



RESEARCH CENTER
Nancy - Grand Est

FIELD

Activity Report 2018

Section Popularization

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CAMUS Team

10.3. Popularization

10.3.1. Articles and contents

Jens Gustedt is blogging about efficient programming, in particular about the [C programming language](#). To popularize the development of the future C2x standard he has been interviewed for [infoQ](#). He also is an active member of the [stackoverflow community](#) a technical Q&A site for programming and related subjects.

10.3.2. Education

A. Charguéraud is a co-organizer of the *Concours Castor informatique*. The purpose of the Concours Castor is to introduce pupils (from *CM1* to *Terminale*) to computer sciences. More information on: <http://castor-informatique.fr/>.

10.3.3. Interventions

Cédric Bastoul prepared activities and participated to *Fête de la Science* at University of Strasbourg in October 2018.

CARAMBA Project-Team

10.3. Popularization

10.3.1. Articles and contents

- *In books/journals for the general public.*
Paul Zimmermann coordinated (and largely contributed to) the translation into English of the 2013 book *Calcul mathématique avec Sage*. At the same time, the book was updated to a more recent version of the Sage software tool. The resulting book will be published by SIAM at the end of 2018, while an electronic version will remain available under a Creative Commons license [12].
- *For online publications.* Pierrick Gaudry co-authored a blog article about e-voting and the Belenios tool [13].
- *Interviews in order to popularize.* Cécile Pierrot gave a radio interview at France Bleue about being a cryptographer.
- *Videos.* Cécile Pierrot worked with Accustica, a company which promotes popularization. A portrait was created for the exhibition “Les filles, osez les sciences !”⁰. ([video link](#)).

10.3.2. Education

Cécile Pierrot was invited to the exhibition “Les filles, osez les sciences !” to make teachers considers how to deconstruct gender stereotypes in (Computer) Science.

10.3.3. Interventions

Pierrick Gaudry gave a talk about e-voting at the Académie des Sciences.

Emmanuel Thomé gave a talk for students of «classes préparatoires» in Nancy visiting the Inria Nancy research center, on the topic of trapdoored primes in cryptographic standards.

Paul Zimmermann participated in the *Maths-en-jeans* programme, with a class from Lycée Vauban in Luxembourg.

Paul Zimmermann (and Stéphane Glondu from the software development team SED) participated in *Fête de la Science* in October.

Cécile Pierrot co-organized and participated in *Ada Lovelace day*.

Cécile Pierrot gave a talk at Forum de l’Innovation des Armées 2018 about the discrete logarithm problem.

Cécile Pierrot led workshops for secondary-school pupils in Nancy, Reims and Toulouse about research in Computer Science.

⁰Girls, let’s dare to do science!

GAMBLE Project-Team

10.3. Popularization

10.3.1. Education

G. Moroz is member of the Mathematics Olympiades committee of the Nancy-Metz academy.

10.3.2. Interventions

L. Dupont participated in several events of popularization of computer science:

Math en Jeans, March 30th, popularization of computer science for high-school students.

ISN day, March 22th, adult continuing education of computer science for high-school teachers.

FabLab14, July 13th, popularization of computer science, general audience.

Ada Lovelace Day 2018, october 9 : popularization of computer science for female high-school students.

MOCQUA Team

9.3. Popularization

9.3.1. Articles and contents

Nazim Fatès and Irène Marcovici presented an article on cellular automata in the wide audience scientific magazine *La recherche* [23]. This article appeared in an issue dedicated to “chaos and complexity” (July-August 2018).

Simon Perdrix has been one of the editors of the ERCIM news special issue on Quantum Computing.

9.3.2. Education

Nazim Fatès participated in a day of training destined to high school teachers of the “Académie de Poitiers” with a conference and discussions with the participants. The meeting was held on April 25, 2018, in the Lycée Victor Hugo of Poitiers and was also followed on the internet by teachers located abroad (DOM-TOM).

9.3.3. Interventions

Nazim Fatès participated to a debate for a large public on the theme "Space and artificial intelligence" in the Cité des sciences et de l'industrie in Paris. This debate was part of a series of events dedicated to celebrations of the fiftieth year of the film *2001, A space Odyssey*.

