



RESEARCH CENTER

FIELD

Algorithmics, Programming, Software and Architecture

Activity Report 2018

Section Popularization

Edition: 2019-03-07

ALGORITHMICS, COMPUTER ALGEBRA AND CRYPTOLOGY

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ARIC Project-Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Nathalie Revol is a member of the editorial board of *interstices*; she belongs to the steering committee of MMI (Maison des Mathématiques et de l'Informatique, Lyon)
- Bruno Salvy is "réfèrent chercheur" for the Inria Grenoble Center.

10.3.2. Articles and contents

Nathalie Revol belonged to the working group that elaborated the "7 families of computer science" playcards

10.3.3. Education

Nathalie Revol taught "Dissemination of Scientific Knowledge", 10h, to the 4th year students (between Master and PhD) of ENS de Lyon, France. She has been invited to a panel about "Flashmob" type activities, at ESOF 2018 (EuroScience Open Forum), July 9–14, 2018, Toulouse, France.

Nathalie Revol works with DANE (Délégation Académique au Numérique dans l'Éducation) of Rectorat de Lyon towards educating primary school teachers, by educating educators. She has been invited to present her past activities, using educational robots, at 3es Rencontres Nationales de la Robotique Éducative, October 2–3, Lyon, France.

10.3.4. Interventions

Laurent Grémy and Fabrice Mouhartem gave talks at *Fête de la Science* for a general audience. Nathalie Revol gave talks at *Fête de la Science* for 3 classes (9 years old, 11 years old and 13 years old).

As an incentive for high-school pupils, and especially girls, to choose scientific careers, Nathalie Revol gave talks at Lycée Ella Fitzgerald (Saint-Romain-en-Gal) and Mondial des Métiers (in February 2018). With Jérôme Germoni and Natacha Portier, she organized a day *Filles & Info* in March 2018, gathering about 100 high-school girls of 1e S. She was part of the panel discussing with the audience after the movie "Les figures de l'ombre - Hidden figures" at Comoedia cinema in Lyon in March 2018.

Damien Stehlé received at ENS de Lyon several winning teams of the Alkindi highschool competition. Alice Pellet–Mary and Fabrice Mouhartem gave talks at this event.

AROMATH Project-Team

8.3. Popularization

8.3.1. Interventions

- Ioannis Emiris was an invited speaker at “Open Science Days”, Athens, 29 November 2018, and at “Mathematics Education Forum” within the Greek Mathematical Society annual meeting, Athens, December 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!

CASCADE Project-Team (section vide)

DATASHAPE Project-Team

10.3. Popularization

10.3.1. Interventions

- Frédéric Chazal: Fujitsu Forum, “Topological Data Analysis: from academic success to industrial innovation”, Tokyo, Japan, May 2018.
- Frédéric Chazal: “TDA and AI for biomedical applications”, Kaohsiung MEDical Technology Expo, Taiwan, May 2018.

GAIA Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Since December 2103, R. Ushirobira organize the cycle “30 minutes of science”, a rotating monthly seminar for all researchers at Inria Lille. On average, 40 people participate in this seminar.

10.3.2. Education

In 2017/2018, Rosane Ushirobira was a referent researcher for *the Math en Jean program* at Arthur Rimbaud College (Villeneuve d’Ascq).

10.3.3. Internal action

Y. Bouzidi, *Symbolic-numeric method for a parametric control problem*, presentation in the *30 minutes of science Inria event*, Lille - January 10th 2018.

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.

GRACE Project-Team

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- D. Augot is member of the “comité de pilotage” the “BART” (Blockchain advanced research and technologies) research initiative, with Institut Mines Télécom and System-X.

