informatics / *mathematics*

Ínría

RESEARCH CENTER
Grenoble - Rhône-Alpes

FIELD

Activity Report 2018

Section Dissemination

AGORA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Khaled Boussetta was co-track chair of Wireless Models and Simulations in the 10th IFIP Wireless Days 2018, April, 2018, Dubai, UAE.

10.1.1.2. Member of the Organizing Committees

- Khaled Boussetta was on the Organizing Committee of 2018 IEEE SOCA/SC2/IOV, 19-22 November, 2018, Paris.

10.1.1.3. Member of the Conference Program Committees

- Walid Bechkit was in the TPC of the followinf conference: IEEE ICC.
- Khaled Boussetta was in the TPC of the following conferences: IEEE CCNC, IEEE GlobeCom, IEEE ICC, Med-Hoc-Net, Wireless Days.
- Oana Iova was in the TPC of the following conferences: IEEE Globecom, ACM AINTEC, AdHoc-Now, EWSN 2018 (track Poster and Demos).
- Razvan Stanica was in the TPC of the following conferences: IEEE ICC, IEEE CCNC, ICIN.
- Fabrice Valois was in the TPC of the following conferences: IEEE ICC, ICT, IEEE Globecom, IEEE VTC Spring, WiSARN.

10.1.1.4. Reviewer

- Oana Iova was a reviewer for the following conferences: IEEE ICC, IEEE WCNC.

10.1.2. Journal

10.1.2.1. Reviewer - Reviewing Activities

- Oana Iova was a reviewer for the following journals: ACM TOSN, Elsevier Ad Hoc Networks, Elsevier Computer Networks, IEEE Transactions on Communications, IEEE Access, Springer Wireless Networks.
- Razvan Stanica was a reviewer for the following journals: IEEE Transactions on Mobile Computing, IEEE Transactions on Intelligent Transportation Systems, IEEE Communications Letters, Pervasive and Mobile Computing, IEEE Access, EURASIP Journal on Wireless Communications and Networking, IET Intelligent Transport Systems.

10.1.3. Invited Talks

- Walid Bechkit was invited speaker at the 1st Winter School on Information Theory and Signal Processing for Internet of Things, Villeurbanne, France.
- Walid Bechkit was invited speaker at the CESER (conseil économique, social et environnemental régional).
- Oana Iova was invited panelist at: 1st Winter School on Information Theory and Signal Processing for Internet of Things, Villeurbanne, France.
- Hervé Rivano was invited speaker at *La Nuit des idées*, Maison de France, Sfax, Tunisia.
- Hervé Rivano was invited speaker at La Myne, Lyon, France.

- Hervé Rivano was invited speaker Conseil de Développement de la Métropole/Amis de l'Université, Lyon, France.
- Hervé Rivano was invited speaker IMERIR, Perpignan, France.
- Hervé Rivano was invited speaker Salon Internet des Objets (SidO), Lyon, France.
- Hervé Rivano was invited speaker réseau ARAMIS, Lyon, France.
- Hervé Rivano was invited speaker at CIVIC Conference, University Constantine III, Algeria.
- Hervé Rivano was invited speaker at TokyoTech, Japan.
- Hervé Rivano was panel organizer on Smart Cities, POP Science Forum, Lyon, France.

10.1.4. Leadership within the Scientific Community

- Walid Bechkit was co-representative of the Labex IMU at the Smart City Expo World Congres (Barcelona).
- Walid Bechkit is a nominated member in the scientific committee of the Fédération d'Informatique de Lyon (FR 2000 CNRS).
- Hervé Rivano is member of the steering committee of the ResCom axis of the RSD CNRS GdR.
- Hervé Rivano is a member of the Scientific Council of TUBA Lyon.
- Hervé Rivano is member ot the steering committee of Ecole Urbaine de Lyon, in charge of Smart and Learning Cities.
- Fabrice Valois is a member of the Scientific Council of the LIMOS-UMR6158 laboratory, Clermont Ferrand.
- Fabrice Valois is member of the Scientific Council of the Labex IMU (Intelligence des Mondes Urbains).

10.1.5. Scientific Expertise

- Khaled Boussetta was reviewer for ANR generic call for projects 2018.
- Hervé Rivano is member of the Metropole de Lyon [R] Challenge, board of scientific experts.
- Hervé Rivano is member of the Scientific Committee of the Digital League Regional Cluster.
- Fabrice Valois was a member in the recruitment committee of a Full Professor in Computer Science at INSA Lyon.
- Fabrice Valois was a member in the recruitment committee of a Full Professor in Computer Science at Université d'Auvergne.

10.1.6. Research Administration

- Walid Bechkit is responsible for seminar organization and scientific animation within the CITI laboratory.
- Khaled Boussetta is member of the steering committee of the MathStic federation at University Paris 13.
- Hervé Rivano is member of the Administration Council of the EquipEx Sense City as representative of Inria.
- Hervé Rivano is president of the CITI laboratory council.
- Razvan Stanica is the CITI laboratory correspondent with the Labex IMU.
- Razvan Stanica is member of the steering committee of the Volvo Chaire at INSA Lyon.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : Walid Bechkit, IP Networks, 30h, L3, Telecom. Dpt. INSA Lyon.

Licence : Oana Iova, IP Networks, 30h, L3, Telecom. Dpt. INSA Lyon.

Licence : Oana Iova, Medium Access Control, 8h, L3, Telecom. Dpt. INSA Lyon.

Licence : Oana Iova, Network and System Programming, 82h, L3, Telecom. Dpt. INSA Lyon.

Licence : Hervé Rivano, Networking Fundamentals, 2h, L3, Telecom. Dpt. INSA Lyon.

Licence : Hervé Rivano, Algorithms and programming, 165h, L1 - L2, INSA Lyon.

Licence : Hervé Rivano, Sensors data engineering project, 34h, L2, INSA Lyon.

Licence : Razvan Stanica, Network Programming, 90h, L3, Telecom. Dpt. INSA Lyon.

Licence : Fabrice Valois, IP Networks, 42h, L3, Telecom. Dpt. INSA Lyon.

Master : Walid Bechkit, Introduction to wireless sensor networks, 50h, L2, INSA Lyon.

Master : Walid Bechkit, Performance evaluation of telecom networks, 100h, M1, Telecom. Dpt. INSA Lyon.

Master : Walid Bechkit, Cryptography and communication security, 30h, M1, Telecom. Dpt., INSA Lyon.

Master : Walid Bechkit, Wireless networks: architecture and security, 30h, M2, INSA Lyon.

Master : Master : Walid Bechkit, Network Acces Control, 6h, M2, Telecom. Dpt. INSA Lyon.

Master : Oana Iova, Network Routing Protocols, 40h, M1, Telecom. Dpt. INSA Lyon.

Master : Oana Iova, Long Range Networks, 10h , M2, Telecom. Dpt. INSA Lyon

Master : Hervé Rivano, Smart Cities and IoT, 44h, M2, Telecom. Dpt. INSA Lyon.

Master : Razvan Stanica, Mobile Networks, 30h, M1, Telecom. Dpt. INSA Lyon.

Master : Razvan Stanica, Network Science, 10h, M2, Telecom. Dpt. INSA Lyon.

Master : Fabrice Valois, Mobile Networks, 16h, M1, Telecom. Dpt. INSA Lyon.

MOOC : Hervé Rivano, Razvan Stanica, Fabrice Valois, Connectez à Internet vos Objets Intelligents, production started in the context of the ANR Connect-IO project.

Walid Bechkit is in charge of the admission service of the Telecommunication department at INSA Lyon.

Walid Bechkit is an elected member of the Telecommunication department council at INSA Lyon.

Walid Bechkit is the head of the networking teaching team in the Telecommunications department at INSA Lyon, coordinating all the courses in the networking domain.

Khaled Boussetta is the studies director of Apprenticeship Education Program Specialty in Computer Science and Network at Sup'Galilée Engineering School (University Paris 13).

Hervé Rivano is responsible for the coordination of all courses in the Smart Cities and IoT option at the INSA Lyon Telecommunications department.

Herve´ Rivano is referent DSI in the FIMI Dpt., INSA Lyon.

Razvan Stanica is responsible of the research option at the Telecommunications department of INSA Lyon.

Razvan Stanica is vice dean of the Telecommunications department of INSA Lyon, in charge of education related affairs.

10.2.2. Supervision

PhD in progress: Abderrahman Ben Khalifa, Cognitive mechanisms for IoT networks, since 11/2016. Advisors: Hervé Rivano, Razvan Stanica.

PhD in progress: Ahmed Boubrima, Optimal deployment of wireless sensor networks for air pollution monitoring, since 10/2015. Advisors: Walid Bechkit, Hervé Rivano.

PhD in progress : Rodrigue Domga Komguem, Autonomous WSN architectures for road traffic applications, since 11/2012. Advisors: Razvan Stanica, Maurice Tchuente (Univ. Yaoundé, Cameroun), Fabrice Valois.

PhD in progress: Mohamed Anis Fekih, Urban pollution using wireless sensor networks, since 11/2018.Advisors: Walid Bechkit, Hervé Rivano.

PhD in progress: Mihai Popescu, Connectivity constrained mobility in fleets of robots, since 11/2015. Advisors: Olivier Simonin (Inria CHROMA), Anne Spalanzanni (Inria CHROMA), Fabrice Valois.

PhD in progress: Romain Pujol, Data collection in dynamic wireless networks, since 11/2018. Advisors: Razvan Stanica, Fabrice Valois.

PhD in progress: Solohaja Rabenjamnia, Data analysis of cellular trafic, since 11/2018. Advisors: Hervé Rivano, Razvan Stanica.

10.2.3. Juries

- Hervé Rivano was a reviewer in the following PhD defense committee:
    – V. Quintuna Rodriguez, Nouvelle commande réseau IP : Performance des fonctions virtualisées pour une infrastructure programmable, LIP6, Université Pierre et Marie Curie, Paris VI
    – Y. Couble, Optimisation de la gestion des ressources de la voie retour, IRIT, Université de Toulouse
    – L. Molina, Metrics and non-intrusive techniques to characterize Wi-Fi networks, IRISA, Université de Bretagne-Pays de la Loire
    – H. Tall, Load balancing in multichannel data collection wireless sensor networks, LIMOS, Université de Clermont Auvergne
    – H. Pimenta Moraes Junior, A contribution to data sharing in vehicular networks, Heudi-asyc, Université Technologique de Compiègne
- Hervé Rivano was a reviewer in the following HDR defense committee:
    – F. Giroire, Nouvelle commande réseau IP : Performance des fonctions virtualisées pour une infrastructure programmable, I3S, Université de Nice Sophia Antipolis
- Fabrice Valois was a reviewer in the following PhD defense committee:
    – E. Morin, Intéroperabilité de protocoles de communication adaptatifs basse consommation pour des réseaux de capteurs, LIG, Université Grenoble Alpes
- Fabrice Valois was a member in the following PhD defense committee:
    – D. Alshamaa, Indoor localization of sensors: application to dependent elderly people, UTT
    – H. Chelle, Contrôle de charge des réseaux IoT : D'une étude théorique à une implantation réelle, IRIT, ENSHEEIT
- Fabrice Valois was a reviewer in the following HDR defense committee:
    – P. Berthou, Vers la dématérialisation des Réseaux Hybrides satellites et terrestre, LAAS, Université Paul Sabatier
- Fabrice Valois was a member in the following HDR defense committee:
    – T. Begin, Contributions to the Performance Modeling of Computer Networks, LIP, Université de Lyon 1
    – K. Boussetta, Dimensionnement, adaptation et placement de fonctionnalités réseaux pour des applications sensibles aux délais, L2TI, Université Paris XIII

<p align="center">**AIRSEA Project-Team**</p>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

E. Blayo, E. Cosme and A. Vidard organized a one-week school "Introduction to data assimilation" for doctoral students (Jan. 8-12, 2018).

9.1.1.2. Member of the Organizing Committees

E. Blayo and A. Vidard were members of the organizing committee of the 7th National Conference on Data Assimilation (CNA 2018), held in Rennes Sept. 26-28, 2018.

E. Blayo organized with Pr Hansong Tang (City University of New York) a mini-symposium on domain decomposition and model coupling issues for oceanic and atmospheric flows, within the 25th International Domain Decomposition Conference, DD XXV (St. John's, Canada, July 23-27, 2018).

L. Debreu was the co-organizer of the DRAKKAR workshop on global ocean simulations based on the NEMO platform. http://pp.ige-grenoble.fr/pageperso/barnierb/WEBDRAKKAR2018/

F. Lemarié and L. Debreu (with H. Burchard, K. Klingbeil and J. Sainte-Marie) have organized the international COMMODORE workshop on numerical methods for oceanic models (Paris, Sept. 17-19, 2018). https://commodore2018.sciencesconf.org/, see [12] for a summary of the scientific discussions.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

Clémentine Prieur was a member of the confrence program committee of the annual conference of the GdR MASCOT NUM 2018, Nantes (France), march 21-23, 2018.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

F. Lemarié is associate editor of the Journal of Advances in Modeling Earth Systems (JAMES)

C. Prieur is associate editor of the Annales Mathématiques Blaise Pascal, as far as of the journal Computational & Applied Mathematics, which was conceived as the main scientific publication of SBMAC (Brazilian Society of Computational and Applied Mathematics).

9.1.3.2. Reviewer - Reviewing Activities

F. Lemarié received a certificate for outstanding contribution in reviewing in recognition of the contributions made to the Ocean Modelling journal

F. Lemarié: reviewer for Journal of Computational and Applied Mathematics

E. Blayo: reviewer for Journal of Scientific Computing, Communications in Computational Physics

O. Zahm reviewed papers for: ESAIM: Mathematical Modelling and Numerical Analysis (M2AN), Journal Of Computational Physics, Journal on Uncertainty Quantification (JUQ), International Journal for Numerical Methods in Engineering, Aerospace Science and Technology, Computational and Applied Mathematics, Engineering Computations.

9.1.4. Invited Talks

E. Arnaud, M. Nodet. (Se) tromper avec les chiffres. Colloque "Sciences et esprit critique, interroger les certitudes", Maison pour la sciences, Académie de Grenoble, 8 nov. 2018, Grenoble

E. Arnaud. Estimation de paramètre sous incertitude. atelier incertitude du projet Idex trajectories, 17 mai 2018, Grenoble

F. Lemarié:

- Comod Workshop on "Coastal Ocean Modelling" in Hamburg (Germany) [16]
- Colloque de Bilan et de Prospective du programme LEFE in Clermond-Ferrand (France) [17]

C. Prieur:

- L'école Mathématiques pour l'énergie Nucléaire organied in partnership with GDR MaNu, July, 2-6, 2018.
- 13th International Conference in Monte Carlo & Quasi-Monte Carlo in Scientific Computing, July 1-6, 2018, Rennes, France.
- International workshop on Design of Experiments : New Challenges, April 30-May 4th, 2018, Luminy, France.
- Journée du groupe SIGMA of the SMAI, November, 30 2018, Jussieu (Paris).
- SIAM UQ 2018, 16-19 avril 2018, Garden Grove, Californie, US, invitation to participate in the "Advances in Global Sensitivity Analysis" session.
- Séminaire de Statistique d'Avignon, December, 10, 2018.
- Talk at the Issac Newton Institute in Cambridge (UK, June 2018).

9.1.5. Leadership within the Scientific Community

E. Blayo was the chair of the CNRS-INSU research program LEFE-MANU on mathematical and numerical methods for ocean and atmosphere http://www.insu.cnrs.fr/lefe until March 2018.

L. Debreu is the chair of the CNRS-INSU research program LEFE-MANU on mathematical and numerical methods for ocean and atmosphere http://www.insu.cnrs.fr/lefe since April 2018.

L. Debreu is the coordinator of the national group COMODO (Numerical Models in Oceanography).

L. Debreu is a member of the steering committee of the CROCO ocean model https://www.croco-ocean.org

C. Prieur chairs GdR MASCOT NUM. http://www.gdr-mascotnum.fr/doku.php.

9.1.6. Scientific Expertise

E. Arnaud, scientific evaluation for the AAP ANR 2018

E. Arnaud, C. Prieur, scientific expertise for the ANR project HIGH-TUNE

E. Arnaud, evaluation for the AAP Idex formation UGA 2018

F. Lemarié is a member of the CROCO (https://www.croco-ocean.org/) scientific committee in charge of the « numerical methods » topic.

F. Lemarié is a member of the NEMO (https://www.nemo-ocean.eu/) Developers Committee as external expert.

9.1.7. Research Administration

E. Blayo is a deputy director of the Jean Kuntzmann Lab.

E. Arnaud is in charge of the MAD (Modèles et algorithmes déterministes) department of Laboratoire Jean Kuntzmann

L. Debreu is a member of the scientific evaluation committee of the French Research Institute for Development (IRD).

L. Debreu is the chair of the French LEFE/MANU program on Applied mathematics and numerical methods for the ocean and the atmosphere. http://www.insu.cnrs.fr/lefe/presentation-manu

C. Prieur is a member of the Scientific Council of the Mathematical Society of France (SMF).

C. Prieur is a member of the Research Council of UGA.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

License: E. Arnaud, Mathematics for engineer, 50h, L1, Univ. Grenoble Alpes, France.

License: E. Arnaud, statisctics for biologists, 40h, L2, Univ. Grenoble Alpes, France.

Licence: M Nodet, Mathematiques pour l'ingenieur, 50h, L1, Univ. Grenoble Alpes

Licence: E. Blayo, Analyse approfondie, 80h, L1, Univ. Grenoble Alpes.

Licence : C.Kazantsev, Mathématiques outils pour les sciences et l'ingénierie, 76h, L1, Univ. Grenoble Alpes, France

Licence : C.Kazantsev, Mathématiques pour les sciences de l'ingénieur, 60h, L2, Univ. Grenoble Alpes, France

Master: E. Arnaud, Advising students on apprenticeship, 28h, M2, Univ. Grenoble Alpes, France.

Master: E. Arnaud, Inverse problem and data assimilation, 28h, M2, Univ. Grenoble Alpes, France.

Master: C. Prieur and O. Zahm, Model Exploration for Approximation of Complex, High-Dimensional Problems, 18h, M2, Univ. Grenoble Alpes-ENSIMAG, France.

Master: L. Debreu, Numerical methods for ocean models, 14h, M2, ENSTA Bretagne engineer schoold, Brest.

Master: E. Blayo, PDEs and numerical methods, 43h, M1, Univ. Grenoble Alpes and Ensimag engineer school.

Master: M Nodet Equations aux derivees partielles travaux pratiques, 18h, M1, Univ. Grenoble Alpes

Master: M Nodet Methodes inverses, 18h, M2, Univ. Grenoble, Alpes

Master: M Nodet taught was responsible for the 1st year of the applied mathematics master of Univ. Grenoble, Alpes

Doctorat: E. Blayo and A. Vidard, Introduction to data assimilation, 20h, Univ. Grenoble Alpes

Doctorat: M. Nodet, Data assimilation, 3h, Univ. Grenoble, Alpes

Doctorat: L. Debreu co-organized a one week doctoral training session on numerical modelling of atmospheric and oceanic flows (with F. Hourdin (LMD, Paris), G. Roullet (UBO, Brest) and T. Dubos (Ecole Polytechnique, Paris)).)

Doctorat: F.-X. Le Dimet, Data Assimilation, 16h, Harbin Institute of Technology.

E-learning : M.Nodet, Videos level L1, youtube channel https://www.youtube.com/channel/UCfYhfa8eKzdiM_MYAOoeMiQ

E-learning : E. Arnaud, Mathematics for engineer, L1, Pedagogical resources on http://math.u-ga.fr and videos for http://tinyurl.com/youtube-mat207

E-learning :E. Arnaud, Inverse problem and data assimilation, L2, Pedagogical resources on http://math.u-ga.fr.

9.2.2. Supervision

Intern: Natalie Noun, Characterization of coupling errors in ocean-atmosphere coupled models, M2R, mathématiques appliquées, Université Lyon 1, 6 months, A. Vidard and F. Lemarié.

PhD in progress: Victor Trappler, Parameter control in presence of uncertainties, October 2017, E. Arnaud, L. Debreu and A. Vidard.

PhD in progress: Adrien Hirvoas, Development of a data assimilation method for the calibration and continuous update of wind turbines digital twins, May 2018, E. Arnaud, C. Prieur, F. Caleyron

PhD in progress : Sophie Théry, Numerical study of coupling algorithms and boundary layer parameterizations in climate models. October 2017, E. Blayo and F. Lemarié.

PhD in progress : Emilie Duval, Coupling hydrostatic and nonhydrostatic ocean circulation models. October 2018, L. Debreu and E. Blayo.

PhD in progress: Long Li, Assimilation d'image pour le suivi de polluants, September 2017, A. Vidard, J.-W. Ma (Harbin University, China).

PhD in progress: Reda El Amri, Analyse d'incertitudes et de robustesse pour les modèles à entrées et sorties fonctionnelles, April 2016, Clémentine Prieur, Céline Helbert (Centrale Lyon), funded by IFPEN, in the OQUAIDO chair program.

PhD in progress: Maria Belén Heredia, A generic Bayesian approach for the calibration of advanced snow avalanche models with application to real-time risk assessment conditional to snow conditions, October 2017, Nicolas Eckert (IRSTEA Grenoble), Clémentine Prieur, funded by the OSUG@2020 Labex.

PhD in progress: Philomène Le Gall, Nonparametric non stationarity tests for extremes, October 2018, Clémentine Prieur, Anne-Catherine Favre (IGE, Grenoble), Philippe Naveau (LSCE, Paris), funded by the cross-disciplinary-project Trajectories from Idex Grenoble.

PhD in progress: Arthur Macherey, Uncertainty quantification methods for models described by stochastic differential equations or partial differential equations with a probabilistic interpretation, April 2018, Clémentine Prieur, Anthony Nouy (Ecole Centrale de Nantes), Marie Billaud Friess (Ecole Centrale de Nantes), funded by Inria and Ecole Centrale de Nantes.

PhD : Rémi Pellerej, Étude et développement d'algorithmes d'assimilation de données variationnelle adaptés aux modèles couplés océan-atmosphère, Université Grenoble-Alpes, Mars 2018, A. Vidard, F. Lemarié.

PhD : Charles Pelletier, Etude mathématique du problème de couplage océan-atmosphère incluant les échelles turbulentes, Université Grenoble Alpes, February 15, 2018, E. Blayo and F. Lemarié

9.2.3. Juries

E. Blayo:

- February 27, 2018: HDR thesis of Igor Gejadze, Univ. Grenoble Alpes (president)
- March 26, 2018: PhD thesis of Rémi Pellerej, Univ. Grenoble Alpes (president)
- June 28, 2018: PhD thesis of Pedro Colombo, Univ. Grenoble Alpes (president)
- July 3, 2018: PhD thesis of Matthieu Brachet, Université de Lorraine (referee)
- September 21, 2018: PhD thesis of Joseph Bellier, Univ. Grenoble Alpes (president)
- September 25, 2018: PhD thesis of Alexandre Vieira, Univ. Grenoble Alpes (president)

L. Debreu:

- November 12, 2018: PhD thesis of Thibaud Vandamme, Univ. of Toulouse (referee).

E. Arnaud, in charge of ATER recruitment in computer sciences, University Grenoble Alpes

E. Arnaud, member of a recrutment comitee for a "Maitre de conférences", University Grenoble Alpes

M. Nodet was a reviewer for the PhD of R. Ventura

M. Nodet was an expert at the TIPE jury (oral examination for the admission to Grandes Ecoles)

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

E.Kazantsev is a memeber of the Local Commission for Permanent Formation of Inria Grenoble - Rhône-Alpes.

9.3.2. Articles and contents

Blog : E. Blayo, Les big data peuvent-ils faire la pluie et le beau temps ?, October 25, 2018, http://binaire.blog.lemonde.fr/2018/10/25/les-big-data-peuvent-ils-faire-la-pluie-et-le-beau-temps/Binaire and https://theconversation.com/quand-les-big-data-font-la-pluie-et-le-beau-temps-105608The conversation

Interviews : E. Blayo, Carnets de campagne - France Inter, September 27, 2018

E. Arnaud, "Sans le numérique, pas de prévision météo !" Dossier C'est quoi le numérique. "Le dauphiné des enfants", numéro 14, novembre-décembre 2018, http://www.ledauphinedesenfants.ledauphine.com/numero-archive/dde2018_14#

In collaboration with teachers, M. Nodet wrote an article about how to set up a "glaciers" for secondary school teachers in Reperes IREM journal [31]

9.3.3. Education

E. Arnaud, animation of a "Laboratoire des mathématiques" in Lycée Pablo Neruda (Saint Martin d'Hères), on the subject of math and critical thinking.

C.Kazantsev is a member of an IREM group for creation of scientific activities for professional development of secondary schools teachers.

C.Kazantsev is the creator and animator of the mathematical club for motivated pupils aged from 8 up to 18 years. 10 meetings for about 20 pupils of 2 hours each have been organized on sunday morning during the year.

C.Kazantsev participated in the meeting "Espace Mathématique Francophone" EMF2018, Gennevilliers, October, 22-26, 2018. Presentation of animations and participation in the working group "Étude des processus de vulgarisation".

C.Kazantsev participated in the elaboration and planning of the permanent exposition of the "Salle de thé" group at the meeting IHP2020, 30 october, Institut Henri Poincaré, Paris.

9.3.4. Interventions

- National events:

    E. Arnaud, M. Nodet. (Se) tromper avec les chiffres. Colloque "Sciences et esprit critique, interroger les certitudes", Maison pour la sciences, Académie de Grenoble, 8 nov. 2018, Grenoble - intervention in a training days for teachers from Education Nationale

    M. Nodet facilitated a yearly math club with three secondary schools around Grenoble, aiming pupils to research open projects ("Math en Jeans" initiative)

    M. Nodet facilitated a workshop about "Math modelling, example with oceanography" for high school and secondary school teachers

    M. Nodet welcomed schoolchildren for short-time internship and offered a small workshop about oceanography

    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 popularization 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 participated in the "Fête de la Science", Parvis de Sciences, October, 13.

Ch. Kazantsev participated in the "Fille et Maths" day, Decembre, 5, with the presentation of the "La Grange des Maths" center and its activities.

Ch. Kazantsev presented the exposition "La recherche se prend au jeu" at the "Culture and mathematical games Salon" by invitation of the Henri Poincaré Institute, Place St Sulpice, Paris, 24-27 May.

- Public exhibitions

  C.Kazantsev participated in the "Oriel des Maths" and in the "Forum des associations" with the presentation of the "La Grange des Maths" center and its activities. Varces, March, 11.

  C.Kazantsev participated at the "Raout de Domène" with the presentation of mathematical animations. Domene, September, 3.

  C.Kazantsev participated at the "Maths en ville" with the presentation of the "La Grange des Maths" center and its activities. Grenoble, November, 28.

- In educational institutions

  L. Debreu gave an introductary lecture on the finite element method at the Ecole des Pupilles de l'AIR (superior mathematics)

  C.Kazantsev presented mathematical animations to pupils of the Poussous scholl in Varces for about 80 children during 3 hours. Varces, March, 15.

9.3.5. Creation of media or tools for science outreach

C.Kazantsev participated in the edition of the Teachers notebooks which explain and advise how to use the "La Grange Suitcases" (sets of mathematical games, problems and animations) destined for primary and secondary schools teachers as well as for the general public.

C.Kazantsev participated in the creation of mathematical activities that can be autonomously used by schoolchildren of primary and secondary schools and by the general public.

E. Arnaud, in charge of the UGA Idex project math@uga : implementation of a collaborative moodle platform http://math.u-ga.fr to share pedagogical resources within teachers and towards students.

E. Arnaud, participation to UGA Idex projects Caseine and data@ugat

ARIC Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of Organizing Committees

- Claude-Pierre Jeannerod and Gilles Villard organized the workshop "Structured Matrix Days" (May 14–15, ENS de Lyon, France).
- Fabien Laguillaumie and Damien Stehlé organized the National Codes and Cryptography Days (Journées C2), in Aussois, France.
- Nathalie Revol co-organized the "École Jeunes Chercheurs et Jeunes Chercheuses en Programmation" (June 25–28, ENS de Lyon, France).
- Bruno Salvy is a co-chair of AofA'2019 (Analysis of Algorithms), in Luminy, France.

10.1.2. Scientific Events Selection

10.1.2.1. Member of Conference Program Committees

Chitchanok Chuengsatiansup was in the program committee of CRYPTO 2018.

Gottfried Herold was in the program committee of INDOCRYPT 2018.

Elena Kirshanova was in the program committee of INDOCRYPT 2018.

Benoît Libert was in the program committees of ACNS 2018, SCN 2018, Asiacrypt 2018, PKC 2019.

Jean-Michel Muller was in the program committee of Arith'25 and ASAP'2018.

Alain Passelègue was in the program committee of PKC 2018.

Nathalie Revol was in the program committee of Arith'25, of SCAN 2018 and of Correctness 2018.

Bruno Salvy was in the program committee for AofA'2018, is in the program committee of FPSAC 2019, in the steering committee of AofA and in the scientific committee of OPSFA 2019.

Damien Stehlé was in the program committees of Eurocrypt 2018, SCN 2018, PQCrypto 2018 and PQCrypto 2019. He is in the steering committee of the PQCrypto conference series.

Fabien Laguillaumie was in the program committee of ACISP 2018

10.1.3. Journals

Jean-Michel Muller is associate editor of the IEEE Transactions on Computers.

Nathalie Revol is a member of the editorial board of Reliable Computing.

Damien Stehlé is a member of the editorial board of the IACR Journal of Cryptology.

Bruno Salvy and Gilles Villard are members of the editorial board of Journal of Symbolic Computation.

Bruno Salvy is a member of the editorial board of the collection *Text and Monographs in Symbolic Computation* (Springer) and has been for 10 years in the editorial board of the *Journal of Algebra* (section Computational Algebra), which he left in March.

10.1.4. Invited Talks

- Claude-Pierre Jeannerod gave an invited talk *Recent results in fine-grained rounding error analysis* at the SCAN 2018 conference (Tokyo, September 10–15, 2018).

- Jean-Michel Muller gave an invited talk *Arithmétique et précision des calculs sur ordinateurs* at the conference *Tous mesureurs, tous mesurés*, organised by the INSHS and INP Institutes of CNRS, Paris, October 18-19, 2018.

- Benoît Libert gave an invited talk *New Applications of the Lossy Mode of LWE* at the *Chinacrypt 2018* conference, organised by the Chinese Association for Cryptologic Research (CACR) in Chengdu (China) on October 27-28, 2018.

- Damien Stehlé gave an invited talk *On algebraic variants of the LWE problem* at the ICERM workshop *Computational Challenges in the Theory of Lattices*, Providence (RI), on April 23-28, 2018. He also gave an invited talk on the same topic at the *Cryptography and Algorithmic Number Theory* workshop, held in Caen on June 20-22, 2018.

- Elena Kirshanova gave an invited talk *Sieving algorithms for the Shortest Vector Problem* at the *Joint Meeting of the Korean Mathematical Society and the German Mathematical Society*, held in Seoul, Korea, on October 3-6, 2018.

- Gottfried Herold gave an invited talk *Sieving in Practice* at the *Joint Meeting of the Korean Mathematical Society and the German Mathematical Society*, held in Seoul, Korea, on October 3-6, 2018.

- Jean-Michel Muller gave an invited talk *Make computer arithmetic great again* at a panel session on the future of computer arithmetic at Arith-25, 25-27 june 2018.

- Bruno Salvy gave an invited tutorial talk at STACS'2018 on random generation of combinatorial structures.

10.1.5. Leadership within the Scientific Community

Claude-Pierre Jeannerod was member of the scientific committee of JNCF (Journées Nationales de Calcul Formel). He was also a member of the recruitment committee for postdocs and sabbaticals at Inria Grenoble Rhône-Alpes.

Jean-Michel Muller is co-director of the *Groupement de Recherche Informatique Mathématique* (GDR IM) of CNRS; he chaired the HCERES evaluation committees of IRIF (UMR 8243, march 2018) and LIX (UMR 7161, october 2018); he is a member of the Scientific Concil of CERFACS; he participated to the jury of the *Prix La Recherche* award in 2018.

Alain Passelègue is a member of the steering committee of the *Groupe de Travail Codage et Cryptographie* (GT-C2) of the GDR-IM.

Bruno Salvy was a member of the HCERES evaluation committees of IRIF.

Damien Stehlé was a member of the jury for *prix de thèse SIF*.

10.1.6. Research Administration

Gilles Villard is a member of the *Section 6* of the *Comité national de la recherche scientifique*.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Claude-Pierre Jeannerod, Nathalie Revol, *Algorithmique numérique et fiabilité des calculs en arithmétique flottante* (24h), M2 ISFA (Institut de Science Financière et d'Assurances), Université Claude Bernard Lyon 1.

Master: Nicolas Brisebarre, Approximation Theory and Proof Assistants: Certified Computations, 18h, M2, ENS de Lyon, France

Master: Elena Kirshanova, Cryptanalysis, 18h, M2, ENS de Lyon, France

Master: Guillaume Hanrot, Cryptanalysis, 18h, M2, ENS de Lyon, France

Master: Damien Stehlé, Hard lattice problems, 36h, M2, ENS de Lyon, France

Post-graduate: Damien Stehlé, Hard lattice problems, 45h, Seoul National University, South Korea

Master: Elena Kirshanova, Computer Algebra, 10h, M1, ENS de Lyon, France

Master: Alexandre Wallet, Computer Algebra, 10h, M1, ENS de Lyon, France

Master: Guillaume Hanrot, Computer Algebra, 10h, M1, ENS de Lyon, France

Master: Bruno Salvy, Computer Algebra, 9h, MPRI, Paris, France

Master: Bruno Salvy, Logic and Complexity, 32h, École polytechnique, France

Master: Vincent Lefèvre, Computer arithmetic, 12h, M2 ISFA (Institut de Science Financière et d'Assurances), Université Claude Bernard Lyon 1.

Bachelor: Bruno Salvy, Design and Analysis of Algorithms, 15h, École polytechnique, France

Post-graduate: Bruno Salvy, Experimental Mathematics, 3h, Atelier jeunes chercheurs, St-Flour, France

Post-graduate: Bruno Salvy, Recent algorithms in symbolic summation and integration, 4h, Journées Louis Antoine, Rennes, France

Master: Fabien Laguillaumie, Cryptography, Security, Université Claude Bernard Lyon 1, 150h

Post-graduate : Fabien Laguillaumie, 2-party Computation and Homomorphic Encryption, 1h, École Cyber in Occitanie, France

10.2.2. Supervision

PhD: Fabrice Mouhartem, Privacy-preserving cryptography from pairings and lattices, ENS de Lyon (UdL), 18/10/2018, Benoît Libert

PhD in progress: Radu Titiu, Pseudo-random functions and functional encryption from lattices, ENS de Lyon (UdL), 01/01/2017, Benoît Libert

PhD in progress: Chen Qian, Additively homomorphic encryption and its applications, ENS de Lyon (UdL), 01/09/2016, Benoît Libert

PhD: Weiqiang Wen, Contributions to the hardness foundations of lattice-based cryptography, ENS de Lyon (UdL), 01/09/2015, Damien Stehlé

PhD in progress: Miruna Rosca, Algebraic variants of the LWE problem, ENS de Lyon (UdL), 01/01/2017, Damien Stehlé

PhD in progress: Alice Pellet–Mary, obfuscation cryptanalysis, ENS de Lyon (UdL), 01/09/2016, Damien Stehlé

PhD in progress: Huyen Nguyen, mathematical foundations of lattice-based cryptography, ENS de Lyon (UdL), 01/09/2018, Damien Stehlé

PhD in progress: Florent Bréhard, Outils pour un calcul numérique certifié -Applications aux systèmes dynamiques et à la théorie du contrôle, Ens de Lyon (UdL), 01/09/2016, Nicolas Brisebarre, Mioara Joldeş (CRNS, LAAS) et Damien Pous (CNRS, LIP, Plume)

PhD in progress: Adel Hamdi, Chiffrement fonctionnel pour le traitement de données externes en aveugle, UCBL (UdL) & Orange, 07/12/2017, Sébastien Canard (Orange), Fabien Laguillaumie

PhD in progress: Ida Tucker, Conception de systèmes cryptographiques avancés reposant sur des briques homomorphes, Ens de Lyon (UdL) et Université de Bordeaux, 17/10/2017, Guilhem Castagnos (IMB, Université de Bordeaux), Fabien Laguillaumie

10.2.3. Committees

Benoît Libert: reviewer for the PhD thesis of Pierre-Alain Dupont, ENS, 29/08/2018.

Damien Stehlé: reviewer for the PhD thesis of Thomas Ricosset, ENSEEIHT, 12/11/2018; reviewer for the PhD thesis of Ilaria Chillotti, UVSQ, 17/05/2018; examiner for the PhD thesis of Rachel Player, Royal Holloway University of London, 19/03/2018; president for the PhD thesis of Guillaume Bonnoron, Ecole nationale supérieure Mines-Télécom Atlantique Bretagne Pays de la Loire, 15/03/2018; jury member for the PhD thesis of Quentin Santos, ENS, 20/12/2018.

Bruno Salvy: member of the HdR committee of Guillaume Chapuy, IRIF, April and of Enrica Duchi, IRIF, November; reviewer for the PhD thesis of Pablo Rotondo, IRIF, September.

Fabien Laguillaumie: reviewer for the PhD thesis of Raphaël Bost, Université Rennes 1, 08/01/2018, Xavier Bultel, Université Clermont Auvergne, 17/05/2018, Vincent Zucca, Sorbonne Université, 25/06/2018, Quentin Santos, ENS, 20/12/2018

Nathalie Revol: examiner for the PhD thesis of Romain Picot, Université Paris 6, 27/03/2018

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Nathalie Revol is a member of the editorial board of interstices; she belongs to the steering committee of MMI (Maison des Mathématiques et de l'Informatique, Lyon)
- Bruno Salvy is "référent chercheur" for the Inria Grenoble Center.

10.3.2. Articles and contents

Nathalie Revol belonged to the working group that elaborated the "7 families of computer science" playcards

10.3.3. Education

Nathalie Revol taught "Dissemination of Scientific Knowledge", 10h, to the 4th year students (between Master and PhD) of ENS de Lyon, France. She has been invited to a panel about "Flashmob" type activities, at ESOF 2018 (EuroScience Open Forum), July 9–14, 2018, Toulouse, France.

Nathalie Revol works with DANE (Délégation Académique au Numérique dans l'Éducation) of Rectorat de Lyon towards educating primary school teachers, by educating educators. She has been invited to present her past activities, using educational robots, at 3es Rencontres Nationales de la Robotique Éducative, October 2–3, Lyon, France.

10.3.4. Interventions

Laurent Grémy and Fabrice Mouhartem gave talks at *Fête de la Science* for a general audience. Nathalie Revol gave talks at *Fête de la Science* for 3 classes (9 years old, 11 years old and 13 years old).

As an incentive for high-school pupils, and especially girls, to choose scientific careers, Nathalie Revol gave talks at Lycée Ella Fitzgerald (Saint-Romain-en-Gal) and Mondial des Métiers (in February 2018). With Jérôme Germoni and Natacha Portier, she organized a day *Filles & Info* in March 2018, gathering about 100 high-school girls of 1e S. She was part of the panel discussing with the audience after the movie "Les figures de l'ombre - Hidden figures" at Comoedia cinema in Lyon in March 2018.

Damien Stehlé received at ENS de Lyon several winning teams of the Alkindi highschool competition. Alice Pellet–Mary and Fabrice Mouhartem gave talks at this event.

AVALON Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Laurent Lefèvre was co-General chair of the conference SBAC-PAD : The International Symposium on Computer Architecture and High Performance Computing, Lyon, France (September 24-27, 2018). He was co-organizer of colloquium : "Digital society vs eco-responsability: impact on billions of connected objects, networks and clouds", with Centre Jacques Cartier, Concordia University, Inria, GDS CNRS EcoInfo, Ecole Normale Superieure of Lyon (November 12-13, 2018). He co-organized the E3-RSD school on Energy Efficiency in Networks and Distributed Systems, Dinard (October 1-4, 2018) and the GreenDays@Toulouse v2.0 (2018 Edition) "From IoT to Exascale, what about energy efficiency and carbon emission reduction ?", Toulouse (July 2-3, 2018)

10.1.1.2. Member of the Organizing Committees

Laurent Lefèvre was co Special Session Organizer of Special Session on High Performance Computing Benchmarking and Optimization (HPBench 2018), during HPCS conference, Orleans (July 16-20, 2018).

Christian Perez served on the Organizing Committee of the 2018 International Conference on High Performance Computing & Simulation (HPCS 2017) as Conference Awards and Recognitions Co-Chair, on the Organizing Comittee of the French Journées Calculs et Données (Lyon, October 24-26) and of the 1st Grid'5000-FIT school (Sophia Antipolis, April 3-6).

Frédéric Suter served in the Organization commitee of the session on Exascale Computing for High Energy Physics of the 14th IEEE International Conference on eScience and chaired the "Parallelism" track of the Conférence d'informatique en Parallélisme, Architecture et Système (Compas 2018).

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Christian Perez was member of the program committees of the IEEE International Conference on Cluster Computing 2018 (Cluster 2018), the 18th IEEE/ACM International Symposium on Cluster, Cloud and Grid (CCGRID 2018), the 26th annual High Performance Computing Symposium 2018 (HPC '18), the 2018 Supercomputing Asia conference, and of the 4th International Workshop on Autonomic High Performance Computing. He was a member of the Birds of Feather Committee of SuperComputing 2018 and of the Tutorial Committee of ISC High Performance 2018.

Olivier Glück was a member of the program committees of PDP 2018 (26th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing) and ICA3PP-2018 (18th International Conference on Algorithms and Architectures for Parallel Processing).

Frédéric Suter was member of program committee of SBAC-PAD 2018 (30th International Symposium on Computer Architecture and High Performance Computing), VECPAR 2018 (13th International Meeting High Performance Computing for Computational Science) and ICA3PP-2018 (18th International Conference on Algorithms and Architectures for Parallel Processing)

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

Christian Perez reviewed articles for the IEEE's Transactions on Big Data journal and for Oil & Gas Science and Technology journal of IFP Energies nouvelles.

Thierry Gautier reviewed articles for the ACM Transaction on Architecture and Code Optimization.

Frédéric Suter reviewed articles for the Journal of Parallel and Distributed Computing and Concurrency and Computation: Practice and Experience.

10.1.4. Invited Talks

Christian Perez has been invited to give the following talks:

- "Towards Reconfigurable HPC Component Models", Invited talk, 4th International Workshop on Autonomic High Performance Computing, Orléans, France, July 17.
- "HPC Component Models", Keynote talk, HPCS, Orléans, France, July 19, 2018.

Thierry Gautier has been invited to give the following talk:

- "Tasks' management in OpenMP: what about performance guarantee?", Maison de la Simulation, November 20, 2018.

Frédéric Suter has been invited to give the following talk:

- "Simulating MPI applications : the SMPI Approach" at the "Modeling and Simulation of HPC Architectures and Applications" mini-symposium at the SIAM Conference on Parallel Processing for Scientific Applications.

10.1.5. Leadership within the Scientific Community

Eddy Caron is animator and co-chair for the FIL (Fédération Informatique de Lyon) on the theme IDCHP (Informatique Distribuée et Calcul Haute Performance).

Laurent Lefèvre is animator and chair of the transversal action on "Energy" of the French GDR RSD ("Réseaux et Systèmes Distribués").

Christian Perez is co-leader of the pole Distributed Systems of the French GDR RSD ("Réseaux et Systèmes Distribués").

10.1.6. Scientific Expertise

Christian Perez reviewed two projects for the Regional Program STIC-AmSud.

Olivier Glück is member of the CNU (Conseil National des Universités) section 27 (Computer Science). He participated to the 2018 "Qualifications" session and "Suivi de carriere" session.

10.1.7. Research Administration

Eddy Caron is Deputy Director in charge of call for projects, research transfert and international affairs for the LIP. He is a member of "Conseil Technologique Logiciel MINALOGIC". He is member and reviewer for InriaHub.

Olivier Glück is member of the "Conseil Académique" of Lyon 1 University and Lyon University.

Christian Perez represents INRIA in the overview board of the France Grilles Scientific Interest Group. He is a member of the executive board and the sites committee of the Grid'5000 Scientific Interest Group and member of the executive board of the Silecs testbed. He is a member of the Inria Grenoble Rhône-Alpes Strategic Orientation Committee. He is in charge of exploring potential scientific collaborations between INRIA and SKA France.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Yves Caniou, Algorithmique programmation impérative initiation, 25h, niveau L1, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Pratique d'Unix, 3h, niveau L1, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Programmation Concurrente, 35h et responsabilité d'UE, niveau L3, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Projet Informatique, 3h, niveau L3, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Réseaux, 45h, niveau L3, Université Claude Bernard Lyon 1, France.

