



RESEARCH CENTER

FIELD

**Applied Mathematics, Computation
and Simulation**

Activity Report 2016

Section Popularization

Edition: 2017-08-25

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ACUMES Project-Team (section vide)

CAGIRE Project-Team

10.3. Popularization

- Unithé ou café, "Modelling and approximation in fluid mechanics", 21 June 2016, Inria BSO Center.
[JJ]

CARDAMOM Project-Team (section vide)

DEFI Project-Team (section vide)

ECUADOR Project-Team

9.3. Popularization

Laurent Hascoët wrote an article about AD for the blog “binaire”, hosted by “Le Monde”. May 9.

GAMMA3 Project-Team (section vide)

IPSO Project-Team (section vide)

MATHERIALS Project-Team

9.4. Popularization

- É. Cancès has delivered a conference in Nancy in November 2016, in the framework of the series of lectures “Sciences et société”.
- A. Levitt participated in the “Young doctors” session of the Salon Culture & Jeux Mathématiques in May 2016.

MEMPHIS Project-Team

10.3. Popularization

Lisl Weynans has co-organized the Journée "Filles et Maths, une équation lumineuse": may 11t 2016

Lisl Weynans has co-organized Journée Emploi Maths de l'Unité de Formation "Mathématiques et Interaction"

MEPHYSTO Project-Team

9.3. Popularization

M. Simon gave a talk at ESPE (Ecole Supérieure du Professorat et de l'Education) during the week "Semaine des mathématiques", about the mathematical properties of the official soccer ball. Marielle Simon is part of the program "MathenJeans".

MOKAPLAN Project-Team

10.3. Popularization

G. Peyré wrote the large audience articles : “Claude Shannon et la compression de données” on Image des Mathématiques ⁰ ; “Parcimonie, problèmes inverse et échantillonnage compressé” in La Gazette des Mathématiciens (SMF). G. Peyré organized the conference in the honor of Claude Shannon in CIRM ⁰.

⁰<http://images.math.cnrs.fr/Claude-Shannon-et-la-compression-des-donnees>

⁰<http://www.fr-cirm-math.fr/hommage-claude-shannon.html>

NACHOS Project-Team (section vide)

NANO-D Project-Team (section vide)

POEMS Project-Team (section vide)

RAPSODI Team

10.3. Popularization

C. Calgario is in charge of the communication of "Laboratoire Paul Painlevé" and she is in charge of the relation between the University of Lille 1 and high schools. Accordingly, she organizes various events which promote mathematics among young peoples like

Les Mathématiques itinérantes (<http://mathematiques.univ-lille1.fr/Ouvertures/Mathematiques-itinerantes/>)

La semaine des Mathématiques (<http://mathematiques.univ-lille1.fr/Ouvertures/Mathematiques-itinerantes/>)

Stage en sciences pour les élèves de seconde (<http://www.univ-lille1.fr/etudes/stageseconde>)

Members of the team participate regularly in these actions.

Thomas Rey animates a Mathematics workshop (Math en Jeans) in the Adolphe Delégorgue middle school at Courcelles-lès-Lens.

APICS Project-Team

8.3. Popularization

- 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/>. She animated two half-day workshop sessions "activités débranchées" at "l'ESPE de Nice" for primary school students (March 08 & 15), 200 students each session). She participates to the event "la fête de la science" in Nice (October 13) for scholars and in Antibes (October 22 & 23, 6200 people). She gave a talk "180'" at the "Journées Scientifiques Inria" in Rennes.
- K. Mavreas and C. Papageorgakis actively participated to events organized by the Committee MASTIC (Fête de la Science, ...).

BIPOP Project-Team

9.3. Popularization

- Modélisation de matériaux granulaires (Florence Bertails-Descoubes, Gilles Daviet) : participation à l'écriture d'un article court pour le CNRS, "Représenter du sable sans poudre aux yeux", <http://www.cnrs.fr/ins2i/spip.php?article2175>

COMMANDS Project-Team

10.3. Popularization

- J.F. Bonnans: *Comment optimiser la gestion d'un micro-réseau électrique intelligent ?* Cahier de l'Institut Louis Bachelier N. 23 (2016), p. 12-13.

DISCO Project-Team (section vide)

GECO Project-Team

9.3. Popularization

Ugo Boscain gave a concert-seminar at the event “Musique & Mathématiques 2016”, Besançon, November 2016.