9.3.2. Interventions

- D. Augot was interviewed on blockchains by three representatives of the French National Assembly.
- D. Augot was interviewed by “France Stratégie”, an institution attached to the Prime Minister to support forward thinking of the French government.
- F. Levy-dit-Vehel demoed our Private Information Retrieval protocol with partitionned locally decodable codes

LFANT Project-Team

8.3. Popularization

8.3.1. Articles and contents

- X. Caruso published an article entitled *Polynômes tordus* in the journal *Au fil des maths de la maternelle à l'université...* edited by APMEP.
- H. Cohen wrote in [28] an introduction to Modular forms, which has been published in the book *Notes from the International School on Computational Number Theory*.

8.3.2. Education

D. Robert is a member of the jury of Agregations de Mathématiques. He is also the codirector with Alain Couvreur of the option “calcul formel” of the Modelisation part of the oral examination.

8.3.3. Interventions

- 24/02/2018 in Olot (Spain), A. Page, with the other participants of Sage Days 93: one day for 20 local high school students to explore mathematical problems.
- 24/05/2018, A. Page: Unithé ou café on the mathematics of wireless communications: *Méthodes algébriques et géométriques pour les communications sans fil : comment l'espace hyperbolique peut-il améliorer vos appels téléphoniques ?*
- 30/05/2018, A. Page: in Poitiers half a day meeting with junior school students who took part in the Al-Kindi competition; introduction to cryptography.
- 27/09/2018 D. Robert and A. Page: demonstration stand on graph-based cryptography at the Inria BSO Party Day.
- 9-11/10/201 A. Page: Fête de la Science at Inria Bordeaux, activity on cryptography (7 groups of students).
- 13/10/2018 D. Robert and A. Page: demonstration stand on graph-based cryptography at the Inria BSO Open Day.
- 11/12/2018 A. Page: talk at the Inria BSO Comité des Projets *Variations arithmétiques et algorithmiques sur le thème << Peut-on entendre la forme d'un tambour? >>*

OURAGAN Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Razvan Barbulescu is *chargé médiation* at IMJ-PRG
- Razvan Barbulescu is a member of the steering committee of the association *Animath*⁰
- Fabrice Rouillier is *chargé de mission médiation* at Inria Paris
- Fabrice Rouillier is a member of the editorial board of *Interstices*
- Fabrice Rouillier is the president of the association *Animath*

10.3.2. Interventions

- Razvan Barbulescu co-organizes the *Alkindi*⁰ competition on cryptography (50000 participants)

⁰<http://www.animath.fr>

⁰<http://concours-alkindi.fr/>

POLSYS Project-Team (section vide)

SECRET Project-Team

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- **Association Animath:** M. Lequesne serves on the board of Animath.
- M. Lequesne is also member of the scientific committee of the French Tournament of Young Mathematicians: redaction of the problems for the competition, jury member (chair of a jury) ; member of the scientific committee of the International Tournament of Young Mathematicians: redaction of the problems for the competition, jury member (chair of a jury) ; Member of the scientific committee of the Correspondances des Jeunes Mathématicien.ne.s: redaction of the problems for the competition.

9.3.2. Articles and contents

- A. Chailloux, *L'algorithm de Shor*, Interstices, Inria, March 2018.
- G. Leurent and M. Naya-Plasencia, *La fragilité inattendue du chiffrement symétrique*, “La Recherche”, November 2018.
- JP Tillich, *Les codes correcteurs*, “La Recherche”, November 2018, p. 45-46.
- A. Canteaut, *La meilleure garantie de sécurité est l'épreuve du temps*, interview to the journal “La Recherche”, November 2018.
- M. Naya-Plasencia, *Symmetric Cryptanalysis: The Foundation of Trust*, Lorentz Center Highlights, 2018, Leiden, Netherlands, Mars 20, 2018.