Licence: Yves Caniou, Système d'Exploitation, 32h and responsible of UE, niveau L2, Université d'Ho Chi Minh Ville, Vietnam.

Licence: Yves Caniou, Système d'Exploitation, 39h et co-responsable of UE, niveau L3, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Projet pour l'Orientation en Master, 3h, niveau M1, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Responsible of alternance students, 30h, niveau M1, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Responsible of Master SRIV (Systèmes, Réseaux et Infrastructures Virtuelles), 30h, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Projet Bibliographie et Certifications, 4h and responsible of UE, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Sécurité, 36h et responsible of UE, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Sécurité, 20h, niveau M2, IGA Casablanca, Maroc.

Master: Yves Caniou, Systèmes Avancés, 4.5h, niveau M2, Université Claude Bernard Lyon 1, France.

Master: Yves Caniou, Approfondissement Scientifique, 6h, niveau M2, Université Claude Bernard Lyon 1, France.

Licence: Eddy Caron, Projet 1, 48h, L3, ENS de Lyon. France.

Master: Eddy Caron, Projet Intégré, 42h, M1, ENS de Lyon. France.

Master: Eddy Caron, Système distribués, 30h, M1, ENS de Lyon. France.

Master: Eddy Caron, Advanced Topics in Scalable Data Management, 20h, M2, ENS de Lyon. France.

Licence: Olivier Glück, Licence pedagogical advisor, 30h, niveaux L1, L2, L3, Université Lyon 1, France.

Licence: Olivier Glück, Introduction Réseaux et Web, 32h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Bases de l'architecture pour la programmation, 62h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Algorithmique programmation impérative initiation, 50h, niveau L1, Université Lyon 1, France.

Licence: Olivier Glück, Réseaux, 2x70h, niveau L3, Université Lyon 1, France.

Master: Olivier Glück, Réseaux par la pratique, 8h, niveau M1, Université Lyon 1, France.

Master: Olivier Glück, Responsible of Master SRIV (Systèmes, Réseaux et Infrastructures Virtuelles) located at IGA Casablanca, 20h, niveau M2, IGA Casablanca, Maroc.

Master: Olivier Glück, Applications systèmes et réseaux, 30h, niveau M2, Université Lyon 1, France.

Master: Olivier Glück, Applications systèmes et réseaux, 24h, niveau M2, IGA Casablanca, Maroc.

Master: Olivier Glück, Administration des Systèmes et des Réseaux, 16h, niveau M2, Université Lyon 1, France.

Master: Laurent Lefèvre, Parallélisme, 12h, niveau M1, Université Lyon 1, France.

Master: Laurent Lefèvre, Réseaux avancés, 24h, niveau M2, IGA Casablanca, Maroc.

Licence: Frédéric Suter, Programmation Concurrente, 32h, niveau L3, Université Lyon 1, France.

Master: Jean-Patrick Gelas, Programmation embarquée et mobile des objets, 30h, niveau M1, Université Lyon 1, France

Master: Jean-Patrick Gelas, Introduction au Cloud Computing, 21h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Système d'exploitation, 45h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Projet en Informatique en Anglais, 15h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Réseaux Avancés, 24h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Sécurité et Admin des infra résx, 30h, niveau M2 (CCI), Université Lyon 1, France

Master: Jean-Patrick Gelas, Technologies embarquées, 18h, niveau M2 (Image), Université Lyon 1, France

Master: Jean-Patrick Gelas, Routage (BGP), Routeurs et IPv6, 12.5h, niveau M2, Université Lyon 1, France

Master: Jean-Patrick Gelas, Systèmes embarqués (GNU/Linux, Android, ARM, Arduino), 24h, niveau M2, Université Lyon 1, France

Master: Jean-Patrick Gelas, Analyse de performance, 3h, niveau M2 (TIW), Université Lyon 1, France

Master: Jean-Patrick Gelas, Cloud Computing, 15h, niveau M2 (TIW), Université Lyon 1, France

Master: Jean-Patrick Gelas, Stockage, Cloud et Virtualisation, 9.5h, niveau M2 (SRIV), Université Lyon 1, France

Master: Jean-Patrick Gelas, Développement informatique, 23h, niveau M2 (Data science), Université Lyon 1, France

10.2.2. Supervision

PhD: Issam Raïs, *Discover, model and combine energy leverages for large scale energy efficient infrastructures*, 29 sept. 2018, Laurent Lefèvre (dir), Anne Benoit (Roma Team, LIP, ENS Lyon, co-dir) and Anne-Cécile Orgerie (CNRS, Myriads team, Irisa Rennes, co-dir).

PhD: Hadrien Croubois, *Toward an autonomic engine for scientific workflows and elastic Cloud infrastructure*, 16 oct. 2018, Eddy Caron (dir).

PhD: Philippe Virouleau,*Studying and improving the use of NUMA architectures through runtime systems*, 5 jun. 2018, Fabrice Rastello (Inria, Corse team, dir), Thierry Gautier (AVALON team, LIP, ENS Lyon, co-dir) and François Broquedis (UGA, Corse team, Grenoble, co-dir).

PhD: Adrien Roussel, *Parallelization of iterative methods to solve sparse linear systems using task based runtime systems on multi and many-core architectures: application to Multi-Level Domain Decomposition methods*, 6 fev. 2018, Thierry Gautier (dir), Jean-Marc Gratien (IFPen).

PhD in progress: Dorra Boughzala, *Simulating Energy Consumption of Continuum Computing between Heterogeneous Numerical Infrastructures in HPC*, IPL Hac-Specis Inria, Laurent Lefèvre (dir) , Martin Quinson and Anne-Cécile Orgerie (Myriads, Rennes, co-dir) (since december 2017).

PhD in progress: Anchen Chai: *Simulation of the Distributed Execution of a Medical Imaging Simulator*, Hugues Benoit-Cattin (co-dir, CREATIS, INSA Lyon), Frédéric Suter (co-dir).

PhD in progress: Arthur Chevalier, *Optimisation du placement des licences logiciel des fonctions réseau dans le Cloud pour un déploiement économique et efficace*, Eddy Caron (dir), Noëlle Baillon (co-dir, Orange) (since october 2017).

PhD in progress: Jad Darrous, *Geo-distributed storage for distributed Cloud*, Gilles Fedak (dir) until Aug. 2017 then Christian Perez (dir), Shadi Ibrahim (co-dir).

PhD in progress: Idris Daoudi, *Simulation of OpenMP programs*, Olivier Aumage (dir, Storm team, Bordeaux), Thierry Gautier (co-dir) (since oct. 2018).

PhD in progress: Zeina Houmani, *A Data-driven microservices architecture for Deep Learning applications*, Eddy Caron (dir), Daniel Balouek-Thomert (Rutgers University) (since oct. 2018).

PhD pended: Aurélie Kong-Win-Chang: *Techniques de résilience pour l'ordonnancement de workflows sur plates-formes décentralisées (cloud computing) avec contraintes de sécurité*, Yves Robert (dir, ROMA, ÉNS-Lyon), Eddy Caron (co-dir) et Yves Caniou (co-dir).

PhD in progress: Felipe Rodrigo De Souza, *Networking Provisioning Algorithms for Highly Distributed Data Stream Processing*, École Doctorale, Eddy Caron (dir), Marcos Dias de Assunção (co-dir) (2017-2020).

PhD in progress: Alexandre Da Silva Veith: *Elastic Mechanisms for Big-Data Stream Analytics*, Labex MiLyon, Laurent Lefèvre (dir), Marcos Dias de Assunção (co-dir) (2016-2019).

PhD cancelled: Valentin Lorentz : *Energy traceability of data*, Gilles Fedak (dir), Laurent Lefèvre (co-dir) (2016-2018).

10.2.3. *Juries*

Eddy Caron was reviewer and examiner of the PhD defense committe of Bassirou Ngom. UPMC (Co-tutelle avec l'UCAD). (July 13, 2018). Hajer Salhi., University of Tunis El Manar (Phd defense will be in 2019). and examiner of the PhD defense committe of Anne-Lucie Vion, Université de Grenoble and Orange (March 29, 2018).

Laurent Lefèvre was PhD Opponent and Jury Member of the PhD defense committee of Selome Kostentinos Tesfatsion, Umea University, Sweden (April 16, 2018), reviewer and examiner of the PhD defense committee of Wilfried Yoro, Telecom SudParis (March 8, 2018), reviewer of the PhD of Jungmin Son, University of Melbourne, Australia (May 2018) and examiner of the PhD defense committee of David Guyon, IRISA, University of Rennes 1 (December 7, 2018).

Christian Perez was examiner of the HdR defense committe of Samuel Thibault, University of Bordeaux (December 12, 2018), reviewer and examiner of the PhD defense committe of Pierre Matri, University Polytenics of Madrid, Spain (June 10, 2018), Hugo Taboada, University of Bordeaux (December 11, 2018), Mohamed Abderrahim, University of Bretagne Loire (December 19, 2018), Stéphanie Challita, University of Lille (December 20, 2018), and examiner of the PhD defense committe of Yacine Taleb, European University of Brittany (October 2, 2018).

10.3. Popularization

10.3.1. *Articles and contents*

Laurent Lefèvre has been interviewed for the articles:

- "Le Groupe Casino remplace ses radiateurs par des data centers", Le Point Journal (December 23, 2018)
- "Comment cliquer sans trop polluer", Laurent Lefèvre, Le Progrès Journal, November 21, 2018
- "Google utilise-t-il réellement 100% d'énergie verte pour alimenter ses services ?", Libération, July 13, 2018
- "J'ai le (dé)clic écolo pour réduire mon empreinte", Journal La Vie, February 15, 2018

He was interviewed and filmed for "Pollution numérique/Digital pollution", Journal 19/20, France3 National Channel, December 9, 2018.

10.3.2. Education

Yves Caniou is responsible of the LPI Certification at Université Claude Bernard Lyon 1. Further discussions are in progress concerning the proposed tools and redaction of courses/questions.

In the contexte of the CHEL[s] (Collège des Hautes Etudes Lyon Science[s]) Eddy Caron is mentor for the MedTech project building the start-up VETARIA.

Jean-Patrick Gelas manage and build several modules of education about blockchain technologies for an erasmus+ european project. The BLISS project (Blockchain skills for ICT professionals), aims to improve the skills and competencies of ICT professionals by developing and making available educational resources and materials to address existing occupational needs and mismatches, resulting from the dynamic penetration of blockchain technology across all sectors of the EU economy (including banking, accounting, auditing and government services).

10.3.3. Interventions

Laurent Lefèvre has given several invited talks for :

- "Green-It and Video Games infrastructures - Jeu vidéo et collapsologie #2 : Meetup - Le dématérialisé, ça sauve les pandas ?", Meet-up Game Impact, Paris, November 29, 2018
- "Vers des Data Centers éco-responsables", Data Center World, Paris, November 28, 2018
- "Agile (d'accord !) mais Green (d'abord !)", Agile Tour 2018, Epitech, Bordeaux, November 2-3, 2018
- "Numérique et Environnement", with Françoise Berthoud, Groupe de travail développement durable, Centre Inria Bordeaux, October 19, 2018
- "CES 2018 : l'humain numérique de demain...", Journée Réseau Aramis, University Lyon2, Lyon, May 24, 2018
- "Le futur peut-il être numérique ?", with Françoise Berthoud and Jonathan Schaeffer, Journée Réseau Aramis, University Lyon2, Lyon, May 24, 2018
- "EE@G5K : the story continues...", Grid5000 Scientific Advisory Board, Sophia Antipolis, April 4, 2018
- "Rendre l'informatique plus verte", Conférence de formation des professeurs du secondaire en science informatique, Inria Montbonnot, March 21, 2018
- "WG5 : Energy efficiency final results", Network for Sustainable Computing (Nesus), COST European Action IC1305, Final Action Meeting, with Ariel Oleksiak, Madrid, Spain, March 15-16, 2018
- "CES 2018 - so little Green", Rencontres Ecoinfo, Lyon, January 30, 2018

BEAGLE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Guillaume Beslon co-organized a symposium on "in vivo, in vitro, in silico experimental evolution" during the World Evolution conference. Montpellier, August 2018.

9.1.1.2. Member of the Organizing Committees

- Hugues Berry was a member of the Local Organizing committee of MedInfo2019 (https://medinfo-lyon.org/)
- Eric Tannier was a member of the local Organizing committee of ICGT 2018 (https://projet.liris.cnrs.fr/~icgt2018/)
- Eric Tannier was a member of the local Organizing committee of RECOMB 2018 (http://recomb2018.fr/)
- Anton Crombach is a member of the organizing and scientific committee of the "Advanced Lecture Course on Computational Systems Biology", in Aussois, March 2019. Also,
- Anton Crombach is a member of the organizing committee of "Mathematical Models in Ecology and Evolution", that will take place in Lyon, July 2019.
- Guillaume Beslon served as a member of the Organizing Committee of ICSB (International Conference on Systems Biology), Lyon, October 2018.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Christophe Rigotti was a member of the program committee of the 34rd ACM Symposium On Applied Computing.
- Eric Tannier was a member of the program committee of RECOMB Comparative Genomics
- Eric Tannier was a member of the program committee of ISMB

9.1.2.2. Reviewer

- Eric Tannier reviewed 3 conference articles for Recomb-CG, 3 conference articles for ISMB

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- H. Berry: Associate Editor for PLoS Computational Biology
- Eric Tannier : Recommender for Peer Community in Evolutionary Biology
- Eric Tannier : guest editor for a special issue of Discrete Mathematics and Theoretical Computer Science
- Carole Knibbe and Guillaume Beslon are guest editors for a special issue of the Artificial Life journal, in preparation.

9.1.3.2. Reviewer - Reviewing Activities

- Anton Crombach has reviewed two articles for Nature Communications and a book proposal for Springer-Verlag.

- Eric Tannier has reviewed articles fo Bioinformatics, Bulletin of mathematical biology, PeerJ, Genome biology and evolution, a book chapter for a book on genome evolution,

9.1.4. Invited Talks

- H. Berry - May 2018: Stochastic simulations of calcium signaling in fine astrocytic processes: spatial properties, invited talk at the workshop "Modelisation Stochastique en Biologie", Tours
- H. Berry - Nov 2018: "Modelling the signaling pathways of neuronal plasticity", invited talk at the 10ème journée ITMO Technologies pour la Santé, Strasbourg.
- E Tannier, December 2018: "Gene transfers can date the tree of life" Lille
- Eric Tannier, August 2018: "Treerecs: a fast and easy to use phylogenetic reconciliation software", for the "Software in phylogenomics" workshop, satellite of Evolution 2018, in Montpellier.
- Eric Tannier, February 2018: "Comparative Genomics on artificial life", ALPHY 2018, Montpellier
- Guillaume Beslon gave an invited Keynote at the 10th Symposium on Seach-Based Software Engineering (Montpellier, September 2018)
- Guillaume Beslon gave an invited Keynote at the First International TRANSIT workshop on Cross-disciplinary Research (TWCR 2018). York (UK), April 2018.
- Guillaume Beslon gave an invited conference for the Systems Biology research group, Université Pierre et Marie Curie, Paris, May 2018.

9.1.5. Scientific Expertise

- Guillaume Beslon was a member of the ANR CES45 panel (Mathématique, informatique, automatique, traitement du signal pour répondre aux défis de la biologie et de la santé)

9.1.6. Research and Teaching Administration

- Hugues Berry is Inria's Deputy Scientific Director for the field "Digital Health, Biology and Earth" and has been:
  - Inria's representative on the board of Aviesan
  - Conseiller Scientifique, ITMO Technologies pour la sante
  - Member of the Working Group for the prefiguration of the French Health Data Hub
  - Member of the Comité d'Orientation Scientifique et Stratégique, Institut Français de Bioinformatique (IFB)
  - Memnber of the Comité Directeur of GIS IBISA
  - Member of the Comité des Tutelles for INBS France Life Imaging, FranceBioImaging
  - Member of the steering committee for the Action de Recherche Prospective "Biologie Predictive" of INRA
  - Member of the "Commission des thèses" of the Doctoral School "Info-Maths" (ED 512)
  - Member of the Steering Commitee of GdR IMaBIO (Imagerie et Microscopie pour la BIOlogie, http://imabio-cnrs.fr)
- Eric Tannier is
  - Member of the committee for Open Science, Ministry of Research
  - Member of the Administration Council of Inria
  - Member of the scientific Committee of the Ethics Platform of Université de Lyon
  - Member and founder of the scientific committee of the GTGC (National Working group on Comparative Genomics)
- Guillaume Beslon is a member of the IRD Commission Scientifique Sectorielle 5 (CSS5, Science des données et des modèles). He served as a president of the hiring committee for a position of Chargé de Recherche number 12.

- Christophe Rigotti is an elected member of Insa Scientific board (Conseil Scientifique)
- Carole Knibbe is
  - Member of the Doctoral Studies Committee of Inria Grenoble-Rhone Alpes
  - Head of the Bioinformatics and Modeling master program of INSA-Lyon Since Sept 2017

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master : Audrey Denizot, enzymology and cellular biology, 64h, INSA Lyon

Licence: Christophe Rigotti, Object-Oriented Programming and Graphical User Interfaces, 86h, L2, Department 1er cycle of INSA-Lyon.

Licence: Christophe Rigotti, Simulation of Chemical Reactions, 26h, L2, Department 1er cycle of INSA-Lyon.

Licence: Christophe Rigotti, Numerical Modelling for Engineering, 60h, L2, Department 1er cycle of INSA-Lyon.

Master: Christophe Rigotti, Data Mining, 25h, M1, Bioinformatics and Modeling Department of INSA-Lyon.

Master: Eric Tannier, Bioinformatics, 12h INSA Lyon

Master: Eric Tannier, Bioinformatics, 12h M2 UCBL Lyon

Master: Eric Tannier, Ethique de la recherche, 2h, Lille

Licence: C. Knibbe, Fundamentals of algorithmics and programming, 80 heqTD, L3, Bioinformatics and Modelling program of INSA-Lyon

Licence: C. Knibbe, Architecture of computer systems, 19 heqTD, L3, Bioinformatics and Modelling program of INSA-Lyon

Licence: C. Knibbe, Software development, 32 heqTD, L3, Bioinformatics and Modelling program of INSA-Lyon

Licence: C. Knibbe, HTML/CSS, 4 heqTD, L3, Bioinformatics and Modelling program of INSA-Lyon

Master: C. Knibbe, Careers in bioinformatics and modelling, 20 heqTD, M1, Bioinformatics and Modelling program of INSA-Lyon

License: Jonathan Rouzaud-Cornabas, Object-Oriented Programming, 64h, L3, Computer Science Department, INSA de Lyon

Master: Jonathan Rouzaud-Cornabas, Advanced Operating System Programming, 64h, M1, Computer Science Department, INSA de Lyon

Master: Jonathan Rouzaud-Cornabas, Graphical User Interfaces, 64h, M1, Computer Science Department, INSA de Lyon

Master: Jonathan Rouzaud-Cornabas, High Performance Computing, 84h, M2, Computer Science Department, INSA de Lyon

Master: Jonathan Rouzaud-Cornabas, High Performance Computing, 84h, M2, Bioinformatics and Modeling Department, INSA de Lyon

CNRS GDR Calcul: Jonathan Rouzaud-Cornabas, High Performance Computing, 6h, CNRS

E-learning

Eric Tannier was in the pedagogical team of a Mooc "Ethique de la Recherche", for Ph-D students in France. 4000 participants. He participated to 2 introductory videos (7min).

9.2.2. Supervision

PhD in progress : Vincent Liard, Towards a quantitative digital genetics platform, INSA-Lyon, started Oct 2016, co-supervision: G Beslon, J Rouzaud-Cornabas, C Ofria (Michigan State University, BEACON Center

PhD : Tuan Nguyen, Handling data quality in extraction and selection of evolutions from displacement field time series obtained by satellite imagery, at LISTIC laboratory of University Grenoble Alpes co-supervised by C. Rigotti, defended 10 October 2018.

PhD in progress : Audrey Denizot Simulating calcium signaling in fine astrocytic processes, september 2016, Hugues Berry

PhD in progress : Theo Tricou, Lateral Gene Transfer as a document from extinct and unknown species, 2018-2020 Eric Tannier (50%)

PhD in progress : Alexandre Laverré, cross-influence between gene regulatory landscape and 1D-3D genome organization 2018-2020, Eric Tannier (40%)

M2 student Alexandre Laverré (Eric Tannier)

M1 student Adrien Stadler (Hugues Berry)

M2 student Elisa Denier (Eric Tannier)

M1 student Yvan Cluet (Anton Crombach)

M1 student Damien Agopian (Carole Knibbe)

9.2.3. Juries

- Hugues Berry- HDR: Samuel Bottani, Univ Denis Diderot, Paris, Nov 2018 (reviewer)
- Hugues Berry- PhD: Yi Cui, Univ Descartes, Paris, Dec 2018 (reviewer)
- Hugues Berry- PhD: Franziska Oschmann, TU Berlin, Oct 2018 (reviewer)
- Hugues Berry- search pannel: two assistant professor positions (Univ. Pierre et Marie Curie, INSA Lyon)
- Anton Crombach - tutor on the thesis committee of Elise Parey, IBENS, ENS Paris.
- Guillaume Beslon served as a member of the defence committee for the HDR of Alexandre Muzy. Nice, October 2018.
- Jonathan Rouzaud-Cornabas - Associate Professor Recruitment - Université de Toulouse

9.3. Popularization

9.3.1. Interventions

- Eric Tannier gave a series of four lectures at the Université Populaire de Lyon, on "science and democracy".
- Eric Tannier participated to a round table on scientific communication for the BMIC days, november 2018.
- Audrey Denizot has participated in the organization and animation of activities for children about research during the event "Dans la blouse d'un chercheur" in ENS de Lyon. More specifically, she worked on a project aiming at explaining to children what microbes are, where they are and if/when you should worry about them and what is immunodeficiency. She made a small movie about it.
- Audrey Denizot is a member of a public outreach association : DéMesures. She is in charge of collaborations with external entities, including laboratories, museums and artists collectives. Website: https://demesures.jimdo.com/ Facebook: https://www.facebook.com/DMesures/ Twitter: https://twitter.com/DMesures Radio podcasts: https://demesures.jimdo.com/radio-1/radio-brume/ Interviews are available on our YouTube channel: https://www.youtube.com/channel/UCIn3CucWk1mLgbzE0noO2Iw

- National events: Audrey Denizot organized several events including Fête de la Science 2017 and 2018 and A Nous de Voir 2018, as well as conducted projects such as radio podcasts on science/society topics, interviews of researchers, projects mixing Science and Art.

9.3.2. Creation of media or tools for science outreach

- In collaboration with Sylvain Charlat (LBBE, Lyon), we developed game to present the effect of random mutations on evolution to young children. The "GreenMice" game has been presented to the general public in the "Maison des Mathématiques et de l'Informatique" during the exhibition "Comme par hasard".

CASH Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Member of the Organizing Committees

- Laure Gonnord animates the french compilation community since 2010 (http://compilfr.ens-lyon.fr
- Laure Gonnord has coorganised (with other members of the LIP lab) the doctoral school EJCP (École jeunes chercheur.se.s en programmation), in June 2018.

9.1.2. Chair of Conference Program Committees

- Ludovic Henrio was one of the chairs of the **ICE** 2018 workshop (Interaction and Concurrency Experiences), he will also be chairing **ICE** 2019.

9.1.3. Member of the Conference Program Committees

- Christophe Alias is a PC member of **HiP3ES** 2018 – 6th High Performance Energy Efficient Embedded Systems Workshop. He will be a PC member for **COMPAS** 2019 – Conférence d'informatique en Parallélisme, Architecture et Système.
- Matthieu Moy is a PC member of **DUHDe** 2018 — 5th Workshop on Design Automation for Understanding Hardware Designs.
- Laure Gonnord is a PC member of **TAPAS** 2018 - Ninth Workshop on Tools for Automatic Program Analysis, and **VMCAI** 2018 - 19th International Conference on Verification, Model Checking, and Abstract Interpretation. She will be a PC member of **CAV** 2019 Conference on Computer-Aided Verification.
- Ludovic Henrio is a PC member of **4PAD** 2018 (Formal Approaches to Parallel and Distributed Systems), **FASE** 2019 (Fundamental Approaches to Software Engineering). He will be a PC member of **Coordination** 2019 (Conference on Coordination Models and Languages), **ACSD** 2019 (Application of Concurrency to System Design).

9.1.4. Reviewer

- Christophe Alias was reviewer for **HCW** 2018 – 27th International Workshop on Heterogeneity in Computing.
- Matthieu Moy was reviewer for **DATE** 2018 - Design, Automation and Test in Europe, **MCSoC** 2019 - International Symposium on Embedded Multicore/Many-core Systems-on-Chip
- Laure Gonnord was reviewer for **STACS** 2018 - Symposium of Theorical Aspects of Computer Science.
- Ludovic Henrio was reviewer for **FM'2018**.

9.1.5. Journal

9.1.5.1. Reviewer - Reviewing Activities

- Christophe Alias was reviewer for ACM Transactions on Architectures and Code Optimization (**TACO**, ACM) and **Proceedings of the IEEE**.
- Matthieu Moy was reviewer for the Microprocessors and Microsystems Journal (**MICPRO**, Elsevier).
- Ludovic Henrio was reviewer for **JLAMP** (Journal of Logical and Algebraic Methods in Programming), Elsevier.

9.1.6. Invited Talks

- Matthieu Moy presented a talk "Response Time Analysis of Dataflow Applications on a Many-Core Processor with Shared-Memory and Network-on-Chip" for the 30 years of the LIP laboratory, November 2018.
- Laure Gonnord gave two invited talks at the workshop **FAC Days** (Toulouse) and at the International Conference **LOPSTR 2018** "Experiences in designing scalable static analyses".
- Ludovic Henrio gave an invited talk at **HLPP 2018** "An Overview of (some) Active-object Languages" and at **PASS** 2018 workshop "SafePlace: Trustable Virtual Machine Scheduling".

9.1.7. Research Administration

- Laure Gonnord is member of the doctoral commitee of the Inria Grenoble Rhône Alpes center.
- Laure Gonnord is elected member of the LIP council and the Fédération d'Informatique de Lyon council.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence:

- Christophe Alias, Compilation, CM+TD, 27h, 3A, INSA Centre Val de Loire.
- Laure Gonnord, Algorithmic, C++ Programming, TP: L2, UCBL
- Laure Gonnord, Operating Systems, CM+TD+TP, 24h, L2, UCBL
- Laure Gonnord, Formal Languages, TD+TP, 15h, L3, UCBL
- Laure Gonnord, Logics, TD+TP, 18h, L3, UCBL.
- Matthieu Moy, Concurrent Programming, CM+TD+TP, 57h, L3, UCBL.
- Matthieu Moy, Recursive Programming, TD+TP, 48h, L1, UCBL.
- Matthieu Moy, Software Engineering, CM+TD+TP, 25h, M1, UCBL.
- Matthieu Moy, Git, CM+TP: 12h, L3, UCBL.
- Paul Iannetta, ACM, TD, 32h, L3, ENS de Lyon.
- Julien Braine, Théorie de la programmation, TD/TP, 32h, L3, ENS de Lyon.
- Julien Braine, Projet 1, TP, 32h, L3, ENS de Lyon.

Master:

- Christophe Alias, Compiler optimizations for embedded applications, CM+TD, 27h, 4A, INSA Centre Val de Loire.
- Christophe Alias and Matthieu Moy, Hardware Compilation and Simulation, CM+TD, 36h, M2 Informatique Fondamentale, ENS de Lyon.
- Laure Gonnord, Compilation and Program Analysis, CM, 28h, M1, ENS de Lyon.
- Laure Gonnord, Compilation and program transformations, CM+TD+TP, 35h, M1, UCBL.
- Laure Gonnord, Real Time Systems, CM+TD+TP, 30h, M1, UCBL.
- Laure Gonnord (25%), with Sebastien Mosser, Software Engineering and Compilation, CM+TP, 36h, M2 Informatique Fondamentale, ENS de Lyon.
- Laure Gonnord, Graphs, Complexity, Algorithmics, M1 MEEF (CAPES prepa), CM+TD+TP+oral training, 30h, UCBL.
- Matthieu Moy, Compilation and Program Analysis, TP, 16h, M1, ENS de Lyon.
- Matthieu Moy, Compilation and program transformations, TD+TP, 25h, M1, UCBL.

- Paul Iannetta, Projet intégré, 28h, M1, ENS de Lyon.
- Ludovic Henrio, Distributed Systems: an algorithmic approach, CM+TD, 7h, M2 Specialite IFI (Ingénierie et Fondements de l'Informatique), parcours CSSR, and UBINET, Université de Nice Sophia-Antipolis.

9.2.2. Supervision

- PhD: Amaury Graillat, "Parallel Code Generation of Synchronous Programs for a Many-core Architecture", Univ. Grenoble Alpes, defended on November 16th 2018, supervised by Matthieu Moy (LIP), Pascal Raymond (Verimag) and Benoît Dinechin (Kalray).
- PhD in progress: Gabriel Busnot, "Accélération SystemC pour la co-simulation multi-physique et la simulation de modèles hétérogènes en complexité", Univ. Lyon 1, started in october 2017, supervised by Matthieu Moy (LIP) and Tanguy Sassolas (CEA-LIST).
- PhD in progress: Tristan Delizy, "Dynamic Memory Management For Embedded Non-Volatile Memory", INSA Lyon, started in October 2016, supervised by Guillaume Salagnac (CITI), Tanguy Risset (CITI), Kevin Marquet (CITI) and Matthieu Moy (LIP).
- PhD in progress (from Sept. 2018): Paul Iannetta "Complex data structures scheduling for optimizing compilers", supervised by Lionel Morel (CITI/CEA) and Laure Gonnord (LIP).
- PhD in progress (from Sept. 2018): Julien Braine "Horn Clauses as an Efficient Intermediate Representation for Data Structure Verification", supervised by David Monniaux (CNRS/Verimag) and Laure Gonnord (LIP).
- PhD in progress: Pierre Leca, "Distributed BSP: Active Objects for BSPlib programs", CIFRE Huawei/UNS, started in August 2017, supervised by Gaëtan Hains (Huawei), Wijnand Suijlen (Huawei), Françoise Baude (UNS./I3S), Ludovic Henrio (LIP).

9.2.3. Juries

- Christophe Alias was an expert for the midterm PhD evaluation of Hang Yu from Université Grenoble-Alpes. Hang Yu is supervised by Michaël Perrin and David Monniaux.
- Laure Gonnord was an expert for the midterm PhD evaluation of Sébastien Bonnieux from University Nice Côte d'Azur. Sébastien Bonnieux was supervised by Sébastien Mosser and Mireille Blay-Fornarino.
- Laure Gonnord was reviewer for the PhD of Vincent Botbol from Sorbonne Université entitled "Analyse Statique de programmes concurrents avec variables numériques" and supervised by Emmanuel Chailloux and Tristan Le Gall.
- Laure Gonnord was external jury member for the PhD of Hoby Rakotoarivelo from Université Paris-Saclay entitled "Approche de co-design de noyaux irréguliers sur accélérateurs manycore. Application au cas du remaillage adaptatif pour le calcul intensif" and supervised by Franck Ledoux et Franck Pommereau.
- Laure Gonnord was local jury member for the PhD of Mohammed Amer from Université de Lyon entitled "Centralized Optimization of the Association in IEEE 802.11 Networks" and supervised by Anthony Busson and Isabelle Guérin-Lassous.
- Matthieu Moy was an expert for the midterm PhD evaluation of Joumana Lagha from Ecole centrale de Nantes. Joumana Lagha is supervised by Prof. Olivier H. Roux, Sebastien Faucou and Jean-luc Bechennec.
- Matthieu Moy was reviewer for the Ph.D of Benjamin Rouxel from Université de Rennes 1 entitled "Minimising communication costs impact when scheduling real-time applications on multi-core architectures" and supervised by Isabelle Puaut and Steven Derrien.

9.2.4. Internships

- Bilel Aouadhi, a last year engineer student from Faculté des sciences de Tunis, worked from April 2018 to July 2018 on the implementation of a visualization tool for Data-aware process networks. His was supervised by Christophe Alias and Matthieu Moy, his internship was funded by Université Lyon 1.

- Ligia Novacean, a L3 student from University of Cluj-Napoca (Romania), worked from July 2018 to September 2018 on a DPN-to-C translator for the HLS tool of Xilinx, VivadoHLS. She was supervised by Christophe Alias and Matthieu Moy, her internship was funded by Inria.

- Alexandra Dobre, a L3 student from University of Cluj-Napoca (Romania), worked from July 2018 to September 2018 on the generation of a SystemC simulator from a Data-aware process network. She was supervised by Matthieu Moy and Christophe Alias, her internship was funded by Inria.

- Arthur Gontier, a L3 student from University of Nantes, worked from April 2018 to July 2018 on the formal functional verification of Lustre code with Horn Clauses. He was supervised by Lionel Morel and Laure Gonnord. His internship was founded by the Codas ANR.

- Paul Iannetta, a M2 student from ENS de Lyon, worked from March 2018 to July 2018 on a semantic formalisation of the polyhedral model. He was supervised by Lionel Morel and Laure Gonnord. His internship was founded by the Codas ANR.

9.3. Popularization

9.3.1. Education

- Laure Gonnord is part of the local organisation of the Computer Science preparation for the Agregation examination for future maths teachers (MEEF).

9.3.2. Interventions

- Talk at "Campus du libre" by Matthieu Moy, Doua Lyon, "Pourquoi et comment se lancer dans le libre quand on est étudiant (ou pas) ?", November 2018.

9.3.3. Internal action

- Café développeur by Matthieu Moy, "Utilisation avancée de Git" at LIRIS (2 sessions), October 2018.

9.3.4. Creation of media or tools for science outreach

- Video "Mon équipe en 180 secondes" by Matthieu Moy for the CASH team.

<p style="text-align:center">**Chroma Project-Team**</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- C. laugier was Program Co-Chair of IEEE/RSJ IROS 2018. He also co-organized in the scope of IROS 2018, three interconnected events on Autonomous vehicles: a Workshop having attracted more than 360 people [0]; an Industrial Forum involving international companies(e.g. Renault, Nvidia, Baidu, EasyMile, Ambarella, etc) and having attracted about 80 people; an Autonomous Vehicles Demonstration which involved 5 international teams (including Chroma team with our Autonomous Renault Zoe car) [0].

- C. Laugier has been appointed as General co-Chair for IEEE/RSJ IROS 2019 (Makau).

- O. Simonin was general co-chair of PDIA 2018 "Perspective et Defis de l'IA" with Y. Demazeau (CNRS), organized in Paris Descartes, by AFIA, on October 11. The 2018 topic was "Véhicule Autonome et Intelligence Artificielle" ($\sim$ 80 people).

- O. Simonin is Chair of JFSMA [0] 2019 to be organized at the PFIA national platform, in Toulouse, July 2019.

- O. Simonin is co-chair with F. Chaprillet (Inria Larsen) of the National Conference on Robotics (JNRR), to be organized at Vittel, on October 2019.

10.1.1.2. Member of the Organizing Committees

- C. Laugier co-organized with F. Nashashibi (Inria), Ph. Martinet (Inria) and D. Wang (NTU Singapore) two special sessions on Mobile Robotics and Deep Learning at IEEE ICARCV 2018 (Singapore).

- C. Wolf co-organized the Workshop GDR ISIS & GDR IA on Machine Learning and Reasoning for Signal and Image Processing, October 4th ($\sim$ 90 people).

- F. Jumel is Member of Organizing Committees of the Robocup@Home league.

- F. Jumel is elected member of Technical Committees of the Robocup@Home league.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- O. Simonin is Chair of JFSMA 2019 to be organized at the PFIA national platform, in Toulouse, July 2019.

10.1.2.2. Member of the Conference Program Committees

- C. Laugier was Associate Editor for IEEE ICRA 2018 (Brisbane) and for IEEE ICRA 2019 (Monreal). He was also member of the Senior Program Committee of IEEE/RSJ IROS 2018 (Madrid).

- A. Martinelli was Associate Editor for IEEE ICRA 2019.

- Jilles S. Dibangoye served, in quality of program committee member, for the following conferences: AAAI, IJCAI

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[0]see : http://project.inria.fr/ppniv18
[0]see http://avdemo.car.upm-csic.es/
[0]Journées Francophone sur les Systèmes Multi-Agents https://www.irit.fr/pfia2019/jfsma/

- O. Simonin served, in quality of program committee member, for the following conferences : AAMAS (Autonomous Agent and Multi-agent Systems International Conference) Track Robotics, ICAPS (International Conference on Automated Planning and Scheduling) Track Robotics.
- O. Simonin is Program Committee member of the JFSMA conference since 2008 (Journées Francophones sur les Systèmes Multi-Agents).
- C. Wolf served, in quality of program committee member, for the following conferences: IJCAI, BMVC, CVPR 2018 Workshop on Human Pose, Motion, Activities and Shape in 3D, ECCV 2018 Workshop on Hands in Action.

10.1.2.3. Reviewer

- Agostino Martinelli served, in quality of reviewer, for following conferences: ICRA, IROS.
- Jilles S. Dibangoye served, in quality of reviewer, for the following conferences: AAAI, IJCAI, ICRA.
- Olivier Simonin served, in quality of reviewer, for the following conferences: IROS, ICAPS, ACC.
- Anne Spalanzani served, in quality of reviewer, for the following conferences: IROS, RO-MAN.
- C. Wolf served, in quality of reviewer, for the following conferences: CVPR, NIPS, ICLR, ICML, IJCAI, BMVC.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- C. Laugier is Member of the Steering Committee of the journal IEEE Transaction on Intelligent Vehicles.
- C. Laugier is member of the Editorial Board of the journal IEEE ROBOMECH.
- O. Simonin is a member of the editorial board of RIA Revue d'Intelligence Artificielle.

10.1.3.2. Reviewer - Reviewing Activities

- C. Laugier is Senior Editor of the journal IEEE Transaction on Intelligent Vehicles.
- A. Martinelli served, in quality of reviewer, for the following journals: Transaction on Robotics, Transaction on Automatic Control, Robotics and Automation Letters.
- Jilles S. Dibangoye served, in quality of reviewer, for the following journals: Revue d'Intelligence Artificielle, Mathematics and Artificial Intelligence Journal
- O. Simonin served, in quality of reviewer, for the following journals : Autonomous Robots (AURO) and RIA (Revue d'Intelligence Artificielle).
- Anne Spalanzani served, in quality of reviewer, for the International Journal Robotica.

10.1.4. Invited Talks

- O. Simonin was invited for two talks at "Institut d'Automne en IA (IA^3) : Robotics" (GDR IA), on Ocotber 15th-19th, Toulouse.
- O. Simonin gave an invited talk at the "Journée sur les Systèmes Hors Equilibres" ENS Lyon, November 27 : "Coordination d'essaims de robots, vers des systèmes auto-organisés".
- C. Laugier gave an invited tutorial at "Institut d'Automne en IA (IA^3)", GDR IA, Toulouse, October 15-19 2018.*Title: Autonomous Vehicles Technologies for Perception and Decision-making.*
- C. Laugier gave an invited keynote talk at the ECCV 2018 Workshop on "Vision-based Navigation for Autonomous Vehicles", Munich, September 2018.*Title: Dynamic Traffic Scene Understanding using Bayesian Sensor Fusion and Motion Prediction.*
- C. Laugier gave an invited talk at Vedecom SMIV [0] 2018 conference, Versailles, November 2018.*Title: Dynamic Traffic Scene Understanding: Analysis, Prediction and Collision Risk Assessment.*

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[0]Smart Mobility and Intelligent Vehicles

- C. Laugier gave an invited plenary talk at RWIA [0] 2018 conference, Guangzhou, December 7-10 2018.*Title: Dynamic Scene Understanding and Upcoming Collision Prediction to Improve Autonomous Driving Safety: A Bayesian Approach.*
- A. Spalanzani gave a talk at the "Journée Véhicule autonome et intelligence artificielle" organized by AFIA, Paris Descartes, October 11.
- C. Wolf gave an invited tutorial talk at the national "CORESA" conference, Poitiers, France, on November 12th.
- C. Wolf gave an invited talk at the Strasbourg doctoral school on mathematics, computer science and engineering, Strasbourg, France, on September 21st.
- C. Wolf gave an invited talk at the CVPR 2018 Workshop on "HUMAN 3D: HUman pose, Motion, Activities aNd Shape in 3D", Salt Lake City, USA, June 18th.
- C. Wolf gave an invited talk at the Heudiasyc Laboratory, Compiegne, France, June 5th.
- C. Wolf gave an Invited talk at Inria Stars, Nice, France, May 30th.
- C. Wolf gave an invited talk at the LABRI Laboratory, Bordeaux, France, March 5th.
- C. Wolf gave an invited talk at Inria THOTH, Grenoble, France, February 23rd.
- J.S. Dibangoye was an invited talk at "a NeurIPS-18 international workshop on Deep Reinforcement Learning in partially observable domains" (NeurIPS-18), on December, Montreal, Canada.

10.1.5. Leadership within the Scientific Community

- A. Spalanzani served, in quality of Vice President, for the 2018 ANR project selection in Interaction and Robotics.
- C. Laugier is co-chair with Philippe Martinet and Christoph Stiller, of the IEEE RAS Technical Committee on "Autonomous Ground Vehicles and Intelligent Transportation Systems (AGVITS)".
- C. Laugier is member of the Committee "safety of autonomous vehicles" (committee leaded by ARDI in the scope of the Innovation Regional Strategy).
- C. Laugier is member of the Scientific Committee of the French GDR Robotique.
- C. Laugier is member of several International Award Committee. In 2018, he was Chair of the Best Paper Award Committee of IEEE/RSJ IROS 2018 and Member of several IROS 2018 award committees (Fellow Award, Harashima Award for Innovative Technologies, Distinguished Service Award and Young Professional Award). In 2018, he was also a member of the Best Paper Award Committee of IEEE ICARCV 2018 and Member of the IEEE Chapter Award Committee.
- O. Simonin is an elected member of the Board of AFIA, the French Association for Artificial Intelligence.
- C. Wolf is part of the *Comité de direction* of the GDR ISIS "Information, Signal, Image et ViSion" and co-leads its theme "Machine Learning" (together with N. Thome, CNAM)
- C. Wolf is part of the *Comité scientifique* of the GDR IA "Aspects Formels et Algorithmiques de l'Intelligence Artificielle"
- C. Wolf co-leads the theme "Machine Learning and Robotics" of the GDR Robotique (together with D. Filiat, ENSTA)

10.1.6. Scientific Expertise

- C. Laugier is member of the Advisory Board of ISR University of Coimbra.
- C. Laugier is Scientific Advisor for the ProbaYes SA and for Baidu.
- O. Simonin served, in quality of reviewer, for ANR project submissions.
- J. Dibangoye served, in quality of reviewer, for ANR project submissions.

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[0]International conference on Robotics Welding, Intelligence and Automation

- C. Wolf was part of the ANR Committee CES 33 "Interaction and Robotics"

10.1.7. Research Administration

- C. Laugier is a member of several Ministerial and Regional French Committees on Robotics and Autonomous Cars.
- O. Simonin is an elected member of the AFIA Council (Association Française pour l'Intelligence Artificielle)
- O. Simonin is member of the Auvergne-Rhone-Alpes Robotics cluster (Coboteam), for Inria and INSA de Lyon entities.
- O. Simonin is member of the Scientific Council of the Digital League (Auvergne-Rhone-Alpes).
- F. Jumel is member of the International RoboCup competition (as Chief Referee for the RoboCup@Home league)
- F. Jumel is member of the board of IMAGINOVE cluster (digital content industry)
- F. Jumel is member of the Rhone-Alpes Robotics cluster (Coboteam)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

CPE Lyon 4-5th year : F. Jumel, resp. of the Robotics option, 400h M1/ M2, Dept. SN CPE Lyon France.

CPE Lyon 4-5th year : F. Jumel, 250h (robotic vision, cognitive science, Interface robot machine, deeplearning, Robotic frameworks, robotic plateforms, Kalman Filter)

INSA Lyon 3rd year : Jilles S. Dibangoye, Algorithmics, 24h, L3, Dept. Telecom INSA de Lyon, France.

INSA Lyon 3rd year : Jilles S. Dibangoye, WEB, 42h, L3, Dept. Telecom INSA de Lyon, France.

