



RESEARCH CENTER
Rennes - Bretagne-Atlantique

FIELD

Activity Report 2015

Section Popularization

Edition: 2016-03-21

ALGORITHMICS, PROGRAMMING, SOFTWARE AND ARCHITECTURE

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ALF Project-Team (section vide)

CAIRN Project-Team (section vide)

CELTIQUE Project-Team

8.3. Popularization

- IRISA 40th anniversary Open House - Recreational workshop (interactive demonstration) on the problem of functional correctness of programs, its importance in the field of critical software, and formal proof of correctness : Thomas Genet, Delphine Demange, Pauline Bolignano, Yannick Zakowski. Inria Convention centre, Inria Rennes - Bretagne Atlantique. Rennes, France. December 2015.
- Talk “Bug, Virus, Intrusion, Pirates... So many threats and no defense? Yes... maths.”, Thomas Genet, given two times in high schools close to Rennes.
- Two short tutorials. One for Isabelle/HOL [41] and one for SPAN+AVISPA [42].

DECENTRALISE Team

8.3. Popularization

- ACTUX Meeting, on “Résistance des GNUs”
- Security in Times of Surveillance (TU Eindhoven), on “Knocking down the HACIENDA with TCP Stealth”
- Linux User Group (LUG) Camp, on “Résistance des GNUs”
- Studentenforum im Tönissteiner Kreis e.V., on “State Surveillance: Benefits and Risks”
- Invest in Cyber Convention, on “La protection de la vie privée et sécurité des objets connectés” (Panel)
- Post Snowden Cryptography, on “The GNUnet: 45 Subsystems in 45 Minutes”
- Organizing YBTI workshop at 32c3 in Hamburg (December 29th)

ESTASYS Team

8.3. Popularization

Together with Vannes University, the team has published three high-level description articles on systems of systems [5], [6], [7].

HYCOMES Team

8.3. Popularization

Albert Benveniste, as a member of the French Academy of Technology, has participated to an inquiry of the French Ministry of Education on the teaching of computer science in the secondary school curriculum.

SUMO Project-Team (section vide)

TASC Project-Team

10.3. Popularization

- A the 2015 edition of the **Fête de la Science (Nantes University)**:
 - A workshop around *Software for sound processing in the context of the R2D2 robot* was given by **Charlotte Truchet**.
 - One talk on *Travel to the land of dreams : lands, monsters and fairies* was given by **Nicolas Beldiceanu**.
 - Two sessions discussing and answering questions around the work of professor and researcher in computer science with young persons (18 years old) was spent by **Nicolas Beldiceanu** and **Florian Richoux**.
- **Charlotte Truchet** wrote an **article** regarding *women in computer science*.
- **Interview** for the WebTV FranceLive on AI and games in November 2015 by **Florian Richoux**.
- **Interview** for **Nantes University** regarding the collaboration of **Florian Richoux** with **Facebook** in summer 2015.
- Interview of **Florian Richoux** in the Thinkovery magazine (number 3, April-May-June 2015) regarding Artificial Intelligence in Games.
- **Interview** of **Florian Richoux** in Rue89 in March 2015 regarding works of **Google DeepMind** around the Atari game.

TEA Project-Team (section vide)

ASPI Project-Team (section vide)

I4S Project-Team

10.3. Popularization

- V. Le Cam has been invited at the ConfLunch of IRISA on April 24th 2015. [http://videos.rennes.inria.fr/confLunch/#Le Cam](http://videos.rennes.inria.fr/confLunch/#Le%20Cam).
- J. Dumoulin has been involved in the COP 21 France stand for a solar hybrid road demonstration.
- V. Le Cam was present at the inauguration of Cité des Objets Connectés in Angers on 11/06/15 in presence of France president. He was inside the Smart sensors stand for IFSTTAR.
- A nice showcase of I4S was present at the 2015's Hanover messe, in April 2015: BAM (Berlin) had a steel frame demonstrator for the public using our techniques.