9.3.3. Education

- **Alkindi cipher challenge:** Several members of the project-team are involved in the cipher challenge for high-school students "concours Alkindi" <http://www.concours-alkindi.fr/>. Mathieu Lequesne serves as a co-organizer of the challenge, preparing the three rounds and the final. Together with C. Boura and A. Canteaut, he was also involved in the redaction of the exercises, and in videos for Inria channel on different aspects of cryptography and how to solve problems from the Alkindi challenge: <https://www.youtube.com/watch?v=Y-VQBzwEaqQ&t=17s>, <https://www.youtube.com/watch?v=Mv415zfUFNs&t=3s> and <https://www.youtube.com/watch?v=8ohEeTPKBwA&t=21s>. The best teams from Académie de Paris have been visiting the SECRET project-team in June 2018 <https://www.youtube.com/watch?v=EVLHEOWAORc>.
- Organization of the event “Rendez-vous des Jeunes Mathématiciennes et Informaticiennes” at Inria Paris (October 22-23) by M. Lequesne, a 2-days camp for 20 high-school girls interested in mathematics and computer science.
- Organization of the International Tournament of Young Mathematicians in Paris, a one-week competition (July 5-12) for 120 high-school students. M. Lequesne served as vice-president of the local organizing committee.

9.3.4. Interventions

- A. Canteaut gave a talk to high-school students at Palais de la Découverte, during the “Semaine des maths” (March 2018) [61];
- A. Canteaut gave the talk during the closing ceremony of “Olympiades nationales de mathématiques” (June 2018) [62];
- A. Canteaut gave a presentation on research in computer science to 10-year children in a school in Paris (Jan. 2018);
- M. Lequesne gave a presentation on code-based cryptography to high-school interns (stagiaires de 3e) (Dec. 2018).

SPECFUN Project-Team

9.3. Popularization

9.3.1. Interventions

- Georges Gonthier testified before the *Mission d'information commune sur les blockchains* of the *Assemblée Nationale* in March.
- Georges Gonthier gave a public lecture and debate on blockchains at the *Institut Diderot* in September, jointly with M. Odonnat (Banque de France).

9.3.2. Internal action

- Georges Gonthier gave a presentation at the *Journées Scientifiques Inria 2018* in Bordeaux.

CAIRN Project-Team

10.3. Popularization

10.3.1. Articles and contents

Article (in French) about the Embrace project in *Le Mag numérique*: <http://www.lemag-numerique.com/2018/01/embrace-vers-radio-hf-numerique-10653>

Article in Emergences on “durcir les multi-cœurs contre les rayonnements ionisants”: <http://emergences.inria.fr/2018/newsletter-n51/L51-FLODAM>

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.

CASH Team

9.3. Popularization

9.3.1. Education

- Laure Gonnord is part of the local organisation of the Computer Science preparation for the Agregation examination for future maths teachers (MEEF).

9.3.2. Interventions

- Talk at “Campus du libre” by Matthieu Moy, Doua Lyon, “Pourquoi et comment se lancer dans le libre quand on est étudiant (ou pas) ?”, November 2018.

9.3.3. Internal action

- Café développeur by Matthieu Moy, “Utilisation avancée de Git” at LIRIS (2 sessions), October 2018.

9.3.4. Creation of media or tools for science outreach

- Video “Mon équipe en 180 secondes” by Matthieu Moy for the CASH team.

CORSE Project-Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Yliès Falcone: Elected member of the Research Council of Univ. Grenoble Alpes.
- Yliès Falcone: Elected member of the Academic Council of Univ. Grenoble Alpes.
- Yliès Falcone: Elected member of the Laboratory Council of the Laboratoire d'Informatique de Grenoble
- Yliès Falcone: Mission Valorisation for the Laboratoire d'Informatique de Grenoble.

PACAP Project-Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Erven Rohou is “correspondant scientifique des relations internationales” for Inria Rennes Bretagne Atlantique. As such he is a member of the Inria COST GTRI (Groupe de Travail “Relations Internationales”).

10.3.2. Articles and contents

PACAP contributed to Inria’s white book on cybersecurity.