INSA Lyon 3rd year : Jilles S. Dibangoye, Operating Systems, 56h, L3, Dept. Telecom INSA de Lyon, France.

INSA Lyon 4rd year : Jilles S. Dibangoye, Operating Systems, 16h, Master, Dept. Telecom INSA de Lyon, France.

INSA Lyon 5th year : Jilles S. Dibangoye, the Robotics option : AI for Robotics, Robotics projects, 8h, M2, Dept. Telecom INSA de Lyon, France.

M2R MoSIG: A. Martinelli, Autonomous Robotics, 12h, ENSIMAG Grenoble.

INSA Lyon 5th year : O. Simonin, Resp. of the Robotics option (25 students): AI for Robotics, Software and Hardware for robotics, Robotics projects, 90h, M2, Telecom Dept., France.

INSA Lyon 3rd year : O. Simonin, Resp. of Introduction to Algorithmics, 32h (100 students), L3, Telecom Dept., France.

INSA Lyon 5th year : A. Spalanzani, Navigation en environnement humain, 2h, M2, INSA de Lyon, France.

Master : Laetitia Matignon, Multi-Agents and Self-* Systems, 10h TD, M2 Artificial Intelligence, Lyon 1 University, France.

Master : Laetitia Matignon, Multi-Robot Systems, 20h TD, 5th year of engineer, Polytech Lyon Informatics Department, France.

10.2.2. Supervision

PhD in progress: David Sierra Gonzalez, Autonomous Driving (cooperation Toyota), 2014, C. Laugier, J. Dibangoye, E. Mazer (Inria Prima). Defense planned in March 2019.

PhD in progress: Mathieu Barbier, Decision making for Intelligent Vehicles (cooperation Renault), 2015, C. Laugier, O. Simonin and E. Mazer (Inria Pervasive Interaction). Defense planned in April 2019.

PhD in progress: Mihai Popescu, Robot fleet mobility under communication constraints, 2015, O. Simonin, A. Spalanzani, F. Valois (CITI/Inria Agora).

PhD in progress: Pavan Vasishta, Natural vision based perception and prediction, 2016, A. Spalanzani and D. Vaufreydaz (Inria Pervasive Interaction)

PhD in progress: Guillaume Bono, Global-local Optimization Under Uncertainty for Goods Distribution Using a Fleet of Autonomous Vehicles, 2016, O. Simonin, J. Dibangoye, L. Matignon.

PhD in progress: Remy Grunblatt, Mobilité contrôlée dans les réseaux de drones autonomes", 2017, I. Guerrin-Lassous (Inria Dante) and O. Simonin.

Starting PhD: Maria Kabtoul, Proactive Navigation in dense crowds, A. Spalanzani and P. Martinet (Inria Chorale).

Starting PhD: Manon Prédhumeau, Crowd simulation and autonomous vehicle, A. Spalanzani and J. Dugdale (LIG Hawai).

Starting PhD: Luiz Serafim-Guardini, Conduite Automobile Autonome : Utilisation de grilles d'occupation probabilistes dynamiques pour la planification contextualisée de trajectoire d'urgence à criticité minimale, A. Spalanzani, C. Laugier, P. Martinet (Inria Chorale).

Starting PhD: Benoit Renault, Navigation coopérative et sociale de robots mobiles en environnement modifiable, O. Simonin and J. Saraydaryan.

Starting PhD: Edward Beeching, Large-scale automatic learning of autonomous agent behavior with structured deep reinforcement learning, C. Wolf, O. Simonin and J. Dibangoye.

10.2.3. Juries

1. PhD thesis juries

    – C. Laugier was reviewer and president of the defense committee of the PhD thesis of Fernando Ireta Munoz, I3S Sophia-Antipolis, April 4th 2018.

    – C. Laugier was member of the defense committee of the PhD thesis of Tomasz Kucners, Örebro University (Sweden), September 20th 2018.

    – O. Simonin was reviewer and member of the defense committee of the PhD thesis of Nesrine Mahdoui Chedly, Compiegne (UTC), December 7th, 2018.

    – O. Simonin was reviewer and member of the defense committee of the PhD thesis of Thadeu Knychala Tucci, Université Franche Comté, Montbéliard, November 12th, 2018.

    – C. Wolf was reviewer and member of the defense committee of the PhD thesis of Michaël Blot, Sorbonne Université, Paris, November 11th.

    – C. Wolf was reviewer and member of the defense committee of the PhD thesis of Farhood Negin, Université de Nice, Inria Stars, October 15th.

    – C. Wolf was reviewer and member of the defense committee of the PhD thesis of Bruno Stuner, Université de Rouen, June 11th.

    – C. Wolf was member of the defense committee of the PhD thesis of Stéphane Lathuilière, Université de Grenoble, Inria Perception, May 22nd.

    – C. Wolf was reviewer and member of the defense committee of the PhD thesis of Nicolas Chesneau, Université de Grenoble, Inria Thoth, February 2nd.

10.3. Popularization

10.3.1. Articles and contents

- O. Simonin participated to the writing of "Livre blanc sur les Véhicules Autonomes et Connectés" [0]

- O. Simonin given several interviews in order to popularize AI & Robotics, and Autonomous Vehicles: JDN (Journal du Net), INSA letter, etc.

- C. Laugier, J. Lussereau and J.A. David have been interviewed in October 2018 by Radio France in order to popularize Autonomous Vehicles. The interview has been broadcasted by France Bleu Isere on October 11th 2018 at respectively 6:40 a.m and 8:15 a.m.

10.3.2. Education

- J. Dibangoye created a MOOC on deep reinforcement learning for drones, which will be launched in 2019 on OpenClassRooms.

10.3.3. Interventions

- C. Wolf gave a talk for developers at the journéé ARAMIS on May 24th.
- C. Wolf gave a talk for developers at the conference #MixIT, Lyon on April 20th.

10.3.4. Internal action

- Demo "Crazyflie micro-drones" at the Journées Recherche Inria & Industrie (O. Simonin and S. d'Alu), Paris, November 20th. Lien video : https://youtu.be/Tgwrb4xpJOA

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[0] https://www.inria.fr/actualite/actualites-inria/livre-blanc-vehicules-autonomes-et-connectes

CONVECS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Member of the Organizing Committees

- H. Garavel is a member of the model board [0] of MCC (*Model Checking Contest*). In 2018, he helped preparing new models (especially those in the NUPN format) and verified, using the CÆSAR.BDD tool of CADP, the forms describing all benchmark models submitted by the contest participants; this revealed a number of inconsistencies. The results of MCC'2018 have been published online [51].

- Together with Peter Höfner (Data61, CSIRO, Sydney, Australia), H. Garavel set up a model repository (hosted on the Gforge of Inria) to collect and archive formal models of real systems; this infrastructure is used by the series of MARS workshops [0]. This repository currently contains 21 models, one of which (a Transport Layer Security protocol) was deposited in 2018 by CONVECS.

- G. Salaün is member of the steering committee of the ACM SAC-SVT (*Symposium of Applied Computing – Software Verification and Testing Track*) conference series since 2018.

- G. Salaün is member of the steering committee of the SEFM (*International Conference on Software Engineering and Formal Methods*) conference series since 2014.

- G. Salaün is member of the steering committee of the FOCLASA (*International Workshop on Foundations of Coordination Languages and Self-Adaptative Systems*) workshop series since 2011.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

- G. Salaün was co-chair of ACM SAC-SOAP'2018 (*33rd ACM Symposium of Applied Computing – Service-Oriented Architectures and Programming Track*), Pau, France, April 9–13, 2018.

- G. Salaün was workshops co-chair at STAF'2018 (*Software Technologies: Applications and Foundations*), Toulouse, France, June 25-29, 2018.

- W. Serwe was co-chair of MARS'2018 (*3rd Workshop on Models for Formal Analysis of Real Systems*) affiliated with ETAPS'2018 (*European Joint Conferences on Theory and Practice of Software*), Thessaloniki, Greece, April 20, 2018.

9.1.2.2. Member of the Conference Program Committees

- H. Garavel was program committee member of FVPS'2018 (*International Workshop on Formal Verification of Physical Systems*), Hagenberg, Austria, August 17, 2018.

- F. Lang was program committee member of SPIN'2018 (*25th International SPIN Symposium on Model Checking of Software*), Málaga, Spain, June 20–22, 2018.

- R. Mateescu was program committee member of ICTSS'2018 (*30th IFIP International Conference on Testing Software and Systems*), Cádiz, Spain, October 1–3, 2018.

- R. Mateescu was program committee member of FMICS'2018 (*23rd International Conference on Formal Methods for Industrial Critical Systems*), Maynooth, Ireland, September 3–4, 2018.

- G. Salaün was program committee member of CAL'2018 (*11ème Conférence francophone sur les Architectures Logicielles*), Grenoble, France, June 14–15, 2018.

- G. Salaün was program committee member of COMPSAC'2018 (*IEEE International Conference on Computers, Software, and Applications*), Tokyo, Japan, July 23–27, 2018.

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[0]http://mcc.lip6.fr/models.php
[0]http://www.mars-workshop.org/

- G. Salaün was program committee member of DATAMOD'2018 (*7th International Symposium "From Data to Models and Back"*), Toulouse, France, June 25–26, 2018.
- G. Salaün was program committee member of FACS'2018 (*15th International Conference on Formal Aspects of Component Software*), Pohang, Korea, October 10–12, 2018.
- G. Salaün was program committee member of FOCLASA'2018 (*16th International Workshop on Foundations of Coordination Languages and Self-Adaptative Systems*), Toulouse, France, June 26, 2018.
- G. Salaün was program committee member of HPCS-4PAD'2018 (*5th International Symposium on Formal Approaches to Parallel and Distributed Systems*), Orléans, France, July 16–20, 2018.
- G. Salaün was program committee member of SEFM'2018 (*16th International Conference on Software Engineering and Formal Methods*), Toulouse, France, June 27–29, 2018.
- G. Salaün was program committee member of SAC-SVT'2018 (*33rd ACM Symposium on Applied Computing - Software Verification and Testing Track*), Pau, France, April 9–13, 2018.

9.1.2.3. Reviewer

- G. Barbon was a reviewer for COMPSAC'2018, DATAMOD'2018, and SEFM'2018.
- F. Lang was a reviewer for FoSSaCS'2018 (*21st International Conference on Foundations of Software Science and Computation Structures*).
- A. Muroor Nadumane was a reviewer for COMPSAC'2018, FACS'2018, FOCLASA'2018, SAC-SVT'2018, and SEFM'2018.
- U. Ozeer was a reviewer for COMPSAC'2018.
- R. Mateescu and W. Serwe were reviewers for the Festschrift in honor of Bernhard Steffen.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- H. Garavel is an editorial board member of STTT (*Springer International Journal on Software Tools for Technology Transfer*).

9.1.3.2. Reviewer - Reviewing Activities

- F. Lang was a reviewer for FAoC (*Formal Aspects of Computing*) and ToCL (*ACM Transactions on Computational Logic*).
- R. Mateescu was a reviewer for STTT, ToCL, and TOR (*IEEE Transactions on Reliability*).
- A. Muroor Nadumane was a reviewer for STTT.
- G. Salaün was a reviewer for FAoC, JCC (*Journal of Computer and Communications*), JLAMP (*Journal of Logical and Algebraic Methods in Programming*), SCP (*Science of Computer Programming*), TSE (*IEEE Transactions on Software Engineering*), TSI (*Technique et Science Informatiques*).

9.1.4. Software Dissemination and Internet Visibility

The CONVECS project-team distributes several software tools, among which the CADP toolbox.

In 2018, the main facts are the following:

- We prepared and distributed twelve successive versions (2018-a to 2018-l) of CADP.
- We were requested to grant CADP licenses for 381 different computers in the world.

The CONVECS Web site [0] was updated with scientific contents, announcements, publications, etc.

By the end of December 2018, the CADP forum [0], opened in 2007 for discussions regarding the CADP toolbox, had over 426 registered users and over 1847 messages had been exchanged.

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[0]http://convecs.inria.fr
[0]http://cadp.inria.fr/forum.html

Also, for the 2018 edition of the Model Checking Contest, 4 families of models generated using CADP (totalling 101 Nested-Unit Petri Nets) were provided.

We contributed to Wikipedia as follows:

- We created a new page about the Message Authenticator Algorithm (https://en.wikipedia.org/wiki/Message_Authenticator_Algorithm)

- We added the three last paragraphs of the section about constructing integer numbers (https://en.wikipedia.org/wiki/Integer#Construction)

Other research teams took advantage of the software components provided by CADP (e.g., the BCG and OPEN/CAESAR environments) to build their own research software. We can mention the following developments:

- The RichTest Tool for Message-Passing Concurrent Programs [33]
- The REFINER Tool for Verifying Behavioural Model-to-Model Transformations [63]
- The ALVIS Tool for Modelling and Verification of Real-Time Systems [60]
- The COSTO Tool for Component-Based Software [30]
- The IDCM Tool for Analyzing UML Architectures [52]
- The OCARINA Tool and its Extension AADL2LNT for Analysing AADL Descriptions [58]
- The aZiZa Tool for Heterogeneous Behavioural Models [31]
- The Papyrus-RT Tool for Model-driven Engineering with UML-RT [62]
- Formal Analysis of Distributed Reactive Applications [35], [34]

Other teams also used the CADP toolbox for various case studies:

- Formal Modelling and Verification of an Automatic Train Supervision System [56], [57]
- Verification of Highly-Optimized Concurrent Data Structures [61]
- Detection of Data Breaches in Banking Transaction Processes [54]
- Verification of Visibility-Based Properties on Multiple Moving Robots [59]
- Experimental Analysis of Compositional State Space Generation Strategies [64]
- Product-Line for Families of Program Translators [32]

9.1.5. Invited Talks

- H. Garavel participated in the workshop "*Safety of Future Systems: Science meets Industry*" organized by the Lorentz Center (Leiden, The Netherlands) on April 9–13, 2018. He gave a lecture entitled "*Concurrency Theory Meets IoT*".

- H. Garavel gave an invited talk entitled "*Benchmarking Implementations of Term Rewriting and Pattern Matching in Algebraic, Functional, and Object-Oriented Languages - The 4th Rewrite Engines Competition*" at WRLA'2018 (*12th International Workshop on Rewriting Logic and its Applications*), Thessaloniki, Greece, April 14–15, 2018.

- L. Marsso gave a talk and presented a poster entitled "*Automated Test Generation for GALS Systems*" on March 8, 2018 at the 2nd year PhD LIG Day.

- L. Marsso gave a talk entitled "*Generation with CADP of Relevant Scenarios for Testing Autonomous Cars*" at the seminar of the group TransForm (*Méthodes formelles pour les systèmes de transport*) held in Villeneuve d'Ascq on November 22, 2018.

- L. Marsso gave a talk entitled "*Automated Test Generation for GALS Systems*" at the Scientific day of ARC 6 held in Lyon on November 29, 2018.

- R. Mateescu participated to the Kobe-Grenoble workshop organized by UGA in Grenoble on February 26–27, 2018. He gave a talk entitled "*Rigorous Design of PLC Networks using Formal Methods*" on February 26.

- A. Muroor Nadumane gave a talk entitled "*Building Reliable IoT Application and Beyond*" at the Inria-Nokia Bell Labs meeting held in Paris on November 27, 2018.
- U. Ozeer gave a talk and presented a poster entitled "*Autonomous Resilience of Distributed IoT Applications in a Fog Environment*" on March 8, 2018 at the 2nd year PhD LIG Day.
- U. Ozeer gave a talk entitled "*Autonomous Resilience of Distributed IoT Applications in a Fog Environment*" at the seminar on IoT research projects held at Orange Labs, Meylan, on March 29–30, 2018.
- U. Ozeer presented a poster entitled "*Autonomous Resilience of Distributed IoT Applications in a Fog Environment*" at the LIG seminar "*Regards sur le futur de l'informatique*" held in Grenoble on April 6, 2018.
- U. Ozeer gave a talk entitled "*Resilience of Distributed IoT Applications in a Dynamic Fog Environment*" at the IO Labs seminar held in Paris on October 30–31, 2018.
- G. Salaün gave a keynote talk entitled "*Safe Composition of Software Services*" at DATAMOD'2018, Toulouse, France, on June 26, 2018.

9.1.6. Research Administration

- H. Garavel was appointed to the Executive Commission in charge of International Relations at COMUE Université Grenoble Alpes.
- F. Lang is chair of the "*Commission du développement technologique*", which is in charge of selecting R&D projects for Inria Grenoble – Rhône-Alpes.
- R. Mateescu is the scientific correspondent of the European and International Partnerships for Inria Grenoble – Rhône-Alpes.
- R. Mateescu is a member of the *Comité d'orientation scientifique* for Inria Grenoble – Rhône-Alpes.
- R. Mateescu is a member of the "*Bureau*" of the LIG laboratory.
- G. Salaün is a member of the Scientific Committee of the PCS (*Pervasive Computing Systems*) action of the PERSYVAL Labex.
- W. Serwe is (together with Laurent Lefèvre from the AVALON Inria project-team) correspondent in charge of the 2017 Inria activity reports at Inria Grenoble – Rhône-Alpes.
- W. Serwe is a member of the "*Comité de Centre*" at Inria Grenoble – Rhone-Alpes.
- W. Serwe is "*chargé de mission*" for the scientific axis *Formal Methods, Models, and Languages* of the LIG laboratory.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

CONVECS is a host team for the computer science master entitled "*Mathématiques, Informatique, spécialité : Systèmes et Logiciels*", common to Grenoble INP and Université Grenoble Alpes (UGA).

In 2018, we carried out the following teaching activities:

G. Barbon and W. Serwe supervised each a group of six teams in the context of the "*projet Génie Logiciel*" (55 hours "*équivalent TD*", consisting in 16 hours of lectures, plus supervision and evaluation), ENSIMAG, January 2018.

F. Lang and R. Mateescu gave a lecture on "*Modeling and Analysis of Concurrent Systems: Models and Languages for Model Checking*" (27 hours "*équivalent TD*") to third year students of ENSIMAG and second year students of the MOSIG (*Master of Science in Informatics at Grenoble*).

F. Lang gave a course on "*Formal Software Development Methods*" (7.5 hours "*équivalent TD*") in the framework of the "*Software Engineering*" lecture given to first year students of the MOSIG.

F. Lang and W. Serwe provided a 6-hour training about the CADP toolbox to Eric Jenn, Nicolas Hili, and Sun Wei Tsun (IRT Saint-Exupéry, Toulouse, France) on June 28, 2018.

L. Marsso gave a course on "*Algorithms and Web Programming*" (64 hours "*équivalent TD*") at the department MMI of IUT1 (UGA).

A. Muroor Nadumane gave a course on "*Object Oriented Programming*" (42 hours "*équivalent TD*") at the department MMI of IUT1 (UGA).

G. Salaün taught about 230 hours of classes (algorithmics, Web development, object-oriented programming, iOS programming) at the department MMI of IUT1 (UGA). He is also headmaster of the "*Services Mobiles et Interface Nomade*" (SMIN) professional licence (3rd year of university) at IUT1/UGA.

9.2.2. Supervision

PhD in progress: L. Marsso, "*Formal Methods for Testing Networks of Controllers*, Université Grenoble Alpes, since October 2016, R. Mateescu, W. Serwe, I. Parissis, and Ch. Deleuze

PhD in progress: A. Muroor Nadumane, "*Softwarization of Everything: IoT Service Composition*, Université Grenoble Alpes, since October 2017, G. Salaün, R. Mateescu, L. Noirie, and M. Le Pallec

PhD in progress: U. Ozeer, "*Autonomous Resilience of Applications in a Largely Distributed Cloud Environment*, Université Grenoble Alpes, since November 2016, L. Letondeur, G. Salaün, F.-G. Ottogalli, and J.-M. Vincent

9.2.3. Juries

- G. Salaün was PhD committee member for Gustavo García Pascual's PhD thesis, entitled "*Optimizing Mobile Applications by Exploiting Variability Models at Runtime*", defended at University of Málaga (Spain) on December 18, 2018.

CORSE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Yliès Falcone chaired the programme committee of the Software Verification and Testing track of the 2018 ACM Symposium on Applied Computing.
- Yliès Falcone chaired the scientific organization of the 2nd international school on Runtime Verification.

10.1.1.2. Member of the Organizing Committees

- Fabrice Rastello: Steering Committee ACM/IEEE CGO; Steering Committee "Journées française de la compilation"

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Frédéric Desprez: Closer 2018, HPC '18, SC18 (posters), CEBDA-2018 (with IPDPS'18), CLOUDCOM-2018.
- François Broquedis: IEEE IPDPS 2019, COMPAS 2019
- Fabrice Rastello: ACM SIGPLAN/SIGBED LCTES 2018
- Yliès Falcone: RUME'18, VORTEX'18, 4PAD'18, RV'18, TASE'18, DATE'18

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Frédéric Desprez: IEEE Transaction on Cloud Computing (associate editor)

10.1.4. Invited Talks

- Fabrice Rastello: Saarbruck University: "Automated Derivation of Roofline Performance Limits for Affine Programs"
- Fabrice Rastello: UC Denver: "Automated Derivation of Roofline Performance Limits for Affine Programs"
- Fabrice Rastello: CSU: "Data-Flow/Dependence Profiling for Structured Transformations"
- Frédéric Desprez: CCDSC workshop: SILECS: Super Infrastructure for Large-scale Experimental Computer Science

10.1.5. Leadership within the Scientific Community

- Frédéric Desprez: co-présidence du prix de thèse annuel du GDR Réseaux et Systèmes Distribués (RSD) en collaboration avec l'association ACM SIGOPS France (ASF)
- Frédéric Desprez: Scientific committee of ORAP
- Frédéric Desprez: Technical Committee of GENCI

10.1.6. Scientific Expertise

- Frédéric Desprez: Genci: attribution heures de calcul CT6
- Frédéric Desprez: Groupe de travail "Cloud recherche" du ministère

- Frédéric Desprez: comité des sages IRIT
- Frédéric Desprez: Netherlands Organisation for Scientific Research (NWO), TOP Grants for senior researchers

10.1.7. Research Administration

- Frédéric Desprez: Deputy Scientific Director at INRIA
- Frédéric Desprez: Director of the GIS GRID5000
- Frédéric Desprez: Conseil Scientifique ESIEE Paris

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master 1: Frédéric Desprez, Parallel Algorithms and Programming, 30 hours, M1 MoSIG and CS, UGA, France

License 3: François Broquedis, Imperative programming using python, 40 hours, Grenoble Institute of Technology (Ensimag)

License 3: François Broquedis, Computer architecture, 40 hours, Grenoble Institute of Technology (Ensimag)

License 3: François Broquedis, C programming, 80 hours, Grenoble Institute of Technology (Ensimag)

Master 1: François Broquedis, Operating systems and concurrent programming, 40 hours, Grenoble Institute of Technology (Ensimag)

Master 1: François Broquedis, Operating Systems Development Project - Fundamentals, 20 hours, Grenoble Institute of Technology (Ensimag)

Master 1: François Broquedis, Operating Systems Project, 20 hours, Grenoble Institute of Technology (Ensimag)

Master: Florent Bouchez Tichadou, Algorithmic Problem Solving, 41 hours, M1 MoSIG

Licence: Florent Bouchez Tichadou, Algorithms languages and programming, 113 hours, L2 UGA

Licence: Florent Bouchez Tichadou is responsible of the second year of INF (informatique) and MIN (mathématiques et informatique) students at UGA, eq. 85 hours

Master 1: Yliès Falcone, Proof Techniques and Logic Reminders, MoSIG, 3 hours

Master 1: Yliès Falcone, Programming Language Semantics and Compiler Design, MoSIG and Master informatique, 96 hours

License: Yliès Falcone, Languages and Automata, Univ. Grenoble Alpes, 105 hours

Master: Yliès Falcone, is co-responsible of the first year of the International Master of Computer Science (Univ. Grenoble Alpes and INP ENSIMAG)

10.2.2. Supervision

PhD in progress: Georgios Christodoulis, Adaptation of a heterogeneous run-time system to efficiently exploit FPGA, October 2015, advised by Frederic Desprez, Olivier Muller (TIMA/SLS), and François Broquedis

PhD in progress: Mathieu Stoffel, Static and dynamic approaches for the optimization of the energy consumption associated with applications of the High Performance Computing (HPC) field, February 2018, advised by François Broquedis, Frédéric Desprez, Abdelhafid Mazouz (Atos/Bull) and Philippe Rols (Atos/Bull)

PhD: Ye Xia, Scaling and placement for autonomic management of elasticity of applications in a widely distributed cloud, defended on December 17th 2018, Combining Heuristics for Optimizing and Scaling the Placement of IoT Applications in the Fog, advised by Thierry Coupaye (Orange), Frédéric Desprez, and Xavier Etchevers (Orange)

PhD in progress: Fabian Grüber, Interactive & iterative performance debugging, September 2016, advised by Fabrice Rastello and Yliès Falcone.

PhD: François Gindraud, Semantics and compilation for a data-flow model with a global address space and software cache coherency. Defended on January 11 2018, advised by Fabrice Rastello and Albert Cohen.

PhD: Thomas Messi Nguelé, Domain Specific Languages for Social Networks Analysis on Multi-Core Architectures, defended on September 15 2018, advised by Maurice Tchuenté (Yaoundé I, LIRIMA) and Jean Francois Méhaut

PhD: Philippe Virouleau, Improving the performance of task-based run-time systems on large scale NUMA machines, defended on June 5 2018, advised by Thierry Gautier (INRIA/AVALON), Fabrice Rastello, and François Broquedis

PhD: Antoine El-Hokayem, Decentralised and Distributed Monitoring of Cyber-Physical Systems, defended on December 18 2018, advised by Yliès Falcone.

PhD in progress: Pedro Henrique Penna, Towards an Operating System for Manycore Platforms, October 2017, advised by Marcio Castro (UFSC), François Broquedis, Henrique Cota de Freitas (PUC Minas) and Jean Francois Méhaut.

PhD in progress: Raphaël Jakse, Interactive Runtime Verification, to be defended in Fall 2019, advised by Jean-François Méhaut and Yliès Falcone.

10.2.3. Juries

10.2.3.1. Frédéric Desprez

- François Gindraud, examiner, *Semantics and compilation for a data-flow model with a global address space and software cache coherency*, PhD, Université Grenoble Alpes, January 11, 2018

- Guillaume Latu, reviewer, *Contribution à la simulation haute-performance et aux méthodes de calcul très extensibles*, HDR, Université de Strasbourg, April 18, 2018

- Bastien Confais, reviewer, *Conception d'un système de partage de données adapté à un environnement de Fog Computing*, PhD, Université de Nantes, July 10, 2018

- Hadrien Croubois, examiner/chair, *Toward an autonomic engine for scientific workflows and elastic Cloud infrastructure*, PhD, ENS Lyon, October 16 2018

- Estelle Dirand, examiner, *Développement d'un système in situ à base de tâches pour un code de dynamique moléculaire classique adapté aux machines exaflopiques*, PhD, Université Grenoble Alpes, November 6, 2018

- Ovidiu Marcu, reviewer, *KerA : A Unified Ingestion and Storage System for Scalable Big Data Processing*, PhD, Insa de Rennes, December 18, 2018

- Mohamed Abderrahim, reviewer, *Conception d'un système de supervision programmable et reconfigurable pour une infrastructure informatique et réseau répartie*, IMT Atlantique, December 19, 2018

10.2.3.2. Fabrice Rastello

- François Gindraud, advisor, *Système distribué à adressage global et cohérence logicielle pourl'exécution d'un modèle de tâche à flot de données*, Université Grenoble Alpes, January 11, 2018

- Johannes Doerfert, reviewer, *Applicable and Sound Polyhedral Optimization of Low-Level Programs*, Universität des Saarlandes, December 19, 2018

- Philippe Virouleau, advisor, *Etude et amélioration de l'exploitation des architectures NUMA à travers des supports exécutifs*, Université Grenoble Alpes, June 5, 2018

10.2.3.3. François Broquedis

- Philippe Virouleau, advisor, *Etude et amélioration de l'exploitation des architectures NUMA à travers des supports exécutifs*, Université Grenoble Alpes, June 5, 2018

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Yliès Falcone: Elected member of the Research Council of Univ. Grenoble Alpes.
- Yliès Falcone: Elected member of the Academic Council of Univ. Grenoble Alpes.
- Yliès Falcone: Elected member of the Laboratory Council of the Laboratoire d'Informatique de Grenoble
- Yliès Falcone: Mission Valorisation for the Laboratoire d'Informatique de Grenoble.

CTRL-A Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

Eric Rutten is co-chairing, with Bogdan Robu (Gipsa-lab), the 40th Summer School of Automatic Control, Grenoble, September 2019, on the special topic of Control for Computing Systems.

9.1.2. Scientific Events Selection

9.1.2.1. Chair of Conference Program Committees

Eric Rutten is co-chair, with A. Filieri (Imp. Coll. UK), of the International Workshop on Autonomic High Performance Computing,(AHPC 2018) (http://hpcs2018.cisedu.info/2-conference/workshops—hpcs2018/workshop09-ahpc) part of The International Conference on High Performance Computing & Simulation (HPCS 2018), July 16 - 20, 2018,Orléans, France (http://hpcs2018.cisedu.info/)

9.1.2.2. Member of the Conference Program Committees

Eric Rutten is PC member for :

- international conferences
    - ICAC 2018 (15th IEEE International Conference on Autonomic Computing), Sept 3-7, 2018, Trento, Italy (http://icac2018.informatik.uni-wuerzburg.de/)
    - (Associate Editor) 2nd IEEE Conference on Control Technology and Applications, CCTA 18, Copenhagen, Denmark, August 21-24, 2018 (http://ccta2018.ieeecss.org/)
    - 14th Workshop on Discrete Event Systems, WODES'18, Sorrento Coast, Italy, May 30 - June 1, 2018. (http://wodes2018.unisa.it/)
    - AI-Science'18, workshop on autonomic cyberinfrastructure for science, in conjunction with the ACM HPDC 2018, Tempe, AZ, United States, June 11, 2018 (http://www.hpdc.org/2018/)
    - 16th High Performance Computing & Simulation Conference (HPCS 2018). July 16 ? 20, 2018,Orléans, France (http://hpcs2018.cisedu.info/)
    - UCC Cloud Challenge event in conjunction with IEEE/ACM UCC/BDCAT 2018 in Zurich
      (http://events.cbmi.htw-berlin.de/ucc18-cloudChallenge/index.html)
    - ICAC 2019 (16th IEEE International Conference on Autonomic Computing), Umeøa, Sweden, June 16 ? 20, 2 019 (http://icac2019.cs.umu.se)

9.1.2.3. Reviewer

Eric Rutten is reviewer for SafeProcess 18 and CDC 18.

Stéphane Mocanu is reviewer for WODES'18.

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing Activities

Eric Rutten is reviewer for

- Science of Computer Programming
- IEEE TSC Transactions on Services Computing
- IEEE Transactions on Industrial Informatics

9.1.4. Invited Talks

Eric Rutten was invited to give a talk at :
- FETCH 2018, Ecole d'Hiver francophone sur la technologie de conception des systèmes embarqués hétérogènes, 24-26 Janvier 2018, Saint Malo http://fetch-conference.org
- with J.Ph. Diguet, : WRC: 12th Workshop on Reconfigurable Computing at HiPeac 2018, https://www.hipeac.net/2018/manchester/#/schedule/ Jan. 24, Manchester U.K.
- International Workshop on High Performance and Dynamic Reconfigurable Systems and Networks (DRSN 2018) part of The International Conference on High Performance Computing & Simulation (HPCS 2018), July 16 ? 20, 2018, Orléans, France http://hpcs2018.cisedu.info/
- FETCH 2019, Ecole d'Hiver francophone sur la technologie de conception des systèmes embarqués hétérogènes, Louvain-la-Neuve, Belgique, 28-30 janvier 2019 http://fetch-conference.org

9.1.5. Leadership within the Scientific Community

Eric Rutten is co-chair of the Technical Committee on Discrete Event Systems (DESTC), a part of the IEEE Control Systems Society (CSS) Technical Activities Board (http://discrete-event-systems.ieeecss.org/tc-discrete/home) ; and member of the IFAC Technical Committee 1.3 on Discrete Event and Hybrid Systems, for the 2017-2020 triennum (http://tc.ifac-control.org/1/3).

9.1.6. Research Administration

Eric Rutten is member of the LIG laboratory council, and in charge of scientific relations between Inria Grenoble Rhône-Alpes and CEA Tech.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : G. Delaval, Algorithmics and imperative programming, 18h class, 18h lab, L2, Université Grenoble Alpes

Licence : G. Delaval, Basis of software development : modularity, tests, 15h class, 15h lab, L2, Université Grenoble Alpes

Master : G. Delaval, Programming languages and compiler design, 33h, M1, Université Grenoble Alpes

Master : S. Mocanu, Computer Networks and Cybersecurity, 16h class, 34h lab, M1, Grenoble-INP/ENSE3

Master : S. Mocanu, Industriel Computer Networks, 8h class, 8h lab, niveau (M1, M2), M2, Grenoble-INP/ENSE3

Master : S. Mocanu, Reliability, 10h class, 8h lab, M2, Grenoble-INP/ENSE3

Master : S. Mocanu, Intrusion Detection and Defense in Depth labs, niveau M2, Grenoble-ENSE3/ENSIMAG

9.2.2. Supervision

- PhD : Oualid Koucham ; Détection d'intrusions dans les systèmes de contrôle industriels ; 12 nov. 2018 ; co-advised by S. Mocanu with J-M Thiriet (Gipsa-lab).
- PhD in progress : Chabha Hireche ; Etude et implémentation d'une approche probabiliste de contrôle de mission de drone autonome ; oct. 2015 ; co-advised by S. Mocanu with Catherine Dezan (U. Bretagne Occidentale), and Jean-Philippe Diguet (U. Bretagne Sud).
- PhD in progress : Neïl Ayeb ; Vers un management des objets de l'IoT décentralisé et adaptable ; dec. 2017 ; co-advised by Eric Rutten with S. Bolle, T. Coupaye (Orange labs).

9.3. Popularization

9.3.1. Articles and contents

The Ctrl-A team is featured in a special issue on the numeric world in the "*Dauhiné Libéré des enfants*" (nov.-dec. 2018).

9.3.2. Internal action

The Ctrl-A team participated in the event "mon équipe en 180 secondes" at Inria Montbonnot.

DANTE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Márton Karsai was in the organizing team (general chair) of the Computational Social Science Satellite of the CCS'18 Conference in September 2018 in Thessaloniki
- Márton Karsai was in the organizing team (general chair) of the Machine Learning and Network Science Satellite of the NetSci'18 Conference in June 2018 in Paris

10.1.1.2. Member of the Organizing Committees

- Éric Guichard was the chair and organiser of the summer school *Cartography and visualisation 2018*[0].
- Márton Karsai was in the organising team (sponsor chair) of the NetSci'18 Conference held in June 2018 in Paris
- Márton Karsai was in the organising team (poster chair) of the Complex Networks Conference held in December 2018 in Cambridge

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Thomas Begin was on the PC of the 43nd IEEE Conference on Local Computer Networks (LCN).
- Isabelle Guérin Lassous was, in 2018, a member of the program committee of the conferences ACM MSWiM, IEEE ICC and Globecom.
- Philippe Nain was a member of the program committee of the IFIP Performance 2018 conference (Toulouse, France, december 2018) and of the MAMA 2018 workshop (Irvine, CA, USA, June 2018).
- Márton Karsai was a member of the program committee of the following conferences in 2018: Complenet 2018, MLSN2018, LADAS2018, ICCS2018, Dyno 2018, COMPLEX NETWORKS 2018, NetSci 2018.
- Christophe Crespelle was a member of the program committee of the 10th International Colloquium on Graph Theory and Combinatorics (ICGT 2018).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Isabelle Guérin Lassous is member of the editorial boards of Computer Communications (Elsevier), Ad Hoc Networks (Elsevier) and Discrete Mathematics & Computer Science.
- Anthony Busson is member of the editorial boards of Computer Communications (Elsevier).
- Márton Karsai is member of the editorial boards of Advances in Complex Systems (World Scientific).
- Márton Karsai was the invited editor of the Special Issue on Complex Networks and Their Applications, Applied Network Science, Springer (2018)
- Philippe Nain is a member of the Advisor Board of Performance Evaluation (Elsevier).

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[0]http://barthes.enssib.fr/ECV-2018

10.1.3.2. Reviewer - Reviewing Activities

- Márton Karsai was acting as a reviewer for the journals of Nature Communications, PNAS, PRL, PRX, PRE, Scientific Reports, EPJ Data Science, SNAM, EPL, EPJ B, PLoS One, Journal of Statistical Mechanics, Physics Letter A, Advanced in Complex Systems, Journal of Physics: Condensed Matter, Complex Networks, New Journal of Physics, Physica Scripta, Network Science; and for project agencies as ANR, FET-H2020 RIA.

- Paulo Gonçalves was reviewer for the following journals: IEEE Transactions on Signal Processing, IEEE Signal Processing Letter, Signal Processing (Elsevier).

- Christophe Crespelle was a reviewer for Algorithmica (Springer) and Theoretical Computer Science (Elsevier).

10.1.4. Invited Talks

- Éric Guichard gave a talk at the one-day conference *Humanités et numérique: vers plus de confiance dans la production du discours scientifique*: Les humanités numériques, un slogan creux? (Paris, Dec 4, 2018).

- Éric Guichard gave a talk at the international conference in honor of Gérard Noiriel, called *Héritages et actualités de la socio-histoire*: Comment l'informatique et les statistiques ont aidé à penser l'histoire des catégories juridiques et sociales de l'immigration? (June 14, 2018, Ehess, Paris).

- Éric Guichard gave a talk at the seminar of the PhD students of LIRIS (Univ. Lyon-1): Numérique et fracture sociale (April 3rd, 2018.)

- Éric Guichard gave a talk at the conference « Quelle est l'utilité d'un produit digital connecté dans le monde du sport? », rencontres *maths et industrie* (institut Henri Poincaré, Paris, March 13, 2018).

- Éric Guichard gave a talk at the one-day conference *Imaginaires présents, numérique à venir: impensés et idéologies*: Culture de l'écrit spatial, imaginaires et subjectivités (ESAD St-Etienne, March 7, 2018).

- Éric Guichard gave a talk at the *Séminaire interdisciplinaire PHITECO (Philosophie, Technique et Cognition)*: Epistémologie et philosophie politique du numérique (UTC, Compiègne, Jan 19, 2018).

- Paulo Gonçalves gave a talk at the seminars of the EPC Inria Maracas (Nov. 2018).

- Isabelle Guérin Lassous gave a talk at CUST and NUST in Pakistan and a seminar at the LIG laboratory on Wi-Fi association.

- Thomas Begin gave a talk at DIVA lab of Univ. of Ottawa in Canada on the modeling of DPDK-based virtual switches.

- Thomas Begin gave a talk at CITI Lab of INSA Lyon on Modeling WiFi in a multihop wireless network : feedback on experience.

- Thomas Begin gave a talk at LIP Lab of ENS Lyon on A brief tour of Machine Learning techniques.

- Philippe Nain gave a seminar on A class of stochastic multilayer networks: percolation, exact and asymptotic results, Inria Grenoble (March 22, 2018).

- Márton Karsai gave an invited talk at the Higher Order Models in Network Science, NetSci'18 Satellite (12 June 2018, Paris, France)

- Márton Karsai gave an invited talk at the Art, Networks and Technology, NetSci'18 Satellite (12 June 2018, Paris, France)

- Márton Karsai gave an invited talk at the BrainTime workshop, Institut de Neurosciences de la Timone (18 September 2018, Marseille, France)

- Márton Karsai gave an invited talk at the Language Seminar Series, Laboratoire d'Informatique de Grenoble (20 September 2018, Grenoble, France)

- Márton Karsai gave an invited talk at the Op-La-Dyn workshop, CCS'18 Satellite (26 September 2018, Thessaloniki, Greece)

- Márton Karsai gave an invited talk at the Complex systems for the most vulnerable – UNICEF workshop, CCS'18 Satellite (27 September 2018, Thessaloniki, Greece)

- Márton Karsai gave an invited talk at the SpaceNet workshop, CCS'18 Satellite (27 September 2018, Thessaloniki, Greece)

- Christophe Crespelle gave an invited talk in the Workshop on Graph Theory and Applications at the Vietnam Institute for Advanced Studies in Mathematics (VIASM), Hanoi, Vietnam.

- Christophe Crespelle gave a talk at the ICTLab of the University of Science and Technology of Hanoi (USTH), Vietnam.

10.1.5. Leadership within the Scientific Community

- Éric Fleury is Co-chair of the Networking group ResCom of the CNRS GDR ASR. He is also a member of the scientific committee of the GDR ASR.

- Philippe Nain is the coordinator of the "Strategic Technology Monitoring & Prospective Studies Inria Unit".

10.1.6. Scientific Expertise

- Isabelle Guérin Lassous is a member of the research committee of the Milyon labex.

- Isabelle Guérin Lassous is the president of the HCERES evaluation committee of SAMOVAR.

- Éric Fleury is member of the Inria Advanced and starting research position jury and junior research position (CR2/CR1)

- Éric Fleury has been an expert for the Fund for Scientific Research - FNRS.

- Éric Fleury has been a member of evaluation panels as part of the French National Research Agencys (ANR) and member of the program committee of the ANR ROSE Challenge (RObotique et Capteurs au Service d'Ecophyto)

- Éric Fleury is member of the Inria Evaluation Committee.

- Éric Guichard is a member of the scientific committee of LASCO Idea Lab of the IMT (LAboratoire Sens et COmpréhension du monde contemporain de l'Institut Mines-Télécom).

- Éric Guichard is a member of the international evaluation board of the doctoral program *Filosofia da Ciencia, Tecnologia, Arte e Sociedade* of the University of Lisbon.

- Éric Guichard is the manager of the RAIL [0] (Réseau de l'Atelier Internet Lyonnais), founded in 2017 and supported by IXXI and Enssib.

10.1.7. Research Administration

- Paulo Gonçalves is scientific liaison officer for international relations in Inria Research Centre of Rhône-Alpes.

- Paulo Gonçalves is a member of the executive committee of the Milyon labex and referent for its valorisation committee.

- Paulo Gonçalves is correspondant for the theme "Big Data" of the *Fédération d'Informatique de Lyon*.

- Paulo Gonçalves is member of the Council of the LIP laboratory.

- Isabelle Guérin Lassous is member of the department council of the Computer Science department of Université Lyon 1.

- Isabelle Guérin Lassous is the managing director of the Foundation Blaise Pascal.

- Anthony Busson is member of the Thesis Commission at LIP.

- Anthony Busson is head of the computer science department at IUT (Institut Universitaire de Technologie) - Université Lyon Claude Bernard Lyon 1.

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[0]http://barthes.enssib.fr/RAIL

- Anthony Busson was a HCERES expert member (laboratory LMIA-MIPS - Université de Haute Alsace).
- Thomas Begin is an elected member of the Council of the LIP laboratory.
- Thomas Begin is an elected member of the department council of the Computer Science department of Université Lyon 1.
- Jean Pierre Chevrot is member of the steering committee of the IXXI - Rhône-Alpes Complex Systems Institute.
- Márton Karsai is the co-responsible for the M2 master program in Modelling of Complex Systems at ENS Lyon
- Márton Karsai is the elected council member of the Complex System Society (2015-)
- Márton Karsai is the elected member of executive committee of the Complex System Society (2018-)
- Márton Karsai is the elected member of the steering committee of the IXXI Complex System Institute (2017-)
- Márton Karsai is the member of the computational infrastructure board of LIP
- Márton Karsai is the member of the communication board of LIP
- Éric Guichard is a member of the steering committee of the IXXI Complex System Institute
- Jean-Philippe Magué is a member of the executive committee of the IXXI Complex System Institute
- Jean-Philippe Magué is a member of the executive committee of the Aslan Labex, in charge of the language complexity work package.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence :

Thomas Begin: Computer Networks, 18.5h, L3, Université Lyon 1.

Márton Karsai: Introduction to Complex Networks, 6h, L3, ENS Lyon

Master :

Thomas Begin: Distributed Algorithms, 18h, M1, Université Lyon 1.

Thomas Begin: Computer Networks, 44h, M1, Université Lyon 1.

Thomas Begin: System Administration & Security, 10.5h, M2, Université Lyon 1.

Thomas Begin: Advanced Networks, 58h, M2, Université Lyon 1.

Thomas Begin: Cloud Computing, 9h, M2, Université Lyon 1.

