



RESEARCH CENTER
Sophia Antipolis - Méditerranée

FIELD

Activity Report 2015

Section Popularization

Edition: 2016-03-21

1. ABS Project-Team	4
2. ACUMES Team (section vide)	5
3. AOSTE Project-Team (section vide)	6
4. APICS Project-Team	7
5. ASCLEPIOS Project-Team	8
6. ATHENA Project-Team	9
7. AYIN Team	10
8. BIOCORE Project-Team	11
9. CASTOR Project-Team (section vide)	12
10. COATI Project-Team	13
11. COFFEE Project-Team (section vide)	14
12. DEMAR Project-Team (section vide)	15
13. DIANA Project-Team	16
14. ECUADOR Project-Team	17
15. FOCUS Project-Team	18
16. GALAAD2 Team (section vide)	19
17. GEOMETRICA Project-Team (section vide)	20
18. GRAPHDECO Project-Team	21
19. GRAPHIK Project-Team (section vide)	22
20. HEPHAISTOS Project-Team	23
21. INDES Project-Team (section vide)	24
22. LAGADIC Project-Team	25
23. LEMON Team	26
24. MAESTRO Project-Team	27
25. MARELLE Project-Team (section vide)	28
26. MCTAO Project-Team (section vide)	29
27. MODEMIC Project-Team (section vide)	30
28. MORPHEME Project-Team	31
29. NACHOS Project-Team (section vide)	32
30. NEUROMATHCOMP Project-Team (section vide)	33
31. SCALE Team	34
32. STARS Project-Team	35
33. TITANE Project-Team	36
34. TOSCA Project-Team	37
35. VIRTUAL PLANTS Project-Team	38
36. WIMMICS Project-Team	39
37. ZENITH Project-Team	40

ABS Project-Team

8.3. Popularization

Dorian Mazauric. Dorian is a member of the group of Médiation et Animation des MATHématiques, des Sciences et Techniques Informatiques et des Communications (MASTIC), Inria Sophia Antipolis - Méditerranée. He participated to the following events:

- 12-16/10/2015: Fête de la Science at collège Yves Montand, Vinon-sur-Verdon. *Graphes et algorithmes pour tous*. Organized by Institut Esope 21.
- 13/10/2015: Conference at collège Yves Montand, Vinon-sur-Verdon (avec Frédéric Havet, COATI project-team). *Présentation du métier de chercheur*. Organized by Institut Esope 21.
- 10-11/10/2015: Village des sciences et de l'innovation au Palais des Congrès d'Antibes Juan-les-Pins. Fête de la Science 2015. *Graphes et algorithmes pour tous*.
- 17/06/2015: Stage MathC2+ à Inria Sophia Antipolis - Méditerranée. *Théorie des graphes et algorithmique*.
- 18/03/2015: Conference at lycée Henri Matisse de Vence. *La théorie des graphes et ses applications dans les réseaux*. Dans le cadre du dispositif régional "Science Culture".
- 17/12/2015: Presentation at école élémentaire Sartoux, Sophia Antipolis (classe de CM2). *La magie des graphes et du binaire, algorithmes et jeux*. This presentation is part of the cycle ASTEP (Accompagnement en Sciences et Technologies à l'École Primaire).
- 14/12/2015: Presentation at école élémentaire de Montaleigne, Saint-Laurent-du-Var (five classes). *La magie des graphes et du binaire, algorithmes et jeux*. This presentation is part of the cycle ASTEP (Accompagnement en Sciences et Technologies à l'École Primaire).

ACUMES Team (section vide)

AOSTE Project-Team (section vide)

APICS Project-Team

9.3. Popularization

- M. Olivi is president of the Committee MASTIC (Commission d'Animation et de Médiation Scientifique) <https://project.inria.fr/mastic/>. She is responsible for Scientific Mediation.

ASCLEPIOS Project-Team

9.3. Popularization

Maxime Sermesant gave a presentations about research and medical imaging at Lycée Bristol in Cannes.

ATHENA Project-Team

9.3. Popularization

Maureen Clerc gave a conference at the TedX Cannes event in March 2015 (Youtube video link: <https://youtu.be/z5AO-603AmE>).

