Activity Report 2018

# Section Highlights of the Team

<p style="text-align:center"><span style="color:red">**CAIRN Project-Team**</span></p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### *5.1.1. Awards*

Petr Dobias received the A. Richard Newton Young Fellow Award at IEEE/ACM Design Automation Conference (DAC), San Francisco, 2018.

Davide Pala received the A. Richard Newton Young Fellow Award at IEEE/ACM Design Automation Conference (DAC), San Francisco, 2018.

<span style="color:red">CELTIQUE Project-Team</span>

# 3. Highlights of the Year

## 3.1. Highlights of the Year

### 3.1.1. Awards

- The ERC Consolidator grant VESTA on verified static analysis was awarded to David Pichardie and launched in September 2018.

- The ANR project SCRYPT led by Frédéric Besson was accepted and starts in February 2019.

BEST PAPERS AWARDS :

[19]

A. SALIM AL-SIBAHI, A. S. DIMOVSKI, T. JENSEN, A. WASOWSKI.*Verification of High-Level Transformations with Inductive Refinement Types*, in "GPCE 2018 - 17th International Conference on Generative Programming: Concepts & Experience", Boston, United States, November 2018, p. 1-14, https://hal.inria.fr/hal-01898058

**CIDRE Project-Team  (section vide)**

<span style="color:red">**DIONYSOS Project-Team**</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

We organized the *13th International Conference in Monte Carlo & Quasi-Monte Carlo Methods in Scientific Computing*, in Rennes, July 1-6, 2018. The MCQMC Conference is a biennial meeting on Monte Carlo and quasi-Monte Carlo methods and the premier event on the topic; it has attracted 300 people from all over the world.

### 5.1.1. Awards

Pierre L'Ecuyer received the 2018 Outstanding Simulation Publication Award by Informs (recognizing outstanding contributions to the simulation literature) for his article published in 2016 in *Operations Research* [84] on arrival rates modeling with application to call centers.

BEST PAPERS AWARDS :

[59]

Q. T. A. PHAM, Y. HADJADJ-AOUL, A. OUTTAGARTS.*Deep Reinforcement Learning based QoS-aware Routing in Knowledge-defined networking*, in "Qshine 2018 - 14th EAI International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness", Ho Chi Minh City, Vietnam, December 2018, p. 1-13, https://hal.inria.fr/hal-01933970

# DIVERSE Project-Team

# 4. Highlights of the Year

## 4.1. Highlights of the Year

This year, we would like to highlight the following results:

- In terms of publications:
  - Among the many articles published this year, articles [25] and b [28] have been published at the highest level but above all they represent perfectly the type of research conducted within the team: open research based on studies of major open-source software and in connection with the developer communities.
  - The results of this year's SLE conference also make us very proud. 4 accepted papers including 1 best vision paper [33], 1 best artifact (hal-01890446) and the award for the best reviewer for a former doctoral student of the team recently appointed associate professor at the University of Nantes.

- A former PhD student of the team, Pierre Laperdrix was awarded the "*Le prix de thèse Gilles Kahn 2018 (premier accessit), décerné par la SiF et patronné par l'Académie des Sciences*" for his PhD entitled *Browser Fingerprinting: Exploring Device Diversity to Augment Authentication and Build Client-Side Countermeasures*.

- Three new PhDs and one new HDR have been succesfully defended this year.

- A new CNRS junior researcher, Djamel Eddine Khelladi, will join the team in 2019.

- Mathieu Acher succesfully submitted its ERC starting grant program: Killing and Resurrecting Software Variability (REVARY). This research program fully structures the Variability axis of the team for the next years.

- Didier Vojtisek, research engineer hosted since many years within the team was awarded the Inria award (*appui à la recherche*) with Guillaume Cassonnet, Christophe Demarey, Herve Mathieu, Florent Pruvost for the Sonarqube project. As a research team in the field of software engineering, we study and produce many open source software artefacts. In this context, we regularly test and deploy internally support services to produce high-quality software. Sonar (SonarQube ancestor) had been deployed internally since 2008. Embedding research engineers into software engineering research teams as often as possible is undoubtedly a win-win operation for both parties (the research team but also the SED and therefore Inria as a whole)

### 4.1.1. *Awards*

Paper  was awarded the best vision paper at SLE'18.
Paper  was awarded the best artefact associated to a scientific paper at SLE'18.

