



RESEARCH CENTER

FIELD

Activity Report 2018

# Section Popularization

Edition: 2019-03-07



## ALGORITHMICS, PROGRAMMING, SOFTWARE AND ARCHITECTURE

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## **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.

**AOSTE2 Team (section vide)**

## 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.

## **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.

## 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 !”<sup>0</sup>. ([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.

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<sup>0</sup>Girls, let’s dare to do science!

**CASCADE Project-Team (section vide)**



## **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.

## **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.

## 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.

**CONVECS Project-Team (section vide)**

## **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.

## **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.

## **DATASPHERE Team**

### **10.3. Popularization**

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



## **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.

## 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.

## **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***

Gergö 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.

## **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

**HYCOMES Project-Team (section vide)**

**KAIROS Team (section vide)**



## 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? >>*

## **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).

## 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*<sup>0</sup>
- 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*<sup>0</sup> competition on cryptography (50000 participants)

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<sup>0</sup><http://www.animath.fr>

<sup>0</sup><http://concours-alkindi.fr/>

## **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.

## **PARKAS Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Internal or external Inria responsibilities***

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

## **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.



## 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)

**PL.R2 Project-Team (section vide)**

**POLSYS Project-Team (section vide)**

## 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 Worpackage 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 THIRRD, 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.

## 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.Chailleux, *L'algorithme 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).

## **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?).



## **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.

## **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.

**TAMIS Project-Team (section vide)**

**TEA Project-Team (section vide)**

## 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](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).

## ACUMES Project-Team

### 9.3. Popularization

#### 9.3.1. Articles and contents

- Press article: *Dossier. Cette mathématicienne met le trafic en équation pour réduire les embouteillages*, Nice Matin, August 2018 (P. Goatin).
- TV interview for the program “Dimanche en politique”, France 3 Côte d’Azur channel, October 14, 2018 (P. Goatin).

## **BONUS Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- N. Melab: Nominated again as Chargé de Mission of High Performance Computing and Simulation at Université de Lille, since 2010.
- E-G. Talbi: International relations coordinator for Inria Lille Nord Europe, since 2016.
- N. Melab. Member of the Working Group on software and technological demonstrators, since end 2017.



## **CAGE Project-Team**

### **9.3. Popularization**

Emmanuel Trélat is member of the Comité d'Honneur du Salon des Jeux et Culture Mathématique since November 2018

#### **9.3.1. Articles and contents**

- Nicolas Augier, Ugo Boscain, and Mario Sigalotti are authors of the popularization article [32] explaining how broken adiabatic paths can be used to enhance the control of a quantum systems.

#### **9.3.2. Education**

- Ugo Boscain and Jean-Michel Coron gave a lecture at journée ENS-UPS, ENS Paris
- Emmanuel Trélat gave a lecture at ENS Ulm to first-year students
- Emmanuel Trélat gave a lecture at Université Paris-Diderot to first- and second-year students

#### **9.3.3. Interventions**

- Ugo Boscain gave a lecture at AlfaClass, Saint-Barthélemy, Aosta, Italy
- Emmanuel Trélat gave a lecture at Salon des Jeux et Culture Mathématique

## **CAGIRE Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- Vincent Perrier is a member of the CUMI-R.
- Vincent Perrier is a member of the CDT, in charge of the evaluation of software projects at the Inria Bordeaux center.
- Vincent Perrier is an elected member of the CLHSCT.
- Vincent Perrier is an elected member of the Inria evaluation committee.<sup>0</sup>
- Vincent Perrier is a member of the CT3-Num committee of Pau University, in charge of managing the computing resources and projects at Pau University.

#### ***10.3.2. Interventions***

- «Forum des Métiers» organized by Collège Pierre Emmanuel, Pau (64), France, 9 February 2018. A stand was manned during one day with the objective of explaining the activity of researcher to an audience of middle school students. [PB]
- «Savoir en Partage», organized by Lacq Odyssée. [PB [22], JJ and VP [27], [24], RM [29], [28]]
- «Café des Sciences». [PB [23], JJ, RM [30], VP [25]]
- «Fête de la Science - Journée Portes Ouvertes Centre Inria BSO», Talence, France, 13 October 2018. [PB]
- «10 ans du centre Inria BSO: célébration de 10 ans de recherche et de transfert», Talence, France, 28 September 2018. [JJ and VP]

#### ***10.3.3. Creation of media or tools for science outreach***

- «Science on tourne». [PB, JJ, RM, VP]  
<http://www.cestdanslaire.fr/fr/page/science-on-tourne>

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<sup>0</sup><https://www.inria.fr/en/institute/organisation/committees/evaluation-committee>

## **CARDAMOM Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

- Héloïse Beaugendre has co-organized (with PlaFRIM and CATIE) the Bordeaux session of the HPC hackathon sponsored by GENCI. This coding competition is open to students and young reserachers and has taken place at the Inria BOS center in December (for more information see <https://www.inria.fr/centre/bordeaux/agenda/hackathon-du-hpc-genci>)
- Algiane Froehly (Mmg-Consortium) and Mario Ricchiuto have set up and animated the CARDAMOM stand during the event "Fête des 10 Ans", held on September 27th, and celebrating the 10 years of the Inria BSO center

## **COMMANDS Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- F. Bonnans: codirection of a joint Allistene-Ancre commission (contribution to the national strategy for research), Numerics and Energy committee (2017-2018).
- F. Bonnans: Dimitrie Pompeiu Prize Committee (Academy of Romanian Scientists).
- P. Martinon is member of the CDT.

#### ***10.3.2. Articles and contents***

- The work on races on curved tracks was covered in the Sciences page of Le Figaro.

#### ***10.3.3. Internal action***

- The collaboration with startup Safety Line was presented to the “Journée Nationale des Nouveaux Arrivants”

**CQFD Project-Team (section vide)**

## **DEFI Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- P.M. Congedo is Deputy Coordinator of "Maths/Engineering" Program of the Labex Mathématiques Hadamard.
- J.R. Li is Member Elu of Inria Commission d'Evaluation, 2015-present.

#### ***10.3.2. Internal action***

- L. Chesnel provided some numerical experiments used in the exhibition "Rencontres diffractantes : quand les mathématiques inspirent l'art...". This exhibition was presented at Ensta ParisTech and at Inria Saclay.
- P.M. Congedo presented some research activities in aerospace in the context of UnithéauCafé du centre Inria de Saclay Ile-de-France.
- P.M. Congedo made a presentation in the context of the Fete de la science 2018, to several groups of young students (around 10-12 years old).
- H. Haddar made a joint presentation with O. Bunau from Xenocs on nanoparticle imaging using small angle X-ray diffraction technology in the context of UnithéauCafé at Inria de Saclay Ile-de-France.

## **DISCO Project-Team**

### **8.3. Popularization**

#### **8.3.1. Interventions**

Catherine Bonnet awarded the price of Mathematics and Italian et Italien at the *Concours Général des lycées et des métiers du Ministère de l'Éducation nationale*, Grand Amphitêatre de La Sorbonne, July 2018. She welcomed a group of middle school students, 17 December 2018.

**ECUADOR Project-Team (section vide)**



## ELAN Team

### 8.3. Popularization

#### 8.3.1. Articles and contents

- Interview about our past work on hair and cloth for a press article in [Dauphiné Libéré des Enfants](#) in November 2018.
- Press interview about our SIGGRAPH Asia paper on [inverse shell design](#) for an [ACM Press Release](#) in November 2018.

## FACTAS Team

### 9.3. Popularization

#### 9.3.1. Internal or external Inria responsibilities

M. Olivi is responsible for Scientific Mediation and president of the Committee MASTIC (Commission d'Animation et de Médiation Scientifique) <https://project.inria.fr/mastic/>. Her main contributions related with this mission were:

- submit applications to get founding for 2019: “cordées de la réussite” (accepted) et “APOCS région”.
- co-organize 10 robotic sessions for 2 classes of middle school students (device “MEDITES” <http://medites.fr>, founded by ANRU, the “Agence Nationale de Rénovation Urbaine”),
- co-organize the “stage MathC2+” <https://project.inria.fr/mastic/mediation/stage-mathc2/>, a four-day internship for 50 high school students (“secondes”, about 16 years old) organized by the Committee MASTIC and its partners (June 19-22),
- co-organize Inria participation to the event “Le Village des Sciences et de l’Innovation” in Antibes (October 20-21, 10000 people), and the event “Mouans-Sartoux fête les sciences du quotidien” <http://univ-cotedazur.fr/events/fetedelascience>.
- co-organize about 10 “cafés scientifiques” (c@fé-in’s and cafés Techno, 30 to 80 participants each) <https://project.inria.fr/mastic/category/cafein/>.

#### 9.3.2. Education

- M. Olivi animated a half-day workshop session “activités débranchées” at “l’ESPE de Nice” for primary school students (April 10).

#### 9.3.3. Interventions

- National events: M. Olivi participated to the event “Le Village des Sciences et de l’Innovation” in Antibes (October 20-21, 8000 people) and to the event “Mouans-Sartoux fête les sciences du quotidien” (October 13, 1000 people).
- In educational institutions: M. Olivi participated to the event “bilan Medium’s” at the “collège Émile Roux, Le Cannet”.
- Welcoming of schoolchildren or the general public in an Inria center: M. Olivi animated a workshop session during the “stage MathC2+”, a four-day internship for high-school students organized by the Committee MASTIC and its partners (June 19-22).

#### 9.3.4. Internal action

- M. Olivi presented the scientific objects produced during the year at the CaféIn of the Research Center, <https://project.inria.fr/mastic/cafe-in-12-fevrier-manipulons-et-echangeons/>, February.
- J. Leblond together with members of the SED gave a communication at the CaféIn of the Research Center, <http://project.inria.fr/mastic/category/cafein/>, October.

#### 9.3.5. Creation of media or tools for science outreach

M. Olivi participated in the creation of the web pages <https://pixees.fr/jouons-avec-des-experiences-scientifiques/>.

**GAMMA3 Project-Team (section vide)**

## **GEOSTAT Project-Team**

### **10.2. Popularization**

- C. Sakka, A. Zebadua, N. Brodu and H. Yahia have been participating in the demonstration made by I2s company during the Celebration of the 10 years of the center and presenting results of the demosaicing method applied to digital images.

#### ***10.2.1. Interventions***

- GEOSTAT has been participating to the 10 years Inria celebration, in the form of a demonstration with I2S company.

## **I4S Project-Team**

### **8.3. Popularization**

J. Dumoulin presented a talk on "Surveillance thermique long terme" at Blue Day event organized by the Pole Mer Bretagne Atlantique on "Maintenance des infrastructures / Instrumentation / Suivi en service / durée de vie et prolongation / nouvelles agressions" , Brest, November 14th, France.

J. Dumoulin presented the COP21 solar hybrid road demonstrator at Loire- Atlantique event : "Inventons la route de demain", journées enseignements et perspectives, Fay de Bretagne, November 5th, France.

J. Dumoulin presented a talk "Routes à énergie positive" at Escales Génie Civil, Saint-Nazaire, November 22nd, France.

#### **8.3.1. Internal or external Inria responsibilities**

L. Mevel is member of CLHSCT committee in Rennes.

L. Mevel is member of Comité de centre committee in Rennes.

M. Doehler is member of Comité de centre committee in Rennes.

#### **8.3.2. Interventions**

M. Doehler participated to Journée de la science on October 5th 2018.

#### **8.3.3. Creation of media or tools for science outreach**

A damage localization mockup has been developed and installed in the showroom of Inria Rennes [43]. It has been the support of I4S presence during the Fête de la Science on october 5th, where several highschool classes were introduced to physics and statistics by means of our demonstration mock-up.

## **INOCS Project-Team**

### **10.3. Popularization**

F. Semet, Club Logistique et Transport, CCI St Quentin, November 2018.

## **MATHERIALS Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Internal or external Inria responsibilities***

- A. Levitt is a member of the editorial board of Interstices, Inria's popularization website.

#### ***9.3.2. Articles and contents***

- E. Cancès has been interviewed in "La Jaune et La Rouge", the journal of the alumni of Ecole Polytechnique, in January.

#### ***9.3.3. Internal actions***

- C. Le Bris organized an open day at CERMICS in June for the administrative staff of École des Ponts.

**MATHRISK Project-Team (section vide)**



## MCTAO Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Clément Moreau is a member of the team « équipe actualités » of [Images des Mathématiques](#) since October, 2018.

J.-B. Caillau is member of the MASTIC initiative at Inria Sophia (Médiation et animation scientifiques Inria) and delivers regular talks in high school or college.

#### 10.3.2. Articles and contents

Clément Moreau participated in the radio show « [La méthode scientifique](#) » on March 7, 2018.

Clément Moreau participated in the national competition « [Ma thèse en 180 secondes](#) ».

#### 10.3.3. Education

Lamberto Dell'Elce is involved in the PoBot challenge promoted by MEDITES. Specifically he supervises a class in the College Emile Roux in Cannes.

#### 10.3.4. Interventions

Clément Moreau participated in the « journées portes ouvertes » at Inria Sophia Antipolis in the framework of the 2018 « Fête de la Science », October 7, 2018, and in a scientific discovery workshop for secondary school students at the concrete Art Museum, Mouans-Sartoux, October 11, 2018.

Lamberto Dell'Elce gave the talk "CubeSats: Concevoir et Realiser un Satellite à l'Université" at the *Cafe In* meeting held at Inria Sophia on June 6, 2018, and for high school students during the [stage MathC2+](#) in June, 2018.

## **MEMPHIS Project-Team**

### **9.3. Popularization**

Afaf Bouharguane has presented her research at the event Unithé ou Café at Inria Bordeaux, November 2018.

Michel Bergmann, "Modéliser et optimiser les énergies renouvelables". Stand for the 10-th year anniversary of Inria Bordeaux South West centre, October 13th 2018.

## **MEPHYSTO-POST Team**

### **6.3. Popularization**

#### **6.3.1. Interventions**

- M. Simon participated in the local program “Chercheurs itinérants”, and gave several lectures directed to high-school students.

## **MINGUS Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

- A. Crestetto: talks on "traffic flows" in several educational institutions within the framework of "Essentielles", university of Nantes.
- N. Crouseilles: welcoming of two schoolchildren at IRMAR laboratory.
- N. Crouseilles: welcoming of a student within the framework of the modulus "visit a researcher" (3 meetings).

#### ***10.3.2. Internal action***

- P. Navaro: Python training (3 days) at the CNRS delegation of Lille, april 2018.
- P. Navaro: Python training (3 days) for the Rennes DSI, june 2018.

## **MISTIS Project-Team**

### **10.3. Popularization**

Florence Forbes was a speaker at the Paris Biotech Sante Forum on AI in life sciences, in November 2018, [\(Program\)](#).

#### ***10.3.1. Articles and contents***

S. Girard and C. Albert have given an interview "When statistics help to predict disasters" for Citizen press: <https://www.inria.fr/en/centre/grenoble/news/statistics-and-disasters>

## MODAL Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Guillemette Marot is responsible of bilille, the bioinformatics and bioanalysis platform of Lille. More information about the platform is available at <https://wikis.univ-lille.fr/bilille/>.

Benjamin Guedj is an appointed deputy member of CLHSCT (Inria LNE).

Benjamin Guedj is an elected member of the Evaluation Committee (CE, Inria).

#### 10.3.2. Internal action

- Pascal Germain gave a talk at the “30 minutes de sciences” seminar of Inria Lille (21/03/2018).
- Pascal Germain gave a talk vulgarizing his work at the “Café des sciences” of Inria Rocquencourt (13/11/2018).
- Guillemette Marot gave a talk at the “30 minutes de sciences” seminar of Inria Lille (21/12/2018).

## **MOKAPLAN Project-Team**

### **8.3. Popularization**

#### **8.3.1. Internal or external Inria responsibilities**

V. Duval was a member of the *Commission d'évaluation scientifique* (CES) of the CRI Paris in 2018, and has been a member of the *Comité de suivi doctoral* since September 2018.

J-D. Benamou was a member of the *CR2 Recruiting Commission* of the CRI Paris in 2018.

#### **8.3.2. Education**

I. Waldspurger has given a talk at the Mathematic Park seminar (for L1 and L2 students), on the minimization of convex functions with Lipschitz gradient.

#### **8.3.3. Interventions**

Participation à l'accueil de 15 collégiens dans le cadre de leur stage d'observation (3 heures dans l'équipe MOKAPLAN supervisé par Lucas Martinet).

**NACHOS Project-Team (section vide)**



## **NANO-D Project-Team**

### **8.3. Popularization**

#### **8.3.1. *Articles and contents***

Sergei Grudinin and Guillaume Pagès were interviewed by Le Figaro about the progress of deep learning and artificial intelligence in protein structure prediction [88].

## NECS Project-Team

### 9.3. Popularization

#### 9.3.1. Articles and contents

P. Frasca has co-authored a column on the IEEE Control Systems Magazine about the activities of the Technical Committee on Networks and Communications Systems [67].

#### 9.3.2. Education

M. L. Delle Monache gave a talk on "Les mathématiques cachées du trafic routier" to the high school teachers in the framework of the ISN Conference in collaboration with the Académie de Grenoble. The video of the conference is available at [https://www.canal-u.tv/video/inria/les\\_mathematiques\\_cachees\\_du\\_trafic\\_routier.44275](https://www.canal-u.tv/video/inria/les_mathematiques_cachees_du_trafic_routier.44275).

#### 9.3.3. Interventions

Vadim Bertrand presented demos of the GTL-Ville:

- at *Club PTV Vision* ([https://discover.ptvgroup.com/Club\\_PTV\\_Vision\\_2018](https://discover.ptvgroup.com/Club_PTV_Vision_2018)), on Oct. 4th, in Paris
- at *Rencontres Inria-industrie* (<https://www.inria.fr/innovation/recherche-partenaire-iale-transfert/rencontres-inria-industrie/presentation>), on Nov. 20th, in Paris

**NON-A POST Team (section vide)**

## **QUANTIC Project-Team**

### **8.3. Popularization**

Alain Sarlette, 5 December 2018, prospective Ordinateur Quantique at the comité de pilotage du CETIM, Senlis.

## **RANDOPT Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

- National events: Cheikh Touré made an intervention on Poker for "college" students at the Fête de la Science (explaining relation between the game and probability)

## **RAPSODI Project-Team**

### **10.3. Popularization**

C. Calgaro Zotto is in charge of the communication of the Laboratoire Paul Painlevé. She organizes various events which promote mathematics among young people:

- les “**Mathématiques itinérantes**”;
- la “**Semaine des mathématiques**”;
- la collection “**Stages scientifiques en Seconde**”.

Members of the team participate regularly to these actions.

S. Lemaire gave a talk at Inria Lille for the internal scientific popularization event “30 minutes of Science” in June.

## **REALOPT Project-Team**

### **10.3. Popularization**

#### **Organizations**

- Local events: "Journée emploi maths et interaction 2018". This day aims to bring together students, researchers and practitioners in mathematics in the Bordeaux area. <https://uf-mi.u-bordeaux.fr/sites/jemi/>

#### **Interventions**

- National events: Fête de la Science in Bordeaux (P. Pesneau and F. Clautiaux)
- RealOpt participated to the events related to the anniversary of Inria BSO

**SELECT Project-Team (section vide)**



## **SEQUEL Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

Philippe Preux chaired the Inria evaluation seminar of theme “Optimization, machine learning and statistical methods” in March 2018.

#### ***10.3.2. Articles and contents***

- Ph. Preux interviewed for various journals (“Les échos”, ...).
- Adobe research highlights M. Valko’s work on online influence maximization presented (January 2018)
- Daniele Calandriello (supervised by A. Lazaric and M. Valko) wins the prize for the Best AI Thesis in France in 2018. Articles in:
  - La Voix du Nord
  - CNRS journal
  - Newstank
  - Lille1
  - Actu

#### ***10.3.3. Education***

- Ph. Preux presented and animated 3 sessions on AI at the “congrès annuel du réseau national professionnel des cultures scientifique technique et industrielle” (Amcsti)

#### ***10.3.4. Interventions***

- Philippe Preux:
  - presented AI related to health industry at the yearly general assembly of Eurasanté
  - presented and animated 3 sessions on AI at the “congrès annuel du réseau national professionnel des cultures scientifique technique et industrielle” (Amcsti)
  - participated to a panel at Conext forum (Lille)
- the work on Guesswhat?!.
  - has been invited to be presented on the Inria booth during The Web Conf in Lyon
  - is presented at the Inria showroom inaugurated in Dec. 2018 in Lille

#### ***10.3.5. Creation of media or tools for science outreach***

- Ph. Preux was interviewed for a video about robots and AI

## **SIERRA Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Creation of media or tools for science outreach***

Design and implementation of a demonstration for the permanent exhibit at Palais de la Découverte: “L’apprenti illustrateur” (J.-B. Alayrac, F. Bach)

**SIMSMART Team (section vide)**

**SPHINX Project-Team (section vide)**

## TAU Team

### 10.3. Popularization

#### 10.3.1. Articles and contents

Isabelle Guyon

- Pionnière : Isabelle Guyon, professeur à l'université de Paris-Saclay, 7 Feb. 2018, [Usine Nouvelle](#)
- Isabelle Guyon veut démocratiser l'intelligence artificielle, Apr. 2018, [Le Monde](#)
- Portrait : Isabelle Guyon, sélectionneuse d'algorithmes, 16 May 2018, [Industries et Technologie](#)

Paola Tubaro *Notre vie privée, un concept négociable* [52], Antonio Casilli and Paola Tubaro, in *Le Monde*, Jan. 2018.