Isabelle Guérin-Lassous: Distributed Algorithms, 30h, M1, Université Lyon 1.

Isabelle Guérin-Lassous: Networking, 14h, M1, Université Lyon 1.

Isabelle Guérin-Lassous: Wireless networks, 9h, M2, Université Lyon 1.

Isabelle Guérin-Lassous: Quality of Service, 5h, M2, Université Lyon 1.

Isabelle Guérin-Lassous: ToIP and streaming, 12h, M1, Université Lyon 1.

Éric Guichard: Économie du web et du document, 36h, M2, Enssib & Univ. Lyon 1.

Éric Guichard: Programmation éditoriale, 18h, M2, Enssib & Univ. Lyon 1.

Márton Karsai: Complex Networks, 36h, M2, ENS Lyon

Márton Karsai: Data Bases Data Mining, 20h, M1, ENS Lyon

Philippe Nain: Performance Evaluation of Computing and Communication Systems (graduate course, Fall semester 2018), 32h, University of Massachusetts, Amherst, USA.

Cycle ingénieur (Bac+3 à Bac+5):

Paulo Gonçalves: Traitement du Signal (déterministe, aléatoire, numérique), Estimation statistique. 80 heures Eq. TD. CPE Lyon, France.

Marion Foare: Traitement du Signal (déterministe, aléatoire), Traitement d'images, Compression, Projets. 115 heures Eq. TD. CPE Lyon, France.

10.2.2. Supervision

HDR defense: Thomas BEGIN, Contributions to the Performance Modeling of Computer Networks. December 2018.

PhD defense: Mohammed AMER,WiFi network management: a SDN approach, Novembre 2018.

PhD in progress: Esteban BAUTISTA RUIZ, Statistical Graph Signal Processing. P. Gonçalves (P. Abry, co-advisor). Started Sept. 1st, 2016.

PhD in progress: Mohamed Adbelwedoud LAFDAL, Inference of conflict graph in IEEE 802.11 networks. September 2017, A. Busson and I. Guérin Lassous

PhD in progress: Samuel UNICOMB, Spreading processes on temporal networks, Oct 2016, E. Fleury and M. Karsai

PhD in progress: Jacobo Levy ABITBOL, Information diffusion and language evolution on dynamical social networks, Oct 2016, E. Fleury and M. Karsai

PhD in progress: Marija STOJANOVA, Performance Modelling of IEEE 802.11 networks , Oct 2016, T. Begin

PhD in progress: Sicheng DAI, Dynamic Multilayer Network Modelling, M. Karsai supervisor (E. Fleury director). Started October 1st, 2017.

PhD in progress: Gaetan FRUSQUE, *Modal Decompositions of Dynamic Graphs : Application in Neurosciences*, P. Gonçalves (P. Borgnat, co-advisor). Started October 1st, 2017.

PhD in progress: Rémy GRÜNBLATT, Controlled mobility for UAV networks, October 2017, I. Guérin Lassous and O. Simonin.

PhD in progress: Dominique BARBE, From local to global learning, P. Gonçalves (P. Borgnat, co-advisor). Started October 1st, 2018.

PhD in progress: Nour el Houda BOUZOUITA, supervised by A. Busson and Hervé Rivano. Wi-Fi network Optimization through crowd sensing applications. November 2018 - November 2021.

10.2.3. Juries

Paulo Gonçalves was a member of the Ph.D thesis examination board of Jean-Charles Vialatte, IMT Atlantique, Université Bretagne Loire, December 2018.

Isabelle Guérin Lassous was a reviewer of the Ph.D thesis examination board of Jonatan Krolikowski, Univ. Paris-Sud ; Raphaël Naves, Univ. de Toulouse ; Antoine Auger, Univ. de Toulouse

Isabelle Guérin Lassous was a president of the Ph.D thesis examination board of Elodie Morin, Univ. Grenoble Alpes ; Jonatan Krolikowski, Univ. Paris-Sud

Isabelle Guérin Lassous was a member of the Ph.D thesis examination board of Narcisse Kamtchoun, UPMC

Isabelle Guérin Lassous was a member of the HdR thesis examination board of Valeria Loscri, Univ. de Lille.

Éric Guichard was a member of the Ph.D thesis examination board of Amélie Turet, Univ. Bordeaux-Montaigne.

Christophe Crespelle was a reviewer of the Ph.D thesis examination board of Thibaud Arnoux, UPMC

Anthony Busson was a jury member of Cristhian IZA PAREDES's PhD thesis. Universitat Politecnica de Catalunya. July 12 July 2018.

Anthony Busson was reviewer and jury member of Lam-Thanh TU's PhD thesis. Université Paris Saclay. 18 June 2018.

Anthony Busson was reviewer and jury member of Nesrine KHERNANE's PhD thesis. Université de Bourgogne Franche comté. 13 November 2018.

Anthony Busson reviewer and jury member of Lucas's RIVOIRARD PhD thesis. Université de Lille. 21 September 2018.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Isabelle Guérin Lassous is the managing director of the Foundation Blaise Pascal. The objectives of the foundation are to promote mathematics and computer science and to attract young people to scientific fields like computer science and mathematics. The actions of the FBP focus on:

- a support to actors that promote mathematics and computer science via allocated funding based on call of proposals;
- a structuring of actors to increase the impacts of their actions, to coordinate the efforts and to share experiences;
- a development of innovative experiences via summer camps and clubs of mathematics and computer science.

10.3.2. Articles and contents

- Éric Guichard wrote an article with Nicolas Schabanel in newspaper *Libération*, September 10, 2018, p. 24: « Copyright numérique: stériliser pour mieux tuer », https://www.liberation.fr/debats/2018/09/09/copyright-numerique-steriliser-pour-mieux-tuer_1677568.
- Éric Guichard gave an interview in newspaper *O Globo* (Brazil), Jan 1st , 2018.

10.3.3. Interventions

Paulo Gonçalves and Eric Guichard animated a citizen meeting on Artificial Intelligence and Social impacts. November 2018. Orliénas. https://www.vepm.net/2018/10/26/cafe-citoyen-orlienas-9-novembre-2018-lintelligence-artificielle/

DATAMOVE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

President of the steering committee of Edu-Europar.

President of the steering committee of EGPGV (Eurographics Symposium on Parallel Graphics and Visualization).

Member of the steering committee of Europar.

Member of the steering committee of *Journée de visualisation scientifique*.

Member of the steering committee of HeteroPar.

Co-chair of the First HPML Workshop collocated with SBAC-PAD Lyon , October 2018.

9.1.1.2. Member of the Organizing Committees

Euro-Par Advisory Board Member

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

ISAV 2018 (Workshop on In Situ Infrastructures for Enabling Extreme-scale Analysis and Visualization) , November, Dallas, USA

EGPGV 2018 (Eurographics Symposium on Parallel Graphics and Visualization), June, Brno, Czech Republic.

LADV 2018 (IEEE Symposium on Large Data Analysis and Visualization), October, Berlin, Germany.

IPDPS 2018 (nternational Parallel and Distributed Processing Symposium), May, Vancouver, Canada.

LATIN, April 2018, Buenos Aires, Argentina.

CCgrid 2018 (18th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing), May, Washington DC.

SPAA (30th ACM Symposium on Parallelism in Algorithms and Architecture), July 2018, Vienna, Austria.

ISPDC, June 2018, Geneva, Switzerland.

CONPAS (Conference d'informatique en Parallelisme, Architecture et Systeme), July 2018, Toulouse, France.

HiPC 2018 (IEEE internat. Conf on High Performance Computing, Data and Analytics), December 2018, Bengaluru, India.

EURO 2018 (29th European Conference On Operational Research), July, Valencia.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

Associate Editor of the Parallel Computing journal PARCO.

Member of the Editorial Board of Computational Methods in Science and Technology.

Member of the Editorial Board of ARIMA (revue africaine de recherche en informatique et maths appliquées).

9.1.4. Scientific Expertise

ANR project evaluation expert

9.1.5. Research Administration

Director of Pôle MSTIC of COMUE Univ. Grenoble-Alpes.

Head of the international Master program (MOSIG1) at Grenoble INP (ENSIMAG)

Steering committee of Grid'5000

Steering committee of GRICAD

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: Denis Trystram is responsible of the first year (M1) of the international Master of Science in Informatics at Grenoble (MOSIG-M1). 200 hours per year in average.

Master: Fanny Dufossé. 30 hours per year. Combinatorial scientific computing in Master at ENS Lyon and Algorithmic in Licence at Grenoble INP.

Master: Pierre-François Dutot. 226 hours per year. Licence (first and second year) at IUT2/UPMF (Institut Universitaire Technologique de Univ. Grenoble-Alpes) and 9 hours Master M2R-ISC Informatique-Systèmes-Communication at Univ. Grenoble-Alpes.

Master: Grégory Mounié. 242 hours per year. Master (M1/2nd year and M2/3rd year) at Engineering school ENSIMAG, Grenoble-INP.

Master: Bruno Raffin. 28 hours per year. Parallel System. International Master of Science in Informatics at Grenoble (MOSIG-M2).

Master: Olivier Richard is responsible of the third year of the computer science department of Grenoble INP. 222 hours per year. Master at Engineering school Polytech-Grenoble, Univ. Grenoble-Alpes.

Master: Frédéric Wagner. 220 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year).

Master: Yves Denneulin. 192 hours per year. Engineering school ENSIMAG, Grenoble-INP (M1/2nd year and M2/3rd year).

9.2.2. Supervision

PhD: Estelle Dirand, Integration of High-Performance Data Analytics and IOs for Molecular Dynamics on Exascale Computer, Univ. Grenoble-Alpes. November 2018. Bruno Raffin and Laurent Colombet (CEA).

PhD: Valentin Reis, Learning to Control Large-Scale Parallel Platforms, Univ. Grenoble-Alpes. October 2018. Advisers: Denis Trystram and Eric Gaussier

PhD in progress: Michael Mercier, Resource Management and Job Scheduling in HPC–Cloud environments towards the Big Data era, Univ. Grenoble Alpes. Started October 2016. Advisers: Olivier Richard and Bruno Raffin.

PhD in progress: Alessandro Kraemer, Scheduling in the Cloud, Univ Grenoble-Alpes and UFPR (co-tutelle). Started October 2014. Advisers: Olivier Richard and Denis Trystram.

PhD in progress: Mohammed Khatiri, Tasks scheduling on heterogeneous Multicore, Univ. Grenoble-Alpes and University Mohammed First (co-tutelle), Advisers: Denis Trystram, El Mostafa DAOUDI (University Mohammed First, Oujda, Morocco)

PhD in progress: Adrien Faure, Scheduling with Resource Augmentation, Advisers: Denis Trystram

PhD in progress: Clément Mommessin, Scheduling on heterogeneous platforms, Advisers: Denis Trystram

PhD in progress: Loris Felardos, Deep Learning for the Analytics of Molecular Systems, Advisers: Bruno Raffin, Guillaume Charpiat (Inria team Tau), Jérome Hénin (IBPC).

PhD in Progress: Salah Zrigui, Learning Scheduling Strategies, Advisers: Denis Trystram and Fanny Dufossé.

9.2.3. Juries

PhD Defense of Jonathan Sarton, Visualisations interactives haute-performance de donnes volumiques massives : une approche out-of-core multi-resolution basee GPUs, 28 Novembre 2018, Université de Reims Champagne-Ardenne. Reviewer

PhD Defense of Adrian Perez Dieguez, Parallel Prefix Operations on Heterogeneous Platforms, December 2018, Universidad da Coruna. Reviewer.

PhD Defense of Khalil Labidi, Parallelisation of hybrid metaheuristics for COP solving, 20 septembre 2018, Université de Tunis et Université Paris-Dauphine. President

PhD Defense of Stéphane Durand, Contrôle distribué et théorie des jeux : application aux systèmes auto-optimisants, 13 décembre 2018, Univ Grenoble Alpes. President

HDR Defense of Samuel Thibault, 13 décembre 2018, University Bordeaux I. Reviewer

9.3. Popularization

9.3.1. Interventions

- Talk *Des besoins en calcul de plus en plus performant* for the conference cycle "Accompagnement de l'informatique au lycée en 2018".

DATASPHERE Team

10. Dissemination

10.1. Promoting Scientific Activities

Stéphane Grumbach has been co-director of IXXI since 2014. He is also involved in the Anthropocene Group at ENS Lyon, which promotes interdisciplinary research and teaching activities on issues related to the adaptation to the changes of the natural ecosystem. He is involved in various initiatives to promote scientific knowledge to a wider audience, as well as in cooperation with public administrations (local and national) to face the challenges of the digital revolution.

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Kavé Salamatian Organised the 3rd French-Japan CyberSecurity workshop in Annecy in April 2018.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Kavé Salamatian is professor at Université de Savoie.

Stéphane Grumbach is lecturer at SciPo Paris, where he teaches Master courses (M1, M2) on the Economy of Data. He also regularly gives lectures in universities, including ENA, ENS Lyon, Ecole centrale, Insa Lyon, etc.

10.2.2. Supervision

PhD in progress: Jingxiu Su, DNS data analysis, 2016, directeur de thèse Kave Salamatian

PhD in progress: Colin GERARD, Stratégies d'influence de la Russie sur les réseaux sociaux, 2018 PhD in progress with Institut Français de Géopolitique, sponsored by DGA, Director: Frederick Douzet

10.3. Popularization

Various publications have appeared in journals accessible to a larger audience [3], [2].

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

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events Organisation

7.1.1.1. General Chair, Scientific Chair

- Olivier Gandrillon International Conference of Systems Biology 2018, Lyon, France http://icsb2018-france.com/.

7.1.1.2. Member of the Organizing Committees

- Fabien Crauste, International Conference of Systems Biology 2018, Lyon, France http://icsb2018-france.com/.
- Laurent Pujo Menjouet, co-organization of the minisymposium « Hematopoiesis and its disease » at ECMTB 2018, 11th European Conference on Mathematical and Theoretical Biology, Lisbon, Portugal, 23 – 27 July , 2018

7.1.2. Scientific Events Selection

7.1.2.1. Reviewer

M .Adimy : 2nd International Conference on Applied Mathematics (ICAM 2018), 2018 Fez-Morocco,

7.1.3. Journal

7.1.3.1. Member of the Editorial Boards

- O. Gandrillon Associate editor for BMC research notes
- M. Adimy Journal of Nonlinear Systems and Applications; Chinese Journal of Mathematics.
- L. Pujo Menjouet :Associate editor of PLOS ONE Journal of Thoerical Biology, Mathematical modelling of natural phenomena

7.1.3.2. Reviewer - Reviewing Activities

- O. Gandrillon : BioEssays, BioTechniques, BMC Bioinformatics, BMC Genomics, Cell Biology and Toxicology, Genes, Genomics, Journal of the Royal Society Interface, Journal of Theoretical Biology, Molecular BioSystems, Nature Communications, npj Systems Biology and Applications, Plos Computational Biology and Progress in Biophysics and Molecular Biology
- L. Tine Journal of Theoretical Biology
- T. Lepoutre Applied Mathematical Letters, Journal of Differential Equations, Siam Journal of Mathematical Analysis, Marrow
- L. Pujo Menjouet Journal of Theoretical Biology Bulletin of mathematical biology Journal of mathematical biology Plos computational biology
- S. Bernard J Theor Biol, Comput and Appl Math, J Roy Soc Interface

7.1.4. Invited Talks

- S Bernard, Modélisation mathématique de la croissance et de la réparation tissulaire, Fondation Les Treilles, Tourtour FR, 12-17/11/2018
- S Bernard, Workshop Mathematics of Biological rhythms, Northunbria University, Newcastle, 3-5/12/2018
- Thomas Lepoutre : Mathematical perspetives in the biology and therapeutics of cancer, Cirm, Luminy France, https://mathscancer.sciencesconf.org/

- Thomas Lepoutre : Mathematical Challenges in the Analysis of Continuum Models for Cancer Growth, Evolution and Therapy, CMO, Oaxaca MEXICO, https://www.birs.ca/events/2018/5-day-workshops/18w5115
- Mostafa Adimy, 2nd International Conference on Applied Mathematics (ICAM 2018), Fez-Morocco.
- Mostafa Adimy, 2ème Colloque des Mathématiciens Marocains à l'étranger, Marrakech-Morocco.
- Mostafa Adimy, 8th Mathematical and Biological School (Programa Argentino BIOMAT), Córdoba-Argentina.
- Mostafa Adimy, Mathematical Challenges in the Analysis of Continuum Models for Cancer Growth, Evolution and Therapy, Oaxaca, Mexico. https://www.birs.ca/events/2018/5-day-workshops/18w5115
- Laurent Pujo Menjouet, talk at the minisymposium « Topics in structured population dynamics » ECMTB 2018, 11th European Conference on Mathematical and Theoretical Biology, Lisbon, Portugal, 23 – 27 Juillet , 2018
- Laurent Pujo Menjouet, LIAM-IRC-MfPH 2018 Symposium in Structured population models: theory, numerics and applications, 27-29 août 2016

7.1.5. Leadership within the Scientific Community

- O . Gandrillon : Director of BioSyL, the Federative Research Structure for Systems Biology attached to University of Lyon
- T. Lepoutre : Head of the Groupe de Recherches CNRS MAMOVI on applied mathematical modelling in Life Sciences.

7.1.6. Scientific Expertise

- L. Pujo Menjouet: reviewer for ANR

7.1.7. Research Administration

- L.M. Tine :Membre conseil du département de Mathématiques, Lyon 1
- L.M. Tine Co-responsable de l'enseignement TMB (Techniques Mathématiques de Base) du portail PCSI.
- M. Adimy : Comité scientifique (COS) du centre Rhône-Alpes.
- M. Adimy : Comité scientifique (CS) de l'Institut Camille Jordan.
- M. Adimy : Comité des thèses de l'Institut Camille Jordan.
- M. Adimy : Comité d'évaluation de l'Université de Guyane.
- L. Pujo- Menjouet : Responsable de la filière mathématiques pour la biologie et la médecine pour le master 2 math en actions à l'université Claude Bernard Lyon 1,
- L. Pujo- Menjouet : correspondant mobilité international pour le département de mathématiques à l'université Claude Bernard Lyon 1,
- L. Pujo- Menjouet : directeur du portail mathématiques et informatique à l'université Claude Bernard Lyon 1,
- T. Lepoutre member of the CORDI-S commission.

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence: Samuel Bernard: Algèbre Linéaire, 15h, L3, INSA

Licence: Samuel Bernard: EDO-EDP, 15h, L3, INSA

Licence : Ronan Duchesne, Anglais, 5h, L3

Licence : Ronan Duchesne, Modélisation des systèmes biologiques, 22h, L3

Licence : Ronan Duchesne, Bioinformatique, 20h, L3

Licence : Ronan Duchesne, Développement, 4h, L3

Licence : Simon Girel, Fondamentaux des mathématiques 1, 86h, L1, Université Lyon 1, France

Licence : Simon Girel, Introduction à l'analyse numérique, 10h, L1, Université Lyon 1, France

Licence: Laurent Pujo Menjouet, Fondamentaux des mathématiques I, 138h EQTD, L1, UCBL 1, FRANCE

Licence: Laurent Pujo Menjouet, Introduction à l'analyse numérique, 62h EQTD, L2, UCBL 1, FRANCE

Licence: Laurent Pujo Menjouet, bio-mathématiques et modélisation BISM, 10.5h EQTD, L3 UCBL 1, FRANCE

Licence: Laurent Pujo Menjouet, 3ème année biosciences BIM: EDO, 35h EQTD, INSA Lyon, FRANCE

Licence : L. M. Tine, Techniques mathématiques de base, 53h (EqTD), niveau L0, Lyon 1, France.

Licence : L. M. Tine, Techniques mathématiques de base, 62h (EqTD), niveau L1, Lyon 1, France.

Licence : L. M. Tine, Initiation LaTex+ stage, 12h (EqTD), niveau L3, Lyon 1, France.

Master : Samuel Bernard, Population Dynamics, 36h ETD, M2, UCBL, Lyon.

Master : Mostafa Adimy, Population Dynamics, 9h ETD, M2, UCBL, Lyon.

Master : Mostafa Adimy, Epidemiology, 12h ETD, M2, UCBL, Lyon.

Master : Ronan Duchesne, Biologie du développement, 12h, M1

Master : Ronan Duchesne, Statistiques, 2h, M1

Master : Ronan Duchesne, Adaptation, 2h, M1

Master : Ronan Duchesne, Practicals in statistics and modelling for the biosciences, 28h, M2

Master: Thomas Lepoutre, préparation à l'option pour l'agrégation, 45 h eq TD, M2 UCBL 1, FRANCE

Master: Laurent Pujo Menjouet, maths appliquées et statistiques: Systèmes dynamiques, 78h EQTD, M1, UCBL 1, FRANCE,

Master: Laurent Pujo Menjouet, master modélisation des systèmes complexes: modelling biology and medicine, M2, 9h EQTD, ENS-Lyon, FRANCE

Master: Laurent Pujo Menjouet,INSA 4ème année biosciences BIM: ED-EDP, 22h EQTD, M1 INSA Lyon, FRANCE

Master: L. M. Tine, Maths en action, Remise à niveau analyse, 12h (EqTD), niveau M2, Lyon 1, France.

Master: L. M. Tine, Maths en action, épidémiologie, 18h (EqTD), niveau M2, Lyon 1, France.

7.2.2. Supervision

PhD in progress: Aurélien Canet, "Contribution à l'étude de la quantification de la réponse d'une tumeur solide après un traitement par radiothérapie", Université Lyon, since January 2016, encadrants: Larry Bodgi, Nicolas Foray and Laurent Pujo Menjouet.

PhD in progress: Kyriaki Dariva , "Modélisation mathématique des interactions avec le système immunitaire en leucémie myéloide chronique". Université Lyon 1, September 2018, supervisor : Thomas Lepoutre

PhD in progress: Ronan Duchesne, "Vers un modèle multi-échelle de la différentiation cellulaire : Application à la différentiation érythrocytaire", École normale supérieure de Lyon and Université Lyon 1, since September 2016, supervisors: Olivier Gandrillon and Fabien Crauste.

PhD in progress: Alexey Koshkin, Inferring gene regulatory networks from single cell data , ENS de Lyon, since September 2018, supervisors : Olivier Gandrillon and Fabien Crauste.

PhD in progress : Paul Lemarre, " Modélisation des souches de prions". Université Lyon 1, since May 2017, supervisors Laurent Pujo Menjouet et Suzanne Sindi (University of California, Merced)

PhD : Arnaud Bonnafoux, Vers une inférence automatique de réseaux de gènes dynamiques à partir de « mégadonnées » temporelles discrètes acquises sur cellules uniques, Université Lyon 1, October 2018, Olivier Gandrillon (CIFRE with the COSMOTECH).

PhD : Loïs Boullu, Modélisation de la mégacaryopoïèse et applications aux maladies liées â la production des plaquettes, Université Lyon 1, November 2018, Laurent Pujo Menjouet and Jacques Bélair (co-tutelle avec l'Université de Montréal).

PhD : Simon Girel, Modélisation de la réponse immunitaire T CD8 : analyse mathématique et modèles multi-échelles, Université de Lyon, November 2018 , encadrant: Fabien Crauste.

PhD : Ulysse Herbach, Modèles graphiques probabilistes pour l'inférence de réseaux de gènes, Université Lyon 1, September 2018, Olivier Gandrillon, Thibault Espinasse (ICJ) and Anne-Laure Fougères (ICJ).

7.2.3. Juries

We separate the juries of team members from external participations. PhD Defense within the team in 2018

- Arnaud Bonnaffoux (O. Gandrillon supervisor),
- Lois Boullu (L. Pujo Menjouet supervisor, M. Adimy and F. Crauste examiners),
- Ulysse Herbach (O. Gandrillon supervisor)
- Simon Girel (F. Crauste supervisor L. Pujo Menjouet examiner).
- M. Adimy: PhD of Linlin Li, Mathematical analysis of a model of partial differential equations describing the adaptation of mosquitoes facing the usage of insecticides, University of Bordeaux, reviewer.
- M. Adimy: PhD of Zhengyang Zhang, A class of state-dependent delay differential equations and applications to forest growth, University of Bordeaux, examiner.
- V. Volpert: PhD of Guillaume Cantin, Étude de réseaux complexes de systèmes dynamiques dissipatifs ou conservatifs en dimension finie ou infinie. Application à l'analyse des comportements humains en situation de catastrophe. Université Le Havre Normandie, examiner.
- S. Bernard : Charles Rocabert, Etude de l'évolution de micro-organismes bactériens par des approches de modélisation et de simulation informatique, INSA Lyon, (examiner)

7.3. Popularization

7.3.1. Articles and contents

- L. Pujo Menjouet : interview dans Causette (hors série Juillet-Août 2018)
- L. Pujo Menjouet : interview dans le magazine Society (fin juillet 2018)

7.3.2. Interventions

- T. Lepoutre: Visite de l'inria pour les stagiaires de 3e de l'ICJ (plusieurs fois dans l'année, une matinée en général).
- T. Lepoutre: présentation de l'antenne et des équipes à deux classes lors du congrès Maths en Jeans (mars 2018)
- T. Lepoutre participation to MathaLyon interventions
- L. Pujo Menjouet : participation à Math en Jeans édition 2018 (collège de la côte Roannaise, Renaison)
- L. Pujo Menjouet : présentation de deux conférences au collège de Saint Bonnet le château le 21 juin 2018

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ELAN Team

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8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Member of the Conference Program Committees

- Florence Bertails-Descoubes, member of the ACM SIGGRAPH Technical Program Committee in 2018 and 2019, and the Eurographics Technical Program Committee in 2018 and 2019.

8.1.2. Journal

8.1.2.1. Reviewer - Reviewing Activities

- Florence Bertails-Descoubes, Reviewer in 2018 for ACM Transaction on Graphics, ACM SIGGRAPH Asia 2018, Soft Matter, Royal Society Open Science.

8.1.3. Invited Talks

- Florence Bertails-Descoubes, invited talk at IUSTI, Marseille, June 2018 (contact: O. Pouliquen, équipe Écoulements de Particules).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Licence : Raphaël Charrondière, Calcul matriciel et fonctions de plusieurs variables, 36h éq TD, L2, Université Grenoble Alpes

Licence : Florence Bertails-Descoubes, Méthodes Numériques, 18h éq TD, L3, ENSIMAG 1A, Grenoble INP.

8.2.2. Supervision

PhD in progress : Mickaël Ly, Static inverse modelling of cloth, 01 octobre 2017, Florence Bertails-Descoubes and Mélina Skouras.

PhD in progress : Haroon Rasheed, Inverse dynamic modeling of cloth, 01 novembre 2017, Florence Bertails-Descoubes, Jean-Sébastien Franco, and Stefanie Wuhrer

PhD in progress : Raphaël Charrondière, Modeling and numerical simulation of elastic inextensible surfaces, 01 septembre 2018, Florence Bertails-Descoubes and Sébastien Neukirch.

8.2.3. Juries

Florence Bertails-Descoubes, member (Rapportrice) of Ph.D. Thesis committee of E. Cottenceau (10 avril 2018), ENSAM Lille (directeur de thèse : O. Thomas)

Florence Bertails-Descoubes, member (Rapportrice) of Ph.D. Thesis committee of S. Salamone (4 juillet 2018), Institut Charles Sadron à l'Université de Strasbourg (directeur de thèse : T. Charitat)

Florence Bertails-Descoubes, member (Rapportrice) of Ph.D. Thesis committee of S. Poincloux (15 octobre 2018), Laboratoire de Physique Statistique de l'ENS Paris (directeurs de thèse : F. Léchenault et M. Adda-Bedia).

8.3. Popularization

8.3.1. Articles and contents

- Interview about our past work on hair and cloth for a press article in Dauphiné Libéré des Enfants in November 2018.
- Press interview about our SIGGRAPH Asia paper on inverse shell design for an ACM Press Release in November 2018.

ERABLE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Giuseppe Italiano is member of the Steering Committee of the *Workshop on Algorithm Engineering and Experimentation (ALENEX)*, of the *International Colloquium on Automata, Languages and Programming (ICALP)*, and the Workshop/Symposium on Experimental Algorithms (SEA).

- Alberto Marchetti-Spaccamela is a member of the Steering committee of *Workshop on Graph Theoretic Concepts in Computer Science (WG))*, and of *Workshop on Algorithmic Approaches for Transportation Modeling, Optimization, and Systems (ATMOS)*.

- Arnaud Mary is member of the Steering Committee of *Workshop on Enumeration Problems and Applications (WEPA)*.

- Marie-France Sagot is member of the Steering Committee of *European Conference on Computational Biology (ECCB)*, *International Symposium on Bioinformatics Research and Applications (ISBRA)*, and *Workshop on Enumeration Problems and Applications (WEPA)*.

- Alexander Schönhuth is member of the Steering committee of the *Research in Computational Molecular Biology, satellite conference on massively parallel sequencing (RECOMB-seq)*.

9.1.1.2. Member of the Organizing Committees

- Marie-France Sagot was co-organiser of the Dagstuhl Seminar on "Algorithmic Enumeration: Output-sensitive, Input-Sensitive, Parameterized, Approximative", Dagstuhl Schloss, Oct 14 to 19, 2018.

- Alexander Schönhuth was main organiser of main organizer of the Lorentz workshop on "Single Cell Data Science", Lorentz center, Leiden, June 4-8, 2018.

- Leen Stougie was member of the Organizing Committee of the *3rd Highlights of Algorithms (HALG 2018) conference* in the Free University of Amsterdam, June 4-6, 2018.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Giuseppe Italiano was a member of the Program Committee of *ISAAC*,*STOC*, *ICALP*, and *WALCOM* in 2018.

- Arnaud Mary was a member of the Program Committee of *CIAC* in 2018.

- Nadia Pisanti was a member of the Program Committee of *BIOINFORMATICS*, *FUN*, *ISBRA*, *BIOKDD*, *CIBB*, *Hi BI BI* in 2018.

- Marie-France Sagot was a member of the Program Committee of *SEA*, *CIAC*, *WABI*, *WEPA*, in 2018.

- Alexander Schönhuth was a member of the Program Committee of *RECOMB*, *ISMB*, *GCB* (German bioinformatics conference), and *ISMCO* (International Symposium on Mathematical and Computational Oncology) in 2018.

9.1.2.2. Reviewer

Members of ERABLE have reviewed papers for a number of workshops and conferences including: *CPM*, *ISMB*, *RECOMB*, *WEPA*, *WABI*.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Pierluigi Crescenzi is member of the Editorial Board of *Journal of Computer and Systems Science and Electronic Notes on Theoretical Computer Science*.

- Roberto Grossi is member of the Editorial Board of *Theory of Computing Systems (TOCS)* and pf *RAIRO – Theoretical Informatics and Applications*.

- Giuseppe Italiano is member of the Editorial Board of *Algorithmica* and *Theoretical Computer Science*.

- Alberto Marchetti-Spaccamela is member of the Editorial Board of *Theoretical Computer Science*.

- Arnaud Mary is Editor-in-Chief of a special issue of *Discrete Applied Mathematics* dedicated to *WEPA* 2016.

- Nadia Pisanti is since 2012 member of Editorial Board of *International Journal of Computer Science and Application (IJCSA)* and since 2017 of *Network Modeling Analysis in Health Informatics and Bioinformatics*.

- Marie-France Sagot is member of the Editorial Board of *BMC Bioinformatics*, *Algorithms for Molecular Biology*, and *Lecture Notes in BioInformatics*.

- Leen Stougie is member of the Editorial Board of *AIMS Journal of Industrial and Management Optimization*.

- Cristina Vieira is Executive Editor of *Gene*, and since 2014 member of the Editorial Board of *Mobile DNA*.

9.1.3.2. Reviewer - Reviewing Activities

Members of ERABLE have reviewed papers for a number of journals including: *Theoretical Computer Science*, *Algorithmica*, *Algorithms for Molecular Biology*, *Bioinformatics*, *BMC Bioinformatics*, *Genome Biology*, *Genome Research*, *IEEE/ACM Transactions in Computational Biology and Bioinformatics (TCBB)*, *Molecular Biology and Evolution*, *Nucleic Acid Research*.

9.1.4. Invited Talks

Giuseppe Italiano gave an Invited Talk on "2-Connectivity in Directed Graphs" at the *17th International Symposium on Experimental Algorithms (SEA 2018)* (http://cs.gssi.it/sea2018/, in L'Aquila, Italy, June 27–29, 2018.

Vincent Lacroix gave an Invited Presentation on "Traitement des données -omics" at the "9ème réunion annuelle Institut Thématique Multi-Organismes Technologies pour la Santé", https://its.aviesan.fr/index.php?pagendx=1046.

Alexander Schönhuth gave Invited Talks at the CONTRA workshop, Warszaw (organisers: Jens Lagergren, Ewa Szczurek, Niko Beerenwinkel), in September and at Harvard Medical School, Boston, in October.

Leen Stougie gave an Invited Talk on "A decomposition theory for vertex enumeration of convex polyhedra" at the *Martin Dyer Day and Queen Mary Algorithms Day*, Queen Mary University, London, UK, July 16-17, 2018. He gave Invited Lectures on "Full-length de novo viral quasispecies assembly through variation graph construction" at the *4th Dutch Bioinformatics & Systems Biology Conference*, De Werelt, Lunteren, Netherlands, May 15; on "Polynomial time vertex enumeration of convex polytopes of bounded branch-width" at the Department of Mathematics, University of Bremen, Germany, Sept 11; and on "Algorithmic Problems in Biological Networks" at the *9th Networks Day*, Hortus Botanicus, Leiden, Netherlands, Sept 19, 2018.

Fabrice Vavre gave Invited Talks on "Impact du microbiote sur l'évolution et la diversité des insectes" at the *Colloque de la Société Francophone de Microbiologie*, Paris, Oct 1-3, 2018; and on "Evolution of host-microbiota interactions: what insects tell us about selection levels?" at the Journées de l'IXXI, Lyon, Oct 16, 2018.

9.1.5. Scientific Expertise

Giuseppe F. Italiano is member of the Council of the European Association for Theoretical Computer Science. Leen Stougie is member of the General Board of the Dutch Network on the Mathematics of Operations Research (Landelijk Netwerk Mathematische Besliskunde (LNMB)).

9.1.6. Research Administration

Hubert Charles is director of the Biosciences Department of the Insa-Lyon and co-director of studies of the "Bioinformatique et Modélisation (BIM)" track.

Giuseppe Italiano is member of the Advisory Board of MADALGO - Center for MAssive Data ALGOrithmics, Aarhus, Denmark.

Alberto Marchetti-Spaccamela was Director of the Department of Computer Engineering and Management Antonio Ruberti at Sapienza University from 2013 until end of May 2018.

Nadia Pisanti is since November 1st 2017 member of the Board of the PhD School in Data Science (University of Pisa jointly with Scuola Normale Superiore Pisa, Scuola S. Anna Pisa, IMT Lucca).

Marie-France Sagot is member of the Advisory Board of CWI, Amsterdam, the Netherlands, and chair of the CSS for MBIO at Inra.

Alexander Schönhuth is member of the Scientific Board of BioSB (the Dutch organisation for bioinformatics) since May 2017.

Leen Stougie is since April 2017 Leader of the Life Science Group at CWI.

Alain Viari was until Feb 2018 Deputy Scientific Director at Inria responsible for the ICST for Life and Environmental Sciences. He thus represented Inria at several national instances related to Life Sciences and Health (Allenvi, Aviesan, Ibisa, etc.). He is member of a number of scientific advisory boards (IRT (Institut de Recherche Technologique) BioAster; Centre Léon Bérard). He also coordinates together with J.-F. Deleuze (CNRGH-Evry) the Research & Development part (CRefIX) of the "Plan France Médecine Génomique 2025".

Fabrice Vavre is President of the Section 29 of the CoNRS and participated to the HCERES Evaluation Committee of the IAME Laboratory (UMR1137, Dir. E. Denamur), Paris, Mar 1-2, 2018.

Cristina Vieira is member of the "Conseil National des Universités" (CNU) 67 ("Biologie des Populations et Écologie"), and since 2017 member of the "Conseil de la Faculté des Sciences et Technologies (FST)" of the University Lyon 1.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

9.2.1.1. France

The members of ERABLE teach both at the Department of Biology of the University of Lyon (in particular within the BISM (BioInformatics, Statistics and Modelling) specialty, and at the department of Bioinformatics of the Insa (National Institute of Applied Sciences). Cristina Vieira is responsible for the Master Biodiversity, Ecology and Evolution (https://www.bee-lyon-univ.fr/). She teaches genetics 192 hours per year at the University and at the ENS-Lyon. Hubert Charles is responsible for the Master of Modelling and Bioinformatics (BIM) at the Insa of Lyon (http://biosciences.insa-lyon.fr/). He teaches 192 hours per year in statistics and biology. Vincent Lacroix is responsible for several courses of the Master in Bioinformatics (https://www.bioinfo-lyon.fr/) (L3: Advanced Bioinformatics, M1: Methods for Data Analysis in Genomics, M1: Methods for Data Analysis in Transcriptomics, M1: Bioinformatics Project, M2: Ethics). He teaches 192 hours per year in bioinformatics. Arnaud Mary is responsible for two courses of the Bioinformatics Curriculum at the University (L2: Introduction to Bioinformatics and Biostatistics, M1: Object Oriented Programming) and one at Insa (Discrete Mathematics). He taught 198 hours in 2018. Blerina Sinaimeri taught 36 hours in 2018 on graph algorithms for the M1 students of the Master in Bioinformatics, and on Discrete Mathematics at Insa. Fabrice Vavre taught 20h at the Master level.

The ERABLE team regularly welcomes M1 and M2 interns from the bioinformatics Master.

Vincent Lacroix was an instructor in NGS data analysis training for the CNRS Formation in the last 4 years since 2015, a course coordinated by Eric Rivals from the LIRMM, Montpellier (https://www.france-bioinformatique.fr/fr/formations/bioinformatique-pour-traitement-donn%C3%A9es-s%C3%A9quen%C3%A7age-ngs).

All French members of the ERABLE team are affiliated to the doctoral school E2M2 (Ecology-Evolution-Microbiology-Modelling, http://e2m2.universite-lyon.fr/).

9.2.1.2. Italy & The Netherlands

Italian researchers teach between 90 and 140 hours per year, at both the undergraduate and at the Master levels. The teaching involves pure computer science courses (such as Programming foundations, Programming in C or in Java, Computing Models, Distributed Algorithms) and computational biology (such as Algorithms for Bioinformatics).

Dutch researchers teach between 40 and 270 hours per year, again at the undergraduate and Master levels, in pure computer science (*e.g.* Algorithm Engineering, Randomised Algorithms), applied mathematics (*e.g.* Operational Research, Advanced Linear Programming) and computational biology (*e.g.* Biological Network Analysis).

9.2.2. Supervision

The following PhDs were defended in ERABLE in 2018:

- Damiano di Francesco Maesa, University of Pisa, co-supervisors: Laura Ricci and Andrea Marino, Oct 2018.

- Mattia Gastaldello, Sapienza University of Rome and University of Lyon 1 (funded by "Vinci Program-Université Franco-Italienne", co-supervisors: Tiziana Calamoneri, Sapienza University of Rome; Marie-France Sagot), Feb 2018.

- Scheila Gabriele Mucha, Federal University of Rio Grande do Sul, Brazil (PhD scholarship from Brazil with one year spent as "sandwich PhD" in France funded by Capes, and 6 more months funded by a grant from ERABLE, co-supervisors: Arnaldo Zaha, Federal University of Rio Grande do Sul; Marie-France Sagot), Sept 2018.

The following are the PhDs in progress:

- Marianne Borderes, University Lyon 1 (funded by ANR Technology Spock, co-supervisors: Susana Vinga – Instituto Superior Técnico at Lisbon; Marie-France Sagot)

- Audric Cologne, University of Lyon 1 (funded by Inserm and Inria, co-supervisors: Patrick Edery – Federation of Health Research of Lyon-Est, Vincent Lacroix)

- Leandro Ishi Soares de Lima, University of Lyon 1 (funded by the Brazilian "Science without Borders" program, co-supervisors: Giuseppe Italiano, Vincent Lacroix, Marie-France Sagot)

- Carol Moraga Quinteros, University of Lyon 1 (funded by Conicyt Chile, co-supervisors: Rodrigo Gutierrez – Catholic University of Chile, Marie-France Sagot)

- Henri Taneli Pusa, University of Lyon 1 (funded by H2020-MSCA-ETN-2014 project MicroWine, co-supervisors: Alberto Marchetti-Spaccamela, Arnaud Mary, Marie-France Sagot)

- Camille Sessegolo, University of Lyon 1 (funded by ANR Aster; co-supervisors: Vincent Lacroix, Arnaud Mary)

- Yishu Wang, University Lyon 1 (funded by Ministère de l?Enseignement supérieur, de la Recherche et de l?Innovation, co-supervisors: Mário Figueiredo – Instituto Superior Técnico at Lisbon; Marie-France Sagot; Blerina Sinaimeri)

- Irene Ziska, University Lyon 1 (funded by Inria Cordi-S, co-supervisors: Susana Vinga – Instituto Superior Técnico at Lisbon; Marie-France Sagot)

Besides the PhD students indicated above, who are physically located within one of the premises of ERABLE, the project-team has PhD students in co-supervision who spend the majority or the whole of their time in the premises of other teams. These include: Rita Ramos (funded by Portuguese FCT, co-supervisors: Claudia Nunes dos Santos – ITQB Lisbon, Marie-France Sagot), and André Veríssimo (funded by Portuguese FCT, co-supervisors: Susana Vinga – Instituto Superior Técnico in Lisbon, Marie-France Sagot).

9.2.3. *Juries*

The following are the PhD or HDR juries to which members of ERABLE participated in 2018.

- Giuseppe Italiano: External Examiner of the PhD of Daniel Wolleb-Graf, ETH, Zurich, Switzerland, Dec 3, 2018.

- Marie-France Sagot: External Reviewer of the PhD of Clémence Frioux, University of Rennes 1, France, Nov 19, 2018.

- Leen Stougie: Member of the Committee of the PhD of Bart Kamphorst, Technical University Eindhoven, Netherlands, May 2018; Member of the Committee of Gregorios Koumoutsos, Technical University Eindhoven, Netherlands, Sept 2018.

- Fabrice Vavre: External Reviewer of the HDR Committee of Thierry Lefevre, Univ of Montpellier, France, March 3, 2018.

9.3. Popularization

9.3.1. *Interventions*

Blerina Sinaimeri and Ricardo Andrade participated to the Inria Fête de la Science in October 2018. Blerina Sinaimeri and Mariana G. Ferrarini presented the research topics of the team in an event for welcoming international scientists at the Espace Ulys of the University of Lyon. The presentation was entitled "ERABLE : A bio-info symbiosis" and discussed mainly about the multidisciplinarity of the ERABLE Team. Finally, Mariana Galvao Ferrarini participated in the Fête de la Science INRA at the Mediathéque de Bron in October 2018.

Fabrice Vavre participated to the Forum des métiers, Collège Clément Marot, on "La recherche au CNRS".