IPSO Project-Team (section vide)

DYLISS Project-Team

9.3. Popularization

- *Organization of Sciences en Cour[t]s*. Popularization Festival where PhD students explain their thesis via short films. [J. Coquet, V. Delannée, A. Antoine-Lorquin, C. Bettembourg] [\[more info\]](#).
- *Production of Sciences en Cour[t]s film*. "Une rencontre percutante": A short movie about metabolic reconstruction.[J. Coquet, V. Delannée, A. Antoine-Lorquin] [\[more info\]](#).
- *Bioinfo-fr.net* Bioinfo-fr.net is a french web site where researchers, engineers and students talks about bioinformatics. We have written 6 articles for this web site on diverse subjects: metabolic networks, genome assembly, phylogenetics, network visualization, file versionning with GIT. [G. Collet, O. Dameron]. [\[more info\]](#).
- *Animation of Bioinformatics Atelier at Data Science Symposium (IRISA's 40th anniversary)* "De la bioinformatique aux tiques". [F. Coste]
- *Participation to the Data Science Symposium (IRISA's 40th anniversary)* "Science data ecosystem". [A. Siegel, O. Dameron]

FLUMINANCE Project-Team

9.3. Popularization

Cedric Herzet

- Volunteer at the "Journée sciences et musiques", Rennes 2015

GENSCALE Project-Team

10.3. Popularization

- Animation of Bioinformatics Atelier at Data Science Symposium (IRISA's 40th anniversary) "De la bioinformatique aux tiques". [P. Peterlongo]
- Open House day for IRISA's 40th anniversary: genomic puzzle [All members of GenScale]
- Participation to the event "A la decouverte de la recherche". [P. Peterlongo]
- Popularization paper in BioFutur [38]

SAGE Project-Team

10.3. Popularization

- J. Erhel is co-author of two documents published in Intersitces, about modelling ice sheet evolution and estimating the contribution of Antarctica and Greenland to sea-level rise. [30], [29]
- J. Erhel was one of the coordinators of the Interstices publications devoted to climate change and COP21. She is co-author of the quiz on this subject. [28]
- J. Erhel gave a talk at the show "solutions COP21", held in Grand Palais, Paris, December 2015.
- J. Erhel contributed to the new version of the spelling book for computer science (l'informatique de A à Z), published in November 2015. She was one of the coordinators of the project and she wrote several cards.
- J. Erhel gave a talk in 180 seconds entitled "Enjeux pour les Eaux souterraines: Energie et Environnement", during the Inria scientific days, Nancy, June 2015.
- J. Erhel presented the challenges for groundwater at the meeting between Inria and Sénat, January 2015.
- L. Lenôtre gave a talk at "Lycée René Descartes de Rennes" on the diffusion phenomena and their underlying stochastic processes, February 2015.
- L. Lenôtre participated in the "Fête de la science de Rennes" at Inria stand.

SERPICO Project-Team (section vide)

VISAGES Project-Team

10.3. Popularization

- Conference/public debate : C. Barillot "Imagerie de population: Noeud FLI-IAM", Journées Françaises de Radiologie
- Exposition : Stand démonstration Inria, Journées Françaises de Radiologie
- Exposition : Stand démonstration FLI-IAM, SFRMBM
- Press : G. Edan "Les maladies du cerveau, un enjeux majeur a relever", Ouest-France
- Popularization Web site: C. Barillot "Neurofeedback to Leverage EEG and MRI Simultaneously", lettre d'information Emergences Inria (http://emergences.inria.fr/2015/Newsletter36/L36_NEUROFEEDBACK)
- Audiovisual: "MedInria", France 3 Cote d'Azur (http://pluzz.francetv.fr/videos/jt_1920_cote_dazur.html)
- Conference/public debate : JY Gauvrit, "Les progrès de l'image du cerveau", Espace des Sciences, Rennes, March 17th

ASAP Project-Team

9.3. Popularization

Anne-Marie Kermarrec wrote three articles on women in computer science: on the blog of the SIF Binaire in March 2015.

ASCOLA Project-Team (section vide)

ATLANMODELS Team (section vide)

CIDRE Project-Team

10.3. Popularization

Guillaume Piolle has participated to two scientific popularization activities, both oriented towards secondary education pupils. In both cases, his participation consisted in presentations about the objectives, methods and results of research activities in computer security and privacy (including, but not limited to our activities in CIDRE):

- Les cordées de la réussite : national program aimed at facilitating access to higher education for pupils from various social backgrounds ;
- Bilateral scientific mediation action between CentraleSupélec and the Joliot-Curie high school in Rennes.

Other kinds of popularization activities have taken place in the form of communications aimed at non-academic computing professionals, on the topic of personal data protection regulations and techniques [24], [20].

