RESEARCH CENTER

FIELD
Digital Health, Biology and Earth

Activity Report 2017

Section Popularization

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ABS Project-Team

7.3. Popularization

This section describes the activities of Dorian Mazauric (member of the popularization committee of Inria Sophia Antipolis - Méditerranée).

– **Founding**.

- Coordinator of the project GALEJADE (*Graphes et ALgorithmes : Ensembles de Jeux À Destination des Écoliers*) founded by Fondation Blaise Pascal (2017 - 2018). We aim at developing an educational kit for primary schools in order to play with the notions of graphs and algorithms. We also propose conferences for the general public.

– **Resources**.

- 13 posters - *Transmission de pensée - La magie du binaire*: [22].
- 2 posters - *Tour de cartes - La magie des graphes et du binaire*: [21].

– **Activities**.

- Training with Laurent Giauffret of 30 teachers (cycle 1) of Académie de Nice (*Jeux avec les graphes et les algorithmes*).
- Stage MathC2+: half day activities for 40 high school students (Boruvka algorithm for the minimum spanning tree problem played on “real” graphs constructed with plastic hoops and slats).
- Fête de la Science 2017
  - Village des sciences et de l’innovation au Palais des Congrès d’Antibes Juan-les-Pins.
  - Conferences (classe préparatoire, 2 classes de seconde, une classe de sixième, 2 classes de CM1).
- 4 conferences in high schools (Aix-en-Provence, Antibes, Grasse, Miramas), dispositif Science Culture PACA.
- One conference in a secondary school (French *college*) (Cagnes-sur-Mer).

AMIBIO Team

7.3. Popularization

May 2017 Participation to the CURIOSITas art & science festival organized by univ. Paris-Saclay on the CNRS campus (Gif-sur-Yvette, France);

March 2017 Outreach presentation by AMIBio on RNA folding and combinatorial design for a class of high school students (Montmorency, France);

BEAGLE Project-Team

8.3. Popularization

The subspace clustering algorithms developed by the team in the context of the EvoEvo project have been included in a software package (EvoMove) enabling real-time monitoring and clustering of a dancer movements. In interaction with the “Desoblique” dance company (Lyon, France), we used this system to interact with the dancers by triggering sounds following the moves of he dancers. This system has been used in the context of the dance performance “Meute” in which three dancers were equipped with inertial measurement units connected to EvoMove (see 2). Meute has been played in public 8 times in the Auvergne-Rhône-Alpes region beween January and July 2017

Figure 2. The EvoMove system has been used in the public performance“Meute” (here in “La Rotonde”, INSA Lyon in February 2017). Dancers: Claire Lurin, Jean Boulvert, Maxence D’Hauthuille. Sound: Jonas Abernot. Lights: Laurent Turpin. The EvoMove inertial measurement units are tied to the wrists of the dancers.

G. Beslon, together with Dominique Schneider (UGA, France) published an article entitled “Darwin, bit à bit . . . ” in the blog “Binaire” on le-monde.fr (http://binaire.blog.lemonde.fr/2017/11/24/darwin-bit-a-bit/). This article describes the interdisciplinary view of evolution that the two authors are developing.

A. Denizot is member of association Demesures (demesures.jimdo.com). She organized and participation to scientific events: Geek Touch 2017, Pop Sciences 2017, Fete de la Science 2017 and interviewed researchers (https://www.youtube.com/watch?v=qoKAwRYI48Q).

E. Tannier gave a series of lectures (8h) on genetically modified organisms for Universite Populaire de Lyon, for a large audience and gave a talk for the "Tour de science" 2017, in Lyon, a popularization event, for a public of interdisciplinary students.