IBIS Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific events organisation

8.1.1.1. Member of organizing committees

IBIS members	Conference, workshop, school	Date
Hidde de Jong	CompSysBio: Advanced Lecture Course on Computational Systems Biology, Aussois	Apr 2019

8.1.2. Scientific events selection

8.1.2.1. Chair of conference program committees

IBIS member	Conference, workshop, school	Role
Eugenio Cinquemani	European Control Conference (ECC 2019)	Associate editor

8.1.2.2. Member of conference program committees

IBIS member	Conference, workshop, program
Eugenio Cinquemani Hidde de Jong	ECC 2019, CMSB 2018 and 2019, HSB 2019, SASB 2018 CMSB 2108 and 2019, FOSBE 2019, HSB 2019, MLCSB 2018, ISMB Network Biology 2018, WML 2018

8.1.3. Journal

8.1.3.1. Member of editorial boards

IBIS member	Journal
Johannes Geiselmann	Frontiers in Microbiology (review editor)
Hidde de Jong	Journal of Mathematical Biology
Hidde de Jong	Biosystems (reviews editor)
Hidde de Jong	ACM/IEEE Transactions on Computational Biology and Bioinformatics

8.1.4. Scientific evaluation and expertise

IBIS member	Organism	Role
Johannes Geiselmann	INRA	Member scientific advisory committee Microbiologie, Adaptation, Pathogénie
Johannes Geiselmann	UMR5240 CNRS-UCBL-INSA-BayerCropScience	Member scientific council
Hidde de Jong	Microbiology and Food Chain Department, Inra	Member scientific council
Hidde de Jong	Univ Grenoble Alpes	Member scientific council of Pôle MSTIC
Delphine Ropers	INRA-Inria	Member selection committee PhD grants

8.1.5. Invited talks and other presentations

Eugenio Cinquemani

Title	Event and location	Date
Estimation du bruit extrinsèque dans l'expression génique dans des cellules individuelles	Invited talk Journées Apprentissage de modèles statistiques et stochastiques à partir de données biologiques (ASSTABIO), Rennes	Mar 2018
Real-time control of synthetic microbial communities	Presentation Journée InBio, Lyon	Apr 2018
Towards automated control of synthetic E. coli communities	Presentation Journées GDR BIOSS-IA	Dec 2018

Hidde de Jong

Title	Event and location	Date
Carbon catabolite repression and diauxic growth in E. coli	Invited talk Principles of Microbial Adaptation, Lorentz Center, Leiden, the Netherlands	Mar 2018
Optimal control of bacterial growth for the maximization of metabolite production	Presentation SMAI-MODE 2018, Autrans	Mar 2018
Analysis and control of bacterial regulatory networks	Presentation Journée InBio, Lyon	Apr 2018
Global physiological effects and the analysis of gene regulatory networks	Invited talk 1st International Plant Systems Biology Meeting, Conférence Jacques Monod, Roscoff	Sep 2018
Natural and synthetic control of resource allocation in bacteria	Invited talk Molecular Logic and Computational Synthetic Biology workshop, Santiago de Chile	Dec 2018

Stephan Lacour

Title	Event and location	Date
Influence des ARNs non-codants réprimant CsgD sur la production de curli par Escherichia coli	Poster Ecole Thématique de Microbiologie Moléculaire, Carry-Le-Rouet	Oct 2018

Aline Marguet

Title	Event and location	Date
Estimation statistique dans une population structurée branchante	Seminar Institut Fourier, Grenoble	Jan 2018
Loi des grands nombres pour des processus de branchement structurés	Seminar Institut de Mathématiques de Toulouse	Mar 2018
Loi des grands nombres pour des processus de branchement structurés	Seminar Institut de Recherche Mathématique Avancée, Strasbourg	Mar 2018
Loi des grands nombres pour des processus de branchement structurés	Seminar Institut Montpelliérain Alexander Grothendieck, Montpellier	Mar 2018
Estimation statistique dans une population branchante structurée par une diffusion	Presentation journées MAS du groupe Modélisation Aléatoire et Statistique, Dijon	Aug 2018
Estimation statistique dans une population branchante structurée par une diffusion	Seminar Institut de Mathématiques de Dijon, Dijon	Aug 2018

Marco Mauri

Title	Event and location	Date
Analysis of dynamics of membrane-protein microdomains in bacteria	Poster annual Deutsche Physikalische Gesellschaft (DPG) meeting, Berlin	Mar 2018

Michel Page

Title	Event and location	Date
WellInverter: A web application for the analysis of fluorescent reporter gene data	Poster journéé Institut Français de Bioinformatique (IFB), Paris	Dec 2018

Corinne Pinel

Title	Event and location	Date
Présentation des techniques de génie génétique utilisées au sein du LIPhy	Presentation at the kick-off meeting of the network Ingénierie des Génomes des Micro-organismes (IGM), Paris	Sep 2018

Delphine Ropers

Title	Event and location	Date
Quantitative modelling of metabolism, gene expression and growth	Presentation Journée InBio, Lyon	Apr 2018

Etienne Thibault

Title	Event and location	Date
Coordination de la stabilité des ARNms et la physiologie cellulaire durant des transitions de taux de croissance	Presentation working group BIOSS of GDR IM/BIM, Marseille	Jul 2018
Coordination de la stabilité des ARNms et la physiologie cellulaire durant des transitions de taux de croissance	Poster at ICSB 2018, Lyon	Oct 2018
Coordination de la stabilité des ARNms et la physiologie cellulaire durant des transitions de taux de croissance	Seminar LISBP, INRA-INSA, Toulouse	Dec 2018

8.1.6. Research administration

IBIS member	Committee	Role
Eugenio Cinquemani	Inria Grenoble - Rhône-Alpes	Member Comité des Emplois Scientifiques (CES)
Eugenio Cinquemani	Inria Grenoble - Rhône-Alpes	Member Comité des Utilisateurs des Moyens Informatiques (CUMI)
Eugenio Cinquemani	Inria	Member Comité Administrative Paritaire (CAP)
Eugenio Cinquemani	Inria Grenoble - Rhône-Alpes	Member Comité Développement Technologique (CDT)
Hidde de Jong	Inria Grenoble - Rhône-Alpes	Member scientific council (COS)
Hidde de Jong	Inria	Member working group on International Relations of Conseil d'Orientation Scientifique et Technique (COST)
Delphine Ropers	Inria	Member of Commission d'évaluation d'Inria
Delphine Ropers	Inria	Member of Groupe de travail plan stratégique
Delphine Ropers	Inria Grenoble - Rhône-Alpes	Référente chercheurs
Delphine Ropers	Inria Grenoble - Rhône-Alpes	Member of Comité des études doctorales (CED)

8.1.7. Recruitment committees

IBIS member	Organism	Recruitment
Johannes Geiselmann Delphine Ropers	Inria	Chargés de recherche (jury d'admissibilité)
Delphine Ropers	Inria Grenoble - Rhône-Alpes	Chargés de recherche (jury d'admissibilité)
Delphine Ropers	INSA de Lyon	Assistant professor

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Four members of the IBIS team are either full professor or associate professor at Univ Grenoble Alpes. They therefore have a full teaching service (at least 192 hours per year) and administrative duties related to the organization and evaluation of the university course programs on all levels (from BSc to PhD). Besides the full-time academic staff in IBIS, the following people have contributed to courses last year.

Eugenio Cinquemani

Course: Stochastic modelling of gene regulatory networks, M2, BIM, INSA de Lyon (6 h)

Course: Statistics for systems biology, M1, Master Approches Interdisciplinaires du Vivant, CRI/Univ Paris Descartes (20 h, also in charge of 20 h of practicals)

Course: Modelling and identification of metabolic networks, M1, Phelma, INP Grenoble (4 h)

Hidde de Jong

Course and practicals: Modeling and simulation of gene regulatory networks, M2, BIM, INSA de Lyon (20 h)

Delphine Ropers

>Course and practicals: Modelling in systems biology, M1, Phelma, INP Grenoble (16 h)

>Course and practicals: Cell systems biology and modelling cell functions, M1, Master ingéniérie de la santé, Univ Grenoble Alpes (14 h)

>Course: Modeling and simulation of genetic regulatory networks, M2, INSA de Toulouse (4 h)

Thibault Etienne

>Practicals: Mathématiques et statistique appliquées aux sciences humaines et sociales (practicals), L1 and L3, Univ Grenoble Alpes (56 h)

>Course and practicals: Construction et analyse de plasmides in silico, M1, Master ingéniérie de la santé, Univ Grenoble Alpes (10 h)

8.2.2. *Supervision*

>PhD in progress: **Thibault Etienne**, Analyse intégrative de la coordination entre stabilité des ARNm et physiologie cellulaire chez *Escherichia coli*. Supervisors: Delphine Ropers and Muriel Cocaign-Bousquet (INRA Toulouse)

>PhD in progress: **Joël Espel**, RNA engineering: Design of the dynamical folding of RNA and of RNA switches. Supervisors: Alexandre Dawid (Univ Grenoble Alpes) and Johannes Geiselmann

>PhD in progress: **Antrea Pavlou**, Experimental and computational analysis of bacterial self-replicators. Supervisors: Hidde de Jong and Johannes Geiselmann

8.2.3. *Juries*

PhD thesis committees

IBIS member	Role	PhD student	University	Date
Johannes Geiselmann	Rapporteur	Clea Lachaux	Univ Paul Sabatier Toulouse	Sep 2018
Johannes Geiselmann	Président	Tomas Andersen	Univ Grenoble Alpes	Oct 2018
Hidde de Jong	Président	Alexandre Rocca	Univ Grenoble Alpes	May 2018
Hidde de Jong	Rapporteur	Jonathan Behaegel	Univ Côte d'Azur	Oct 2018

Habilitation (HDR) committees

IBIS member	Role	PhD student	University	Date
Johannes Geiselmann	Rapporteur	Fabien Letisse	Univ Paul Sabatier Toulouse	Oct 2018

PhD advisory committees

IBIS member	PhD student	University
Johannes Geiselmann	Alain Lombard	Univ Grenoble Alpes
Johannes Geiselmann	Shiny Martis	INSA de Lyon
Hidde de Jong	Céline Hernandez	ENS Paris
Hidde de Jong	Charlotte Coton	INRA Moulon
Stephan Lacour	Julien Trouillon	CEA Grenoble
Delphine Ropers	Manon Barthe	Univ de Toulouse
Delphine Ropers	Irene Ziska	Univ de Lyon

8.2.4. *Teaching administration*

Yves Markowicz is director of the BSc department at Univ Grenoble Alpes.

Michel Page is coordinator of the master Systèmes d'information et d'organisation at the Institut d'Adminstration des Entreprises (IAE), Univ Grenoble Alpes.

Eugenio Cinquemani organizes a module on statistics in systems biology at CRI/Univ Paris Descartes.

Delphine Ropers organizes a module on the mathematical modeling of biological systems at PHELMA, INP Grenoble.

Hidde de Jong organizes with Daniel Kahn a module on the modeling of genetic and metabolic networks at INSA de Lyon.

8.3. Popularization

8.3.1. Creation of media or tools for science outreach

Hidde de Jong presented the work of IBIS in the framework of the communication action "Mon équipe en 180 secondes". The video is on-line at the following address: https://videotheque.inria.fr/videotheque/media/47816;jsessionid=D615F60B85E6C88DEDD129AD56E4431E

IMAGINE Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

Remi Ronfard is a member of the selection committee for Inria-MCC (Ministry of Culture and Communication) activitites.

Stefanie Hahmann is a member of the Comité d'Etudes Doctorales (CED) at Inria Grenoble.

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Stefanie Hahmann was Program Chair of Conference Shape Modeling International (SMI18) held in LIsbon 2018.

10.1.1.2. Member of the Organizing Committees

Rémi Ronfard is a member of the steering committee for the Eurographics workshop on intelligence cinematography and editing (WICED).

Rémi Ronfard was a co-organizer of the international workshop Attention machine ! Pratiques artistiques et recyclages médiatiques at Univ. Grenoble Alpes in February 2018.

Stefanie Hahmann served in the International Program Committee for the Symposium on Solid and Physical Modeling (SPM18), Bilbao 2018

Jean-Claude Léon was a member of the program committee for the SPM 2018 conference.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Mélina Skouras was the Poster Chair for ACM/Eurographics Symposium on Computer Animation 2018.

10.1.2.2. Member of the Conference Program Committees

Rémi Ronfard was a member of the Program Committees for Expressive 2018, International Conference on Interactive Storytelling (ICIDS) 2018, and Eurographics workshop on intelligence cinematography and editing (WICED) 2018.

Mélina Skouras was a member of the Program Committees for Eurographics 2018, Advances in Architectural Geometry 2018, Shape Modeling International 2018, and ACM/Eurographics Symposium on Computer Animation 2018.

10.1.2.3. Reviewer

Remi Ronfard was an external reviewer for Siggraph 2018 and Siggraph Asia 2018.

Jean-Claude Léon was a reviewer for the CAD 2018 conference.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Stefanie Hahmann is an Associate Editor of CAG (Computers and Graphics, Elsevier) and CAD (Computer Aided Design, Elsevier). She also was a guest Editor of the journal Computers and Graphics Vol. 74 (Elsevier): Special Issue on Shape Modeling International 2018,

Jean-Claude Léon is a member of the editorial board of the CAD journal.

10.1.3.2. Reviewer - Reviewing Activities

Rémi Ronfard was a reviewer for Siggraph 2018, Siggraph Asia 2018 and ACM transactions on Graphics (TOG).

Mélina Skouras was a reviewer for Siggraph Asia 2018 and ACM Transactions on Graphics.

Stefanie Hahmann was a reviewer for the journals CAD, Computers and Graphics,

10.1.4. Invited Talks

Mélina Skouras gave invited guest talks at Bellairs Workshop on Computer Animation, Fields Workshop on Robust Geometric Algorithms for Computational Fabrication, and Dagstuhl Seminar on Computational Aspects of Fabrication.

Remi Ronfard Remi Ronfard gave an invited talk on "Authoring and directing animated story worlds" at the national meeting of the GTAS (Groupe de Travail sur l'Animation et la Simulation) organized by GdR IG-RV (Informatique Géométrique et Graphique, Réalité Virtuelle et Visualisation) in Paris, July 2018.

10.1.5. Leadership within the Scientific Community

Stefanie Hahmann serves as a member of the Advisory Board (2014-2018) for the European Marie-Curie Training Network ARCADES.

Remi Ronfard and Julie Valéro (Litt & Arts, Univ. Grenoble Alpes) started a research group on Digital Dramaturgies as part of the Performance Lab, IDEX Univ. Grenoble Alpes (2018-2021). This research group is actively investigating (i) how contemporary dramaturgies represent digital worlds on stage; (ii) how contemporary dramaturgies use digital tools for writing and staging performances combining real actors with virtual actors and scenographies; and (iii) how contemporary dramaturgies can be digitally captured, indexed and analyzed for a better comprehension of the creative processes at work during pre-production and rehearsals. The research group is composed of researchers of Univ. Grenoble Alpes from multiple disciplines, i.e. litterature, theatre, choreography, film studies, social sciences, geography, computer science and applied mathematics.

10.1.6. Scientific Expertise

Remi Ronfard was a member of the scientific committee of IMAGINOVE in 2018.

Remi Ronfard was a member of the scientific committee for EXPERIMENTA 2018.

10.1.7. Research Administration

Stefanie Hahmann is the head of the French working group "GTMG" (Groupe de travail en Modélisation Géométrique) part of the CNRS GDR IM and GDR IGRV.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence : Stefanie Hahmann, Numerical Methods, Ensimag - Grenoble INP, 240 students, 3rd year Bachelor level, 42h,

Master : Stefanie Hahmann, Geometric Modeling, Ensimag - Grenoble INP, 60 students, Master 1st year, 47h.

Master : Stefanie Hahmann, Surface Modeling, Ensimag - Grenoble INP, 30 students, Master 2nd year, 51h.

Master : Rémi Ronfard, Advanced Computer Graphics, 18 HETD, M2, Univ. Grenoble Alpes, France

Master : Rémi Ronfard, Game Engine Programming, 18 HETD, M2, Univ. Montpellier, France

Licence : Mélina Skouras, Surface modeling, 14.5 HETD, Ensimag, Grenoble, France

Doctorate : Rémi Ronfard, Spatial Media, 90 HETD, ENSAD, Paris Sciences et Lettres (PSL), France

Stefanie Hahmann is co-responsible of the department MMIS (Images and Applied Maths) at Grenoble INP with 120 students. Stefanie Hahmann was also president of the jury for over 30 Masters (PFE) thesis defences in 2018.

Jean-Claude Léon is in charge of the module Mechanical Systems at Grenoble-INP ENSE3 (300 students, 64h, coordination of three courses).

Olivier Palombi is responsible for the French Campus numérique of anatomy. He is responsible and national leader of the project SIDES. All the French medical schools (43) have planed to use the same e-learning framework (SIDES) to manage evaluations and to create a large shared database of questions.

10.2.2. Supervision

PhD : Romain Brégier, Détection et estimation de pose d'instances d'objet rigide pour la manipulation robotisée, Univ. Grenoble Alpes, June 11, 2018, supervised by James Crowley and Frédéric Devernay

PhD : Even Entem, Interprétation et modélisation 3D automatique à partir de dessins au trait de formes organiques, Univ. Grenoble Alpes, October 26, 2018, supervised by Marie-Paule Cani and Loic Barthes

PhD : Sandra Nabil, Evaluation de la qualité de vidéos panoramiques synthétisées, Univ. Grenoble Alpes, November 27, 2018, supervised by James Crowley and Frédéric Devernay

PhD : Guillaume Cordonnier, Modèles à couches pour simuler l'évolution de paysages à grande échelle, Univ. Grenoble Alpes, December 6, 2018, supervised by Marie-Paule Cani and Eric Galin

PhD in progress : Maxime Garcia, Animation transfer: character animation by playing and acting, since October 2016, supervised by Rémi Ronfard

PhD in progress : Youna Le Vaou, Virtual Sculpture: shape creation and modification through immersive CAVE-like systems, since March 2017, supervised by Jean-Claude Léon and Stefanie Hahmann. Funded by CIFRE contract with PSA

PhD in progress : Amélie Fondevilla, Modélisation et animation de surfaces développables, since September 2016, supervised by Stefanie Hahmann and Damien Rohmer

PhD in progress : Ameya Murukutla, Storyboarding augmented reality anatomy lessons, since Octobre 2017, supervised by Rémi Ronfard and Olivier Palombi

PhD in progress : Pierre Casati, Modeling and animation of antique statues, since October 2017, supervised by Rémi Ronfard and Stéfanie Hahmann

PhD in progress : Qianqian Fu, Computational video editing of live performances, since November 2018, supervised by Rémi Ronfard and Benjamin Lecouteux (GETALP, LIG).

PhD in progress : Thomas Buffet, Efficient multi-layered cloth animation using implicit surfaces, since December 2017, supervised by Marie-Paule Cani and Damien Rohmer.

PhD in progress : Robin Roussel, Function-aware design for objects to be fabricated, since October 2015, supervised by Niloy Mitra, Marie-Paule Cani and Jean-Claude Léon.

PhD in progress : Geoffrey Guingo, Synthesis of animated textures, since October 2015, supervised by Marie-Paule Cani, Jean-Michel Dischler and Basile Sauvage.

PhD in progress : Nachwa Aboubakr, Observation and modeling of human activities, since October 2016, supervised by James Crowley and Rémi Ronfard.

PhD in progress: David Jourdan, Support optimization for tensile membrane structures, since October 2018, supervised by Adrien Bousseau and Mélina Skouras.

PhD in progress: Mickaël Ly, Inverse elastic shell design with contact and friction with applications to garment design, since October 2017, supervised by Florence Descoubes and Mélina Skouras.

Master's thesis : David Jourdan, Optimization of support structures for tensile architecture, June 2018, supervised by Adrien Bousseau and Mélina Skouras.

Master's thesis : Rémi Colin de Verdière, Mutli-target inverse kinematics for real-time character animation, June 2018, supervised by Remi Ronfard.

Master's thesis : Sami Chibane, What makes motion beautiful?, June 2018, supervised by Rémi Ronfard.

10.2.3. Juries

Rémi Ronfard was the president of the jury for Sandra Nabil's Phd Thesis.

Rémi Ronfard was part of the selection committee for recruiting an assistant professor at Univ. Montpellier in May 2018.

Stefanie Hahmann was member of the HDR committee of Julie Digne at Univ. Lyon 1 and a reviewer of the HDR Thesis of Alexandra Bac at Univ. Aix-Marseille. She also was a reviewer of 2 PhD thesis, Univ. Claude Bernard Lyon 1 (Mathieu Giroux) and Univ. Nice (Jean-Dominique Favreau) in 2018.

Stefanie Hahmann also participated in 2018 in 2 committees for recruiting assistent professors, one at UGA, Grenoble, the other at Univ. Aix-Marseille.

10.3. Popularization

Rémi Ronfard and Julie Valéro organized a panel at Experimenta on "Virtual reality storytelling between cinema and theatre", with invited guests Christelle Derré, (collectif Or Norme), Philippe Fuchs (MINES ParisTech), Pauline Bouchet (Univ. Grenoble Alpes), Pierre-Emmanuel Le Goff (France TV) and Annick Jakobowicz (France TV).

Rémi Ronfard presented new results of the COLLODI2 project to Computer Animation professionals at MIFA in June 2018, Next-generation computer animation with RUMBA, International Animation Film Festival Annecy.

Marie-Paule Cani and Rémi Ronfard were featured in a special report on Intelligence artificielle et création artistique, Science et Avenir, aout 2018.

Rémi Ronfard and Julie Valéro published online three new video documentaries shot using our KINO AI virtual cinematography system during rehearsals of the stage adaptation of Mary Shelley's Frankenstein, written and directed by Jean-Francois Peyret.

Rémi Ronfard and Julie Valéro wrote a blog entry, L'informatique rentre en scène, Blog Binaire, Le Monde, 4 décembre 2018.

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

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

- Nicolas Holzschuch is a member of the steering committee for the Eurographics Working Group on Rendering.

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Georges-Pierre Bonneau: *Solid and Physical Modeling* 2018, *Shape Modeling International* 2018, *EnvirVis* 2018, Short paper track for *Eurographics Visualization Symposium* 2018,
- Joëlle Thollot: *Expressive* 2018.

9.1.3. Journal

9.1.3.1. Reviewer - Reviewing Activities

All members of the Maverick team work as reviewers for the most prestigious journals, including ACM TOG, IEEE TVCG, etc.

9.1.4. Research Administration

- Georges-Pierre Bonneau is member of the "conseil du Laboratoire Jean Kuntzmann".
- Romain Vergne is member of the "conseil du Laboratoire Jean Kuntzmann".
- Romain Vergne is co-responsible of the GT Rendu.
- Romain Vergne is co-responsible of the PhD students of the Laboratoire Jean Kuntzmann.
- Nicolas Holzschuch is an elected member of Inria Evaluation Committee (CE), an elected member of Inria Comité Technique (CTI) and a reserve member of Inria Scientific Council (CS).
- Nicolas Holzschuch is responsible for the department "Geometry and Images" of the Laboratoire Jean Kuntzmann.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Joëlle Thollot and Georges-Pierre Bonneau are both full Professor of Computer Science. Romain Vergne is an associate professor in Computer Science. They teach general computer science topics at basic and intermediate levels, and advanced courses in computer graphics and visualization at the master levels. Nicolas Holzschuch teaches advanced courses in computer graphics at the Master level.

Licence: Joëlle Thollot, Théorie des langages, 27h, L3, ENSIMAG, France

Licence: Joëlle Thollot, Séminaire d'innovation, 10h, L3, ENSE3, France

Master: Joëlle Thollot, Responsable de la flière MMIS (Modélisation mathématique, image, simulation) 24h, M1-M2, ENSIMAG, France

Master: Joëlle Thollot, Tutorat d'apprentis, 10h, M1-M2, ENSIMAG, France

Licence : Romain Vergne, Introduction to algorithms, 64h, L1, UGA, France.

Licence : Romain Vergne, WebGL, 29h, L3, IUT2 Grenoble, France.

Master : Romain Vergne, Geometric modeling, 18h, M1, UGA, France.

Master : Romain Vergne, Image synthesis, 27h, M1, UGA, France.

Master : Romain Vergne, Image synthesis, 15h, M1, Polytech, France.

Master : Romain Vergne, 3D graphics, 15h, M1, UGA, France.

Master : Nicolas Holzschuch, Computer Graphics II, 18h, M2 MoSIG, France.

Master : Nicolas Holzschuch, Synthèse d'Images et Animation, 32h, M2, ENSIMAG, France.

Licence: Georges-Pierre Bonneau, Algorithmique et Programmation Impérative, 23h, L3, Polytech-Grenoble, France.

Master: Georges-Pierre Bonneau, responsable de la 4ième année du département INFO, 32h, M1, Polytech-Grenoble, France

Master: Georges-Pierre Bonneau, Image Synthesis, 23h, M1, Polytech-Grenoble, France

Master: Georges-Pierre Bonneau, Data Visualization, 40h, M2, Polytech-Grenoble, France

Master: Georges-Pierre Bonneau, Digital Geometry, 23h, M1, UGA

Master: Georges-Pierre Bonneau, Information Visualization, 22h, Mastere, ENSIMAG, France.

Master: Georges-Pierre Bonneau, Scientific Visualization, M2, ENSIMAG, France.

Master: Georges-Pierre Bonneau, Computer Graphics II, 18h, M2 MoSiG, UGA, France.

9.2.2. Supervision

PhD: Guillaume Loubet, Efficient representations for sub-pixel appearence, 25/06/2018, Fabrice Neyret

PhD: Jérémy Wambecke, Visualisation de Données Temporelles Personnelles, 22/10/2018, Georges-Pierre Bonneau, Romain Vergne, Renaud Blanch

PhD: Alexandre Bléron, Stylization of animated 3D scenes in a painterly style, 8/11/2018, Joëlle Thollot, Romain Vergne

PhD in progress: Alban Fichet, Efficient representation for measured reflectance, 1/10/2015 Nicolas Holzschuch.

PhD in progress: Vincent Tavernier, Procedural stochastic textures, 1/10/2017, Fabrice Neyret, Joëlle Thollot, Romain Vergne.

PhD in progress: Sunrise Wang, Light transport operators simplification using neural networks, 1/9/2018, Nicolas Holzschuch

PhD in progress: Morgane Gérardin, Connecting physical and chemical properties with material appearance, 1/10/2018, Nicolas Holzschuch

PhD in progress: Ronak Molazem, Dimensional Analysis of Light Transport, 1/09/2018, Cyril Soler

9.2.3. Juries

Nicolas Holzschuch, member of the jury and referee, PhD of Laurent Gilles, Telecom Paristech, 12/11/2018

Nicolas Holzschuch, member of the jury and referee, PhD of Hélène Perrier, University of Lyon, 7/3/2018

Joëlle Thollot, member of the jury and referee, PhD of Jean-Dominique Favreau (Inria Sophia-Antipolis) 15/03/2018,

Joëlle Thollot, member of the jury, HdR of Aurélie BUGEAU, University of Bordeaux, 30/05/2018

Georges-Pierre Bonneau, president of the jury, PhD of Ali Jabbari, University of Grenoble, 4/07/2018

Georges-Pierre Bonneau, member of the jury, HdR of Basile Sauvage, University of Strasbourg, 16/07/2018

Georges-Pierre Bonneau, president of the jury, PhD of Even Enthem, University of Grenoble, 26/10/2018

9.3. Popularization

Every year, "MobiNet" (see section 6.7) classes are conducted with high school pupils of the large Grenoble area to practice initiation and intuition on Computer Science, Maths and Physics. Depending on the year, we have 2 to 4 groups in the scope of INP-Grenoble "Enginneering weeks", and 0 to 2 groups in the scope of Math-C2+ operations.

Fabrice Neyret published a popularization article "Le mouvement sous toutes ses coutures" [19] in the booklet "Maths Mouvement Express 2018".

Fabrice Neyret maintains the blog shadertoyunofficial (https://shadertoyunofficial.wordpress.com/) and various shaders examples on Shadertoy site (https://www.shadertoy.com/) to popularize GPU technologies as well as disseminates academic models within computer graphics, computer science, applied math and physics fields.

Cyril Soler presented at FOSDEM2018 his work on privacy preserving data distribution over decentralized mesh networks ([https://www.youtube.com/watch?v=FR9SSdGN0K8]).

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Florence Forbes, Stéphane Girard and Julyan Arbel organized the two-day workshop Bayesian learning theory for complex data modelling, on September 6-7 2018.

10.1.1.2. Member of the Organizing Committees

- Florence Forbes was a member of the scientific committee of the 50th journées de statistique of Société Francaise de Statistique (JDS 2018) organized in Saclay.
- Julyan Arbel co-organized the two-day workshop entitled Workshop sur la dynamique des communautés sur Twitter en période électorale : analyse par graphes aléatoires workshop on random graphs in Grenoble on April 26-27 2018.
- Julyan Arbel co-organized with Richard Nickl, Cambridge University, a session entitled Bayesian nonparametrics for stochastic processes at International Society for Bayesian Analysis (ISBA) World Meeting 2018 in Edinburgh.
- Jean-Baptiste Durand co-organized a three-day workshop on Models and Analysis of Eye Movements in Grenoble on June 6-8 2018 (https://eyemovements.sciencesconf.org/).

Seminars organization

- MISTIS participates in the weekly statistical seminar of Grenoble. Several lecturers have been invited in this context.
- Florence Forbes, Julyan Arbel and Marta Crispino are co-organizing a monthly reading group on Bayesian statistics.

10.1.2. Scientific Events Selection

10.1.2.1. Reviewer

In 2018, Florence Forbes, Stéphane Girard and Julyan Arbel have been a reviewer for *Journées de la Statistique* (JDS 2018). Additionally,

- In 2018, Julyan Arbel has been a reviewer for
  - Statistics Conferences: *Bayesian Young Statisticians Meeting proceedings* (BAYSM),
  - Machine Learning Conferences: *Conference on Neural Information Processing Systems* (NIPS), *International Conference on Learning Representations* (ICLR), *Symposium on Advances in Approximate Bayesian Inference* (AABI).

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Stéphane Girard is Associate Editor of the *Statistics and Computing* journal since 2012 and Associate Editor of the *Journal of Multivariate Analysis* since 2016. He is also member of the Advisory Board of the *Dependence Modelling* journal since December 2014.
- Florence Forbes is Associate Editor of the journal Frontiers in ICT: Computer Image Analysis since its creation in Sept. 2014. She is also Associate Editor of the *Computational Statistics and Data Analysis* journal since May 2018.
- Julyan Arbel is Associate Editor of the *Bayesian Analysis* (BA) journal.

10.1.3.2. Reviewer - Reviewing Activities

- In 2018, Florence Forbes has been a reviewer for *Ecological Modelling* journal.
- In 2018, Stéphane Girard has been a reviewer for *Annals of the Institute of Statistical Mathematics, Statistics & Risk Modeling, Communications in Statistics - Theory and Methods, Extremes.*
- In 2018, Jean-Baptiste Durand has been a reviewer for *Behavior Research Methods* (BRM) and a guest editor for *PLOS Computational Biology* (PLOS Comput. Biol.).
- In 2018, Julyan Arbel has been a reviewer for: *Annals of Statistics* (AoS), *Bayesian Analysis* (BA), *Brazilian Journal of Probability and Statistics* (BJPS), *Computational Statistics & Data Analysis* (CSDA), *Electronic Journal of Statistics* (EJS), *Journal of Nonparametric Statistics* (JNS), *Scandinavian Journal of Statistics* (SJS), *Statistics and Probability Letters* (SPL).

10.1.4. Invited Talks

Florence Forbes has been invited to give talks at the following seminars and conferences:

- Data Science Seminar Series, December 2018 (Link) .
- 11th International Conference of Computational and Methodological Statistics (CMStat), University of Pisa, Italy, December 14-16, [60].
- NeuroCog Seminar Series, October 2018.
- La Trobe-Kyushu Joint Seminar on Mathematics for Industry, Melbourne, October 2018 (Link).
- Joint Statistical Meeting of the American Statistical Association, Vancouver Canada, July [29]
- Workshop on Bayesian nonparametrics, Bordeaux, France, July 2-4, [30]

Julyan Arbel has been invited to give talks at the following seminars and conferences:

- 11th International Conference of Computational and Methodological Statistics (CMStat), University of Pisa, Italy, December 14-16. Invited talk: Some distributional properties of Bayesian neural networks.
- Workshop on Bayesian nonparametrics, Bordeaux, France, July 2-4. Invited talk. Some distributional properties of Bayesian neural networks.
- Olympiades Académiques de Mathématiques, Grenoble. Talk: The mathematics of artificial intelligence.
- Trinity College Statistics Seminar, Dublin, Ireland, May 9. Invited talk: Bayesian graphs and neural networks.
- Journées statistiques de Rochebrune, Megève, France (26-30 March). Invited course: An introduction to Bayesian nonparametric statistics.
- R User group in Grenoble, France, February 8, 2018. Talk (with Alexis Arnaud): Good coding practice, coding style and R packages.
- Workshop on Statistical Methods for Post Genomic Data (SMPGD), Université de Montpellier, France, 11-12 January 2018. Invited talk: A Bayesian Nonparametric Approach to Ecological Risk Assessment.

Among the conferences listed in Section 10, [42], [43], [31], [33] were invited talks.

10.1.5. Scientific Expertise

Florence Forbes is Scientific Advisor since March 2015 for the Pixyl company.

10.1.6. Research Administration

- S. Girard is a member of the "Comité des Emplois Scientifiques" at Inria Grenoble Rhône-Alpes since 2015.

- Since 2015, S. Girard is a member of the INRA committee (CSS MBIA) in charge of evaluating INRA researchers once a year in the MBIA dept of INRA.

- S. Girard has been a reviewer of research projects for the Research Foundation Flanders (FWO), Belgium.

- Florence Forbes is a member of the "Comité Développement Technologique" for software development projects at Inria Grenoble Rhône-Alpes since 2015.

- Florence Forbes is a member of the "Comite d'organisation stratégique" of Inria Grenoble Rhône-Alpes since 2017.

- Florence Forbes is a member of the Executive Committee of the Grenoble data institute.

- Florence Forbes has been a member of the Selection committee for assistant professors at ENS Paris and a member of the Inria admission committee of junior researchers (CRCN) in June 2018.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Master : Stéphane Girard, *Statistique Inférentielle Avancée*, 18 ETD, M1 level, Ensimag. Grenoble-INP, France.

- Master : Stéphane Girard, *Data analysis, linear models and ANOVA*, 18 ETD, M1 level, MSIAM. UGA, France.

- Master and PhD course: Julyan Arbel, Bayesian statistics, Ensimag, Université Grenoble Alpes (UGA), 25 ETD.

- Master and PhD course: Julyan Arbel, Bayesian nonparametric statistics, Master Mathématiques Apprentissage et Sciences Humaines (M*A*S*H), Université Paris-Dauphine, 25 ETD.

- Master: Jean-Baptiste Durand, *Statistics and probability*, 192H, M1 and M2 levels, Ensimag Grenoble INP, France. Head of the MSIAM M2 program, in charge of the data science track.

- Jean-Baptiste Durand is a faculty member at Ensimag, Grenoble INP.

10.2.2. Supervision

- PhD defended: Clément Albert "Estimation des limites d'extrapolation par les lois de valeurs extrêmes. Application à des données environnementales", December 2018, Stéphane Girard, Université Grenoble Alpes.

- PhD defended: Thibaud Rahier "Réseaux Bayesiens pour la fusion de données statiques et temporelles", December 2018, Florence Forbes and Stéphane Girard, Université Grenoble Alpes.

- PhD defended: Pierre-Antoine Rodesch "Méthodes statistiques de reconstruction tomographique spectrale pour des systèmes à détection spectrométrique de rayons X", October 9, 2018, Florence Forbes, Université Grenoble Alpes.

- PhD defended: Alexis Arnaud "Analyse statistique d'IRM quantitatives par modèles de mélange : Application à la localisation et la caractérisation de tumeurs cérébrales", October 24, 2018, Florence Forbes and E. Barbier, Université Grenoble Alpes.

- PhD in progress: Karina Ashurbekova, "Robust Graphical Models" Florence Forbes and Sophie Achard, Université Grenoble Alpes, started on October 2016.
- PhD in progress: Veronica Munoz,"Extraction de signatures dans les données IRM de patients parkinsoniens de novo", Florence Forbes and Michel Dojat, Université Grenoble Alpes, started on October 2017.
- PhD in progress: Fabien Boux,"Développement de méthodes statistiques pour l'imagerie IRM fingerprinting", Florence Forbes and Emmanuel Barbier, Université Grenoble Alpes, started on October 2017.
- PhD in progress: Benoit Kugler, "Massive hyperspectral images analysis by inverse regression of physical models", Florence Forbes and Sylvain Douté, Université Grenoble Alpes, started on October 2018.
- PhD in progress: Chun-Chen Tu,"Gaussian mixture sub-clustering/reduction refinement of Non-linear high-to-low dimensional mapping", Florence Forbes and Naisyin Wang, University of Michigan, Ann Arbor.
- PhD in progress: Mariia Vladimirova, "Prior specification for Bayesian deep learning models and regularization implications", started on October 2018, Julyan Arbel and Jakob Verbeek.
- PhD in progress: Brice Olivier, "Joint analysis of eye-movements and EEGs using coupled hidden Markov and topic models", started on October 2015, Jean-Baptiste Durand and Anne Guérin-Dugué (Université Grenoble Alpes).
- PhD in progress: Aboubacrène Ag Ahmad "*A new location-scale model for heavy-tailed distributions*", started on September 2016, Séphane Girard and Alio Diop (Université Gaston Berger, Sénégal).
- PhD in progress: Meryem Bousebata "*Bayesian estimation of extreme risk measures: Implication for the insurance of natural disasters*", started on October 2018, Séphane Girard and Geffroy Enjolras (Université Grenoble Alpes).
- PhD in progress: Alexandre Constantin "*Analyse de séries temporelles massives d'images satellitaires: Applications à la cartographie des écosystèmes*", started on November 2018, Séphane Girard and Mathieu Fauvel (Université Grenoble Alpes).

10.2.3. *Juries*

- Julyan Arbel has been reviewer for the PhD thesis of Ilaria Bianchini "Modeling and computational aspects of dependent completely random measures in Bayesian nonparametric statistics", Politecnico di Milano, Italy.
- Stéphane Girard has been reviewer for the PhD thesis of Mor Absa Loum, "*Modèle de mélange et modèles linéaires généralisés, application aux données de co-infection*", Univ. Paris-Saclay, France, et Gaston Berger, Sénégal.
- Stéphane Girard has been a member of the PhD committee of Antoine Usseglio Carleve, "*Estimation de mesures de risque pour les distributions elliptiques conditionnées*", Univ. Lyon, France.
- Florence Forbes has been reviewer for the PhD thesis of Amy Chan, University of Queensland, Brisbane and for the HDR thesis of Emilie Lebarbier, agroParisTech.
- Florence Forbes has been a member of the PhD committee of Israel Gebru Inria Grenoble, Marine Roux Gipsa-Lab, Grenoble and Jessica Sodjo, Bordeaux University.

10.3. Popularization

Florence Forbes was a speaker at the Paris Biotech Sante Forum on AI in life sciences, in November 2018, (Program).

10.3.1. *Articles and contents*

S. Girard and C. Albert have given an interview "When statistics help to predict disasters" for Citizen press: https://www.inria.fr/en/centre/grenoble/news/statistics-and-disasters

6. Dissemination

6.1. Promoting Scientific Activities

6.1.1. Scientific Events Organisation

6.1.1.1. Member of the Organizing Committees

- Jérôme David had been organiser of the workshop Symbolic methods for data-interlinking of the 21st EKAW, Nancy (FR), 2018 (with Miguel Couceiro)
- Jérôme Euzenat had been organiser of the 13th Ontology matching workshop of the 18th ISWC, Monterey (CA US), 2018 (with Pavel Shvaiko, Ernesto Jiménez Ruiz, Michele Cheatham and Oktie Hassanzadeh)

6.1.2. Scientific Events Selection

6.1.2.1. Chair of Conference Program Committees

- Jérôme Euzenat had been program chairman of the "French national artificial intelligence conference (CNIA)" [10], Nancy (FR), 2018.
- Manuel Atencia had been workshop and tutorial chairman (with Marieke van Erp) of the 21st EKAW, Nancy (FR), 2018.

6.1.2.2. Member of the Conference Program Committees

- Jérôme David and Jérôme Euzenat had been programme committee members of the "International joint conference on artificial intelligence (IJCAI)" 2018
- Jérôme David and Jérôme Euzenat had been programme committee member of the "National conference on artificial intelligence (AAAI)" 2018
- Manuel Atencia and Jérôme Euzenat had been programme committee members of the "International semantic web conference (ISWC)" 2018
- Jérôme David and Jérôme Euzenat had been programme committee members of the "European Semantic Web Conference (ESWC)" 2017
- Manuel Atencia, Jérôme David and Jérôme Euzenat had been programme committee member of the "Web Conference (WWW)" 2018
- Jérôme David had been programme committee member of the "Pacific Rim Knowledge Acquisition Workshop (PKAW)" 2018
- Jérôme Euzenat had been programme committee member of the "International Conference on Semantic Systems (Semantics)" 2018
- Jérôme Euzenat had been programme committee member of the "International conference on knowledge engineering and knowledge management (EKAW)" 2018
- Jérôme David had been programme committee member of the "French national artificial intelligence conference (CNIA)" 2018.
- Jérôme Euzenat had been programme committee member of the "French fundamental artificial intelligence days (JAIF)" 2018
- Manuel Atencia and Jérôme David had been programme committee members of the ISWC "Ontology matching" workshop (OM) 2018
- Manuel Atencia and Jérôme David had been programme committee members of the "French Extraction and gestion des connaissances conference (EGC)" 2018

- Jérôme David had been programme committee member of the "29es Journées francophones d'ingénierie des connaissances (IC)" 2018

6.1.3. Journal

6.1.3.1. Member of the Editorial Boards

- Jérôme Euzenat is member of the editorial board of *Journal of web semantics* (area editor), *Journal on data semantics* and the *Semantic web journal*.
- Jérôme Euzenat had been guest editor of a special issue of *Semantic web journal* on "semantic technologies and interoperability in the build environment" (with Álvaro Sicilia, Pieter Pauwels, Leandro Madrazo, and María Poveda-Villalón).

6.1.3.2. Reviewer - Reviewing Activities

- Manuel Atencia had been reviewer for *Journal of web semantics* and *Applied ontology*.
- Jérôme David had been reviewer for *Information system journal* and *Ingénierie des systèmes d'information* (special issue on "Impact des Open et/ou Linked Data dans les systèmes d'information").
- Jérôme Euzenat had been reviewer for *ACM transactions on the web*, and *International journal on metadata, semantics and ontologies*.

6.1.4. Invited Talks

- "Towards cultural knowledge evolution: experiments with alignments repair", Seminar LIP6, Paris (FR), 2018-10-15 (Jérôme Euzenat)
- "Enhancing Link Keys: Extraction and Reasoning", BNF workshop on "Données liées et données à lier: quels outils pour quels alignements?", Paris (FR), 2018-07-10 (Manuel Atencia)
- "Link key extraction with a variation of relational concept analysis", EKAW workshop on symbolic methods for data interlinking, Nancy (FR), 2018-11-12 (Jérôme Euzenat)

6.1.5. Leadership within the Scientific Community

- Jérôme Euzenat is member of the scientific council of the CNRS GDR "Intelligence artificielle".