Sébastien Gambs was also involved in several events dedicated to the public at large such as a presentation at le Pouce (<https://www.inria.fr/ouest-inria/le-pouce-bilan-et-perspectives/>).

DIONYSOS Project-Team

9.3. Popularization

- In [80], [83], Bruno Tuffin and his co-author Patrick Maillé discuss for a large audience the issues and challenges of network neutrality.
- Bruno Sericola and Emmanuelle Anceaume made a presentation to students of the ENS (Ecole Normale Supérieure) Rennes on their works on the performance evaluation of data streaming analysis algorithms.
- 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

10.3. Popularization

Benoit Combemale participated to the “Inria Industry meeting” focused on “Power Transition”, as part of the Futur en Seine festival. He presented the results of the collaboration with Obeo and INRA on the use of domain-specific languages for resource management.

Our research about browser fingerprinting have appeared in the MISC magazine (a French, general-audience magazine about technology and cyber-security) [75] and have been showcased at ICT'15 (a large European forum that gathers EU policy makers, industry and academics in the area of ICT) and at IRISA's open house.

KERDATA Project-Team

10.3. Popularization

Luc Bougé:

Collège international, Valbonne. Invited presentation to the students of the preparatory classes on *Doing research in computer science* (January 2015).

Lycée Chateaubriand, Rennes. Invited presentation to the students of the preparatory classes on *Science of numerics* (March 2015).

IRISA Conf Lunch Program. Invited presentation about *Surviving the Data Deluge* (October 2015).

Master Program, Rennes. Invited presentation to the M2 students about *Informatics as a scientific activity: Toward a responsible research* (December 2015).

IRISA Open House Days, Rennes. Invited presentation about *Wikipedia back stage*, and management of an open booth to let visitors improve their skills about searching Wikipedia (December 2015).

Alexandru Costan:

CumuloNumBio'15, Aussois. Invited presentation at the *Summer School of BioInformatics* about *Big Data Management on Clouds* (June 2015).

IRISA, Rennes. Invited presentation at the *Conf'Lunch* about *Clouds and MapReduce Programming* (October 2015).

EIT Digital, Rennes. Invited presentation at the Future Cloud Symposium about *Enhancing video gaming user experience with Big Data analytics based on Apache Flink - a use case* (October 2015).

Gabriel Antoniu:

EIT Digital. Invited presentation at the Future Cloud Symposium on *Scalable data-intensive processing for science on distributed clouds* (October 2015).

MYRIADS Project-Team

10.3. Popularization

- Martin Quinson organized a 2-days workshop for secondary maths teachers on how algorithms could be used to reinforce the pupils abilities to verbalize, set out arguments and conduct rigorous demonstrations (Nancy, March 2-3 2015). This workshop was co-organized by the IREM (Institut de Recherche en Enseignement des Mathématiques) of Nancy.
- Martin Quinson gave a talk entitled “Computational Science: the real societal impact of computers”, during the workshop presented in previous item (Nancy, March 3th 2015).
- Martin Quinson co-organized a one day workshop for about 100 secondary computer science teachers. This event spreads the best practices to teach our topic (Nancy, March 12th 2015).
- Martin Quinson was a scientific expert in an experiment in which we explored how Scratch can be used to teach Computer Science in after school activities every week for the whole week.
- Martin Quinson is a scientific expert in a teaching manual of Computer Science for primary schools, currently authored within the «La main à la pâte» research network. This manual will be released in 2016.
- Martin Quinson organized a collaborative workshop on Wikipedia gathering students and researchers to improve the French speaking pages on Computer Science in the free encyclopedia (Rennes, December 10, 2015).

TACOMA Team

8.3. Popularization

8.3.1. Hack'Archi

Organized as part of the "Architecture de la Transformation" call for proposals, the Hack'Archi was an open workshop held in Paris-Belleville school of architecture (ENSA) on 4 and 5 December 2015. About 90 students in disciplines as diverse as architecture, sociology, urbanism and engineering gathered for this 24-hours "architectural hackathon". Students were organized in small teams of 5 or 6 members to work on enriching the preselected projects, proposed by the social landlords.

During the Hack'Archi, Michele Dominici was the representative of the project led by NEOTOA (a french social landlord) and helped 6 students in architecture, sociology, urbanism and engineering proposing new ideas about the on-demand room. We had in charge the leadership and coordination of the students. Our team was awarded the first prize of the Hack'Archi ⁰.