AYIN Team

10.3. Popularization

- Paula Craciun and Josiane Zerubia wrote a brief scientific popularization article entitled "high resolution satellite imaging" for the book "Mathematics of Planet Earth" published by SIAM in 2015.
- Ihsen Hedhli and Josiane Zerubia hosted in AYIN team during one full day, a schoolboy from "Collège l'Archet", Nice, and a schoolgirl from "collège l'Eganaude", Biot, France. Furthermore, Josiane Zerubia was in charge of the schoolboy internship at Inria-SAM during one week in December 2015.
- Josiane Zerubia provided Hachette publisher with a land cover classification image obtained by an energy minimization based method to make the front cover of a text book of Physics in Ivory Coast.
- Josiane Zerubia participated in the Women in Computer Vision workshop at CVPR' 15 in Boston, in June [<https://sites.google.com/site/wicv2015/home>]. She was the mentor of 4 female PhD students from USA, Taiwan, PR China and Sri Lanka, during the dinner organized afterwards.
- Josiane Zerubia presented Inria and Inria-SAM to interested PhD and post-doc students at both SUPCOM Tunis in Tunisia and Trinity College Dublin, Ireland.
- Josiane Zerubia is organizing a monthly scientific seminar at Inria-SAM with national and international speakers (see [<https://team.inria.fr/ayin/ayinseminars/>]).

BIOCORE Project-Team

10.3. Popularization

The activities related to microalgae have generated many articles in national newspapers (Le Monde, Nice Matin, La Principauté, ...), and broadcasts on national TV (France 3, France 2, Arte). Several articles were written by the team members to explain the hurdles and potential of microalgae [77].

Biocore received an award from the Alpes-Maritimes department for its activities in sustainable development. Moreover, Biocore took part to the COP21 Inria stand, where the challenges for the use of mathematics dedicated to microalgae were presented. Biocore was involved in the "Spring of Researchers" and in the "Fête de la Science", the latter through Stefano Casagrande in the framework of his regional grant.

We have also made a short movie to explain the advantages of our supervision software ODIN and to present the pilot photovoltaic greenhouses which will be developed within the ANR Purple Sun project.

S. Touzeau, L. Mailleret, and F. Grogard gave talks on the importance of modelling during the Modelling day of UMT Fiorimed.

F. Mairet gave a talk during the Mediterranean Days (Feb 20, 2015; <http://leat.unice.fr/MEDDAYS2015>), to present Biocore's activities to various students from Greece, Italy, Spain, Algeria, Morocco...

P. Bernhard has given conferences in highschool Guillaume Appolinaire, in Nice, on February 5 ("Des insectes et des mathématiques", optimal foraging theory) and March 17 ("Un paradoxe en trafic automobile", Wardrop equilibrium and Evolutionary Stable Strategies in evolutionary biology), and in highschool Marcel Pagnol, in Marseille, on April 3rd ("Game theory", for a class of Social and Economic Sciences).

CASTOR Project-Team (section vide)

COATI Project-Team

10.3. Popularization

- Vulgarization talk : N. Nisse presented a talk on "Combinatorial Games", Lycée des Remparts (classes de seconde), Marseille (April 17th, 2015).
- Fête de la Science : F. Havet presented the stand "Pavage, art et preuves" et "Magie mathématique" at Vinon-sur-Verdon, France (October 12-16, 2015); F. Havet gave the talk "La science du ballon de football" at Vinon-sur-Verdon, France (October 16, 2015).
- Semaine des Mathématiques : F. Havet presented the stand "Les maths c'est magique" at Mouans Sartoux (March 18, 2015).
- Vendredis de la Science : F. Havet conducted scientific workshops for school children (6-11 year old) on friday afternoon in Rians, France. Once a month in March, April, May, June 2015, and weekly since November 2015.
- Jean-Claude Bermond presented a talk on the impact of big data on the telecommunications services and networks for banks investors at Paris, France (April 10 2015).