Paper  was awarded the best paper at ICMT'18.
BEST PAPERS AWARDS :

[33]
F. COULON, T. DEGUEULE, T. VAN DER STORM, B. COMBEMALE.*Shape-Diverse DSLs: Languages without Borders (Vision Paper)*, in "SLE 2018 - 11th ACM SGIPLAN International Conference on Software Language Engineering", Boston, United States, ACM, November 2018, p. 215-219 [*DOI :* 10.1145/3276604.3276623], https://hal.archives-ouvertes.fr/hal-01889155

[36]
M. LEDUC, T. DEGUEULE, B. COMBEMALE.*Modular Language Composition for the Masses*, in "SLE 2018 - 11th ACM SIGPLAN International Conference on Software Language Engineering", Boston, United States, November 2018, p. 1-12 [*DOI :* 10.1145/3276604.3276622], https://hal.inria.fr/hal-01890446

[32]
J.-M. BRUEL, B. COMBEMALE, E. GUERRA, J.-M. JÉZÉQUEL, J. KIENZLE, J. DE LARA, G. MUSS-BACHER, E. SYRIANI, H. VANGHELUWE.*Model Transformation Reuse across Metamodels - A classification and comparison of approaches*, in "ICMT 2018 - International Conference on Theory and Practice of Model Transformations", Toulouse, France, LNCS, Springer, June 2018, vol. 10888, p. 92-109 [*DOI :* 10.1007/978-3-319-93317-7_4], https://hal.inria.fr/hal-01910113

## DYLISS Project-Team

# 5. Highlights of the Year

## 5.1. Highlights of the Year

The main novelty of the year is the publication associated with software AuReMe for metabolic network reconstruction in Plos Computational Biology [12], and the development of Miscoto, a tool to design synthetic microbial communities [14], presented at the ECCB conference.

# EASE Team  (section vide)

**FLUMINANCE Project-Team**

# 4. Highlights of the Year

## 4.1. Highlights of the Year

### 4.1.1. Awards

Best thesis award 2018 Applied and Industrial Mathematics Society - Group for the Advancement of Engineering Numerical Methods (SMAI-GAMNI) http://smai.emath.fr/spip.php?article165 Valentin Resseguier "Mixing and fluid dynamics under location uncertainty" https://tel.archives-ouvertes.fr/tel-01504524/document

<h1 style="text-align:center; color:red">GALLINETTE Project-Team</h1>

# 4. Highlights of the Year

## 4.1. Highlights of the Year

### 4.1.1. Creation and new permanents members

The team has been created as a project team on June 2018. Two new permanent members have joined the team:

- Guilhem Jaber, as an assistant professor of the University of Nantes (September 2018).
- Pierre-Marie Pédrot as an Inria researcher (October 2018).

### 4.1.2. Awards

BEST PAPERS AWARDS :

[7]

N. TABAREAU, É. TANTER, M. SOZEAU.*Equivalences for Free: Univalent Parametricity for Effective Transport*, in "Proceedings of the ACM on Programming Languages", September 2018, p. 1-29 [*DOI :* 10.1145/3234615], https://hal.inria.fr/hal-01559073

[14]

É. MIQUEY.*A sequent calculus with dependent types for classical arithmetic*, in "LICS 2018 - 33th Annual ACM/IEEE Symposium on Logic in Computer Science", Oxford, United Kingdom, LICS '18 Proceedings of the 33rd Annual ACM/IEEE Symposium on Logic in Computer Science, ACM, July 2018, p. 720-729, https://arxiv.org/abs/1805.09542 [*DOI :* 10.1145/3209108.3209199], https://hal.inria.fr/hal-01703526

## GENSCALE Project-Team

# 5. Highlights of the Year

## 5.1. Highlights of the Year

Our new tool, Carnac-LR, dedicated to the clustering of third generation sequencing data, has been published in the high impact journal *Nucleic Acid Research* (NAR) [16].

### 5.1.1. Awards

BEST PAPERS AWARDS :

[26]

S. FRANCOIS, R. ANDONOV, D. LAVENIER, H. DJIDJEV.*Global optimization approach for circular and chloroplast genome assembly*, in "BICoB 2018 - 10th International Conference on Bioinformatics and Computational Biology", Las Vegas, United States, March 2018, p. 1-11 [*DOI :* 10.1101/231324], https://hal.inria.fr/hal-01666830

<p align="center" style="color:red"><b>HYBRID Project-Team</b></p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