#### 10.3.2. Interventions

Guillaume Charpiat Séminaire d'Actualité Critique, *L'intelligence artificielle, entre fantasmes et recherche*, ENS Paris, 5 Apr. 2018.

Isabelle Guyon *Codalab, createur de defis*, UniThe ou Café, Inria Saclay, 5 Apr. 2018

Marc Schoenauer

- Congrès Européen Ethique et Gouvernance 2018, OCDE, Paris, 30 Mar. 2018;
- Audition publique sur l'Intelligence Artificielle et le travail, Comité économique et social européen (CESE), Bruxelles, 30 May 2018;
- Public debate with Jean-Marc David, Convention Systematic, 5 Jun. 2018; Conférence Legrain, ENS Paris, 5 Jul. 2018;
- Prix Design et Science de l'Université Paris-Saclay, 11 Oct. 2018.

Michèle Sebag *Usine Nouvelle*; Podcast Science et Avenir, discussion avec Cédric Villani.

## 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*.

**TRIPOP Team (section vide)**

**TROPICAL Project-Team (section vide)**



## ABS Project-Team

### 7.3. Popularization

This part mainly concerns Dorian Mazauric.

#### 7.3.1. Internal or external Inria responsibilities

- Member of Mastic Commission (Médiation et Animation scientifiques Inria Sophia Antipolis - Méditerranée).
- Coordinator of the popularization project GALEJADE (Graphes et ALgorithmes : Ensemble de Jeux À Destination des Écoliers (mais pas que)) founded by Inria, Fondation Blaise Pascal, and Université Côte d'Azur. See <https://galejade.inria.fr>.
- Coordinator of the internships for undergraduates of middle school (niveau collège, troisième) at Inria Sophia Antipolis - Méditerranée (12 interns during one week).

#### 7.3.2. Articles and contents

Frédéric Cazals published the following opinion article:

- *Recherche et développement : les entreprises françaises n'ont pas de vision*, Le Monde, April 2018. See [https://www.lemonde.fr/sciences/article/2018/04/20/r-d-les-entreprises-francaises-n-ont-pas-de-vision\\_5288104\\_1650684.html](https://www.lemonde.fr/sciences/article/2018/04/20/r-d-les-entreprises-francaises-n-ont-pas-de-vision_5288104_1650684.html).

Dorian Mazauric published online contents and posters. See <https://galejade.inria.fr>.

#### 7.3.3. Education

- Trainings for 100 future teachers at ÉSPÉ (École Supérieure du Professorat et de l'Éducation) of Académie de Nice.
- Two trainings for 60 teachers of Cycle 3 (Le Cannet).
- Trainings for 20 teachers at numeric culture week-end organised by Class'Code MED.

#### 7.3.4. Interventions

- National events:
  - Fête de la Science : Village des Sciences de Vinon-sur-Verdon, Juan-les-Pins, Villeneuve-Loubet et Mouans Sartoux : *La magie des graphes et du binaire, Algorithmes grandeur nature et jeux combinatoires.*
  - Semaine des maths : Conferences and activities at Centre International de Valbonne. With Christophe Godin. *Réfléchir pour Calculer ou Calculer pour Réfléchir.*
  - Conferences and activities at salon Code & Play 2018. *Graphes et algorithmes ? Jeux grandeur nature : algorithme de plus court chemin, algorithme de tri avec des cerceaux et des lattes en plastique – La magie des graphes et du binaire : tours de magie.*
- In educational institutions:
  - Two trainings for 60 teachers of Cycle 3 (Le Cannet).
  - Trainings for 100 future teachers at ÉSPÉ (École Supérieure du Professorat et de l'Éducation) of Académie de Nice.
  - High school: Conferences at Centre International de Valbonne. *Pas besoin de réfléchir, les ordinateurs calculent tellement vite ? Théorie des graphes et algorithmique.*
  - Middle school: Conferences at collège Alphonse Daudet of Nice and conferences at collège Jules Verne of Cagnes-sur-Mer. *La magie des graphes et du binaire.*
  - Primary: Conferences at École élémentaire of Tournettes-sur-Loup. With Florence Barbra.

- Welcoming of schoolchildren or the general public in an Inria center:
  - MathC2+ internship: Activity for 40 students (high school). With Maria Guramare. *Algorithmes grandeur nature pour le calcul du plus court chemin et pour trier.*
  - Open days of Inria Sophia Antipolis - Méditerranée: *La magie des graphes, des algorithmes et du binaire.*
  - Presentation for twelve interns of middle school (niveau collège, troisième) by Frédéric Cazals.

### **7.3.5. Creation of media or tools for science outreach**

- Creation of the website of the popularization project GALEJADE (Graphes et ALgorithmes : Ensemble de Jeux À Destination des Écoliers (mais pas que)) founded by Inria, Fondation Blaise Pascal, and Université Côte d'Azur. See <https://galejade.inria.fr>.
- Development of wooden objects for the dissemination of the scientific culture: wooden plateau for graph algorithms and convex hull, chocolate bar game made by 3D printers, kakemonos... See <https://galejade.inria.fr/francais-pret-de-materiel/>.

## **AIRSEA Project-Team**

### **9.3. Popularization**

#### **9.3.1. Internal or external Inria responsibilities**

E.Kazantsev is a member of the Local Commission for Permanent Formation of Inria Grenoble - Rhône-Alpes.

#### **9.3.2. Articles and contents**

Blog : E. Blayo, Les big data peuvent-ils faire la pluie et le beau temps ?, October 25, 2018, <http://binaire.blog.lemonde.fr/2018/10/25/les-big-data-peuvent-ils-faire-la-pluie-et-le-beau-temps/> Binaire and <https://theconversation.com/quand-les-big-data-font-la-pluie-et-le-beau-temps-105608> The conversation

Interviews : E. Blayo, Carnets de campagne - France Inter, September 27, 2018

E. Arnaud, "Sans le numérique, pas de prévision météo !" Dossier C'est quoi le numérique. "Le dauphiné des enfants", numéro 14, novembre-décembre 2018, [http://www.ledauphinedesenfants.ledauphine.com/numero-archiv/dde2018\\_14#](http://www.ledauphinedesenfants.ledauphine.com/numero-archiv/dde2018_14#)

In collaboration with teachers, M. Nodet wrote an article about how to set up a "glaciers" for secondary school teachers in Reperes IREM journal [31]

#### **9.3.3. Education**

E. Arnaud, animation of a "Laboratoire des mathématiques" in Lycée Pablo Neruda (Saint Martin d'Hères), on the subject of math and critical thinking.

C.Kazantsev is a member of an IREM group for creation of scientific activities for professional development of secondary schools teachers.

C.Kazantsev is the creator and animator of the mathematical club for motivated pupils aged from 8 up to 18 years. 10 meetings for about 20 pupils of 2 hours each have been organized on Sunday morning during the year.

C.Kazantsev participated in the meeting "Espace Mathématique Francophone" EMF2018, Gennevilliers, October, 22-26, 2018. Presentation of animations and participation in the working group "Étude des processus de vulgarisation".

C.Kazantsev participated in the elaboration and planning of the permanent exposition of the "Salle de thé" group at the meeting IHP2020, 30 October, Institut Henri Poincaré, Paris.

#### **9.3.4. Interventions**

- National events:
  - E. Arnaud, M. Nodet. (Se) tromper avec les chiffres. Colloque "Sciences et esprit critique, interroger les certitudes", Maison pour la sciences, Académie de Grenoble, 8 nov. 2018, Grenoble - intervention in a training days for teachers from Education Nationale
  - M. Nodet facilitated a yearly math club with three secondary schools around Grenoble, aiming pupils to research open projects ("Math en Jeans" initiative)
  - M. Nodet facilitated a workshop about "Math modelling, example with oceanography" for high school and secondary school teachers
  - M. Nodet welcomed schoolchildren for short-time internship and offered a small workshop about oceanography
  - 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 are strongly involved in the creation of "La Grange des maths", a science popularization center that will be located in Varcès (south of Grenoble), which will offer a huge variety of mathematical hands-on exhibits. See <http://www.la-grange-des-maths.fr/>

Ch. Kazantsev participated in the "Fête de la Science", Parvis de Sciences, October, 13.

Ch. Kazantsev participated in the "Fille et Maths" day, Decembre, 5, with the presentation of the "La Grange des Maths" center and its activities.

Ch. Kazantsev presented the exposition "La recherche se prend au jeu" at the "Culture and mathematical games Salon" by invitation of the Henri Poincaré Institute, Place St Sulpice, Paris, 24-27 May.

- Public exhibitions

C.Kazantsev participated in the "Oriol des Maths" and in the "Forum des associations" with the presentation of the "La Grange des Maths" center and its activities. Varcès, March, 11.

C.Kazantsev participated at the "Raout de Domène" with the presentation of mathematical animations. Domene, September, 3.

C.Kazantsev participated at the "Maths en ville" with the presentation of the "La Grange des Maths" center and its activities. Grenoble, November, 28.

- In educational institutions

L. Debreu gave an introductory lecture on the finite element method at the Ecole des Pupilles de l' AIR (superior mathematics)

C.Kazantsev presented mathematical animations to pupils of the Poussous scholl in Varcès for about 80 children during 3 hours. Varcès, March, 15.

### ***9.3.5. Creation of media or tools for science outreach***

C.Kazantsev participated in the edition of the Teachers notebooks which explain and advise how to use the "La Grange Suitcases" (sets of mathematical games, problems and animations) destined for primary and secondary schools teachers as well as for the general public.

C.Kazantsev participated in the creation of mathematical activities that can be autonomously used by schoolchildren of primary and secondary schools and by the general public.

E. Arnaud, in charge of the UGA Idex project [math@uga](mailto:math@uga) : implementation of a collaborative moodle platform <http://math.u-ga.fr> to share pedagogical resources within teachers and towards students.

E. Arnaud, participation to UGA Idex projects Caseine and [data@ugat](mailto:data@ugat)

## ANGE Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Julien Salomon is a member of the "Comité des usagers de la rue Barrault" in view of the move of Paris Inria Center to Rue Barrault.

#### 10.3.2. Articles and contents

Julien Salomon wrote a vulgarization article "Décomposer et itérer pour résoudre un problème " for the CNRS website " Images des mathématiques " (12/2018)

#### 10.3.3. Education

- Edwige Godlewski is the president of the "commission française pour l'enseignement des mathématiques" (CFEM)
- Jacques Sainte-Marie is a member of the "Groupe de travail : Recherche et développement durable" at the French Ministry of Research.

#### 10.3.4. Interventions

- Julien Salomon took part of the "Salon Culture et Jeux mathématiques" - Stand AMIES (Paris, 24/05/18)
- Julien Salomon gave a talk at Waterford Kamhlaba United World College, Mbabane, Eswatini (Swaziland, 5/8/2018).
- Julien Salomon took part of "Fête de la science", and gave a talk at école rue st-Isaure, 18ème (Paris, 11/10/2018)
- Léa Boittin 25/5/18 took part of the "Salon Culture et Jeux mathématiques" - Stand AMIES ( Paris, 25/05/18)
- Vivien Mallet gave a talk "Bruit dans la ville", for the association "Versailles environnement initiative" (01/12/18)

#### 10.3.5. Internal action

Julien Salomon gave talk (3.4.18) at the internal meeting "La demi-heure de science": "Décomposer et itérer pour résoudre un problème complexe, quelques exemples en calcul scientifique".

Anne Mangeney gave talk (4.9.18) at the internal meeting "La demi-heure de science": "Les ondes sismiques : une mine d'informations sur les risques naturels".

## **ARAMIS Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Articles and contents***

- S. Durrleman's interviews were published in the magazines Le Point, Sciences et Avenir, Usine Nouvelle, Le Temps, revue Pharma, and were broadcasted on the radio France Culture. He published also an article in the special issue on artificial intelligence of the newspaper Libération.
- S. Durrleman did popularization presentations at Rotary Club Chamonix, Cercle des amis de l'ICM, and Salon de l'argus de l'assurance.
- F. De Vico Fallani did a popularization presentation at La Française - Investing group, Paris
- Olivier Colliot gave an interview for the TV channel France 5, for the program "Magazine de la Santé.
- Stéphane Epelbaum participated to multiple events dedicated to general audience outreach including: articles in journals (L'Express, Cerveau & Psycho, Sciences Avenir), Radio shows and podcasts (France inter: Grand Bien vous fasse, Figaro Live) and TV shows (Pourquoi docteur, Questions aux experts).
- The team contributed to the book "Le Grand Atlas du Cerveau" (Glénat).

#### ***10.3.2. Interventions***

- O. Colliot gave a presentation to members of the German Bundestag, Paris, France, December 2018.
- Stéphane Epelbaum participated to a charity event at the Foire internationale d'Art Contemporain (FIAC) 2018 on the 20th of November 2018.

#### ***10.3.3. Internal action***

- O. Colliot gave a presentation for the charity event ("Evènement solidaire" of Inria, September 2018).

## **ATHENA Project-Team**

### **8.3. Popularization**

#### **8.3.1. Interventions**

- M. Clerc participated in the Brain Awareness Week with a talk about Brain Computer Interfaces at CHU Nice Pasteur, March 16 2018.
- M. Clerc participated in the Brain Awareness Week with a talk about Music and the Brain at Villa Arson, Nice, March 17 2018.
- M. Clerc, T. Papadopoulo, F. Turi and R. Lacroix participated in the Fête de la Science with a BCI demo where the general public could test a P300 speller system.

## BEAGLE Project-Team

### 9.3. Popularization

#### 9.3.1. Interventions

- Eric Tannier gave a series of four lectures at the Université Populaire de Lyon, on "science and democracy".
- Eric Tannier participated to a round table on scientific communication for the BMIC days, november 2018.
- Audrey Denizot has participated in the organization and animation of activities for children about research during the event "Dans la blouse d'un chercheur" in ENS de Lyon. More specifically, she worked on a project aiming at explaining to children what microbes are, where they are and if/when you should worry about them and what is immunodeficiency. She made a small movie about it.
- Audrey Denizot is a member of a public outreach association : DéMesures. She is in charge of collaborations with external entities, including laboratories, museums and artists collectives. Website: <https://demesures.jimdo.com/> Facebook: <https://www.facebook.com/DMesures/> Twitter: <https://twitter.com/DMesures> Radio podcasts: <https://demesures.jimdo.com/radio-1/radio-brume/> Interviews are available on our YouTube channel: <https://www.youtube.com/channel/UCIn3CucWk1mLgbzE0noO2Iw>
- National events: Audrey Denizot organized several events including Fête de la Science 2017 and 2018 and A Nous de Voir 2018, as well as conducted projects such as radio podcasts on science/society topics, interviews of researchers, projects mixing Science and Art.

#### 9.3.2. Creation of media or tools for science outreach

- In collaboration with Sylvain Charlat (LBBE, Lyon), we developed game to present the effect of random mutations on evolution to young children. The "GreenMice" game has been presented to the general public in the "Maison des Mathématiques et de l'Informatique" during the exhibition "Comme par hasard".



## **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.

## **BIOCORE Project-Team**

### **10.3. Popularization**

#### **10.3.1. Articles and contents**

- A popularization paper has been published on the study of peach sugar metabolism [64].
- L. Mailleret was a co-author of the press kit “Les conquêtes de l’INRA pour le biocontrôle” [86].
- The activities related to microalgae have generated many articles in national newspapers (Le Monde, Nice Matin, ...), and broadcasts on national TV (France 3). See, for instance, <https://www.nicematin.com/vie-locale/ces-azureens-inventent-223249>.

#### **10.3.2. Interventions**

- O. Bernard together with R. Lemée gave a general public conference on the topic “Les microalgues en Méditerranée: quels avènements environnementaux, énergétiques, sanitaires et industriels?” (MA-MAC, Nice, 6 Apr 2018).
- L. Chambon and O. Bara participated in the open doors days of Inria Sophia-Antipolis on the 7th of October. L. Chambon presented a popularization poster about Biocore scientific methodologies to general public.
- L. Chambon represented Biocore, Inria in the national event “Fête de la Science” in Mouans-Sartoux and Juan-les-Pins (13th and 20th of October). She presented scientific popularization games and experiments to children and general public.
- L. Mailleret presented three Posters on biological control with predatory mites during the visit of the national press (AFP, France Inter, Le Parisien,...) at Institut Sophia Agrobiotech on the 30th of May 2018.

## **BIOVISION Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Internal or external Inria responsibilities***

- E. Kartsaki and S. Souihel are participating to the organization of the Inria Sophia PhD seminars.

#### ***9.3.2. Interventions***

- The Biovision team participated to the "fête de la science 2018".

## **BONSAI Project-Team**

### **8.3. Popularization**

#### **8.3.1. Internal or external Inria responsibilities**

- Member of the CDT for Inria Lille (M. Pupin).
- Member of an Inria hiring committee (young researcher), Inria LNE (M. Pupin)

#### **8.3.2. Education**

- M. Pupin is the new leader of the collective *Informatique au féminin* from University of Lille, which was launched four years ago and whose goal is to organise computer science initiatives that reach teenage girls and female students. Among other actions, she is fully involved in the event *L codent, L créent* (she codes, she creates). This action aims to teach code to schoolgirls (13-15 years old), before they amass prejudices against computer science. 50 teenage girls were supervised by 11 female graduate computer science students, to create a proximity link between the young women. To emphasize the fact that coding is a creative and innovative pursuit, we chose to teach *Processing*, a programming language built for visual arts. After eight sessions of creative coding, a public exhibition was organized at the University with inspirational testimonies of women working in the field of computer science.
- The team participates to dissemination actions for high school students and high school teachers on a regular basis: multiple presentations on bioinformatics and research in bioinformatics with our dedicated “genome puzzles”, visit of high school students in the team (M. Salson).

## CAMIN Team

### 9.3. Popularization

#### 9.3.1. Education

Christine Azevedo Coste is mentor (2018-2019) for one Savanturiers project with Saussan school (CM1/CM2 level) <https://les-savanturiers.cri-paris.org/>

Christine Azevedo organized initiation sessions to informatics using Thymio robot at École Calendreta La Cardonilha (Mèze, France) in CP/CE1 level, 3 sessions of 2 hours (April 2018) .

Christine Azevedo organized initiation sessions to informatics using Thymio robot at École Valfalis (Montbazin, France) in CM1/CM2 level, 4 sessions of 2 hours (May-June 2018) .

As a COERLE member Christine Azevedo Coste was involved in one session on Ethics for phd students in Inria IRISA center (Rennes, france) (November 2018).

#### 9.3.2. Interventions

- François Bonnetblanc : Pint of Science 16 mai 2018, François Bonnetblanc, Montpellier

**CAPSID Project-Team (section vide)**

## **CARMEN Project-Team**

### **8.3. Popularization**

#### ***8.3.1. Internal or external Inria responsibilities***

- L. Weynans is responsible for the communication (*Chargé de communication*) of the IMB
- Exhibit at the open days on the occasion of the 10-years anniversary of the Inria center Bordeaux Sud-Ouest.

#### ***8.3.2. Interventions***

L. Weynans:

- Organization of the day “Filles et Maths, une équation lumineuse”
- Several presentations for high-school students about scientific computing

**CASTOR Project-Team (section vide)**



**COFFEE Project-Team (section vide)**

## **DRACULA Project-Team**

### **7.3. Popularization**

#### **7.3.1. Articles and contents**

- L. Pujo Menjouet : interview dans Causette (hors série Juillet-Août 2018)
- L. Pujo Menjouet : interview dans le magazine Society (fin juillet 2018)

#### **7.3.2. Interventions**

- T. Lepoutre: Visite de l'inria pour les stagiaires de 3e de l'ICJ (plusieurs fois dans l'année, une matinée en général).
- T. Lepoutre: présentation de l'antenne et des équipes à deux classes lors du congrès Maths en Jeans (mars 2018)
- T. Lepoutre participation to MathaLyon interventions
- L. Pujo Menjouet : participation à Math en Jeans édition 2018 (collège de la côte Roannaise, Renaison)
- L. Pujo Menjouet : présentation de deux conférences au collège de Saint Bonnet le château le 21 juin 2018

## DYLISS Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

**Science en Cour[t]s** (<http://sciences-en-courts.fr/>) Many of our on-going and former Ph-D students (M. Wery, L. Bourneuf, A. Antoine-Lorquin, C. Bettembourg, J. Coquet, V. Delannée, G. Garet, S. Prigent) have been heavily involved in the organization of a local Popularization Festival where Ph.D. students explain their thesis via short movies. The movies are presented to a professional jury composed of artists and scientists, and of high-school students. Previous years films can be viewed on the festival web-site [\[More details\]](#)

#### 10.3.2. Interventions

- "J'peux pas j'ai informatique", Welcoming of high-school students to leverage stereotypes about computer sciences, Apr. 2018 [A. Siegel]
- Atelier Google Numerics, Rennes, table ronde *Enseigner le code dès le plus jeune âge*, Oct. 2018 [A. Siegel]
- "Rencontre des jeunes mathématiciennes", ENS Rennes, 2-days workshop for high-school girl students in mathematics. Introduction to gender stereotypes in mathematics, Nov. 2018 [A. Siegel]

#### 10.3.3. Creation of media or tools for science outreach

- Le Language comme inspiration [\[youtube link\]](#) [H. Talibart]
- Les aventuriers du remède perdu [\[youtube link\]](#) [M. Louarn and M. Wery]

## **EPIONE Project-Team**

### **9.3. Popularization**

#### **9.3.1. Interventions**

- Nicolas Cedilnik, Pierre Tramaloni, Thomas Demarcy, Hervé Delingette and Maxime Sermesant organised a cardiac intervention simulator demo and a cochlear implant demo for the Science Festival at Inria (Dec 7).
- On April the 10th, during the "mathematics week", 2 PhD students (Nicolas Cedilnik and Raphael Sivera) met young pupils (age 8-10) at the ESPE (école supérieure du professorat et de l'éducation) Nice. The pupils were introduced to mathematical concepts in a practical way through the use of toys.

