Activity Report 2018

Section Dissemination

BONSAI Project-Team

8. Dissemination

8.1. Promoting Scientific Activities

8.1.1. Scientific Events Organisation

8.1.1.1. General Chair, Scientific Chair

- H. Touzet was the general chair for the satellites of RECOMB 2018 (Paris, April 2018)

8.1.2. Scientific Events Selection

8.1.2.1. Chair of Conference Program Committees

- RECOMB-Seq 2018 (R. Chikhi)

8.1.2.2. Member of the Conference Program Committees

- RECOMB-CG 2018 (J.-S. Varré)
- WABI 2018 (H. Touzet, M. Salson)
- ACM-BCB 2018 (R. Chikhi)
- HiCOMB 2018 (R. Chikhi)

8.1.2.3. Reviewer

- WABI 2018 (L. Noé, J.-S. Varré, R. Chikhi)
- ECCB 2018 (R. Chikhi)

8.1.3. Journal

8.1.3.1. Member of the Editorial Boards

- Review Editor in Frontiers in Genetics - Bioinformatics and Computational Biology (J.-S. Varré)

8.1.3.2. Reviewer - Reviewing Activities

- Algorithms (L. Noé)
- Bioinformatics (L. Noé, M. Salson, R. Chikhi)
- Frontiers in Immunology (M. Salson)
- Nucleic Acids Research (R. Chikhi)
- GigaScience (R. Chikhi)
- ACM Computing Surveys (R. Chikhi)
- Genome Biology (R. Chikhi)
- Journal of Discrete Algorithms (R. Chikhi)

8.1.4. Scientific Expertise

- Scientific consulting for Clarity Genomics start-up – Belgium (R. Chikhi)

8.1.5. Research Administration

- Member of the national scientific committee of INS2I–CNRS (H. Touzet)
- Member of the scientific committee of MBIA – INRA (H. Touzet)
- Head of the national CNRS network GDR Bioinformatique moléculaire (http://www.gdr-bim.cnrs.fr, H. Touzet)
- Co-head of the Lille Bioinformatics core facility, bilille (H. Touzet)

- Member of the CRIStAL Laboratory council (H. Touzet)

8.2. Teaching - Supervision - Juries

8.2.1. Teaching

Teaching in computer science:

License: J.-S. Varré, *Programming and algorithms*, 36h, L2 Computer Science, Univ. Lille.

License: J.-S. Varré, *Object oriented programming*, 36h, L2 Computer Science, Univ. Lille.

License: J.-S. Varré, *Algorithms and data structures*, 50h, L2 Computer science, Univ. Lille.

License: J.-S. Varré, *System*, 84h, L3 Computer science, Univ. Lille.

License: P. Marijon *Databases*, 36h, L3 Computer science, Univ. Lille.

License: Q. Bonenfant *Databases*, 36h, L3 Computer science, Univ. Lille.

Licence: M. Pupin, *Programming (Python)*, 78h, L1 Sciences, Univ. Lille.

Licence: M. Pupin, *occupational integration*, 30h, L3 computer science, Univ. Lille.

Master: : M. Pupin, *Programming (JAVA)*, 24h, M1 "Mathématiques et finance", Univ. Lille.

License: M. Salson, *Programming (Python)*, 42h, L1 Sciences, Univ. Lille.

License: M. Salson, *Coding and information theory*, 63h, L2 Computer science, Univ. Lille.

Master: M. Salson, *Software project*, 40h, M1 Computer science, Univ. Lille.

Teaching in bioinformatics:

- Master: M. Pupin, M. Salson *Bioinformatics*, 34h, M1 "Biologie-Santé", Univ. Lille.
- Master: M. Salson, *Algorithms for life sciences*, 20h, M2 Complex models, algorithms and data, Univ. Lille.
- Master: R. Chikhi, *Bioinformatics*, 20h, M1 Computer Science, Univ. Lille.

Teaching in skeptical thinking:

- Master: M. Salson, *Skeptical thinking*, 27h, M2 Journalist and Scientist, ESJ, Univ. Lille.

Formation for academics:

- Bilille permanent training: C. Saad (*Variants*, 13h), R. Chikhi (*De novo assembly* and *Metagenomics de novo assembly*, 8h), H. Touzet (*DNA analyis* and *Metagenomics*, 8h), M. Salson (*RNA-seq analysis*, 1h).
- (JC)2BIM summer school: H. Touzet organized a national summer school in bioinformatics (5-8 June, Frejus), that gathered 30 participants and 12 trainers (among them, R. Chikhi and M. Salson): http://www.gdr-bim.cnrs.fr/?page_id=560.
- Workshop on Genomics: R. Chikhi (*de novo assembly & k-mers*, 8h), Czech Republic, 2 weeks, 80 participants: http://evomics.org/workshops/workshop-on-genomics/2018-workshop-on-genomics-cesky-krumlov/.
- CGSI summer school: R. Chikhi (*de novo assembly, metagenomics*, two keynote lectures), Los Angeles, 4 weeks, 100 participants: http://computationalgenomics.bioinformatics.ucla.edu.

8.2.2. Teaching administration

Head of the licence semester "Computer Science – S3 Harmonisation (S3H)", Univ. Lille (L. Noé).

Member of faculty council (M. Pupin, J.-S. Varré).

Head of the 3rd year of licence of computer science, Univ. Lille (J.-S. Varré).

Head of the GIS department (Software Engineering and Statistics) of Polytech'Lille (S. Janot).

Head of the computer science modules in the 1st year of Licence, Univ. Lille (M. Pupin).

Head of the *Informatique au féminin*, Univ. Lille (M. Pupin).

8.2.3. Supervision

PhD: T. Rocher, Indexing VDJ recombinations in lymphocytes for leukemia follow-up, February 2018, M. Giraud, M. Salson.

PhD: C. Saad, Caractérisation des erreurs de séquençage non aléatoires, application aux mosaïques et tumeurs hétérogènes, September 2018, M.-P. Buisine, H. Touzet, J. Leclerc, L. Noé, M. Figeac.

PhD in progress: P. Marijon, Analyse de graphes d'assemblage issus du séquençage ADN troisième génération, 2016, R. Chikhi, J-S. Varré.

PhD in progress: Q. Bonenfant, Algorithmes pour l'analyse de séquençage ARN troisième génération, 2017/11/15, L. Noé, H. Touzet.

8.2.4. Juries

- H. Touzet was member of the PhD juries of Camille Marchet (University of Rennes 1), Magali Dancette (University of Lyon 1), Aurélien Quillet (University of Rouen).
- H. Touzet was member of hiring committees (professors) at University of Lille and University of Caen.
- J.-S. Varré was member of a hiring committee (professors) at University of Lille.
- L. Noé was member of a hiring committee (associate professor) at University of Lille.
- R. Chikhi was member of the PhD juries of Florian Plaza Onate (INRA MetaGenoPolis), Sorina Maciuca (Wellcome Trust, UK).
- R. Chikhi was member of a hiring committee (research engineer) at Institut Pasteur, Paris.

8.3. Popularization

8.3.1. Internal or external Inria responsibilities

- Member of the CDT for Inria Lille (M. Pupin).
- Member of an Inria hiring committee (young researcher), Inria LNE (M. Pupin)

8.3.2. Education

- M. Pupin is the new leader of the collective *Informatique au féminin* from University of Lille, which was launched four years ago and whose goal is to organise computer science initiatives that reach teenage girls and female students. Among other actions, she is fully involved in the event *L codent, L créent* (she codes, she creates). This action aims to teach code to schoolgirls (13-15 years old), before they amass prejudices against computer science. 50 teenage girls were supervised by 11 female graduate computer science students, to create a proximity link between the young women. To emphasize the fact that coding is a creative and innovative pursuit, we chose to teach *Processing*, a programming language built for visual arts. After eight sessions of creative coding, a public exhibition was organized at the University with inspirational testimonies of women working in the field of computer science.
- The team participates to dissemination actions for high school students and high school teachers on a regular basis: multiple presentations on bioinformatics and research in bioinformatics with our dedicated "genome puzzles", visit of high school students in the team (M. Salson).

BONUS Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- E-G. Talbi (Conference program chair): Intl. Conf. on Metaheuristics and Nature Inspired Computing (META'2018), Marrakech, Morocco, Oct. 2018.
- N. Melab (Workshop co-chair): Intl. Workshop on the Synergy of Parallel Computing, Optimization and Simulation (HPCS/PaCOS'2018), Orléans, FRANCE, Jul. 16-20, 2018.
- E-G. Talbi (General Chair): 8th Intl. Conf. on Bioinspired Optimization Methods and their Applications (BIOMA'2018), Paris, FRANCE, May 16-18, 2018.
- E-G. Talbi (Workshop co-chair): Intl. Workshop on Optimization and Learning: Challenges and Applications (OLA'2018), Alicante, SPAIN, Feb. 26-28, 2018.
- E-G. Talbi (steering committee): 8th IEEE Workshop Parallel Distributed Computing and Optimization (IPDPS/PDCO'2018), Vancouver, CANADA, May 21-25, 2018.
- N. Melab: Chair of 4 simulation and HPC-related seminars at Université de Lille, Oct-Dec. 2018 (CENAERO-BELGIUM, IBM, UCL-BELGIUM, ONERA).
- B. Derbel and A. Liefooghe (workshop co-chairs): 1st International Workshop on Computational Intelligence for Massive Optimization (CIMO 2018), Nagano, Japan, July 2018 (with H. Aguirre, K. Tanaka and S. Verel).
- B. Derbel (workshop co-chair): Decomposition Techniques in Evolutionary Optimization (DTEO), workshop at GECCO 2018, Kyoto, Japan, July 2018 (with K. Li, X. Li, S. Zapotecas, Q. Zhang and H. Li).
- A. Liefooghe (workshop co-chair): Landscape-aware heuristic search (LAHS), workshop at GECCO 2018, Kyoto, Japan, July 2018 (with N. Veerapen, S. Verel and G. Ochoa).
- B. Derbel (special session co-chair): Advances in Decomposition-based Evolutionary Multi-objective Optimization (ADEMO), special session at WCCI/CEC 2018, Rio, Brazil, July 2018 (with S. Zapotecas and Q. Zhang).
- B. Derbel and A. Liefooghe (special session co-chairs): Multi-/many-objective optimization and learning, special session at BIOMA 2018, Paris, France, May 2018 (with H. Aguirre, B. Filipič, T. Tušar, and S. Verel).

10.1.1.2. Member of the Organizing Committees

- N. Melab and E-G. Talbi: Synergy Summer School on Efficient Multi-objective Optimization, Ljubljana, Slovenia, Aug. 27-31, 2018.
- E-G. Talbi: The first international Metaheuristics Summer School – MESS 2018, Acireale-Sicily, Italy, Jul. 21-25, 2018.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- N. Melab (Program co-chair): 8th Intl. Conf. on Bioinspired Optimization Methods and their Applications (BIOMA'2018), Paris, France, May 16-18, 2018.

- A. Liefooghe (program co-chair): EvoCOP 2018: 18th European Conference on Evolutionary Computation in Combinatorial Optimisation (Parma, Italy, 2018).
- A. Liefooghe (proceedings chair): GECCO 2018: Genetic and Evolutionary Computation Conference (Kyoto, Japan, 2018).

10.1.2.2. Member of the Conference Program Committees

- IEEE Congress on Evolutionary Computation (CEC), Rio de Janeiro, BRAZIL, Jul. 8-13, 2018.
- The ACM Genetic and Evolutionary Computation Conference (GECCO), Kyoto, JAPAN, July 15-19, 2018.
- The 2018 International Conference on High Performance Computing & Simulation (HPCS), Orleans, FRANCE, July 16–20, 2018.
- IEEE Intl. Workshop on Parallel/Distributed Computing and Optimization (IPDPS/PDCO), Vancouver, Britich Columbia, CANADA, May 21-25, 2018.
- IEEE Intl. on High-Performance Optimization in Industry (HPOI), Ljubljana, SLOVENIA, October 8, 2018.
- Colloque sur l'Optimisation et les Systèmes d'information (COSI), Oran, ALGERIE, Oct. 22-24, 2018.
- The 4th Intl. Conf. on Cloud Computing Technologies and Applications (CloudTech), Brussels, BELGIUM, Nov. 26-28, 2018.
- EvoCOP'2018, 18th European Conference on Evolutionary Computation in Combinatorial Optimization, Parma, ITALY, April 4–6, 2018.
- 15th International Conference on Parallel Problem Solving from Nature (PPSN), Coimbra, Portugal, September 2018
- Genetic and Evolutionary Computation Conference (GECCO), Kyoto, Japan, July 2018.
- IEEE Congress on Evolutionary Computation (WCCI-CEC), Rio, Brazil, July 2018.
- 18th European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP), Parma, Italy, April 2018.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- N. Melab: Guest and Managing Editor (in collaboration with A. Zomaya and I. Chakroun) of a special on Parallel Optimization using/for Multi and Many-core High Performance Computing in Journal of Parallel and Distributed Computing (JPDC), Vol. 112, 2018.
- P. Korosec, N. Melab and E-G. Talbi. Guest Editor of LNCS Proceedings of 8th Intl. Conf., BIOMA 2018, Paris, France, May 16-18, 2018. *Springer Lecture Notes in Computer Science (LNCS)*, Vol. 10835, 2018.
- B. Derbel: Associate Editor, IEEE Transactions on Systems, Man and Cybernetics: Systems (IEEE).
- A. Liefooghe, M. López-Ibánez: Editors of LNCS Proceedings of the 18th European conference on evolutionary computation in combinatorial optimization (EvoCOP 2018), Lecture Notes in Computer Science (LNCS), vol. 10782, Parma, Italy, 2018.
- E-G. Talbi: Co-editor (with C. Ribeiro) of a special issue in International Transactions on Operational Research (ITOR) on Optimization and Learning, 2018.