10.3.3. Education

Erven Rohou was invited to present the life of a researcher in computer science to middle school students (*Collège de Cesson-Sévigné*)

10.3.4. Interventions

We welcomed a student, grade of 3e (middle-school), for her 3-day observation stay to discover the daily life of researchers in computer science.

AOSTE2 Team (section vide)

HYCOMES Project-Team (section vide)

KAIROS Team (section vide)

PARKAS Project-Team

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- F. Zappa Nardelli is member of the CES of Inria.

SPADES Project-Team

9.3. Popularization

9.3.1. Interventions

Sophie Quinton gave a keynote at the MathC2+ event organized by Inria, entitled “Faire des preuves par ordinateur : Pourquoi et comment ?” (Computer-assisted proofs: Why and how?).

TEA Project-Team (section vide)

ANTIQUE Project-Team

8.3. Popularization

8.3.1. Internal or external Inria responsibilities

- Xavier Rival is member of the “Bureau du comité des projets” since October 2018.
- Xavier Rival is Chair of the Hiring Committee for Inria researchers at the center of Paris (CRCN) for 2019.

CELTIQUE Project-Team

7.3. Popularization

7.3.1. Interventions

- Thomas Genet gave a talk “Bug, Virus, Intrusion, Pirates... So many threats and no defense? Yes... maths.” in high schools close to Rennes. 2018.
- David Cachera contributed to the animation of “École Médiation scientifique en informatique ”, Société Informatique de France, June 2018.

CONVECS Project-Team (section vide)

DEDUCTEAM Project-Team

9.3. Popularization

9.3.1. Articles and contents

Gilles Dowek writes a monthly column in *Pour la Science* (12 issues) and has started a bi-monthly column in *Le Monde* (3 issues).

Gilles Dowek has given interviews to France Inter, Radio France Internationale, France Culture, Ouest France, Usbek et Rica, and Philosophie Magazine.

9.3.2. Education

Gilles Dowek has participated to meetings on scientific education in Switzerland, Belgium, and Côte d'Ivoire. He has been heard by a committee of the the *Éducation Nationale* on pedagogical data and privacy.

He has given a talk on job mutations to mathematics inspectors.

9.3.3. Interventions

Gilles Dowek has given popular science talks in Toulouse, Antony, Issoudun, Rueil Malmaison, Saint Louis, Saint-Cloud, Rennes, Nancy, Paris, Nîmes, St Quentin en Yvelines, Montbéliard, Molaix, St Agrève, Rhodes, Marcoule, and Juvisy.

GALLINETTE Project-Team

8.3. Popularization

8.3.1. Interventions

- A. Mahboubi is working with composer Alessandro Bossetti and students of the professional high-school Lycée Michelet, on a project “Art and Mathematics”, supported by the **Athenor** theater.

GALLIUM Project-Team

10.3. Popularization

10.3.1. Articles and contents

- For online publications (Interstices*, Images des Maths, Binaire, Wikipedia), and more widely blog articles

Xavier Leroy wrote a short introduction to software sciences in general and to his lectures at Collège de France. This text was published by the “Binaire” blog of *Le Monde* [30].

10.3.2. Interventions

Gergő Barany gave a talk titled “Finding Missed Optimizations in LLVM (and other compilers)” at the 2018 European LLVM Developers Meeting, explaining his research on testing the quality of compiler optimizations to practitioners in compiler development.

MARELLE Project-Team

9.3. Popularization

9.3.1. Interventions

Cyril Cohen presented the work of the Marelle team at a presentation for students coming from Mediterranean regions: Meddays.

MEXICO Project-Team

10.3. Popularization

Laurent Fribourg was interviewed by *L'Édition de l' Université Paris-Saclay* in: “La cyberphysique prépare l’usine de demain”, May 2018.

10.3.1. Internal or external Inria responsibilities

- Laurent Fribourg is Head of Institut Farman (FR 3311 CNRS & ENS Paris-Saclay).
- Serge Haddad is Head of the Computer Science Department of ENS Paris-Saclay.
- Stefan Haar is the president of Inria’s COST-GTRI.

