Activity Report 2013

Section Popularization

ALGORITHMICS, PROGRAMMING, SOFTWARE AND ARCHITECTURE

ALF Project-Team

9.3. Popularization

- Erven Rohou gave a talk at the SFGP (Société Française du Génie des Procédés): "Stratégies d'augmentation des performances de calcul des logiciels"
- Isabelle Puaut and Erven Rohou gave a lecture at Lycée Descartes: "Les mathématiques au service de la performance des ordinateurs".

CAIRN Project-Team

8.4. Popularization

A popularisation paper on energy efficiency has been published in [80]
15 members of the team participated in the national science festival (Fête de la Science) in Plemeur-Bodou in October (demonstrations on wireless sensor networks, cryptology and digital integrated circuits).

A letter was published in Inria Emergences on "improving energy efficiency of embedded processors": http://emergences.inria.fr/lettres2013/newsletter-n28/L28_GECOS

CELTIQUE Project-Team

8.3. Popularization

Frédéric Besson and Nataliia Bielova have presented their approach for quantifying web-fingerprinting in the "Du côté de la recherche" section of the November issue of Ouest Inria.

David Pichardie organised the third edition of the french Castor Informatique contest. This contest promotes Computer Science in secondary schools and high schools. It is organised by Inria, ENS Cachan and the France IOI association and supported by CNRS, Pascaline, the SIF and API associations. In 2013, there was about 170.000 participants.

ESPRESSO Project-Team (section vide)

Hycomes Team (section vide)

S4 Project-Team

9.3. Popularization

SUMO Team

9.3. Popularization

Loïc Hélouët contributed to a vist of young pupils (3e) visiting IRISA to discover a research environment in February 2012. He did a short interactive presentation (1 hour) of his research theme, and of the duties of a researcher.

Éric Fabre gave a survey presentation about failure diagnosis in telecommunication networks to the 2nd year students of ENST Bretagne (Brest) engaged in a research training track. This was followed by informal discussions about the every day life of a researcher.

TASC Project-Team

9.3. Popularization

- Within the context of the global constraint catalog:
    - we provide more exercises (up to 55 currently) with their solution and a web version allowing some interaction will be available in spring 2014.
    - the effort for converting and completing the 900 figures of the catalog using TikZ has been continued up to a point where beginning 2014 only 150 figures need still to be converted.
- Within the context of the library IBEX the following courses were given:
    - A workshop in June and December 2013 in Brest (ENSTA).
    - A user oriented course in July 2013 at the doctoral days of the GDR Macs in Strasbourg.
    - A developer oriented course *IBEX days* in October 2013 in Paris (Ecole des Ponts, Paritech).
- A the 2013 edition of the Fête de la Science (Nantes University):
    - Two talks on *Artificial Intelligence and real time strategy games* were given by Florian Richoux.
    - One talk on *Challenges around optimizations problems* was given by Xavier Lorca.
    - One half day discussing and answering questions around the work of professor and researcher in computer science with young persons (17 years old) was spent by Nicolas Beldiceanu.

ASPI Project-Team (section vide)

I4S Project-Team (section vide)

IPSO Project-Team

7.3. Popularization

- Web interview of E. Faou: A l'occasion de la remise de la médaille Blaise Pascal (2013), Inria website.

- In http://interstices.info/planetes (2013), popularization article on the field of geometric numerical integration, published in "Interstices". Theme "Mathématiques de la planète Terre 2013" and Theme 2012-2013 "Invariants et similitudes" of TIPE in preparatory classes.

- Interview (June 2012) of M. Lemou for the journal "Science de l'Ouest" on the stability of galactic models. and publication of a popularized article: "Les mathématiciens déchiffrent l'univers" in the the journal "Espace des sciences", Nov 2012.

- M. Lemou and F. Méhats wrote a popularized scientific text in a CNRS letter "Lettre de l'INSMI", june 25th, 2012.