10.1.3.2. Reviewer - Reviewing Activities

- Journal of Heuristics (Springer)
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Cybernetics
- Evolutionary Computation (MIT)

10.1.4. Invited Talks

- N. Melab: High-performance Computing, Invited Speaker (1h30), Synergy Summer School, Ljubljana, SLOVENIA, Aug. 28th, 2018.

- N. Melab: Introduction to High-performance Computing, Invited Tutorial (1h40), the 7th Intl. Conf. on Metaheuristics and Nature Inspired Computing (META'18), Marrakech, MOROCCO, Oct. 27-31, 2018.

- E-G. Talbi: Bridging the gap between metaheuristics and machine learning, Invited seminar, PUCV Universidad, Santiago, Chile, Mar 2018.

- E-G. Talbi: How machine learning can help metaheuristics, Invited keynote, LOPAL'2018 International Conference on Learning and Optimization Algorithms: Theory and Applications, Rabat, Marrakech, May 2018.

- E-G. Talbi: Synergy between metaheuristics and machine learning, Tutorial, BIOMA'2018 International Conference on Bioinspired Optimization and their Applications, Paris, France, May 2018.

- E-G. Talbi: Parallel and distributed evolutionary algorithms, Invited tutorial, IEEE WCCI World Congress on Computational Intelligence, Rio de Janeiro, Brazil, July 2018.

- E-G. Talbi: Optimization for machine learning, Invited seminar, Universidad Elche, Spain, Dec 2018.

10.1.5. Leadership within the Scientific Community

- N. Melab: scientific leader of Grid'5000 (https://www.grid5000.fr) at Lille, since 2004

- E-G. Talbi: Co-president of the working group "META: Metaheuristics - Theory and applications", GDR RO and GDR MACS

- E-G. Talbi: Co-Chair of the IEEE Task force on Cloud Computing within the IEEE Computational Intelligence Society

- A. Liefooghe: co-secretary of the association "Artificial Evolution" (EA)

10.1.6. Scientific Expertise

- N. Melab: Reviewer expert for AAPG ANR, CES 23 (B.7, Axe 4), JCJC, FRANCE, 2018

- N. Melab: Member of the advisory committee for the IT and maganement engineer training at Faculté Polytechnique de Mons, BELGIUM

10.1.7. Research Administration

- N. Melab: Member of the steering committee of "Maison de la Simulation" at Université de Lille

- E-G. Talbi, Coordinator of the International Relationships of Inria Lille Nord Europe

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- International Master lecture: N. Melab, Supercomputing, 24h ETD, M2, Université de Lille, FRANCE

- Master lecture: N. Melab, Operations Research, 72h ETD, M1, Université de Lille, FRANCE

- Master leading: N. Melab, Co-head (with B. Merlet) of the international Master 2 of advanced scientific computing, Université de Lille, FRANCE

- Licence: A. Liefooghe, Algorithmic and Data structure, 36h ETD, L2, Université de Lille, FRANCE

- Licence: A. Liefooghe, Algorithmic for Operations Research, 36h ETD, L3, Université de Lille, FRANCE

- Master: A. Liefooghe, Databases, 30h ETD, M1, Université de Lille, FRANCE

- Master: A. Liefooghe, Advanced Object-oriented Programming, 53h ETD, M2, Université de Lille, FRANCE
- Master: A. Liefooghe, Combinatorial Optimization, 10h ETD, M2, Université de Lille, FRANCE
- Master: A. Liefooghe, Multi-criteria Decision Aid and Optimization, 25h ETD, M2, Université de Lille, FRANCE
- Master leading: A. Liefooghe, superviser of the Master 2 MIAGE IPI-NT
- Master: Bilel Derbel, Combinatorial Optimization, 35h, M2, Université de Lille, FRANCE
- Master: Bilel Derbel, Grid Computing, 16h, M2, Université de Lille, FRANCE
- Master: Bilel Derbel, Parallel and Distributed Programming, 35h, M1, Université de Lille, FRANCE
- Master: Bilel Derbel, Algorithms and Applications, 28h, M1, Université de Lille, FRANCE
- Engineering school: El-Ghazali Talbi, Advanced optimization, 36h, Polytech'Lille, Université de Lille, FRANCE
- Engineering school: El-Ghazali Talbi, Data mining, 36h, Polytech'Lille, Université de Lille, FRANCE
- Engineering school: El-Ghazali Talbi, Operations research, 60h, Polytech'Lille, Université de Lille, FRANCE
- Engineering school: El-Ghazali Talbi, Graphs, 25h, Polytech'Lille, Université de Lille, FRANCE
- Master leading: B. Derbel, head of the Master MIAGE, Université de Lille, FRANCE
- Licence: O. Abdelkafi, Computer Science, 46.5 ETD, L1, Université de Lille, FRANCE
- Licence: O. Abdelkafi, Web Technologies, 36 ETD, L1, Université de Lille, FRANCE
- Licence: O. Abdelkafi, Unix system introduction, 6 ETD, L2, Université de Lille, FRANCE
- Licence: O. Abdelkafi, Web Technologies, 24 ETD, L2 S3H, Université de Lille, FRANCE
- Licence: O. Abdelkafi, object-oriented programming, 36 ETD, L2, Université de Lille, FRANCE
- Licence: O. Abdelkafi, Relational Databases, 36h ETD, L3, Université de Lille, FRANCE
- Licence: O. Abdelkafi, Algorithmic for Operations Research, 36h ETD, L3, Université de Lille, FRANCE

10.2.2. Supervision

- PhD defended: Sohrab Faramarzi, Optimization of medical laboratories, Defended on Dec. 17th, El-Ghazali Talbi
- PhD in progress: Z. Garroussi, Demand side management in smart grids: Multi-objective models, El-Ghazali Talbi and Rachid Ellaia (EMI, Morocco)
- PhD in progress: J. Pelamatti, Multi-disciplinary design of aerospace vehicles, Jan 2017, El-Ghazali Talbi
- PhD in progress: Ali Hebbal, Surrogate-assisted multi-objective evolutionary algorithms, Oct 2017, El-Ghazali Talbi and Nouredine Melab
- PhD in progress (cotutelle): Maxime Gobert, Surrogate-assisted multi-objective evolutionary algorithms, Oct 2017, Nouredine Melab (Université de Lille) and Daniel Tuyttens (Université de Mons, BELGIUM)
- PhD in progress (cotutelle): Guillaume Briffoteaux, Surrogate-assisted multi-objective evolutionary algorithms, Oct 2017, Nouredine Melab (Université de Lille) and Daniel Tuyttens (Université de Mons, BELGIUM)
- PhD in progress: Geoffrey Pruvost, Machine learning and decomposition techniques for large-scale multi-objective optimization, Oct 2018, Bilel Derbel and Arnaud Liefooghe

- PhD in progress: Nicolas Berveglieri, Meta-models and machine learning for massive expensive optimization, Oct 2018, Bilel Derbel and Arnaud Liefooghe
- PhD in progress: Alexandre Jesus, Algorithm selection in multi-objective optimization, Bilel Derbel and Arnaud Liefooghe (University of Lille), Luís Paquete (University of Coimbra, PORTUGAL)

10.2.3. Juries

- N. Melab: PhD thesis of Yahya Al Dhuraibi, Flexible Framework for Elasticity in Cloud Computing, Université de Lille (FRANCE), Dec. 10th 2018.
- N. Melab: PhD thesis of Muhammad Umer Wasim, Design and Implementation of Legal Protection for Trade Secrets in Cloud Brokerage Architectures relying on Blockchains, University of Bologna (ITALY), Apr. 2018.
- N. Melab: PhD thesis of Maruf Ahmed, On Improving The Performance and Resource Utilization of Consolidated Virtual Machines: Measurement, Modeling, Analysis and Prediction, The University of Sydney (AUSTRALIA), Aug. 2018.
- B. Derbel: PhD thesis of Christopher Jankee, Optimisation par métaheuristique adaptative distribuée en environnement de calcul parallèle, Université du Littoral Côte d'Opale (FRANCE), Aug. 2018.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- N. Melab: Nominated again as Chargé de Mission of High Performance Computing and Simulation at Université de Lille, since 2010.
- E-G. Talbi: International relations coordinator for Inria Lille Nord Europe, since 2016.
- N. Melab. Member of the Working Group on software and technological demonstrators, since end 2017.

DEFROST Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Gang Zheng is a vice-chair of the IFAC Technical Committee "Social Impact of Automation", International Federation of Automatic Control, TC9.2
- Gang Zheng is co-chair of the working group "Commande et pilotage en environnement incertain" of GRAISYHM

10.1.1.2. Member of the Organizing Committees

- Gang Zheng, Associate Editor, SIAM CT19, Chengdu, China (SIAM Conference of Control & Its Applications 2019)

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Gang Zheng is IPC member of SIAM-CT19, ICSRT 2019, ICFCTA 2019.

10.1.2.2. Reviewer

Kruszewski:

- ICRA
- ECC
- ACC

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Gang Zheng is the member of Editorial Board, Journal of Control Science and Engineering.
- Christian Duriez is member of Editorial Board of IEEE Transactions on Haptics

10.1.3.2. Reviewer - Reviewing Activities

Kruszewki:

- Systems & Control Letters
- Fuzzy Sets and Systems
- IEEE TFS
- Automatica
- IET Control Theory & Applications
- IEEE TCST
- IEEE Transactions on Industrial Informatics
- Nonlinear Analysis: Hybrid Systems

Olivier Goury:

- IEEE Robotics and Automation Letters

Christian Duriez:

- IEEE Robotics and Automation Letters
- IEEE Transactions on Robotics
- ACM Transactions on Graphics
- Computer Methods in Applied Mechanics and Engineering

Thor Morales Bieze:

- MDPI Actuators
- IEEE Transactions on Robotics
- Soft Robotics
- IEEE Robotics & Automation Magazine

10.1.3.3. Tutorials

- A tutorial on the Soft-Robotics plugin for SOFA was presented at the IEEE International Conference on Soft Robotics (Robosoft 2018) in Livorno.
- Tutorials about SOFA Plugins *BeamAdapter*, *Soft-Robots* and *Model Order Reduction* were presented during the 1st International SOFA week 2018 in Strasbourg.

10.1.4. Invited Talks

Christian Duriez:

- Stanford Robotic Seminar
- Harvard School of Engineering
- University of Madison Department of Mechanical Engineering
- Tufts University, Soft robotics seminar
- MIT CSAIL
- Toyota Research (Los Altos, California)
- Séminaire de Robotique, Université Jules Verne d'Amiens

10.1.5. Leadership within the Scientific Community

Christian Duriez has been invited to participate to the NSF-NIST-DARPA- workshop on "Simulation and Machine Learning in Robotics". The outcome was to have an impact on the future calls of research projects in the field.

10.1.6. Scientific Expertise

Christian Duriez has been expert for evaluation of ANR Projects and is an evaluator of the European project (FET) Hybridheart. Damien Marchal has been expert for evaluation of HCERES.

10.1.7. Research Administration

A. Kruszewski and C. Duriez are members of the Laboratory council (CRIStAL). C. Duriez is vice-president of the "Commission des Emplois de Recherche" of Lille. O. Goury is an elected member of the "Comité de Centre" of Inria Lille.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Ingénieur: Kruszewski, Start & Go Metallophone, 15h, niveau L3, Centrale Lille, France

Ingénieur: Kruszewski, Start & Go Robotique, 46h, niveau L3, Centrale Lille, France

Ingénieur: Kruszewski, Start & Go Conception et environnement, 6h, niveau L3, Centrale Lille, France

Ingénieur: Kruszewski, Modélisation et commande de système: application à la robotique, 17h, niveau L3, Centrale Lille, France

Ingénieur: Kruszewski, Projet recherche, 12h, niveau M1, Centrale Lille, France

Master 2: Christian Duriez, Simulation physique interactive, 24h, Université de Lille

10.2.2. Supervision

PhD in progress: Thieffry, Modélisation et contrôle de robots déformables à grande vitesse, 01/09/2016, C. Duriez, T.M. Guerra, A. Kruszewski

PhD in progress: Zhang, New methods of visual servoing for soft-robots, 01/10/2015, C. Duriez, J. Dequidt, A. Kruszewski

PhD in progress: Coevoet, Méthodes d'optimisation pour la robotique déformable, 01/05/2017, C. Duriez

PhD in Progress: F. Vanneste, Design and simulation of Soft Robots made of mesostructured materials, 01/12/2018, C Duriez, O. Goury

PhD in Progress: Walid Amehri, Property analysis of soft robots, G. Zheng, A. Kruszewski

10.2.3. Juries

Christian Duriez a participé aux jurys suivant:

PhD: Yinoussa Adagolodjo, Couplage de La robotique et de la simulation médicale pour les procédures automatisées, Université de Strasbourg, septembre 2018, M De Matelin et H. Courtecuisse (président du jury)

PhD: Inderjeet Singh, Curve Based Approach for Shape Reconstruction of Continuum Manipulators, R. Merzouki (examinateur)

PhD in progress: Camille Krewcun, Simulation personnalisée de l'implantation de stent à partir de la géométrie coronaire acquise en imagerie OCT, phD start: 1er octobre 2016 , encadrant(s): Laurent Sarry, Émilie Péry

PhD in progress: LAGNEAU Romain, Data-driven models for dexterous manipulation of robots, Maud MARCHAL, Alexandre KRUPPA

10.3. Popularization

- Damien Marchal, Olivier Goury and Christian Duriez participated in "Fête de la science: Opération Chercheurs itinérants", which involves giving scientific lectures in middle and high schools.
- Olivier Goury presneted a tutorial for the "Journée de l'Enseignement de l'Informatique et de l'Algorithmique (Journée JEIA)", which is an event for high school teachers willing to learn more about computer science.
- Olivier Goury et Thomas Morzadec took part in the "Journée RIC (Recherche - Innovation - Créativité)", happening at IMT Lille Douai. A demonstration was made for students of engineering schools and the university of Lille.

