



RESEARCH CENTER

FIELD

**Applied Mathematics, Computation
and Simulation**

Activity Report 2018

Section Popularization

Edition: 2019-03-07

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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).

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.⁰
- 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>

⁰<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

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.

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.

GAMMA3 Project-Team (section vide)

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.

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.

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].

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.

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

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”

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.

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/>.

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.

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.

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.

9.3.3. Interventions

Vadim Bertrand presented demos of the GTL-Ville:

- at *Club PTV Vision* (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.

SPHINX Project-Team (section vide)

TRIPOP Team (section vide)

TROPICAL Project-Team (section vide)

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.

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.

INOCS Project-Team

10.3. Popularization

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

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)

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)

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.

CQFD Project-Team (section vide)

MATHRISK Project-Team (section vide)

SIMSMART Team (section vide)

TOSCA Project-Team

8.3. Popularization

8.3.1. Interventions

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