Rivano gave a popularization talk entitled "Réseaux de capteurs urbains" in the Tuba X-pert session of February 2015.

- Hervé Rivano participated to a TV Show on "IoT and Smart Cities", Tele Grenoble, April 2015.

- Razvan Stanica gave a popularization talk entitled "Teaching Our Cars How to Speak: Communications for Intelligent Transportation Systems" in the internal meeting of the Transportation Group of the Spie company.