BIGS Project-Team (section vide)

BONSAI Project-Team

9.3. Popularization

- *Recruiting girls to computer science* M. Pupin and T. Rocher are members of the collective *Informatique au féminin* from University of Lille, which was launched three years ago and whose goal is to organize computer science initiatives that reach teenage girls and female students. Among other actions, they were 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. 35 teenage girls were supervised by 9 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. This experiment has been presented at the conference PyParis2017 [30] and at the ACM conference womENcourage2017 [31].
- 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", practical session at "Day for Programming and Algorithmic Teaching", presentations at "Salon de l'étudiant", visit of high school students in the team (M. Giraud, M. Salson, J.-S. Varré)
- *Explaining big data to a general audience*: H. Touzet was part of the editorial committee and author for the book *"Les big data à découvert"*(368 pages).

CAPSID Project-Team

9.3. Popularization

The team presented its activities during the Inria Nancy – Grand Est centre's Open Day for the "Fête de la Science 2017" (14 Oct 2017).

DYLISS Project-Team

10.3. Popularization

10.3.1. General audience paper

We have written a contribution to the collaborative book edited by CNRS on the main issues of data-mining. Our contribution was specifically related to modeling issues arising in ecology with the development of NGS technologies [32].

10.3.2. Science en Cour[t]s

(*http://sciences-en-courts.fr/*) Many of our on-going and former Ph-D students (A. Antoine-Lorquin, C. Bettembourg, J. Coquet, V. Delannée, G. Garet, S. Prigent) have been heavily involved in 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 [0] In this context, the following scientific film has been created by the team members in 2017 *Helene et les cartons*[0].

[0] *https://www.youtube.com/embed/3DRgLLITKUc*
[0] *https://www.youtube.com/embed/yheO8Y0nWu0*

ERABLE Project-Team (section vide)

GENSCALE Project-Team

10.3. Popularization

- Participation to operation "A la découverte de la recherche" in high schools [P. Peterlongo]
- Intervention for "Imagine For Margo" [P. Peterlongo]
- Bioinformatics introduction to secondary school pupils [F. Legeai]

IBIS Project-Team (section vide)

LIFEWARE Project-Team

9.3. Popularization

We participated in seminars for general audiences.

- G. Batt, *"La cybergénétique: piloter des cellules par ordinateur"*, 50 ans d'Inria au Siège, Rocquencourt, Nov 16 2017.
- F. Fages, *"Living with algorithms and algorithms of the living"*, Workshop Shaping Major Transitions in the Digital World. Interdisciplinary Research Center, CRI, Paris, 28-30 June 2017.
- J. Ruess, *"Automating scientific discovery in single cells"*, Unithé ou café, Inria Saclay - Ile de France, Apr 21 2017

Our publications also raised the attention of specialized and non-specialized media. One can mention

- "Piloter le comportement de cellules biologiques par ordinateur, c'est possible" in Science et Avenir
- "Forscher verbinden und kontrollieren Bakterien mit einem Computer", in Wiener Zeitung
- "Forscher steuern Bakterien durch Verbindung mit Computer" in der Standard
- "Forscher verbinden und kontrollieren Bakterien mit einem Computer " and "Virtuelle Realität für Bakterien" in Austria Presse Agentur (APA)
- "Ils parviennent à contrôler des cellules biologiques par ordinateur" in SciencePost
- "Computerized biology, or how to control a population of cells with a computer" and "Virtual reality for bacteria" in Phys.org
- "Computerized biology, or how to control a population of cells with a computer" in EurekAlert.org
- "Scientists Learn to Control Bacteria by Connecting Them to Computers" in Scicasts.com
- "Virtuelle Realität für Bakterien" in Innovations-report.de
- "Virtuelle Realität für Bakterien" in Informationsdienst Wissenschaft

MORPHEME Project-Team

8.3. Popularization

Anca Grapa, Kévin Giulietti and Gaël Michelin participated as exhibitors to the "Fête de la science 2017" manifestation in Juan-les-Pins (palais des congrès). The objective was to initiate non-scientic audience to the research issues in Morpheme team, and more generally to numerical science.