Nazim Fatès joined the **Pariscience Festival** for animating a debate on artificial intelligence with high-school students of the region of Paris. The discussion, held together with a researcher from the INSERM institute, followed the projection of the film *IA : votre nouveau cerveau* and a **collective game** to debate on the question of artificial intelligence.

Nazim Fatès participated in an open debate on the theme: “**L’intelligence artificielle, quel avenir pour les artistes et créateurs d’aujourd’hui ?**”. This debate was held in conjunction with the RING Theater Festival in Nancy (Rencontres Internationales des Nouvelles Générations) in April 2018.

Nazim Fatès participated in an open debate on the general theme of joining science and art in conjunction with the exposition “**Retina Pictonique**” which was held in July 2018 in Toulouse in the CEMES Laboratory.

Nazim Fatès participated in an open debate on the theme “**L’intelligence artificielle est-elle vraiment maligne ?**” in the Shadok fab-lab of Strasbourg. The debate gathered more than a hundred persons and was preceded by an **interview** in the magazine *Rue 89 Strasbourg*.

9.3.4. Internal action

Nazim Fatès gave a talk on artificial intelligence in the *Café-In* meeting, one of the Inria Nancy Grand-Est series of talks destined to all the employees of the laboratory (March 13, 2018).

Frédéric Dupuis also gave a *Café’In* talk on quantum computing (February 13, 2018).

PESTO Project-Team

10.3. Popularization

10.3.1. Articles and contents

(a voté) Euh non : a cliqué. V. Cortier, P. Gaudry, and S. Glondu. In Blog Binaire, Le Monde, March 2018 [42]

Interview for *Jeune Afrique* on electronic voting (V. Cortier).

Multiple interviews and articles on 5G security (*Est Républicain*, *CNRS Le Journal*, *The Conversation*, *Univers Freebox*, ...) (J. Dreier).

Interview for *News Tank RH* on electronic voting (S. Kremer).

Interview for *AFP* on electronic voting (S. Kremer).

Si c'est gratuit, C'est toi le produit. Université Participative de Vandoeuvre. *Est Républicain* (A. Imine).

Report on risks related to personal data disclosure. Equipe de L'Esprit Sorcier, February, (A. Imine).

10.3.2. Interventions

Presentation of security protocols to high school teachers in Computer Science, April 17th, 2018 (V. Cortier).

How to explain security protocols with Playmobil, Ada Lovelace Day, October 9th, 2018, (V. Cortier)

VERIDIS Project-Team

9.3. Popularization

9.3.1. Articles and Contents

In addition to the creation of unplugged computer science activities, Marie Duflot-Kremer produces documents to help others, together with videos already produced in collaboration with Inria, master and practise on their own those activities.

An article was accepted at the Educode conference on the analysis of unplugged vs. computer based programming learning [32].

9.3.2. Education

Marie Duflot-Kremer is involved in various training activities for high school teachers. She is involved in two IREM (Institute for Research on Mathematics Education) groups that produced a training session, she gave workshops in the regional APMEP (Association of Math Teachers from Public Education) day and during the “Journée ISN” (organized for teachers involved in computer science courses in high school). She also gave a conference talk and a workshop on a one day training session for teachers at the Science Museum “Le Vaisseau” in Strasbourg.

Thomas Sturm and Christoph Weidenbach co-organized the scientific track of the training program of the German team for the International Olympiad in Informatics (IOI).

9.3.3. Interventions

Marie Duflot-Kremer is involved in many outreach events where computer science is shared with a very wide audience, from 3 to 80+ years old, including “Journée des cordées de la réussite” and “Journée d’immersion” (for high school students), Fête de La Science (locally and in Paris with Inria including a theater play performed at Cité des Sciences), Math en Jeans (a program where high school students discover research through simple mathematics or computer science problems).

She gave a two-day seminar at Université Paris Nanterre to Law teachers presenting computer networks and computer security, and a talk at the “Journée GDR IA” to show to AI researchers how to present their research to a wide audience through unplugged activities.

Marie Duflot-Kremer was also one of the trainers at a three-day summer school on computer science outreach held by Société Informatique de France. During these three days the trainees discovered the concept, practised existing activities and even created their own (on subject as diverse as information leakage, Turing machines or binary integer encoding).