6.1.6. Scientific Expertise

- Manuel Atencia had been evaluator for CAPES-COFECUB projects (BR)
- Jérôme Euzenat had been member of the scientific evaluation committee "CE23: Data, knowledge, big data, multimedia content – artificial intelligence" of the French national research agency (ANR)
- Manuel Atencia had been evaluator for the French national research agency (ANR)

6.2. Teaching - Supervision - Juries

6.2.1. Teaching

- Jérôme David is coordinator of the Master "Mathematiques et informatiques appliquées aux sciences humaines et sociales" (Univ. Grenoble Alpes)
- Manuel Atencia is co-responsible of the Master 2nd year "Mathematiques et informatiques appliquées aux sciences humaines et sociales" (Univ. Grenoble Alpes)
- Jérôme Euzenat had been, with Danielle Ziébelin, coordinator of the "AI and the web" option of the M2R in computer science and applied mathematics (Univ. Grenoble Alpes)

6.2.1.1. Lectures

Licence: Jérôme David, Algorithmique et programmation par objets, 70h, L2 MIASHS, UGA, France

Licence: Jérôme David, Introduction à Python, Licence ESSIG, 24h, UGA, France

Licence: Jérôme David, Système, L3 MIASHS, 18h, UGA, France

Licence: Manuel Atencia, Technologies du web, LP ESSIG, 18h, UGA, France

Licence: Manuel Atencia, Introduction aux technologies du Web, 60h, L3 MIASHS, UGA, France

Master: Jérôme David, Programmation Java 2, 30h, M1 MIASHS, UGA, France

Master: Jérôme David, JavaEE, 30h, M2 MIASHS, UGA, France

Master: Jérôme David, Développement Web Mobile, 30h, M2 MIASHS, UGA, France

Master: Jérôme David, Web sémantique, 3h, M2 MIASHS, UGA, France

Master: Manuel Atencia, Formats de données du web, 15h, M1 MIASHS, UGA, France

Master: Manuel Atencia, Introduction à la programmation web, 30h, M1 MIASHS, UGA, France

Master: Manuel Atencia, Intelligence artificielle, 7.5h, M1 MIASHS, UGA, France

Master: Manuel Atencia, Web sémantique, 27h, M2 MIASHS, UGA, France

Master: Manuel Atencia, Semantic web: from XML to OWL, 22.5h, M2R MoSIG, UGA, France

Master: Jérôme David, Stage de programmation, 10h, M2 MIASHS, UGA, France

6.2.2. Supervision

- PhD in progress : Nacira Abbas, "Link key extraction and relational concept analysis", 2018-10-01 (Jérôme David and Amedeo Napoli)
- PhD in progress : Khadija Jradeh, "Reasoning with link keys", 2018-10-01 (Manuel Atencia and Chan Le Duc)
- PhD in progress : Line van den Berg, "Knowledge Evolution in Agent Populations", 2018-10-01 (Manuel Atencia and Jérôme Euzenat)
- MSc: Iris Lohja, "Improving semantic recall of ontology alignments in cultural knowledge evolution", M2R Informatics, Univ. Grenoble Alpes, June 2018 (Manuel Atencia and Jérôme Euzenat)
- MSc: Khadija Jradeh, "Link key extraction under ontological constraints", M2R Informatics, Univ. Grenoble Alpes, June 2018 (Jérôme David and Jérôme Euzenat)

6.2.3. PhD panels

- Jérôme David had been panel member of the computer science PhD of Valentina Beratta (IMT Mines Alès) "Évaluation de la véracité des données: améliorer la découverte de la vérité en utilisant des connaissances a priori" supervised by Sylvie Ranwez and Isabelle Mougenot
- Jérôme Euzenat had been panel member of the computer science PhD of Paula Chocrón (Universitat Autònoma de Barcelona) "A pragmatic approach to translation: vocabulary alignment through multiagent interaction and observation" supervised by Marco Schorlemmer
- Jérôme Euzenat had been panel chair of the computer science PhD of Louis Jachiet (Université Grenoble-Alpes) "On the foundations for the compilation of web data queries: optimization and distributed evaluation of SPARQL" supervised by Nabil Layaïda and Pierre Genevès
- Jérôme Euzenat had been reviewer of the computer science habilitation of Chan Le Duc (Université Paris 8) "Raisonnement et révision pour des ontologies en logique de description"
- Jérôme Euzenat is member of the PhD supervision committee of Élodie Thiéblin (Université de Toulouse 2-Jean Jaurès) supervised by Ollivier Haemmerlé and Cássia Trojahn dos Santos

6.3. Popularization

6.3.1. Interventions

- Jérôme Euzenat gave a talk on "Artificial intelligence: a broad view" to BEST Spring course, Grenoble (FR), 2018-04-16
- Jérôme Euzenat gave a talk on "mOeX: évolution de la connaissance" Inria "Mon projet en 180 secondes", Grenoble (FR), 2018-05-29
- Jérôme Euzenat gave a talk on "Evolving knowledge: different facets of Artificial Intelligence" to the French-American Doctoral Exchange (FADEx) seminar, Grenoble (FR), 2018-06-27

MORPHEO Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Reviewer

- Jean-Sébastien Franco reviewed for 3DV, CVPR and ECCV 2018, and the CVPR 2018 Humans Workshop.
- Sergi Pujades reviewed for 3DV.
- Julien Pansiot reviewed for ECCV 2018 and CVPR 2019.
- Stefanie Wuhrer reviewed for CVPR, ECCV, and SIGGRAPH.
- Edmond Boyer reviewed for 3DV, CVPR and RFIAP 2018.
- Edmond Boyer was area chair for BMVC and ECCV 2018.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- Edmond Boyer is associate editor of the International Journal of Computer Vision (Springer).

10.1.2.2. Reviewer - Reviewing Activities

- Stefanie Wuhrer reviewed for IJCV and PAMI.
- Edmond Boyer reviewed for IJCV and PAMI.
- Sergi Pujades reviewed for the Journal of Imaging (MDPI), Sensors and IEEE TVCG.
- Jean-Sébastien Franco reviewed for IEEE Computer Graphics and Applications.

10.1.3. Invited Talks

- Edmond Boyer gave invited talks at: Microsoft Cambridge (visit), Institut Descarte Paris (conférence maths et mouvement), New York University (visit) and Montpellier University (Module Image).

10.1.4. Scientific Expertise

- Jean-Sebastien Franco reviewed for the Euregio Science Fund (EGTC) - Interregional Project Networks (IPN) in 2018.
- Jean-Sebastien Franco was a member of the recruiting commitee of Universite Grenoble Alpes for an Assistant Professor position in 2018.
- Jean-Sebastien Franco was a member of the Ensimag Engineering school - Grenoble INP steering commitee (Conseil d'École) in 2018.
- Jean-Sebastien Franco was a member of the recruiting commitee of Ensimag - Grenoble INP Engineering school for temporary research and teaching associates (ATER) in 2018.
- Sergi Pujades reviewed for the DFG (German ANR).

10.1.5. Research Administration

- Edmond Boyer is auditor for the Computer Vision European Association.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Jean-Sébastien Franco, Introduction to Imperative Programming, 57h, Ensimag 1st year, Grenoble INP.

Licence: Jean-Sébastien Franco, C Programming project, 27h, Ensimag 3rd year, Grenoble INP.

Master: Jean-Sébastien Franco, Supervision of the 2nd year program (300 students), 36h, Ensimag 2nd year, Grenoble INP.

Master: Jean-Sébastien Franco, Introduction to Computer Graphics, 44h, Ensimag 2nd year, Grenoble INP.

Master: Jean-Sébastien Franco, Introduction to Computer Vision, 27h, Ensimag 3rd year, Grenoble INP.

Master: Jean-Sébastien Franco, End of study project tutoring (PFE), 12h, Ensimag 3rd year, Grenoble INP.

Master: Edmond Boyer, 3D Modeling, 18h, M2R Mosig GVR, Grenoble INP.

Master: Edmond Boyer, Introduction to Visual Computing, 30h, M1 MoSig, Université Grenoble Alpes.

Master: Stefanie Wuhrer, 3D Graphics, 13.5h, M1 MoSig and MSIAM, Université Grenoble Alpes.

10.2.2. Supervision

PhD in progress: Victoria Fernandez Abrevaya, 3D Dynamic Human Motion Representations, Université Grenoble Alpes (France), started 01/10/2016, supervised by Edmond Boyer and Stefanie Wuhrer.

PhD in progress: Jean Basset, Learning Morphologically Plausible Pose Transfer, Université Grenoble Alpes (France), started 01/10/2018, supervised by Edmond Boyer, Franck Multon and Stefanie Wuhrer.

PhD in progress: Abdullah Haroon Rasheed, Cloth Modeling and Simulation, Université Grenoble Alpes (France), started 01/11/2017, supervised by Florence Bertails-Descoubes, Jean-Sébastien Franco and Stefanie Wuhrer.

PhD in progress: Jinlong Yang, Learning shape spaces of dressed 3D human models in motion, Université Grenoble Alpes (France), started 01/10/2015, supervised by Franck Hétroy-Wheeler and Stefanie Wuhrer.

HdR : Stefanie Wuhrer, Deformation Models for Human Shape Analysis, Université Grenoble Alpes (France), September 2018

PhD in progress: Claude Goubet, Dense 4D Modelling of Moving Shapes, Université Grenoble Alpes (France), started 02/10/2017, supervised by Edmond Boyer and Julien Pansiot

PhD in progress: Di Meng, Deep learning for low-dose CBCT reconstruction and registration, Université Grenoble Alpes (France), started 01/10/2018, supervised by Edmond Boyer and Julien Pansiot.

PhD in progress: Matthieu Armando, Temporal Integration for Shape and Appearance Modeling, Université Grenoble Alpes (France), started 01/01/2018, supervised by Edmond Boyer and Jean-Sébastien Franco.

PhD in progress: Vincent Leroy, 4D shape reconstruction from photoconsistency cues, Université Grenoble Alpes, started 01/10/2015, supervised by Edmond Boyer and Jean-Sébastien Franco.

MOSAIC Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- Romain Azaïs is a member of the organizing committee of the *Journées de Statistique 2019* in Nancy.

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- C. Godin is:
    - Associate Editor of the journal Frontiers in Plant Sciences, section Plant Biophysics and Modeling.
    - Review Editor of the journal Frontiers in Plant Sciences, section Plant Systems and Synthetic Biology.
    - Member of the Editorial Advisory Board of the new journal *in silico* Plants.
    - Associate Editor of a special issue of the Bulletin of Mathematical Biology on Multi-scale modelling of Tissue Growth and Shape.
- Olivier Ali: Review Editor in *Plant Biophysics & Modeling for Frontiers* since January 2018

9.1.2.2. Reviewer - Reviewing Activities

All team members are regularly involved in reviewer activities for academic journals from different scientific fields: Current Biology, Annals of Applied Probability, Journal of Theoretical Biology, Physical Review Letters, Journal of BioPhysics, Physical Review A, etc.

9.1.3. Invited Talks

- Romain Azaïs:
    - *Arbres de Galton-Watson conditionnés par la taille ou la hauteur : estimation via les modèles limites*. Journée de rencontres scientifiques autour de la statistique pour la biologie et la médecine, Poitiers, February 2018.
    - *Quelques pistes pour l'analyse de données arborescentes*. Rencontres Statistiques Lyonnaises, March 2018 (I/II) and May 2018 (II/II).
    - *Un nouvel éclairage sur le subtree kernel pour données arborescentes*. Séminaire de Probabilités et Statistiques de l'Université de Montpellier, September 2018.
    - *Average number of crossings and rupture detection for piecewise-deterministic processes*. International conference STODEP, Rouen, October 2018.
- Christophe Godin:
    - *Can we manipulate tree forms like numbers?*, co-authored with Romain Azaïs. Workshop on Mathematics for Developmental Biology, BIRS Center for Mathematics in Banff, Canada, Dec. 2017.
    - *Functional-Structural modeling of plants*, co-authored with Arezki Boudaoud. Phytobiom days in Lyon. France, April 2018.

- *Phyllotaxis at the era of molecular and computational biology: the revival of an old enigma*, co-authored with Teva Vernoux. Jacques Monod series of international conferences in Roscoff, France, Sept 2018.

  - *Coupling mechanical and hydraulic processes in multicellular models of plant development*, co-authored with Ibrahim Cheddadi. Workshop on the Contribution of cell mechanics to cell fate determination and tissue integrity: from an interdisciplinary point of view. Fondation des Treilles, France, Oct. 2018.

- Bruno Leggio (with J. Laussu, E. Faure, C. Godin and P. Lemaire): *Reproducible epidermal morphogenesis in ascidians: an active-reactive mechanical model*. Cell Cycle Day 2018, Montpellier, September 2018.

9.1.4. Scientific Expertise

- C. Godin
  - is a member of the International Scientific Advisory Committee of the Plant Phenotyping and Imaging Research Centre (P2IRC), Saskatchewan, Canada.
  - is a member of the Scientific Board of the Plant Biology and Breeding Department of INRA (BAP).
  - has reviewed a project for the Strategic Basic Research programme of the Flanders fundation for research (FWO), Belgium.

9.1.5. Research Administration

- C. Godin
  - is a member of the Project Committee at Grenoble Rhone-Alpes Research Center.
  - is a member of the Steering Committee of the RDP Lab., Lyon.
  - is a member of the Scientific board of the modeling axis of Labex NUMEV and a member of the direction board of the institut de biologie computationnelle (IBC) in Montpellier.
  - has been President of the 2018 CRCN Selection Jury at Inria Sophia Antipolis-Méditerranée

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Romain Azaïs:
  - *Colles de Mathématiques*, CPGE PCSI, Lycée Jean Perrin, Lyon.
  - One-day course on *Statistical learning*, Bioinformatics Summer School, Angers, July 2018.
- Guillaume Cerutti: *Practicals in modeling for Biosciences*, M2 ENS de Lyon (20h TP)
  Coordinator: Arezki Boudaoud, RDP, ENS de Lyon.
- Christophe Godin:
  - Co-organized with Patrick Lemaire the International Spring School on *Animal and Plant Morphogenesis*, one week in March, Paris ENS Master, Montpellier, France.
  - *Introduction to Microscopy image analysis*. Master Biology ENS de Lyon (2h).
- Bruno Leggio:
  - Conception and supervision of practicals for masters and PhD students during the 2018 *Interdisciplinary spring school on animal and plant morphogenesis*, Hameau de l'Etoile, Montpellier, France, March 2018.
  - One-day class for biophysics students at the University of Montpellier on the *modeling of morphogenesis*, December 2018.

9.2.2. Supervision

- PhD (2015 – 2018): Sarah Bertrand (LIRIS, Université Lumière Lyon 2). *Analyse d'images pour l'identification multi-organes d'espèces végétales*. Guillaume Cerutti. Supervisors: Laure Tougne (LIRIS, Université Lumière Lyon 2) and Guillaume Cerutti.

- PhD in progress (2015 – 2019): Florine Greciet (IECL, Université de Lorraine and Safran). *Modèles markoviens déterministes par morceaux cachés pour la caractérisation de contrainte admissible en fatigue des matériaux*. Supervisors: Anne Gégout-Petit (Inria team BIGS, IECL, Université de Lorraine) and Romain Azaïs.

- Master 1 (3 months in 2018): Florian Ingels. *Méthodes à noyau pour données arborescentes*. Supervisor: Romain Azaïs.

- Licence 3 (2 months in 2018): Clément Legrand. *A COMPLETER*. Supervisor: Christophe Godin.

- Niveau à completer (durée à compléter): Tony Vincent Ang. *A COMPLETER*. Supervisors: Christophe Godin and Frédéric Boudon.

- Niveau à completer (durée à compléter): Renan Berruex. *A COMPLETER*. Supervisors: Christophe Godin and Frédéric Boudon.

- Penser à Hadrien Oliveri, Katia Mirande, Anne Schneider

9.3. Popularization

9.3.1. Articles and contents

- Christophe Godin
    - made a presentation at *My team in 180 seconds*, June 2018 (in French).
    - wrote a paper *Pourquoi les Plantes font des maths* co-authored with Fabrice Besnard and Teva Vernoux, that was published in Pour La Science (Aug 2018) and in the hors-série issue on *La révolution végétale* (Nov 2018). (Nov 2018)

9.3.2. Interventions

- O. Ali has been an invited speaker for an art/science conference and debate organized by the modern art museum of Lyon, October 2018.

- Romain Azaïs won a special mention in the comics contest *Maths et Polar* organized by the website *Image des Mathématiques* of the CNRS, April 2018.

- Guillaume Cerutti, Christophe Godin and Jonathan Legrand have been involved in Déclics initiatives (presentation and discussion with high school students in order to promote science and research careers), October and December 2018.

- Christophe 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.

- H. Oliveri took part in the Class'Code Initiative, a Mooc produced by Inria and OpenClassRoom providing supports and guidelines for people wanting to teach computer science to young childrens.

<p style="text-align:center">**NANO-D Project-Team**</p>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Reviewer

- Léonard Jaillet has been reviewer for the IROS 2018 conference (International Conference on Intelligent Robots and Systems).

- Sergei Grudinin was a reviewer for the BIBM'18 conference (The IEEE International Conference on Bioinformatics and Biomedicine), and 6th International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2018).

8.1.2. Journal

8.1.2.1. Reviewer - Reviewing Activities

Sergei Grudinin has reviewed submissions for the following journals : PLOS Computational Biology, Journal of Computer–Aided Molecular Design, Bioinformatics, Computational Biology and Chemistry, Journal of Computational Chemistry, Proteins, Nature, BMC Bioinformatics, The Journal of Physical Chemistry, IEEE Access, Accounts of Chemical Research, Computational and Structural Biotechnology Journal.

8.1.3. Invited Talks

- Sergei Grudinin gave an invited talk 'Algorithms for Protein–Protein Docking' at the Meet–U 2018 course on structural bioinformatics, Paris, 2018.

- Sergei Grudinin gave an invited talk 'Using Machine Learning for Structure–Based Predictions of Protein–Ligand Interactions' at the 7th French–Japanese Workshop on Computational Methods in Chemistry, Strasburg, 2018.

- Sergei Grudinin gave an invited talk 'Novel Methods for Structural Bioinformatics' at the GDR BIM / GT Méthodes Algorithmiques pour les Structures et Interactions, Paris 2018.

- Sergei Grudinin gave an invited talk 'Using machine learning to predict protein structure and interactions' at the VIth International Conference "Chemistry, Structure and Function of Biomolecules", Minsk, 2018.

- Sergei Grudinin gave an invited talk 'Predicting protein interactions with protein flexibility and small-angle scattering profiles' at the Modeling of Protein Interactions (MPI) 2018 conference, November 8-10, Lawrence, KS, USA.

- Sergei Grudinin gave an invited talk on data-assisted modeling of protein structures at the CASP13 conference, Iberostar Paraiso, Riviera Maya, Mexico December 1-4, 2018.

- Sergei Grudinin gave an invited talk 'Artificial Intelligence for Learning Protein Interactions' at the 4th International Conference on Mathematical and Computational Medicine, December 3-7, 2018, Cancun, Mexico.

8.1.4. Leadership within the Scientific Community

Sergei Grudinin with his colleagues from ILL has organized a new data-assisted (SANS) sub-challenge for the CASP13 community-wise protein structure prediction exercise.

8.1.5. Scientific Expertise

Sergei Grudinin reviewed an application for the OPUS funding scheme at the National Science Center, Poland.

8.2. Teaching - Supervision - Juries

8.2.1. Supervision

PhD : Phd thesis defence of Minh Khoa Nguyen, Université Grenoble Alpes, 2018
Title: Efficient exploration of molecular paths from As-Rigid-As-Possible approaches and motion planning methods [67].
Thesis committee: Emmanuel Mazer, Léonard Jaillet, Stéphane Redon, Juan Cortes, Charles Robert, Dirk Stratmann.
Summary: In this dissertation, we are particularly interested in developing new methods to find for a system made of a single protein or a protein and a ligand, the pathways that allow a transition from one state to another. During a few past decades, a vast amount of computational methods has been proposed to address this problem. However, these methods still have to face two challenges: the high dimensionality of the representation space, associated to the large number of atoms in these systems, and the complexity of the interactions between these atoms. This dissertation proposes two novel methods to efficiently find relevant pathways for such biomolecular systems. The methods are fast and their solutions can be used, analyzed or improved with more specialized methods. The first proposed method generates interpolation pathways for biomolecular systems using the As-Rigid-As-Possible (ARAP) principle from computer graphics. The method is robust and the generated solutions best preserve the local rigidity of the original system. An energy-based extension of the method is also proposed, which significantly improves the solution paths. However, in the scenarios requiring complex deformations, this approach may still generate unnatural paths. Therefore, we propose a second method called ART-RRT, which combines the ARAP principle for reducing the dimensionality, with the Rapidly-exploring Random Trees from robotics for efficiently exploring possible pathways. This method not only gives a variety of pathways in reasonable time but the pathways are also low-energy and clash-free, with the local rigidity preserved as much as possible. The mono-directional and bi-directional versions of the ART-RRT method were applied for finding ligand-unbinding and protein conformational transition pathways, respectively. The results were found to be in good agreement with experimental data and other state-of-the-art solutions.

PhD : Phd thesis defence of Alexandre Hoffmann, Université Grenoble Alpes, 2018
Title: Docking Flexible Proteins using Polynomial Expansions.
Thesis committee: Valérie Perrier, Slavica Jonic, Florence Tama, Sergei Grudinin, Marc Delarue, Roland Hildebrand.
Summary: This thesis focuses on two main axes. The first axis is the development of a new method that exhaustively samples both rigid-body and collective motions computed via normal mode analysis (NMA). We first present a method that combines the advantages of the fast Fourier transform (FFT)-based exhaustive search, which samples all the conformations of a system under study on a grid, with a local optimization technique that guarantees to find the nearest optimal off-grid and flexible conformation. The algorithm first samples a quadratic approximation of a scoring function on a 6D grid. Then, the method performs the flexible search by maximizing the quadratic approximation of the cost function within a certain search space. We then present a multi-step version of our algorithm, which finds the collective motions that maximize the docking score with respect to the rigid-body degrees of freedom (DOFs). The method exhaustively samples both rigid- body and collective motions by maximizing the soft maximum over the rigid body DOFs of the docking/fitting cost function. Both methods were applied to docking problems on both real and artificial example and we were able to design a benchmark in which the "fit then refine" approach fails at finding the correct conformation while our method succeeds.

The second axis is the development of a new extrapolation of motions computed by NMA. We show that it is possible, with minimal computations, to extrapolate the instantaneous motions computed by NMA in the rotations-translations of blocks (RTB) subspace as an almost pure rotation around a certain axis. We applied this non-linear block (NOLB) method on various biological systems and

were able to, firstly, retrieve biologically relevant motions and secondly, to demonstrate that the NOLB method generates structures with a better topology than a linear NMA method.

PhD : Phd thesis defence of Semeho Prince A. Edorh, Université Grenoble Alpes, 2018
Title: Incremental Algorithm for long range interactions [11].
Thesis committee: Stephane Redon, Olivier Coulaud, Matthias Bolten, Jean-Louis Barrat, Stefano Mossa, Jerôme Mathe.

Summary: Particle simulations have become an essential tool in various fields such as physics, astrophysics, biology, chemistry, climatology, and engineering, to name few. Usually, these computer simulations produce a temporal evolution of the system of interest by describing the motion of particles. In order to perform reliable simulations, we must provide an accurate description of interaction forces undergone by each particle. In most cases, these forces mirror inter-particle interactions and depend on relative coordinates of the particles. Moreover, pairwise long-range interactions are generally the cornerstone of particle simulations, an example being gravitational forces that are so essential in astrophysics. In molecular simulations, electrostatic forces are the most common illustration of long-range interactions. Furthermore, due to their computational cost, pairwise long-range interactions are the bottleneck of particle simulations. Therefore, sophisticated algorithms must be used for efficient evaluations of these interactions. In this thesis, we thus propose algorithms which may reduce the cost of long-range interactions when the studied system is governed by a particular dynamics. Precisely, these so-called «incremental» algorithms are effective for simulations where a part of the system remains frozen awhile. In particular, our algorithms will be validated on systems whose particles are governed by the so-called Adaptively Restrained Molecular Dynamics (ARMD) which is a promising approach in molecular dynamics simulations. Although several incremental algorithms introduced by this thesis will be devoted to molecular dynamics simulations, we believe that they can be generalized to all kinds of long-range interactions.

PhD in progress : Maria Kadukova, "Novel computational approaches for protein ligand interactions", Sep 2016-, supervisors: Sergei Grudinin (France) and Vladimir Chupin (MIPT, Russia).

PhD in progress : Guillaume Pagès, "Novel computational developments for protein structure prediction", Apr 2016-, supervisors: Sergei Grudinin (Inria), Valentin Gordeliy (IBS).

8.3. Popularization

8.3.1. Articles and contents

Sergei Grudinin and Guillaume Pagès were interviewed by Le Figaro about the progress of deep learning and artificial intelligence in protein structure prediction [88].

NECS Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

The team organized the international ERC Scale-FreeBack workshop on "Analysis and Control of Large-Scale Complex Networks", Grenoble, September 10-11th, 2018 (http://scale-freeback.eu/workshop-on-analysis-and-control-of-large-scale-complex-networks-10-11-sept-2018-grenoble/).

M. L. Delle Monache organized a mini-symposium on "Modélisation et gestion du trafic routier", 44e Congrès National d'Analyse Numérique, May 2018 (with P. Goatin, Acumes team).

M. L. Delle Monache organized a workshop on "Traffic flow control via PDE techniques", CDC, December 2018 (with Nikolaos Bekiaris-Liberis, Delphine Bresch-Pietri and Rafael Vazquez).

Team members organized the following invited sessions at the European Control Conference ECC 2018, Cyprus, June 2018:

- "Model reduction and control in large-scale networks" (P. Frasca and C. Canudas de Wit)
- "Multi-agent network games" (F. Garin, with S. Grammatico from Delft Univ. of Technology)

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

C. Canudas de Wit has served as Associate Editor at Large for the American Control Conference ACC 2019.

P. Frasca has served as Associate Editor in the conference editorial boards for the 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems and the 23rd International Symposium on Mathematical Theory of Networks and Systems (MTNS).

F. Garin is Associate Editor in the IEEE Control System Society Conference Editorial Board (this year, she served for CDC 2018, ACC 2019) and Associate Editor in the European Control Association (EUCA) Conference Editorial Board (this year, she served for ECC 2019).

H. Fourati was member of:

- the International Program Committee (IPC) of international conferences STA'18, ICCAD'18, ICITE'18.
- the International Program Committee (IPC)/Associate Editor for contributed papers for the IEEE Conference on Control Technology and Applications (CCTA'18), Copenhagen (Denmark), Aug. 2018;
- the Technical Program Committee (TCP) for the International Conference on Indoor Positioning and Indoor Navigation (IPIN'18), Nantes (France), Sep. 2018;
- the committee of the reviewing phase of the 21st Euro Working Group on Transportation Meeting (EWGT'18), Braunschweig (Germany), Sep. 2018.

9.1.2.2. Reviewer

Team members have been reviewers for several conferences, including the most prestigious ones in their research area: IEEE Conference on Decision and Control CDC, European Control Conference ECC, American Control Conference ACC, European Signal Processing Conference, IEEE International Conference on Robotics and Automation ICRA, IEEE/RSJ International Conference on Intelligent Robots and Systems IROS, IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys), IFAC Workshop on Control for Transportartion Systems (CTS), IEEE Intelligent Transportation Systems Society Conference, Transportation Research Board Annual Meeting.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

C. Canudas de Wit is Associate Editor of the IEEE Transactions on Control of Networks Systems IEEE-TCNS (since June 2013) and Editor of the Asian Journal of Control AJC (since 2010).

P. Frasca is Subject Editor of the International Journal of Robust and Nonlinear Control (Wiley) (since February 2014), Associate Editor of the IEEE Control System Letters (from February 2017) and Associate Editor of the Asian Journal of Control (Wiley) (since January 2017).

H. Fourati is Associate Editor of the Asian Journal of Control (Wiley) (since January 2016) and of the Open Transportation Journal https://benthamopen.com/TOTJ/editorial-board. He has also been guest editor of the special issue "Multi-sensor Integrated Navigation and Location based services applications" for International Journal of Distributed Sensor Networks (IJDSN), 2017-2018 (http://journals.sagepub.com/topic/collections-dsn/dsn-1-msinalbsa/dsn) and lead guest editor of the special issue "Recent Advances on Data Fusion, Estimation in Navigation and Control" for Asian Journal of Control (AJC), 2018.

9.1.3.2. Reviewer - Reviewing Activities

Team members have been reviewers for several journals, including the most prestigious ones in their research area: IEEE Trans. on Automatic Control, IEEE Trans. on Control of Network Systems, IEEE Trans. on Signal Processing, Automatica, IEEE Signal Processing Letters, Systems and Control Letters, Int. Journal of Robust and Nonlinear Control, Elsevier Transportation Research Part B, IEEE Trans. on Intelligent Transportation Systems, IEEE/ASME Trans. on Mechatronics, IEEE Trans. on Instrumentations and Measurements, IEEE Sensors journal, IEEE Trans. on Robotics, AIMS Networks and Heterogeneous Network (NHM), Wiley Mathematical Methods in the Applied Sciences (MMAS), Journal of Mathematical Analysis and Applications (JMMA), Journal of Nonlinear Science and Applications (JNSA), Journal of the Franklin Institute, AMS Mathematical Reviews, Asian Journal of Control.

9.1.4. Invited Talks

- C. Canudas de Wit, "Model and Control of Large scale systems", plenary talk at IFAC-NecSys'18, Groningen, The Netherlands, August 2018.

- C. Canudas de Wit, "Control of Large scale Urban networks: a new perspective", plenary talk at IFAC-CTS'18, Savona, Italy, June 2018

- C. Canudas de Wit, "Scale-FreeBack", pitch talk at Transport Research Arena, Vienna, Austria, April 2018 .

- C. Canudas de Wit, "Towards Scale-Free Control of Large-scale Traffic Networks" and M. L. Delle Monache, "Micro-macro traffic modeling for estimation and control", First SoPhy International Workshop on Societal-Scale Cyber-Physical Transport Systems Workshop, Stockholm, Sweden, September 2018.

- M. L. Delle Monache, "Can big data help traffic flow control?", Workshop: Traffic flow control via PDE Techniques, IEEE-CDC Conference, Miami Beach, USA, December 2018.

- M. L. Delle Monache, "Control and estimation of traffic flow using autonomous vehicles", Joint meeting of the Italian Mathematical Union, the Italian Society of Industrial and Applied Mathematics and the Polish Mathematical Society, Wroclaw, Poland, September 2018.

- M. L. Delle Monache, "Riemann solver for a macroscopic double-lane roundabout model", 15th IFAC Symposium on Control in Transportation Systems, Savona, Italy, June 2018.

- M. L. Delle Monache, "Control of traffic: from ramp metering to autonomous vehicles", Institute for Software Integrated Systems, Vanderbilt University, USA, May 2018.

- M. L. Delle Monache, "Control of traffic flow: from ramp metering to autonomous vehicles", Seminar of the department of mathematics, University of Alabama, USA, April 2018

- M. L. Delle Monache, "Two-dimensional macroscopic model for large scale traffic network", Incontro Scientifico su Modellizzazione ed Analisi di Problemi di Folle e Traffico, Politecnico di Torino, Italy, April 2018.
- M. L. Delle Monache, "Les mathématiques cachées du trafic routier", ISN Conference, Académie de Grenoble, Inria Grenoble – Rhône-Alpes, France, March 2018.
- P. Frasca, "The harmonic influence in social networks and its distributed computation by message passing", IXXI, ENS Lyon, July 3, 2018
- P. Frasca, "Randomization and quantization in opinion dynamics", IRSTEA, Clermont-Ferrand, March 14, 2018.
- F. Garin, "Input-and-state observability of structured systems", Paths in Mathematical Systems Theory workshop, Torino (Italy), Feb. 2018.

9.1.5. Leadership within the Scientific Community

Team members participate to the following technical committees of IEEE Control Systems Society and of the International Federation of Automatic Control:

- IEEE-CSS Technical Committee "Networks and Communications Systems" (P. Frasca and F. Garin);
- IFAC Technical Committee 1.5 on Networked Systems (P. Frasca and C. Canudas de Wit);
- IFAC Technical Committee 2.5 on Robust Control (P. Frasca);
- IFAC-TC7.1 Automotive Control (C. Canudas de Wit);
- IFAC-TC7.4 Transportation systems (C. Canudas de Wit).

C. Canudas de Wit is member of the advisory board (2017-21) of the project "Societal-Scale Cyber-Physical Transport Systems" supported by the Swedish Strategic Research Foundation, KTH Sweden.

P. Frasca is member of the "Comité de Direction du GdR MACS ", term 2019-2023.

P. Frasca reviewed project proposals for the ERC and the Italian Ministry of Scientific Research; A. Kibangou reviewed project proposals for ANR, NRF (South-African research agency), and ERC.

9.1.6. Research Administration

C. Canudas de Wit is a member of the COST-Inria-RA (Conseil d'Orientation Scientifique et Technologique, Inria Rhône-Alpes), since 2017.
F. Garin is member of two local committees at Inria Rhône-Alpes: Comité des Emplois Scientifiques (post-docs, délégations) since 2015 and Comité des Études Doctorales (PhD grants CORDI-S) since 2016.
A. Kibangou is:

- Elected member of the research department MSTIC (mathematics, information and communication sciences) of Univ. Grenoble Alpes
- Co-head of the PCS (Pervasive Computing Systems) action of Persyval-Lab
- Academic director (L2) IUT1 (GEII)
- Co-head for higher studies opportunities (Responsable poursuite d'études) (IUT1-GEII)

H. Fourati is

- Member of the Department of Electrical Engineering Council, IUT1 Grenoble, France (2018-2021)
- Member of CNU61 (Conseil national des universités, Génie informatique, Automatique et Traitement du Signal) since 2016.
- In charge of communication mission and visits to high school within the Department of Electrical Engineering, IUT1 Grenoble, France (2017-present).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master and PhD: M.L. Delle Monache, Traffic flow and crowd dynamics: modeling and computing, 18h, ED MSTII, Univ. Grenoble Alpes, France.

Master: F. Garin, Distributed Algorithms and Network Systems, 13.5h, M2, Univ. Grenoble Alpes, France.

Licence: H. Fourati, Mathématiques, 30h, L2, IUT1 (GEII1), Univ. Grenoble Alpes, France.

Licence: H. Fourati, Informatique Industrielle, 95h, L1, IUT 1 (GEII), Univ. Grenoble Alpes, France.

Licence: A. Kibangou, Automatique, 75h, L2, IUT1(GEII), Univ. Grenoble Alpes, France.

Licence: A. Kibangou, Mathématiques, 44h, L2, IUT1 (GEII), Univ. Grenoble Alpes, France.

Licence: A. Kibangou, Mathématiques, 126h, L1, IUT1 (GEII), Univ. Grenoble Alpes, France.

9.2.2. Supervision

PhD: Andrés Alberto Ladino Lopez, Traffic state estimation and prediction in freeways and urban networks, Univ. Grenoble Alpes, March 2018, co-advised by C. Canudas de Wit, A. Kibangou and H. Fourati.

PhD: Sebin Gracy, Input and state observability of linear network systems with application to security of cyber-physical systems, Univ. Grenoble Alpes, Nov. 2018, co-advised by A. Kibangou and F. Garin.

PhD: Stéphane Durand, Analysis of best response dynamics in potential games, Univ. Grenoble Alpes, Dec. 2018, co-advised by B. Gaujal and F. Garin.

PhD in progress: Stéphane Mollier, Aggregated Scale-Free Models for 2-D Large-scale Traffic Systems, from Oct. 2016, co-advised by C. Canudas de Wit, M. L. Delle Monache and B. Seibold.

PhD in progress: Nigina Toktassynova, Simulation and research of industrial flow control systems of the enterprise based on MES, from Oct. 2016, co-advised by H. Fourati and Batyrbek Suleimenov (Kazakh National Research Technical University).

PhD in progress: Nicolas Martin, On-line partitioning algorithms for evolutionary scale-free networks, from Dec. 2016, co-advised by C. Canudas de Wit and P. Frasca.

PhD in progress: Martin Rodriguez-Vega, Traffic density, traveling time and vehicle emission estimation in large-scale traffic networks, from Oct. 2017, co-advised by C. Canudas de Wit and H. Fourati.

PhD in progress: Muhammad Umar B. Niazi, State-state estimation design and optimal sensor placement algorithms for large-scale evolutionary dynamical networks, from Dec. 2017, co-advised by C. Canudas de Wit and A. Kibangou.

PhD in progress: Thembani Moyo, Origin and destination modeling and estimation for smart mobility, from May 2018, co-advised by A. Kibangou and W. Musakwa (Univ. of Johannesburg).

PhD in progress: Denis Nikitin, Scalable large-scale control of network aggregates, from Sept. 2018, co-advised by C. Canudas de Wit and P. Frasca.

PhD in progress: Liudmila Tumash, Traffic control in large-scale urban networks, from Sept. 2018, co-advised by C. Canudas de Wit and M. L. Delle Monache.

PhD in progress: Bassel Othman, Dynamic optimization of road traffic in a large-scale urban network from Oct. 2018, co-advised by C. Canudas de Wit and G. De Nunzio.

PhD in progress: Makia Zmitri, Estimating the attitude by IMU, magnetic and vision measures: an automatic control approach, from Oct. 2018, co-advised by H. Fourati and C. Prieur.

9.2.3. Juries

- P. Frasca was committee member of the PhD defence of Zhiyang Ju. Thesis: *Persistent Communication Connectivity of Multi-agent Systems*. University of Melbourne, Australia. PhD advisor: Dragan Nesic and Iman Shames. 2018

- P. Frasca was committee member of the PhD defence of Pierre-Yves Chevalier. Thesis: *Inhomogeneous Products of Stochastic Matrices with Application to Consensus Systems*. Université catholique de Louvain, Louvain-la-Neuve, Belgium. Ph.D. advisors: Julien Hendrickx and Raphael Jungers, June 2018

- P. Frasca was committee member of the PhD defence of Domenico Tangredi. Thesis: *Consensus in Heterogeneous Opinion Dynamics Networks*. University of Sannio, Benevento, Italy. Ph.D. advisor: Francesco Vasca, 2018.

- H. Fourati was committee member of the PhD defence of Fadoua Taia-Alaoui, IFSTTAR / Univ. Nantes, Dec. 2018.

- F. Garin was scientific assessor for the promotion of Maben Rabi to 'oavlönad docent', Chalmers University of Technology (Sweden), Jan. 2018.

- A. Kibangou was a reviewer of the PhD thesis of Thomas Brault "Étude des algorithmes de fusion de données pour estimer l'orientation d'un objet", Sorbonne Universités, defended November 8th, 2018.

- A. Kibangou was a reviewer of the thesis of Smart Dumba "Modelling Signalised Intersections' Capacity under the Impact of Minibus Public Transport in Harare, Zimbabwe", University of Zimbabwe. To be defended in January 2019.

9.3. Popularization

9.3.1. Articles and contents

P. Frasca has co-authored a column on the IEEE Control Systems Magazine about the activities of the Technical Committee on Networks and Communications Systems [67].

9.3.2. Education

M. L. Delle Monache gave a talk on "Les mathématiques cachées du trafic routier" to the high school teachers in the framework of the ISN Conference in collaboration with the Académie de Grenoble. The video of the conference is available at https://www.canal-u.tv/video/inria/les_mathematiques_cachees_du_trafic_routier. 44275.

9.3.3. Interventions

Vadim Bertrand presented demos of the GTL-Ville:
- at *Club PTV Vision* (https://discover.ptvgroup.com/Club_PTV_Vision_2018), on Oct. 4th, in Paris
- at *Rencontres Inria-industrie* (https://www.inria.fr/innovation/recherche-partenariale-transfert/rencontres-inria-industrie/presentation), on Nov. 20th, in Paris

NUMED Project-Team (section vide)

PERCEPTION Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

Xavier Alameda-Pineda organized several workshops in conjunction with IEEE CVPR'18, ECCV'18, and ACM Multimedia'18.

8.1.1.2. Reviewer

Xavier Alameda-PIneda was a reviewer for IEEE CVPR'18, NIPS'18, IEEE ICASSP'18, ACM Multimedia'18 and IEEE ICRA'18.

8.1.2. Journal

8.1.2.1. Member of the Editorial Boards

Radu Horaud is associated editor for the International Journal of Computer Vision and for the IEEE Robotics and Automation Letters.

8.1.2.2. Guest Editor

Xavier Alameda-Pineda was co-guest editor of a special issue of the ACM Transactions on Multimedia Computing Communications and Applications on "Multimodal Understanding of Social, Affective, and Subjective Attributes".

8.1.3. Invited Talks

- Radu Horaud gave an invited talk at the Multimodal Machine Perception Workshop, Google, San Francisco, and at SRI International, Menlo Park, USA, on "Audio-Visual Machine Perception for Human-Robot Interaction".
- Xavier Alameda-Pineda was invited to give a seminar at the University in May 2018 on "Audio-Visual Multiple Speaker Tracking with Robotic Platforms", and
- Xavier Alameda-Pineda gave an invited talk at the SOUND Workshop at Bar-Ilan University, Israel, December 2018 on "Multi-modal Automatic Detection of Social Attractors in Crowded Meetings".

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Laurent Girin is professor at Grenoble National Polytechnic Institute (G-INP) where he teaches signal processing and machine learning on the basis of a full professor service (192 hours/year)
- Xavier Alameda-Pineda is involved with the M2 course of the MSIAM Masters Program: "Fundamentals of probabilistic data mining, modeling seminars and projects", for the practical sessions. Xavier is also preparing a doctoral course on "Learning with Multi-Modal data for Scene Understanding and Human-Robot Interaction" to be taught in spring 2019.

8.2.2. Supervision

- Radu Horaud has supervised the following PhD students: Israel Dejene-Gebru [32], Stéphane Lathuilière [33], Benoît Massé [34], Yutong Ban, Guillaume Delorme and Sylvain Guy.
- Xavier Alameda-PIneda has co-supervised Israel Dejene-Gebru, Yutong Ban, Guillaume Delorme and has supervised Yihong Xu.

8.2.3. Juries

Xavier Alameda-Pineda was reviewer and examiner of the PhD dissertations of Wei Wang (now post-doctoral fellow at EPFL) and of Dr. Dan Xu (now post-doctoral fellow at U. Oxford), both at University of Trento, Italy.

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PERVASIVE Project-Team

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10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Sabine Coquillart was Conference co-chair for ICAT-EGVE 2018, Cyprus, Nov. 7-9, 2018.

10.1.1.2. Chair of Conference Program Committees

- Thierry Fraichard was Program Co-Chair for the IEEE Int. Conf. on Simulation, Modeling, and Programming for Autonomous Robots (SIMPAR), Brisbane (AT), *May 2018*.

10.1.1.3. Member of Conference Program Committees

- Patrick Reignier was a member of the Program Committee of Smart Objects 2018 (satellite workshop to CHI 2018, Montreal (CA).

- Eric Castelli: co-organisator and "board member" of the international conference serie STLU'xx (Spoken Language Technologies for Under-resourced languages) since it-s creation. For 2018: participation of SLTU'18 (Gurugam, India) (as reminder: SLTU'16 (Jakarta, Indonesia) - SLTU'14 (St Petersburg, Russia) - SLTU'12 (Cape Town, South Africa) - STLU'10 (Penang, Malaysia) - Organisator and "co-chair" of the first edition STLU'08 (Hanoi, Vietnam))

- Sabine Coquillart was a member of the Program Committee for 3DCVE'18, CENTRIC'18, GRAPP'18, ICGI'18, ICMI'18, IEEE VR'18 Journal Papers, IEEE VR'18 Conference Papers, ICAT-EGVE'18, VRST'18, WSCG'18,

10.1.1.4. Reviewer

- Thierry Fraichard reviewed papers for the IEEE/RSJ IROS conference.

- Patrick Reignier reviewed papers for Smart Objects 2018.

- Dominique Vaufreydaz reviewed articles for IV2018, IUadapt2018, RO-MAN2018, ICARCV2018, AVEC2018, Workshop on Modeling Cognitive Processes from Multimodal Data at ICMI 2018, HRI 2019, MAPR2018.

- Eric Castelli reviewed papers of 14 international conferences and workshops: SPIN 2018 (Noida, Dehly, India) - 3ICT18 (Bahrain) – IALP 2018 (Bandung, Indonesia) – NICS 2018 (Ho Chi Minh City, Vietnam) - SCS 2018 (Bahrain) – SPECOM 2018 (Leipzig, Germany) – SigTelCom 2018 (Ho Chi Minh Citiy, Vietnam) - STLU'18 (Gurugram, India) – ATC 2018 (Ho Chi Minh City, Vietnam) – ICVES 2018 (Madrid, Spain) – SCS 2019 (Bahrain) – SigTelCom 2019 (Hanoi, Vietnam) – ICMSAO 2019 (Bahrain) – SPECOM 2019 (Istanbul, Turkey) – MAPR 2019 (Ho Chi Minh City, Vietnam)

- James Crowley Reviewed papers for ACCV 2018, ICMI 2019, and CVPR 2018.

- Sabine Coquillart Reviewed papers for Eurographics'18, Eurohaptics'18.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

- Sabine Coquillart is a member of the Scientific Committee of the Journal of Virtual Reality and Broadcasting.

- Sabine Coquillart is Academic Editor for PeerJ Computer Science Journal.

- Sabine Coquillart is Review Editor for Frontiers in Virtual Environments Journal.

- Sabine Coquillart is Associate Editor for Presence: Teleoperators and Virtual Environments.
- Thierry Fraichard is an Asssociate Editor for IEEE Robotics and Automation Letters (RA-L).
- Patrick Reignier is a member of the editorial board of the Modeling and Using Context Journal.
- Patrick Reignier served as a guest editor for a special issue of the Revue d'Intelligence Artificielle on Smart Homes.
- Dominique Vaufreydaz served as a guest editor for a special issue Special Issue "Human Behavior, Emotion and Representation" of Multimodal Technologies and Interaction.

10.1.2.2. Reviewer - Reviewing Activities

- Thierry Fraichard reviewed articles for IEEE Trans. Intelligent Vehicles (TIV), IEEE Robotics and Automation Letters (RA-L).
- Thierry Fraichard reviewed proposals for the IDEX Université Grenoble Alpes and the Italian Research Agency.
- Thierry Fraichard served as a reviewer for the H2020 ILIAD European project.
- Eric Castelli reviewed article for the "Romanian Human Computer Interaction" Journal (RRIOC)
- Dominique Vaufreydaz reviewed articles for the journal of Interactive Technology and Smart Education

10.1.3. Invited Talks

- Eric Castelli: *The future of scientific international cooperation in ASEAN area*. Seminar of International Research Institute MICA, Hanoi, Vietnam, 9 & 10 July 2018
- James Crowley: *Put That There: 30 Years of Research on Multi-Modal Interaction*, Invited Plenary Presentation, 2018 International Conference on Multimodal Interaction, ICMI 2018, Boulder Co. 16 Oct 2018.
- James Crowley: *Artificial Intelligence*, Invited Plenary Presentation, 2018 Colloque annuel des directeurs des écoles d'ingénieures, Marseilles, 31 May 2018.
- Sabine Coquillart: *Pseudo-haptics : résultats de recherche et perspectives d'applications*, Invited presentation, Séminaire "Sensorimotricité, intersensorialité et réalité virtuelle", Grenoble, 28 janvier 2018.