COFFEE Project-Team (section vide)

DEMAR Project-Team (section vide)

DIANA Project-Team

9.3. Popularization

Chadi Barakat presented ACQUA at the Scientific Day of the Afnic (JCSA 2015). See <https://www.afnic.fr/fr/l-afnic-en-bref/actualites/actualites-generales/9333/show/jcsa15-retour-sur-la-journee-du-conseil-scientifique-de-l-afnic-2015.html>.

Walid Dabbous was invited again in october 2015 to present Future Internet challenges to high school students at CIV for the Science Week (Fête de la science).

Arnaud Legout presented at lycée Amiral de grasse to students in première and terminale a conference on privacy in the Internet in April 2015.

Damien Saucez has made a speech on the reproducibility of experimentation at the Journée Cloud 2015 of the GdR RSD Cloud Action Transverse (see <https://rsd-cloud.lip6.fr/journee.html>).

ECUADOR Project-Team

9.3. Popularization

Alain Dervieux and Ala Taftaf participated to the event “la fête de la science” in Antibes, october 10-11.

FOCUS Project-Team

9.3. Popularization

Simone Martini has carried out extended work of scientific divulgation:

- member of the technical committee of Olimpiadi del Problem Solving (at Italian Ministry of Education), <http://www.olimpiadiproblemsolving.com>;
- member of the technical committee of two national projects of Italian Ministry of Education, founded by ESF - European Social Fund: ‘Robotica educativa’, and ‘Informatica nei licei’;
- various talks at institutes and workshops on the teaching methods for Computer Science.
- coordinator of some initiatives for the ‘Hour of Code’, see <https://italia.code.org/> and <http://www.programmailfuturo.it>.

D. Hirschhoff takes part in several popularization activities in schools, in Lyon (association "Maths en Jeans").

9.3.1. Other duties

Simone Martini is a member of the Board of CINI (Italian National Interuniversity Consortium for Informatics), designated by the Ministry for Semplificazione e Pubblica Amministrazione, from 2015.

Simone Martini has been elected Head of the Department of Computer Science and Engineering, Università di Bologna, for the term 2015-2018.

Davide Sangiorgi is coordinator of undergraduate studies at the Department of Computer Science and Engineering, Università di Bologna (Informatica per il Management).

GALAAD2 Team (section vide)

GEOMETRICA Project-Team (section vide)

GRAPHDECO Project-Team

10.3. Popularization

Adrien Bousseau presented his work on sketch-based modeling as an invited seminar in the course of Marie-Paule Cani at Collège de France. Our work with the Institut Claude Pompidou was featured in a news article in the eldiario.es online magazine. GRAPHDECO was presented in the Inria Sophia-Antipolis internal letter in November.

GRAPHIK Project-Team (section vide)

HEPHAISTOS Project-Team

10.3. Popularization

- M. Gautier has introduced robotics in a lycée in Aix
- J-P. Merlet has presented robotics assistance during an associations meeting organized by the Conseil Général. He has introduced modern robotics to 100 students of preparatory school in Cannes.
- Y.Papegay is actively participating to the Math.en.Jeans initiative for Mathematics teaching for undergraduate students. He organized and animated a summer school in experimental mathematics and computer sciences. Two one week sessions have been held in Oxford in June gathering 30 high-school students - most of them were awardees in Mathematics Olympiad
- O. Pourtallier has presented our activity to Laurence ROSSIGNOL, Secrétaire d'Etat chargée de la famille, de l'enfance, des personnes âgées et de l'autonomie
- the team has exhibited its experimental flat to about 100 visitors
- the team has organized a 5 days workshop *Computer science for artists*. Fours artists have been submitted to a crash course on the use of sensors and actuation and have proposed a musical/dancing show the last day, based on the use of numerous motors and sensors

INDES Project-Team (section vide)

LAGADIC Project-Team

10.3. Popularization

- Due to the visibility of our experimental platforms, the team is often asked 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, the construction of a tower by combining 3D model-based visual tracking and visual servoing techniques to pick up cubes that are assembled, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications.
- Marie Babel, François Chaumette and Fabien Spindler participated to a “Café des Sciences” in Rennes in November 2015: <http://www.espace-sciences.org/conferences/cafes-de-l-espace-des-sciences/les-robots-sont-partout>
- Marie Babel and François Pasteau participated as exhibitors to the robotics exhibition “Innorobo” in Lyon in July 2015: <http://innorobo.com/en/home/> and to the “Autonomic” exhibition dedicated to the handicap and the autonomy in Rennes in October 2015: <http://www.autonomic-expo.com/>
- Fabien Spindler is a member of the editorial board of “Ouest Inria”, the internal journal at Inria Rennes-Bretagne Atlantique.