DYLISS Project-Team

8.3. Popularization

- *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. [G. Collet, S. Prigent]. [more info].

- *Participation at Rennes* Village des Sciences *for French National Science day (*Fête de la Science*)*. Title : *Crazy random walks*. Description : Popularization Festival where researchers present scientific themes. [V. Picard]

- *Fête de la science (LINA, Nantes)* During the 24th of october, 250 students discovered bioinformatics, genome assembly and algorithmic by practicing games and tutorials made by our team with the help of Julien Gras and Marko Budinich (LINA) [J. Bourdon, D. Eveillard, G. Collet].

- *Organization of Sciences en Cour[t]s*. Popularization Festival where PhD students explain their thesis via short films. [S. Prigent, C. Bettembourg, G. Garet] [more info].

FLUMINANCE Project-Team

9.3. Popularization

Etienne Mémin

- E. Mémin. Ou vont les nuages ?, Un jour, une brève, Mathématiques de la planète terre, (Brève)

- Invited paper in the journal "Revue francaise de photogrammetry et de Télédétection", Outils méthodologiques d'analyse d'images MSG : estimation du mouvement, suivi de masses nuageuses et détéction de fronts, with T. Corpetti, V. Dubreuil, E. Mémin, O. Planchon, C. Thomas.

- Invited paper in the journal de la Socieété Francaise de Statistique, Image data assimilation with filtering methods, with Anne Cuzol.

GENSCALE Project-Team

9.3. Popularization

- Participation to the event "A la découverte de la recherche" (presentation of the research activity to high school students) [C. Lemaitre, P. Peterlongo]

- Participation to the event "Professional Meeting" (talk: discovering bioinformatics), IUT Lannion [D. Lavenier]

- Production of a short movie of PhD subject popularization. [M. Le Boudic-Jamin] https://doctoriales2013.ueb.eu/content/posters

SAGE Project-Team

9.3. Popularization

- J. Erhel participated in the Inria workshop on scientific popularization, Paris, January 2013.

- J. Erhel participated in the Mathematics of Planet Earth Day at UNESCO, Paris, March 2013.

- J. Erhel gave a talk entitled "la terre se met aux maths", during the week of maths, at lycée Victor and Hélène Basch, Rennes, in March 2013 [59]. See http://www.irisa.fr/sage/jocelyne

- J. Erhel participated in the panel on "Observer et mesurer la terre", Rencontres CNRS Jeunes Sciences et Citoyens, Ile de France, March 2013 See http://www.scienceouverte.fr/Rencontres-CNRS-Jeunes-Sciences-et,413 and http://www.scienceouverte.fr/-Divers-voyages- [58]

- J. Erhel was invited to "congrès des jeunes chercheurs", at ISFEC Bretagne, Rennes, April 2013

- J. Erhel gave a talk with F. Tort (ENS Cachan) entitled "L'informatique, c'est pas pour les filles", at the salon "Educatec-Educatice", Paris, November 2013.

- J. Erhel coordinated with C. Leininger the journal TDC no 1062 "les mathématiques de la terre", october 2013. See http://www.cndp.fr/tdc/tous-les-numeros/les-mathematiques-de-la-terre.html

- B. Philippe wrote a review on TDC no 1062. See http://www.interstices.info.

- J. Erhel wrote a document entitled "sur les traces des polluants", in TDC no 1062 [57].

- J. Erhel wrote a paper entitled "Le Jour d'après : vers une réflexion sur les modèles climatiques ", in Interstices [56]

- J. Erhel wrote two texts in the blog mpt2013: "Henry Darcy et sa loi" [54] and "La diffusion, un moteur universel" [55].

- B. Philippe wrote a text in the blog mpt2013: "La terre a du potentiel" [61] See http://mpt2013.fr/.