10.1.4. Leadership within the Scientific Community

- James Crowley is a member of the Steering Committee for the ACM Int. Conf. on Multimodal Interaction.
- Sabine Coquillart is serving as member of the steering committee for the ICAT Int. Conf. on Artificial Reality and Telexistence.
- Sabine Coquillart is chairing the steering committee for the EGVE Working Group – EUROGRAPHICS Working group on Virtual Environments.
- Sabine Coquillart is an elected member of the EUROGRAPHICS Executive Committee.
- Sabine Coquillart is a member of the EUROGRAPHICS Working Group and Workshop board.

10.1.5. Scientific Expertise

- James L. Crowley served on the ANR committee CE 33 Interaction, Robotics.
- Sabine Coquillart served as an expert reviewer for the Austrian Science Fund.
- Thierry Fraichard served as an expert reviewer for the European Commission and the Italian Research Agency.
- Patrick Reignier is a member of the Scientific Council of the Amiqual4Home EquipEx.
- Dominique Vaufreydaz served as an evaluator for Initiatives de Recherche Stratégiques (IRS) call of the Grenoble Idex.

- Dominique Vaufreydaz served as an evaluator for Icelandic Research Fund.
- Eric Castelli served as an international expert for the Vietnamese agency NAFOSTED (National Foundation for Science and Technology Development), Ministry of Science and Technology of Vietnam.
- Eric Castelli served as an international expert for the Cambodian Ministry of Posts and Telecommunications
- Sabine Coquillart served as member for the Best Paper Award Committee for IEEE VR 2018.
- Sabine Coquillart served as a member of the Scientific Committee of "Challenges of IoT in the Digital Tools and Uses Congress", 2018.

10.1.6. Research Administration

- James Crowley is director for the Amiqual4Home Innovation Platform (EquipEx).
- James Crowley serves on the Administrative Committee (Bureau) for the Laboratoire Informatique de Grenoble.
- James Crowley served on the Scientific Committee (CoS) for the CRI Inria Grenoble-Rhone Alpes.
- James Crowley served on the orientation committee for the Competitivety Pole Minalogic
- Patrick Reignier is head of the engineering support group of the Laboratoire d'Informatique de Grenoble (13 members). He is currently supervising the moving of the Domus Living lab to a new site on Campus.
- Patrick Reignier serves on the Administrative Office (Bureau) for the Laboratoire Informatique de Grenoble.
- Patrick Reignier is at the head of the Domus Living Lab
- Patrick Reignier is a member of the Comité Executif of the Amiqual4Home Equipex
- Patrick Reignier is a member of the Comité de pilotage of the MACI (Maison de la Création et l'Innovation)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

10.2.1.1. James Crowley

James Crowley was co-director of the Master of Science in Informatics at Grenoble (MoSIG) to Sept 2018.

Master : Computer Vision, Course 27h EqTD, M2 year, Master of Science in Informatics at Grenoble

Master 1: Intelligent Systems, Cours 54h EqTD, UFRIM2AG

ENSIMAG 2: Intelligent Systems, Cours 54h EqTD, ENSIMAG

ENSIMAG 3 : Pattern Recognition and Machine Learning, Cours 27h EqTD, ENSIMAG

10.2.1.2. Patrick Reignier

- Patrick Reignier has been elected member of the Conseil des Etudes et de la Vie Universitaire of Grenoble INP
- Patrick Reignier was a member of the consultation group for the proposal of the founding text for the integrated university.
- Patrick Reignier has been nominated as a member of the Conseil de la Formation Continue de Grenoble INP
- Patrick Reignier participated in the editing of a successful Idex Educational program proposal "FromLivingLab".

- Patrick Reignier is co-director of the "formation en apprentissage" of Ensimag (3 years program : 1 year for the Licence and 2 years for the Master)
- Patrick Reignier Supervises the industrial part of the "formation en apprentissage" of the Ensimag engineering school.
- Master: Patrick Reignier, Projet Genie Logiciel, 55h eqTD, M1, Ensimag/Grenoble INP, France.
- Master: Patrick Reignier, Développement d'applications communicantes, 18h eqTD, M2, Ensimag/Grenoble-INP, France
- Master: Patrick Reignier, Introduction aux applications reparties, 18h eqTD, M2, Ensimag/Grenoble-INP, France
- Master: Patrick Reignier, Applications Web et Mobiles , 27h eqTD, M1, Ensimag/Grenoble-INP, France
- Master: Patrick Reignier, Projet Systeme, 12h eq TD, M1, Ensimag/Grenoble-INP, France
- Licence: Patrick Reignier, Projet C, 20h eqTD, L3, Ensimag/Grenoble-INP, France.

10.2.1.3. Dominique Vaufreydaz

- Co-responsibility of the Graphic, Vision and Robotics track of the MOSIG Master program.
- In charge of the transversal numerical competence courses at the Grenoble Faculty of Economics (Grenoble and Valence campuses)
- Licence: Compétences Numériques, 126h eq TD,L1, Université Grenoble Alpes, France.
- Licence: Informatique appliquée à l'économie et à la gestion, 32 h eq TD, enseignement à distance, Licence, Université Grenoble Alpes, France.
- Licence: Pratique avancée du Tableur, 72 h eq TD, L3, Université Grenoble Alpes, France.
- Licence Professionnelle: Enquêtes et traitement d'enquêtes avec le logiciel Sphinx, 12h eq TD, Licence pro Métiers de l'Emploi et de la Formation, Université Grenoble Alpes, France.
- Licence Professionnelle: Administration en environnement hétérogène, 20h eq TD, Licence pro Administration et Sécurité des Systèmes et des Réseaux, Université Grenoble Alpes, France.
- IUT année spéciale: Programmation C++, 18h eq TD, Année Spéciale IUT Informatique, Université Grenoble Alpes, France.
- Master: Pratique avancée du Tableur, 24 h eq TD, M1 économie internationale et stratégies d'acteurs, Université Grenoble Alpes, France.
- Master: Développement Web Mobile, 24h eq TD, M2 Mathématiques et Informatique Appliquées aux Sciences Humaines et Sociales, Université Grenoble Alpes, France

10.2.1.4. Thierry Fraichard

- Master: Thierry Fraichard, Autonomous Robotics, 22.5h eqTD, M2 MOSIG, Univ. Grenoble Alpes.

10.2.2. Supervision - Doctoral theses completed in 2018

- Rémi Paulin, *Human-Robot Motion: an Attention-Based Approach*, 22 March 2018, Patrick Reignier and Thierry Fraichard.
- Nguyen Dinh Van, *Wireless Sensors Networks for Indoor Mapping and Accurate Localization for Low Speed Navigation in Smart Cities*, 5 December 2018, Fawzi Nashashibi and Eric Castelli

10.2.3. Supervision - Current Doctoral Students

- PhD in progress: Jose Grimaldo Da Silva Filho, "Human-Robot Motion, a Shared Effort Approach", Octobre 2015, Thierry Fraichard.
- PhD in progress: Matteo Ciocca, "Safe Robot Motion", Octobre 2016, Thierry Fraichard and Pierre-Brice Wieber.

- PhD in progress : Romain Bregier, Détection et estimation de pose d'instances d'objet rigide pour la manipulation robotisée, Octobre 2014, Frederic Devernay and James Crowley
- PhD in progress : Etienne Balit, expressive social robot design, Octobre 2014, Patrick Reignier and Dominique Vaufreydaz.
- PhD in progress : Interaction-Aware Tracking and Lane Change Detection in Highway Driving, David Sierra Gonzales, Octobre 2014, Dizan Vasquez and Emmanuel Mazer
- PhD in progress : Minh-khoa Nguyen, Robotics-inspired methods for modeling and simulation of large nanosystems, Octobre 2014, Leaonard Jaillet and Emmanuel Mazer
- PhD in progress : Amr Alyafi, explanatory observation of energy usage, Octobre 2015, Stephane Ploix and Patrick Reignier.
- PhD in progress : Amine Awada, activity recognition for smart energy management, Octobre 2015, Stephane Ploix and Patrick Reignier.
- PhD in progress : Liliya Tsetanova, Social Robotics, Octobre 2015, Veronique Aubergé and Patrick Reignier.
- PhD in progress : Thomas Guntz, Multimodal Observation of Subjects Engaged in Problem Solving, Octobre 2016, James Crowley and Dominique Vaufreydaz
- PhD in progress : Pavan Vashista, Situational Awareness of Autonomous Cars in Urban Areas, February 2016, Dominique Vaufreydaz and Anne Spalanzani (Inria Chroma).
- PhD in progress : Nashwa Abou Bakr, Observation of Kitchen Activities, Octobre 2016, James Crowley and Remi Ronfard
- PhD in progress : Raphael Frisch, conception de machine stochastique pour la localisation et la séparation de source sonor, Octobre 2016, Emmanuel Mazer

10.2.4. Juries

- Thierry Fraichard served as an expert evaluator in the PhD Jury of Florent Altché, Ecole Nat. Sup. des Mines de Paris, *Sep. 18*.
- Patrick Reignier served as a jury member of the Doctoral Jury of Hiary Landy Rajaonarivo (Lab-STICC, Brest)
- Patrick Reignier served as a president of the Doctoral Jury of Nathan Ramoly (Telecom Sud Paris)
- Patrick Reignier served as a president of the Doctoral Jury of Jérémy WAMBECKE (University Grenoble Alps)
- Patrick Reignier served as a president of the Doctoral Jury of Paola Gomez (University Grenoble Alps)
- Patrick Reignier served as a reporter of the Doctoral Jury of Mauricio Gomez Morales (Purdue University and Paris Est Créteil)
- Sabine Coquillart served as reporter for the doctoral jury of A. Costes at INSA Rennes
- Sabine Coquillart served as examiner for the doctoral juty of G. Cortes at Univ. Rennes 1.

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POLARIS Project-Team

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10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Panayotis Mertikopoulos was involved in the following events:

- 2018 French Days on Optimization and Decision Science ("Journées SMAI MODE 2018"): general co-chair
- 2018 Paris Symposium on Game Theory (Paris, June 2018): co-organizer
- GDO '18: the 2018 Workshop on Games, Dynamics, and Optimization (Vienna, March 2018): co-organizer

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- SBAC-PAD 2018 (Arnaud Legrand: chair of the performance evaluation track)

10.1.2.2. Member of the Conference Program Committees

- Performance 2018 (Bruno Gaujal, Nicolas Gast)
- SIGMETRICS 2018 (Nicolas Gast)
- WiOpt 2018 (Bruno Gaujal, Patrick Loiseau)
- NetGCoop 2018 (Bruno Gaujal, Patrick Loiseau)
- NIPS 2018 (Panayotis Mertikopoulos, Patrick Loiseau)
- ICML 2018 (Patrick Loiseau)
- SuperComputing 2018 (Arnaud Legrand)
- RescueHPC 2018 (Arnaud Legrand)
- EPEW 2018 (Jean-Marc Vincent)
- Valuetools 2018 (Jean-Marc Vincent)
- NetEcon 2018 (Patrick Loiseau)

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Patrick Loiseau is Associate Editor of ACM Trans. on Internet Technology and of IEEE Trans. on Big Data.

10.1.4. Invited Talks

- Arnaud Legrand gave a keynote on "Simulation of Large-Scale Distributed Computing Infrastructures" at Orange Labs, Chatillon, October 2018 and on "Reproducible Research"at Inria Rennes in May 2018.

- Bruno Gaujal gave invited presentations at Paris Symposium on Game Theory (Paris), International Symposium on Dynamic Games (Grenoble), New trends in Scheduling (Aussois).

- Panayotis Mertikopoulos gave invited presentations at Trinity College Dublin, Ireland on *Efficient network utility maximization algorithms*, at National Technical University of Athens (Athens Polytechnic) Athens, Greece on *Traffic in congested networks: Equilibrium, efficiency, and dynamics*, at GDO 2018 in Vienna, Austria, and on *Bandit learning in concave N-person games*, at UC Berkeley (Simons Institute for the Theory of Computing), USA on *Online learning in games*.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

The POLARIS members teach regularly. We only mention here lectures at the Master level.

- Master: Bruno Gaujal and Mouhcine Mendil, *"Advanced Performance Evaluation"*, 18h (M2), ENSIMAG

- Master: Bruno Gaujal and Panayotis Mertikopoulos, *"Online decision making"*, M2 ENS Lyon

- Master: Bruno Gaujal and Ana Busic, *"Cours théorie des réseaux"*, M2 MPRI, Paris

- Master M2R : Nicolas Gast *"Optimization Under Uncertainties"*, 18h (M2), Master ORCO, Grenoble.

- Master: Arnaud Legrand and Jean-Marc Vincent, *"Scientific Methodology and Performance Evaluation"*, 18h M2, M2R MOSIG

- Master: Arnaud Legrand, *"Scientific Methodology and Performance Evaluation"*, 18h M2, ENS Rennes

- Master: Panayotis Mertikopoulos, *"Advanced optimization algorithms"*, 16h M2, University of Athens, Athens, Greece

- Master: Guillaume Huard, *"Conception des Systèmes d'Exploitation"* (M1), Université Grenoble-Alpes

- Master: Guillaume Huard, *"Conception des Systèmes d'Exploitation"* (M1), Université Grenoble-Alpes

- Master: Florence Perronnin, *"Simulation"*, M1, Université Versailles – Saint-Quentin

- Master: Arnaud Legrand and Florence Perronnin, *"Probabilités–Simulation"* and *"Performance evaluation"* 72 h (M1), RICM4 Polytech Grenoble

- Master: Jean-Marc Vincent, Mathematics for computer science, 18 h , (M1) Mosig.

- Master/PhD: Jean-Marc Vincent, Litterate Programming and Statistics, UFRGS (Porto Alegre, Brazil)

- Master: Vincent Danjean, Architecture and Software project, engineering school

- Master: Vincent Danjean, Conception of operating systems, concurrent programming and systems project, MOSIG and CS Master, Grenoble

  E-learning Arnaud Legrand has designed and organized a MOOC on Reproducible Research with Konrad Hinsen (CNRS/Centre de Biophysique Moléculaire) and Christophe Pouzat (CNRS/ Mathématiques Appliquées à Paris 5) with the support of the Inria MOOC-lab.

This MOOC is hosted on the FUN platform https://www.fun-mooc.fr/courses/course-v1:inria+41016+session01bis/about and the first edition (Oct-Dec 2018) targets graduate students, PhD students, post-doc, engineers and researchers working in any scientific domain relying on computations. In this MOOC, some modern and reliable tools are presented: GitLab for version control and collaborative working, Computational notebooks (Jupyter, RStudio, and Org-Mode) for efficiently combining the computation, presentation, and analysis of data. More than 3,400 people have registered to the first edition.

10.2.2. Supervision

Stephane Durand (PhD UGA defended on Dec. 11, 2018): Distributed Best Response Algorithms in random Potential Games, co-advised by Bruno Gaujal and Federica Garin (funded by Labex Persyval, Grenoble).

Benoit Vinot (PhD UGA defended on April 2018): Design of a distributed information system for the control of flexibilities in a power distribution network: modelling, simulation and implementation, co-advised by Nicolas Gast and Florent Cadoux

Vinicius Garcia Pinto (PhD in co-tutelle with UFRGS defended in 2018): Performance analysis and visualization of dynamic task-based applications: co-advised by Arnaud Legrand, Lucas Schnorr and Nicolas Maillard (funded by the Brazilian government).

Rafael Tesser (PhD in co-tutelle with UFRGS defended in 2018): Simulation and performance evaluation of dynamical load balancing of an over-decomposed Geophysics application, co-advised by Arnaud Legrand, Lucas Schnorr and Philippe Navaux (funded by the Brazilian government).

Alexis Janon (PhD in progress, 2018-...): Tasks Placement on Hierarchical Computational Platforms, co-advised by Guillaume Huard and Arnaud Legrand (funded by the French Ministry)

Stephan Plassart (PhD in progress, 2016-...): Energy Optimization in Embedded Systems, co-advised by Bruno Gaujal and Alain Girault (funded by Labex Persyval, Grenoble).

Baptiste Jonglez (PhD in progress, 2016-...): Leveraging Diversity in Communication Networks, co-advised by Bruno Gaujal and Martin Heusse (funded by Univ Grenoble Alpes).

Vitalii Emelianov (PhD in progress, 2018-...): Fairness and transparency in data-driven decision making, co-advised by Patrick Loiseau and Nicolas Gast (funded by Inria).

Benjamin Roussillon (PhD in progress, 2018-...): Classification in the presence adversarial data: models and solutions, co-advised by Patrick Loiseau and Panayotis Mertikopoulos (funded by IDEX UGA and DGA).

Dong Quan Vu (PhD in progress, 2017-...): Learning in Blotto games and applications to modeling attention in social networks, co-advised by Patrick Loiseau and Alonso Silva (Cifre PhD with Nokia Bell-Labs)

Athanasios Andreou (PhD in progress, 2015-...): Bringing transparency to personalized systems through statistical inference, co-advised by Patrick Loiseau and Oana Goga (funded by Institut Mines Telecom and ANR)

Alexandre Marcastel (PhD in progress, 2015-...): co-advised by E. Veronica Belmega, Panayotis Mertikopoulos and Inbar Fijalkow

Kimon Antonakopoulos (PhD in progress, 2017-...): Variational inequalities and optimization, co-advised by E. Veronica Belmega, Panayotis Mertikopoulos and Bruno Gaujal

Bruno Donassolo (PhD in progress, 2017-...): Decentralized management of applications in Fog computing environments, co-supervised by Panayotis Mertikopoulos, Arnaud Legrand and Ilhem Fajjari (Cifre PhD with Orange)

Pedro Bruel (PhD in progress co-advised with USP 2017-...): Design of experiments and autotuning of HPC computation kernels, co-advised by Arnaud Legrand, Alfredo Goldman and Brice Videau (funded by the Brazilian Government).

Tom Cornebize (PhD in progress 2017-...): Capacity planning and performance evaluation of supercomputers, advised by Arnaud Legrand (funded by the French Ministry for Research).

Christian Heinrich (PhD in progress 2015-...): Modeling of performance and energy consumption of HPC systems, advised by Arnaud Legrand (funded by Inria).

Umar Ozeer (PhD in progress 2017-...): co-advised by Jean-Marc Vincent, Gwen Salaün, François-Gaël Ottogalli and Loic Letondeur (within the Inria-Orange lab).

Amélie Héliou (PostDoc, Sep. 2017-May 2018): co-supervised by Panayotis Mertikopoulos and Bruno Gaujal

Mouhcine Mendil (PostDoc, 2017-...): supervised by Nicolas Gast

Takai Kennouche (PostDoc, 2017-...): supervised by Nicolas Gast

Luigi Vigneri (PostDoc, Sep. 2017-Sep.2018): co-supervised by Panayotis Mertikopoulos and G. Paschos

Olivier Bilenne (PostDoc, 2018-...): co-supervised by Panayotis Mertikopoulos and E. V. Belmega

10.2.3. Juries

- Bruno Gaujal was president of the jury for the CRCN Inria Grenoble Rhone-Alpes competition.
- Jean-Marc Vincent was member of the jury of Capes de mathématiques (option Informatique).
- Bruno Gaujal was reviewer of the PhD of Adil Salim (Telecom Paris Tech) and Panayotis Mertikopoulos was examinator.
- Nicolas Gast was reviewer of the PhD of Fabbio Cecchi (Univ. Eindhoven).
- Arnaud Legrand was president of the jury for the PhD of Louis Poirel (Univ. Bordeaux).
- Arnaud Legrand was president of the jury for the PhD of Nicolas Denoyelle (Univ. Bordeaux).
- Arnaud Legrand was president of the jury for the PhD of Valentin Reis (Univ. Grenoble Alpes).
- Arnaud Legrand was examinator of the jury for the PhD of Marcos Amaris Gonzales (Univ. São Paulo).

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Jean-Marc Vincent is responsible for the mediation in the Inria Rhône-Alpes center in relation with the Rectorat de l'Académie de Grenoble (organisation of ISN conferences, Class'Code for digital referents)
- Jean-Marc Vincent coordinates the group "Info sans ordi" (computer science without computer)–in which Florence Perronnin participates

10.3.2. Articles and contents

Jean-Marc Vincent has coordinated and participated to the redaction of the 96 pages special issue of *Tangente* on *Informatique Débranchée*: http://www.infinimath.com/librairie/descriptif_livre.php?type=magazines&theme=7&soustheme=26&ref=2568#article.

10.3.3. Education

- Highschool Professors: Vincent Danjean is responsible of the University Dept. for Highschool Professors Training in Computer Science (in relation with the rectorat).
- Highschool Professors: Jean-Marc Vincent is member of the steering committee for the training of Highschool Professors towards the new option NSI (Numérique et Sciences Informatiques) for Baccalauréat and participated in the creation of a inter-university diploma in CS.
- Arnaud Legrand gave a lecture on "Reproducible Research" at CIRM in May 2018 to the computer science teachers of classes préparatoires.
- Bruno Gaujal: Course on game theory at the 7 laux of ENS Lyon students
- Bruno Gaujal: Course on dynamique optimization for high school teachers.
- Florence Perronnin: creation of an option in Licence on "Sciences Informatiques et Médiation" (CS and mediation)

10.3.4. Interventions

- Arnaud Legrand made a podcast with Interstice on reproducible research https://interstices.info/la-recherche-reproductible-pour-une-science-transparente/
- Participation to mediation events of the center (Fête de la science, journées math C2+, journée login)
- Participation to mediation actions Inria/Irem/Maison for Science (Jean-Marc Vincent)

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PRIVATICS Project-Team

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8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

> Antoine Boutet: Workshop on data transparency, 23/04/2018, Lyon, France.
>
> Claude Castelluccia: APVP 2018, 3-6/06/2018, Porquerolles, France).
>
> Claude Castelluccia: *Intelligence Oversight : Is Human Rights-Preserving Surveillance Possible?*, Grenoble Data institute, 25/01/2018, Grenoble, France.

8.1.1.2. Member of the Organizing Committees

> Antoine Boutet: Winter School on Distributed Systems and Networks 2018, 4-8/02/2018, Sept Laux, France.
>
> Antoine Boutet: SRDS 2018, 02-05/10/2018, Salvador, Brasil.
>
> Mathieu Cunche: French GNURadio Days, 03/07/2018, INSA Lyon, France.
>
> Daniel Le Metayer: Panel *Physical tracking: nowhere to hide*, CPDP 2018, 24/01/2018, Brussels, Belgium.
>
> Vincent Roca: IEEE WiMob 2018.

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

> Antoine Boutet: Compas 2018, APVP 2018, Middleware 2018.
>
> Mathieu Cunche: ACM WiSec 2018, Mobiquitous 2018, WCNC 2019, ICISSP 2018.
>
> Claude Castelluccia: APF 2018.
>
> Daniel Le Metayer: IWPE 2018, CPDP 2018, APF 2018.
>
> Vincent Roca: SPACOMM 2018, SSCC 2018.

8.1.3. Invited Talks

> Antoine Boutet: *Feedback on the Shonan Meeting on Anonymization methods and inference attacks*, 4th Franco-Japanese Cybersecurity workshop, 16/05/2018, Annecy, France.
>
> Claude Castelluccia: *Cognitive security*, 4th Franco-Japanese Cybersecurity workshop, 16/05/2018, Annecy, France.
>
> Claude Castelluccia: *Brain Hacking*, College des Bernardins, 11/12/2018, Paris, France.
>
> Claude Castelluccia: *Plateforme en ligne et transparence*, AFDIT, 09/11/2018, Paris, France.
>
> Claude Castelluccia: *Internet Surveillance*, Intelligence Oversight workshop, 25/01/2018, Grenoble, France.
>
> Cédric Lauradoux: *Cybersécurité et cybermenaces*, Club Democraties, 09/03/2018, Paris, France.
>
> Cédric Lauradoux: *Cybersécurité et cybermenaces*, Rectorat Académie de Grenoble, 10/12/2018, Grenoble, France.
>
> Daniel Le Metayer, *Intelligility and transparency in machine learning and AI*, Société Française de Statistique, 18/05/2018, Paris, France.
>
> Daniel Le Metayer, *Transparency and opacity in IT systems*, INSA Lyon CITI, 23/04/2018, Lyon, France.

Vincent Roca, *Privacy and Connected Objects*, Eclipse IoT Days Grenoble, 18/01/2018, Grenoble, France.

Vincent Roca, *Archéologie de la fuite de nos données personnelles par le biais de nos téléphones*, Atelier Internet – ENSIIB, 06/04/2018, Lyon, France.

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Master : Antoine Boutet, *Privacy*, 12h, INSA-Lyon, France.

Master : Antoine Boutet, *Security*, 12h, INSA-Lyon, France.

Undergraduate course : Mathieu Cunche, *Introduction to computer science*, 120h, L1, INSA-Lyon, France.

Master : Mathieu Cunche, *Wireless Security*, 6h, M2, INSA-Lyon, France.

Undergraduate course : Mathieu Cunche, *On Wireless Network Security*, 10h, L1, IUT-2 (UPMF - Grenoble University) , France.

Undergraduate course : Mathieu Cunche, *Security & Privacy*, 21h, L3, INSA-Lyon, France.

Master : Mathieu Cunche, *Privacy and Data protection*, 14h, M2, INSA-Lyon, France.

Master : Mathieu Cunche, *Cryptography and Communication Security*, 18h, M1, INSA-Lyon, France.

Master : Cédric Lauradoux, *Advanced Topics in Security*, 20h, M2, Ensimag/INPG, France.

Master : Cédric Lauradoux, *Systems and Network Security*, 30h, M1, Ensimag, France.

Master : Cédric Lauradoux, *Internet Security*, 12h, M2, University of Grenoble Alpes, France.

Master : Cédric Lauradoux, *Cyber Security*, 3h, M2, Laws School of University of Grenoble Alpes, France.

Master : Claude Castelluccia, *Advanced Topics in Security*, 15h, M2, Ensimag/INPG, France.

Master : Claude Castelluccia, *Cyber Security*, 6h, M2, Laws School of University of Grenoble Alpes, France.

Master : Claude Castelluccia, *Data Privacy*, 6h, M2, Laws School of University of Grenoble Alpes, France.

Master : Daniel Le Metayer, *Privacy*, 12h, M2 MASH, Université Paris Dauphine, France.

Master : Daniel Le Metayer, *Privacy*, 12h, M2, Insa Lyon, France.

Master : Vincent Roca, *On Wireless Communications*, 12h, M1, Polytech' Grenoble, France.

Undergraduate course : Vincent Roca, *On Network Communications*, 44h, L1, IUT-2 (University of Grenoble Alpes), France.

Undergraduate course : Vincent Roca, *On Security and Privacy in smartphones*, 6h, L-Pro, University of Grenoble Alpes, France.

Master : Vincent Roca, *On Security and Privacy in smartphones*, 3h, M2, France.

8.2.2. E-learning

E-learning

Mooc: Cédric Lauradoux and Vincent Roca, *, 2 month session, FUN-MOOC, Inria, public ciblé, 23000 (13000 first session and 10000 second session).*

8.2.3. Supervision

- PhD in progress : Victor Morel, *IoT privacy*, September 2016, Daniel Le Métayer and Claude Castelluccia.

- PhD in progress : Mathieu Thiery, *IoT privacy* , September 2016, Vincent Roca.
- PhD in progress : Guillaume Celosia, *Wireless Privacy in the Internet of Things* , November 2017, Mathieu Cunche and Daniel Le Métayer.
- PhD in progress : Supryia Adhatarao, *Privacy of E-learning systems* , March 2018, Cédric Lauradoux.
- PhD in progress : Coline Boniface, *Cyberweapons: from bug bounties to zero days* , March 2018, Cédric Lauradoux.
- PhD in progress : Raoul Kerkouche, *Privacy-Preserving Processing of Medical Data* , January 2018, Claude Castelluccia.
- PhD in progress : Clement Henin, *Explainable AI* , September 2018, Claude Castelluccia et Daniel Le Metayer.
- PhD in progress: Théo Jourdan, *Privacy-preserving machine learning in medical domain, October 2018, Antoine Boutet.*
- *Intern (M2): Louis Beziaud,* Privacy of national identity systems*, M2 ENS Rennes, Claude Castelluccia et Daniel Le Metayer.*
- *Intern (L3): Alexandre van Beurden, Inspect what location history reveals about an individual, Antoine Boutet.*
- *Intern (L3): Romain Fournier, Development of a cybersecurity platform, Antoine Boutet.*
- *Intern (L3): Bastien Durand, Analysis of the correlation between the mobility and the personality of an individual, Antoine Boutet.*

8.2.4. Juries

PhD: David Gerault, *Security Analysis of Contactless Communication Protocols*, Université Clermont Auvergne , 27/11/2018, Cédric Lauradoux.

PhD: Jonathan Detchart, *Optimisation de codes correcteurs d'effacements par application de transformées polynomiales*, Université de Toulouse, 05/12/2018, Vincent Roca.

PhD: Elise Tourne, *Le phénome de circulation des données à caractère personnel dans le cloud: étude de droit matériel dans le contexte de l'Union Européenne*, Université Lyon 3, 11/06/2018, Daniel Le Métayer.

8.3. Popularization

8.3.1. Hearings

- Claude Castelluccia: *Understanding Algorithmic Decision-Making Systems*, European Parliament, 10/2018, Strasbourg, France.
- Daniel Le Metayer: *Understanding Algorithmic Decision-Making Systems*, European Parliament, 10/2018, Strasbourg, France.
- Daniel Le Metayer: *Transparence et explicabilité des algorithmes d'aide à la décision*, CCNE, 02/2018, Paris, France.

8.3.2. Internal or external Inria responsibilities

- Claude Castelluccia is co-leader of the Worpackage 5 (data governance and privacy) of the Grenoble Data Institute.
- Claude Castelluccia is co-leader of Grenoble CyberAlps (cybersecurity institute of Grenoble).
- Daniel Le Metayer chairs the CNIL-Inria privacy award.
- Vincent Roca is co-editor of the white book *Cybersecurity: current challenges and Inria's research directions*.

8.3.3. Articles and contents

- Claude Castelluccia: *Manipulation informationnelle et psychologique*, Le blog binaire du Monde, 05/2018.
- Claude Castelluccia: *Data surveillance and manipulation*,Interview for Magazine Capital, 12/2018.
- Mathieu Cunche: *Cybersécurité et menace informatique*, Sommet des start-up sciencesetavenir.fr, 11/2018, Lyon, France.
- Mathieu Cunche: *Attaque par déni de service dans le Wi-Fi*, GNULinux Magazine HS 99, 11/2018.
- Mathieu Cunche: *Comprendre les attaques Krack*, GNULinux Magazine HS 99, 11/2018.
- Daniel Le Metayer: *Weighting the impact of the GDPR*, Communications of the ACM, 11/2018.
- Daniel Le Metayer: *Qui gouverne les algorithmes ?*, Revue THIIRD, 11/2018.
- Vincent Roca: Inria White Paper in Cyber-Security.

8.3.4. Education

- Cédric Lauradoux: *Action nombres et cryptographie*, Maison pour la science, Inria, 06/02/2018, Grenoble, France.
- Cédric Lauradoux: *Action nombres et cryptographie*, Maison pour la science, 18/12/2018, Annecy, France.
- Cédric Lauradoux: *Animation du forum du MOOC Protection de la vie privée dans le monde numérique*, 02-03/2018.
- Cédric Lauradoux: : *Animation du forum du MOOC Protection de la vie privée dans le monde numérique*, 11-12/2018.

8.3.5. Interventions

- Cédric Lauradoux: *Atelier cryptograpie*, Fête de la Science, 11-12/10/2018, Grenoble, France.
- Cédric Lauradoux: *Cryptologie et Vie privée*, Semaine des mathématiques, Lycée Gabriel-Faure, 15/03/2018, Tournon, France.
- Cédric Lauradoux: *Cryptologie et Vie privée*, Semaine des mathématiques, Lycée Boissy d'Anglas, 16/03/2018, Annonay, France.
- Cédric Lauradoux: *Challenge de cryptologie*, MathC2+ internship, 26/06/18, Grenoble, France.
- Cédric Lauradoux: *Challenge de cryptologie*, Cité scolaire Jean PREVOST, 02/06/2018, Villard de Lans, France.
- Cédric Lauradoux: *Challenge de cryptologie*, Collège Barnave, 18/01/2018, Saint-Égrève, France.

8.3.6. Internal action

- Cédric Lauradoux: *Réglementation sur les données*, Inria, Grenoble, 19/06/2018.
- Cédric Lauradoux: *Réglementation sur les données*, IMAG, Grenoble, 09/07/2018.

ROMA Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Bora Uçar was the general chair of 32nd IEEE IPDPS 2018 (IEEE International Parallel & Distributed Processing Symposium), held in Vancouver, Canada, May 21–25, 2018.

10.1.1.2. Member of the Organizing Committees

- Bora Uçar was a member of the organizing committee of ICGT 2018 (10th International Colloquium on Graph Theory and combinatorics), held in Lyon, July 9–13, 2018

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Anne Benoit was the program chair of 32nd IEEE IPDPS 2018 (IEEE International Parallel & Distributed Processing Symposium), held in Vancouver, Canada, May 21–25, 2018. She was also the global chair for topic 3: "Scheduling and Load Balancing" of the 24th Int. European Conf. on Parallel and Distributed Computing (EuroPar 2018), held in Torino, Italy, August 27–31, 2018.

10.1.2.2. Member of the Conference Program Committees

- Bora Uçar was a member of the program committee of **IA**^{3}, 2018 The Eight Workshop on Irregular Applications: Architectures and Algorithms, in conjunction with SC'18, November 11–16, 2018, Dallas, Texas, USA; **CSC18**, The 8th SIAM Workshop on Combinatorial Scientific Computing, Bergen, Norway June 6-8, 2018; **HiPC 2018**; 25th IEEE International Conference on High Performance Computing, Data, and Analytics, Bengaluru, India, 17–20 December 2018; **SC18** Doctoral Showcase of The International Conference for High Performance Computing, Networking, Storage, and Analysis, Dallas, TX, USA; **33rd IEEE IPDPS 2019 Workshops Committee**, 33rd IEEE International Parallel and Distributed Processing Symposium, Rio de Janeiro, Brazil, May 20–24, 2019.

- Loris Marchal was a member of the program committee of **IPDPS 2018** , **ICPP 2018** and the workshop of IPDPS **APDCM 2018**.

- Jean-Yves L'Excellent was a member of the program committee of **CSC18**, The 8th SIAM Workshop on Combinatorial Scientific Computing, Bergen, Norway June 6-8, 2018.

- Frédéric Vivien was a member of the program committee of **IPDPS 2018**, **PDP 2018**; **EduPar 18**, and the Poster session of **SC18**.

- Yves Robert was a member of the program committee of the FTXS, Scala and PMBS workshops co-located with SC'18 in Dallas, TX.

10.1.2.3. Reviewer

Bora Uçar reviewed a paper for 33rd IEEE IPDPS 2019.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Anne Benoit is Associate Editor (in Chief) of ParCo, the journal of Parallel Computing: Systems and Applications (from July 2018). She is also a member of the editorial board (Associate Editor) of TPDS, IEEE Transactions on Parallel and Distributed Systems since 2015, and of JPDC, the Journal of Parallel and Distributed Computing, since 2011.
- Bora Uçar is a member of the editorial board of Parallel Computing, April 2016–on going, and SIAM Journal on Matrix Analysis and Applications (SIMAX), May 2018–ongoing.
- Frédéric Vivien is Associate Editor of Parallel Computing (Elsevier) and of JPDC (Elsevier Journal of Parallel and Distributed Computing).
- Yves Robert is Associate Editor of JPDC (Elsevier Journal of Parallel and Distributed Computing) and TOPC (ACM Trans. On Parallel Computing).

10.1.3.2. Reviewer - Reviewing Activities

Bora Uçar reviewed papers for the journals SIAM Journal on Scientific Computing (4 in 2018); ACM Transactions on Mathematical Software (2 in 2018); IEEE Transactions on Parallel and Distributed Systems (1 in 2018); Future Generation Computer Systems (1 in 2018); IEEE Transactions on Signal Processing (1 in 2018); SIAM Journal on Matrix Analysis and applications (1 in 2018);

Anne Benoit, Loris Marchal, Yves Robert and Frédéric Vivien reviewed papers for the journals IEEE Transactions on Parallel and Distributed Systems and Elsevier Journal of Parallel and Distributed Computing.

10.1.4. Invited Talks

- Bora Uçar delivered an invited talk at the Scientific Computing Group's Seminar at the Emory University, Atlanta, USA, September 2017.
- Frédéric Vivien delivered the keynote presentation of the 8th IEEE Workshop PDCO, held in conjunction with IPDPS 2018, in Vancouver, Canada, on Monday May 21, 2018.
- Yves Robert delivered a keynote presentation at SBAC-PAD'2018, the 30th International Symposium on Computer. Architecture and High Performance Computing.
- Yves Robert delivered the keynote presentation at SCALA'2018, the 9th Workshop on Latest Advances in Scalable Algorithms for Large-Scale Systems, held in conjunction with SC'18

10.1.5. Leadership within the Scientific Community

- Anne Benoit is a member of the Steering Committee of HCW (Heterogeneity in Computing Workshop, co-located with IPDPS) since 2018.
- Yves Robert is a member of the Steering Committee of IPDPS and HCW . He is the liaison between the Steering and Program committees of IPDPS.
- Bora Uçar is a member of the Steering Committee of Combinatorial Scientific Computing (2014–on going); and IPDPS for the years 2017–2019. He is also a vice-chair of IEEE Technical Committee on Parallel Processing (TCPP).

10.1.6. Scientific Expertise

Yves Robert is an expert for the Horizon 2020 program of the European Commission and has reviews two projects in 2018.

10.1.7. Research Administration

Loris Marchal is responsible of the competitive selection of ENS Lyon Student for Computer Science.

Frédéric Vivien is the vice-head of the LIP laboratory since September 2017. He is a member of the scientific council of the École normale supérieure de Lyon and of the academic council of the University of Lyon.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence: Anne Benoit, Responsible of the L3 students at ENS Lyon, France

Licence: Yves Robert, Algorithmique, ENS Lyon, France

Master: Anne Benoit, Parallel and Distributed Algorithms and Programs, 42, M1, ENS Lyon, France

Master : Bora Uçar, Combinatorial Scientific Computing (with Fanny Dufossé), 36, M2 Informatique Fondamentale, ENS Lyon, France.

Master: Yves Robert, Scheduling at scale, 36, M2 Informatique Fondamentale, ENS Lyon, France

Master: Yves Robert, Responsible of M2 Informatique Fondamentale, ENS Lyon, France

Master : Loris Marchal, Complexity and calculability (practicals), 16, M1, Univ. Lyon 1, France.

10.2.2. Supervision

HdR: Loris Marchal, Memory and data aware scheduling, ENS Lyon, March 30, 2018.

PhD in progress: Yiqin Gao, "Replication Algorithms for Real-time Tasks with Precedence Constraints", started in October 2018, ENS Lyon, advisors: Yves Robert and Frédéric Vivien

PhD in progress: Changjiang Gou, Task scheduling on distributed platforms under memory and energy constraints, started in Oct. 2016, supervised by Anne Benoit & Loris Marchal.

PhD in progress: Li Han, "Algorithms for detecting and correcting silent and non-functional errors in scientific workflows", started in September 2016, funding: China Scholarship Council, advisors: Yves Robert and Frédéric Vivien

PhD in progress: Aurélie Kong Win Chang, "Techniques de résilience pour l'ordonnancement de workflows sur plates-formes décentralisées (cloud computing) avec contraintes de sécurité", started in October 2016, funding: ENS Lyon, advisors: Yves Robert, Yves Caniou and Eddy Caron.

PhD in progress: Valentin Le Fèvre, "Scheduling and resilience at scale", started in October 2017, funding: ENS Lyon, advisors: Anne Benoit and Yves Robert.

PhD: Gilles Moreau, On the solution phase of direct methods for sparse linear systems with multiple sparse right-hand sides, ENS Lyon, December 10, 2018, supervised by Jean-Yves L'Excellent and Patrick Amestoy.

PhD in progress: Ioannis Panagiotas, "High performance algorithms for big data graph and hypergraph problems", started in October 2017, funding: Inria, advisors: Frédéric Vivien and Bora Uçar.

PhD in progress: Filip Pawlowski, "High performance tensor computations", started in October 2017, funding: CIFRE, advisors: Yves Robert, Bora Uçar and Albert-Jan Yzelman (Huawei).

PhD: Loïc Pottier, Co-scheduling for large-scale applications: memory and resilience, ENS Lyon, September 18, 2018, supervised by Anne Benoit & Yves Robert.

PhD: Issam Raïs, Discover, model and combine energy leverages for large scale energy efficient infrastructures, ENS Lyon, September 28, 2018, supervised by Laurent Lefèvre & Anne Benoit & Anne-Cécile Orgerie.

PhD: Bertrand Simon, Scheduling task graphs on modern computing platforms, ENS Lyon, July 4, 2018, supervised by Loris Marchal & Frédéric Vivien.

10.2.3. Juries

Yves Robert was a Reviewer for the HDR of Alfredo Buttari (Toulouse) and Head of the Committee for the HDR of Abdou Guermouche and Pierre Ramet (Bordeaux). At ENS Lyon, he was a Committee member for the HDR of Loris Marchal, and for the PhD of Loic Pottier.

10.3. Popularization

10.3.1. Interventions

- Frédéric Vivien took part in the committee which listened to the presentations of high-school students in the scope of a "MATh.en.JEANS" action (December 2018).
- Yves Robert gave the honorary speech for the Honoris Causa Diploma of ENS Lyon awarded to Marc Snir on November 9, 2018.

SOCRATE Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

The Socrate team launched two new workshops in relation with FIT/CorteXlab:

- First French GNU Radio days: https://gnuradio-fr-18.sciencesconf.org/. The workshop aimed at the development of radio prototyping why GNU Radio in France and in Europe, by Leonardo Sampaio-Cardoso and Tanguy Risset.
- ISP-IoT : First Winter School on Information Theory and Signal Processing for Internet of Things : https://isp-iot.sciencesconf.org by Jean-Marie Gorce.

Socrate organized *Journée plateformes d'évaluations radio*, 28-03-2018, joint event between the GDR ASR and the GDR ISIS. Co-organized by Leonardo Sampaio-Cardoso and Jean-Marie Gorce with Thalès.

9.1.1.1. Member of the Organizing Committees

- Tanguy Risset, Leonardo Sampaio-Cardoso, Guillaume Villemaud and Jean-Marie Gorce were members of the organizing committee of the first French GNU Radio days.
- Samir M. Perlaza, Claire Goursaud, Leonardo Sampaio-Cardoso were members of the organizing committee of ISP-IOT, the first Winter School on Information Theory and Signal Processing for Internet of Things.
- Seed meeting *Dynamic Modeling and Simulation for Molecular Communication Networks*. Workshop funded by the French Embassy in the UK, London. Co-organized by Malcolm Egan. 17th and 18th September 2018, London UK.

9.1.1.2. Chair of Conference Program Committees

- Jean-Marie Gorce (chair) was co-chair of the ISP-IOT, the first Winter School on Information Theory and Signal Processing for Internet of Things.
- Samir M. Perlaza is chair of the special session on "Energy Harvesting and Wireless Powered Communications" hosted at the 20th IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), July 2-5, 2019, Cannes, France.
- Samir M. Perlaza is co-chair of the Workshop on "Mathematical Tools for IoT Networks Modeling (MOTION)" hosted at the IEEE Wireless Communications and Networking Conference (WCNC). April, 15-18 2019, Marrakech, Morocco.
- Samir M. Perlaza is Publication Chair of the International Symposium on Information Theory (ISIT), July, 2019, Paris, France.

9.1.1.3. Member of Conference Program Committees

Tanguy Risset was a member of the following technical program committees:

- IEEE Computer Society Annual Symposium on VLSI (ISVLSI) 2018
- Design Automation and Test in Europe (DATE) 2018
- International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM) 2018
- International Conference on Advances in Cognitive Radio (COCORA) 2018.
- PIMRC 2018

Guillaume Villemaud was a member of the following technical program committees:

- CROWNCOM2018
- PIMRC 2018
- EUCAP 2018.