## **ERABLE Project-Team**

### **9.3. Popularization**

#### **9.3.1. Interventions**

Blerina Sinaimer and Ricardo Andrade participated to the Inria Fête de la Science in October 2018. Blerina Sinaimer and Mariana G. Ferrarini presented the research topics of the team in an event for welcoming international scientists at the Espace Ulys of the University of Lyon. The presentation was entitled “ERABLE : A bio-info symbiosis” and discussed mainly about the multidisciplinary of the ERABLE Team. Finally, Mariana Galvao Ferrarini participated in the Fête de la Science INRA at the Mediathèque de Bron in October 2018.

Fabrice Vavre participated to the Forum des métiers, Collège Clément Marot, on “La recherche au CNRS”.

## **FLUMINANCE Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Internal or external Inria responsibilities***

Jocelyne Erhel

- member of the Inria local committee for health and safety (réfèrent chercheur) 2016-2018.
- member of the Inria administrative commission (CAP) for researchers, from January 2016.
- member of the Inria national committee for secondment, 2016.

Etienne Mémin

- Responsible of the "Commission Développement Technologique" Inria Rennes
- Member of the "Commission Personnel" Inria-IRISA Rennes

#### ***9.3.2. Education***

Jocelyne Erhel

- présidente du jury du rallye de mathématiques du CNED, since 2017.

#### ***9.3.3. Interventions***

Jocelyne Erhel

- talk about melting ice caps, general public, Musée des Arts et Métiers, March 2018.
- talk about spreading epidemics, stage de collégiens, January and February 2018.
- contribution to website redesign of Interstices, 2017-2018.

#### ***9.3.4. Creation of media or tools for science outreach***

Jocelyne Erhel

- scientific coordinator of the website Interstices (since June 2012).
- contribution to website redesign of Interstices, 2017-2018.

## **GALEN-POST Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

Enzo Batistella, Marie-Caroline Corbineau, Théo Estienne and Maria Vakalopoulou have participated at the 'Demi-journée Recherche' organised by CentraleSupélec for the first year students of the school.

## **GENSCALE Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- Member of the Interstice editorial board [P. Peterlongo]

#### ***10.3.2. Interventions***

- In educational institutions : Participation to operation "A la découverte de la recherche" in high schools [P. Peterlongo]

#### ***10.3.3. Creation of media or tools for science outreach***

- Short Movie "Les mutations génétiques, des événements spontanés à la thérapie génique", presented at Sciences en Courts, a local contest of popularization short movies made by PhD students (<http://sciences-en-courts.fr/>) [L. Lecompte, W. Delage].



## **IBIS Project-Team**

### **8.3. Popularization**

#### ***8.3.1. Creation of media or tools for science outreach***

Hidde de Jong presented the work of IBIS in the framework of the communication action "Mon équipe en 180 secondes". The video is on-line at the following address: <https://videotheque.inria.fr/videotheque/media/47816;jsessionid=D615F60B85E6C88DEDD129AD56E4431E>

## LEMON Team

### 10.3. Popularization

Antoine Rousseau is member of the editorial board of [Interstices](#) and the [Binaire Blog](#) in Le Monde.

#### 10.3.1. Internal or external Inria responsibilities

Antoine Rousseau is member of "Bureau du Comité des Équipes-Projet" in the research center of Sophia-Antipolis Méditerranée.

#### 10.3.2. Interventions

Antoine Rousseau has given lectures in the following events:

- Fête de la Science (Genopolys Montpellier) and Semaine des maths (Collège Les Fontanilles, Castelnaudary)
- FUTUR-E-S in La Villette (Paris) for a [demo of Tsunamilab](#)
- another Tsunamilab demo for Region Occitanie (November 30th, Port Barcarrès)
- [Centre d'Alembert](#) (Orsay-Saclay)
- public schools of Aubais (Gard) and Castelnaudary (Aude)

#### 10.3.3. Internal action

- Antoine Rousseau gave a talk in the Café des Sciences at Inria Rocquencourt, March 20th.

#### 10.3.4. Creation of media or tools for science outreach

- Antoine Rousseau has contributed to the development of Tsunamilab in collaboration with Inria Chile
- Antoine Rousseau is a co-administrator of the association [Le Calendrier Mathématique](#)

## **LIFEWARE Project-Team**

### **9.3. Popularization**

#### **9.3.1. Articles and contents**

Our publication on distinguishing resistance from resilience to antibiotic treatments [6] has been the object of a press release, institutional communications (at [Inria](#) and at [Institut Pasteur](#)), and some press attention, including notably by the UK daily mail journal.

#### **9.3.2. Interventions**

- Eléonore Bellot and Elise Weill participated at Fête de la Science in October 2018 at Inria Saclay île-de-France.
- Eléonore Bellot has received college school students for a visit to our research team on the design of logical gates in synthetic biology and their simulation in BIOCHAM.
- François Fages has received college school students for a visit to our research team with the question “Can we program any function ?”, answered negatively by proving Cantor’s theorem.

#### **9.3.3. Creation of media or tools for science outreach**

- François Fages has created several [BIOCHAM notebooks associated to his course at MPRI](#) and available online.
- François Fages and Sylvain Soliman have created one [BIOCHAM tutorial notebook presented at ASSB 2018](#) and available online.

## **M3DISIM Project-Team**

### **10.3. Popularization**

J.M. Allain, Co-authored a popularization paper in the “Reflète de la Physique” journal (january-february 2018)

D. Chapelle, Interview in *Sciences et Avenir* (November issue)

M. Genet, Presentation at JeudiX—Research Days at École Polytechnique

C. Patte, Fête des Sciences day, organized by Inria. October 11th

## **MAGIQUE-3D Project-Team**

### **9.3. Popularization**

#### **9.3.1. Interventions**

- Justine Labat participated in scientific 'speed datings' during the 'Filles et Maths' day at Pau in May 2018.
- Justine Labat animated the stand in Mathematics during 'Le Village des Sciences' day at Pau in October 2018.
- Sébastien Tordeux gave a talk on numerical analysis in the Cercle Sofia Kovalevskaja of Toulouse in May 2018
- Juliette Chabassier participated to a movie - debate event in Cognac in march 2018.
- Juliette Chabassier animated a workshop around virtual piano during the Inria "10 years night" in september 2018.
- Juliette Chabassier animated a workshop around virtual piano during the Inria "fête de la science" in october 2018.
- Robin Tournemenne animated a workshop around virtual piano during the Inria "fête de la science" in october 2018.
- Juliette Chabassier animated a workshop around virtual piano during the Inria "open doors day" in october 2018.
- Juliette Chabassier welcomed L3 students around a virtual piano workshop in december 2018.

## **MAMBA Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

- Marie Doumic: participation in a round table on December 13th, in Forum Emploi Maths, La Villette, Paris; Participation in a round table on "Science Meets Medicine", May 29th, in Vienna; presentation to a 12-year old class of pupils of mathematics for biology.
- Several Mamba members have taken part to the activities of the year of mathematical biology declared by European Mathematical Society.
- Dirk Drasdo on liver research and EASL: <https://www.inria.fr/centre/paris/actualites/dirk-drasdo-et-ses-recherches-sur-le-foie>

## **MATHNEURO Team**

### **6.3. Popularization**

#### **6.3.1. Interventions**

National events: Romain Veltz participated at the conference "Fête de la Science".

#### **6.3.2. Internal action**

Romain Veltz gave a talk at "Café des sciences" about "Vers un modèle de synapse excitatrice"

**MIMESIS Team (section vide)**



## MNEMOSYNE Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Thierry Viéville is in charge of mission regarding e-education in particular the collaborations with the UCA university on these subjects, more precisely the LINE laboratory ESPE of Nice where he is affected at 20%, for the creation and co-direction of the MSc and the relation with EducAzur, and the actions within the Class Code project.

#### 10.3.2. Articles and contents

- For online publications: F. Alexandre in Usbek & Rica (June 8) and Inriality (May 17): <https://usbeketrica.com/article/2067-la-singularite-empire-des-machines> and <https://www.inriality.fr/informatique/informatique-ia-intelligence-artificielle/2067-la-singularite-ou/>;
- Interviews in order to popularize: F. Alexandre in La Tribune newspaper (September 10): <https://objectifaquitaine.latribune.fr/innovation/2018-09-10/inria-bordeaux-10-ans-de-recherches-a-la-pointe-du-numerique-789911.html>; I. Chraïbi Kaadoud and A. Garenne in blog scilogs about neural networks: <http://www.scilogs.fr/intelligence-mecanique/architecture-reseaux-de-neurones-de-choix/>; <http://www.scilogs.fr/intelligence-mecanique/architecture-des-reseaux-de-neurones-reseaux-de-neurones-artificiels-classiques-2-3/> and <http://www.scilogs.fr/intelligence-mecanique/architecture-des-reseaux-de-neurones-reseaux-de-neurones-impulsionnels-3-3/>; X. Hinaut about organizing a Hackathon in <https://pixees.fr/hack1-cerveau/>; N. Rougier in CNRS website (September 21): <http://www4.cnrs-dir.fr/insb/recherche/parutions/articles2018/t-boraud.html> and in Le Monde newspaper (September 19): [https://www.lemonde.fr/sciences/article/2018/09/19/les-emotions-au-coeur-de-l-apprentissage\\_5357127\\_1650684.html](https://www.lemonde.fr/sciences/article/2018/09/19/les-emotions-au-coeur-de-l-apprentissage_5357127_1650684.html); Thierry Viéville is co-editor and/or co-author of about two papers per month on <http://binaire.blog.lemonde.fr>.

#### 10.3.3. Education

F. Alexandre: Teaching to the high-school professors in Philosophy of the academy of Poitiers about Artificial Intelligence (April, 25); Thierry Viéville has realized more than ten session of formation (over 400 teachers involved) within the scope of the Class Code project, and co-organized two of them.

#### 10.3.4. Interventions

- National events: participation of the team on the NeuroCampus to the Week of the Brain (Semaine du Cerveau: March 19-23); to the Declics program for high-schools (<http://www.cerclefer.org/fr/declics/>, Nov. 22); Fête de la Science at Inria Bordeaux and Cap Sciences in October: The humanoid Nao robot was listening to the instructions and learning names of objects. This demo was performed by X. Hinaut and A. Strock with a German collaborator from the University of Hamburg (J. Twiefel).
- Public exhibitions:
  - “Brain and Artificial Intelligence” at Regional Headquarters in Limoges (Feb. 2);
  - “What is the usefulness of Artificial Intelligence ?” at Café des Sciences in Soustons (Dec. 12) (F. Alexandre);
  - Science pour tous (Bordeaux), Machine learning (Communauté Urbaine de Bordeaux), AI Unplugged (Bordeaux), Déambulation autour de l’IA (Bordeaux), L’intelligence artificielle en question (Paris) (N. Rougier);
  - Participation to the Neurocampus Day (S. Pagliarini, poster “Learning an inverse model for vocal production: toward a bio-inspired model”);

- Thierry Viéville: Interventions on artificial Intelligence and the development of critical thinking on large audience popularization events (Universcience, Médiathèque de Bordeaux, Semaine du Cerveau, Fête de la Science, Select Sophia-Antipolis, more than 200 persons involved) and three interactive talks in high-school (more than 150 students involved).
- T. Firmo Drumond and B. Teja Nallapu prepared and presented a demo for the 10 years of the Bordeaux Inria Centre (September 27).
- N. Rougier and X. Hinaut participated to a theater performance on AI, showing the state of work of an artistic residence in November.

#### **10.3.5. Internal action**

- Internal meetings: T. Firmo Drumond presented Deep Learning to the Inria Bordeaux Café des Sciences (March 22);
- Nicolas Rougier gave a talk about scientific fraud and misconduct at the institute of neurodegenerative diseases.

#### **10.3.6. Creation of media or tools for science outreach**

Thanks to fundings from the Bordeaux Museum of Science Cap Sciences (<http://www.cap-sciences.net/>) and from the Foundation Blaise Pascal (<https://www.fondation-blaise-pascal.org/>), we have begun to design a software tool to run small demonstrative scenarios, to help everyone discover the brain functions at the origin of our sensorimotor and vital cognitive behaviors (instinctive and motivated behavior, selection of embodied action, emotional decision-making, seat of self-awareness, etc.). This resource is for a wide audience to whom we can show scenarios, but also co-build multi-media resources to share methods and knowledge (participatory scientific mediation approach) and to discuss these topics. It is also at the disposal of scientific mediators (researchers and beyond) who wish to co-construct such resources, or to present research results involving the animation of anatomy of the nervous system as well as of users or authors of computer code who want to reuse shared technologies to derive other applications, in particular become familiar with the specification languages (here JSON and markdown).

## **MONC Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- S. Benzekry is a member of the local Inria commission of informatical tools users (CUMI)
- C. Poignard is an elected member of Inria's national evaluation committee.

#### ***10.3.2. Interventions***

- O. Saut: Fête de la Science, Cap Science, Bordeaux.

## **MORPHEME Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Interventions***

The Morpheme team took part in "La fête de la Science" both at Inria and during the "Village de la Science" in Juan-Les-Pins. Sarah Laroui, Somia Rahnmoun and Arne Bechensteen were holding a stand in these events.

## MOSAIC Team

### 9.3. Popularization

#### 9.3.1. Articles and contents

- Christophe Godin
  - made a presentation at *My team in 180 seconds*, June 2018 (in French).
  - wrote a paper *Pourquoi les Plantes font des maths* co-authored with Fabrice Besnard and Teva Vernoux, that was published in *Pour La Science* (Aug 2018) and in the hors-série issue on *La révolution végétale* (Nov 2018). (Nov 2018)

#### 9.3.2. Interventions

- O. Ali has been an invited speaker for an art/science conference and debate organized by the modern art museum of Lyon, October 2018.
- Romain Azaïs won a special mention in the comics contest *Maths et Polar* organized by the website *Image des Mathématiques* of the CNRS, April 2018.
- Guillaume Cerutti, Christophe Godin and Jonathan Legrand have been involved in Déclics initiatives (presentation and discussion with high school students in order to promote science and research careers), October and December 2018.
- Christophe Godin gave an invited 2 hours seminar to 4 classes of high-school students for the Math week (March) at the Lycée International de Valbonne, France.
- H. Oliveri took part in the Class'Code Initiative, a Mooc produced by Inria and OpenClassRoom providing supports and guidelines for people wanting to teach computer science to young childrens.

## **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)

**NUMED Project-Team (section vide)**

## PARIETAL Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

- Philippe Ciuciu has been member of the Inria Saclay scientific commission since 2016
- Alexandre Gramfort is member of the steering committee of the Paris-Saclay Center for Data Science
- Alexandre is a Member of the technical development committee of Inria Saclay since Dec 2018
- Bertrand Thirion is Deputy head of reasearch of Inria Saclay research center
- Bertrand Thirion, Leader of the Datasense research axis of the Digicosme Labex
- Bertrand Thirion, Member of the steering committee of the Dataia Convergence Institute
- Bertrand Thirion, Member of the steering committee of the Computer Science Department of Paris Saclay University.
- Gaël Varoquaux was Member of the technical development committee of Inria Saclay until Dec 2018
- Gaël Varoquaux is member of the doctoral monitoring committee of Inria Saclay
- Gaël Varoquaux is member of the steering committee of the Paris-Saclay Center for Data Science

#### 10.3.2. Articles and contents

- Gaël Varoquaux was interviewed by [ActuIA](#)
- Alexandre Gramfort was interviewed by [ActuIA](#)
- Alexandre Gramfort was interviewed by [Libération](#)
- Alexandre Gramfort, Olivier Grisel Gaël Varoquaux are interviewed by [Les Echos](#)

#### 10.3.3. Interventions

- Olivier Grisel gave an interview at the Paris Open Source Summit

#### 10.3.4. Internal action

- In June 2018, Philippe Ciuciu did a training session on the DRF Impulsion funding mechanism at the seminar of new hired CEA DRF scientists"
- In April 2018, Denis Engemann and Alexandre Gramfort gave a 2-day educational course for cognitive neuroscientists at NeuroSpin on analysis of MEG and EEG data using Python.

#### 10.3.5. Creation of media or tools for science outreach

Philippe Ciuciu made Two videos together with the CEA communication division on COSMIC project (funded by CEA)

- Long version: [https://www.youtube.com/watch?v=gQh6D\\_vpkSo&t=23s&fbclid=IwAR0OcU3JEy4KQmo6DD-iN8otjlowyeXDkEF7ljniuZOkI-aWhGqyHhQzruo](https://www.youtube.com/watch?v=gQh6D_vpkSo&t=23s&fbclid=IwAR0OcU3JEy4KQmo6DD-iN8otjlowyeXDkEF7ljniuZOkI-aWhGqyHhQzruo)
- Short version: [https://www.youtube.com/watch?v=p\\_KMEQGK-WA&fbclid=IwAR3xcf8e98M77IF9mpQSDWfKppjOt7p](https://www.youtube.com/watch?v=p_KMEQGK-WA&fbclid=IwAR3xcf8e98M77IF9mpQSDWfKppjOt7p)

Gaël Varoquaux, Olivier Grisel, Alexandre Gramfort, Guillaume Lemaître, Joris van den Bossche participated in a general-public movie about scikit-learn: <https://www.youtube.com/watch?v=twqdxTCkeyk&t=9s>



## PLEIADE Team

### 9.2. Popularization

#### 9.2.1. Internal or external Inria responsibilities

David Sherman is president of the Commission for Technology Development (CDT) of the Inria Bordeaux Sud-Ouest research center. The CDT has two roles. First, it evaluates funding requests for Technology Development and Technology Transfer projects, which typically involve hiring technical staff. Second, the CDT is responsible for validating and overseeing contract engineers hired by Inria project-teams.

#### 9.2.2. Interventions

The “Family-3D” activity (see below) was presented on three occasions:

- During the 10 year celebration on the evening of September 27
- During the Open House all day October 13
- During the Fête de la Science, to 8 groups of 12 students

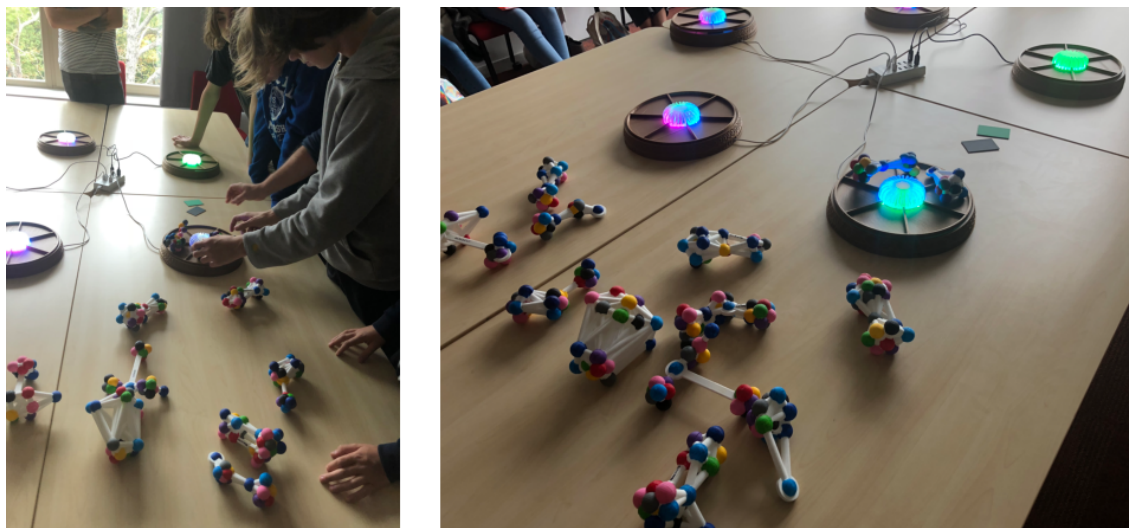


Figure 6. Family-3D activity during the Circuit Scientifique of the Fête de la Science, 2018

#### 9.2.3. Creation of media or tools for science outreach

Pleiaide created an interactive activity “Family-3D” to explain the methods and uses of pattern classification of protein families. Using new software developed by the team we laid out 30 families in 3D space and converting those shapes to 3D volumes. The selected families had been previously grouped into biologically pertinent classes by human curators. Each shape was printed with an embedded unique RFID tag. We also designed and printed five interactive terminals, containing a microcontroller, an RFID reader with a custom-designed inductive coil as input, and an LED ring as output. Participants would propose groups of shapes that they believed belonged to the same class, and the terminal would evaluate the group.

David Sherman contributes open-source software development to the Aseba platform for educational robotics <sup>0</sup>, deployed in Thymio II robots used by children as well as in the simulator used by Class'Code <sup>0</sup> to train teachers.

David Sherman and Louise-Amélie Schmitt developed AsebaHub, a specialized WiFi hub for connecting Thymio-II robots into a local-area network. AsebaHub acts as either a wireless Access Point to which users may connect, or as a Bridge to an existing local-area network. Robots can be discovered using mDNS-sd (Zeroconf/Bonjour). AsebaHub works out of the box with the Aseba Studio and VPL programming environments, and can also provide an HTTP service that is compatible with Scratch, Snap!, or other environments.