Concerning events organized by Inria, she took part in the Ada Lovelace Day organized by Inria Nancy – Grand Est (NGE), on three aspects: organization of the day (both scientific and practical), training of colleagues prior to the event, and supervising workshops during the event. She is also part of the FAN (Formation des Ambassadeurs du Numérique) project organised by Inria NGE and “Les Petits Débrouillards” that will, in addition to the Class’Code MOOC, train people involved in education (in school or outside) through 5 days of training seminar. She also took part in two events related to Class’Code in Bordeaux (May) and Poitiers (November), introducing the motivations of unplugged activities and their practical aspects in workshops.

9.3.4. Internal Action

Marie Duflot-Kremer is part of the “Info Sans Ordi” group affiliated to Société Informatique de France, where people share and design new unplugged activities to introduce computer science concepts.

9.3.5. Creation of Media or Tools for Science Outreach

Marie Duflot-Kremer and the Inria media team recorded three new videos presenting unplugged activities, that complement the 10 videos already existing and available on the Pixees Youtube account. She is a member of the GT7F working group (led by Interstice/Inria) that has produced a card game presenting important computer science figures (to be released in early 2019).

SPHINX Project-Team (section vide)

TOSCA Project-Team

8.3. Popularization

8.3.1. Interventions

- M. Bossy gave the plenary lecture for the Academic Awards Ceremony of the Olympics of Geosciences and Mathematics 2018.
- Q. Cormier has animated the Inria desk at *Fête de la Science*.
- E. Tanré has presented his researches at *Journées Portes Ouvertes - Inria Sophia-Antipolis*.

BIGS Project-Team

9.3. Popularization

- S. Ferrigno: Advisor of a group of students (EEIGM), "La main à la Pâte" project, elementary schools, Nancy, January-June 2018
- S. Ferrigno: Advisor of a group of students (EEIGM), "La main à la Pâte" project, Institut médico-éducatif (IME), Commercy, September-December 2018
- S. Ferrigno: Advisor of a group of students (EEIGM), "Utilisation de la technologie dans la médecine" Cgénial project, Collège Paul Verlaine, Malzéville, December 2018-February 2019.
- S. Ferrigno: Advisor of a group of students (EEIGM), "Le cartable connecté" Cgénial project, Collège de la Craffe, Nancy, December 2018-February 2019.

CAPSID Project-Team (section vide)

MIMESIS Team (section vide)

NEUROSYS Project-Team

9.3. Popularization

Neurosyst's activities. Artificial Intelligence, IoT and robotics for health, association ATD quart-monde, June 10th 2018 (L. Bougrain)

TONUS Team

10.3. Popularization

- Philippe Helluy: "Des modèles mathématiques en acoustique des bâtiments" Rencontres mathématiques-architecture. Strasbourg, October 2018.
- Michel Mehrenberger: participation to "Maths-en-Jean".

Coast Project-Team

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- 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 and member of COST-GTRI commission. She is a member of the Inria Nancy-Grand Est COMIPERS committee. She is a member of Inria CAP Chercheurs commission. She is responsible with the activity kindergarten at AGOS Inria Nancy-Grand Est. She is a member of the organisation committee of the Security Seminar at LORIA.
- Gerald Oster is a member of the council of the scientific pole AM2I (Automatique, Mathématiques, Informatique et leurs Interactions) of University of Lorraine

RESIST Team

10.3. Popularization

10.3.1. Interventions

- Débats Grenats, February 2018, Metz, France. Round table on the theme of security over its different forms, including risks induced by cyber-security. Rémi Badonnel.
- Libre sur la place, Nancy. Plongée au cœur des communautés De Debian à l'Open Core. Lucas Nussbaum.

ALICE Project-Team (section vide)

LARSEN Project-Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Amine Boumaza is a member of the editorial board of “Interstice”.

10.3.2. Articles and contents

- Jean-Baptiste Mouret gave interviews for France Culture (radio), France 3 Lorraine (TV), and Socialter (printed magazine)
- François Charpillet gave an interview which gave an article on Re.Med. La revue de la Recherche Médicale du CHRU de Nancy.