SERPICO Project-Team (section vide)

VISAGES Project-Team

ACES Project-Team (section vide)

ASAP Project-Team (section vide)

ASCOLA Project-Team (section vide)

ATLANMOD Project-Team

9.3. Popularization

In June 2013, the team participated to the organization of the seminar "Logiciels de qualité : modélisation et vérification" at "Journées scientifiques de l'Université de Nantes". The seminar had more than 50 participants, from industry and academia.

Moreover, since several years, the AtlandMod team is already very involved in the open source community, notably via its constant activity within the context of the Eclipse Foundation. This activity actually takes different forms: creation and leading/development of Eclipse projects (under *Eclipse.org* or *Eclipse Labs*), participation to the major worldwide community events (i.e.; EclipseCon North America and EclipseCon Europe), organization of events targeting the local community (i.e. Eclipse DemoCamps), etc.

This year again, the team has been active and visible in terms of concrete contributions to the community. The main remarkable items are the following ones:

- Leading of the MDT MoDisco project (Hugo Bruneliere), the Eclipse reference project concerning model-driven reverse engineering;
- Commitment to other projects directly under *Eclipse.org*: MMT ATL and EMFT EMF Facet (Hugo Bruneliere);
- Commitment to other projects under *EclipseLabs*: EMFToCSP (Jordi Cabot, Carlos Gonzalez) and Virtual EMF (Caue Clasen, Jordi Cabot);
- Creation and development of a new incubation project under *Eclipse Labs*: Collaboro (Javier Canovas);
- Organization of an official Eclipse DemoCamp in Nantes, on the 28th of June 2012, for locally promoting the Eclipse Juno release including the MoDisco, ATL and EMF Facet team's projects (Hugo Bruneliere, in collaboration with the Obeo company);
- Publication of a paper on MoDisco in the European ERCIM NEWS Journal 88, dedicated to Software Evolution (Hugo Bruneliere and Jordi Cabot, in collaboration with the Mia-Software company);
- Presentation of talks during the two main Eclipse events (Hugo Bruneliere): at EclipseCon North America 2012 about EMF Facet, at EclipseCon Europe 2012 about Collaboro.

Generally, the team visible presence under Eclipse is also an efficient way to continue active collaborations with industrial partners, such as Mia-Software (Sodifrance) on MoDisco - EMF Facet, and Obeo on ATL.

CIDRE Project-Team

9.3. Popularization

[17] represents an effort to communicate to the community of engineers and company officials the reflexions and evolutions taking place in academia in the domain of personal data protection, in the fields of both computer science and law. The adopted perspective is to shed some light on the evolutions of the requirements, procedures and policies applying to public or private organizations, putting them in correspondence with the evolution of technical and legal risks, societal motivations and computing tools.

DIONYSOS Project-Team

9.3. Popularization

- G. Rubino makes regular presentations to high school students about the research work in general, and specific technical topics in particular. Titles of 2013:
    – Using randomness for solving deterministic problems
    – Internet as a research problem
    – Great challenges in maths: Riemann Hypothesis
    – Great challenges in math/computer science: the "P versus NP" problem

KERDATA Project-Team (section vide)

MYRIADS Project-Team

TRISKELL Project-Team (section vide)

DREAM Project-Team (section vide)

HYBRID Project-Team

9.3. Popularization

- Massive media coverage of the results of OpenViBE2 project (section 8.2.5) : following a press conference and press release organized in January 2013. This ended up with numerous appearances in the media (TV, Press, Radio).

- "Journées Nationales d'Archéologie" 2013 : organization and numerous demos of immersive and VR results of our team in Immersia room, Rennes, June 2013 [33].

- "Festival de la Science" 2013 : booth and demo of the FLyVIZ system, in Betton, October 2013.

- "Nuit de la Science" 2013 : demos of FLyVIZ system and Corvette project, Rennes, October 2013.

- "Colloque Chimie et TIC 2013" : presentation "Interagir par la pensée avec les Interfaces Cerveau-Ordinateur" (A. Lécuyer), Maison de la Chimie, Paris, October 2013.