Florent de Dinechin was a member of the following technical program committees:

- 25th IEEE Symposium on Computer Arithmetic (Arith 2018)
- Design Automation and Test in Europe (DATE 2018) (as co-chair of track D11),
- 26th IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM 2018)

Malcolm Egan was a member of the following technical program committees:

- IEEE Global Communications Conference (Globecom), 9-13 December 2018, Abu Dhabi, UAE.
- International Conference on Advanced Technologies for Communications (ATC) 2018
- International Conference on Recent Advances on Signal Processing, Telecommunications & Computing (SigTelCom) 2018.

Jean-Marie Gorce was a member of the following technical program committees:

- IEEE International Conference on Communications (ICC), 20-24 May 2018, Kansas City, MO, USA.
- IEEE Global Communications Conference (Globecom), 9-13 December 2018, Abu Dhabi, UAE.
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), 9-12 September 2018, Bologna, Italy.
- IEEE 5G World Forum 2018 (WF-5G), 9-11 July 2018, Santa Clara, California, USA
- International Conference on Telecommunications(ICT), June, 26-28, 2018, Saint-Malo, France.
- IEEE Wireless Communications and Networking Conference (WCNC). April, 15-18, 2018, Barcelona, Spain.
- IEEE 5G World Forum 2019 (WF-5G), 2019.
- International Conference on Telecommunications(ICT), 2019.

Samir M. Perlaza was a member of the following program committees :

- International Conference on Computing, Networking and Communications (ICNC), 18-21 February, 2019, Honolulu, Hawaii, USA.
- IEEE International Conference on Communications (ICC), 20-24 May 2019, Shanghai, China.
- Workshop on Green and Sustainable 5G Wireless Networks at IEEE Global Communications Conference (Globecom), 9-13 December 2018, Abu Dhabi, UAE.
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), 9-12 September 2018, Bologna, Italy.

Claire Goursaud was a member of the following technical program committees:

- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) 2018
- EAI International Conference on Body Area Networks (BodyNet) 2018

Leonardo Sampaio-Cardoso was a member of the following technical program committees:

- IEEE Wireless Communications and Networking Conference (WCNC) 2019
- IEEE International Conference on Communications (ICC) 2019

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

Guillaume Villemaud is an associate editor of Annals of Telecommunications (Springer).

Malcolm Egan is an associate editor of IEEE Communications Letters and guest editor for IEEE Access special section on Molecular Communication Networks.

Jean-Marie Gorce is an an associate editor of Journal of Wireless Communications and Networking.

Claire Goursaud is associate editor for ETT and ITL, Wiley.

Samir M. Perlaza is editor of the IEEE Transactions on Communications for the term 2018-2021 in the area of Simultaneous Information and Energy Transmission, Feedback and Applications of Game Theory in Wireless Communications.

Samir M. Perlaza is Associate Editor of the IET Smart Grid for the term 2018-2021.

9.1.3. Scientific Expertise

Guillaume Villemaud served as Research Expert for the European commission for the H2020-MSCA-NIGHT-2018.

Tanguy Risset is member of the Administration council (Conseil d'administration) of the GRAME institute (centre national de création musicale).

Guillaume Villemaud is a member of the Delphi Expert Panel on Software Defined Networks (SDN) and Network Functions Virtualisation (NFV).

Jean-Marie Gorce was appointed as scientific expert for Haute école spécialisée de Suisse occidentale and for FNRS (Belgium).

Jean-Marie Gorce is member of the Administration council (Conseil d'admistration) of ESISAR, Valence.

Jean-Marie Gorce was member of the jury for prix de thèse en signal-image de EEA-ISIS-GRETSI 2017.

Jean-Marie Gorce was the chair of a recruitment committee for a full professor position at Insa.

9.1.4. Invited Talks

Malcolm Egan gave invited talks in the Poor group in Princeton University and Prof. Erkip's group in NYU. With Samir M. Perlaza, he had an invited paper at CISS 2018.

Jean-Marie Gorce gave invited talks at IEMN/Ircica, invited by Prof. Laurent Clavier (June 2018), and at Orange Labs (Sept 2019).

Samir M. Perlaza gave a keynote on "Key Technologies in the IoT: Simultaneous Wireless Information and Energy Transmission" at the First Winter School on Information Theory and Signal Processing for Internet of Things, Villeurbanne, France, November 20, 2018.

Florent de Dinechin gave two talks at the FPGA days organized at LIP, Lyon, june 21, "Introduction to FPGA computing", then "computing just right on FPGAs"

Florent de Dinechin gave a talk at the RiscV days organized at CEA, October 16, Grenoble, "Dark silicon: a computer arithmetic perspective"

Florent de Dinechin gave a talk at the RiscV days organized at CEA, October 16, Grenoble, "Dark silicon: a computer arithmetic perspective"

Florent de Dinechin gave an invited lecture at the Advanced Workshop on FPGA-based Systems-On-Chip for Scientific Instrumentation and Reconfigurable Computing, organized by the International center for Theoretical Physics in Trieste, Italy, November 29, 2018.

Florent de Dinechin gave a talk at the Institute for Systems Programming of the Russian Academy of Science in Moscow, Russia, December 24, 2018.

Guillaume Salagnac and Tanguy Risset gave an invited talk at Spintec (Grenoble, FR), October 23rd, 2018, untitled "Peripheral State Persistence and Interrupt Management For Transiently Powered Systems".

Guillaume Villemaud gave an invited talk in the special session on Wake-up radio at the IEEE ICECS 2018 conference in december 2018

9.1.5. Research Administration

Jean-Marie Gorce is Adjoint to Scientific Director of Inria Rhônes-Alpes center.

Tanguy Risset is Vice-director of the FIL (CNRS Computer Science Research Federation of Lyon/Saint-Etienne).

Florent de Dinechin is director of the Citi-Lab.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Tanguy Risset and Jean-Marie Gorce are professors at the Telecommunications Department of Insa Lyon.

Florent de Dinechin is a professor at the Computer Science Department of Insa Lyon.

Claire Goursaud and Malcolm Egan are an associate professor at the Telecommunications department of Insa Lyon.

Leonardo Sampaio-Cardoso is an associate professor at the FIMI department as well as the Telecommunications Department of Insa Lyon

Guillaume Salagnac and Kevin Marquet are associate professors at the Computer Science Department of Insa Lyon.

Guillaume Villemaud and Florin Hutu are associate professor at the Electrical Engineering Department of Insa Lyon.

Samir M. Perlaza and Jean-Marie Gorce teach the course on Network Information Theory at École Normale Supérieure de Lyon.

9.2.2. Supervision

PhD in progress **Gautier Berthou***Operating system for transiently powered systems*, Inria, (IPL ZEP) since 01/2018.

PhD in progress **Tristan Delizy***memory management for normally-of NV-RAM based systems*, Insa-Lyon, (Region ARC6) since 09/2016.

PhD in progress **Yohan Uguen***Synthesis of arithmetic operators*, Insa-Lyon, (Mininstry of research) since 09/2016.

PhD in progress **David Kibloff***New strategy for Physical Layer Security in wireless networks: self-jamming using Full-Duplex Transceivers*, École Doctorale EEA de Lyon, funded by Inria-DGA grant since 10/2015.

PhD in progress **Nizar Khalfet***Stochastic Energy Sources to Power Communication Systems*, École Doctorale EEA de Lyon, funded by EU Project COM-MED since 10/2016.

PhD in progress : **Andrea Bocco**: *Porposition d'une unité de caclul U-NUM pour le calcul scientifique*, ANR Metalibm grant, since 12/2016.

PhD in progress : **Hassan Kallam**: *Topology aided multi-user interference management in wireless network* , Fed4PMR Insavalor project grant, since 01/2017.

PhD in progress : **Anade Akpo Dadja**: *Non assymptotic fundemental limits of bursty communications*, ANR Arburst grant, since 10/2017.

PhD in progress : **Diane Duchemin**: *Distributed coding in dense IoT Network*, ANR Ephyl grant, since 01/2017.

PhD starting **Luc Forget** : *Algèbre linéaire calculant au plus juste*, ANR Imprenum, since 10/2018.

PhD starting **Yanni Zhou** : *Full Duplex and spatial modulation*

PhD starting **Tarik Lassouaoui**: *Tag 2 Tag communication*

PhD starting **Regis Rousseau**: *Wireless Power Transfer*

PhD defended: **Yuqi Mo***Scaling of Iot Communication issues*, École Doctorale EEA,sept. 2018.

9.2.3. Juries

- Guillaume Salagnac was examiner in the jury of the PhD Nadir Cherify "Assistance au développement de logiciels embarqués contraints en énergie"
- Florin Hutu was examiner int the PhD Jury of Frank Itoua, defended on March 12, 2018 at Limoges University.
- Tanguy Risset was a member of the jury of the following theses:
  - Maxime France-Pillois (U. Grenoble)
  - Perrin Njoyah Ntafam (U. Grenoble)
  - Simon Rokicki (U. Rennes)
- Florent de Dinechin was a reviewer in the jury of Hugues de Lassus Saint-Genis, defended on May 17 2018 at Université de Perpignan Via Domitia.
- Malcolm Egan was a co-supervisor in the jury of Mauro de Freitas, defended at Université de Lille 1.
- Claire Goursaud and Jean-Marie Gorce were co-supervisors in the jury of Yuqi Mo, defended at Insa Lyon.
- Jean-Marie Gorce was :
  - a reviewer of the HdR jury of Guillaume Andrieux (IETR, Nantes U., December 2018).
  - a reviewer of the PhD jury of Philippe Ezran (Supelec Paris Saclay U., January 2018).
  - a reviewer of the PhD jury of Antony Pottier (IMT Atlantique, Nov 2018).
  - a reviewer of the PhD jury of Luca Feltrin (Bologna U., Italy, December 2018).
  - an examiner of the PhD jury of Xavier Leturc (IMT Paris, U. Paris Saclay, December 2018),
- Guillaume Villemaud was a reviewer for the PhD defense of
  - Andreina Liendo (Univ. Grenoble)
  - Mai-Thanh TRAN (Univ. Rennes 1)
  - Manuel Milla Peinado (Univ. Poitiers)
- Claire Goursaud was a member in the jury of Alaa Khreis, defended at l'Université Paris Saclay, prepared at Télécom ParisTech .
- Claire Goursaud was a reviewer in the jury of Remi Bonnefoi, defended at CentraleSupelec

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

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. General Chair, Scientific Chair

- Alain Girault is member of the steering committee of the International Federated Conference on Distributed Computing Techniques (DISCOTEC) and of the ACM International Conference on Embedded Software (EMSOFT).
- Gregor Gössler is member of the steering committee of the International Workshop on Causal Reasoning for Embedded and Safety-critical Systems Technologies (CREST).
- Jean-Bernard Stefani is the current chair of the steering committee of the IFIP FORTE international conference series, a member of the steering committee of the IFIP DISCOTEC conference series, and the current chair of the IFIP Working Group 6.1.

9.1.1.2. Member of the Organizing Committees

- Sophie Quinton was the co-organizer of a Dagstuhl seminar entitled "The Logical Execution Time Paradigm: New Perspectives for Multicore Systems". https://www.dagstuhl.de/18092

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- Alain Girault served in the program committees of the Symposium on Industrial Embedded Systems (SIES'18), the Forum on specification and Design Languages (FDL'18), and the Conference on Applications of Concurrency to System Design (ACSD'18).
- Gregor Gössler served in the program committees of the 18th International Workshop on Automated Verification of Critical Systems (AVOCS 2018) and the 3rd international Workshop on Formal Reasoning about Causation, Responsibility, and Explanations in Science and Technology (CREST 2018).
- Sophie Quinton served in the program committees of the 30th Euromicro Conference on Real-Time Systems (ECRTS'18), the 9th International Workshop on Analysis Tools and Methodologies for Embedded and Real-time Systems (WATERS'18), the 39th IEEE Real-Time Systems Symposium (RTSS'18) and the 26th International Conference on Real-Time Networks and Systems (RTNS'18).

9.1.2.2. Reviewer

- Alain Girault reviewed papers for the ECRTS'18 conference.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Alain Girault is a member of the editorial board of the Journal on Embedded Systems.

9.1.3.2. Reviewer - Reviewing Activities

- Alain Girault reviewed articles for J. of Transportation Technologies (JTT) and IEEE Trans. Dependable and Secure Computing (TDSC).
- Gregor Gössler reviewed articles for IEEE Transactions on Automatic Control (TAC) and ACM Transactions on Embedded Computing Systems (TECS).
- Sophie Quinton reviewed an article for ACM Trans. on Embedded Computing Systems (TECS).

9.1.4. Research Administration

- Pascal Fradet is head of the committee for doctoral studies ("Responsable du comité des études doctorales") of the Inria Grenoble – Rhône-Alpes research center and local correspondent for the young researchers Inria mission ("Mission jeunes chercheurs").
- Alain Girault is vice-chair of the Inria Evaluation Committee.
- Xavier Nicollin is member of the committee for computing resources users ("Comité des Utilisateurs des Moyens Informatiques") of the Inria Grenoble – Rhône-Alpes research center.
- Jean-Bernard Stefani is head of science (délégué scientifique) of the Inria Grenoble – Rhône-Alpes research center and a member of the Inria Evaluation Committee.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence : Pascal Fradet, Théorie des Langages 1 & 2, 36 HeqTD, niveau L3, Grenoble INP (Ensimag), France

Licence : Pascal Fradet, Modèles de Calcul : λ-calcul, 12 HeqTD, niveau L3, Univ. Grenoble Alpes, France

Master : Pascal Fradet, Langages et Traducteurs, 16 HeqTD, niveau M1, Polytech Grenoble, Univ. Grenoble Alpes, France

Master : Xavier Nicollin, Sémantique et Analyse des Programmes, 45 HeqTD, niveau M1, Grenoble INP (Ensimag), France

Licence : Xavier Nicollin, Théorie des Langages 2, 36 HeqTD, niveau L3, Grenoble INP (Ensimag), France

Licence : Xavier Nicollin, Bases de la Programmation Impérative, 81 HeqTD (2017-2018), niveau L3, Grenoble INP (Ensimag), France

Licence : Sophie Quinton, Théorie des Langages 2, 18 HeqTD, niveau L3, Grenoble INP (Ensimag), France

Master : Sophie Quinton, Performance and Quantitative Properties, 6h, MOSIG, Univ. Grenoble Alpes, France

Master: Jean-Bernard Stefani, Formal Aspects of Component Software, 9h, MOSIG, Univ. Grenoble Alpes, France.

9.2.2. Supervision

- PhD in progress: Sihem Cherrared, "Fault Management in Multi-Tenant Programmable Networks", Univ. Rennes 1, since October 2016, co-advised by Eric Fabre and Gregor Gössler.
- PhD in progress: Christophe Prévot, "Early Performance assessment for evolving and variable Cyber-Physical Systems", Univ. Grenoble Alpes, since November 2015, co-advised by Alain Girault and Sophie Quinton.
- PhD in progress: Stephan Plassart, "On-line optimization in dynamic real-time systems", Univ. Grenoble Alpes, since September 2016, co-advised by Bruno Gaujal and Alain Girault.
- PhD in progress: Xiaojie Guo, "Formal Proofs for the Analysis of Real-Time Systems in COQ", Univ. Grenoble Alpes, since December 2016, co-advised by Pascal Fradet, Jean-François Monin, and Sophie Quinton.
- PhD in progress: Maxime Lesourd, "Generic Proofs for the Analysis of Real-Time Systems in COQ", Univ. Grenoble Alpes, since September 2017, co-advised by Pascal Fradet, Jean-François Monin, and Sophie Quinton.

- PhD in progress: Arash Shafiei, "Programming IoT and sofware defined radio with dynamic dataflow models of computation", Univ. Grenoble Alpes, since September 2017, co-advised by Pascal Fradet, Alain Girault, and Xavier Nicollin.
- PhD in progress: Martin Vassor, "Analysis and types for safe dynamic software reconfigurations", Univ. Grenoble Alpes, since November 2017, co-advised by Pascal Fradet and Jean-Bernard Stefani.
- M2 SIF in progress: T. Mari, "From diagnosis to causal analysis", U. Rennes, since November 2018, co-supervised by Gregor Gössler and Louise Travé-Massuyès (Laas).
- PFE: Clément Arvis, "Génération automatique de musique", Grenoble INP/Ensimag, September 2018, supervized by Sophie Quinton.

9.2.3. *Juries*

- Alain Girault was referee for the PhD thesis of Colin Vidal, Université Côte d'Azur, and for the PhD thesis of Julien Hascoet, INSA Rennes. He was also vice-president of the Inria Senior Researcher jury (DR2) and of the Inria Junior Researcher national jury (CRCN).
- Gregor Gössler was examiner for the PhD jury of Vincent Wang (U. Pennsylvania).
- Jean-Bernard Stefani was examiner for the Habilitation (HDR) jury of Thomas Ledoux (U. Nantes).
- Sophie Quinton was member of the CRCN jury in Rennes.

9.3. Popularization

9.3.1. *Interventions*

Sophie Quinton gave a keynote at the MathC2+ event organized by Inria, entitled "Faire des preuves par ordinateur : Pourquoi et comment ?" (Computer-assisted proofs: Why and how?).

<div align="center">**STEEP Project-Team**</div>

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

- Denis Dupré, Pierre-Yves Longaretti and Emmanuel Prados are the Scientific Chair of the series of conferences entitled "Understanding and Acting"; see section 8.3.1 .

8.1.1.2. Member of the Organizing Committees

- P. Sturm was member of the Organization and the Program Committees of the 2018 edition of the Inria Science Days (*Journées Scientifiques Inria*)

8.1.2. Scientific Events Selection

8.1.2.1. Member of the Conference Program Committees

- Emmanuel Prados was member of the Program Committees of the Workshop on "Information and decision-making systems and democracy" at the INFORSID 2018 Congress , Nante, France 28-31 May 2018.
- Emmanuel Prados was member of the Program Committees of the Workshop on "EIAH and sustainability" at RJC-EIAH 2018, Besançon, France 3-5 April 2018.

8.1.3. Journal

8.1.3.1. Reviewer - Reviewing Activities

- P. Sturm was reviewer for Environment and Planning B: Urban Analytics and City Science, International Journal of Computer Vision, and Journal of Mathematical Imaging and Vision.

8.1.4. Invited Talks

- E. Prados give an invited talk to the **Journées scientitifiques de l'Inria** "", Bordeaux, France, june 27-29, 2018. Organizers: Inria (http://journees-scientifiques2018.inria.fr/).
- E. Prados give an invited talk to the **LIED Thematic Seminar** "Effondrement, déclin ou catastrophologie ? : théories sur les risques et l'avenir des sociétés" (Laboratoire interdisciplinaire sur les énergies de demain) with Pierre-Yves Longaretti and Grégoire Chambaz, Paris, France, June 19, 2018. Organizers: Petros Chatzimpiros.
- E. Prados give an invited talk to the **round table** on military nuclear [links with the risk of collapse of modern society] at the **first anniversary of the "Nuclear Knowledges" program**, Science Po, Paris, France, May 31, 2018. Organizers: Benoît Pelopidas.
- E. Prados give an invited talk to the **Conference for the Société Francaise de Physique** : "Vers un effondrement de notre société moderne ?", Grenoble, France, June 7, 2018 ; Conférence with Pierre-Yves Longaretti. Organizer: Thomas Thuillier.

8.1.5. Research Administration

- P. Sturm is, since 2015, Deputy Scientific Director of Inria, in charge of the domain Perception–Cognition–Interaction
- E. Prados was in charge of the working group "Digital tools for the progress of society" for the Strategic Plan of Inria, 2017-2018. His work resulted in the writing of the Scientific Challenges entitled "Digital world, society, and complexity".

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

As teacher-researchers, Denis Dupré and Serge Fenet completed their full teaching service in 2018 (full-time) in their field of study. Regis Perrier did a half service.

8.2.2. Supervision

PhD : Luciano Gervasoni, *Contributions to the formalization and implementation of spatial urban indices using open data: application to urban sprawl studies*, University Grenoble Alpes, November 19th, 2018, Peter Sturm (supervisor) and Serge Fenet (co-supervisor).

PhD in progress : Michela Bevione, *Socio-ecological transition, wealth creation and territorial metabolism: the case of Maurienne Valley*, October 2016, Pierre-Yves Longaretti (co-supervisor) and Nicolas Buclet (supervisor). Phd thesis in collaboration with the PACTE Laboratory. This interdisciplinary research on territorial ecology aims at bridging the gap between quantitative modeling and socio-economic and qualitative approaches to better understand the interactions between human society and the environment.

8.2.3. Juries

- P. Sturm chaired the Habilitation committee of Rémi Boutteau (Normandie Université, president), was reviewer of the PhD theses of Laura Fernàndez Julià (Université Paris-Est) and Mathias Gallardo (Université Clermont Auvergne) and chaired the PhD committee of Fatima Aziz (Université de Limoges).

8.3. Popularization

8.3.1. 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

8.3.2. Other popularization activities :

- Emmanuel Prados was guest speaker at
    - the **public debate "defying disaster"** that held at Grenoble City Hall., Grenoble, France, 13 December 2018. Organizers: City of Grenoble. "Climat, défier la catastrophe : vers un nouvel humanisme"
    http://www.grenoble.fr/uploads/Externe/a1/757_069_Conference-Climat-defier-la-catastrophe-vers-un-nouvel-humanisme.pdf
    Video of the conference on YouTube : https://www.youtube.com/watch?v=IfvFHx0kYa0
    - the **exchange day on travel modelling in Grenoble** "", Grenoble, France, 5 October 2018. Organizers: Agence d'urbanisme de Grenoble.
    - the **Controversation** entitled "Digital technology in the face of environmental impasse: an exit door or a way forward?", Aix en Provence, France, 17th of February 2018. Organizers: association "Tous Chercheurs" in collaboration with the students of the School of Journalism and Communication of Aix-Marseille ; Amina Mokrane.
    - the **Opening Conference at the Alterre Day** «Voyages en transitions » : "De l'urgence de tout changer face à l'effondrement qui vient", Dijon, France, March 21th 2018. Organizers: Alterre Bourgogne-Franche-Comté (Agence régionale pour l'environnement et le développement soutenable) ; Fabienne Lapiche-Jaouen.
    https://www.alterrebourgognefranchecomte.org/c/agenda/10604/journee-alterre-sur-le-theme-des-transitions?
- Emmanuel Prados participated **Fictionnalisation de controverse** in the research-action project FORCCAST. 22 April, 2018, Paris.
- Emmanuel Prados gave a conference at **STMicroelectronics Grenoble** : 'Collapse: understanding and accepting the game over of our modern society", Grenoble, France, March 8 2018. Organizers: Philippe Vincent and Violaine Pasini.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- C. Schmid is one of the general chairs for ECCV 2020.

10.1.1.2. Member of the Organizing Committees

- Several permanent members of the team co-organized the international summer school PAISS 2018.
- J. Mairal is a member of the organizing committee for the international conference SIAM Imaging Science 2020.
- J. Mairal co-organized the Journées SMAI-MODE, which will took place in March 2018.
- J. Mairal is a co-organizer of the workshop OSL'19 at Les Houches.
- G. Rogez was one of the organizers of the CVPR workshop on Human Pose, Motion, Activities and Shape in 3D (3D HUMANS 2018).
- C. Schmid was one of the organizers of Workshop on Artificial Intelligence, Horizon Maths, Paris, 2018.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- K. Alahari: Area chair for CVPR 2018, ICCV 2019.
- K. Alahari: Senior program committee member for IJCAI 2018, IJCAI 2019.
- J. Mairal: Area chair for ICML and NeurIPS 2018.
- C. Schmid: Area chair for NeurIPS 2018, ICML 2018, ECCV 2018, ICCV 2019.
- J. Verbeek: Area chair for ECCV 2018, ICCV 2019.

10.1.2.2. Reviewer

The permanent members of the team reviewed numerous papers for numerous international conferences in computer vision and machine learning, including CVPR, ECCV, NeurIPS, ICML.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- K. Alahari: Associate editor for Computer Vision and Image Understanding journal, since 2018.
- J. Mairal: Associate editor of the International Journal of Computer Vision, since 2015.
- J. Mairal: Associate editor of Journal of Mathematical Imaging and Vision, since 2015.
- J. Mairal: Associate editor of the SIAM Journal of Imaging Science, since 2018.
- C. Schmid: Editor in Chief of the International Journal of Computer Vision, since 2013.
- C. Schmid: Associate editor for Foundations and Trends in Computer Graphics and Vision, since 2005.
- J. Verbeek: Associate editor for Image and Vision Computing Journal, 2011-2018.
- J. Verbeek: Associate editor for International Journal on Computer Vision, since 2014.
- J. Verbeek: Associate editor for IEEE Transactions Pattern Analysis and Machine Intelligence, since 2018.

10.1.3.2. Reviewer - Reviewing Activities

The permanent members of the team reviewed numerous papers for numerous international journals in computer vision (IJCV, PAMI, CVIU), machine learning (JMLR, Machine Learning). Some of them also review for journals in optimization (SIAM Journal on Optimization, Mathematical Programming), image processing (SIAM Imaging Science).

10.1.4. Invited Talks

- K. Alahari: Invited talk at IISc Bangalore, India, Dec 2018.
- K. Alahari: Invited talk at Hyderabad AI Symposium, India, Dec 2018.
- K. Alahari: Invited seminar at Simon Fraser Univ., Vancouver, Canada, Nov 2018.
- K. Alahari: Invited seminar at POSTECH, Pohang, South Korea, Oct 2018.
- K. Alahari: COVIEW workshop, ACM Multimedia, Seoul, South Korea, Oct 2018.
- K. Alahari: Le Futur des Images workshop, IXXI, Lyon, Oct 2018.
- K. Alahari: Invited seminar at Universidad de Malaga, Apr 2018.
- K. Alahari: CVPR AC Meeting, Toronto, Feb 2018.
- A. Bietti: Séminaire de statistiques et machine learning, Telecom ParisTech.
- A. Bietti: Laplace reading group, ENS Paris.
- A. Bietti: Grenoble Optimization Days, LJK, UGA.
- G. Durif: Seminar at LJK, UGA, May 2018.
- G. Durif: Seminar at Institut de Recherche Mathematique Avancée (IRMA), Strasbourg Univ., June 2018.
- M. Elbayad: Seminar at NAVER LABS Europe, Grenoble, Sep 2018.
- P. Luc: Invited talk in the class "Deep Learning for Image Analysis" at Ecole des Mines.
- J. Mairal: Seminaire Parisien d'Optimisation, Paris.
- J. Mairal: Workshop on the Future of Random Projections, Paris.
- J. Mairal: talk in mini-symposium at ISMP, Bordeaux.
- J. Mairal: keynote in Theory of Deep Learning Workshop, ICML 2018, Stockholm.
- J. Mairal: keynote in CEFRL workshop, ECCV 2018, Munich.
- J. Mairal: invited speaker at AI and ML workshop, Telecom ParisTech.
- J. Mairal: Seminar, Gatsby Unit, UCL, London.
- J. Mairal: Seminar, College de France, Paris.
- J. Mairal: Seminar, University of Geneva.
- J. Mairal: Seminar, Université d'Avignon.
- J. Mairal: Seminar, Université de Marseille.
- G. Rogez: Invited speaker, Apple Seminar, Salt Lake City, June 2018.
- G. Rogez: Seminar, NAVER LABS Europe, Grenoble, December 2018.
- C. Schmid: Invited speaker at the Google Multimodal Machine Perception Workshop, San Francisco, October 2018.
- C. Schmid: Invited speaker, "What is optical flow for?" workshop at ECCV, September 2018.
- C. Schmid: Invited speaker, 3rd Intl. Workshop on Video Segmentation at ECCV, September 2018.
- C. Schmid: Keynote speaker at Deep Learning Conference, Rennes, September 2018.
- C. Schmid: Keynote speaker at ActivityNet workshop, in conjunction with CVPR, June 2018.
- C. Schmid: Invited talk at CVPR Good Citizen of CVPR event, in conjunction with CVPR, June 2018.
- C. Schmid: Keynote speaker at 3D Humans workkshop, in conjunction with CVPR, June 2018.
- C. Schmid: Invited speaker at Symposium on AI, Académie des sciences, Paris, February 2018.
- C. Schmid: Presentation at Prairie/industry meeting, Paris, December 2018.
- C. Schmid: Presentation at Google workshop on 3D Deep Learning, October 2018.

- C. Schmid: Seminar for AI residents, Google Mountain View, June 2018.
- C. Schmid: Seminar at MPI Tübingen, April 2018.
- C. Schmid: Seminars at Google Zürich (April), Mountain View and Paris (March).
- C. Schmid: Seminar at Leopoldina section meeting, Ulm, February 2018.
- J. Verbeek: Seminar Facebook AI Research, Paris, December 2018.
- J. Verbeek: Seminar NAVER LABS Europe, Grenoble, December 2018.
- J. Verbeek: Seminar Univ. Amsterdam, July 2018.
- J. Verbeek: Workshop Mathematics and Deep Learning at Univ. Aix-Marseille, November 2018.
- J. Verbeek: ARC6 Deep Learning & Deep Reinforcement Learning Workshop, Lyon.

10.1.5. Scientific Expertise

- J. Mairal: Reviewer for ERC (Consolidator and Starting).
- J. Mairal: Panel member for ANR.
- J. Mairal: Judge for the IBM Watson AI Xprize.
- G. Rogez: reviewer for ANR.

10.1.6. Research Administration

- J. Mairal: Participation in the setting up of the 3IA institute in Grenoble.
- C. Schmid: Member, board of directors of the Computer Vision Foundation (CVF), since 2016.
- C. Schmid: Member, PAMI-TC awards committee and the PAMI-TC executive commitee.
- J. Verbeek: Member, 2018 recruitment committee for an Assistant Professor position at Univ. Grenoble Alpes, Laboratoire Jean Kuntzmann (LJK).
- J. Verbeek: Member, steering committee MinaLogic, innovation cluster for digital technologies based in France's Auvergne-Rhône-Alpes region, since 2018.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Doctorat: K. Alahari, Lecturer at the CVIT summer school on machine learning, 4h eqTD, IIIT Hyderabad, India.

Doctorat: A. Bietti, Mini-course "Optimization for large-scale machine learning", 10h eqTD, conference SMAI-MODE, Autrans, France.

Doctorat: J. Mairal, Mini-course "Optimization for large-scale machine learning", 10h eqTD, conference SMAI-MODE, Autrans, France.

Doctorat: J. Mairal, Mini-course "Optimization for large-scale machine learning", 4.5h eqTD, conference Mascot-Num, Nantes, France.

Doctorat: J. Mairal, Lecturer at the YSU - ISTC Joint Summer School on Machine Learning, 12h eqTD, Yerevan, Armenia.

Doctorat: J. Mairal, Lecturer at the PAISS summer school, 2h eqTD, Grenoble, France.

Doctorat: C. Schmid, Course on action recognition, 2h eqTD, PRAIRIE Artifical Intelligence Summer School, July 2018, Grenoble, France.

Master: K. Alahari, Understanding Big Visual Data, 13.5h eqTD, M2, Grenoble INP, France.

Master: K. Alahari, Graphical Models Inference and Learning, 18h eqTD, M2, CentraleSupelec, Paris, France.

Master: K. Alahari, Introduction to computer vision, 9h eqTD, M1, ENS Paris, France.

Master: J. Mairal, Kernel methods for statistical learning, 15h eqTD, M2, Ecole Normale Supérieure, Cachan, France.

Master: C. Schmid, Object recognition and computer vision, 9h eqTD, M2, ENS Paris, France

Master: J. Verbeek, K. Alahari, C. Schmid, Machine Learning and Object Recognition, 27h eqTD, M2, Grenoble University, France

Master: J. Verbeek and J. Mairal, Advanced Learning Models, 27h eqTD, M2, UGA, Grenoble.

10.2.2. Supervision

PhD: N. Chesneau, Learning to Recognize Actions with Weak Supervision, Univ. Grenoble Alpes, Feb 2018, Karteek Alahari and Cordelia Schmid.

PhD: A. Mensch, Apprentissage de représentations en imagerie fonctionnelle, Univ. Paris-Saclay, Sep 2018, Gael Varoquaux, Bertrand Thirion and Julien Mairal.

PhD: P. Tokmakov, Apprentissage à partir du mouvement, Univ. Grenoble Alpes, Jun 2018, Karteek Alahari and Cordelia Schmid.

10.2.3. Juries

K. Alahari: Mostafa S. Ibrahim, November 2018, external examiner, Simon Fraser University.

K. Alahari: Ignacio Rocco Spremolla, 2018, member of "comité de suivi de thèse", ENS Paris.

J. Mairal: Magda Gregorova, 2018, rapporteur, University of Geneva.

J. Mairal: Saeed Varasteh, December 2018, examinateur, Univ. Grenoble Alpes.

J. Mairal: Olga Permiakova, November 2018, member of "comité de suivi de thèse", Univ. Grenoble Alpes.

J. Mairal: Vincent Prost, November 2018, member of "comité de suivi de thèse", Univ. Paris Saclay.

G. Rogez: Francisco Castro, December 2018, jury member, Univ. Malaga.

C. Schmid: Jean-Baptise Alayrac, September 2018, examinateur, ENS Paris.

C. Schmid: Stéphane Lathuilière, May 2018, presidente, UGA.

C. Schmid: Gunnar Atli Sigurdsson, May 2018, thesis proposal, CMU.

C. Schmid: Christoph Lassner, April 2018, rapporteur, Universitaet Tuebingen.

C. Schmid: Maxime Oquab, January 2018, examinatuer, ENS Paris.

J. Verbeek: Riccardo Del Chiaro, 2018-2020, member of supervisory committee, Univ. Florence.

J. Verbeek: Fabien Baradel, 2017-2019, member of supervisory committee, INSA Lyon.

J. Verbeek: Mélanie Ducoffe, 2018, rapporteur, Univ. Côte d'Azur, Sophia-Antipolis.

10.3. Popularization

- P. Luc: Interviews with "Computer Vision News" and "Les Echos Start".
- J. Mairal: intervention grand public sur l'IA lors d'un événement organisé par PWN (Professional Woman Network) à Lyon en octobre 2018.
- J. Mairal: conférence grand public sur l'IA avec Cédric Villani en juin 2018, mairie de Lyon.
- J. Mairal: participation à un débat public sur l'IA organisé par Mme la député Cendra Motin en avril 2018, Montalieu-Vercieu.

10.3.1. Internal or external Inria responsibilities

- C. Schmid: Member, "Comité scientifique", Inria Grenoble, since 2015.
- J. Verbeek: Scientific correspondent, national project calls, Inria Grenoble, since 2017.
- J. Verbeek: Member, Inria Grenoble working group on HPC - Big Data - Machine learning, since 2018.

TRIPOP Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Journal

9.1.1.1. Member of the Editorial Boards

- B. Brogliato is Associate Editor at Nonlinear Analysis: Hybrid Systems.
- B. Brogliato is Associate Editor at ASME Journal of Computational and Nonlinear Dynamics.

9.1.1.2. Reviewer - Reviewing Activities

- A. Tonnelier has been reviewer for PRE (Physical Review E) and DCDS (Discrete and Continuous Dynamical Systems).
- G. James has been reviewer for IMA J. Appl. Math.
- V. Acary has been for Optimization Methods and Software, Nonlinear Dynamics, Applied Mechanics Reviews, IEEE Transactions on Robotics, Multibody Systems Dynamics, International Journal for Numerical Methods in Engineering, IFAC Conference on Modelling, Identification and Control of Nonlinear Systems, CDC 2018, SIMPAR 2018.
- B. Brogliato has been reviewer for IEEE Transactions on Automatic Control, IEEE Transactions on Robotics, IEEE Control Systems Letters, Automatica, SIAM Journal on Control and Optimization, Multibody System Dynamics.

9.1.2. Invited Talks

- G. James : invited talk at the International Symposium on Intrinsic Localized Modes (Kyoto, 01/18), speaker at the Conference on Advances in Nonsmooth Mechanics (Bristol, 06/18), lecture at the thematic school Méthodes de Dynamique Non-Linéaire pour l'Ingénierie des Structures, GDR Dynolin (Fréjus, 05/18).
- V. Acary : lecture at the thematic school Méthodes de Dynamique Non-Linéaire pour l'Ingénierie des Structures, GDR Dynolin (Fréjus, 05/18).

9.1.3. Leadership within the Scientific Community

- V. Acary is coordinator with R. Leine of the Europe Network for Nonsmooth Dynamics http://ennsd.gforge.inria.fr/.

9.1.4. Research Administration

- A. Tonnelier is member of the CED and the CLHSCT.

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

- Licence : G. James, Introduction to Dynamical Systems in UE MAP201, 18 hETD, L1, Université Grenoble Alpes.
- Licence : G. James, Normed Vector Spaces, 25 hETD, L2, Prépa INP, Grenoble.
- Master : G. James, Numerical Methods, 94 hETD, M1, Grenoble INP - Ensimag (1st year).
- Master : G. James, Dynamical Systems, 45 hETD, M1, Grenoble INP - Ensimag (2nd year).
- Master : Vincent Acary, 17H éq TD Systèmes dynamiques, ENSIMAG 2A.

- Master : Vincent Acary, 12H éq TD Systèmes dynamiques, Master ACSYON. Université de Limoges.

9.2.2. Supervision

Rami Sayoub, Influence of vibrations on multibody systems, September 2018, V. Acary and B. Brogliato.

Charlélie Bertrand, Mechanical model fro cable vibrations, October 2018, V. Acary and C.H. Lamarque.

Christelle Kozaily. Structural analysis for multi-mode DAE systems, Octobre 2018, V. Acary and B. Caillaud.

Alexandre Vieira. Commande optimale de systèmes linéaires de complémentarité, université Grenoble Alpes, 24 septembre 2018, B. Brogliato and C. Prieur.

9.2.3. Juries

- Vincent Acary, president of Ph.D. Thesis committee of Thomas Catterou (22 October 2018), Universite Aix–Marseille.
- Bernard Brogliato, examinateur of Ph.D. thesis of C. Beneux (12 July 2018), Université Lorraine.

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

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. Member of the Organizing Committees

- P. Genevès is member of the Organizing Committee of BDA 2019.
- A. Bonifati is a permanent member of ICDT Council (The International Conference on Database Theory).

8.1.2. Scientific Events Selection

8.1.2.1. Chair of Conference Program Committees

- A. Bonifati is Co-chair of the SIGMOD 2019 Workshops.

8.1.2.2. Member of the Conference Program Committees

- P. Genevès has been program committee member for the 27th International Joint Conference on Artificial Intelligence (IJCAI'18) and for the 23rd European Conference on Artificial Intelligence (ECAI'18) and for the 18th ACM Symposium on Document Engineering (DocEng'18).
- A. Bonifati has been program committee member of VLDB 2019, AAAI 2019, ICDE 2019, EDBT 2019, SIGMOD 2019 (senior PC member), PODS 2019, DEBS 2019, ICDT 2020.

8.1.2.3. Reviewer

- P. Genevès has been reviewer for the ICALP 2018, CHI 2018, and BDA 2018 conferences.
- C. Roisin has been reviewer for the 18th ACM Symposium on Document Engineering (DocEng'18).

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

- A. Bonifati is Associate Editor of ACM Trans. on Database Systems.
- A. Bonifati is Associate Editor of the VLDB Journal.

8.1.3.2. Reviewer - Reviewing Activities

- P. Genevès has been reviewer for the Sensors journal.

8.1.4. Invited Talks

- P. Genevès gave an invited talk for the Data Science in the Alps Workshop (March 20th, 2018): "On the Prediction of At-Risk Patient Profiles with Big Prescription Data"
- P. Genevès gave an invited seminar at the University of Fribourg (March 27th, 2018): "Queries for Trees and Graphs: Static Analysis and Code Synthesis"

8.1.5. Scientific Expertise

- C. Roisin has been designed as expert for the reviewing of a research proposal of the American University of Beirut.
- P. Genevès has been a scientific expert at ANRT for the CIFRE funding process.

8.1.6. Research Administration

- P. Genevès is responsible for the Computer Science Specialty at the Doctoral School MSTII (ED 217)

- P. Genevès has been Member of a Hiring Committee at IRIF.
- C. Roisin is a member of the CNU (Conseil National des Universités).
- C. Roisin is a member of the Inria Grenoble Inria-Hub committee.
- N. Layaïda is a member of the experts pool (selection committee) of the minalogic competitive cluster.
- A. Bonifati and N. Layaïda are members of the Scientific Board of Digital League, the digital cluster of Auvergne-Rhone-Alpes.
- A. Bonifati is coordinator of the theme « Masses de Données » at Liris and at « Fédération d'Informatique de Lyon » (FIL).

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

- Licence : C. Roisin, Programmation C, 12h eq TD, L2, IUT2, Univ. Grenoble-Alpes
- Licence : C. Roisin, Architecture des réseaux, 112h eq TD, L1, IUT2, Univ. Grenoble-Alpes
- Licence : C. Roisin, Services réseaux, 22h eq TD, L2, IUT2, Univ. Grenoble-Alpes
- Licence : C. Roisin, Introduction système Linux, 21h eq TD, L1, IUT2, Univ. Grenoble-Alpes
- Licence : C. Roisin, Système et réseaux, 14h eq TD, L3, IUT2, Univ. Grenoble-Alpes
- Licence : C. Roisin, Tutorat pédagogique de 4 apprentis, 20h eq TD, L3, IUT2, Univ. Grenoble-Alpes
- Licence : C. Roisin, Suivi pédagogique de 20 étudiants (responsable de la Licence Professionnelle MI-ASSR), 13h eq TD, L1, IUT2, Univ. Grenoble-Alpes
- Licence : N. Gesbert, 'Logique pour l'informatique', 45 h eq TD, L3, Grenoble INP
- Licence : N. Gesbert, 'Bases de la programmation impérative', 30 h eq TD, L3, Grenoble INP
- Master : N. Gesbert, academic tutorship of an apprentice, 10 h eq TD, M1, Grenoble INP
- Master : N. Gesbert, 'Fondements logiques pour l'informatique', 16 h 30 eq TD, M1, Grenoble INP
- Master : N. Gesbert, 'Construction d'applications Web', 21 h eq TD, M1, Grenoble INP
- Master : N. Gesbert, 'Analyse, conception et validation de logiciels', 30 h eq TD, M1, Grenoble INP
- N. Gesbert is responsible of the L3-level course 'logique pour l'informatique' (25 apprentices) and of the M1-level course 'construction d'applications Web' (72 students).
- P. Genevès is responsible and teacher in the the M2-level course 'Semantic Web: from XML to OWL' of the MOSIG program at UGA (36h)
- P. Genevès is responsible and teacher in the the M2-level course 'Accès à l'information: du web des données au web sémantique' of the ENSIMAG ISI 3A program at Grenoble-INP (30h)

8.2.2. Supervision

- PhD: Louis Jachiet, On the foundations for the compilation of web data queries: optimization and distributed evaluation of SPARQL, University Grenoble Alpes. PhD Thesis defended on September 15th, 2018. Co-supervised by Nabil Layaïda and Pierre Genevès.
- PhD in progress: Muideen Lawal, Cost models for optimizing compilers based on mu-terms, PhD started in October 2017, supervised by Pierre Genevès.
- PhD in progress: Raouf Kerkouche, Privacy-preserving predictive analytics with big prescription data, PhD started in October 2017, co-supervised by Pierre Genevès and Claude Castelluccia.
- PhD in progress: Fateh Boulmaiz, Distributed representations of large-scale graphs, PhD started in November 2017, co-supervised by Pierre Genevès and Nabil Layaïda.

- PhD in progress: Sarah Chlyah, Algebraic foundations for the synthesis of optimized distributed code, PhD started in March 2018, supervised by Pierre Genevès.

- PhD in progress: Amela Fejza, On the extended algebraic representations for analytical workloads, PhD started in October 2018, supervised by Pierre Genevès.

8.3. Popularization

- N. Layaïda contributed to the special édition of the newspaper : Le Dauphiné libéré des enfants – C'est quoi le numérique ? – n°14 November-December 2018.

- P. Genevès presented the Tyrex team activities in 180 seconds in a dissemination event organized at Inria Montbonnot in June 2018.

8.3.1. Creation of media or tools for science outreach

- T. Michel built a mobile application for the Inria public showroom, Espace Login, called Login'AR. The application was designed to showcase the combination of indoor positioning with Augmented Reality capabilities. The application is now part of the permanent Login public exhibition. The application was developed with the help of four Grenoble INP interns (A. Convert, A. Fortecof, G. Montano and S.J. Tourangeau).