Laure Blanc-Féraud gave a talk for the PhD students association of the doctoral school STIC of Université Côte d'Azur "Voir l'intérieur d'une cellule vivante : lunettes numériques au secours du microscope" , mai 2017.

PLEIADE Team

8.3. Popularization

David Sherman of PLEIADE coached two teams in Thymio R2T2 Challenges [0], organized by the Mobsya association and the EPFL in Spring and in Summer 2017. An R2T2 challenge brings together 16 teams (for the Mars mission, 4 teams for the Lunar mission) of children who must cooperate to remotely program Thymio robots. The Lunar mission in July was a public demonstration during the Scratch 2017 conference in Bordeaux.

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

[0] Remote Rescue Thymio II https://www.thymio.org/en:thymio-r2t2
[0] http://aseba.io/
[0] https://pixees.fr/classcode-la-formation-associee-a-pixees/

SERPICO Project-Team (section vide)

TAPDANCE Team (section vide)

VIRTUAL PLANTS Project-Team

8.3. Popularization

- C. Godin gave an invited 2 hours seminar to 4 classes of high-school students for the Math week (March) at the Lyce ´e International de Valbonne, France.
- C. Godin gave a couple of 2h classes at Lyce ´e Pompidou (Montpellier).
- C. Godin participated to the writing of a collective book reviewing the recent discoveries in Biology and dedicated to a wide audience including politicians and medias.
- O. Ali is a member of the Sam & You newsletter (the newsletter of the SAM Inria research center) writing committee.
- H. Oliveri took part in the Class'Code Initiative, a Mooc produced by Inria and OpenClassRoom provinding supports and guidelines for people wanting to teach computer science to young childrens.

ARAMIS Project-Team

10.3. Popularization

With the precious help of the communication department of the ICM, ARAMIS prepared and presented games on brain data analysis at the "Fête de la Science" 2017.

Fabrizio De Vico Fallani was invited speaker at the Neuroplanete conference held in Nice 2017. In that occasion, a live BCI experiment has been presented to the public. This event has been reported by France 3.

Fabrizio De Vico Fallani was invited speaker at the Palais Decouverte in Paris for the theme "Vers le meilleur des mondes" 2017.

Olivier Colliot was invited speaker at the Palais Decouverte in Paris for the theme "Vers le meilleur des mondes" 2017.

Stanley Durrleman and Stéphane Epelbaum were invited speakers at the "Open Brain Bar: Artificial intelligence and Alzheimer's disease" event orginized by the ICM in Paris 2017.

Olivier Colliot was invited speaker for the "Olympiades académiques de mathématiques", Paris, 2017.

S. Durrleman gave a presentation for the 50th anniversary of Inria featuring 50 ERC laureates

S. Durrleman gave two interviews for the magazine Sciences et Avenir (1 video interview, one article)

S. Durrleman and S. Epelbaum took part in the program "Priorité Santé" of the radio Radio France International

S. Durrleman gave a video interview for FrenchWeb.fr

S. Durrleman gave an talk at the event S3 Odéon (www.s3odeon.fr)

ARAMIS was featured in a video of the Agence France Presse (AFP)

ASCLEPIOS Project-Team

9.3. Popularization

M. Lorenzi gave a general audience lecture during the “Semaine du Cerveau” at the CHU of Nice (March 2017).

Nina Miolane participated to the following popularization events:

- Speaker at Unesco France’s Ceremony for 70th Anniversary.
- Speaker at the Women Forum Global Meeting 2016. How to bring more women in the sci-tech workforce?
- Speaker at the L’Oreal-Unesco Prizes Ceremony 2016.
- Journal regional de France 3 Azur (Oct. 31 2016)
- Invited on "Le Club de la Tete au Carre". France Inter (National Radio), Oct. 14 2016.