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).

PARSIFAL Project-Team

9.3. Popularization

L. Straßburger serves as member of the “commission développement technologique (CDT)” for Inria Saclay–Île-de-France (since June 2012).

F. Lamarche was site co-ordinator for the Activity Report for Inria Saclay–Ile-de-France.

9.3.1. Interventions

G. Scherer and M. Manighetti participated the “Fête de la Science” exhibit at Inria Saclay on the whole day of October 11th, 2018. They manned an activity on sorting algorithms for colored plastic pieces.

9.3.2. Internal action

G. Scherer spoke at the “Unithé ou café” meeting, a Saclay-internal popularization meeting, on February 1st, 2018.

PL.R2 Project-Team (section vide)

SUMO Project-Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Éric Badouel is the co-director (with Moussa Lo, UGB, Saint-Louis du Sénégal) of LIRIMA, the Inria International Lab for Africa. He is scientific officer for the African and Middle-East region at Inria DPEI (European and International Partnership Department). He is member of the executive board of GIS SARIMA.

10.3.2. Articles and contents

- Ocan Sankur published an article on formal verification for the Turkish Academy of Sciences: “**How to verify computer systems on which our lives depend**” on Nov. 2018.

TOCCATA Project-Team

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

S. Boldo is the scientific head for Saclay for the MECSEI group for networking about computer science popularization inside Inria.

She was also responsible (with M. Quet of the SCM) for the 2018 “Fête de la science” on October 11th 2018. About 260 teenagers were welcomed on 8 activities ranging from unplugged activities with Duplo construction toys to programming, and from applied mathematics to theoretical computer science.

10.3.2. Interventions

S. Boldo animated an activity at the Inria “Fête de la science” on October 11th 2018 the whole day long.

S. Boldo animated an activity and gave talks at the LRI “Fête de la science” on October 12th 2018.

S. Boldo gave a talk during at a *Girls can code* week on August 31st 2018 in Paris.

S. Boldo will give a talk to about 180 teenagers at the Marie Curie high school in Sceaux on February 8th, 2019

J.-C. Filliâtre gave a talk at *Mathematical Summer in Paris* on July 16, 2018.

J.-C. Filliâtre gave a talk *Parcours d’un informaticien* at the seminar “*Info Pour Tous*” (high school and undergraduate students). Video on YouTube. <http://seminairespourtous.ens.fr/ipt>

S. Dailler and C. Marché gave a demonstration of the SPARK environment, at the DigiHall Day (May 22 2018 <https://www.irt-systemx.fr/evenements/digihall-2018/>). DigiHall is a cluster of digital technologies of Paris-Saclay. More than 800 industrial and institutional decision-makers and academic counterparts took part in this first-of-its-kind event.

C. Marché presented the joint laboratory ProofInUse at the LabCom Colloquium (Maison de la Chimie, Paris, Sep. 27 2018 <http://ptolemee.com/colloque-labcom/index.html>) organized by ANR, with participation of numerous actors from both academia and industry.

10.3.3. Internal action

S. Boldo demonstrated popularization by an unplugged activity to all the new Inria staff at the welcome days on June 7th 2018

S. Boldo animated an unplugged activity to the AER service (team assistants) on July 3rd 2018

S. Boldo trained colleagues on unplugged activities for the “Fête de la science” (5 sessions of about 1h30)

S. Dailler and C. Marché gave a presentation of the joint laboratory ProofInUse, together with a demonstration of the SPARK environment, at the Software Day of the DigiCosme Labex (Saclay, June 7 2018 https://digicosme.lri.fr/tiki-read_article.php?articleId=256)

10.3.4. Creation of media or tools for science outreach

S. Boldo is supervising the popularization mission of C. Patte (M3DISIM team) in order to create a new popularization activity for teenagers in 2019.