8.3.2. Miscellaneous

- Atelier de l'Innovation, Fondation Rennes 1. <https://fondation.univ-rennes1.fr/actualite/neotoa-nouveau-partenaire-de-la-fondation-0>.
- "Un habitat très prospectif | Espace des sciences". Date accessed: 16 December 2015. <http://www.espace-sciences.org/sciences-ouest/335/dossier/un-habitat-tres-prospectif>.
- Pitch at "Rencontres Inria - Industrie and Meito", 21 May 2015. <http://videos.rennes.inria.fr/InriaMeito2015/index-pitchInriaMEITO2015.html>
- Fondation de l'Université de Rennes 1 - Chaire Habitat Intelligent et Innovation. Date accessed: 16 December 2015. http://www.legrand.fr/formation/fondation-universite-rennes1-chaire-habitat-intelligent-innovation_5746.
- Live video interview at Festival des Sciences, "Samedi en direct du plateau TV du Village des sciences". <https://www.youtube.com/watch?v=MDkKd4PI5vQ&feature=youtu.be&t=4541>.
- Website of the chair "Habitat Intelligent et Innovation". On-line since October 2015. <https://fondation.univ-rennes1.fr/la-chaire-habitat-intelligent-et-innovation>.

⁰Hack'Archi : retour sur 24h d'innovations - Lab CDC. Date accessed: 16 December 2015. <http://labcdc.caissedesdepots.fr/hackarchi-etudiants-et-professionnels-autour-dun-meme-defi/>

DREAM Project-Team

10.3. Popularization

M.-O. Cordier is editorial board member of Interstices webzine.

HYBRID Project-Team

10.3. Popularization

The team has participated to numerous events in 2015 :

- "Futur en Seine 2015" (Paris, 05/15) : booth and demo of the PREVIZ project results.
- "Festival de la Science 2015" (Rennes, 10/15) : booth and demos of the team.
- "Journées Science et Musique 2015" (Rennes, 11/15) : co-organization of this event, and presentation of several demos.
- Technoférence du Pôle Images et Réseaux (Rennes, 02/15) : presentation from Anatole Lécuyer on VR.

The results of the team were also disseminated in several TV appearances and media coverages :

- « Télématin », France2 channel (02/15) : presentation of the Mind-Mirror system.
- « On est pas que des cobayes », France 3 channel (04/15) : presentation and testings of the FlyVIZ system.
- « E=M6 », M6 channel (05/15) : presentation and testing of the Mind-Mirror system.
- « Thalassa », France3 channel (05/15) : presentation of several cultural heritage applications of Hybrid.
- « Future Mag », Arte channel (12/15) : presentation of several cultural heritage applications of Hybrid.

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.

LINKMEDIA Project-Team

9.3. Popularization

Pascale Sébillot: Invited speaker (6h) Introduction to issues and solutions in NLP, URFIST Bretagne et Pays de la Loire seminar, June 2015.

MIMETIC Project-Team (section vide)

PANAMA Project-Team

10.3. Popularization

10.3.1. *Journée science et musique*

Participants: Nicolas Keriven, Luc Le Magoarou, Stéphanie Lemaile, Frédéric Bimbot, Rémi Gribonval, Gilles Puy, Nancy Bertin, Corentin Guichaoua, Srđan Kitic, Ewen Camberlein, Romain Lebarbenchon, Nathan Souviraà-Labastie.

with contributions and support from: Valérie Gouranton, Laurent Perraudeau, Nathalie Denis, Evelyne Orain, Julie Newton, Agnès Cottais, Cagdas Bilen, and many more.

PANAMA coordinated the organization of a public event called “Journée Science et Musique” (Day of Music and Science). 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 2015 hosted more than 250 visitors and was the official opening event of the “Festival des Sciences” week in Rennes.

10.3.2. *Radio and press*

Nancy Bertin and Rémi Gribonval co-authored a popularization article about compressed acoustic holography (with L. Daudet and F. Ollivier). It was published in the journal "Pour la Science" in May 2015 [46].

Nancy Bertin was interviewed for the local press (Rennes Métropole journal) at the occasion of "Journée Science et Musique".

SIROCCO Project-Team (section vide)