ATHENA Project-Team

10.3. Popularization

- The P300 speller enjoyed a large publicity: on French TV *Le Magazine de la Santé* of France 5 in January 2017. It was featured in a newspaper article in La dépêche du midi in February 2017.
- M. Clerc gave interviews for Le Temps (Switzerland), Science et Vie Magazine on the topic of Brain-Computer Interfaces.

BIOVISION Team

10.3. Popularization

- Dora Karvouniari participated in "Maths C2+" at Inria week 19-23 June 2017. Maths C2+ hosts schoolboys and schoolgirls in a research environment. The goal is to allow young people to imagine the scientific future.
- Selma Souihel participated to the "fête de la science" as part of the scientific animation commission "MASTIC". She was in charge of vulgarizing her PhD research subject in order to make it intelligible by a public of young scholars, and their parents. She also took part in a pedagogical robot training "Poppy Ergo", aimed at introducing robotics and sequential programming to students in primary school.

CAMIN Team

9.3. Popularization

CAMIN participed into Fête de la Science at LIRMM with 2 demos (cycling, EMG robotics hand control).

David Andreu presented the job of researcher in secondary school Collège Vincent Badie (Montarnaud)

Christine Azevedo organized Initiation sessions to informatics using Thymio robot at Collège Léon Cordas (Montpellier) in 3 classes (one 5e and two 6e). 3 sessions of 1h30 per class were organized followed by a half day visit at LIRMM robotics hall. One day session was also organized with École primaire Valfalis (Montbazin) in CE2 level.

GALEN Project-Team (section vide)

MATHNEURO Team (section vide)

MIMESIS Team

10.3. Popularization

Demonstration at *50 Years Inria* on Nov 10 in Paris, attended by Mr. Mounir Mahjoubi, secrétaire d'état auprès du premier ministre, chargé du numérique.

MNEMOSYNE Project-Team

10.3. Popularization

For a multi-disciplinary team as Mnemosyne, science popularization is not only a nice and useful contribution to the dissemination of scientific knowledge but also a necessity since we work with colleagues from bio-sciences with whom sharing profound ideas in computer science is mandatory for a real collaboration.

- Thierry Viéville is for 50% of his time involved in popularization actions, mainly computer science large audience education, and has been promoted Officer of the Order of Academic Palms for the collective contribution of the Inria Science Outreach mission.
- F. Alexandre organized a conference about artificial intelligence with high-school children (Sept. 28, Lormont)
- I. Chraibi Kaadoud participated to the regional challenge: "My PhD in 180 seconds"
- X. Hinaut organized the 1st hackathon of Bordeaux in Cognitive Sciences and Artificial Intelligence, 8-10 December, Cap Sciences, Bordeaux. (https://mindlabdx.github.io/hack1cerveau/); Organization of a workshop on cellular automaton at Le Node, Bordeaux; Meeting groups of high-school students for their projects on Artificial Intelligence topics.
- The team participated to "La semaine du cerveau" on the Bordeaux Neurocampus (March 13-17) (http://www.bordeaux-neurocampus.fr/fr/manifestations-scientifiques/seminaires-2017/semaine-cerveau-2017.html); to the "fête de la science" on the Bordeaux Neurocampus (http://circuit-scientifique-bordelais.cnrs.fr/modules/show/261, Oct. 7-9); to the Declics program for high-schools (http://www.cerclefser.org/fr/declics/, Dec. 12)

NEUROSYS Project-Team

9.3. Popularization

Talk during the National Brain Awareness Week: Brain-Robot interactions, Mar. 14th, 2017, middle school Ernest Bichat, Lunéville (L. Bougrain)

Expert for the MGEN (a French mutual benefit insurance company)'s day about "réparer les vivants", Mar. 15th, 2017, Maisons-Alfort (L. Bougrain)

Scientific education on Information Technologgy with Marie Duflot-Kremer in the Marcel Leroy elementary school (20-22 students per class: CM2, CE2 / CM1, CE1 / CE2), 3h (three times 1h), May 30th 2017 (Tamara Tošić)

Exhibit of the Grasp-IT system to improve motor activity at the Interactions Homme-Machine conference 2017, August 2017, Poitier (Sébastien Rimbert)

Exhibit of the Grasp-IT system to improve motor activity at Inria-Industry Meeting on data and their applications, October 18th 2017, Paris (L. Bougrain & Sébastien Rimbert)

PARIETAL Project-Team

10.3. Popularization

10.3.1. Gaël Varoquaux

Présentation "Démocratisation de l'IA", Station F, (Dec 2017).