10.3.3. Education

- Vincent Thomas was member of the organization comitee of the “24h des DUT informatique” event (Nancy, 2018) and organized the Artificial Intelligence competition during the event (218 students from 25 DUT of computer science).
- Serena Ivaldi is in the scientific committee for the robotics exhibition at the “Cité des sciences et de l’industrie” in Paris (starting in April 2019).
- Serena Ivaldi presented our activities in robotics at the Lycée Henri Loritz in Nancy

10.3.4. Interventions

- Public workshop on robot programming with Thymio for the Ada Lovelace Day [Alexis Scheuer]
- Public workshop on robot programming with Thymio at “Fête de la Science” [Alexis Scheuer, Olivier Rochel, Francis Colas]
- The team showed demonstrations for the Ada Lovelace Day (around 20 female students)
- Participated to a panel at the “Forum des Sciences Cognitives” (Nancy, France) [Jean-Baptiste Mouret]
- Tutorials on “physics simulation” and “path planning” for teachers during “journées ISN-EPI” (Nancy, France) [Vincent Thomas]

10.3.5. Internal action

- Jean-Baptiste Mouret gave a talk for the Colloquium organied by LORIA

MAGRIT Project-Team

9.3. Popularization

Members of the team participate on a regular basis, to scientific awareness and mediation actions.

9.3.1. Internal or external Inria responsibilities

Erwan Kerrien is Chargé de Mission for scientific mediation at Inria Nancy-Grand Est, and thereby is part of the Inria scientific mediation network. As such, he is a member of the steering committee of "la Maison pour la Science de Lorraine"⁰, and member of the IREM⁰ steering council. He also serves as the academic referent of an IREM working group aiming at introducing computer science in lower and upper secondary school curricula.

9.3.2. Articles and contents

Erwan Kerrien was interviewed for a special edition of the journal of Nancy University Hospital about AI in medicine.

9.3.3. Education

- Gilles Simon participated to the “Fête de la science 2018” at the Faculté des Sciences et Technologies of the Université de Lorraine. He presented unplugged activities of computer science.
- Pierre-Frédéric Villard participated to open days and science festival in the IUT of Saint-Dié des Vosges. He presented augmented and virtual reality demos and their link to the high school mathematics program.
- Erwan Kerrien participated in the creation of a MOOC for teachers of the new ICN option (Informatique et Création Numérique - *Computer Science and Digital Creation*) at the beginning of high school curriculum (see <https://www.fun-mooc.fr/courses/inria/41014/session01/info>). This MOOC is part of the Class'Code project (<https://pixees.fr/classcode-v2>). During the year, he took his part in the animation and participated in the evolution of this MOOC to adapt to the new SNT class (Sciences du Numérique et Technologie - *Digital Science and Technology*) that generalizes ICN, and is included in the 1st year core curriculum in upper secondary education. He also participated in the creation and teaching, of a 5-day training course for scientific animators (in a broad sense, from science club animators to science teachers). This course was funded by Région Lorraine (see <https://fan.loria.fr>).

He gave a 2-day course about the use of unplugged computer science to introduce computer science in science class, along with another researcher and 2 secondary school maths teachers. This course has been organized with Maison pour la Science since 2015, and is proposed to around 20 maths and science secondary school teachers each year.

9.3.4. Interventions

- Gilles Simon was invited to participate in a round table on geomatics as part of the Saint-Dié-des-Vosges Geography Festival.
- Erwan Kerrien was an associate researcher to a MATH.en.JEANS workshop within Loritz high school in Nancy. He was also part of the organizing committee of the MATH.en.JEANS conference that took place in Nancy, and gathered around 500 pupils and teachers from North-East France, Belgium and Romania. He also proposed computer science unplugged activities to secondary school pupils, especially when around 100 girls were welcome in the Inria Nancy-Grand Est center to celebrate the Ada Lovelace Day.

⁰"Houses for Science" project, see <http://maisons-pour-la-science.org/en>

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

MFX Team

9.3. Popularization

9.3.1. Ada Lovelace Day

In the context of the Ada Lovelace Day, 9th October 2018, Noémie Vennin received about twenty young girls in our 3D printer room. The Ada Lovelace Day is an international celebration of the achievements of women in science, technology, engineering and maths (STEM). It aims to increase the profile of women in these fields and, in doing so, create new role models who will encourage more girls into STEM careers and support women already working in.



Figure 11. Ada Lovelace Day at MFX Team.