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<sup>0</sup><http://aseba.io/>

<sup>0</sup><https://pixees.fr/classcode-la-formation-associee-a-pixees/>

## REO Project-Team

### 10.3. Popularization

#### 10.3.1. Interventions

- Céline Grandmont
  - Conference “Métier”: Master Maths students, UPMC, Oct 2018
  - Conference at "Rendez-vous des Jeunes Mathématiciennes et Informatiennes", Inria Oct. 2018
  - High school discussion on scientific career, 18th January, Blanche de Castille, Le Chesnay, France
  - High school conference, 9th January, Blanche de Castille, Le Chesnay, France

## **SERENA Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

- M. Kern: présentation “Des mathématiques pour modéliser et simuler le monde”, Lycée des Pierres–Vives (Terminale S), Carrières–sur–Seine, May 2018.
- M. Vohralík: “Advancing scientific knowledge together to support innovation”, dissemination video, [IFP Energies Nouvelles](#). Available [here](#). February 2018.

**SERPICO Project-Team (section vide)**

## **SISTM Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- Mélanie Prague is part of the Inria Commission de Développement Technologique (CDT)
- Mélanie Prague is part of the Inria commission des emplois de recherche.
- Robin Genuer is the webmaster of the publication site of the French statistical society

#### ***10.3.2. Articles and contents***

- Mélanie Prague participated to an interview for Sud ouest Eco.
- Mélanie Prague made a video of presentation of SISTM team

#### ***10.3.3. Interventions***

- Chloé Pasin presented "Modélisation et optimisation de la réponse immunitaire" to L3 student from ENS Lyon visiting Inria and Hadrien Lorenzo participated to research speed meetings with these students on December 6 2018.
- Melany Durand, Hadrien Lorenzo, Chloé Pasin and Mélanie Prague participated at the "Fête de la Science" and presented "D'une goutte de sang à ta prochaine visite chez le médecin : bien personnaliser ton traitement" to high school students on October 10 2018.
- Chloé Pasin participated at the "atelier Digit'elles" with the "Femmes and Sciences" organization at the "Fête de la Science" on October 9 2018.

#### ***10.3.4. Internal action***

- the whole team participated in a showcase of their activity for Inria BSO 10<sup>th</sup> anniversary on September 27<sup>th</sup>, 2018 "Une goutte de sang contient-elle plus de données qu'un smartphone ?"
- Marta Avalos and Binbin Xu conducted a workshop on "Vivre la diversité à Inria Bordeaux – Sud-Ouest", within the internal workshop for the Inria BSO 10<sup>th</sup> anniversary, June 13. Participation to the SO News of June.

## STEPP Project-Team

### 8.3. Popularization

#### 8.3.1. Conferences “Understanding and Acting” :

*Saving Civilization is not a spectator sport*  
Lester Brown

Following a dynamics of exponential growth in a finite world, humanity today faces a number of unprecedented and tightly interlinked challenges. With a growing number of environmental limits being largely and irreversibly exceeded (GHG concentrations in the atmosphere, biodiversity loss, soil erosion, freshwater shortages...), social, economic, geopolitical, humanitarian (etc.) consequences are becoming more urgent than ever to address, while the threat of an uncontrolled global collapse is now more than a prospect. It is urgent to initiate deep, structural, socioeconomic changes on virtually all aspects of our increasingly global societies (economics, industrial and agricultural production, consumption, education, all requiring major new local and global policies).

In view of these facts, the STEEP research team has initiated in 2016 a series of conferences-debates entitled “Understanding & Acting” (“Comprendre et agir”) that examines these issues in order to help researchers and citizens to increase their awareness of the various issues at stake in order to initiate relevant individual and collective actions. From now on, the scientific community at large must realize that its duty also lies in helping citizens to better understand these issues. If the fraction of people in society whose privilege is to be paid to think about society’s problems do not seize this opportunity in the critical times we face, who will? Researchers must become more involved in the search of socioeconomic alternatives and help citizens to implement them. The interactions between researchers and citizens must also to be reinvented.

The presentations of this series of conferences typically last between 30 to 45 minutes; they are followed by a 45 minute public debate with the audience. The presentations are captured on video and then made directly accessible on the YouTube Channel “Comprendre et Agir”. At the end of 2017 the YouTube channel reached almost 45,000 views with a rate of integral viewings remaining at above 25%.

Examples of conferences given in 2016-2017:

- “Why and how to recognize money as a common good?” by Jean-Michel Servet, Graduate institute of international and development studies (IHEID) at Genève.
- “What alternative to the crisis of representation?” by Loic Blondiaux, University of Paris I Panthéon-Sorbonne.
- “Reinventing agriculture and food in the 21st century?” by Gilles Billen, CNRS.
- “Can the commons movement re-activate democracy?” by Christian Laval, University of Paris Ouest Nanterre La Défense.
- “Limiting climate change: Why do we not do it?” by Denis Dupré, University of Grenoble Alpes.
- “Understanding society collapses. What future for ours?” by Emmanuel Prados, Inria.
- “Environment, economy, collapse: squaring the circle?” by Pierre-Yves Longaretti, CNRS.

Link to the web page of the series [program, abstracts, dates, complements etc.]:

<https://team.inria.fr/steep/les-conferences-debats-comprendre-et-agir/>

Link to the YouTube channel :

[https://www.youtube.com/channel/UCJbcXCcOA63M8VMysAbmt\\_A](https://www.youtube.com/channel/UCJbcXCcOA63M8VMysAbmt_A)

### 8.3.2. Other popularization activities :

- Emmanuel Prados was guest speaker at
  - the **public debate "defying disaster"** that held at Grenoble City Hall., Grenoble, France, 13 December 2018. Organizers: City of Grenoble. "Climat, défier la catastrophe : vers un nouvel humanisme"  
[http://www.grenoble.fr/uploads/Externe/a1/757\\_069\\_Conference-Climat-defier-la-catastrophe-vers-un-nouvel-humanisme.pdf](http://www.grenoble.fr/uploads/Externe/a1/757_069_Conference-Climat-defier-la-catastrophe-vers-un-nouvel-humanisme.pdf)  
 Video of the conference on YouTube : <https://www.youtube.com/watch?v=IfvFHx0kYa0>
  - the **exchange day on travel modelling in Grenoble** "", Grenoble, France, 5 October 2018. Organizers: Agence d'urbanisme de Grenoble.
  - the **Controversation** entitled "Digital technology in the face of environmental impasse: an exit door or a way forward?", Aix en Provence, France, 17th of February 2018. Organizers: association "Tous Chercheurs" in collaboration with the students of the School of Journalism and Communication of Aix-Marseille ; Amina Mokrane.
  - the **Opening Conference at the Alterre Day** «Voyages en transitions » : "De l'urgence de tout changer face à l'effondrement qui vient", Dijon, France, March 21th 2018. Organizers: Alterre Bourgogne-Franche-Comté (Agence régionale pour l'environnement et le développement soutenable) ; Fabienne Lapiche-Jaouen.  
<https://www.alterrebourgognefranchecomte.org/c/agenda/10604/journee-alterre-sur-le-theme-des-transitions?>
- Emmanuel Prados participated **Fictionnalisation de controverse** in the research-action project FORCCAST. 22 April, 2018, Paris.
- Emmanuel Prados gave a conference at **STMicroelectronics Grenoble** : "Collapse: understanding and accepting the game over of our modern society", Grenoble, France, March 8 2018. Organizers: Philippe Vincent and Violaine Pasini.



## **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".

## VISAGES Project-Team

### 10.3. Popularization

#### 10.3.1. Press

- Isabelle Bonan and Christian Barillot did present the activity of Neurofeedback in Visages during a press conference in Paris on November 14th, 2018 organized by Inria. Press reports have been issued from this conference : France Inter morning news, Usbek et Rica (<https://usbeketrica.com/article/le-xxieme-siecle-sera-celui-du-cerveau>), and Egora (<https://www.egora.fr/actus-medicales/neurologie/43575-1-interface-cerveau-ordinateur-efficace-dans-le-traitement-de>).
- Article in "Sciences Ouest" on "*Un miroir intelligent pour entraîner son cerveau*" <https://www.espace-sciences.org/sciences-ouest/366/dossier/un-miroir-intelligent-pour-entraîner-son-cerveau>, Nov. 2018

#### 10.3.2. Film

A film presenting the Neurinfo imaging facility was recorded by Inria for the official launching ceremony of the new 3T Prisma scanner and further use for general communication about Neurinfo. Reports on local press: Ouest-france (<https://www.ouest-france.fr/bretagne/rennes-35000/video-une-irm-ultra-puissante-pour-faire-avancer-la-recherche-rennes-6095044>) and TV-Rennes (<https://www.tvr.bzh/programmes/tvr-soir-1543339500>).

#### 10.3.3. Articles and contents

- Camille Maumet: Blog post “Open science working group on scientific software” <http://blog.camillemaumet.com/posts/12>, November, personal website.
- Elise Bannier: Blog post “Village des sciences 2018” <https://team.inria.fr/visages/village-des-sciences-2018/>, October, VisAGeS blog.
- Camille Maumet: Blog post “Extending BIDS to fMRI analyses” <http://blog.camillemaumet.com/posts/11>, October, personal website.
- Olivier Commowick: Blog post: “Anima scripts release” <https://team.inria.fr/visages/anima-scripts-release/>, September, VisAGeS blog.
- Camille Maumet: Blog post “Collaborative AFNI projects at DC code convergence” <http://blog.camillemaumet.com/posts/10>, September, personal website.
- Camille Maumet: Blog post “Meeting Montreal neuroinformatics community at the INCF congress and hackathon” <http://blog.camillemaumet.com/posts/9>, August, personal website.
- Camille Maumet: Blog post “Mentoring for Mozilla Open Leaders” <http://blog.camillemaumet.com/posts/8>, August, personal website.
- Camille Maumet with Claire Cury: Blog post “Interview: Let’s organise a Brainhack!” <https://team.inria.fr/visages/interview-lets-organise-a-brainhack/>, July, VisAGeS blog.
- Camille Maumet with Elise Bannier: Blog post “Interview: Participating in my first hackathon at Brainhack Rennes 2018” <https://team.inria.fr/visages/participating-in-my-first-hackathon-at-brainhack-rennes-2018/>, July, VisAGeS blog.
- Camille Maumet: Blog post “OHBM 2018: first remotely-attended conference” <http://blog.camillemaumet.com/posts/7>, June, personal website.
- Camille Maumet: Blog post “Sprinting with bio-imagers and how I learnt about NEUBIAS, EuBI, Elixir and tried out myBinder!” <http://blog.camillemaumet.com/posts/6>, May, personal website.
- Olivier Commowick: Blog post “Anima v3.0 release” <https://team.inria.fr/visages/anima-v3-0-release/>, March, VisAGeS blog.

- Claire Cury: Blog post “Workshop Multiple Sclerosis 2018 (UCL, Inria)” <https://team.inria.fr/visages/workshop-multiple-sclerosis-2018-ucl-inria/>, April, VisAGeS blog.
- Olivier Commowick: Blog post “Brainhack Rennes 2018 (April 25-26)” <https://team.inria.fr/visages/brainhack-rennes-2018-april-25-26/>, March, VisAGeS blog.
- Olivier Commowick: Blog post “medInria 3.0 available” <https://team.inria.fr/visages/medinria-3-0-available/>, March, VisAGeS blog.

#### 10.3.4. Education

- L codent L créent - An outreach program to send PhD students to teach Python to middle school students in 8 sessions of 45 minutes. Tassadit Bouadi (Univ. Rennes 1), Camille Maumet (VisAGeS) and Anne-Cecile Orgerie (Myriads) are coordinating the local version of this program, initiated in Lille. The first session in Rennes is planned for April 2019. The program is currently supported by: Fondation Blaise Pascal, ED MathSTIC, Inria and Fondation Rennes 1.

#### 10.3.5. Interventions

##### 10.3.5.1. National brain week: “Semaine du Cerveau”

- Giulia Lioi: Talk “Lire dans son cerveau grâce au neurofeedback EEG, c’est mieux bouger”, March 14, Warpzone, Rennes, France.
- Mathis Fleury: Bar en (neuro) sciences; May 14-16; Presentation of the Neurofeedback and demonstration of a EEG based Neurofeedback with a motor imagery paradigm.

##### 10.3.5.2. National science week: “Village des sciences”

Visages took part in the Village des Sciences 2018, opening the Neurinfo platform to 45 middle school students (Oct 5) and 120 visitors from the general public (Oct 6-7), Oct 5-7, Rennes, France. <https://www.univ-rennes1.fr/evenements/20072018/village-des-sciences-2018-visites-guidees-de-laboratoires-pour-les-scolaires>, <https://team.inria.fr/visages/members-area/projects/village-des-science-2018/>. The event was coordinated by Julien Le Bonheur from the University of Rennes, and Elise Bannier coordinated the contribution of Neurinfo/Visages. We covered 4 themes:

- Giulia Lioi, Mathis Fleury, Simon Butet, Pauline Rolland: Neurofeedback EEG
- Pierre Maurel, Charlélie Erhart, Antoine Legouhy, Corentin Vallée, Francesca Galassi, Julie Coloigner: Image processing with MedInria
- Isabelle Corouge, Catherine Guillemot, Emmanuel Caruyer, Elise Bannier, Benjamin Parat: Brain and MRI
- Quentin Duché, Florian Chapelain, Virginie Dardier: Functional MRI

##### 10.3.5.3. Other interventions

- Pierre-Yves Jonin: Series of 6 talks on neuropsychology, Universités du Temps Libre de Bretagne, Jan-Dec, Rennes, France.
- Pierre-Yves Jonin: Talk “La mémoire humaine, comment la conserver, quand s’inquiéter”, Bien Vieillir en Ille-et-Vilaine, June, Rennes, France.
- Mathis Fleury: Talk “Qu’est ce qu’un doctorant ?” Journée des métiers IUT rennes - , Nov 16, IUT Rennes, France.
- Camille Maumet: Talk to middle school students (around 100) “La neuroinformatique”, PRNB, April, Rennes, France.
- Olivier Commowick: Presentation of research done in VisAGeS on medical image processing and of the MedInria software, Journée LOGIN, Nov 27, Grenoble, France.

#### 10.3.6. Creation of media or tools for science outreach

- Launching of a Twitter account for the VisAGeS team (Camille Maumet) and setup on the VisAGeS website (Olivier Commowick) [http://twitter.com/visages\\_inria](http://twitter.com/visages_inria). Tweets by lab members (Quentin Duché, Christian Barillot)
- Development of the VisAGeS blog and writing of blog posts (Camille Maumet, Olivier Commowick, Claire Cury, Elise Bannier).

## XPOP Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Eric Moulines is member of the Evaluation Committee of Inria.

#### 10.3.2. Creation of media or tools for science outreach

Marc Lavielle developed and maintains the learning platform [Statistics in Action](#). The purpose of this online learning platform is to show how statistics (and biostatistics) may be efficiently used in practice using R. It is specifically geared towards teaching statistical modelling concepts and applications for self-study. Indeed, most of the available teaching material tends to be quite "static" while statistical modelling is very much subject to "learning by doing".

Julie Josse (with Nicholas Tierney and Nathalie Vialaneix) developed and maintains the website [R-miss-tastic](#), A resource website on missing data.

**AGORA Project-Team (section vide)**

## **ALPINES Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

Laura Grigori is vice-president of the Evaluation Commission of Inria, March 2018 - current.

## **AVALON Project-Team**

### **10.3. Popularization**

#### **10.3.1. Articles and contents**

Laurent Lefèvre has been interviewed for the articles:

- "Le Groupe Casino remplace ses radiateurs par des data centers", Le Point Journal (December 23, 2018)
- "Comment cliquer sans trop polluer", Laurent Lefèvre, Le Progrès Journal, November 21, 2018
- "Google utilise-t-il réellement 100% d'énergie verte pour alimenter ses services ?", Libération, July 13, 2018
- "J'ai le (dé) clic écolo pour réduire mon empreinte", Journal La Vie, February 15, 2018

He was interviewed and filmed for "Pollution numérique/Digital pollution", Journal 19/20, France3 National Channel, December 9, 2018.

#### **10.3.2. Education**

Yves Caniou is responsible of the LPI Certification at Université Claude Bernard Lyon 1. Further discussions are in progress concerning the proposed tools and redaction of courses/questions.

In the contexte of the CHEL[s] (Collège des Hautes Etudes Lyon Science[s]) Eddy Caron is mentor for the MedTech project building the start-up VETARIA.

Jean-Patrick Gelas manage and build several modules of education about blockchain technologies for an erasmus+ european project. The BLISS project (Blockchain skills for ICT professionals), aims to improve the skills and competencies of ICT professionals by developing and making available educational resources and materials to address existing occupational needs and mismatches, resulting from the dynamic penetration of blockchain technology across all sectors of the EU economy (including banking, accounting, auditing and government services).

#### **10.3.3. Interventions**

Laurent Lefèvre has given several invited talks for :

- "Green-It and Video Games infrastructures - Jeu vidéo et collapsologie #2 : Meetup - Le dématérialisé, ça sauve les pandas ?", Meet-up Game Impact, Paris, November 29, 2018
- "Vers des Data Centers éco-responsables", Data Center World, Paris, November 28, 2018
- "Agile (d'accord !) mais Green (d'abord !)", Agile Tour 2018, Epitech, Bordeaux, November 2-3, 2018
- "Numérique et Environnement", with Françoise Berthoud, Groupe de travail développement durable, Centre Inria Bordeaux, October 19, 2018
- "CES 2018 : l'humain numérique de demain...", Journée Réseau Aramis, University Lyon2, Lyon, May 24, 2018
- "Le futur peut-il être numérique ?", with Françoise Berthoud and Jonathan Schaeffer, Journée Réseau Aramis, University Lyon2, Lyon, May 24, 2018
- "EE@G5K : the story continues...", Grid5000 Scientific Advisory Board, Sophia Antipolis, April 4, 2018
- "Rendre l'informatique plus verte", Conférence de formation des professeurs du secondaire en science informatique, Inria Montbonnot, March 21, 2018
- "WG5 : Energy efficiency final results", Network for Sustainable Computing (Nesus), COST European Action IC1305, Final Action Meeting, with Ariel Oleksiak, Madrid, Spain, March 15-16, 2018
- "CES 2018 - so little Green", Rencontres Ecoinfo, Lyon, January 30, 2018

## 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



## COATI Project-Team

### 9.3. Popularization

#### 9.3.1. Internal or external Inria responsibilities

- Frédéric Havet :  
Vice-president and member of the scientific committee of the association Institut Esope 21 (<http://www.esope21.eu>).
- Nicolas Nisse:  
Membre de Mastic (Médiation et Animation scientifiques Inria Sophia Antipolis - Méditerranée).

#### 9.3.2. Education

- Frédéric Havet, Joanna Moulierac and Nicolas Nisse : Participation to Galejade projet.  
Design of pedagogical resources introducing graphs and algorithms to primary school students.  
Training of primary school teachers, ESPE April 9-10 2018.

#### 9.3.3. Interventions

- Fête de la Science (Frédéric Havet, Nicolas Nisse, Fionn Mc Inerney, Ali Al Zoobi)  
Journée portes ouvertes, Inria Sophia Antipolis, Sunday October 7, 2018.  
Palais des Congrès de Juan-Les-Pins, October 20-21, 2018.  
Collège de Vinon-sur-Verdon (83), October 9-12, 2018.
- Frédéric Havet, Joanna Moulierac, and Nicolas Nisse  
Participation to the supervision of the internships of 12 pupils of 3eme, December 17-21, 2018.
- Frédéric Havet  
*L'élégance des Mathématiques*. Conference at Lycée Janetti, St Maximin, February 16, 2018. Audience: 3 classes (1e S and ES).  
*La magie des graphes et du binaire*. Conference at collège Alphonse Daudet, Nice, April 17, 2018. Audience: 2 classes of 4e and 1 of 6e.  
*L'élégance des mathématiques*. General audience conference, Rians, Var, France, April 28, 2018.
- Nicolas Nisse  
Training and awareness of school teachers (Cycle 2, CP-CE2) to scientific mediation. Le Cannet, November 21 and Mandelieu, November 28, 2018.  
Training and awareness of future teachers to scientific mediation, Ecole Supérieure du Professorat et de l'Education (ESPE, ex IUFM) of Académie de Nice. March 19-20 and April 9-10, 2018.  
*Liens entre médiation numérique et recherche*, Maison méditerranéenne des Sciences de l'homme (MMSH), Aix en Provence, March 14, 2018.  
Mediation for the Master en science de l'éducation, Nice, October 18, 2018.
- Fionn Mc Inerney :  
Presentation at Collège Victor Hugo, Nevers, France, March 23, 2018.  
Participation in the day "*L'informatique, c'est pas génétique, filles ou garçons, les clics sont identiques!*", Lycée Raoul Follereau, Nevers, France, March 22, 2018.  
Presentation at Ecole Primaire Romain Rolland, Varennes-Vauzelles, France, March 21, 2018.  
Supervised internship of a school girl in 2nd, Inria Sophia-Antipolis - Méditerranée, France, June 18-22, 2018.
- Michel Syska :  
Organisation and supervision of the code competition "*La nuit de l'info*", December 6-7, 2018.

## **CTRL-A Project-Team**

### **9.3. Popularization**

#### **9.3.1. Articles and contents**

The Ctrl-A team is featured in a special issue on the numeric world in the "*Dauhiné Libéré des enfants*" (nov.-dec. 2018).

#### **9.3.2. Internal action**

The Ctrl-A team participated in the event "mon équipe en 180 secondes" at Inria Montbonnot.