- This year, the Hybrid team has again been strongly involved in the organization of the IEEE Virtual Reality Conference (IEEE VR) in 2018, with M. Marchal: Program Chair, F. Argelaguet: Workshops Chair, A. Lécuyer: Tutorials Chair.
- Hybrid was involved in the publication of a book [48] on Virtual and Augmented Reality, titled "Virtual Reality, Augmented Reality: myths and realities". This book was co-edited by B. Arnaldi and G. Moreau, with contributions [44] [42] [43] from F. Argelaguet, V. Gouranton, A. Lécuyer, M. Marchal, and J.M. Normand.
- Hybrid was involved in the organization of the ACM/Eurographics Symposium on Computer Animation (SCA), in Paris, July 2018, with M. Marchal serving as General Chair.
- Hybrid organized, together with Inria team Visages, a press conference in Paris on the topic of "Neurofeedback" in November 2018, followed by various media coverages.

### 5.1.1. Awards

- Maud Marchal is junior member of Institut Universitaire de France (IUF) since October 2018.
- Best Paper Award IEEE VR 2018 - Honorable Mention: Paper from Jeunet et al. [18]
- Best Paper Award Euro VR 2018 - Honorable Mention: Paper from Costes et al. [30]
- Best Demo Award IEEE 3DUI Contest 2018 - Runner-Up: Demo from Nouviale et al. [28]

<p style="text-align:center"><span style="color:red">**HYCOMES Project-Team**</span></p>

# 4. Highlights of the Year

## 4.1. Highlights of the Year

The highlights of the year are:

- The start of two industrial collaborations of crucial importance for the Hycomes team: (i) the FUI ModeliScale project, in the context of which the Hycomes team design novel algorithms for the structural analysis of multimode DAE systems, with the objective of supporting a larger class of multimode Modelica models; and (ii) the Glose project, in collaboration with Safran Tech., on the topics of cyber-physical systems modeling and cosimulation.

- Albert Benveniste, Benoît Caillaud and co-authors have published a book on contract-based reasoning for cyber-physical systems design. This book is the result of more than 10 years of research on contract and interface theories.

- Albert Benveniste, Benoît Caillaud and co-authors have published a paper in *The Proceedings of the IEEE* on the design of Hybrid Systems modeling languages, based on our past work on ODE-based synchronous languages (namely the Zélus language).

<p style="text-align: center; color: red;">**I4S Project-Team**</p>

# 4. Highlights of the Year

## 4.1. Highlights of the Year

### *4.1.1. Awards*

BEST PAPERS AWARDS :

[30]

X. LORANG, S. KERBAL, L. LEMARCHAND, V. LE CAM, J.-J. MOGORO.*New detection criteria and shunting monitoring in railway track circuit receivers*, in "IWSHM-RS 2018 - 2nd International Workshop on Structural Health Monitoring for Railway Systems", Qingdao, China, October 2018, p. 1-10, https://hal.inria.fr/hal-01898678

# KERDATA Project-Team  (section vide)

<p style="text-align:center"><span style="color:red">**LACODAM Project-Team**</span></p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### *5.1.1. Awards*

- Honorable Mention in the ACM SIGMOD Jim Gray Dissertation Award. ACM SIGMOD conference, June 2018 (L. Galárraga).

<span style="color:red">**LINKMEDIA Project-Team**</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

Our activities in relation with fake news was highlighted in a number of occasions such an audition at the French National Assembly by the parliamentary group *Économie numérique de la donnée, de la connaissance et de l'intelligence artificielle*, at the Forum des sciences cognitives in Nancy, in a press conference organized by the CNRS in May 2018, through a Fake News hackathon organized in Rennes by Irisa and Inria, through many articles in the press as well as during the European cyber-week conference held in November 2018.

### 5.1.1. Awards

- Miaojing Shi was selected as the Forty under Forty Talents by French Tech hubs China.
- Miaojing Shi was in the final pitch (in progress) of the 2018 Innovation Awards by Comité France Chine.

<p style="text-align:center; color:red;">**MIMETIC Project-Team**</p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

Franck Multon has been recruited as full-time researcher with a national coordination task for the Olympic Games 2024 (SportInria project). He is the national contact for Performance2024, a national initiative from the French Ministry of Sports, and the French Ministry of Research (MESRI) to support fundamental and applied research in collaboration with sports federation for the Olympic Games 2024. Together with Richard Kulpa and Benoit Bideau, they have been responsible to write a call for national proposals "Liv Lab Sports" from the French Ministry of Sports, to develop areas where people can test and train to sports using new technologies, such as virtual and augmented reality. MimeTIC is also globally involved in the Sciences2024 project leaded by Ecole Polytechnique to enhance collaborations between research groups and French Sports federations. All these involvements demonstrate the national visibility of MimeTIC as a leading research group in applying new technologies for sports.