9.3.2. IceSL Event for non-academic users

The IceSL event was held on February 22, 2018 in Paris. The objective was to bring together our community as well as new users. We invited external users, industrial partners and FabLabs at large (through national mailing lists).

The program (<https://www.weezevent.com/icesl>) involved training with the software (by all the IceSL team members, 6 sessions in total), then we had our most experienced users present advanced use of IceSL: advanced modeling with implicit volumes by Loic Fejoz, modeling of orthopedic braces by Pierre Alexandre Hugron, the making-of of a complex table with our partner Creative Industry. We finally had a social event with an exhibition of our best parts.

The gathering was a success, with 50 attendees – the maximum we could host – from a variety of backgrounds (makers and industry). Following the event we saw a clear growth in the interest around the software, with a tripled visit rate to our website and a steep increase in downloads (25% additional downloads since then). The French IceSL community is especially active, with 15% of our total visits, just after the United States (23%).

We are scheduled to repeat this event (in a more compact format) in March 2019 at Station F, in Paris.

MULTISPEECH Project-Team

10.3. Popularization

- Participation to the "Ada Lovelace Day" organized by Inria Nancy - Grand Est, October 2018 (A. Bonneau).

10.3.1. Articles and contents

- Interview for "GAFA : la voix est libre", le Magazine de la Rédaction, *France Culture*, January 5, 2018 (E. Vincent)
- Interview for "Les enceintes connectées vont révolutionner vos vies et vous ne pourrez plus vous en passer", *18h39.fr*, February 22, 2018 (E. Vincent)
- Interview for "Annecy 2018 : Dynalips, solution de lip-sync automatisée.", *3DVF.com*, June 18, 2018 (S. Ouni)

10.3.2. Interventions

- Demonstration at Journée des métiers, Collège Péguy, le Chesnay, April 2018 (A. Piquard-Kipffer)
- Exhibition of an automatic lip-sync system at The Annecy International Animation Film Festival, Annecy, 12-15 June 2018 (S. Dahmani, V. Girard, T. Biasutto-Lervat, S. Ouni)
- Demonstration at Fête de la Science, University of Lorraine, October 12, 2018 (N. Turpault, R. Serizel, E. Vincent)
- Demonstration and participation in a panel discussion at Forum des Sciences Cognitives, Artem, Nancy, November 7, 2018 (N. Turpault, E. Vincent)
- Invitation to Serbia Science Festival 2018 (Belgrade) by the French institute of Serbia to give four popularization lectures and present a demonstration on "teaching robots to hear us", November 2018 (A. Deleforge).

ORPAILLEUR Project-Team (section vide)

SEMAGRAMME Project-Team

8.3. Popularization

8.3.1. Internal or External Inria Responsibilities

- Maxime Amblard is the vice head of editorial board of Interstices.info

8.3.2. Articles and Contents

- Karën Fort and Bruno Guillaume have published an article in Interstices [27] about ZombiLingo. The paper explain to non-specialists how crowdsourcing may be used to build resources that are needed for Natural Language Processing applications. They explain the aim of the project.
- Maxime Amblard has written articles for Interstices.info as *Idée reçue : Les algorithmes prennent-ils des décisions ?*

8.3.3. Education

- Maxime Amblard participates in the event *S'orienter et se réorienter dans les sciences numériques* under the patronage of FAFIEC, ONISEP Grand Est and Académie de Nancy-Metz, November 14th, 2018

8.3.4. Interventions

- Maria Boritchev participated in *Samedi des curieux*, March 2018, Paris France: [Comment confondre de faux témoignages ?](#)
- Maxime Amblard participates in the Ada Lovelace day in Nancy Grand-Est
- Maxime Amblard gave a talk about ethics in Artificial Intelligence at the *Café des Sciences* of the Cognitive science student association
- Maxime Amblard was organizer of the *forum des sciences cognitives 2018* in Nancy
- Maxime Amblard has organized and supervised two panel discussions (new trend in IT recruitment and New Challenge for Neural Networks in Artificial Intelligence and NLP) for the *forum des sciences cognitives 2018*

8.3.5. Creation of Media or Tools for Science Outreach

- Maxime Amblard was the leader of the project Happy Family card Games, where a group of 10 researchers develop such a game for promoting computer science as a scientific field and give epistemological perspectives. More than 10 000 copies are printed and the promotion of the project will be in 2019.