Présentation sur les logiciels libres de machine learning aux journées annuelles du groupe de travail sur les logiciels libres (Oct 2017)

Présentation sur scikit-learn au "Paris ML meetup" (Dec 2017)

Présentation sur scikit-learn au "Paris Pydata meetup" (Mars 2017)

10.3.2. Alexandre Gramfort

Présentation sur "L'intelligence artificielle au service de la société" à l'UNESCO dans le cadre des journées des ingénieurs et scientifiques de France (IESF) (Oct 2017). [0].

Présentation sur l'Intelligence Artificielle au conseil d'administration de l'Institut National du Cancer (INCA) (Nov 2017).

[0] http://home.iesf.fr/752_p_49913/l-intelligence-artificielle.html

VISAGES Project-Team

10.3. Popularization

10.3.1. My thesis in 180 seconds

- Lorraine Perronnet and Cédric Meurée participated in the 2017 edition of the French edition of the Three Minutes Thesis competition" :
  - Lorraine Perronnet : "Combinaison de l'ElectroEncéphaloGraphie et de l'Imagerie par Résonance Magnétique fonctionnelle pour la réducation du cerveau par Neurofeedback"
  - Cédric Meurée : "Amélioration de la résolution d'images d'IRM de perfusion"

10.3.2. La semaine du cerveau (The Brain Week), from 13/03/2017 to 19/03/2017, Rennes

- Antoine Legouhy et Corentin Vallée : "PhD students processing MRI acquisition"
- Christophe Paya : "Discover brain anatomy with 3D models"
- Isabelle Corouge : "Neurinfo: An MRI dedicated to research"
- Pierre Maurel : "Let's play to the brain quizz in 3D immersion (using oculus rift)"
- Emmanuel Caruyer : "Medinria: Computer science serving cerebral imaging"

10.3.3. Journées Française de Radiologie 2017, 13-16 Octobre, Paris

- Stand FLI-IAM (Michael Kain, Yao Chi, Aneta Morawin, Mathieu Simon, Ines Fahkfahk, Arnaud Touboulic, Christian Barillot)
- Journée du Réseau d'Entraide en IRM Multicentrique (REMI) co-organisée par Elise Bannier

10.3.4. 50 ans Inria, Paris

- Stand "MedInria" (Olivier Commowick, Pierre Maurel), Nov 7-8, 2017

10.3.5. Journée du Président de la Société Française de Neurologie, Rennes, 7 Décembre 2017

- Organised by Gilles Edan

AIRSEA Project-Team

10.3. Popularization

M. Nodet and J. Erhel won the first prize of the second Imaginary Mathematics for Planet Earth competition with their web module entitled "Simulating the melting of ice caps" [26].

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 center that will be located in Varces (south of Grenoble), which will offer a huge variety of mathematical hands-on exhibits. See http://www.la-grange-des-maths.fr/.

Ch. Kazantsev leads two IREM groups. One of them works in frames of the center “La Grange des maths" and prepares "The Mathematical box", a set of 23 games and mathematical activities designed to allow children to study mathematics in an original and autonomous way. Since October, these box are available to rent by secondary schools. Another group organizes "The Sunday Math Club" that teaches mathematics in a researchers way by proposing interesting mathematical problems to children from 10 to 17 years old.

M. Nodet and E. Arnaud co-organises a year-round weekly math club in two secondary schools, part of the national network "Math en Jeans", where pupils research open mathematical problems.