10.3.1. Interventions

- National events: Fête de la Science: participations à l'opération "chercheur itinérant".

10.3.2. Creation of media or tools for science outreach

Développement du site hands-soft-robotics. http://handsonsoftrobotics.lille.inria.fr/

FUN Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- Nathalie Mitton is a member of the Steering committee of CIoT
- Nathalie Mitton is demo/poster chair of infocom 2019
- Valeria Loscri is general co-chair of City-Wide Pervasive Environment CoWPER, in conjunction with IEEE SECON 2018, and of a Special Session on Mobile Social Networks in PIMRC 2018
- Antoine Gallais was the co-chair of IIoT day 2018

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- Antoine Gallais is TPC co-chair of CoRes 2019
- Valeria Loscri is TPC co-chair of IEEE ACM Nanocom 2019 and of IEEE ACM SmartComp in conjunction with Mobihoc 2018
- Nathalie Mitton is TPC co-chair of ICC 2019 and 2018

10.1.2.2. Member of the Conference Program Committees

- Valeria loscri is/was member in the Technical Program Committee (TPC) in IFIP/IEEE NTMS 2018, Globecom 2018-2019, CORES 2018, VTC 2018-2019, GIoTS 2018-2019, WiMob 2018, CCNC 2018-2019, ICC 2019
- Nathalie Mitton is/was in the Technical Program Committee (TPC) of Percom 2019, WCNC 2019, DCOSS 2019, CORES 2018, Infocom workshop 2018, VTC 2018, globecom 2019&2018, GIIS 2018, CSCN2018, ICC 2018, coconet 2018, adhocnow 2018
- Antoine Gallais was/is in the Technical Program Committee (TPC) of IEEE Globecom'19 and 2018, IEEE ICNC'19 and 2018, IEEE GIIS'18, IARIA INNOV'18, IEEE COMNETSAT'18, IARIA EMERGING'18, ADHOC-NOW'18, ICST Adhocnets'18
- Allan Blanchard was/is in the Technical Program Committee (TPC) of 4PAD 2018

10.1.3. Journal

10.1.3.1. Guest editorial activities

- Nathalie Mitton was (co-)editor of Sensor Special Issues of MDPI Sensors on QoS in WSN and of MDPI Future Internet WSN in Smart Agriculture
- Valeria Loscri was editor of IEEE Access Special Section on Protocols for Nanocommunication Networks, of IEEE Access Special Section on Body Area Networks and of a Special Issue on IEEE Internet of Things Journal on Recent Advances on Social Internet of Vehicles

10.1.3.2. Member of the Editorial Boards

- Nathalie Mitton is editorial board members of AHSWN since 2011
- Nathalie Mitton is editorial board member of Adhoc Networks since 2012
- Nathalie Mitton is editorial board member of IET-WSS since 2013
- Nathalie Mitton is editorial board member of ComSoc MMTC e-letter since 2014

- Nathalie Mitton is editorial board member of Wiley Transactions Emerging Telecommunications Technologies since 2016
- Nathalie Mitton is editorial board member of Wireless Communications and Mobile Computing since 2016
- Nathalie Mitton is editorial board member of MDPI Future Internet since 2018
- Valeria Loscri is editorial board member of IEEE Transactions on Nanobioscience journal since 2017
- Valeria Loscri is editorial board member of Elsevier Computer Networks journal since 2016
- Valeria Loscri is editorial board member of Robotics Software Design and Engineering of the International Journal of Advanced Robotic Systems since 2016
- Valeria Loscri is editorial board member of Elsevier Journal of Networks and Computer Applications (JNCA) journal since 2016

10.1.4. Invited Talks

- Nathalie Mitton was invited speaker at Workshop "Digital Agriculture in Africa", in Montpellier, in April 2018
- Nathalie Mitton was invited speaker at CORES conference in Roscoff, France, in May 2018
- Nathalie Mitton was invited speaker at WFCS conference in Imperia, Italy, in June 2018
- Nathalie Mitton was invited speaker at Nantes University, France, in October 2018
- Antoine Gallais was invited speaker at Innov'School Network of Things (ISNOT), Gammarth, Tunisia in April 2018
- Allan Blanchard gave an invited tutorial at ZINC 2018, Novi Sad, Serbia in June 2018
- Allan Blanchard gave an invited tutorial at HPCS 2018, Orleans, France, in July 2018
- Valeria Loscri was invited as panelist in the panel "Inspirations from wireless networks to biology" in the 3rd EU FET CIRCLE Workshop, Ghent April 2018
- Valeria Loscri was invited as panelist in the Panel New Trends in Communication and at the Doctoral Colloquium at ACM/IEEE NanoCom 2018
- Valeria Loscri has been appointed as Faculty Mentor in N2 Women meeting at ACM Mobihoc 2018
- Valeria Loscri was invited to attend the Seed meeting on Dynamical Modeling and Simulation for Molecular Communication that was held at the Embassy of France in London
- Valeria Loscri was invited speaker at the LiFi seminar in Vélizy, September 2018

10.1.5. Leadership within the Scientific Community

- Nathalie Mitton is a member of the Steering Committee of the GDR Rescom
- Valeria Loscri is a member of Social Network Technical Committee
- Valeria Loscri is a member of Emerging Technologies Initiatives for Molecular, Biological and Multi-Scale Communications (ETI-MBMC)
- Valeria Loscri is a member of the Quantum Communications & Information Technology Emerging Technical Subcommittee (QCIT)
- Valeria Loscri is a member of the "Research Group on IoT Communications and Networking Infrastructure" at ComSoc Communities

10.1.6. Scientific Expertise

- Nathalie Mitton is an elected member of the evaluation community of Inria. She has acted as a reviewer for ANRT and ANR project submissions and as an evaluator for Chilean National Science and Technology Commission (CONICYT - Chile) FONDECYT Initiation into Research 2018 projects. She is also member of the scientific committees of the competitiveness cluster of MATIKEN and for CITC (International Contactless Technologies Center). Finally, Nathalie Mitton is a member of the HCERES visiting committee for the LISIS laboratory.

- Valeria Loscri is Scientific European Responsible for Inria Lille - Nord Europe. She is reviewer in the context of ERC Consolidator Grant. She is reviewer for Equipes Associées. She has been scientific reviewer of TOP grant for senior researchers in the context of Netherlands Organisation for Scientific Research (NWO) program.
- Valeria Loscri has been external expert reviewer of proposal for grant competition at the Center for Excellence in Applied Computational Science and Engineering (CEACSE), UTC (USA).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

E-learning

Mooc, Nathalie Mitton, "Villes intelligentes : défis technologiques et sociétaux" , 5-week mooc by the IPL CityLab@Inria team, FUN, Inria, in November 2018

SPOC, Nathalie Mitton,EIT Digital "Technological challenges of participatory Smart cities", 5-week by the IPL CityLab@Inria team in November 2018

Remote curse, Nathalie Mitton, Internet of things, 5-week + face to face week in May 2018

Master: Valeria Loscri, Objets Communicants, 24h (Mineure Habitat Intelligent), Ecole des Mines de Douai, France

Master: Nathalie Mitton, Wireless sensor networks, 16h eqTD (Master MINT), Université Lille 1 and Telecom Lille 1, France

Master: Nathalie Mitton, Introduction to Internet of Things, 8h CM Ecole Centrale de Lille, France

Master: Ibrahim Amadou, Introduction to Internet of Things, 8h TP Ecole Centrale de Lille, France

Master: Ibrahim Amadou and Abdoul Aziz Mbacke, Introduction to RFID, 16h IMT Rennes, France

Master: Ibrahim Amadou, Wireless sensor networks, 16h eqTD (Master ROC), IMT, France

Bsc: Farouk Mezghani, Contactless technologies, 20h eqTD, Université de Valenciennes, France

Licence: Jean Razafimandimby, Algorithms and Programming, 30h eqTD, Université Lille 1, France

10.2.2. Supervision

PhD defended on October 18th 2018: Aziz Mbacke, Smart Deployment of heterogeneous sensors and RFID in a Smart City, Université Lille 1, 2015-2018, Nathalie Mitton and Hervé Rivano (Urbanet)

PhD defended on October 12th 2018: Jad Nassar, Ubiquitous networks for smart grids, Université Lille 1, 2015-2018, Nathalie Mitton and Nicolas Gouvy (HEI)

PhD in progress: Brandon Foubert, Communication sans fil Polymorphe pour l'Agriculture Connectée, Université Lille 1, 2018-2021, Nathalie Mitton

PhD in progress: Rodrigo Teles, Virtualizing Heterogeneous Wireless Networks with SDN for the 5G, Université Strasbourg, 2016-2019, Antoine Gallais and Fabrice Théoleyre

PhD in progress: M. Amine Falek, Optimization algorithms for personalized and dynamic multimodal itinerary planning, Université Strasbourg, 2016-2029, Antoine Gallais, Cristel Pelsser and Fabrice Theoleyre

PhD in progress: Loïc Miller, Secure work-flow access control, Université Strasbourg, 2018-2021, Antoine Gallais, Pascal Merindol and Cristel Pelsser

10.2.3. Juries

- PhD/HDR committees:
  - Antoine Gallais is/was members of the following PhD thesis committees:

  * François Lemercier, IMT Atlantique, Rennes, France, November 2018
  * Solomon Petrus le Roux, Stellenbosch University, South Africa, December 2018
  * Hugo Chelle, Universite´ de Toulouse, France, December 2018
- Valeria Loscri is/was members of the following PhD thesis committees:
  * Alexis Duque, INSA Lyon, France, October 2018
  * Óscar Alvear, Universidade Politecnica Valencia, Spain, July 2018
  * Sabrine Aroua, Université de La Rochelle, France, July 2018
  * Mohamed Abdelkrim, Université Paris Est Créteil, December 2018
- Nathalie Mitton is/was member of the following PhD thesis committees:
  * Patrick Olivier Kamgueu, Univ. de Yaounde - Univ. de Lorraine, January 2018
  * Hermes Pimenta de Moraes Junior, UTC (présidente), May 2018
  * Hamadoun Tall, Clermont Auvergne, (reviewer) May 2018
  * Marwan Ghanem, UPMC, September 2018
  * Wafa Badreddine, UPMC, (reviewer) November 2018
  * Yosra Zguira, INSA Lyon (reviewer), November 2018
  * Solomon Petrus le Roux (reviewer), Stellenbosch University, December 2018
  * Fadhlallah Baklouti, Université Bretagne Sud (reviewer), February 2019
  * M Naas, Université de Bretagne Occidentale (reviewer), February 2019
- Nathalie Mitton was a member of the HDR defense committees
  * Valeria Loscri, Université Lille 1, March. 2018
  * Fen Zhou, Université d'Avignon, Sept. 2018

- Researcher selection committees:
  - Nathalie Mitton was a member of the Professor competition selection committee at Ecole des Mines Nancy, Université Nice-Sophia Antipolis and Clermont-Ferrand
  - Nathalie Mitton was a member of the Inria chaire committee for Supelec Rennes
  - Nathalie Mitton was a member of the Assistant Professor (MdC) at Valenciennes
- Nathalie Mitton is/was reviewer of the following PhD follow-up committees:
  - Rodrigue Domgua Rodriguez, INSA Lyon
  - Yosra Zguira, INSA Lyon
  - Vaseileios Kotsiou, Université de Strasbourg
- Antoine Gallais is/was reviewer of the following PhD follow-up committees:
  - Tomas Lagos Jenschke, IMT Atlantique

10.3. Popularization

- Matthieu Berthome, Jad Nassar, Ibrahim Amadou, Antonio Costanzo and Antoine Gallais gave some talks in high schools for the "Fête de la Science" in October 2018
- Nathalie gave an interview for France Info on connected objects

GAIA Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

The GAIA team organized the 2018 edition of the *Computer Algebra in Scientific Computing* (CASC) international workshops series (17–21 September 2018). For more details, see http://www.casc.cs.uni-bonn.de/2018/.