## DANTE Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Isabelle Guérin Lassous is the managing director of the Foundation Blaise Pascal. The objectives of the foundation are to promote mathematics and computer science and to attract young people to scientific fields like computer science and mathematics. The actions of the FBP focus on:

- a support to actors that promote mathematics and computer science via allocated funding based on call of proposals;
- a structuring of actors to increase the impacts of their actions, to coordinate the efforts and to share experiences;
- a development of innovative experiences via summer camps and clubs of mathematics and computer science.

#### 10.3.2. Articles and contents

- Éric Guichard wrote an article with Nicolas Schabanel in newspaper *Libération*, September 10, 2018, p. 24: « Copyright numérique: stériliser pour mieux tuer », [https://www.liberation.fr/debats/2018/09/09/copyright-numerique-steriliser-pour-mieux-tuer\\_1677568](https://www.liberation.fr/debats/2018/09/09/copyright-numerique-steriliser-pour-mieux-tuer_1677568).
- Éric Guichard gave an interview in newspaper *O Globo* (Brazil), Jan 1<sup>st</sup>, 2018.

#### 10.3.3. Interventions

Paulo Gonçalves and Eric Guichard animated a citizen meeting on Artificial Intelligence and Social impacts. November 2018. Orliénas. <https://www.vepm.net/2018/10/26/cafe-citoyen-orlienas-9-novembre-2018-lintelligence-artificielle/>

## **DATAMOVE Project-Team**

### **9.3. Popularization**

#### **9.3.1. Interventions**

- Talk *Des besoins en calcul de plus en plus performant* for the conference cycle "Accompagnement de l'informatique au lycée en 2018".

## **DELYS Team**

### **8.3. Popularization**

Jonathan Lejeune and Julien Sopena animated an activity during the [Science Festival 2018 at Sorbonne Univ.](#)

## DIANA Project-Team

### 9.3. Popularization

#### 9.3.1. Interventions

Chadi Barakat keeps participating to the organization of the Mediterranean Students Days @ Campus SophiaTech. The sixth edition took place on Feb 12 - 14, 2018. All details on this event can be found at <http://univ-cotedazur.fr/events/meddays>. He also participated to the organization of the French-American Doctoral Exchange Seminar (FADEx) 2018 held in June 2018 on the three French sites Sophia Antipolis, Grenoble, and Paris.

Damien Saucez is part of the MASTIC (<https://project.inria.fr/mastic>) group at Inria. MASTIC groups all the activities for scientific dissemination for Inria Sophia Antipolis. Within the team, we gave a 3h game-based class to 12 collège interns that made an internship at Inria in December to introduce them to the fundamental algorithms used in the Internet (shortest-path, longest prefix matching, distance-vector, AIMD). Damien Saucez was involved in the organization of the “Journée portes-ouvertes” of the Inria Sophia Antipolis premises. Specifically, DIANA presented R2LAB and Electrosmart.

## **DIONYSOS Project-Team**

### **10.3. Popularization**

Yann Busnel is a member of Development Council of Computer Sciences Master at Université de Nantes (2017–\*).

#### ***10.3.1. Internal or external Inria responsibilities***

- Bruno Tuffin was a member of Inria-MITACS selection committee

#### ***10.3.2. Interventions***

G. Rubino makes regular presentations to high school students about the research work in general, and specific technical topics in particular. Current talks:

- Randomness as a tool
- Internet as a research problem
- Great challenges in maths: the Riemann Hypothesis
- Great challenges in math/computer science: the “P versus NP” problem

## **DIVERSE Project-Team**

### **9.3. Popularization**

- Exhibitions to Open Cloud Forum, Paris 21/03/2018
- Exhibitions to EclipsCon Toulouse 13-14/04 2018
- Exhibitions to Paris Open Source Submit 05-06/12/2018

#### ***9.3.1. Internal or external Inria responsibilities***

- Olivier Barais was in charge of the recruitment committee for the position of associate professor at the University of Rennes 1 in cyber security.
- Olivier Barais was a member the recruitment committee for the position of associate professor at the University of Nantes in Software Engineering.
- Olivier Barais was a member of the recruitment committee for the position of associate professor at the University of Bordeaux in Software Engineering.

#### ***9.3.2. Interventions***

- Exhibitions to the Lycée Sévigné to present career paths in Research
- Exhibitions to the "forum des métiers du collège Bourguevreuil"

#### ***9.3.3. Internal action***

- Olivier Barais provide one day course on Modern Web Engineering to SED Engineer.



## **DYOGENE Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Internal or external Inria responsibilities***

- B. Błaszczyszyn is an ENS adjunct professor since September 2018.
- B. Błaszczyszyn and A. Busic are members of the ENS Computer Science Department Board (Conseil du Laboratoire).
- A. Busic is member of the Committee for the Technological Development, Inria Paris

#### ***9.3.2. Education***

C. Fricker: member of the jury of *Agrégation de Mathématiques*.

**EASE Team (section vide)**

## EVA Project-Team

### 10.3. Popularization

#### 10.3.1. Interventions

- Keoma Brun-Laguna
  - “Solsystem: IoT Industriel et déploiement en milieux réels” démo at RII meeting (“Mobilités et environnements, 20 Novembre 2018, Station F, Paris”)
- **Thomas Watteyne**
  - The Inria-Paris OpenTestbed (you might already have noticed. . .). Inria Seminar, Paris, 2 October 2018.
  - “Le tour du monde en 1,000 capteurs!”. Inria Rocquencourt seminar series. 6 June 2018.
  - Construire son Réseau IoT en 10min. Conférence d’ouverture de la semaine des Mathématiques. Inria-Paris, Paris, France, 12 March 2018.

#### 10.3.2. Dans les Medias

- **Thomas Watteyne**
  - Edge computing: on vous dit tout sur les technos qui mettent le cloud dans votre poche, 01net, 10 September 2018.
  - Qu’est-ce que l’IoT? Boston Consultancy Group podcast, 9 September 2018.
  - Retour Semaine des maths 2018 : conference de Thomas Watteyne à l’Inria, Academie de Paris, 15 March 2018.

#### 10.3.3. Creation of media or tools for science outreach

A video concerning the research on protocols for VANETs of Mohamed Hadded has been done by Inria.

## FOCUS Project-Team

### 8.3. Popularization

#### 8.3.1. Education

Michael Lodi and Simone Martini have carried out extended work of scientific popularization, including the following.

- They are members of the technical committee of Olimpiadi del Problem Solving (at Italian Ministry of Education), <http://www.olimpiadiproblemsolving.com>; this involves preparation of material and supervision and jury during the finals.
- S. Martini has given various talks at institutes and workshops on the teaching methods for Computer Science, including a talk on "Abbiamo davvero bisogno del pensiero computazionale?", at the conference "I bit rotolano dovunque", Università di Roma Tor Vergata, May 2018.

#### 8.3.2. Interventions

Daniel Hirschhoff was part of the organising committee for the "École Jeunes Chercheurs en Programmation", 25-29 June 2018, in Lyon.

#### 8.3.3. Other duties

S. Martini has been Head of the Department of Computer Science and Engineering, University of Bologna, until May 2018.

M. Gabbrielli is Deputy Head of the Department of Computer Science and Engineering, University of Bologna, since May 2018.

G. Zavattaro is coordinator of undergraduate studies at the Department of Computer Science and Engineering, University of Bologna (Informatica per il Management).

## **FUN Project-Team**

### **10.3. Popularization**

- Matthieu Berthome, Jad Nassar, Ibrahim Amadou, Antonio Costanzo and Antoine Gallais gave some talks in high schools for the “Fête de la Science” in October 2018
- Nathalie gave an interview for France Info on connected objects

## **GANG Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- Laurent Viennot was “commissaire scientifique” for the permanent exposition on “Informatique et sciences du numérique” at Palais de la découverte in Paris (opened in March 2018).

#### ***10.3.2. Education***

- Carole Delporte was president of a jury of baccalaureat.

## **HIEPACS Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Interventions***

During the 10th anniversary of the Inria Bordeaux Sud-Ouest centre and the open day, scientific popularisation materials of the HiePACS team's research work were presented to the attendees.

## INDES Project-Team

### 8.3. Popularization

#### 8.3.1. Internal or external Inria responsibilities

Tamara Rezk is member of the editorial board of Interstices and Blog Binaire Le Monde

#### 8.3.2. Articles and contents

Tamara Rezk published the article "Est-ce que mon programme est bien protégé ?" in blog binaire Le Monde in February 2018. The article with some minor modifications was retaken by Interstices and published in December 2018. <http://binaire.blog.lemonde.fr/2018/02/09/est-ce-que-mon-programme-est-bien-protége-contre-les-cyberattaques/>.

Nataliia Bielova was interviewed by Sophie Casals, "Comment mieux protéger sa vie privée en naviguant sur internet? Les conseils d'une spécialiste" in Nice Matin, June 2018. <https://www.nicematin.com/faits-de-societe/comment-mieux-protoger-sa-vie-privee-en-naviguant-sur-internet-les-conseils-dune-specialiste-239166>

#### 8.3.3. Education

##### 8.3.3.1. Skini and the Fabrique à Musique

Skini is currently used with a class of secondary school in order to create a musical show in collaboration with the Conservatory of Nice and the CIRM (National Center for Music Creation). A group of 25 children, 12 year old, are creating together a story, and use the distributed sequencer of Skini to design basic musical patterns using tablets. The next step is to organize with them the orchestration of the piece which is coded in HipHop. The activation of the piece will be done in real time by the children using the tablet and the Skini platform. This project is funded by SACEM (Société des auteurs, compositeurs et éditeurs de musique). The project will end in May 2019 with a public concert in the Conservatory of Nice.

##### 8.3.3.2. MOOC Protection de la vie privée dans le monde numérique

Nataliia Bielova has participated to the MOOC "Protection de la vie privée dans le monde numérique" (Session 2) that was shooted in July 2018 under the guidance of Inria Learning Lab and was open to general public between 5 November 2018 and 7 January 2019, <https://www.fun-mooc.fr/courses/course-v1:inria+41015+session02/about>.

#### 8.3.4. Interventions

- Nataliia Bielova held a stand at Portes ouvertes (Fête de la science) of Inria Sophia Antipolis explaining how to protect privacy on the Web, October 2018.
- Ilaria Castellani and Héloïse Maurel held the stand "Science au féminin" together with Carine Antico from CNRS at the Fête de la Science in Antibes Juan-les-Pins, October 2018.

#### 8.3.5. Internal action

- Nataliia Bielova gave a talk at the PhD seminar special edition on "Tracking technologies and protection of your privacy on the Web", March 2018.
- Nataliia Bielova gave a talk at the Data Science meetup Nice on "How companies track you as you browse the web and how to protect yourself?", <https://www.meetup.com/Data-Science-Meetup-Nice-Sophia-Antipolis/events/255546602/>, October 2018.



**INFINE-POST Team (section vide)**

## **KERDATA Project-Team**

### **8.3. Popularization**

#### ***8.3.1. Internal or external Inria responsibilities***

Gabriel Antoniu:

**Big Data Value Association:** Inria representative in the working group on HPC-Big Data convergence since 2018.

**ETP4HPC:** Inria representative in the working group on HPC-Big Data convergence since 2018.

Luc Bougé: Co-ordinator between ENS Rennes and the Inria Research Center and the IRISA laboratory.

Alexandru Costan:

- In charge of internships at the Computer Science Department of INSA Rennes.
- In charge of the organization of the IRISA D1 Department Seminars.

#### ***8.3.2. Articles and contents***

**HDF5 Blog:** Invited blog article explaining how Damaris can support HDF5-based storage.

## **MIMOVE Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

- V. Issarny, Appointed member: CODEV, *Métropole du Grand Paris* (Since December 2018).

## MYRIADS Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Martin Quinson is on the scientific board of the Blaise Pascal foundation, boosting the scientific outreach in the domains of Maths and Computer Science.

#### 10.3.2. Articles and contents

- Anne-Cécile Orgerie participated to the radio program La methode scientifique by Nicolas Martin with Jean-Marc Jancovici, France Culture, October 17, 2018.
- Anne-Cécile Orgerie was interviewed by Agnes Rougier, Radio France Internationale, September 26, 2018.
- Anne-Cécile Orgerie was interviewed by Laure Cailloce for the Journal of CNRS, May 2018.

#### 10.3.3. Education

- L codent L créent - An outreach program to send PhD students to teach Python to middle school students in 8 sessions of 45 minutes. Tassadit Bouadi (Univ. Rennes 1), Camille Maumet (VisAGeS) and Anne-Cécile Orgerie (Myriads) are coordinating the local version of this program, initiated in Lille. The first session in Rennes is planned for April 2019. The program is currently supported by: Fondation Blaise Pascal, ED MathSTIC, Inria and Fondation Rennes 1.
- Anne-Cécile is a member of the Jury for the Agrégation de Sciences Industrielles, an examination for future secondary teachers of engineering
- Martin Quinson is a trainer for the Agrégation de Sciences Industrielles.
- Martin Quinson is in charge of a M2 lecture on scientific vulgarization at ENS Rennes. The students are asked to come up with new activities (or improve existing ones) on their research field.
- Martin Quinson was a trainer during the SIF summer school on “Scientific Vulgarization in Computer Science”, held in Toulouse, June 6th-8th 2018.

#### 10.3.4. Interventions

- Anne-Cécile Orgerie and Martin Quinson participated in the organization of a day for middle school student to deconstruct computer science-related stereotypes <http://emergences.inria.fr/2018/newsletter-n53/153-informatiennes>.
- Martin Quinson presented various unplugged activities to primary and secondary students over the year.
- Anne-Cécile Orgerie and Martin Quinson hosted 2 secondary students during one week (17th-21th december 2018).

#### 10.3.5. Creation of media or tools for science outreach

- Martin Quinson initiated a new unplugged activity with Philippe Marquet (EPI Dreampal – Lille) and Corentin Ferry (student at ENS Rennes) called M999 to explain the internal behavior of a CPU. This activity is still to be tested live with pupils.
- Martin Quinson helped the M2 students of ENS Rennes to create or improve unplugged activities on their research topics. Activities on Classification, Image Reconstruction, Modeling, Cryptographic Protocols, Map-Reduce or Verifications are still incubating at this point.

## Neo Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

- D. Politaki is a member of MASTIC, a commission in charge of popularization and regional and internal scientific animation, since July 2016.

#### 10.3.2. Interventions

On October 12th, in the framework of *La Fête de la Science*, M. Drevetton participated in a mediation activity at *Espace de l'Art Concret* in Mouans-Sartoux. It was a mix between art and sciences (maths and physics). The topic was randomness and the targeted public was primary school students, from two different classes (one in the morning and one in the afternoon). Activities involved loaded dices, Galton Board, double pendulum, and some online program (<http://weavesilk.com/>, pupils really liked this). Each game was presented and students would figure out where the randomness comes from, and play/experiment by themselves (30 min per group).

## PHOENIX-POST Team

### 8.3. Popularization

#### 8.3.1. Articles and contents

- Mazon, C., Fage, C. et Sauzéon, H. (2017). “Impacts des technologies numériques pour favoriser l’inclusion scolaire d’élèves avec Trouble du Spectre Autistique”. In *Les Cahiers de l’Actif* (a journal for professionals working in caregiving and assistance).

#### 8.3.2. Interventions

- Bernard Serpette, Mar 12, 2018: participating to the Week of math at the primary school St-Genes in Bordeaux: initiating 1st and 2nd grade pupils to computational thinking via problem-solving games
- Cécile Mazon, Sept 27, 2018: participating to the Open days at Inria Bordeaux: presenting to the general public the scientific projects about technology assistance for young persons with ASD.
- Cécile Mazon, Jan 18-19, 2018: Poster for the symposium UB-CNRS - “Sensibilisation et regards croisés autour du handicap”, Pôle juridique, Université de Bordeaux, France
- Cécile Mazon, Jan 15-19, 2018: managing the internship of a high-school pupil (Roxane Allouche) at Inria Bordeaux

## POEMS-POST Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

- M. Kachanovska is a member of the *comité scientifique* of Inria-Saclay.
- A.-S. Bonnet-Ben Dhia is a member of the *bureau du comité des équipes-projets* (BCEP).

#### 10.3.2. Interventions

- POEMS has been involved in the exhibition “*Rencontre diffractante*”, which has been presented successively at ENSTA (*from December 2017 to February 2018*) and at Inria (*in April and May 2018*). The inspiring material of this exhibition was made up of numerical simulations of various diffraction problems studied within by POEMS team. They served as a basis for the creation of artistic objects made by several classes of the Ecole Boule. *Curators of the exhibition : Jérôme Perez, ENSTA, and Virginie Gannac, doctor in art, design and applied arts from Université Paris I Sorbonne, Ecole Boule de Paris*
- POEMS has been involved in the event “*Fête de la science*” at ENSTA-ParisTech in October 2018.
- E. Bécache presented a talk entitled “*Promenade mathématique*” during the day “*Filles et mathématiques, une équation lumineuse*” (March 27, 2018 at Ecole Polytechnique, Palaiseau) and during the awards ceremony of the National Olympiad of Mathematics (May 30, 2018 at Créteil).
- E. Bécache has been involved in a meeting of young female mathematics, organized on November 17-18, 2018 at ENSTA ParisTech.

## POLARIS Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

- Jean-Marc Vincent is responsible for the mediation in the Inria Rhône-Alpes center in relation with the Rectorat de l'Académie de Grenoble (organisation of ISN conferences, Class'Code for digital referents)
- Jean-Marc Vincent coordinates the group "Info sans ordi" (computer science without computer)–in which Florence Perronnin participates

#### 10.3.2. Articles and contents

Jean-Marc Vincent has coordinated and participated to the redaction of the 96 pages special issue of *Tangente* on *Informatique Débranchée*: [http://www.infinimath.com/librairie/descriptif\\_livre.php?type=magazines&theme=7&soustheme=26&ref=2568#article](http://www.infinimath.com/librairie/descriptif_livre.php?type=magazines&theme=7&soustheme=26&ref=2568#article).

#### 10.3.3. Education

- Highschool Professors: Vincent Danjean is responsible of the University Dept. for Highschool Professors Training in Computer Science (in relation with the rectorat).
- Highschool Professors: Jean-Marc Vincent is member of the steering committee for the training of Highschool Professors towards the new option NSI (Numérique et Sciences Informatiques) for Baccalauréat and participated in the creation of a inter-university diploma in CS.
- Arnaud Legrand gave a lecture on "Reproducible Research" at CIRM in May 2018 to the computer science teachers of classes préparatoires.
- Bruno Gaujal: Course on game theory at the 7 laux of ENS Lyon students
- Bruno Gaujal: Course on dynamique optimization for high school teachers.
- Florence Perronnin: creation of an option in Licence on "Sciences Informatiques et Médiation" (CS and mediation)

#### 10.3.4. Interventions

- Arnaud Legrand made a podcast with Interstice on reproducible research <https://interstices.info/la-recherche-reproductible-pour-une-science-transparente/>
- Participation to mediation events of the center (Fête de la science, journées math C2+, journée login)
- Participation to mediation actions Inria/Irem/Maison for Science (Jean-Marc Vincent)



## **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.

## RMOD Project-Team

### 10.3. Popularization

#### 10.3.1. Articles and contents

- Stéphane Ducasse and Guillermo Polito. Stéphane Ducasse (Ed.). *Physche: A Little Scheme in Pharo*, p. 50, Square Bracket Associates, 2018. [20]
- Stéphane Ducasse. Stéphane Ducasse (Ed.). *A Simple Reflective Object Kernel*, p. 40, Square Bracket Associates, 2018. [19]

#### 10.3.2. Education

- A MOOC for Pharo is online (Stéphane Ducasse).  
<http://mooc.pharo.org>

#### 10.3.3. Interventions

- Multiple public Pharo Sprints in Lille.  
<https://association.pharo.org/events>
- IoT Hackathon. One Day Event in Cologne, Germany. Using PharoIoT  
<http://zweidenker.de/de/iot-hackathon-2018>  
Video: <https://www.youtube.com/watch?v=dII9FAatKyw>
- RMOD co-organized and participated at ESUG 2018.  
<http://www.esug.org/wiki/pier/Conferences/2018>
  - Presentation about PharoIoT.  
<https://www.slideshare.net/MarcusDenker/pharo-iot>

## **ROMA Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

- Frédéric Vivien took part in the committee which listened to the presentations of high-school students in the scope of a “MATH.en.JEANS” action (December 2018).
- Yves Robert gave the honorary speech for the Honoris Causa Diploma of ENS Lyon awarded to Marc Snir on November 9, 2018.

**SOCRATE Project-Team (section vide)**

## **SPIRALS Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Interventions***

**Lionel Seinturier** participated in October to the Chercheur itinérant event organized by the Inria Lille Nord Europe research center in the context of La fête de la science. Two classrooms (2nde and terminale) have been visited. The theme of the visit was crowdsensing and data gathering from mobile devices.

## STACK Team

### 10.3. Popularization

- J.-M. Menaud, Online publication <http://www.lemondeinformatique.fr>: *L'IMT Atlantique veut réduire le coût des calculs lourds.*
- J.-M. Menaud, Online publication <http://www.mtom-mag.com>: *Le projet HYDDA, développer une plateforme innovante, associant Cloud et HPC.*
- J.-M. Menaud, Online publication <http://www.agence-api.fr>: *L'Institut Mines-Telecom Atlantique monte une plateforme cloud et HPC.*

## **STORM Project-Team**

### **9.3. Popularization**

#### **9.3.1. Interventions**

- Olivier Aumage, Emmanuelle Saillard, Denis Barthou: Welcoming of the general public for the open days at the Inria research center, October 2018.
- Emmanuelle Saillard, Corentin Salingue: Fête de la Science, Inria, October 2018.
- Emmanuelle Saillard, Corentin Salingue: Semaine des maths, Lycée Saint Genès, March 2018.
- Corentin Salingue: Printemps de la mixité, Inria, April 2018.
- Corentin Salingue: Welcoming of schoolchildren: internship of Matthieu Vigier-Lafosse, January 2018.