M. Nodet takes part in training modelling in mathematics to secondary school maths teachers through the regional "Maison pour la Science"

M. Nodet is in charge of an IREM group about building interdisciplinary projects for secondary school classes. Part of their work has been accepted for publication in the IREM national journal [28].

M. Nodet is a member of "Les Emulateurs", a group of Grenoble University professors meeting once a month around the subjects of innovative pedagogy and its applications to universities.

M. Nodet co-autored, with other Univ. Grenoble Alpes teachers, a paper at the Pedagogy conference QPES [27] and offered a 3h practical work session during this conference about "Peer assessment in education".

ANGE Project-Team (section vide)

CASTOR Project-Team (section vide)

COFFEE Project-Team (section vide)

FLUMINANCE Project-Team

10.3. Popularization

Jocelyne Erhel

- présidente du jury du rallye de mathématiques du CNED, 2017 and 2018.
- First prize of the second Mathematics of Planet Earth international competition. Module "Simulating the melting of ice caps", authors M. Nodet and J. Erhel.

Dominique Heitz

- Interview dans L'Usine Nouvelle, No 3479, pp. 30-31, 2016

LEMON Team

8.3. Popularization

Antoine ROUSSEAU gave several conferences for highschool students and their teachers, on the topics of mathematical modeling for environmental sciences:

Fête de la Science, Oct. 2017, Genopolys Montpellier (2 days)

Maths au lycée, Apr. 2017, Lycée de Castelnaudary (1 day)

Antoine ROUSSEAU is member of the national Inria network for scientific outreach *Médiation scientifique*

Antoine ROUSSEAU is member of the editorial board of Interstices

Antoine ROUSSEAU is member of the scientific board of Fondaton Blaise Pascal

Antoine ROUSSEAU co-authored the Calendrier Mathématique 2017

MAGIQUE-3D Project-Team

9.3. Popularization

- Juliette Chabassier shared her experience as a scientist in the collège de Lussac in March 2017.
- Juliette Chabassier participated in scientific “speed datings” during the “Filles et Maths” day in April 2017.
- Juliette Chabassier shared her experience as a scientist during “Printemps de la Mixité” in May 2017.
- Juliette Chabassier presented a talk around mathematics in music in Pau in April 2017.
- Juliette Chabassier co-organized a series of three conferences around the theme of women in informatics in 2017.
- Juliette Chabassier gave a talk about mathematics in music in Bordeaux during the "découvreuses anonymes" exposition in November 2017.
- Juliette Chabassier presented a workshop around mathematics in music in November 2017.
- Juliette Chabassier gave a pitch of science during the national event "50 ans Inria" in November 2017.

SERENA Project-Team

10.3. Popularization

F. Clément was the coordinator of the Maths-Enterprises booth for AMIES and Labex mathématiques Hadamard at the *18e Salon Culture & Jeux Mathématiques*, held in Paris, 27–30 May, 2017.

F. Clément coordinated an article for AMIES in Interstices ([42]).

STEEP Project-Team

9.3. Popularization

9.3.1. 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 re¬maining 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