10.1.1.1. General Chair, Scientific Chair

- Since 2018, François Boulier is a *General Chair* of CASC. See http://www.casc-conference.org/.
- A. Quadrat is a member of the *IFAC Technical Committee* "Linear Control Systems", International Federation of Automatic Control, TC2.2.

10.1.1.2. Member of the Organizing Committees

The GAIA team organized the *Computer Algebra in Scientific Computing* (CASC), University of Lille, 17–21 September 2018.

A. Quadrat is a member of the organization committee of the *Journées Nationales de Calcul Formel* (JNCF), Luminy, France, 22–26/01/2018.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

F. Lemaire was Poster Chair of the *International Symposium on Symbolic and Algebraic Computation* (ISSAC'2018) Poster Session, New York, 16–19/05/2018.

10.1.2.2. Reviewer

- Y. Bouzidi reviewed a publication for ISSAC 2018 and for TDS 2018.
- F. Lemaire reviewed a publication for CASC 2018.
- A. Quadrat reviewed two publications for ISSAC 2018.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

A. Quadrat is associate editor of *Multidimensional Systems and Signal Processing*.

10.1.3.2. Reviewer - Reviewing Activities

A. Quadrat reviewed papers for the journal *Multidimensional Systems and Signal Processing*.

10.1.4. Invited Talks

Y. Bouzidi gave the following talks:

- A Symbolic Approach for Solving Algebraic Riccati Equations, *Journées Nationales de Calcul Formel* (JNCF), CIRM, Marseille - January 22th 2018.
- Parametric study of the critical pairs of linear differential systems with commensurate delays, *Inria DISCO team-project*, Paris - April 30th 2018.
- Using symbolic computation to solve algebraic Riccati equations arising in invariant filtering, *European Control Conference*, Limassol - June 15th 2018.
- A symbolic approach for a parametric H_∞ control problem, *visualization group*, ISCD, Paris - Novembre 30th 2018.

10.1.5. Leadership within the Scientific Community

A. Quadrat co-organized with N. Yeganefar (University of Poitiers) the invited session *New Results in Multidimensional Systems Theory* at the *2018 European Control Conference*, Cyprus, June 12-15, 2018.

R. Ushirobira was co-responsible with Denis Efimov (Non-A Post, Inria) and Gilberto Pin (Electrolux Italia) of a special issue Finite-time estimation, diagnosis and synchronization of uncertain systems for the *European Journal of Control*.

10.1.6. Scientific Expertise

A. Quadrat is a member of the *Bureau du Comité des Equipes-Projets* (BCEP) and of the *Commission des Emplois de Recherche*, Inria Lille - Nord Europe.

A. Quadrat wrote a comparative report for the position "Algorithmische Algebra" (W2), University of Siegen, Germany.

10.1.7. Research Administration

- F. Boulier has been Head of the *Spécialité GIS at Polytech Lille* since June 2018.
- A. Quadrat is in charge with C. Jamroz of the *RaWeb 2018* for Inria Lille – Nord Europe.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Rosane Ushirobira taught around 90h at Polytech Lille and University of Lille (Linear algebra, analysis and logic).

10.2.2. Supervision

PhD: Guillaume Rance, "Commande H_∞ paramétrique et application aux viseurs gyrostabilisés", University Paris - Saclay, 09/07/2018, Alban Quadrat & Arnaud Quadrat & Hugues Mounier.

PhD in progress: Grace Younes, "Calcul de multiplicités de racines de polynoômes et de quasi-polynoômes", 01 /10/2018, Alban Quadrat & Yacine Bouzidi & Adrien Poteaux.

Master: Ambroise Fleury (Licence 3 ème année training), "Computation of gcd using AVX", F. Lemaire.

Master: Guillaume Maitrot (Master 2 training), "Improving the BLINEIDE library with OpenMP", F. Lemaire.

10.2.3. Juries

F. Boulier was referee of the PhD thesis of G. Rance, University Paris Orsay, 09/07/2018.

A. Quadrat was a jury member of the CRCN Inria 2018 competition for the Lille – Nord Europe center.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Since December 2103, R. Ushirobira organize the cycle "30 minutes of science", a rotating monthly seminar for all researchers at Inria LIlle. On average, 40 people participate in this seminar.

10.3.2. Education

In 2017/2018, Rosane Ushirobira was a referent researcher for *the Math en Jean program* at Arthur Rimbaud College (Villeneuve d'Ascq).

10.3.3. Internal action

Y. Bouzidi, *Symbolic-numeric method for a parametric control problem*, presentation in the *30 minutes of science Inria event*, Lille - January 10th 2018.

INOCS Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

- IWOBIP 2018, 2nd International Workshop on Bilevel Programming, Lille, France, June 2018: Luce Brotcorne, Martine Labbé.
- Operations Research 2018, Brussels, Belgium, September 2018: Bernard Fortz.

10.1.1.2. Member of the Organizing Committees

7th Winter School on Network Optimization, Estoril, Portugal, January 2018: Bernard Fortz.

International Symposium on Mathematical Programming (ISMP), Bordeaux, July 2018: Luce Brotcorne, Bernard Fortz.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

ORBEL 2018, Liège, Belgium, January 2018: Bernard Fortz

6th INFORMS Transportation Science and Logistics Society Workshop, January, 2018: Luce Brotcorne, Frédéric Semet

ROADEF2018 - 18ème Conférence de la Société Française de Recherche Opérationnelle et d'Aide à la Décision, Metz, France, February 2018: Luce Brotcorne, Bernard Fortz, Frédéric Semet

ISCO 2018: International Symposium on Combinatorial Optimization, Marrakesh, Morocco, April, 2018: Martine Labbé

Odysseus 2018, International Workshop on Freight Transportation, Cagliari, Italy, June 2018: Martine Labbé, Frédéric Semet

Matheuristics 2018, Tours, France, June 2018: Martine Labbé

EURO/ALIO International Conference 2018 on Applied Combinatorial Optimization, Bologna, June 2018: Martine Labbé

International Symposium on Mathematical Programming (ISMP), Bordeaux, July 2018: Martine Labbé (Program Committee), Frédéric Semet (Scientific Committee)

EURO 2018, European Conference of Operational Research Societies, Valencia, Spain, July 2018: Luce Brotcorne, Bernard Fortz

INFORMS Annual Meeting, Phoenix, United States, November 2018: Luce Brotcorne (cluster chair), Bernard Fortz

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

EURO Journal on Computational Optimization: Martine Labbé - Editor in chief, Bernard Fortz - Editor.

Computers and Operations Research: Luce Brotcorne - Associate editor.

INFORMS Journal on Computing: Bernard Fortz - Associate editor.

International Transactions in Operations Research: Bernard Fortz, Martine Labbé - Associate editors.

Transportation Science: Martine Labbé - Member of the Advisory Board.

10.1.3.2. Reviewer - Reviewing Activities

Annals of Operations Research, Applied Computing and Informatics, Central European Journal of Operations Research, Computers & Operations Research, Computational Optimization and Applications, Discrete Applied Mathematics, EURO Journal on Transportation and Logistics, European Journal of Operational Research, IISE Transactions, INFORMS Journal on Computing, International Journal of Management Science and Engineering Management, Mathematical Programming Computation, Networks, Omega, Operations Research, Optimization and Engineering, RAIRO - Operations Research, Transportation Science: Luce Brotcorne, Diego Cattaruzza, Bernard Fortz, Martine Labbé, Maxime Ogier, Frédéric Semet.

10.1.4. Invited Talks

XIX Latin-Iberoamerican Conference on Operations Research (CLAIO 2018), Lima, Peru, September 2018: Luce Brotcorne, EURO Plenary speaker [28].

Journées de l'optimisation, Montreal, Canada, May 2018 : Martine Labbé, Plenary Speaker [31].

10.1.5. Leadership within the Scientific Community

EURO Working Group "Pricing and Revenue Management": Luce Brotcorne - coordinator.

EURO Working Group "European Network Optimization Group (ENOG)": Bernard Fortz - coordinator.

EURO Working Group "Vehicle routing and logistics optimization (VEROLOG)": Frédéric Semet - Member of the board.

INFORMS Women in OR/MS : Luce Brotcorne - International liaison.

SIAG/Optimization Prize committee: Martine Labbé - Chair.

ORBEL (Belgian Operations Research Society): Bernard Fortz - Member of the board of administration and treasurer.

ORBEL representative for EURO and IFORS: Bernard Fortz.

CNRS GdR 3002: Operations Research: Frédéric Semet - Member of the steering committee.

10.1.6. Scientific Expertise

Scientific orientation committee of the Interuniversity Centre on Entreprise Networks, Transportation and Logistics (CIRRELT), Canada: Bernard Fortz, Frédéric Semet - Members.

Centro de Matemática, Aplicaçoes Fundamentais e Investigaçao Operacional, University of Lisbon: Martine Labbé - Member.

DFG Review Panel "Mathematics" for Clusters of Excellence, 2018: Martine Labbé - Member.

Scientific committee of France-Netherlands Exchange Program: Luce Brotcorne - Member.

Evaluation committee for Inria/MITACS Exchange Program: Luce Brotcorne - Member.

Evaluation committee COST GTRI: Luce Brotcorne - Member.

President of the FRIA PE1 - jury 1: Bernard Fortz - Chair.

Scientific board of PICOM competitiveness cluster: Frédéric Semet - Member.

Agence Nationale de la Recherche (ANR): Luce Brotcorne, Frédéric Semet - Reviewer.

Fond de Recherche Nature et Technologie du Québec: Frédéric Semet - Reviewer.

Research Council of Norway: Frederic Semet - Reviewer.

10.1.7. Research Administration

Committee for the Technological Development (CDT): Luce Brotcorne - Member.

CRIStAL: Frédéric Semet - Deputy-director.

Scientific council of Centrale Lille: Frédéric Semet - Elected member.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Bernard Fortz, Recherche Opérationnelle et Applications, 30hrs, M1, Université de Mons (campus Charleroi), Belgique.

Master: Bernard Fortz, Continuous Optimization, 24hrs, M1 & M2, Université libre de Bruxelles, Belgique.

Master: Martine Labbé, Computer science seminar, 12hrs, M2, Université libre de Bruxelles, Belgique.

Master: Frédéric Semet, Non-linear Optimization, 30hrs, M2, Centrale Lille.

Master: Frédéric Semet, Operations Research, 28hrs, M2, Centrale Lille.

Master: Luce Brotcorne, Optimisation, 14hrs, M1, Polytech Lille.

Master: Luce Brotcorne, Recherche opétrationnelle, 16hrs, M1 apprentissage, Polytech Lille.

Master: Luce Brotcorne, Diego Cattaruzza, Maxime Ogier, Frédéric Semet, Numerical Analysis and Optimization, 132hrs, M1, Centrale Lille.

Master: Diego Cattaruzza, Maxime Ogier, Object-Oriented Programming, 48hrs, M1, Centrale Lille.

Master: Diego Cattaruzza, Maxime Ogier, Operations Research, 16hrs, M1, Centrale Lille.

Master: Frédéric Semet, Large-scale optimization methods, 24hrs, M1, Centrale Lille.

Licence: Diego Cattaruzza, Maxime Ogier, Object-Oriented Programming, 36hrs, L3, Centrale Lille.

Licence: Frédéric Semet, Advanced programming and Complexity, 24hrs, L3, Centrale Lille.

Licence: Diego Cattaruzza, Maxime Ogier, Object-Oriented Programming, 40hrs, L2, Centrale Lille.

Licence: Diego Cattaruzza, Web Technologies and Multimedia, 32hrs, L2, Centrale Lille.

Licence: Bernard Fortz, Algorithmique 1, 12hrs, L1, Université libre de Bruxelles, Belgique.

Licence: Bernard Fortz, Algorithmique 2, 24hrs, L2, Université libre de Bruxelles, Belgique.

Licence: Bernard Fortz, Algorithmique et Recherche Opérationnelle, 24hrs, L3, Université libre de Bruxelles, Belgique.

Licence: Martine Labbé, Projets d'informatique 3 transdisciplinaire, 12hrs, L3, Université libre de Bruxelles, Belgique.

10.2.2. Supervision

PhD: Luciano Porretta, Models and methods for the study of genetic associations, Université libre de Bruxelles, January 2018, Bernard Fortz.

PhD in progress: Jérôme De Boeck, Optimization problems in energy, from October 2015, Bernard Fortz.

PhD in progress: Mathieu Besançon, Approche bi-niveau de réponse à la demande dans les réseaux électriques intelligents, from September 2018, Miguel Anjos, Luce Brotcorne, Frédéric Semet.

PhD in progress: Yaheng Cui, Models and methods for decentralized decision in logistics networks, from Oct 2016, Luce Brotcorne, Eric Ballot.

PhD in progress: Concepción Domínguez Sánchez, Mixed integer linear models and algorithms for pricing problems, from October 2017, Martine Labbé.

PhD in progress: Wenjuan Gu, Location routing for short and local fresh food supply chain, from Oct 2016, Maxime Ogier, Frédéric Semet.

PhD in progress: Léonard Von Niederhausern, Design and pricing of new services in energy in a competitive environment, from Oct 2015, Luce Brotcorne, Didier Aussel.

PhD in progress: Fränk Plein, Models and methods for the robust verification of booked capacities in gas networks in a decentralized setting, from October 2017, Martine Labbé.