LEMON Team

10.3. Popularization

Antoine ROUSSEAU co-authored two outreach publications in *Interstices*, see [17] and [18].

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

Fête de la Science, Oct. 2015, Genopolys Montpellier

Fête de la Science, Oct. 2015, Centre International de Valbonne

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

Antoine ROUSSEAU gave several informal conferences in Grand Palais for the COP21 week (December 3-10, PARIS)

MAESTRO Project-Team

10.3. Popularization

Activities are presented in chronological order:

- S. Alouf delivered a conference titled “Comment marche le Web ?” at Lycée General et Technologique du Rempart, Marseille, for two classes of high school students (20 March 2015).
- A. Reiffers-Masson participated to the “Fête de la science” at the UAPV, (8 October 2015). His presentation was about Online Social Networks.

S. Alouf is a member of MASTIC, a commission in charge of popularization and regional and internal scientific animation (from November 2011 until December 2015).

MARELLE Project-Team (section vide)

MCTAO Project-Team (section vide)

MODEMIC Project-Team (section vide)

MORPHEME Project-Team

9.3. Popularization

Gaël Michelin, Emmanuel Soubies, and Alexis Zubiolo participated as exhibitors to the "Fête de la science 2015" manifestation in Juan-les-Pins (palais des congrès).

NACHOS Project-Team (section vide)

NEUROMATHCOMP Project-Team (section vide)

SCALE Team

9.3. Popularization

- Françoise Baude is in charge since September 2011 of the set up and animation of an educational program *Cordées de la Réussite*, which in 2015 has launched a robotic project around the humanoid robot named Poppy. Since 2013, she is in charge of the AVOSTII-STI2D program implementation for Polytech'Nice Sophia, requiring advertising high-school pupils for engineering studies, in particular in ICT.

As EIT Digital Master School University of Nice Sophia-Antipolis coordinator, she is in charge of publicizing, orchestrating, and reporting about all the EIT Digital master programmes involvement of UNS (Internet and Technology Architecture, and Data Science programmes); and as part of the *Paris Node comité de pilotage*, to follow French activities within EIT Digital, and report about UNS activities within this KIC. Overall this mission required about four full-time months of work in 2015. She presented these two master programs at the Telecom Valley Innovation meeting on March 27th and June 18 2015, and in more details at the Kick-Off meeting of the Master School organized in Eindhoven for master students, on October 23th 2015.

She has been invited at the round table "Mystérieuses Big Data" on november 230th that was organized for the 50th anniversary of UNS.

- Fabrice Huet is in charge, since 2011, of the *Informatiques et Sciences du Numérique* courses for the academia of Nice. These courses are offered to high school teachers who volunteer to offer a Computer Science option to their students. He has also given seminars in high school during the *Fête de la Science*.

STARS Project-Team

10.3. Popularization

François Brémond was invited to give a talk at Conférence des métiers at International Lycée (CIV) in Sophia 28 January 2015.

François Brémond was invited to give a talk at Nice University Conférence, La sSnté du Futur, 5 November 2015.

François Brémond was invited to give a talk at Aditel, Bank Forum, La Baule, Palais des congrès 1 and 2 October 2015.

François Brémond was interviewed by Industry Magazine, 1 October 2015.

TITANE Project-Team

10.3. Popularization

Pierre Alliez: two seminars in highschoools, participation to the “fête de la science” in Antibes, workshop on 3D reconstruction with Nicolas Douillet and cafe-in (Robust Shape Reconstruction) at Inria Sophia Antipolis.