I4S Project-Team

10.3. Popularization

J. Dumoulin was in charge of hybrid/solar road that was demonstrated at COP21 and COP22.

MCTAO Project-Team

9.3. Popularization

Conference for high school students, "Ne votez pas, jugez !" (J.-B. Caillaud), **semaine des maths 2016**, Lycée Charles de Gaulle (Dijon) and **MASTIC** initiative (Inria Sophia Antipolis).

NECS Project-Team

10.3. Popularization

The GTL webpage (<http://gtl.inrialpes.fr/status>) went public in November: more generally the traffic activities have been popularized via the following public talks.

- M. L. Delle Monache. DEMO on the GTL at the “Journées des nouveaux arrivants”, Inria, Paris, Dec. 2016
- M. L. Delle Monache, Traffic flow modeling, GIPSA-Lab days, Grenoble, Nov. 2016

NON-A Project-Team

10.3. Popularization

- Mediation: Scientific baccalaureate students. Meeting on the Inria platform EuraTechnologies (23/03/2016, Lille): “SN Lille Académie : À la découverte des sciences numériques !”.
- Mediation: BeyondLab community. A co-working night event within BeyondLabon using “Living sensor” for water quality monitoring, featuring our PhD student Hafiz Ahmed (Lille, 16/03/2016).
- Contribution to the prospective report “Systems & Control for the Future of Humanity” coordinated by F. Lamnabhi-Lagarrigue, Research Agenda Task Force (to appear, special issue of Annual Reviews in Control to be distributed during the IFAC 2017).
- The book “Mathématiques pour l’ingénieur” (2009, ISBN : 978-9973-0-0852-7 (ATAN, 385 pages)) has been downloaded more than 65000 times.

QUANTIC Project-Team

8.3. Popularization

Mazyar Mirrahimi gave interviews for radios, newspapers, magazines and websites (France Culture, Le Monde, La Recherche, Silicon, Industrie and Technologies).

Pierre Rouchon was invited by the "Département de Mathématiques Appliquées de l'Ecole Polytechnique" to give a talk entitled "Dynamique et contrôle des systèmes: du classique au quantique" for the students of Ecole Polytechnique (April 21, 2016).

Alain Sarlette is answering questions about quantum control and quantum computing on the website "ik-heb-een-vraag.be" where Flemish layman can ask questions to scientific experts.

SPHINX Project-Team

10.3. Popularization

Karim Ramdani has given several talks at Université de Lorraine to raise researchers awareness on the risks of author-pays publication model (for more information on economic models of scientific publishing, see http://iecl.univ-lorraine.fr/~Karim.Ramdani/KR_BIB/AUTEURS.html).

Thomas Chambrion gave a presentation of applied mathematics at Lycée Poincaré (Nancy) in April 2016.

TROPICAL Team

10.3. Popularization

- J.P. Quadrat :
 - Webmaster of the site <http://www.maxplus.org>, dedicated to max-plus algebra.

ANJA Team (section vide)

DOLPHIN Project-Team

10.3. Popularization

- Clarisse Dhaenens, Fanny Dufossé, Laetitia Jourdan, Marie-Eléonore Marmion: Operational research - for 2nde during integration week (June 2016)
- Laetitia Jourdan, Marie-Eléonore: Computer Unplugged, Numérik'elle Day (November 2016)
- Laetitia Jourdan: Computer Unplugged, Primary School (December 2016)

GEOSTAT Project-Team

9.3. Popularization

N. Brodu has given a presentation at Inria's *Unithé ou café* : (April 1st): Title: « Des images satellites aux messages sur les sites »

INOCS Team

9.3. Popularization

- PICOM workshop on Logistics, May 2016.
- Rendez-vous du Plateau Meetings: Prescriptive analytics for an agile logistics, December 2016.

MISTIS Project-Team

10.3. Popularization

- S. Girard presented his research on extreme-value analysis at the “Conférence ISN et enseignement”, March 2016, [video](#). He also gave a talk at the Institut de Maitrise des Risques (IMdR) [38] on a similar topic.
- Julyan Arbel led the Math en Jeans teams at Lycée français Jean Giono, Turin, working on various subjects spanning from statistics, machine learning, to combinatorics and games.