PhD in progress: Luis Alberto Salazar Zendeja, Formulations and resolution methods for network interdiction problems, from November 2018, Diego Cattaruzza, Martine Labbé, Frédéric Semet.

PhD in progress: Yuan Yuan, Vehicle routing problems with synchronization for city logistics, from Oct 2016, Diego Cattaruzza, Frédéric Semet.

10.2.3. Juries

PhD: "Design of reliable aerospace system architecture", University of Edinburgh. Lukas Matthias Schaefer, Bernard Fortz - Reviewer.

PhD: "Fast and scalable optimization for segment routing", Université catholique de Louvain. Renaud Hartert, Bernard Fortz - Examiner.

PhD: "Network design under uncertainty and demand elasticity", Concordia University. Carlos Armando Zetina, Bernard Fortz - External examiner.

Habilitation: "Optimization for complex problems in air and rail transport", Université de Lille 1. Paola Pellegrini, Bernard Fortz - Reviewer.

Habilitation: "A journey through optimization: from global to discrete optimization and back", Université de Lorraine. Bernardetta Addis, Bernard Fortz - Reviewer, Martine labbé - Examiner.

PhD: "Design of optimal routes for vehicles and drivers", Universidad de La Laguna. Bencomo Domínguez-Martín, Martine Labbé - Reviewer.

PhD: "A comparative study of labeling algorithms within the branch-and-price framework for vehicle routing with time windows", Université de Liège. Stefano Michelini, Martine Labbé - Examiner.

PhD: "Mathematical programming models and algorithms for offshore wind park design", Technical University of Denmark. Martina Fischetti, Martine Labbé - External examiner.

Habilitation: "Linear formulations and exact algorithms for combinatorial optimization", Sorbonne Université. Pierre Fouilhoux, Martine Labbé - Examiner.

PhD: "Tactical planning on freight transport networks: service design and pricing", Université de Liège. Christine Tawfik, Luce Brotcorne - Reviewer.

PhD: "A tropical geometry and discrete convexity approach to bilevel programming", Université de Paris-Saclay. Jean-Bernard Eytard, Luce Brotcorne - Reviewer.

PhD: "Revenue management for transport service provides in physical internet: Freight carriers as case", Université de Recherche Paris Sciences et Lettres. Bin Qiao, Luce Brotcorne - Reviewer.

10.3. Popularization

F. Semet, Club Logistique et Transport, CCI St Quentin, November 2018.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

- F. Capelli: workshop organisation of *Graph and Constraints* (27/08) within the conference Constraint Programming (CP) 2018, Lille.
- F. Capelli: organisation of annual meeting of GT ALGA (Groupe de Travail Automata, Logic, Games, Algebra of CNRS) the 15th and 16th of October at Lille.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

- J. Niehren was is was chair of the Program Committee of WPTE 2018.
- J. Niehren was is was co-chair of the Program Committee of WPTE 2019.

10.1.2.2. Member of the Conference Program Committees

- F. Capelli: member of Program Committee of International Joint Conference on Artificial Intelligence (IJCAI) 2018.
- F. Capelli: member of Program Committee of workshop Quantified Boolean Formulas (QBF) within FLoC conference (Federated Logic Conference).
- F. Capelli: member of Program Committee of workshop Graph and Constraints, 2018.
- S. Tison: member of Program Committee of RAIRO ITA, 2018.
- J. Niehren: member of the Program Committee of LATA 2019.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

J. Niehren is editor of Fundamenta Informaticæ.

S. Salvati is managing editor of JoLLI (Journal for Logic, Language and Information).

S. Tison is in the editorial committee of RAIRO-ITA (Theoretical Informatics and Applications).

10.1.4. Invited Talks

- B. Guillon gave invited talks at Mid-term Meeting of ANR Delta in Bordeaux in December 2018.
- A. Lemay gave invited talks at Mid-term Meeting of ANR Delta in Bordeaux in December 2018.
- Joachim Niehren gave an invited talk at the American University of Palestine in August 2018.
- F. Capelli get invited to talk at seminars of CRIL at Lens, LACL in Créteil and VALDA in Paris.

10.1.5. Scientific Expertise

- S. Tison: member of coordinator of i-SIte ULNE, about innovation and relationship with social economical world.
- S. Tison: Head of CITC-Eurarfid.
- J. Niehren is member of the board of the committee of project-teams of Inria Lille.

10.1.6. Research Administration

- F. Capelli: Co-organizer of *Groupe de Travail* of CNRS IMIA (Informatique Mathématique Intelligence Artificielle)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

I. Boneva gives a Master 1 semester on Algorithms for databases.

C. Paperman is pedagogical responsible for Master MIASHS "parcours" WebAnalyste.

A. Lemay is pedagogical responsible for Computer Science and Numeric correspondent for UFR LEA.

J. Niehren was teaching the course "Foundations of Databases" as part of the masters 2 Mocad on Information Extraction at the University of Lille.

S. Salvati is pedagogical responsible of Master Miage FA, Lille.

S. Salvati organized the research label for Computer Science Bachelor, Lille.

S. Tison is pedagogical responsible of first year ACT Master, Lille.

10.2.2. Supervision

HdR : Aurélien Lemay, *Machine Learning Techniques for Semistructured Data*, Université de Lille, Fri 16th Nov.

PhD in progress: N. Crosetti. Privacy Risks of Aggregates in Data Centric-Workflows. Supervised by Capelli, Niehren, Ramon (Team MAGNET) and Tison.

PhD in progress: D. Gallois. Since 2015. Recursive Queries. Supervised by Bourhis and Tison.

PhD in progress: M. Sakho. Hyperstreaming Query answering on graphs. Since 2016. Supervised by Niehren and Boneva.

PhD in progress: J.M. Lozano. On data integration for mixed database formats. Supervised by Boneva and Staworko.

PhD in progress: P. Gallot. On safety of data transformations. Started on October 2017. Supervised by Lemay and Salvati.

10.2.3. Juries

S. Tison: Vice-Présidente du jury Agrégation de Mathématiques (co-pillote option D- Informatique).

S. Tison: Jury de Thèse Lucien Mousin.

S. Tison: PhD Committee of Narjes Jomaa.

F. Capelli: PhD Committee of Mikaël Monet.

J. Niehren: Habilitation Committee of Aurélien Lemay.

10.3. Popularization

10.3.1. Internal action

General Assembly of Inria Lille   Niehren presented Links work on data and knowledge bases on the Dynamic Semantic Crosswords demonstration during a general assembly of Inria Lille in July 2018.

10.3.2. Creation of media or tools for science outreach

Dynamic Semantic Crosswords   Bacquey's demonstration system on dynamic semantic crosswords is presented in the new showroom of Inria Lille in the new building Place. The demo generates dynamically crosswords while streaming Twitter feeds, depending on a semantic topic specified by the user. The specification can be given by a list of hashtags, and in the future by a XPath 3.0 query, that can be executed on streams by using Links QuiXPath tool. This illustrates the work on complex event processing by Niehren and his students during the last years.

<div align="center">

LOKI Team

</div>

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Organisation

9.1.1.1. Member of the Organizing Committees

- IHM (AFIHM): Stéphane Huot (Doctoral Consortium co-Chair), Thomas Pietrzak (Posters co-Chair)

9.1.2. Scientific Events Selection

9.1.2.1. Member of the Conference Program Committees

- CHI (ACM): Géry Casiez
- IHM (AFIHM): Thomas Pietrzak

9.1.2.2. Reviewer

- CHI (ACM): Sylvain Malacria, Mathieu Nancel, Thomas Pietrzak
- UIST (ACM): Géry Casiez, Sylvain Malacria, Mathieu Nancel, Thomas Pietrzak
- MobileHCI (ACM): Thomas Pietrzak
- ISS (ACM): Mathieu Nancel
- NordiCHI: Mathieu Nancel, Thomas Pietrzak
- Eurohaptics: Thomas Pietrzak
- IHM (AFIHM): Stéphane Huot, Mathieu Nancel
- NIME: Marcelo Wanderley
- GI: Mathieu Nancel

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- Computer Music Journal: Marcelo Wanderley

9.1.3.2. Reviewer - Reviewing Activities

- Transactions on Computer-Human Interaction (ACM): Mathieu Nancel
- Virtual Environments (Frontiers): Géry Casiez
- IEEE Access (IEEE): Géry Casiez
- Behaviour & Information Technology (Taylor & Francis): Mathieu Nancel

9.1.4. Invited Talks

- *Human-Computer Interaction: Back to the future and... forward to the past*, Insights on the FUTURE of Computing conferences, Laboratoire d'Informatique de Grenoble, Grenoble: Stéphane Huot
- *Interaction Homme-Machine : passé composé et futur simple... ou l'inverse*, Collège de France Seminar – lecture of Gérard Berry (chair Algorithms, Machines and languages), Lille: Stéphane Huot
- *The measure and compensation of latency in touch and mouse-based systems*, DGP, Toronto, Canada: Géry Casiez
- *The measure and compensation of latency in touch and mouse-based systems*, Google, Waterloo, Canada: Géry Casiez
- *Motion Capture of Music Performances: Overview of almost 2 decades of research*, RITMO International Motion Capture Workshop, Oslo, Norway: Marcelo Wanderley (Keynote Speaker)

9.1.5. Leadership within the Scientific Community

Association Francophone d'Interaction Homme-Machine (AFIHM):

- Stéphane Huot: member of the scientific council
- Thomas Pietrzak: board member and webmaster until Oct. 2018

9.1.6. Scientific Expertise

- Agence Nationale de la Recherche: Stéphane Huot (mid-term review committee member)
- CN35 AFNOR normalization committee about normalizing the French keyboard, in collaboration with Aalto University and the Max Planck Institute: Mathieu Nancel
- FWO Research Foundation - Flanders: Géry Casiez (reviewer)
- Région Aquitaine: Géry Casiez, Sylvain Malacria (reviewer)

9.1.7. Research Administration

9.1.7.1. For Inria

- International relations working group (COST-GTRI): Stéphane Huot (member)

9.1.7.2. For Inria Lille – Nord Europe

- "Bureau du comité des équipes projets" (BCEP): Stéphane Huot (member)
- Research jobs committee (CER): Sylvain Malacria (member since Jan. 2018)
- Operational legal and ethical risk assessment committee (COERLE): Stéphane Huot (local correspondent)

9.1.7.3. For the CRIStAL lab of Univ. Lille & CNRS

- Direction board: Géry Casiez (deputy director since Sept. 2018)
- Laboratory council: Géry Casiez (member until Aug. 2018)
- Computer Science PhD recruiting committee: Géry Casiez (member)

9.1.7.4. For the Université de Lille

- Coordinator for internships at IUT A: Géry Casiez
- Computer Science Department council: Thomas Pietrzak

9.1.8. Hiring committees

- Inria's eligibility jury for Junior Researcher Positions (CRCN) in Lille: Stéphane Huot (vice-president)
- Université de Lille hiring committee for a Computer Science Assistant Professor position: Géry Casiez (president)
- Université Paris-Saclay hiring committees for Computer Science Assistant Professor positions: Géry Casiez (member), Stéphane Huot (member)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

DUT Informatique: Géry Casiez (38h), Stéphane Huot (28h), *IHM*, 1st year, IUT A de Lille - Univ. Lille

Licence Informatique: Thomas Pietrzak, *Logique*, 52.5h, L3, Univ. Lille

Licence Informatique: Thomas Pietrzak, *Automates et Langages*, 36h, L3, Univ. Lille

Licence Informatique: Thomas Pietrzak, *Image et Interaction 2D*, 10.5h, L3, Univ. Lille

Licence Sciences pour l'Ingénieur (SPI): Sylvain Malacria, *Introduction à l'Interaction Homme Machine*, 30h, L3, Institut Villebon Georges Charpak

Cursus ingénieur: Sylvain Malacria (10h), *3DETech*, IMT Lille-Douai

Master Informatique: Thomas Pietrzak (18h), *NIHM*, M2, Univ. Lille

Master Informatique: Sylvain Malacria (20h), *NIHM*, M2, Univ. Lille

Master Informatique: Géry Casiez (4h), Thomas Pietrzak (4h), *Projets*, M2, Univ. Lille

Master Informatique: Thomas Pietrzak (34.5h), Sylvain Malacria (34.5), *IHM*, M1, Univ. Lille

Master Informatique: Mathieu Nancel, *Evaluation*, 4h, M2, Univ. Lille

Master: Thomas Pietrzak (10.5h), *3DETech : 3D Digital Entertainment Technologies*, M2, IMT Lille Douai

Doctorat: Géry Casiez, *Expériences contrôlées et analyses statistiques*, École doctorale SPI

Master & Doctorat: Marcelo Wanderley (39h), MUMT-619 Input Devices for Musical Expression

9.2.2. Supervision

PhD: Amira Chalbi, *Understanding and Designing Animations in the User Interfaces*, defended in April 2018 [11], advised by Nicolas Roussel & Fanny Chevalier

PhD in progress: Marc Baloup, *Interaction with avatars in immersive virtual environments*, started Oct. 2018, advised by Géry Casiez & Thomas Pietrzak

PhD in progress: Axel Antoine, *Helping Users with Interactive Strategies*, started Oct. 2017, advised by Géry Casiez & Sylvain Malacria

PhD in progress: Nicole Ke Chen Pong, *Understanding and Improving Users Interactive Vocabulary*, started Oct. 2016, advised by Nicolas Roussel, Sylvain Malacria & Stéphane Huot