**Two papers on the topic of drone cinematography were presented at SIGGRAPH 2018**, the main conference in Computer Graphics and Interaction. The first paper focused on reactive path planning techniques in a specific parametric space (Toric Space) to move cinematographic drones with respect to dynamic targets and obstacles, and to coordinate the motion of multiple drones. The second paper focused on static path planning techniques to construct aesthetic overviews of buildings by integrating viewpoint quality metrics and motion quality metrics.

**The team released the CusToM OpenSource Software**. Customizable Toolbox for Musculoskeletal simulation (CusToM) is a MATLAB toolbox aimed at performing inverse dynamics-based musculoskeletal analyzes. This type of analysis is essential to access mechanical quantities of human motion in different fields such as clinic, ergonomics and sports. CusToM exhibits several features. It can generate a personalized musculoskeletal model, and can solve from motion capture data inverse kinematics, external forces estimation, inverse dynamics and muscle forces estimation problems with a high level of customization for research purposes. It is also designed for non-expert users interested in motion analysis. CusToM is an OpenSource Software with a github repository available with no restriction.

### 5.1.1. Awards

Best presentation award for Amaury Louarn in ACM Motion Interaction and Games in Cyprus, November 2018, for the paper "Automated Staging for Virtual Cinematography" .

Kimea project has been granted by national innovation committee: "French IoT La Poste challenge" in June 2018.

BEST PAPERS AWARDS :

[45]

A. LOUARN, M. CHRISTIE, F. LAMARCHE.*Automated Staging for Virtual Cinematography*, in "MIG 2018 - 11th annual conference on Motion, Interaction and Games", Limassol, Cyprus, November 2018, p. 1-10 [*DOI :* 10.1145/3274247.3274500], https://hal.inria.fr/hal-01883808

<p style="text-align:center;color:red"><strong>MINGUS Project-Team</strong></p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### 5.1.1. Awards

Arnaud Debussche has been awarded the senior IUF.

### 5.1.2. Contracts

- New associated team ANTIpODE with the University of Wisconsin.
- New contract with the startup RAVEL.
- New contract with the startup CAILABS.

<span style="color:red">MYRIADS Project-Team</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### *5.1.1. Awards*

- Best Doctoral Symposium paper award for Clément Elbaz at Foundations and Applications of Self* Systems (FAS* 2018, the event colocating SASO 2018 and ICAC 2018) for the paper entitled "Reactive and Adaptive Security Monitoring in Cloud Computing"

BEST PAPERS AWARDS :

[20]

C. ELBAZ, L. RILLING, C. MORIN.*Reactive and Adaptive Security Monitoring in Cloud Computing*, in "FAS* Doctoral Symposium 2018", Trento, Italy, September 2018, p. 1-3, https://hal.inria.fr/hal-01884739

<span style="color:red">**PACAP Project-Team**</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### *5.1.1. Awards*

André Seznec won the three tracks of the 1st Championship of Value Prediction with the EVES predictor.

Arthur Perais, former PhD student in the project-team, and André Seznec received the best paper award at the conference ACM PACT 2018 for their paper "Cost Effective Speculation with the Omnipredictor".

BEST PAPERS AWARDS :

[39]

A. SEZNEC.*Exploring value prediction with the EVES predictor*, in "CVP-1 2018 - 1st Championship Value Prediction", Los Angeles, United States, June 2018, p. 1-6, https://hal.inria.fr/hal-01888864

[35]

A. PERAIS, A. SEZNEC.*Cost Effective Speculation with the Omnipredictor*, in "International conference on Parallel Architectures and Compilation Techniques (PACT '18),", Limassol, Cyprus, November 2018 [*DOI :* 10.1145/3243176.3243208], https://hal.inria.fr/hal-01888884

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### 5.1.1. *Awards*

The 2018 **prix de thèse Signal, Image et Vision** was jointly awarded by the Club EEA, the GRETSI and the GdR ISIS to **Mrs Marwa Chafii** for her thesis entitled : *Étude d'une nouvelle forme d'onde multiporteuses à PAPR réduit*. This thesis was conducted within the IETR Lab at CentraleSupélec on the campus of Rennes, under the supervision of Jacques Palicot, Professeur, CentraleSupélec, Rennes and Rémi Gribonval, Directeur de recherche, Inria, Rennes.