#### **9.3.2. Internal action**

- Emmanuelle Saillard: DevDays, October 2018
- Denis Barthou: Unithé ou café, June 2018

## TADAAM Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Brice GOGLIN is in charge of the diffusion of the scientific culture for the Inria Research Centre of Bordeaux. He organized several popularization activities involving colleagues.

Guillaume AUPY co-organized (with Marthe Bonamy) a 2-day visit of Inria & Labri for undergrad students from ENS Lyon.

#### 10.3.2. Education

- Brice GOGLIN was involved in the MOOC *Informatique et Création Numérique* which focuses at bringing basics about computer science to high-school teachers. He answered numerous questions on the forum. More than 19 000 people registered to the course, and more than 1 500 successfully finished it.
- Brice GOGLIN was involved in the building of the MOOC *Sciences Numériques et Technologie* which focus at bringing basics about computer science to high-school teachers.
- François PELLEGRINI, created a set of ten animated short videos on the digital revolution and its consequences, for high-school pupils and freshman students (Pix/C2i), in collaboration with the services of Université de Bordeaux.

#### 10.3.3. Interventions

- Valentin HONORÉ and Brice GOGLIN went to the St Genes middle school in Bordeaux in March for *Semaine des Maths* to give hands-on sessions about basics of algorithmics and computer science.
- TADAAM presented its research to the general public during the 10th anniversary of the research centre on September 27th.
- Emmanuel JEANNOT was the roundtable presenter of the topic HPC and scientific computing at the Inria Bordeaux 10 years event on September 27th.
- Valentin HONORÉ and Brice GOGLIN presented TADAAM research during the research centre open day on October 13th.
- Guillaume AUPY, Valentin HONORÉ, Nicolas VIDAL and Brice GOGLIN gave seminars and hands-on session about computer science to schools attending *Fete de la Science* in October.
- Guillaume AUPY went to the Sainte-Foy-La-Grande middle school in the context of Maths-en-Jeans to talk about finding a way to share messages in class and how it relates to the internet.
- Brice GOGLIN introduced research, research carriers, high performance computing and data centers to middle-school interns on December 17th.
- François PELLEGRINI delivered a conference entitled “*Tous pirates ?*”, at the National Theater of Bordeaux-Aquitaine (TNBA), in relation with the play of same name created by the Traverse and OS’O artist collectives.
- François PELLEGRINI participated in a conference and roundtable “*Ingénieurs, éthique et valeurs face à l’industrie 4.0*” organized by Fondation Anthony Mainguené at École Nationale Supérieure des Arts et Métiers.
- François PELLEGRINI was member of the jury during a fake trial of a self-driving artificial intelligence (*Carambolage du siècle*) at the Appeal Court of Paris, during the *Nuit du droit*.
- François PELLEGRINI delivered a conference on the digital revolution at Le Bar Commun during the *Week of digital Freedoms*.



## **WHISPER Project-Team**

### **10.3. Popularization**

- Julia Lawall: Coordinator of the Outreachy internship program for the Linux kernel, until March 2018. Outreachy provides remote 3-month internships twice a year for women and other underrepresented minorities on open source projects. Julia Lawall also mentored Aishwarya Pant as part of this program.
- Julia Lawall, “Building Stable Trees with Machine Learning”, Open Source Summit North America, August 2018, with Sasha Levin. Open Source Summit Europe, October 2018, with Sasha Levin. Linux Plumbers Conference, kernel summit track, November 2018, with Sasha Levin.
- Julia Lawall, “Coccinelle: 10 Years of Automated Evolution and Bug Finding in the Linux Kernel”, Open Source Summit Europe, October 2018.
- Julia Lawall, “Panel Discussion: Outreachy Kernel Internship Report” (moderator), Open Source Summit Europe, October 2018.
- Julia Lawall, “Panel Discussion: An Exploration of Insights & Issues Related to Mentoring Programs” (participant), Open Source Summit Europe, October 2018.
- Julia Lawall, “Interprocedural Static Analysis Strategies for the Linux Kernel: Detecting SAC Bugs as an Example (Work in Progress)”, Linux Kernel Real Time Summit, October 2018.
- Julia Lawall, “Kernel Panel” (participant), Linux Plumbers Conference, November 2018.

## **WIDE Project-Team**

### **9.3. Popularization**

Pierre-Louis Roman gave an invited talk at the E-novation Convention organized by The Notaries of Brittany, Rennes, 12 November 2018. Title: Blockchains, Distributed Ledgers, and their Utility for Notaries (talk in French).

**ALICE Project-Team (section vide)**

## ALMAnaCH Team

### 9.3. Popularization

#### 9.3.1. Interventions

- Welcoming of schoolchildren at Inria Paris (half a day with ALMAnaCH members within an one-week-long stay; December 2018)
- ALMAnaCH members were involved in the Profiterole ANR project's presentation at the *Salon de l'Innovation* of the conference TALN 2018 (the "SiTAL" show).
- Presentation in Education Network ISN "Informatique et Science du Numérique" (March)
- Invited speaker in a citizen debate on Artificial Intelligence (association "Les coteaux en Seine", Bougival, November 21st 2018)

## **AUCTUS Team**

### **10.3. Popularization**

#### ***10.3.1. Articles and contents***

- Jean-Marc Salotti published an article entitled “La robotique humanoïde”, published in Questions Internationales [8]. It briefly describes the main issues and trends in humanoid robotics. Questions Internationales is a journal from La Documentation Française, which is a brand of the “Direction de l’Information Légale et Administrative”, under the direction of the Central Administration of the French Prime Minister.
- David Daney was interviewed regarding the collaboration of Auctus with AIO on the Numii project [10], [11].

#### ***10.3.2. Education***

- Collaboration with IUT Angoulême. A delegation of professors from IUT Angoulême, GEII Department, came to visit us on December 4, in order to benefit from our expertise on the use of UR3 (Universal Robots) for teaching activities.

#### ***10.3.3. Interventions***

- Unithé ou café, Inria Bordeaux, February 26: Anna Pugach gave a presentation: “Le textile intelligent”
- Journée portes ouvertes, 10 ans Inria Bordeaux, September 27: Vincent Padois gave demonstrations on collaborative robotics with the Panda robot
- Village des Sciences, Cap Sciences, Bordeaux, October 13: Jean-Marc Salotti animated a movie/debate: “Un robot peut-il partager vos émotions?”
- Village des Sciences, Cap Sciences, Bordeaux, October 14: Vincent Padois and David Daney gave demonstrations on collaborative robotics with the Panda robot
- ENSC inauguration, November 30: Nassim Benhabib gave demonstrations on collaborative robotics with the Panda robot

## AVIZ Project-Team

### 8.3. Popularization

#### 8.3.1. Articles and contents

- [Lonni Besançon's](#) PhD work was featured in [Le Monde's Binaire blog](#).
- Steve Haroz was interviewed on the [Data Stories podcast](#), October 10, 2018

#### 8.3.2. Creation of media or tools for science outreach

- Pierre Dragicevic and Yvonne Jansen: the [data physicalization wiki](#) and the [List of Physical Visualizations and Related Artefacts](#) (500 weekly visits) are continuously being updated.

## CEDAR Project-Team

### 9.3. Popularization

#### 9.3.1. Articles and contents

- In books/journals for the general public: Our research on computational fact-checking has been featured in Le Journal Toulousain in an article titled “La science se met au service de l’information” , in February 2018 (<http://www.lejournaltoulousain.fr/societe/la-science-se-met-au-service-de-linformation-pour-detecter-les-fake-news-54906>). Further, I. Manolescu has been interviewed as an expert for an article in Le Figaro, in March 2018 (<http://www.lefigaro.fr/secteur/high-tech/2018/03/08/32001-20180308ARTFIG00341-sur-twitter-les-fake-news-voyagent-plus-vite-que-les-vraies-informations.php>).

#### 9.3.2. Interventions

- Ioana Manolescu participated to a televised debate on fake news and the media in “Le Grand Barouf Numérique”, a technology/society meet up organised by the city of Lille, in March 2018. The debate was broadcast by France 3 (<https://france3-regions.francetvinfo.fr/hauts-de-france/nord-0/lille/debat-fake-news-medias-sont-ils-malades-1446365.html>).
- Ioana Manolescu has participated to a debate on regulating the news media in “Les Journées de l’Economie”, a national event organized in Lyon, in November 2018 (<http://www.touteconomie.org/index.php?arc=bv1&manif=594>)

#### 9.3.3. Creation of media or tools for science outreach

Our research on computational fact-checking has been featured in a documentary (<http://www.universcience.tv/video-tech-check-des-scientifiques-face-aux-fake-news-19501.html>) by UniverScience.TV, the organization responsible of preparing scientific short movies next to Cité des Sciences. The movie has been featured in an article in Le Monde ([https://www.lemonde.fr/sciences/video/2018/01/24/comment-la-science-aide-a-reperer-les-fake-news\\_5246356\\_1650684.html](https://www.lemonde.fr/sciences/video/2018/01/24/comment-la-science-aide-a-reperer-les-fake-news_5246356_1650684.html)).

## Chroma Project-Team

### 10.3. Popularization

#### 10.3.1. Articles and contents

- O. Simonin participated to the writing of "Livre blanc sur les Véhicules Autonomes et Connectés"<sup>0</sup>
- O. Simonin given several interviews in order to popularize AI & Robotics, and Autonomous Vehicles: JDN (Journal du Net), INSA letter, etc.
- C. Laugier, J. Lussereau and J.A. David have been interviewed in October 2018 by Radio France in order to popularize Autonomous Vehicles. The interview has been broadcasted by France Bleu Isere on October 11th 2018 at respectively 6:40 a.m and 8:15 a.m.

#### 10.3.2. Education

- J. Dibangoye created a MOOC on deep reinforcement learning for drones, which will be launched in 2019 on OpenClassRooms.

#### 10.3.3. Interventions

- C. Wolf gave a talk for developers at the journée ARAMIS on May 24th.
- C. Wolf gave a talk for developers at the conference #MixIT, Lyon on April 20th.

#### 10.3.4. Internal action

- Demo "Crazyflie micro-drones" at the Journées Recherche Inria & Industrie (O. Simonin and S. d'Alu), Paris, November 20th. Lien video : <https://youtu.be/TgwrB4xpJOA>

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<sup>0</sup><https://www.inria.fr/actualite/actualites-inria/livre-blanc-vehicules-autonomes-et-connectes>



## COML Team

### 9.3. Popularization

E. Dupoux talked in two general public conferences on speech technologies, one organized by the Institut Carnot Cognition (La Vilette, oct, 2018), one by the Institut IA in Toulouse (oct 2018), both with around 200 participants. He gave and/or organized smaller meetings geared towards enhancing contacts between industry and research in the general area of AI and Cognition (1 day and a half of scientific meetings between PSL and Facebook, seminar-style intervention with MSR, and with the CVT Athena). He co-chaired the conference Legrain on AI and Cognition which, besides the scientific track had a general public track and an industry track, which were both attended by 100-200 attendees (see <http://olivierlegrain.ens.psl.eu/ia-et-cognition.html>).

N. Zeghidour did a high level presentation of AI in Vivatech on the Facebook Stand (100 000 visitors). He presented the state of the art in ASR and TTS in the BNP Paribas-PRAIRIE Summer School with participants from the IT Industry. He co-redacted a 5 pages popularization article on neural networks and deep learning in the magazine "Tangent, the mathematical adventure" for high school students, 20,000 printed copies.

## **DEFROST Project-Team**

### **10.3. Popularization**

- Damien Marchal, Olivier Goury and Christian Duriez participated in “Fête de la science: Opération Chercheurs itinérants”, which involves giving scientific lectures in middle and high schools.
- Olivier Goury presented a tutorial for the “Journée de l’Enseignement de l’Informatique et de l’Algorithmique (Journée JEIA)”, which is an event for high school teachers willing to learn more about computer science.
- Olivier Goury et Thomas Morzadec took part in the “Journée RIC (Recherche - Innovation - Créativité)”, happening at IMT Lille Douai. A demonstration was made for students of engineering schools and the university of Lille.

#### **10.3.1. Interventions**

- National events: Fête de la Science: participations à l’opération “chercheur itinérant”.

#### **10.3.2. Creation of media or tools for science outreach**

Développement du site hands-soft-robotics. <http://handsonsoftrobotics.lille.inria.fr/>

## **EX-SITU Project-Team**

### **9.3. Popularization**

#### **9.3.1. Articles and contents**

- Radio show “Les P’tits Bateaux” on France Inter public radio: Michel Beaudouin-Lafon (interviews in response to children questions on 10 June 2018, 16 September 2018, 7 October 2018)
- Panel at “*La Fabrique de la Danse*”, Centre 104, Paris, 5 Avril 2018: Baptiste Caramiaux (panel member)

#### **9.3.2. Interventions**

- Le Plateau des Recherches Infinies: art-science project with photographer Didier Goupy presenting the portraits of 100 researchers of Université Paris-Saclay. Fête de la Science, Gif-sur-Yvette, October 2018
- Workshop on “Rapid Prototyping with Interactive Materials”, Fab14, Toulouse, July 2018: Michael Wessely
- Workshop “*Relational Listening*”, CLOUD/Danslab, Lake Studios, Berlin, 22 July 2018: John MacCallum (co-facilitator).

## FLOWERS Project-Team

### 10.3. Popularization

#### 10.3.1. Teaching and Education

##### 10.3.1.1. Inirobot

IniRobot (a project done in collaboration with EPFL/Mobsya) aims to create, evaluate and disseminate a pedagogical kit which uses Thymio robot, an open-source and low cost robot, for teaching computer science and robotics.

IniRobot Project aims to produce and diffuse a pedagogical kit for teachers and animators, to help them and to train them directly or by the way of external structures. The aim of the kit is to initiate children to computer science and robotics. The kit provides a micro-world for learning, and takes an inquiry-based educational approach, where kids are led to construct their understanding through practicing an active investigation methodology within teams. See <https://dm1r.inria.fr/> or <http://www.inirobot.fr>.

Deployment: After 4 years of activity, IniRobot is used by more than 3000 adults, 30 000 children in France. Inirobot is also used in higher education, for example in Master 2 "Neurosciences, human and animal cognition" at the Paul Sabatier University in Toulouse. Inirobot is additionally used to train the management and elected officials of the Bordeaux metropolitan area (20 people). The digital mediators of the 8 Inria centers are trained to Inirobot and use it in their activities.

The project continues to be carried out in main collaboration with the LSRO Laboratory from EPFL (Lausanne) and others collaborations such as the French National Education/Rectorat d'Aquitaine, the Canopé Educational Network, the ESPE (teacher's school) Aquitaine, the ESPE Martinique, the ESPE Poitiers and the National Directorate of Digital Education.

##### Created pedagogical documents and resources:

- The inirobot pedagogical kit [83]: This pedagogical booklet provides activities scenarized as missions to do. An updated version of the Inirobot pedagogical kit is available at: <https://dm1r.inria.fr/uploads/default/original/1X/70037bdd5c290e48c7ec4cb4f26f0e426a4b4cf6.pdf>. Another pedagogical booklet has been also created by three pedagogical advisers for primary school, with pedagogical instructions and aims, under our supervision. The new pedagogical kit, "Inirobot Scolaire, Langages et robotique", which extends Inirobot to a full primary school approach is available at <http://tice33.ac-bordeaux.fr/Ecolien/ASTEP/tabid/5953/language/fr-FR/Default.aspx>
- Inirobot website and forum: <https://dm1r.inria.fr/> or <http://www.inirobot.fr> On this website, teachers, animators and general public can download documents, exchange about their use of inirobot's kit.

Inirobot activities are used by several projects: Dossier 123 codez from Main à la Pâte Foundation, Classcode project, ...

##### 10.3.1.2. MOOC Thymio

Didier Roy played a central role in the design and making of The MOOC Thymio, released in october 2018, in collaboration with Inria Learning Lab and EPFL (Lausanne, Switzerland), on FUN platform and edX EPFL Platform), use Inirobot activities to teach how to use Thymio robot in education. Web: <https://www.fun-mooc.fr/courses/course-v1:inria+41017+session01/about>

##### 10.3.1.3. Poppy Education

As part of the Poppy Education project, thanks the robotic platform Poppy we created pedagogical kits open-source and low cost for teaching computer science and robotics. It is designed to help young people to take ownership with concepts and technologies of the digital world.

The Pedagogical kits includes robots and pedagogical resources. They have been co-created directly with users (mainly high schools teachers) and evaluated in real life by experiments in classrooms [120].

The activities were designed with the visual programming language Snap! (Scratch like) and Python, but some are in Java / Processing (thanks the robot API you can use the language of your choice).

Most activities are using the robot Poppy Ergo Jr, but some use Poppy Torso (mostly in higher school because of its cost) and Poppy Humanoid (in kinder-garden for dance projects) :

- The Poppy Ergo Jr robot is a small and low cost 6-degree-of-freedom robot arm. It consists of simple shapes which can be easily 3D printed. It has several 3D printed tools extending its capabilities (there are currently the lampshade, the gripper and a pen holder but you can design new ones). They are assembled via rivets which can be removed and added very quickly with the OLLO tool. Each motor has LEDs on (8 different color can be activated). The electronic card (raspberry Pi) is visible next to the robot, that allow to manipulate, and plug extra sensors.
- The Poppy Torso robot is an open-source humanoid robot torso which can be installed easily on tabletops. More affordable than the robot Poppy Humanoid, it is an ideal medium to learn science, technology, engineering and mathematics.

We continued to improve the robots functionalities and you can see below the resources we created :

- A website have been created to present the project and to share all resources and activities.  
<https://www.poppy-education.org/>
- To complete the pedagogical booklet [119] that provides guided activities and small challenges to become familiar with Poppy Ergo Jr robot and the Programming language Snap! (<https://drive.google.com/file/d/0B2jV8VX-IQHwTUxXZjF3OGxHVGGM/view>) we provided a list of Education projects. Educational projects have been written for each activity carried out and tested in class. So each projects have its own web page including resources allowing any other teacher to carry out the activity (description, pedagogical sheet, photos / videos, pupil's sheet, teacher's sheet with correction etc.). There is now 32 activities documented available on Poppy Education website.

You can see the activities on this links (in french):

- Introduction to Ergo Jr and Snap! :  
<https://www.poppy-education.org/activites/initiation-ergo-jr-et-snap>
- Ergo Jr and Python tutorials :  
<https://www.poppy-education.org/activites/tuto-python-robot-ergojr>
- High-school levels :  
[www.poppy-education.org/activites/activites-lycee](http://www.poppy-education.org/activites/activites-lycee)
- Middle-school level :  
[www.poppy-education.org/activites/activites-college](http://www.poppy-education.org/activites/activites-college)
- Primary Schools level :  
<https://www.poppy-education.org/activites/activites-primaire/>
- Demonstrations (just videos to show the possibilities) :  
<https://www.poppy-education.org/activites/demos/>
- We continued to improve the documentation of the robotic platform Poppy (<https://docs.poppy-project.org/en/>) and the documentation has been translated into French (<https://docs.poppy-project.org/fr/>).
- A FAQ have been written with the most frequents questions to help users: <https://www.poppy-education.org/aide/>
- New activities on Poppy Education website and forum.
- New section : Activities with Python.
- Improvements in the Resources page of the Poppy Education website.

### 10.3.2. Talks and Hands-on

- Thibault Desprez, December 2018 at Inria Bordeaux, welcomed three students from middle-school during two days to discover the working environment and to introduce them to robotics.
- Thibault Desprez, Inria Bordeaux open day, November 2018, exhibition stand to present Poppy Education and Poppy robots
- Thibault Desprez, National Meeting of Educational Robotics, October 2018 at ifé ENS Lyon, two talk to present Poppy robots kits in school.
- Thibault Desprez, National Meeting of Educational Robotics, October 2018 at ifé ENS Lyon, exhibition stand to present Poppy Station and Poppy robots.
- Thibault Desprez, Théo Segonds, Fête de la science (Inria Bordeaux Sud-Ouest), October 2018, 4 programming workshop in 2 days (with middle school students) using Snap! and the robot Poppy Ergo Jr.
- Thibault Desprez, Meet-up & Educate, October 2018 at INP Bordeaux, exhibition stand to student recruitment for a project on Poppy robots.
- Thibault Desprez, PI space inauguration, July 2018 at ESPE Mérignac, exhibition stand to present Poppy Station and Poppy robots.
- Thibault Desprez, Bordeaux Geek Festival, May 2018, Parc expo, Talk about societal problem on robotics.
- Thiabult Desprez, Usine Végétale inauguration, May 2018 at Le Fieu, exhibition stand to present Poppy Education and Poppy robots in rural zone.
- Thibault Desprez, Connect'houars, April 2018 at Talence, Workshops to initiate in programming.
- Thibault Desprez, Didapro 7, February 2018 at HEP Vaud, Lausanne, talk to present the article : "Poppy Ergo Jr : un kit robotique au coeur du dispositif Poppy Éducation"
- Thibault Desprez, Théo Segonds, Fondation Main à la pate, February 2018 at Paris, Two days to train a group of teachers to robotics and programmation with Poppy Ergo Jr robot.
- Thibault Desprez, e-Fran seminar, January 2018 at Minister of Higher Education, Research and Innovation, poster to present my thesis.
- Théo Segonds. Poppy Ergo Jr Workshop at CERN (Geneve). Construction and programming of the robotic arm Poppy Ergo Jr.
- Théo Segonds. Scientae Robotica, Lausanne. Poppy Ergo Jr Workshop. Construction and programming of the robotic arm Poppy Ergo Jr.
- Benjamin Clement and Alexandra Delmas, EdTech days, may 2018. Presentation of kidlearn and kidbreath projects.
- Theo Segonds, Didier Roy. PLAIRE Festival in Evian with Poppy exhibition during 2 days.
- Alexandra Delmas, Didier Roy. Forum Educavox in Bordeaux. Presentation of kidlearn and kidbreath projects.
- Didier Roy. R2T2 Richter event, remote robotics programming, in caribbean islands, in collaboration with EPFL.
- Didier Roy. Inria Scientific Days, presentation of educational projects in Flowers Team.
- Stephanie Noirpoudre. Poppy Education présent à la journée EIDOS 65 : Le forum des pratiques numériques pour l'éducation. Description and feedback of the 9th edition of the EIDOS 65 day (the digital practice forum for education).
- PY Oudeyer mentored students from College de Cadillac for their robotics project (2 days), march 2018.
- PY Oudeyer gave a talk "Intelligence artificielle: un outil pour nous aider à mieux comprendre l'intelligence naturelle?" at Collège Cadillac, Gironde, may 2018.