PhD in progress: Thibault Raffaillac, *Languages and System Infrastructure for Interaction*, started Oct. 2015, advised by Stéphane Huot

PhD in progress: Hakim Si Mohammed, *Improving Interaction Based on a Brain-Computer Interface*, started Oct. 2016, advised by Anatole Lecuyer, Ferran Argelaguet, Géry Casiez & Nicolas Roussel (in Rennes)

PhD in progress: Jeronimo Barbosa, *Design and Evaluation of Digital Musical Instruments*, McGill University, started in 2013, advised by Marcelo Wanderley & Stéphane Huot (in Montréal)

9.2.3. Juries

Jeff Avery (PhD, Univ. Waterloo, Canada): Géry Casiez, examiner

Antoine Costes (PhD, Univ. Bretagne Loire): Géry Casiez, reviewer

Bruno Fruchard (PhD, Univ. Paris-Saclay): Géry Casiez, reviewer

Julien Gori (PhD, Univ. Paris-Saclay): Stéphane Huot, examiner

Wanyu Liu (PhD, Univ. Paris-Saclay): Géry Casiez, reviewer

Gary Perelman (PhD, Univ. Toulouse III): Géry Casiez, reviewer

Houssem Saidi (PhD, Univ. Toulouse III): Stéphane Huot, reviewer

9.2.4. Mid-term evaluation committees

- Jeff Avery (PhD, Univ. Waterloo, Canada): Géry Casiez
- Delphine Poux (PhD, Univ. Lille): Géry Casiez
- Marc Teyssier (PhD, Univ. Paris-Saclay): Géry Casiez

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

AIRLab selection committee for the funding of art and science projects, Stéphane Huot (representative for Inria Lille – Nord Europe)

9.3.2. Articles and contents

2067 ou la disparition des interfaces humains-machines, interview in an Inriality and Usbek & Rica joint article, Stéphane Huot

Le raccourci clavier: Une meilleure interaction entre l'Homme et la machine ?, in Lille by Inria N°7, Sylvain Malacria

9.3.3. Education

Structuration et fonctionnement de la recherche, training session for academic librarians at Média-Lille, Thomas Pietrzak

9.3.4. Internal action

Chorégraphie d'animation : structurer pour mieux comprendre, talk at Inria Lille – Nord Europe "13:45", Amira Chalbi

Reliability and Perceived Reliability in Ubiquitous Gestural Input, talk at Inria Lille – Nord Europe "30 minutes de sciences", Edward Lank

The TurboTouch latency compensation method, demonstration at the opening ceremony of Bâtiment Place (Inria Lille – Nord Europe), Mathieu Nancel

MAGNET Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- AURÉLIEN BELLET was a member of the organization committee of the PPML workshop at NeurIPS'18. [0] The workshop was on Privacy Preserving Machine Learning and had among its invited speakers Shafi Goldwasser (Gödel and Turing Prize), Adam Smith (Gödel Prize).
- AURÉLIEN BELLET co-organized the kick-off workshop of the associated team PAD-ML with the Alan Turing Institute. [0] The workshop was held at Inria Lille and featured speakers from MAGNET and the Alan Turing Institute.

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- AURÉLIEN BELLET served as PC member for AISTATS'19, ICML'18, NIPS'18, IJCAI'18 Sister Conference, PiMLAI workshop at ICML'18, and CAP'18.
- PASCAL DENIS served as PC member for ACL'18, CONLL'18, EMNLP'18, NAACL'18, NIPS'18, IJCAI-ECAI'18 (Senior PC), CRAC Workshop at NAACL'18.
- MARC TOMMASI served as PC member for AAAI'18, ICML'18, CAP'18, IJCAI'18 (Senior PC chair), AISTATS'18, NIPS'18.
- JAN RAMON served as PC member for AAAI'19, AISTATS'19, IEEE-BigData'18, CIKM'18, DS'18, ECML/PKDD'18, EKAW'18, IEEE-ICDM'18, ICML'18, ILP'18, LOD'18, MLG'18, NIPS'18, SDM'18, TDLSG'18.
- MIKAELA KELLER served as PC member for ICML'18, CAP'18.
- RÉMI GILLERON served as PC member for NIPS'18, CAP'18, AISTATS'19 and ICLR'19.

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

- AURÉLIEN BELLET was reviewer for Machine Learning Journal and IEEE/ACM Transactions on Networking.
- PASCAL DENIS was reviewer for Computational Linguistics, IJCAI-ECAI Surveys, and Language Resources and Evaluation.
- JAN RAMON was member of the editorial boards of Machine Learning Journal (MLJ) and Data Mining and Knowledge Discovery (DMKD). JAN RAMON was reviewer for among others JMLR, TPAMI, JIIS.

10.1.4. Invited Talks

- AURÉLIEN BELLET gave invited talks at the EPFL-Inria 2018 workshop [0] and the Journées de Statistique 2018 (session SSFAM). [0]
- AURÉLIEN BELLET was invited to talk at the seminars of Inria WIDE, Télécom ParisTech, Statistics Seminar of Paris 6/7, CMLA (ENS Paris Saclay) and Naver Labs Europe.
- PASCAL DENIS gave an invited talk at the Séminaire Langage, SCALab, Université de Lille, 26/01/18.

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[0]https://neurips.cc/Conferences/2018/Schedule?showEvent=10934
[0]https://team.inria.fr/magnet/workshop-on-privacy-aware-distributed-machine-learning/
[0]https://project.inria.fr/epfl-Inria/workshops/workshop-2018/
[0]http://jds2018.sfds.asso.fr/

10.1.5. Scientific Expertise

- AURÉLIEN BELLET was a member of the jury for the Gilles-Kahn PhD award of the French Society of Computer Science (SIF), sponsored by the French Academy of Sciences. [0]
- AURÉLIEN BELLET acted as external reviewer for the French National Research Agency (ANR), track "Projets de Recherche Collaborative – International".
- JAN RAMON was an external reviewer for the Swiss National Science Foundation (SNF).
- JAN RAMON was an external reviewer for the Vienna Science and Technology Fund (WWTF).
- JAN RAMON acted as an expert for the H2020 CoE and IMI programs.

10.1.6. Research Administration

- MIKAELA KELLER is member of the Conseil du laboratoire CRIStAL.
- FABIEN TORRE is member of the bureau du Conseil National des Universités (section 27).
- PASCAL DENIS served as a member of the CNRS Pre-GDR NLP Group.
- PASCAL DENIS was elected to Comité National du CNRS, section 34 (Sciences du Langage).

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Licence SHS: JOËL LEGRAND, Traitement de textes et tableur, 10h, L1, Université Lille.

Licence SHS: MARC TOMMASI, Langages du Web, 24h, L2, Université Lille.

Licence MIASHS: MIKAELA KELLER, Python 1, 40h, L1, Université Lille.

Licence MIASHS: MARC TOMMASI, Codage et représentation de l'information, 48h, L1, Université Lille.

Licence MIASHS: MIKAELA KELLER, Codage et représentation de l'information, 42h, L1, Université Lille.

Licence SoQ (SHS): MIKAELA KELLER, Algorithmique de graphes, 24h, L3, Université Lille.

Licence MARC TOMMASI C2i 12h, Université Lille.

Licence MARC TOMMASI Humanités numériques - Découvrir et faire découvrir la programmation, 20h, Université Lille/

Master MIASHS: MIKAELA KELLER, Algorithmes fondamentaux de la fouille de données, 60h, M1, Université Lille.

Master MIASHS: JOËL LEGRAND, Apprentissage et émergence de comportements, 30h, M2, Université Lille.

Master Data Analysis & Decision Making: AURÉLIEN BELLET, Machine Learning, 12h, Ecole Centrale de Lille.

Master / Master Spécialisé Big Data: AURÉLIEN BELLET, Advanced Machine Learning, 15h, Télécom ParisTech.

Formation continue (Certificat d'Études Spécialisées Data Scientist): AURÉLIEN BELLET, Supervised Learning and Support Vector Machines, 17.5h, Télécom ParisTech.

Master Informatique: PASCAL DENIS, Fondements de l'Apprentissage Automatique, 46h, M1, Université de Lille.

10.2.2. Supervision

Postdoc: MELISSA AILEM, InriaSiliconValley postdoctoral grant, supervised by AURÉLIEN BELLET, MARC TOMMASI, PASCAL DENIS and FEI SHA (University of Southern California).

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[0]https://www.societe-informatique-de-france.fr/recherche/prix-de-these-gilles-kahn/

Postdoc: Bo Li, supervised by Pascal Denis on ANR REM, Model Sense Disambiguation, since December 2017.

PhD: Géraud Le Falher, Characterizing edges in signed and vector-valued graphs. April 16th 2018, Marc Tommasi and Fabio Vitale and Claudio Gentile.

Phd: Ashraf M. Kibriya, Mining Frequent Patterns in Large Networks, June 2018, Jan Ramon.

PhD in progress: Mathieu Dehouck, Graph-based Learning for Multi-lingual and Multi-domain Dependency Parsing, since Oct 2015, Pascal Denis and Marc Tommasi.

PhD in progress: Onkar Pandit, Graph-based Semi-supervised Linguistic Structure Prediction, since Dec. 2017, Pascal Denis, Marc Tommasi and Liva Ralaivola (University of Marseille).

PhD in progress: Mariana Vargas Vieyra, Adaptive Graph Learning with Applications to Natural Language Processing, since Jan. 2018. Pascal Denis and Aurélien Bellet and Marc Tommasi.

PhD in progress: Brij Srivastava, Representation Learning for Privacy-Preserving Speech Recognition, since Oct 2018 Aurélien Bellet and Marc Tommasi and Emmanuel Vincent.

PhD in progress: Mahsa Asadi, On Decentralized Machine Learning, since Oct 2018. Aurélien Bellet and Marc Tommasi.

PhD in progress: Nicolas Crosetti, Privacy Risks of Aggregates in Data Centric-Workflows, since Oct 2018. Florent Capelli and Sophie Tison and Joachim Niehren and Jan Ramon.

PhD in progress: Robin Vogel, Learning to rank by similarity and performance optimization in biometric identification, since 2017 (CIFRE thesis with IDEMIA and Télécom ParisTech). Aurélien Bellet, Stéphan Clémençon and Anne Sabourin.

10.2.3. Juries

- Aurélien Bellet was member of the PhD jury of Guillaume Papa (Télécom ParisTech), Wenjie Zheng (Sorbonne Université), Michael Blot (Sorbonne Université).
- Marc Tommasi was member of the Phd jury of Gaëtan Hadjeres (*Rapporteur*), Alexandre Bérard (*Head*), Olivier Ruas (*Rapporteur*), Valentina Zantedeschi.
- Pascal Denis was *rapporteur* on the Phd jury of Elena Knyazeva, Université Paris-Saclay.
- Mikaela Keller was member of the recruitment committee for Assistant Professors in Computer Science at Université of Lille and at Université de St-Étienne.
- Mikaela Keller was member of the Phd jury of Damien Fourure (Université de St-Étienne) and of the HDR jury of Renaud Lopes (CHRU Lille).
- Rémi Gilleron was head of the PhD jury of Romain Warlop (Université de Lille).
- Pascal Denis was a member of hiring committee for Junior Research Scientist at Inria Lille.
- Marc Tommasi was member of the recruitment committee Assistant Professors in Computer Science at Université of Lille and for professor position at INSA de Lyon.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- Aurélien Bellet is the scientific mediation contact for Inria Lille center.
- Pascal Denis served as committee member on the Inria Lille Commission Emploi Recherche (CER).
- Pascal Denis also served as committee member on Commission de Développement Technologique (CDT).

- PASCAL DENIS is administrator of Inria membership to Linguistic Data Consortium (LDC).

10.3.2. Articles and contents

- AURÉLIEN BELLET and MARC TOMMASI provided expertise for an upcoming TV program on Arte about new technologies.

10.3.3. Interventions

- National events: JAN RAMON and MARC TOMMASI participate to a round-table meeting at the *Fête des libertés numériques* for the RGPD day [0].

- In educational institutions: MARC TOMMASI gave a talk on privacy and machine learning in Journées polytech [0].

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[0]https://www.meshs.fr/page/donnees_personnelles_et_droits_et_libertes_numeriques
[0]http://www.polytech-lille.fr/big-data-machine-mearning-p11419.html#.WqlHjExFxPb

<p style="text-align: center;">**MEPHYSTO-POST Team**</p>

6. Dissemination

6.1. Promoting Scientific Activities

6.1.1. Scientific Events Organisation

6.1.1.1. Member of the Organizing Committees

A. Hardy co-organized the "Semaine d'Etude Math-Entreprise Hauts de France 2018" (Lille).

6.1.2. Journal

6.1.2.1. Reviewer - Reviewing Activities

- S. De Bièvre served as reviewer for J. Math. Phys., Ann. Institut H. Poincaré, J. Stat. Phys. in 2018.
- G. Dujardin served as reviewer for APNUM and Numer. Math. in 2018.
- A. Hardy served as reviewer for Communications in Pure and Applied Mathematics and Annals of Applied Probability in 2018.
- M. Simon was reviewer for Markov Processes and Related Fields, and Annales de L'I.H.P. Probabilités et Statistiques in 2018.