### 5.1.2. *Other highlights*

Frédéric Bimbot is the new Editor-in-Chief of the journal "Speech Communication".
BEST PAPERS AWARDS :
[2]
M. CHAFII.*Study of a new multicarrier waveform with low PAPR*, CentraleSupélec, October 2016, https://hal.archives-ouvertes.fr/tel-01399509

<span style="color:red">RAINBOW Project-Team</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

- Julien Pettré is coordinator of the H2020 ICT CrowdBot project which started in Jan 2018
- Claudio Pacchierotti is the unit PI of the new H2020 FET-OPEN project "H-Reality," started on October 2018. The project gathers 5 academic partners - Univ. Birmingham (UK, coordinator), TU Delft (NL), CNRS (France) - as well as 2 industrial partners - Ultrahaptics (UK) and Actronika SAS (France)
- Claudio Pacchierotti has been elected Secretary of the Eurohaptics Society

### 5.1.1. Awards

- Firas Abi Farraj was finalist for the IEEE/RSJ IROS 2018 Best Paper Award on Safety, Security and Rescue Robotics
- Claudio Pacchierotti has been selected as "Top 1% Reviewer" by field, 2018 Peer Review Awards, Publons (https://publons.com/awards/2018/esi/?name=Pacchierotti&esi=23)
- Louise Devigne was one of the five finalists of Best Paper Award for the IEEE SMC 2018 conference for the paper [60]
- Louise Devigne received the Best Paper Award of the IFRATH Handicap 2018 conference [80]
- Salma Jiddi received the Best Demo Award at the Asia Pacific Workshop on Mixed and Augmented Reality, APMAR'18, Taipe, Taiwan [63]

# 5. Highlights of the Year

## 5.1. Highlights of the Year

The joint project team Serpico (Inria, CNRS-INSB, Institut Curie, UPMC, PSL Research University) is officially created in 2018.

The Serpico team will be the organizer of the 7th International Conference on "Quantitative BioImaging" (QBI) in January 2019 (300 attendees) in Rennes.

Bertha Mayela Toledo Acosta defended her PhD thesis in 2018.

<p style="color:red; text-align:center;">**SIMSMART Team**</p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### *5.1.1. Awards*

The contribution [10] received the "best poster award" of the conference Curves and Surfaces 2018.

<span style="color:red">**SIROCCO Project-Team**</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### 5.1.1. Awards

- The paper [20] has received the best student paper award at the European Signal Processing (EUSIPCO) conference, Roma, Sept. 2018.

- The video light field dataset captured by the team has been retained by MPEG-I as test dataset (April 2018) [24].

BEST PAPERS AWARDS :

[20]

M. RIZKALLAH, F. DE SIMONE, T. MAUGEY, C. GUILLEMOT, P. FROSSARD.*Rate Distortion Optimized Graph Partitioning for Omnidirectional Image Coding*, in "EUSIPCO 2018 - 26th European Signal Processing Conference", Rome, Italy, September 2018, p. 1-5, https://hal.inria.fr/hal-01807613

<p style="text-align: center; color: red;">**STACK Team**</p>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### 5.1.1. Remarkable results: research and third-party funding

Regarding scientific results, the team has produced a number of outstanding results on resource and data managements in large-scale infrastructures, notably on how to place VMs in Clouds [5], and on how to manage VM images in geo-distributed clouds [18]. On the software side, the team has proposed a new model-based Architecture to design and implement autonomic and heterogeneous Cloud Systems [12]. Finally on the energy side, the team has deployed the SeDuce platform that allows researchers to investigate energy concerns in datacenters thanks to a numerous of energy sensors deployed across the dedicated facility [19], [20], [34].

Concerning third-party funding, 2018 has seen the acceptance of the VERDI "Etoiles Montantes" project. "Etoiles Montantes" is a highly-competitive call with the goal of bootstraping ERC submissions.

### 5.1.2. Awards

In 2018, the team has received two best paper awards and one individual award:

- **Programme Jeunes Talents France Chine 2018** Shadi Ibrahim was selected for the "Programme Jeunes Talents France Chine" award.