9.3.2. Other popularization activities :

- Emmanuel Prados gave a conference entitled “Understanding society collapses. What future for ours?” at the series of conferences “Understanding and Acting” (Grenoble, France, 9th of February, 2017). The video of the conference has been posted on the video-sharing website, YouTube. The conferences received around 30 000 YouTube views in 10 months.
https://www.youtube.com/watch?v=1dgjIeR5DBY
- Pierre-Yves Longaretti gave a conference entitled “Environment, economy, collapse: squaring the circle?” at the series of conferences “Understanding and Acting” (Grenoble, France, 3rd of March, 2017). The video of the conference available on YouTube. The conferences received around 1700 views in 9 months.
https://www.youtube.com/watch?v=0T8SP5jb3aI
- Emmanuel Prados participated in the round table “How to manage territories with the help of numerical models” held for the celebrated days for the 50th birthday of Inria (Paris, France, November 7th, 2017).
- Denis Dupré gave a conference entitled “Can ethical finance prevent from our civilization collapse ?” at the department of banking and finance of the University of Zurich (Zurich, Switzerland, the 29th of September 2017). The video of the conference available on YouTube. https://www.youtube.com/watch?v=JhFiks0RbMU
- Denis Dupré gave a conference entitled “How finance can help to manage vital goods in the coming collapse?” at the “Change Finance Forum” organized by Financewatch (Brussels, Belgium, 5th december 2017). The video of the conference available on YouTube. https://www.youtube.com/watch?v=3RyJTn0a-ZA
- Denis Dupré gave an interview at France Info, December 11, 2017. France Info is the radio network operated by the French public service radio broadcaster Radio France which provides continuous live news and information. Interview available online :
https://team.inria.fr/steep/denis-dupre-dec-11-2017/

TONUS Team (section vide)

BIOCORE Project-Team

10.3. Popularization

The activities related to microalgae have generated many articles in national newspapers (Le Monde, Nice Matin, ,...), and broadcasts on national TV (France 3).

O. Bernard gave a popularization conference “Will we drive with fuels brought algae in 2030?” in the framework of the “science for all” cycle of conferences organized by the city of Biot. 30th of March, 2017.

P. Bernhard has been involved in popularization of applied mathematics with two highschool conferences: Lycée Alexandre Dumas, Cavaillon and Centre International de Valbonne, Valbonne-Sophia Antipolis, on January 10 and 11 respectively.

M. Chaves gave a “180s” presentation “A mathematical tool for determining the dynamics of biological modules interconnection”, at Journées Scientifiques Inria, Sophia Antipolis (June 2017).

M. Chaves gave a presentation on circadian clocks at Café-in, for all Inria personnel, at Inria Sophia Antipolis (October 2017).

CARMEN Project-Team

9.3. Popularization

L. Weynans:

- Responsible for the communication (*Chargé de communication*) of the IMB
- Organization of the day “Filles et Maths, une équation lumineuse”
- Several presentations for high-school students about scientific computing

DRACULA Project-Team

8.3. Popularization

- Thomas Lepoutre is coorganizer of the scientific exhibition Mathalyon.
- Samuel Bernard: Conference “L’âge de nos cellules par tests nucle´aires", Université Ouverte Lycée Charles Foucault, Lyon, January 23, 2017.
- Olivier Gandrillon participated in the Declics 2017 activities (Lycée Jean Perrin and Lycée Juliette Récamier).
- Laurent Pujo-Menjouet: Conferences “Les langues en danger: les maths sur le bout de la langue”, Lycée Jean Puy, Roanne, March, 16, 2017; “Epidémies, quand les maths viennent en aide” , St Bonnet le château, April, 10, 2017; “Mathématiques et relations amoureuses: les jeux de l’amour sans le hasard, St Bonnet le château, April, 10, 2017; “Espèces en danger: quand les maths viennent à la rescousse”, Université ouverte, Lyon, January, 5, 2017; Animation of a stand on the “Salon des jeux mathématiques, Paris, May 27 to 30, 2017.

M3DISIM Project-Team

10.3. Popularization

J.-M. Allain, Jeudi de la Recherche de l'X: popularisation talk on research with medical application. June 2017

J.-M. Allain, 3 articles in popularisation journals (quotidien du médecin, le concours médical, biotech.info) by journalists

D. Chapelle, interview for "Usine Nouvelle", Dec. 12th

A. Laurin, Inria Saclay inauguration demo and associated news article in "Le Parisien", Jan. 2017

P. Moireau, Créteil district "Olympiades de Mathématiques" award ceremony, May 2017

R. Chabiniok, Review paper promoting Cardiovascular MRI particularly of congenital heart diseases for Czech and Slovak physicians [17]