6.1.3. Invited Talks

A. Hardy was invited to give several talks in 2018, including:

- (May 2018) Workshop "random matrices and their applications", Kyoto university (Japan)
- (April 2018) Groupe de travail "Probas du vendredi" de Jussieu, Paris
- A. Hardy was invited at a "réunion interne de l'Académie des Science" entitled "Le renouveau des processus ponctuels déterminantaux, des fermions à la statistique appliquée".

M. Simon was invited to give several talks in 2018, including:

- (April 2018) Workshop of the Simons Semester "PDE/SPDE-s, Functional Inequalities", Banach Center, Poznan (Poland)
- (August 2018) Journées "Modélisation Aléatoire et Statistique" of the "Société de Mathématiques Appliquées et Industrielles", Dijon (France)
- (November 2018) Weekly Probability Seminar at University of Bath (England)
- (December 2018) Weekly Probability Seminar in Lyon (France).

6.1.4. Research Administration

G. Dujardin is a member of Inria Evaluation Committee.

6.2. Teaching - Supervision - Juries

6.2.1. Teaching

Licence: G. Dujardin, "Calcul Différentiel et Intégral", 30h, L2, Université Libre de Bruxelles, Belgique.

Master: G. Dujardin, "Analyse Fonctionelle", 30h, M1, Université Libre de Bruxelles, Belgique.

Master: G. Dujardin, "Vortex dans les condensats de Bose–Einstein en rotation", 20h, M2, Université de Lille, France.

6.2.2. Supervision

HdR: Guillaume Dujardin, Contribution à l'analyse numérique de problèmes d'évolution : comportements asymptotiques et applications à l'équation de Schrödinger, Université de Lille, November 12th 2018 [3].

6.2.3. Juries

G. Dujardin and M. Simon participated in the jury of the "Agrégation externe de mathématiques" in 2018.

G. Dujardin took part in the hiring committees of Junior Scientists for Inria Paris, Inria Saclay and in the final admission committee in 2018.

M. Simon was member of the jury of the PhD thesis of J. Roussel which was defended in November 2018 at École des Ponts (Marne-la-Vallée, France) and is entitled *Theoretical and numerical analysis of non-reversible dynamics in computational statistical physics*.

6.3. Popularization

6.3.1. Interventions

- M. Simon participated in the local program "Chercheurs itinérants", and gave several lectures directed to high-school students.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Pascal Germain and Benjamin Guedj are the organizers of the https://modal.lille.inria.fr/wikimodal/doku.php?id=seminarsModal team scientific seminar.

Sophie Dabo-Niang is a co-organizer of the 2nd Conference on Econometrics for Environment.

Sophie Dabo-Niang, Cristian Preda and Vincent Vandewalle are the organizers of a session on "Functional Data Analysis" for the conference COMPSTAT 2018.

Vincent Vandewalle is the organizer of a session on advances in model based clustering for the conference ERCIM 2018.

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Sophie Dabo-Niang is the chair of the Scientific Committee of CIMOM18.

10.1.2.2. Member of the Conference Program Committees

Christophe Biernacki is a member of the program committee of MBC2, an international workshop on Model-Based Clustering and Classification (http://mbc2.unict.it).

Cristian Preda was a member of the Scientific Committee of the 9th International Workshop on Applied Probability, IWAP 2018, 18-21 June Budapest, Hungary (https://iwap2018.com).

10.1.2.3. Reviewer

Pascal Germain acted as a reviewer for NIPS 2018, ICML 2018, ICLR 2018, CAp 2018.

Benjamin Guedj served as a reviewer for the top-tier conferences in machine learning ALT 2018, AISTATS 2018, NIPS 2018, ICML 2018, ICLR 2018. He also served as a reviewer for journals (Electronic Journal of Statistics, Journal of Machine Learning Research).

Sophie Dabo-Niang acted as a reviewer for JNP, JSPI, JRSSB, Spatial Statistics, Journal of SFDS, JMVA, ...

Christophe Biernacki acted as a reviewer for a dozen international statistical journals (CSDA, STCO, JMLR, IEEE PAMI, ...).

Serge Iovleff acted as a reviewer for Journal of Statistics and Computing.

Vincent Vandewalle acted as a reviewer for Statistics in Medicine, ADAC and Journal de la SFdS.

Alain Celisse acted as a reviewer for the Annals of Statistics, Bernoulli, JMLR, EJS, JSPI, Artificial Intelligence, ...

Cristian Preda acted as a reviewer for TEST, MCAP, JASA and Bernoulli.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Christophe Biernacki is an Associate Editor of the North-Western European Journal of Mathematics (NWEJM) and for Frontiers on the topic "Computational Methods for Data Analytics". He is also a Guest Editor for the Special Issue on Innovations in Model-Based Clustering and Classification of the journal Advances Data Analysis and Classification (ADAC).

Cristian Preda is an Associate editor of the Methodology and Computing in Applied Probability Journal.

10.1.4. Invited Talks

Christophe Biernacki gave several invited talks:

- One talk at the international conference Compstat 2018
- Four talks at the Summer School on Clustering, Data Analysis and Visualization of Complex Data, May 2018, Catania, Italy [21] [22] [23] [30]
- Two talks at the Research Summer School on Statistics for Data Science – S4D, June 15th-22th 2018, Caen, France [32] [31]
- One talk at the international conference ERCIM 2018 [33]

Vincent Vandewalle:

- Invited talk at the international conference Compstat 2018 [25]
- Invited talk at the international conference ERCIM 2018
- Seminar of the EA 2694 (Université de Lille), Lille, France

Alain Celisse:

- ERCIM, Pise, 15 December 2018
- IWAP, Budapest, July 2018
- WeierstraßInstitute, Berlin, 2018

Pascal Germain:

- Journée Lilloise de Probabilité et Statistiques, Lille, France, 22 June, 2018
- Séminaire de l'équipe PS, Laboratoire Painlevé (University of Lille), Villeneuve d'Ascq France, 9 May, 2018

Benjamin Guedj:

- December 2018, GreekStochastics κ , Athens, Greece
- December 2018, 11th International Conference of the ERCIM working group on Computational and Methodological Statistics (CMStatistics 2018) (invited talk), Pisa, Italy
- September 2018, 2nd Italian-French Statistics Seminar (invited talk), Grenoble, France
- June 2018, 2nd annual congress of the French Mathematical Society (invited talk), Lille, France

Cristian Preda:

- One-Dimensional Discrete Scan Statistics Associated to Some Dependent Models, 5th Stochastic Modeling Techniques and Data Analysis International Conference. 12 - 16 June 2018, Chania, Crete, Greece

10.1.5. Leadership within the Scientific Community

Sophie Dabo-Niang is vice-chair of EMS-CDC.

Till May 2018, Christophe Biernacki was the president of the data mining and learning group of the French statistical association (SFdS, http://www.sfds.asso.fr/).

Since May 2018, Benjamin Guedj has served as president of the Machine Learning and Artificial Intelligence group (MALIA) of the French Statistical association (SFdS, http://www.sfds.asso.fr/).

Since 2017, Benjamin Guedj has been serving as a member of the boards of SFdS and AMIES.

10.1.6. Scientific Expertise

Guillemette Marot reviewed one project as an expert for the ANR and another one for ANSES.

10.1.7. Research Administration

Sophie Dabo-Niang is in charge of the MeQAME axis of the laboratory LEM, CNRS 9221.

Christophe Biernacki has been "Délégué Scientifique" of the Inria Lille center since June 2017.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Sophie Dabo-Niang is teaching

> Master: Spatial Statistics, 24h, M2, University of Lille, France
>
> Master: Advanced Statistics, 24h, M2, University of Lille, France
>
> Master: Multivaraite Data Analyses, 24h, M2, University of Lille, France
>
> Licence: Probability, 24h, L2, University of Lille, France
>
> Licence: Multivariate Statistics, 24h, L3, University of Lille, France

Guillemette Marot is teaching:

> Licence: Biostatistics, 12h, L1, University of Lille Droit et Santé, France
>
> Licence: Health care Informatics, 24h, L2, University of Lille Droit et Santé, France
>
> Master: Biostatistics, 45h, M1, University of Lille Droit et Santé, France
>
> Master: Supervised classification, 20h, M1, Polytech Lille, France
>
> Doctorat: Data analysis with R, 7h, University of Lille Droit et Santé, France
>
> Doctorat: RNA-Seq analysis, 12h, University of Lille Droit et Santé, France

Serge Iovleff is teaching

> Licence: Mathématiques discrètes, 68h, University of Lille, DUT Informatique
>
> Licence: Modélisation mathématique, 14h, University of Lille, DUT Informatique
>
> Licence: Algèbre linéaire, 32h, University of Lille, DUT Informatique
>
> Licence: Analyse et méthodes numériques, 56h, University of Lille, DUT Informatique
>
> Licence: R.O. et aide à la décision, 32h, University of Lille, DUT Informatique
>
> Formation Continue: Modélisation, 10h, University of Lille, DUT Informatique
>
> Master: Introduction to statistics, 16h, University of Lille

Cristian Preda is teaching

> Licence: Linear Regression, 24h, L3, University of Lille, France
>
> Master: Advanced Statistics, 24h, M1, University of Lille, France
>
> Master: Biostatistics, 10h, M2, University of Lille, France
>
> Master: Experimental Designs, 24h, M2, University of Lille, France

Alain Celisse is teaching

> Licence: Graphes et langages, 24h, L3, University of Lille, France
>
> Licence: Probabilités et statistique, 136h, L3, University of Lille, France
>
> Formation continue: Probabilités et statistique, 32h, L3, University of Lille, France

Pascal Germain is teaching

> Master: Introduction aux réseaux de neurones, 30h, M2, University of Lille, France

Benjamin Guedj is teaching

> Master: Bayesian Learning, 10h, M2, Centrale Lille, France

10.2.2. Supervision

PhD in progress: Yaroslav Averyanov, November 2017, supervision: Alain Celisse.

PhD in progress: Anne-Lise Bedenel, June 2015, supervision: Christophe Biernacki, Laetitia Jourdan.

PhD in progress: Adrien Ehrhardt, June 2016, supervision: Christophe Biernacki, Philippe Heinrich and Vincent Vandewalle.

PhD defended: Le Li, November 2014–November 2018, supervision: Benjamin Guedj.

PhD in progress: Arthur Leroy, November 2017, supervision: Benjamin Guedj.

PhD in progress: Margot Selosse, October 2017, Christophe Biernacki and Julien Jacques.

PhD in progress: Maxime Baelde, January 2016, Christophe Biernacki and Raphaël Greff.

PhD in progress: Hélène Sarter, Outils statistiques pour la sélection de variables et l'intégration de données "cliniques" et "omiques" : développement et application au registre EPIMAD, December 2016, Corinne Gower and Guillemette Marot.

10.2.3. Juries

Pascal Germain was an examiner at the PhD defense of Valentina Zantedeschi, University Jean Monnet of Saint-Etienne, December 18, 2018.

Benjamin Guedj served as a jury member for the PhD defense of Mahmoud Albardan, Univ. Lille, October 2018.

Sophie Dabo-Niang was a referee at the HDR defense of Tristan Kenga Kiesse, University of Rennes 1, October 22, 2018.

Sophie Dabo-Niang was a referee at the PhD defense of Ousmane Cisse, University Paris 1, December 11th, 2018, and of Julien Ndrin, University of Abidjan (Côte-d'Ivoire), April, 19th, 2018.

Sophie Dabo-Niang was a referee of the PhD dissertation of Javier Álvarez Lièbana, University of Granada (Spain), April, 2018.

Christophe Biernacki acted as a reviewer for PhD theses and one HdR defense. He also acted as an examinator for one PhD thesis and for one HdR defense.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Guillemette Marot is responsible of bilille, the bioinformatics and bioanalysis platform of Lille. More information about the platform is available at https://wikis.univ-lille.fr/bilille/.

Benjamin Guedj is an appointed deputy member of CLHSCT (Inria LNE).

Benjamin Guedj is an elected member of the Evaluation Committee (CE, Inria).

10.3.2. Internal action

- Pascal Germain gave a talk at the "30 minutes de sciences" seminar of Inria Lille (21/03/2018).
- Pascal Germain gave a talk vulgarizing his work at the "Café des sciences" of Inria Rocquencourt (13/11/2018).
- Guillemette Marot gave a talk at the "30 minutes de sciences" seminar of Inria Lille (21/12/2018).

NON-A POST Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events Selection

9.1.1.1. Member of the Conference Program Committees

- Richard J.-P., EUCA-IEEE ECC, Limassol, Cyprus
- Richard J.-P., IFAC TDS, Budapest, Hungary
- Richard J.-P., IARA VEHICULAR, Venice, Italy
- Efimov D., IFAC CHAOS, Eindhoven, Netherlands
- Efimov D., IFAC MICNON, Guadalajara, Mexico

9.1.1.2. Reviewer

The members of the team serve as reviewers to all major conferences in the field: IEEE CDC, ECC, ACC *etc*.

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- Polyakov A., International Journal of Robust and Nonlinear Control
- Polyakov A., Journal of Optimization Theory and Applications
- Efimov D., IFAC Journal on Nonlinear Analysis: Hybrid Systems
- Efimov D., Asian Journal of Control
- Efimov D., IEEE Transactions on Automatic Control

9.1.2.2. Reviewer - Reviewing Activities

The members of the team serve as reviewers to all major journals in the field: IEEE Trans. Automatic Control, Automatica, Systems & Control Letters, SIAM Journal on Optimization and Control, Int. Journal of Robust and Nonlinear Control *etc*.