C. Marché, main contributor of the site for the Why3 tool inside the Inria Saclay Virtual Showroom. Includes a short video introduction of Why3 for beginners using the TryWhy3 Web interface <http://why3.lri.fr/try/>

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).

CIDRE Project-Team

9.3. Popularization

9.3.1. Articles and contents

- Emmanuelle Anceaume was interviewed by Jean-Michel Prima. This gave rise to an article: "Améliorer le Bitcoin ... à coup de fourches", Emergences Inria, 2018.
- Jean François Lalande and Valérie Viet Triem Tong were interviewed by Jean-Michel Prima. This gave rise to an article: "Disséquer automatiquement les malware sous Android", Emergences Inria, 2018.
- Emmanuelle Anceaume belonged to the working group "Blockchains challenges" organized by the french governmental group "France Strategie". This gave rise to a report accessible here: <https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/fs-rapport-blockchain-21-juin-2018.pdf>.

9.3.2. Interventions

Interviews, videos and podcasts :

Emmanuelle Anceaume was interviewed by Joanna Jongwane for a <https://interstices.info/le-potentiel-revolutionnaire-de-la-technologie-blockchain/> podcast in online Interstice journal, 2018. (Talk is in french).

Emmanuelle Anceaume was interviewed by the Parliamentary Office For Scientific and Technological Assessment (OPECST) in 2018. The OPECST acts as an intermediary between the political world and the world of research. The goal of this interview was to describe the Bitcoin cryptocurrency system and its associated blockchain, and to discuss on the different vulnerabilities Bitcoin is confronted with.

Emmanuelle Anceaume was interviewed by the *mission d'information sur l'usage des blockchains*, by the French National Assembly in 2018.

Demos : Practical results concerning malware analysis issued from the Kharon project were presented during:

Forum International de la Cybersécurité at Lille in 2018

Fête de la science at Inria in 2018

These works also regularly presented during the visits of the *Laboratoire Haute Sécurité* in the Inria Rennes Bretagne Atlantique center.

9.3.3. Internal action

- Emmanuelle Anceaume was invited to join the internal meetings at La Cordée Rennes on "Blockchain focus: Cinéma: Quel potentiel d'innovation", November the 8th, 2018.

COMETE Project-Team

8.3. Popularization

8.3.1. Education

Konstantinos Chatzikokolakis and Catuscia Palamidessi have designed, and coordinate, a course on the Foundations of Privacy at the **MPRI**, the Master Parisien pour la Recherche en Informatique. University of Paris VII. A.Y. Since 2015.

Catuscia Palamidessi has been:

- Invited speaker at **PLMW@POPL 2019**, the Programming Logic Mentoring Workshop 2019 (affiliated to POPL 2019). This workshop aims at encouraging graduate students and senior undergraduate students to pursue careers in programming language research, and at educating them on the research career.
- A participant in the round table at the **FLOC Women in Logic workshop**, a workshop organized to encourage women's presence in the logic community. Oxford, UK, 8 July 2018.

8.3.2. Interventions

Catuscia Palamidessi and Frank Valencia have supervised a group of high school children in stage d'observation. April 2018.

Catuscia Palamidessi has given an invited talk at:

- **JNIM 2018**. Journées Nationales 2018 du GDR Informatique Mathématique (Journée du 6 Avril en Hommage à Maurice Nivat). Palaiseau, France, 3-6 April 2018.

DATASPHERE Team

10.3. Popularization

Various publications have appeared in journals accessible to a larger audience [3], [2].

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)

PRIVATICS Project-Team

8.3. Popularization

8.3.1. Hearings

- Claude Castelluccia: *Understanding Algorithmic Decision-Making Systems*, European Parliament, 10/2018, Strasbourg, France.
- Daniel Le Metayer: *Understanding Algorithmic Decision-Making Systems*, European Parliament, 10/2018, Strasbourg, France.
- Daniel Le Metayer: *Transparence et explicabilité des algorithmes d'aide à la décision*, CCNE, 02/2018, Paris, France.