BEST PAPERS AWARDS :

[12]

H. BRUNELIERE, Z. AL-SHARA, F. ALVARES, J. LEJEUNE, T. LEDOUX.*A Model-based Architecture for Autonomic and Heterogeneous Cloud Systems*, in "CLOSER 2018 - 8h International Conference on Cloud Computing and Services Science", Funchal, Portugal, March 2018, vol. 1, p. 201-212, Best Paper Award [*DOI :* 10.5220/0006773002010212], https://hal.archives-ouvertes.fr/hal-01705248

[19]

J. PASTOR, J.-M. MENAUD.*SeDuCe: a Testbed for Research on Thermal and Power Management in Datacenters*, in "GREEN 2018 - Third International Conference on Green Communications, Computing and Technologies", Venise, Italy, September 2018, p. 1-6, https://hal.inria.fr/hal-01855452

<span style="color:red">**SUMO Project-Team**</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

- The ANR project TickTac led by Ocan Sankur was accepted and starts in March 2019.
- New partnership with Mitsubishi Electric (MERCE): one PhD thesis started in Fall 2018, and a member of MERCE will be hosted by SUMO in 2019.

### 5.1.1. Awards

BEST PAPERS AWARDS :

[11]

G. BACCI, P. BOUYER, U. FAHRENBERG, K. G. LARSEN, N. MARKEY, P.-A. REYNIER.*Optimal and Robust Controller Synthesis: Using Energy Timed Automata with Uncertainty*, in "FM 2018 - International Symposium on Formal Methods", Oxford, United Kingdom, LNCS, Springer, July 2018, vol. 10951, p. 203-221 [*DOI :* 10.1007/978-3-319-95582-7_12], https://hal.archives-ouvertes.fr/hal-01889222

<span style="color:red">**TAMIS Project-Team**</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### Change of team leader

**Participants:** Olivier Zendra, Axel Legay

Olivier Zendra was appointed team leader instead of Axel Legay on 12 Oct 2018.

### "Chaire Analyse de Menaces" (Threat Analysis)

**Participants:** Fabrizio Biondi

Fabrizio Biondi resigned from Centrale Supelec and from the "Chaire Analyse de Menaces" (Threat Analysis) on 31 Dec 2018.

### TeamPlay H2020 project, coordinated by Olivier Zendra

**Participants:** Olivier Zendra, Cécile Bouton, Yoann Marquer, Céline Minh, Tania Richmond

Launch on Jan 2018 of the TeamPlay (<span style="color:red">https://www.teamplay-h2020.eu</span>) H2020 project (that had been submitted 25 April 2017), about the integration of nonfunctional properties in programs. TAMIS is in charge of security properties.

# 5. Highlights of the Year

## 5.1. Highlights of the Year

Inria created a new International Chair in collaboration with Insa-Rennes and appointed American computer engineer Shuvra Bhattacharyya, Professor at the University of Maryland, to the part-time position. Shuvra will hold the International Chair for a period of five years, fostering our joint collaboration with the CNRS-Insa laboratory IETR.

TEA becomes the first Inria group to host two International Chairs: last year, Rajesh Gupta, Director of UC San Diego Data Science Institute, was appointed Inria International Chair with project-team TEA.

Jean-Pierre Talpin spent the first semester to prepare an ERC advanced grant. He also gave a keynote presentation at the FDL'18 conference on "refinement types for system design".

Thierry Gautier and Albert Benveniste gave an invited seminar at the Collège de France in Gérard Berry's 2017-2018 lecture course [15].

<span style="color:red">VISAGES Project-Team</span>

# 5. Highlights of the Year

## 5.1. Highlights of the Year

### *5.1.1. New permanent team members*

- Julie Coloigner was recruited as CNRS Researcher, starting from October 2018.
- Michael Kain was recruited as Research Engineer, starting from December 2018.

### *5.1.2. New MRI at the Neurinfo platform*

A new 3T Siemens Prisma MRI scanner was installed at the Neuroinfo platform in February 2018. An official ceremony was organised with all the funders in November 2018.

### *5.1.3. First neuroscience hackathon in Rennes*

We organized the first hackathon in the Visages team, April 25-26 as part of the international event Brainhack Global 2018.

### *5.1.4. Award*

Best paper award by the French Institute of Psychiatry for our communication at its annual Forum .

BEST PAPERS AWARDS :

[50]

J. COLOIGNER, J.-M. BATAIL, I. COROUGE, D. DRAPIER, C. BARILLOT.*White matter connectivity analysis in patients suffering from depression*, September 2018, 1, 2018 - 7ème Forum de l'Institut de Psychiatrie, Poster, https://hal.archives-ouvertes.fr/hal-01890087

# 4. Highlights of the Year

## 4.1. Highlights of the Year

**Awards**

Michel Raynal is the recipient of the 2018 IEEE award for Outstanding Technical Achievement in Distributed Computing.