- PY Oudeyer gave a talk "Intelligence artificielle: apprentissage automatique et sciences cognitives" at a training event for members of Bordeaux Metropole political and decision staff, Nov. 2018.
- PY Oudeyer gave a talk "Intelligence artificielle: apprentissage automatique et sciences cognitives" at Université de Tous les Savoirs, Arcachon, janv. 2018.

### 10.3.3. Popularizing inside Inria

- Théo Segonds and Thibault Desprez. Poppy Ergo Jr training for Inria Scientific Mediation members.
- Inria National Scientific Mediation Seminar: Presentation by Stéphanie Noirpoudre and Théo Segonds of Poppy Ergo Jr, and workshop.
- Sébastien Forestier made a presentation on models of curiosity-driven development at Unithé ou Café.

### 10.3.4. Innovation and transfer

- Since 1 september 2017 until february 2019, PerPoppy and Poppy Station Projects : D. Roy, P.-Y. Oudeyer. These projects aim to perpetuate the Poppy robot ecosystem by creating an external structure from outside Inria, with various partners. After the Poppy Robot Project, the Poppy Education Project has ended and Poppy Station structure is born. Many exchanges have already taken place with potential partners such as the EPFL, the ENSAM network, the «Ligue de l'Enseignement», Génération Robots, the French Institute of Education, several academies, the direction of digital education of the Ministry of Education, ... PerPoppy is the project which is building the new structure, and Poppy Station is the name of the new structure. Poppy Station, which includes Poppy robot ecosystem (hardware, software, community) from the beginning, is a place of excellence to build future educational robots and to design pedagogical activities to teach computer science, robotics and Artificial Intelligence. <https://www.poppystation.org>

### 10.3.5. Internal or external Inria responsibilities

D. Roy is member of the Class'code team (Inria is member of the consortium of this project) <https://pixees.fr/classcode/accueil/>. Class'code is a blended formation for teachers and animators who aim to initiate young people to computer science and robotics. D. Roy has in charge the robotics module of the project.

D. Roy is adviser of the organization of computer science exhibition in "Palais de la découverte" which has begun on 2018 March. He helps for robotics part.

D. Roy is member of the team "Education en Scène" which organize educational activities with robotics in Bordeaux Digital City.

D. Roy is member of the scientific committee of "Learning Computer Science at School" project in Canton de Vaud (Switzerland).

D. Roy is member of the Robocup Junior French committee, an international robotics challenge <http://rcj.robocup.org/>.

D. Roy is member of the scientific committee of "Ludovia CH" Conference which will be held in Yverdon (Switzerland) on 2019 March.

D. Roy is project co-leader of MOOC Thymio, in collaboration with EPFL and Inria Learning Lab. The aim of this MOOC is to propose to teachers a training on basics of computer science, using the robotic platform Thymio.

D. Roy is associate member of the EPFL "LEARN" center.

PY. Oudeyer continued to be the PI of the Poppy Education project.

PY. Oudeyer was scientific mentor for students of Collège de Cadillac, within the program "Main à la pâte" of Maison des Sciences.

### 10.3.6. Articles and contents

- Adrien Laversanne-Finot wrote a blog post on "Discovery of independently controllable features through autonomous goal setting", <https://openlab-flowers.inria.fr/t/discovery-of-independently-controllable-features-through-autonomous-goal-setting/494>
- Cédric Colas wrote a blog post on "How Many Random Seeds Should I Use? Statistical Power Analysis in (Deep) Reinforcement Learning Experiments", <https://openlab-flowers.inria.fr/t/how-many-random-seeds-should-i-use-statistical-power-analysis-in-deep-reinforcement-learning-experiments/457>
- Cédric Colas wrote a blog post on "Bootstrapping Deep RL with population-based diversity search"
- PY Oudeyer was interviewed for an article of **The Economist** on curiosity-driven learning, <http://www.pyoudeyer.com/TheEconomist2018.pdf>
- PY Oudeyer was interviewed for an article of **Scientific American** on curiosity-driven learning, <http://www.pyoudeyer.com/IntelligentMachinesThatLearnLikeChildren-Scientific%20American2018.pdf>
- PY Oudeyer was interviewed for an article of **MIT Technology Review** on curiosity-driven learning, <http://www.pyoudeyer.com/may17MITTechnology%20Review.pdf>



## **GRAPHDECO Project-Team**

### **9.3. Popularization**

#### ***9.3.1. Internal or external Inria responsibilities***

- George Drettakis chairs the local “Jacques Morgenstern” Colloquium organizing committee.
- Adrien Bousseau is a member of “commit  du centre” and “commit  du suivi doctoral”.

#### ***9.3.2. Articles and contents***

- Nice Matin published an article about the ERC project of George Drettakis.

#### ***9.3.3. Interventions***

- Bastien Wailly gave a demo of our sketch-based modeling tool during *Fete de la Science*.
- Valentin Deschaintre presented his work to high school student and advised them on a small scientific project for *Math C2+*.

## **GRAPHIK Project-Team**

### **9.3. Popularization**

#### **9.3.1. Articles and contents**

- M. Chein, Sur la science informatique et son installation à Montpellier, Conf. Association française pour l'avancement des sciences, Montpellier avril 2017 /Bull. Acad. Sc. Lett. Montp., vol. 48, suppl. C1 (2017), p.89-102/
- M. Chein, L'informatique : la science au coeur du numérique , Conf. Académie des Sc ; et Lett. De Montpellier, mai 2017, /Bull. Acad. Sc. Lett. Montp., vol.48 (2017), p.203-214/

#### **9.3.2. Interventions**

- M. Chein, Intelligence artificielle : Mythes et Réalités, Médiathèque, La Boissière, mars 2018
- M. Chein, La complexité en Informatique. Complexité spatio-temporelle des programmes, des algorithmes et des problèmes. Pierre Rouge Sciences, Assas, janvier 2018

## **HEPHAISTOS Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Articles and contents***

- J-P. Merlet has given two interviews at Nice-Matin and is a member of the scientific committee for the preparation of a permanent robotics exhibition at Cité des Sciences et de l'Industrie, Paris

#### ***10.3.2. Education***

- Y.Papegay is actively participating to the Math.en.Jeans initiative for Mathematics teaching for undergraduate students. He is developing several pedagogical resources based on small robotics devices at high-school level. He has organized and animated summer schools in experimental mathematics and computer sciences. Several one week sessions have been held in Oxford in June, July, August and November gathering more than 70 high-school students - most of them were awardees in Mathematics Olympiads.
- O. Pourtallier is corresponding researcher for two MATH.en.JEANS workshops, an initiative for Mathematics teaching for undergraduate students.

#### ***10.3.3. Interventions***

- J-P. Merlet and Y. Papegay have meet several schoolchildren (3ème)
- J-P. Merlet has given a talk during the Art'DI (a meeting between handicapped people and artists) day at Cannes
- J-P. Merlet and E. Wajnberg have given two talks in the framework of "Science pour tous"

#### ***10.3.4. Internal action***

- J-P. Merlet has given a talk at Café Techno and at Café ADSTIC (for local PhD students), has invited Nathalie Rochet, a member of south-east CPP to give a talk at a Café-In

#### ***10.3.5. Creation of media or tools for science outreach***

- the Hephaistos team proposes simple cable-driven parallel robots that are used to illustrate scientific concepts such as showing what is a sinus, instantiating the geometrical definition of an ellipse

## HYBRID Project-Team

### 10.3. Popularization

As a salient action in 2018, Hybrid could organize a **press conference** on the topic of "Neurofeedback" in Paris (November 14th), which ended up with numerous media coverages (radio, press, etc).

#### 10.3.1. Articles and contents

- "Autour de la question" (07/18) Radio France International: interview of Valérie Gouranton, Ronan Gagne and Théophile Nicolas on "cultural heritage applications in VR/AR"
- "Sciences Ouest" (11/18) : interview of Anatole Lécuyer about "Neurofeedback"
- "Journal de 7h30" (11/18) France Inter radio : interview of Anatole Lécuyer about "Neurofeedback"
- "Sciences Ouest" (10/18): interview of Maud Marchal for "Epreuve par 7".

#### 10.3.2. Interventions

- Technoférence du Pôle Images et Réseaux (Rennes, 02/18): co-organization by Ronan Gagne, presentation from Maud Marchal on haptic in VR, demonstrations in Immersia.
- "Journées Science et Musique 2018" (Rennes, 10/18): co-organization of this event, and presentation of several demos of the team.
- Press Conference on "Neurofeedback" (Paris, 11/18): co-organization of this event, and presentation from Anatole Lécuyer, followed by several media coverages.

**ILDA Project-Team (section vide)**

## **IMAGINE Project-Team**

### **10.3. Popularization**

Rémi Ronfard and Julie Valéro organized a panel at Experimenta on "Virtual reality storytelling between cinema and theatre", with invited guests Christelle Derré, (collectif Or Norme), Philippe Fuchs (MINES ParisTech), Pauline Bouchet (Univ. Grenoble Alpes), Pierre-Emmanuel Le Goff (France TV) and Annick Jakobowicz (France TV).

Rémi Ronfard presented new results of the COLLODI2 project to Computer Animation professionals at MIFA in June 2018, Next-generation computer animation with RUMBA, International Animation Film Festival Annecy.

Marie-Paule Cani and Rémi Ronfard were featured in a special report on Intelligence artificielle et création artistique, Science et Avenir, aout 2018.

Rémi Ronfard and Julie Valéro published online three new video documentaries shot using our KINO AI virtual cinematography system during rehearsals of the stage adaptation of Mary Shelley's Frankenstein, written and directed by Jean-Francois Peyret.

Rémi Ronfard and Julie Valéro wrote a blog entry, L'informatique rentre en scène, Blog Binaire, Le Monde, 4 décembre 2018.

## LACODAM Project-Team

### 10.3. Popularization

#### 10.3.1. Interventions

- Public debate on Artificial Intelligence at Café des Champs-Libres, Rennes (E. Fromont)
- Radio C-LAB, invited to the "Mars 2081" show on AI. (E. Fromont)
- Invited member to the focus group "Transition numérique et pratiques de recherche et d'enseignement en agriculture, alimentation, environnement et sciences vétérinaires à l'échéance 2040" (T. Guyet)
- Intervention at the Pint of Science 2018 event, topic: Artificial Intelligence and Data Science (A. Termier)
- Invited talk at "Matinale Rennes Atalante", Rennes (A. Termier, 22/12/2018) <sup>0</sup>.
- Invited talk at Lacroix-Sofrel industrial group (A. Termier)
- Invited talk at the kickoff the OpenLab PSA-Inria, where Lacodam is actively involved (A. Termier)
- Invited talk at the conference *IN'Sciences "Big data : comment combiner intelligence artificielle et gestion de données ?"* (L. Galárraga, chaired by L. Rozé)

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<sup>0</sup>Video: <http://www.rennes-atalante.fr/actualites-technopole/captations-matinales-rennes-atalante/2018/visionnez-la-matinale.html>

## 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



## LINKMEDIA Project-Team

### 9.3. Popularization

#### 9.3.1. Articles and contents

- Interviews in order to popularize: Guillaume Gravier was interviewed on AI technology for Sciences Ouest
- Vincent Claveau gave interviews about Fake News detection in the following journals: *Stratégies* 06/06/2018 and 12/10/2018, *LCI.fr* 8/06/2018, *Le Monde.fr* 24/05/2018, *Sciences Ouest* n363, *Sciences et Avenir* 30/05/2018 and xx/12/2018, *01net* n894
- Ewa Kijak was interviewed by *LeTemps.ch*

#### 9.3.2. Interventions

- Public exhibitions: Vincent Claveau and Guillaume Gravier presented at *Futur.e.s*
- Vincent Claveau participated in a press conference organized by the CNRS in May 2018
- Vincent Claveau gave an invited talk about NLP and fake news at the Forum des sciences cognitives in Nancy
- Vincent Claveau was heard at the French National Assembly by the parliamentary group *Économie numérique de la donnée, de la connaissance et de l'intelligence artificielle*
- Miaojing Shi was invited for a panel discussion about *China is AI: perspective on the booming Chinese AI ecosystem* at *FranceIsAI*, Oct 2018, Paris.
- Miaojing Shi was invited to the 2nd Edition of the Purple Night organized by the France China Committee in order to value the Franco-Chinese cooperation.

#### 9.3.3. Internal action

- Regional events: Guillaume Gravier was invited conferencer on AI for *Café des Sciences* (general public audience, ~100 pers.)

#### 9.3.4. Creation of media or tools for science outreach

- Cédric Maigrot and Vincent Claveau participated to the educational video from *Cité des Sciences* about Fake News detection <https://bit.ly/2Rz7MAp>

## LINKS Project-Team

### 10.3. Popularization

#### 10.3.1. Internal action

**General Assembly of Inria Lille** Niehren presented Links work on data and knowledge bases on the Dynamic Semantic Crosswords demonstration during a general assembly of Inria Lille in July 2018.

#### 10.3.2. Creation of media or tools for science outreach

**Dynamic Semantic Crosswords** Bacquey's demonstration system on dynamic semantic crosswords is presented in the new showroom of Inria Lille in the new building Place. The demo generates dynamically crosswords while streaming Twitter feeds, depending on a semantic topic specified by the user. The specification can be given by a list of hashtags, and in the future by a XPath 3.0 query, that can be executed on streams by using Links QuiXPath tool. This illustrates the work on complex event processing by Niehren and his students during the last years.

## LOKI Team

### 9.3. Popularization

#### 9.3.1. Internal or external Inria responsibilities

*AIRLab selection committee* for the funding of **art and science projects**, Stéphane Huot (representative for Inria Lille – Nord Europe)

#### 9.3.2. Articles and contents

*2067 ou la disparition des interfaces humains-machines*, interview in an **Inriality and Usbek & Rica joint article**, Stéphane Huot

*Le raccourci clavier: Une meilleure interaction entre l'Homme et la machine ?*, in **Lille by Inria N°7**, Sylvain Malacria

#### 9.3.3. Education

**Structuration et fonctionnement de la recherche**, training session for academic librarians at **Médi-aLille**, Thomas Pietrzak

#### 9.3.4. Internal action

*Chorégraphie d'animation : structurer pour mieux comprendre*, talk at Inria Lille – Nord Europe “**13:45**”, Amira Chalbi

*Reliability and Perceived Reliability in Ubiquitous Gestural Input*, talk at Inria Lille – Nord Europe “**30 minutes de sciences**”, Edward Lank

*The TurboTouch latency compensation method*, demonstration at the opening ceremony of Bâtiment Place (Inria Lille – Nord Europe), Mathieu Nancel

## MAGNET Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

- AURÉLIEN BELLET is the scientific mediation contact for Inria Lille center.
- PASCAL DENIS served as committee member on the Inria Lille Commission Emploi Recherche (CER).
- PASCAL DENIS also served as committee member on Commission de Développement Technologique (CDT).
- PASCAL DENIS is administrator of Inria membership to Linguistic Data Consortium (LDC).

#### 10.3.2. Articles and contents

- AURÉLIEN BELLET and MARC TOMMASI provided expertise for an upcoming TV program on Arte about new technologies.

#### 10.3.3. Interventions

- National events: JAN RAMON and MARC TOMMASI participate to a round-table meeting at the *Fête des libertés numériques* for the RGPD day <sup>0</sup>.
- In educational institutions: MARC TOMMASI gave a talk on privacy and machine learning in Journées polytech <sup>0</sup>.

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<sup>0</sup>[https://www.meshs.fr/page/donnees\\_personnelles\\_et\\_droits\\_et\\_libertes\\_numeriques](https://www.meshs.fr/page/donnees_personnelles_et_droits_et_libertes_numeriques)

<sup>0</sup><http://www.polytech-lille.fr/big-data-machine-mearning-p11419.html#.WqIHjExFxPb>

## 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"<sup>0</sup>, and member of the IREM<sup>0</sup> 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.

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

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

## MANAO Project-Team

### 10.3. Popularization

#### 10.3.1. Interventions

- Public exhibitions: Station Campus, Live Painting with Maud Mulliez at the Musée Ethnographique de Bordeaux (November 29th, 2018).
- Talks for schoolchildren: Camille Brunel and Pierre Bénard gave a 30 minutes talk titled *L'art et la science des films d'animation 3D* in front of secondary students during "la semaine des Maths" (March 15th, 2018), "le Printemps de la Mixité" (March 27th, 2018), and "la Fête de la Science" (October 10th, 2018).
- Talk at e-artsup: Pierre Bénard gave a 1 hour talk titled *Sciences et techniques pour l'animation 3D* in front of art students (October 8th, 2018).
- Open days at Inria Bordeaux Sud-Ouest : Demonstration of the *Wedge Camera* at "la Fête de la Science" (October 13th, 2018)

#### 10.3.2. Internal action

- 10-year-celebration of Inria Bordeaux Sud-Ouest : Demonstration of the *Wedge Camera* (September 27th, 2018)

## MAVERICK Project-Team

### 9.3. Popularization

Every year, “MobiNet” (see section 6.7) 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 “Engineering weeks”, and 0 to 2 groups in the scope of Math-C2+ operations.

Fabrice Neyret published a popularization article "Le mouvement sous toutes ses coutures" [19] in the booklet "Maths Mouvement Express 2018".

Fabrice Neyret maintains the blog [shadertoyunofficial \(https://shadertoyunofficial.wordpress.com/\)](https://shadertoyunofficial.wordpress.com/) and various shaders examples on Shadertoy site (<https://www.shadertoy.com/>) to popularize GPU technologies as well as disseminates academic models within computer graphics, computer science, applied math and physics fields.

Cyril Soler presented at FOSDEM2018 his work on privacy preserving data distribution over decentralized mesh networks (<https://www.youtube.com/watch?v=FR9SSdGN0K8>).

## 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.



## **MIMETIC Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Internal or external Inria responsibilities***

Franck Multon is coordinator of Inria national initiative "Sport Inria" in relation with the French Ministry of Sports, and the French Ministry of Research, for Olympic Games 2024

#### ***10.3.2. Articles and contents***

Co-author of a book dedicated to undergraduate STAPS students, Elsevier Health Sciences, Sept. 2018. « STAPS: anatomie, physiologie, neurosciences et biomécanique » (P Delamarche, F Multon, T Horrut, V Nougier). Author of the chapter entitled « Biomécanique de la performance motrice » (47 pages).

Book chapter "Réalité virtuelle au service du sport" in a book "Corps et Sport" dedicated to general public, pages 148–164, Editions de la Martinière, 2018.

Book chapter "The democratization of VR-AR" in a book "Virtual Reality and Augmented Reality: Myths and Realities" dedicated to general public, pages 73-123, ISTE Ltd, 2018.

Book chapter "Vers une démocratisation de la RV-RA ?" in a book "Réalité virtuelle et réalité augmentée" dedicated to general public, pages 95-141, ISTE Ltd, 2018.

#### ***10.3.3. Interventions***

Richard Kulpa was member of the scientific committee for temporary exhibition (1000m<sup>2</sup>) entitled "Corps et Sport" in "Cité des sciences et de l'industrie", Octobre 16th 2018 to January 5th 2019. The idea is to propose a new approach of sports to the wide public audience.

## **MOEX Project-Team**

### **6.3. Popularization**

#### **6.3.1. Interventions**

- Jérôme Euzenat gave a talk on “Artificial intelligence: a broad view” to BEST Spring course, Grenoble (FR), 2018-04-16
- Jérôme Euzenat gave a talk on “mOeX: évolution de la connaissance” Inria “Mon projet en 180 secondes”, Grenoble (FR), 2018-05-29
- Jérôme Euzenat gave a talk on “Evolving knowledge: different facets of Artificial Intelligence” to the French-American Doctoral Exchange (FADEX) seminar, Grenoble (FR), 2018-06-27

**MORPHEO Project-Team (section vide)**

## 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)**

## PANAMA Project-Team

### 10.3. Popularization

#### 10.3.1. *Journée Science et Musique (JSM 2018)*

**Participants:** Valentin Gillot, Romain Lebarbenchon, Rémi Gribonval, Nancy Bertin, Frédéric Bimbot, Ewen Camberlein, Stéphanie Lemaile, Corentin Louboutin, Antoine Chatalic, Clément Gaultier, Cássio Fraga Dantas, Diego Di Carlo.