8.3.2. Internal or external Inria responsibilities

- Claude Castelluccia is co-leader of the Workpackage 5 (data governance and privacy) of the Grenoble Data Institute.
- Claude Castelluccia is co-leader of Grenoble CyberAlps (cybersecurity institute of Grenoble).
- Daniel Le Metayer chairs the CNIL-Inria privacy award.
- Vincent Roca is co-editor of the white book *Cybersecurity: current challenges and Inria's research directions*.

8.3.3. Articles and contents

- Claude Castelluccia: *Manipulation informationnelle et psychologique*, Le blog binaire du Monde, 05/2018.
- Claude Castelluccia: *Data surveillance and manipulation*, Interview for Magazine Capital, 12/2018.
- Mathieu Cunche: *Cybersécurité et menace informatique*, Sommet des start-up sciencesetavenir.fr, 11/2018, Lyon, France.
- Mathieu Cunche: *Attaque par déni de service dans le Wi-Fi*, GNU/Linux Magazine HS 99, 11/2018.
- Mathieu Cunche: *Comprendre les attaques Krack*, GNU/Linux Magazine HS 99, 11/2018.
- Daniel Le Metayer: *Weighting the impact of the GDPR*, Communications of the ACM, 11/2018.
- Daniel Le Metayer: *Qui gouverne les algorithmes ?*, Revue THIRD, 11/2018.
- Vincent Roca: Inria White Paper in Cyber-Security.

8.3.4. Education

- Cédric Lauradoux: *Action nombres et cryptographie*, Maison pour la science, Inria, 06/02/2018, Grenoble, France.
- Cédric Lauradoux: *Action nombres et cryptographie*, Maison pour la science, 18/12/2018, Annecy, France.
- Cédric Lauradoux: *Animation du forum du MOOC Protection de la vie privée dans le monde numérique*, 02-03/2018.
- Cédric Lauradoux: *Animation du forum du MOOC Protection de la vie privée dans le monde numérique*, 11-12/2018.

8.3.5. Interventions

- Cédric Lauradoux: *Atelier cryptographie*, Fête de la Science, 11-12/10/2018, Grenoble, France.
- Cédric Lauradoux: *Cryptologie et Vie privée*, Semaine des mathématiques, Lycée Gabriel-Faure, 15/03/2018, Tournon, France.

- Cédric Lauradoux: *Cryptologie et Vie privée*, Semaine des mathématiques, Lycée Boissy d'Anglas, 16/03/2018, Annonay, France.
- Cédric Lauradoux: *Challenge de cryptologie*, MathC2+ internship, 26/06/18, Grenoble, France.
- Cédric Lauradoux: *Challenge de cryptologie*, Cité scolaire Jean PREVOST, 02/06/2018, Villard de Lans, France.
- Cédric Lauradoux: *Challenge de cryptologie*, Collège Barnave, 18/01/2018, Saint-Égrève, France.

8.3.6. Internal action

- Cédric Lauradoux: *Réglementation sur les données*, Inria, Grenoble, 19/06/2018.
- Cédric Lauradoux: *Réglementation sur les données*, IMAG, Grenoble, 09/07/2018.

PROSECCO Project-Team

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

- Bruno Blanchet was co-president of the Inria hiring committee for PhD, post-docs, and *délégations* (*Commission des Emplois Scientifiques, CES*).
- Bruno Blanchet was representative of Inria Paris at the DIM RFSI (*Domaine d'Intérêt Majeur, Réseau Francilien en Sciences Informatiques*).

9.3.2. Interventions

- Karthikeyan Bhargavan was a panelist at the Cloudflare Internet Summit in London, June 14, 2018.
- Harry Halpin was a panelist at the World Digital Asset Summit in San Fransisco, USA, December 10, 2018.

TAMIS Project-Team (section vide)