TOSCA Project-Team

10.3. Popularization

- M. Deaconu gave an interview for a paper in Eureka Lorraine. URL : <http://eureka.lorraine.eu/jahia/Jahia/pid/1968?actu=23647>

VIRTUAL PLANTS Project-Team

9.3. Popularization

- Christophe Godin and Frédéric Boudon presented the Secret Code of Flowers in the context of an Inria initiative at the Science Festival in October.
- Christophe Godin gave several classes at Lycée Pompidou, Castelnau Le Lez, at Terminal level and gave a "Café-in" seminar on "Comment les plantes font-elles des mathématiques ?"

WIMMICS Project-Team

9.3. Popularization

Fabien Gandon's general talks ⁰:

- Invited general Talk, Agora des Savoir, Montpellier, "Les (r)évolutions de la planète Web" 29/4/2015
- Invited general Talk, DataLift Day, "Quand le Web fait sens" 9/04/2015

Catherine Faron-Zucker's general talks:

- Invited talk at the MOOC Lab Inria workshop in january 2015 on the Linked Data in e-Education

⁰see <http://www-sop.inria.fr/members/Fabien.Gandon/talks.html>

ZENITH Project-Team

10.3. Popularization

Today, one of the main questions in science popularization and computer science teaching at school in France is: "how to scale?". Some of our recent actions in the domaine are mainly oriented towards this goal of scaling, in particular with the Class'Code PIA project (https://pixees.fr/?page_id=1980, F. Masegla is member of the project).

F. Masegla has coordinated a national network of colleagues for promoting code learning. After several training sessions given to professionals of education F. Masegla has written a complete guide for setting up a similar training session (<https://pixees.fr/?p=5713>).

"La main à la pâte" is leading the writing of a school book on computer science teaching involving Inria (Gilles Dowek, Pierre-Yves Oudeyer, Florent Masegla and Didier Roy), "France-IOI" and the University of Lorraine. Florent Masegla has tested the pedagogical sequences of the book in a classroom near Montpellier.

Zenith participated to the following events in Montpellier:

- F. Masegla co-organized and co-animated the Inria's stand at "La fête de la science" (Montpellier), held by Genopolys (a science village).
- F. Masegla organized and animated several "Kid&Code" studios in the greater metropolitan area of Montpellier, involving the network of media libraries and the network of extracurricular activities. He also has proposed a two sessions training to activity leaders of "Les petits débrouillards". The goal is to accompany the activity leaders and help them until they are autonomous
- F. Masegla is member of the project selection committee for "La fête de la science" in Montpellier
- F. Masegla is co-author of a paper in the Scratch conference on code learning for kids [50]
- M. Servajean and A. Joly co-animated a stand at "La fête de la science" (Montpellier), held by the LIRMM laboratory
- M. Servajean, A. Joly and J. Champ collaborated to a participatory workshop at "Le salon de l'écologie", Montpellier

F. Masegla is scientific vice-editor of interstices (<https://interstices.info>), and a member of the scientific committee for the edition of "Datagramme", the game from Inria on science popularization. He has participated to the two days training sessions on "science popularization" given by Claude Vadel in Paris, on Dec. 4 and 5, 2014.

A. Joly and J. Champ participated to the set-up of a PI@ntNet demo within the French pavillon at the Universal Exposition hold in Milan (about 2M visitors on the French pavillon).

As a member of the organizing committee of the Floris'tic project, A. Joly participated to several popularization and educational actions in collaboration with Tela Botanica NGO (cities, parks, schools, etc.)

F. Masegla is a member of the management board of "Les Petits Débrouillards" in Languedoc-Roussillon. He also is the scientific responsible for schools visits in the Lirmm Laboratory.

D. Shasha gave several talks: "the changing nature of invention in computer science" (Morgenstern seminar) and "Group Testing to Describe Causality in Gene Networks" at Inria Sophia-Antipolis in april, and "Statistics is easy" at IBC, Montpellier in march.

P. Valduriez gave a talk on "Integrating Big Data and Relational Data with CloudMdsQL" at the DGA seminar "Traitement de l'information multimodale et Big Data", Arcueil, in october.