*with contributions and support from: Valérie Gouranton, Ronan Gaugne, Florian Nouviale, Evelyne Orain, Agnès Cottais, Catherine Jacques-Orban and many more.*

PANAMA coordinated the organization of a public event called “Journée Science et Musique” (“Music and Science Day”). This yearly event organized by the METISS/ PANAMA Team since 2011 aims at sharing with the wide audience the latest innovations and research projects in music. The motivation for hosting this event is to explain and promote the technology behind audio-processing that people face in their daily lives. The event is free to everyone and people have the possibility to attend talks by selected speakers or meet numerous experts that demonstrate current projects in which people can interactively participate. Edition 2018 hosted approximately 500 visitors and was a partner of the “Festival des Sciences” and “Festival Maintenant” in Rennes.

#### 10.3.2. *250th Anniversary of Joseph Fourier’s birth*

**Participants:** Nancy Bertin, Frédéric Bimbot, Antoine Deleforge, Rémi Gribonval.

PANAMA has been involved in the *Comité Fourier 250* by participating to, and triggering interest for the 250th Anniversary of Joseph Fourier’s birth, in the framework of *Commémorations Nationales* for the year 2018. In particular, Frédéric Bimbot has been invited to give a talk at the JEP 2018 on Fourier’s heritage in Speech Processing, and the *Journée Science et Musique 2018* (see above) has included a conference where Fourier’s Transform was introduced and called for to explain concepts relating to music perception.

#### 10.3.3. *Articles and contents*

Rémi Gribonval wrote an article published online on Interstices [47]

**PERCEPTION Project-Team (section vide)**

**PERVASIVE Project-Team (section vide)**



## PETRUS Project-Team

### 10.3. Popularization

- Nicolas Ancaux: "Respectez les données personnelles de vos clients avec PLUGDB", Inria Tech Talk, French Tech Central - Station F, 12 Dec. 2018. video: [https://youtu.be/9y3VdMe\\_sAQ](https://youtu.be/9y3VdMe_sAQ), slides: <https://french-tech-central.com/events/inria-tech-talk-respectez-les-donnees-personnelles-de-vos-clients-avec-plugdb/>
- Nicolas Ancaux: auditions de la mission de préfiguration du « Health Data Hub », DREES, July 2018. Slides: <http://petrus.inria.fr/~ancaux/papers/D39.pdf>
- Nicolas Ancaux: interview, magazine La Recherche N°535, Mai 2018, "IA : les défis de la stratégie française", pp.14-16, by Gautier Cariou. Link: <https://www.larecherche.fr/parution/mensuel-535>

## POTIOC Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

- Member of editorial Board of Blog Binaire - Le Monde, Pascal Guitton

#### 10.3.2. Articles and contents

- Martin Hachet, *Art et Informatique: Fertilisation croisée*, Blog Binaire - Le Monde, [46]
- Pascal Guitton, *L'accessibilité numérique, pourquoi il faut la développer*, Blog Binaire - Le Monde, [45]
- Bruno Arnaldi, Pascal Guitton & Guillaume Moreau, *Rendez-vous dans 10 ans*, Blog Binaire - Le Monde, [44]

#### 10.3.3. Education

- Potioc booth at EdTech days, Bordeaux, May 18
- "Pensez-vous qu'il soit possible de lire dans les pensées?", Scientific debate to launch the "projets indisciplinés" of University of Bordeaux, October 2018, Fabien Lotte
- "La recherche sur les interfaces cerveau-ordinateur chez Potioc", Presentation for Bachelor 3, ENS Lyon, visiting Inria Bordeaux, December 2018, Fabien Lotte
- "Le futur des interfaces : interfaces invisibles", Master Class Festival Futur.e.s, Lauren Thévin
- Booth at Laval Virtual (Espace Révolution)

#### 10.3.4. Interventions

- **Pint of Science**, Bordeaux, May 18, Martin Hachet and Philippe Giraudeau
- **Cinema Sciences**, Merignac, April 18, Martin Hachet
- Goûter des sciences / Les petits débrouillards (Figure 9), Bordeaux, December 18, Martin Hachet, Philippe Giraudeau, Théo Segonds, Nicolas Palard
- Organization of a workshop for middle and high school students, Ethnography museum, University of Bordeaux, 8-11th Oct. 2018, Léa Pilette
- "Optimizing humans digital learning by decoding brain activity in real time", Poster, ESOF Toulouse, France, July 2018, Aurélien Appriou
- "Flow theory for optimizing BCI", CogTalk, Bordeaux, November 2018, Jelena Mladenovic
- "Cerveau et jeux vidéo", CogTalk, Bordeaux, March 2018, Pierre-Antoine Cinquin
- L'accessibilité des jeux vidéo, Masterclass Scientific Game Jam, March 2018, Université de Bordeaux
- Seminar for PhD students – Flow theory for optimizing BCI, ISPED Bordeaux, November 2018, Jelena Mladenovic
- "Contrôler un ordinateur par l'activité cérébrale : Mythe ou Réalité ?", Conférence grand public de restitution des pauses de l'institut des études avancées de l'université de Bordeaux, Talence, June 2018, Fabien Lotte
- "Les Interfaces Cerveau-Ordinateur : Progrès et questions", Centre Culturel du Hâ, Bordeaux, France, May 2018, Fabien Lotte
- "Mixed reality for visual impaired people", Cherchons pour Voir & IJA (Institut des Jeunes Aveugles, Toulouse), Apéro Sciences, Lauren Thévin
- "Accessibilité numérique : pourquoi et comment", Inria Tech Talk, Station F, Paris, Pascal Guitton

#### 10.3.5. Internal action

- Unithé ou Café, Martin Hachet, May 18
- Potioc Demos for 10th anniversary of Inria Bordeaux, Sept. 18
- Fete de la sciences, Demo at CapSciences, Oct. 18.



Figure 9. The Potioc team at Gouter des Sciences / les petits débrouillards, Dec. 18.

## RAINBOW Project-Team

### 10.3. Popularization

- Due to the visibility of our experimental platforms, the team is often requested to present its research activities to students, researchers or industry. Our panel of demonstrations allows us to highlight recent results concerning the positioning of an ultrasound probe by visual servoing, grasping and dual arm manipulation by Romeo, vision-based shared control using our haptic device for object manipulation, the control of a fleet of quadrotors, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications. Some of these demonstrations are available as videos on VispTeam YouTube channel (<https://www.youtube.com/user/VispTeam/videos>).
- In October Firas Abi Farraj, Marco Aggravi, Claudio Pacchierotti and Fabien Spindler attended to the “Maker Fair” even in Rome (<https://2018.makerfairerome.eu/it/>) presenting various vision-based and shared control robotic demonstrations with Viper and Franka arms and haptic devices.
- Eric Marchand is an editor for Interstices )i(

#### 10.3.1. Interventions

- Marie Babel participated to the Science Festival in October 2018 and animated an interactive animation session for general public organized in Acigné, France
- Solenne Fortun participated to the Tech’in Vitré forum with an interview in March 2018.
- Marie Babel animated an interactive session organized in INSA Rennes about "Women in Sciences" on December 19th, 2018 for female students.

## RITS Project-Team

### 10.3. Popularization

#### 10.3.1. Internal or external Inria responsibilities

Fawzi Nashashibi was the coordinator of the Inria Livre Blanc "Véhicules autonomes et connectés, les défis actuels et les voies de recherche" <sup>0</sup>.

#### 10.3.2. Articles and contents

A few press interviews and popular science was done in 2018.

- In books/journals/radios for the general public:
  - Raoul de Charette was interviewed by A. Devillard for:
    - *Pour la voiture autonome, l'algorithme d'apprentissage qui ne s'entraîne pas*<sup>0</sup>, Science et Avenir, 2018-03-18;
    - *Les failles de la voiture autonome*<sup>0</sup>, Sciences et Avenir, 2018-04-26;
  - Raoul de Charette and Fawzi Nashashibi were interviewed by M. Moragues for [*Infographie*] *L'intelligence artificielle n'est pas un as du volant*<sup>0</sup>, L'Usine Nouvelle, 2018-09-23;
  - Raoul de Charette was interviewed for Sciences et Avenir, *La voiture autonome en quête de la "vision" parfaite*, 2018-09-27;
  - Raoul de Charette and Fawzi Nashashibi were interviewed for Challenges, *L'intelligence artificielle bute sur la sécurité routière*, 2018-10-04;
  - Raoul de Charette was interviewed for Radio France Internationale, 2018-03-30;
  - Fawzi Nashashibi was interviewed for La Tribune, *Ce que l'IA change dans l'auto : l'ère de la voiture autonome*<sup>0</sup>, 2018-05-02;
  - Fawzi Nashashibi was interviewed by Dominique Filippone for *Voitures autonomes : Pas avant 2040 en France selon l'Inria*<sup>0</sup>, Le Monde Informatique, 2018-05-15;
  - Fawzi Nashashibi was interviewed by Loup Besmond de Senneville for *Les recommandations des chercheurs pour l'éthique des voitures autonomes*<sup>0</sup>, La Croix, 2018-05-18;
  - Fawzi Nashashibi was interviewed by Frank Niedercorn for *Fawzi Nashashibi : "Il y a encore bien des obstacles pour le véhicule autonome"*<sup>0</sup>, Les Echos, 2018-06-29;
  - Fawzi Nashashibi was interviewed for L'Usine Nouvelle, no 3577, *Automobile le graal de l'autonomie*, 2018-09-20;
  - Fawzi Nashashibi was interviewed by Laurène Le Fournier for Radio Village Innovation, July 2018.
  - Fawzi Nashashibi was interviewed for France Info, 2018-09-07.
- For online publications: (Interstices, Images des Maths, Binaire, Wikipedia), and more widely blog articles:

<sup>0</sup><https://www.inria.fr/institut/strategie/vehicules-autonomes-et-connectes>

<sup>0</sup>[https://www.sciencesetavenir.fr/high-tech/pour-la-voiture-autonome-un-algorithme-d-apprentissage-qui-ne-s-entraîne-pas\\_122033](https://www.sciencesetavenir.fr/high-tech/pour-la-voiture-autonome-un-algorithme-d-apprentissage-qui-ne-s-entraîne-pas_122033)

<sup>0</sup>[https://www.sciencesetavenir.fr/high-tech/transports/les-failles-de-la-voiture-autonome\\_123502](https://www.sciencesetavenir.fr/high-tech/transports/les-failles-de-la-voiture-autonome_123502)

<sup>0</sup><https://www.usinenouvelle.com/editorial/infographie-l-intelligence-artificielle-n-est-pas-un-as-du-volant.N742309>

<sup>0</sup><https://www.latribune.fr/entreprises-finance/industrie/automobile/ce-que-l-ia-change-dans-l-auto-l-ere-de-la-voiture-autonome-776767.html>

<sup>0</sup><https://www.lemondeinformatique.fr/actualites/lire-voitures-autonomes-pas-avant-2040-en-france-selon-l-inria-71733.html>

<sup>0</sup><https://www.la-croix.com/Sciences-et-ethique/Ethique/recommandations-chercheurs-lethique-voitures-autonomes-2018-05-18-1200940092>

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<sup>0</sup>[https://www.lesechos.fr/29/06/2018/LesEchos/22727-506-ECH\\_fawzi-nashashibi—il-y-a-encore-bien-des-obstacles-pour-le-vehicule-autonome-.htm](https://www.lesechos.fr/29/06/2018/LesEchos/22727-506-ECH_fawzi-nashashibi—il-y-a-encore-bien-des-obstacles-pour-le-vehicule-autonome-.htm)

Raoul de Charette was interviewed by K. Haske for MyScienceWork *Where are they now ? Raoul de Charette*<sup>0</sup>, 2018-09-04, and by J. Jongwane for Interstices *Les algorithmes de vision pour les véhicules autonomes*<sup>0</sup> [36];

Fawzi Nashashibi was interviewed by Mrs. Barbara Vignaux to prepare an exhibition on the autonomous car for the *Science Actualités* area of the City of Science and Industry (*Cité des Sciences et des Industries*), Paris. It was followed by the development of an article entitled "*Voiture autonome: révolution en route ?*" (Autonomous Car: revolution on the way?);

In January 2018, Gérard Le Lann has been invited to contribute to Blog Binaire Le Monde on: *Sécurité routière et cybersécurité*<sup>0</sup>;

In May 18th, an on-line article titled *Inria dévoile son Livre blanc sur les Véhicules Autonomes et Connectés* and relaying the contents of Inria white paper on connected autonomous vehicles was published at <http://www.auto-innovations.com/communique/1374.html>.

### **10.3.3. Interventions**

- Raoul de Charette and Renaud Poncelet made a demonstration at Inria RII meeting ("Mobilité & environnements", 2018-11-20, Station F, Paris);
- RITS was involved in welcoming schoolchildren in Paris center on December 21st.

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<sup>0</sup><https://www.mysciencework.com/omniscience/now-raoul-charette>

<sup>0</sup><https://interstices.info/les-algorithmes-de-vision-pour-les-vehicules-autonomes/>

<sup>0</sup><http://binaire.blog.lemonde.fr/2018/01/19/securite-routiere-et-cybersecurite/>

## 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](http://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](http://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.

## **SIROCCO Project-Team**

### **10.3. Popularization**

- C. Guillemot and A. Roumy participated in the editorial board of a series of articles, towards a general audience, on Fourier, in the context of his 250th birth anniversary (2018)



**STARS Project-Team (section vide)**

## **THOTH Project-Team**

### **10.3. Popularization**

- P. Luc: Interviews with “Computer Vision News” and “Les Echos Start”.
- J. Mairal: intervention grand public sur l’IA lors d’un événement organisé par PWN (Professional Woman Network) à Lyon en octobre 2018.
- J. Mairal: conférence grand public sur l’IA avec Cédric Villani en juin 2018, mairie de Lyon.
- J. Mairal: participation à un débat public sur l’IA organisé par Mme la députée Cendra Motin en avril 2018, Montalieu-Vercieu.

#### ***10.3.1. Internal or external Inria responsibilities***

- C. Schmid: Member, “Comité scientifique”, Inria Grenoble, since 2015.
- J. Verbeek: Scientific correspondent, national project calls, Inria Grenoble, since 2017.
- J. Verbeek: Member, Inria Grenoble working group on HPC - Big Data - Machine learning, since 2018.

## **TITANE Project-Team**

### **10.3. Popularization**

Yuliya Tarabalka gave a seminar for the academic-industrial event “Les rendez-vous Université Côte d’Azur-Entreprise”, May 2018.

#### ***10.3.1. Internal or external Inria responsibilities***

Pierre Alliez is head of science of the Inria Sophia Antipolis Center since September 2018, and member of the Inria evaluation committee.

#### ***10.3.2. Interventions***

- Pierre Alliez gave a seminar and demo for the “fête de la science”, October 7th.

## **TYREX Project-Team**

### **8.3. Popularization**

- N. Layaïda contributed to the special édition of the newspaper : Le Dauphiné libéré des enfants – C'est quoi le numérique ? – n°14 November-December 2018.
- P. Genevès presented the Tyrex team activities in 180 seconds in a dissemination event organized at Inria Montbonnot in June 2018.

#### ***8.3.1. Creation of media or tools for science outreach***

- T. Michel built a mobile application for the Inria public showroom, Espace Login, called Login'AR. The application was designed to showcase the combination of indoor positioning with Augmented Reality capabilities. The application is now part of the permanent Login public exhibition. The application was developed with the help of four Grenoble INP interns (A. Convert, A. Fortecof, G. Montano and S.J. Tourangeau).

## VALDA Project-Team

### 8.3. Popularization

#### 8.3.1. Internal or external Inria responsibilities

Serge Abiteboul is the president of the strategic committee of the Blaise Pascal foundation for scientific mediation.

#### 8.3.2. Articles and contents

Serge Abiteboul published *Le bot qui murmurait à l'oreille de la vieille dame* at the *Le Pommier* éditions, a collection of short stories on the digital world, accompanied with scientific and technical discussions.

Serge Abiteboul writes regular columns on popularization of computer science in *La Recherche* and *Le Monde* (Économie).

#### 8.3.3. Education

Pierre Senellart participated to a week-long meeting of teachers in *classes préparatoires* in Lumini in May 2018 to discuss the future of computer science education and to give an introduction to database research.

## **WILLOW Project-Team**

### **10.3. Popularization**

#### ***10.3.1. Articles and contents***

- J. Ponce was the subject of an article in the photography magazine Polka. He was also interviewed by France Culture, Le Monde, Paris-Match, Québec Science, and Science et Vie.
- J. Ponce was interviewed by the Académie des Sciences working group on Artificial Intelligence on Oct. 2, 2018.

#### ***10.3.2. Interventions***

- J. Ponce participated in round tables about AI at the France Culture Forum in Paris, March 1, 2018, at the BNP Parisbas summer school Aug. 23, 2018, at the French embassy in Berlin on Nov. 6, 2018, at the Erasme-Descartes conference in Paris on Nov. 15, 2018, and at the AI summit in New York City on Dec. 6, 2018.
- J. Ponce gave general audience lectures at the X-IA meeting in Palaiseau, Oct. 8, 2018 and at the Institut français de Croatie in Zagreb, Croatia, Nov. 9, 2018.

#### ***10.3.3. Creation of media or tools for science outreach***

- I. Laptev, Y. Hasson, S. Allayen, T. Eboli, I. Kalyevath, Y. Labbe, R. Strudel, G. Varol, D. Zhukov, Presentation of computer vision for high-school students, Inria, December 2018.

## **WIMMICS Project-Team**

### **10.3. Popularization**

#### **10.3.1. Interventions**

- Michel Buffa presented the WASABI ANR project during *La fête de la Science* in *L'esprit Sorcier* TV program <sup>0</sup>.

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<sup>0</sup><https://youtu.be/-iExdePDsPA>

## **ZENITH Project-Team**

### **10.3. Popularization**

#### **10.3.1. Internal or external Inria responsibilities**

F. Masegla is “Chargé de mission auprès de la DGD-S Inria pour la médiation scientifique” (50% of his time) and heads Inria’s national network of colleagues involved in science popularization (<https://www.inria.fr/recherches/mediation-scientifique/actions-de-mediation-scientifique/presentation>)

#### **10.3.2. Articles and contents**

Alexis Joly participated to the realization of a report on "Deep Learning and Agriculture" edited by the AgroTIC chair (<https://www.agrotic.org/>). He co-authored on article on data collection in citizen science projects [37].

#### **10.3.3. Education**

Teaching code is now officially in the school programs in France. Class’Code is a PIA project that aims at training the needed 300,000 teachers and professionals of education France. The project is a hybrid MOOC (both online courses and physical meetings). Florent Masegla is co-author of the first course and scientific referent of the other courses.

Along with Class’Code, the association “La main à la pâte” has coordinated the writing of a school book on the teaching of computer science teaching, with Inria (Gilles Dowek, Pierre-Yves Oudeyer, Florent Masegla and Didier Roy), France-IOI and the University of Lorraine. The book has been requested by and distributed to 15,000 readers in less than one month. The extension of this book for the French "Collège" has been released in 2017 with new activities and new scientific content.

F. Masegla is giving a doctoral training at different doctoral schools in Montpellier, in order to train facilitators for helping teachers and people of the education world to better understand the "computational thinking". So far, 14 people have been trained.

P. Valdriez gave an invited talk on "Succeed in your Ph.D. Thesis: good practices and return of experience" at the Ph.D. meeting at LIRIS, Lyon, on December 11.

F. Masegla is member of the pedagogic committee of "Edu’up", a project from France-IOI on learning code and computational thinking.

F. Masegla gave a one day training session to school teachers in Créteil, on October 3.

Alexis Joly gave about 15 hours of professional training in the use of digital tools for environmental education (Pl@ntNet, ThePlantGame and Smart’Flore).

#### **10.3.4. Interventions**

Zenith participated to the following events:

- F. Masegla co-organized the regional Code-Week events with the local network of media-library ("réseau des médiathèques de Montpellier Méditerranée Métropole").
- F. Masegla is member of the project selection committee for “La fête de la science” in Montpellier.
- F. Masegla animated a stand at the "semaine de la mémoire" event organized by Genopolys (September 20&21).
- F. Masegla participated in a class visit, at Saussan, with Charles Torossian (co-author of the "Vallani-Torossian" report) and the rectrice, about code teaching.

#### **10.3.5. Internal action**

F. Masegla organized, and participated to, a 2 days training session on the Poppy Ergo Jr robot (June 25&26).



### ***10.3.6. Creation of media or tools for science outreach***

In the context of the Floris'tic project, A. Joly participates regularly to popularization, educational and citizen science actions in France (with schools, cities, parks, associations, etc.). The softwares developed within the project (PI@ntNet, Smart'Flore and ThePlantGame) are used in a growing number of formal educational programs and informal educational actions of individual teachers. For instance, Smart'Flore is used by the French National Education in a program for reducing early school leaving. PI@ntNet app is used in the Reunion island in an educational action called Vegetal riddle organized by the Center for cooperation at school. It is also used in a large-scale program in Czech republic and Slovakia (with a total of 100 classrooms involved in the program). An impact study of the PI@ntNet application did show that 6% of the respondents use it for educational purposes in the context of their professional activity.

F. Maseglia participated in the work group on "Jeu des 7 familles de l'informatique". This card game, to be announced officially in January 2019, provides support for education to computer science from the history point of view.