MODAL Project-Team

10.3. Popularization

Christophe Biernacki has given about 10 talks during 2016 for institutions (Inria, universities, Ecole des Mines), companies and other related events. He gave also presentations towards students and industrials to the Xperium platform of the University of Lille about "Intelligence des données" (<https://modal.lille.inria.fr/xperium/>, <http://learningcenters.nordpasdecals.fr/innovation/fr/xperium>). About 1,500 people came to this event during two years. He organized also a first short meeting in April 2016 in Lille for obtaining a feedback from company and academic users about the MASSICCC platform developed by the Modal and Select teams (<https://massiccc.lille.inria.fr/#/>). Here is the link towards this event: https://modal.lille.inria.fr/wikimodal/lib/exe/fetch.php?media=meeting_massiccc_7avril2016.pdf.

Sophie Dabo-Niang participates in the promotion of research among young children around a day of "Girls and Science, a light equation" organized in Lille (October 2016) and Senegal (Dakar, march 2016).

Benjamin Guedj has given a talk to high school students ("Terminale ISN") at Euratechnologies. The talk consisted in an overview of machine learning impacts our everyday lives and how mathematicians contribute to learning in the big data era.

Vincent Vandewalle has given one presentation towards students to the Xperium platform of the University of Lille about "Intelligence des données" (<https://modal.lille.inria.fr/xperium/>, <http://learningcenters.nordpasdecals.fr/innovation/fr/xperium>). He also has animated a formation on probabilities and statistics for middle School mathematics teachers through the Maison Pour la Science (<http://www.maisons-pour-la-science.org/node/10641>).

REALOPT Project-Team

10.3. Popularization

François Clautiaux is a member of the board of AMIES, the French Agency for Interaction in Mathematics with Business and Society. AMIES is a national organization that aims to develop relations between academic research teams in mathematics and business, especially SMEs.

SELECT Project-Team (section vide)

SEQUEL Project-Team

10.3. Popularization

- A. Lazaric was interviewed for Inria-Lille magazine (December issue).
- J. Mary gave a 55 min talk in front of students of Lycée Sainte-Famille at Amiens.
- Ph. Preux gave 2 talks on “Artificial Intelligence” in a high-school in Villeneuve d’Ascq within the “Fête de la science”.
- O. Pietquin was interviewed by France Culture (Supersonic) on March 23rd, 2016

SIERRA Project-Team (section vide)

TAO Project-Team

10.3. Popularization

- **Yann Ollivier** coordinated, with IHP, numerous activities for the centenary of Claude Shannon, including a public exhibition at the Musée des Arts et Métiers, a cycle of public conferences, a contest for teachers on the best IT class project, and a workshop on the current state of information theory.
- **Yann Ollivier**, co-organizes the European Union Contest for Young Scientists (science fair for high school students from 30+ countries organized by the European Commission).
- **Aurélien Decelle**, participation to "la fête de la science" animating a presentation of arduino to high school students and families at Inria Turing.
- **Paola Tubaro**, invited talk on "Online social networks and eating disorders", ACT eating disorders association, Nîmes, 5 Feb.; invited talk on "Are we all digital laborers?", Autonomy salon of urban mobility, Paris, 8 Oct.; public interview, "L'économie peut-elle être collaborative? Rencontre avec la sociologue et chercheuse Paola Tubaro", Montréal, 2 Nov.; panelist at the round table "Big data, que fait-on de nos données?", organized at Museum of civilization, Québec, 3 Nov.; co-animator, workshop on big data in the "International science and society forum" for high school students, Québec, 4-6 Nov.; panelist at the round table "L'économie peut-elle être vraiment collaborative ET sociale et solidaire?", Ministry of the Economy, Paris, 13 Dec.
- **Paola Tubaro**, training on the digital society and its effects on labor and the economy, for union leaders (CGT, 27 Apr., CFDT, 23 Jun).
- **Paola Tubaro**, radio interviews and panels: Radio France Inter, Radio France Culture, ICI Radio Canada, Aligre.fm. Book reviews and mentions in the media: Le Monde, Rue89/L'Obs, Mashable/France24, Slate.fr, Journal International de Médecine, The Conversation.
- **io.datascience** notable presentations at: CNRS-Inria day *data4ist : exploration et analyse des sources de données pour la recherche et ses environnements* (May 2016) ; Futur en Seine 2016 (Juin 2016) ; DGESIP/MiPNES seminar *Normes et échanges de données : où en est-on ?* (September 2016).

ASPI Project-Team (section vide)

CQFD Project-Team (section vide)

MATHRISK Project-Team (section vide)

TOSCA Project-Team

9.3. Popularization

- D. Talay participated in a scientific France Culture radio program in December.