- "Journées Science et Musique" 2013 : organization of this event, and presentation of several demos of the team in Immersia room, Rennes, October 2013.

LAGADIC Project-Team

9.3. 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, the navigation of a mobile robot in urban environments, vision-based detection and tracking for space navigation in a rendezvous context, the semi-autonomous navigation of a wheelchair, and augmented reality applications.

- Fabien Spindler is a member of the editorial board of "Ouest Inria", the internal journal at Inria Rennes-Bretagne Atlantique.

- Alexandre Krupa co-authored an article titled "Au coeur des hommes" in the journal DocSciences that is intended for general public. This article is about medical robotics guided from images [27]. An article entitled "L'asservissement visuel au service de la robotique médicale" has also been published in May 2013 in the "Emergences" general-public magazine of Inria Rennes-Bretagne Atlantique http://emergences.inria.fr/lettres2013/newslettern26/l26asservissementvisuel.

- Paolo Robuffo Giordano participated to the "Café des sciences Drones" at the "Espace des sciences" in Rennes in November 2013 to illustrate his activities on quadrotor UAVs to the general public.

- Marie Babel and François Chaumette participated to the "Science Festival" in October 2013 with a debate after the projection of the film "Vivre avec des robots" in Brécé near Rennes.

- Marie Babel and François Pasteau gave a 1-hour lecture on "Assistance to the mobility: the place of the robotics" on December 13th, during the "Conf'Lunch" monthly seminar organised by Inria in Rennes. Furthermore, two articles related to wheelchair navigation have been published in general-public magazines, namely "Des yeux pour les fauteuils roulants" in "Emergences" in July 2013(http://emergences.inria.fr/lettres2013/newsletter_n27/L27-FAUTEUIL) and "Un fauteuil qui a les yeux en face des roues" in "Sciences Ouest" (the magazine of the "Espace des sciences" in Rennes) in November 2013 (http://www.espace-sciences.org/sciences-ouest/314/actualite/un-fauteuil-qui-a-les-yeux-en-face-des-roues).

MIMETIC Project-Team (section vide)

PANAMA Project-Team

9.3. Popularization

9.3.1. *Journée science et musique*

Participants: Nancy Bertin, Frédéric Bimbot, Jules Espiau de Lamaestre, Rémi Gribonval, Corentin Guichaoua, Srdan Kitic, Stéphanie Lemaile, Pierre Machart, Laurent Simon, Nathan Souviraà-Labastie, Stefan Ziegler.

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 2013 hosted 350 visitors.

9.3.2. *Radio and press*

Nancy Bertin was an invited speaker in the France Inter scientific radio show "La Tête au Carré".

SIROCCO Project-Team

9.4. Popularization

- L. Guillo is advisor of secondary school pupils following the course "Informatique et Science du Numérique (ISN)" of the Lycée Jean Macé in Rennes, France.

TEXMEX Project-Team

9.3. Popularization

- Guillaume Gravier, Patrick Gros and Hervé Jégou: Invited talks at INA, January 2013

- Guillaume Gravier: Invited speaker at Séminaire Délégation Générale pour l'Armement, Paris

- Guillaume Gravier: Invited talk at PUC Minas, Brazil, April 2013

- Guillaume Gravier: Seminar on Speech and Audio Processing, M. Sc. Students, INSA Rennes, France

- Patrick Gros and Pascale Sébillot: Invited speakers at the workshop on Big Data, ENSAI, Rennes, France, November 2013.

- Guillaume Gravier: Invited speaker at Colloquium Rennais des Sciences du numérique, Rennes

- Hervé Jégou: Invited talk at Universita Autonoma de Barcelona, January 2013

- Hervé Jégou: Invited talk at University of Caen, January 2013

- Hervé Jégou: Invited talk at Oxford University, Visual Geometry Group, UK, November 2013