A. Laurin, P. Moireau, D. Chapelle, demo at 50 ans de l'Inria, Nov. 7th and 8th

MAMBA Project-Team (section vide)

MONC Project-Team

9.3. Popularization

- Sébastien Benzekry: Interview pour le journal « Sciences et Avenir ».
- A. Collin : Printemps de la mixité (une présentation sur le calcul scientifique devant 2 classes de première), Institut Mathématiques de Bordeaux, 04/04/17, https://www.u-bordeaux.fr/Actualites/De-l-universite/Le-Printemps-de-la-mixite.
- A. Collin: Filles & Maths (table ronde avec des lycéennes autour des études mathématiques et des applications des mathématiques), Université de Bordeaux, 05/06/2017, https://math-interactions.u-bordeaux.fr/Centres-de-ressources/IREM/Actions/Journee-Filles-et-Maths.
- A. Collin: Fête de la Science, Inria Bordeaux, 10/10/2017.
- A. Collin: Nuit des chercheurs, Cap Sciences, Bordeaux.
- A. Collin: Cinéma Sciences (discussion avec le public sur les mathématiques après la projection du film "Les figures de l'ombre"), Cinéma de Mérignac 18/05/2017.
- O. Saut: Les Entretiens de l'Excellence 2017 http://www.lesentretiens.org/.
- O. Saut: Table ronde "Comment l'innovation transforme les métiers de la santé", Journées Nationales de l'Innovation en Santé, 27-29 janvier 2017, cité des Sciences et de l'Industrie / webradio Cnrs.

MYCENAE Project-Team

9.3. Popularization

Frédérique Robin participated in a regional committee in the framework of the “Tournoi français des jeunes mathématiciennes et mathématiciens” (TFJM).

Book chapter in the new edition of the Encyclopedia of Endocrine Diseases
D. Monniaux, V. Cadoret, F. Clément, R. Dalbies-Tran, S. Elis, S. Fabre, V. Maillard, P. Monget, and S. Uzbekova
Editors Ilpo Huhtaniemi and Luciano Martini, Section Editor Sophie Christin-Maitre
Folliculogenesis (2017) p1-26.

NUMED Project-Team (section vide)

REO Project-Team

10.3. Popularization

- Céline Grandmont
  - Conference “Métier”: Master Maths students, UPMC, Oct 2017
- Irene Vignon Clementel
  - Presentation to celebrate the renewal of UPMC-Inria Paris partnership, June 22nd 2017, Paris, France

SISTM Project-Team

10.3. Popularization

Participation to the Inria magazines “Plug-in” and “So news" (Mélanie Prague).

Participation in "The ou café” in Inria Bordeaux (Mélanie Prague).

Lightning talk to present the NIMROD software in Dev Days at Inria (Mélanie Prague).

Edouard Lhomme, as President of AquitHealth, a non profit organisation for the development of e-Health in south west France organized the When Doctors Meet Hackers (WDMH) Congress 2017. The WDMH Congress is a 3 day event with one day of conference on the futur of health and 50 hours of hackathon. The Hackathon is a human adventure where healthcare professionals, patients, developers, designers and entrepreneurs collaborate over a weekend to develop prototypes of eHealth solutions.Six WDMH meetups were also organised each month from January to June 2017 in Bordeaux to discuss about several e-heath topics (telemedecine, data protection, simulation, ...)

XPOP Project-Team

10.3. Popularization

Marc Lavielle developed 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 participated in the jury of the "Speed data scientist" competition organized by Animath and the Société Générale. The students worked on anomaly detection: they have to identify the days of malfunctioning of the web application. They had to figure out how to anticipate breakdowns.

Julie Josse presented "How to manage missing data in R" at the meetup Rladies Paris. This meeting was associated with the Rforwards initiative, which aims to develop women's participation in the R community.

Marc Lavielle participated to the *Jeudis de la recherche de l'X* on June 29th dedicated to "Health challenge: tools for tomorrow's medicine".