9.1.3. Research Administration

- Richard J.-P., Investigator for the CNRS FR TTM
- Efimov D., Chair of EECI PhD Award

<div align="center">

RAPSODI Project-Team

</div>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organization

10.1.1.1. General Chair, Scientific Chair

Four scientific events were organized by RAPSODI members in the framework of the LabEx CEMPI thematic semester on Numerical Analysis and PDEs:

- the Mathematics-Enterprises Study Week, co-organized at LILLIAD Learning Center by E. Creusé from January 29 to February 2;
- the third edition of the ABPDE conference (on Asymptotic Behavior of systems of PDEs arising in physics and biology), co-organized at LILLIAD Learning Center by C. Cancès, C. Chainais-Hillairet, I. Lacroix-Violet, and T. Rey on August 28-31;
- the second edition of the One-day conference on Calculus of Variations, co-organized at Laboratoire Paul Painlevé by I. Lacroix-Violet and B. Merlet on October 12;
- the fifth edition of the Lille days on Numerical Analysis (dedicated to domain decomposition and its applications to PDEs), co-organized at Laboratoire Paul Painlevé by C. Calgaro Zotto and E. Creusé on November 13-14.

C. Cancès co-organized a research school on Mathematics for Nuclear Energy at the Roscoff Marine Station on July 2-6, in partnership with the GdR MaNu. C. Chainais-Hillairet was part of the scientific board for this event.

In the CANUM (national NUMerical Analysis Congress) at Cap d'Agde from May 28 to June 1, three mini-symposia were organized by members of the team: one by C. Cancès on cross-diffusion systems, one by S. Lemaire on polytopal discretization methods, and one co-organized by T. Rey on kinetic models.

E. Creusé co-organized the Maths Jobs Forum that was held in Paris on December 13.

A. Zurek co-organized the Young Mathematicians Regional Tournament that was held in Laboratoire Paul Painlevé on April 14-15.

10.1.1.2. Member of the Organizing Committees

The whole team RAPSODI was involved in the organization of the ABPDE III conference.

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

C. Chainais-Hillairet is a member of the editorial board of the North-Western European Journal of Mathematics and of the International Journal on Finite Volumes.

10.1.2.2. Reviewer - Reviewing Activities

RAPSODI team members are regular reviewers for all the main international journals in numerical analysis and PDEs.

10.1.3. Invited Talks

C. Cancès was an invited speaker in the International workshop on PDEs, optimal transport, and applications, held on October 17-20 in Essaouira. He was also one of the speakers in the mini-symposium on polytopal discretization methods organized by S. Lemaire at CANUM (Cap d'Agde, May 28-June 1). He finally gave several seminars in Amiens, Orsay, Strasbourg, and Munich.

C. Chainais-Hillairet was invited to give a talk in a mini-symposium on finite volume methods at the fifteenth edition of the International Conference Zaragoza-Pau on Mathematics and its Applications held in Jaca on September 10-12. She also gave a seminar in Lyon (ICJ).

B. Gaudeul presented a poster at the AMaSiS (Applied Mathematics and Simulation for Semiconductors) conference held in Berlin on October 8-10.

M. Herda gave a talk in the same conference in Berlin, and another one for the Day of the Nord-Pas-de-Calais Mathematics Research Federation on October 3 in Lille. He was also one of the speakers in the mini-symposium on kinetic models co-organized by T. Rey at CANUM (Cap d'Agde, May 28-June 1).

I. Lacroix-Violet gave several seminars in Marseille (I2M), Dijon (IMB), Montpellier (IMAG), and Rennes.

S. Lemaire was invited to give a talk in a mini-symposium on polytopal discretization methods in the biennial Congress of the Italian Society of Applied and Industrial Mathematics (SIMAI) held in Rome on July 2-6. He also gave two seminars in Montpellier (IMAG), and Inria Paris, and gave a talk for the ANEDP team day at the Laboratoire Paul Painlevé.

D. Maltese gave a talk at CANUM (Cap d'Agde, May 28-June 1).

B. Merlet was an invited speaker in the congress Geometric Measure Theory in Verona held on June 11-15, and in the Workshop in Calculus of Variations organized at Paris-Diderot on June 25-27.

T. Rey was an invited speaker for the MAFRAN Days (Mathematical Frontiers in the Analysis of Many-particle Systems) held in Cambridge on September 24-26, and in the mini-workshop Innovative Trends in the Numerical Analysis and Simulation of Kinetic Equations organized in Oberwolfach on December 16-22. He also gave several seminars in Montpellier (IMAG), Paris-Dauphine (CEREMADE), Imperial College London, and Paris-Descartes.

A. Zurek was invited to give a talk in a special session on the mathematical problems arising from materials and biological science in the twelfth edition of the AIMS Conference on Dynamical Systems, Differential Equations, and Applications held in Taipei on July 5-9. He also presented a poster at CANUM (Cap d'Agde, May 28-June 1).

10.1.4. Research Administration

C. Cancès is the head of the MaNu research group (GdR MaNu) funded by the Institute for Mathematical Sciences and its Interactions (INSMI) of the French National Center for Research (CNRS).

E. Creusé has in charge to develop some actions promoted by AMIES (Agency for the Mathematics in Interaction with the Enterprise and the Society). More particularly, his action in 2018 was devoted to several characteristic points: management of some PEPS (First Support for Exploratory Projects), discussions to initiate collaborations between academic researchers in mathematics and industrial partners, participation to the monthly AMIES meeting, organization of the Mathematics-Enterprises Study Week in Lille in January as well as of the Maths Jobs Forum in Paris in December.

I. Lacroix-Violet, B. Merlet, and T. Rey are elected members of the Conseil du Laboratoire Paul Painlevé. I. Lacroix-Violet is also a member of the Jury de domaine.

T. Rey is in charge of the organization of the weekly seminar of the ANEDP team of the Laboratoire Paul Painlevé. He is also a member of the team of the Opération Postes.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

RAPSODI team members are strongly involved in teaching at the Université de Lille. C. Calgaro Zotto is in charge of the Master of Mathematical Engineering. B. Merlet is in charge of the Master 2 of Scientific Computing. E. Creusé was responsible of the "Cursus Master en Ingénierie Mathématiques" until August. He is since September director of the Mathematics Department of the Université Polytechnique Hauts-de-France. C. Cancès gave lectures at Centrale Lille. S. Lemaire gave lectures in the Master 2 of Scientific Computing.

C. Chainais-Hillairet gave 16h of courses in the international Summer School "The way to become a mathematician" in the Harbin Institute of Technology in July.

10.2.2. Supervision

Post-doc: F. Chave arrived in December to work on high-order polytopal discretization methods for electromagnetism; supervisors: E. Creusé and S. Lemaire.

PhD: L. Ferrari defended his PhD thesis on "Phase field approximations for branched transport problems" on October 5; advisors: A. Chambolle (CNRS & CMAP, École Polytechnique) and B. Merlet.

PhD: N. Peton defended his PhD thesis on "Numerical methods for a stratigraphic model with nonlinear diffusion and moving frontier areas" on October 12; advisors: C. Cancès, Q.-H. Tran (IFPEn), and S. Wolf (IFPEn).

PhD in progress: C. Colin-Lecerf, on the "Analyse numérique et simulations de modèles multi-fluides", since 10/01/2015; advisors: C. Calgaro Zotto and E. Creusé.

PhD in progress: A. Zurek, on the "Numerical and theoretical analysis of models describing the corrosion of materials", since 10/01/2016; advisors: C. Chainais-Hillairet and B. Merlet.

PhD in progress: B. Gaudeul, on the "Numerical approximation of cross-diffusion systems arising in physics and biology", since 09/01/2018; advisors: C. Cancès and C. Chainais-Hillairet.

Master internship: A. El Keurti, on the "Study of upwind finite volume schemes for nonlocal transport", from November 2017 to July 2018; advisor: T. Rey.

Master internship: A. Latrech, on the "Numerical study of local minimizers of a Bose–Einstein energy functional in 2D", from January to July; advisors: G. Dujardin (Inria Lille) and I. Lacroix-Violet.

Master internship: T. Ebrahimipourfaez, on "Entropy-diminishing finite volume schemes for cross-diffusion systems", from April to July; advisor: C. Chainais-Hillairet.

Master internship: B. Gaudeul, on "Numerical schemes for a Nernst–Planck–Poisson model", from April to July; advisor: C. Chainais-Hillairet.

Master internship: C. Marinel, on the "Implementation and parallelization of a finite element code with *a posteriori* error estimators", from June to August; advisor: E. Creusé.

Master internship in progress: N. Aghouzzaf, on the "Design of high-order numerical time integrators for kinetic equations", since December; advisor: T. Rey.

10.2.3. Juries

E. Creusé reported on O. Gorynina's PhD thesis, defended on February 22, 2018 at Université Bourgogne-Franche Comté. Title: Éléments finis adaptatifs pour l'équation des ondes instationnaire.

B. Merlet was a member of the jury of the PhD thesis of A. Julia, defended on October 9, 2018 at Sorbonne Paris Cité. Title: Functions with bounded variations on a current.

C. Calgaro Zotto and C. Cancès are members of the Jury de l'Agrégation de Mathématiques, which is a national hiring committee for the highest level of high-school teachers.

C. Cancès was part of the selection committee for an associate professor (MCF) position at the Laboratoire de Mathématiques d'Orsay.

C. Chainais-Hillairet was part of the selection committee for a full professor (PR) position at Aix-Marseille Université.

10.3. Popularization

C. Calgaro Zotto is in charge of the communication of the Laboratoire Paul Painlevé. She organizes various events which promote mathematics among young people:

- les "Mathématiques itinérantes";

- la "Semaine des mathématiques";
- la collection "Stages scientifiques en Seconde".

Members of the team participate regularly to these actions.

S. Lemaire gave a talk at Inria Lille for the internal scientific popularization event "30 minutes of Science" in June.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. Member of the Organizing Committees

- Marcus Denker and Stéphane Ducasse are in the board of ESUG and organized ESUG 2018, the yearly Smalltalk conference that brings together research and industry (http://www.esug.org/).

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Anne Etien has been PC chair of IWST since 2015.

10.1.2.2. Reviewer

Nicolas Anquetil: SCAM'18, the 18th IEEE International Working Conference on Source Code Analysis and Manipulation.

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

Nicolas Anquetil reviewed articles for the following international journals:

- IEEE Transactions on Software Engineering;
- Information and Software Technology;
- Journal of Systems and Software.

10.1.4. Scientific Expertise

- Anne Etien: expert for the French government on Research tax credit.
- Marcus Denker: reviewer for EUREKA.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master : Christophe Demarey, Intégration continue, 16 EdTD, M2, Université de Lille, France

Licence: Anne Etien, Bases de données, 30h, L3, Polytech-Lille, France

Licence: Anne Etien, Programmation par objet, 40h, L3, Polytech-Lille, France

Master: Anne Etien, Metamodelisation for Reverse Engineering, 5h, M2, Université de Montpellier, France

Master: Anne Etien, Metamodelisation for Reverse Engineering, 12h, M2, Université Paris 1, France

Master: Anne Etien, Metamodelisation for Reverse Engineering, 5h, M2, Tunis, Tunisie

Master: Anne Etien, Test et Maintenance, 10h, M2, Polytech-Lille, France

Master: Anne Etien, Test et Maintenance, 14h, M2, Polytech-Lille, France

Master: Anne Etien, Syste`me d'information objet, 10h, M1, Polytech Lille, France

Master: Anne Etien, Bases de donnés Avancés, 20h, M1, Polytech-Lille, France

Master: Anne Etien, Qualité logicielle, 8h, M2, Université Lille 1, France

Licence : Vincent Aranega, Initiation à l'informatique, 51 EdTD, L1, Université de Lille, France

Licence : Vincent Aranega, Architecture des ordinateurs, 42 EdTD, L2, Université de Lille, France

Licence : Vincent Aranega, Génie Logiciel, 42 EdTD, M1, Université de Lille, France

License : Damien Pollet, OpenDevs, 35h, L3, Université de Lille, France

License : Damien Pollet, Programmation objet en Java, 155h, L3, IMT Lille-Douai, France

License : Damien Pollet, Systèmes numériques, 14h, L3, IMT Lille-Douai, France

Master : Damien Pollet, Technologies des systèmes d'informations, 21h, M1, IMT Lille-Douai, France

Master : Damien Pollet, Ingénierie du logiciel, 7h, M2, IMT Lille-Douai, France

Master : Damien Pollet, Algorithmes pour les réseaux, 27h, M2, IMT Lille-Douai, France

Master: Meta modeling, Ecole des Mines de Douai, 22 EdTD, M1, Nov 2018, Douai, France

Master: Advanced Design, ENIS M1, Dec 2017/2018, Tunis, 22 EdTD, Tunisia

License: Object-oriented programming, Prague L3, Dec 2017/2018, 16 EdTD, Prague, Tcheque Republic

Master: Meta modeling, Pantheon Sorbonne, 27 EdTD, M2, Dec 2018, Paris, France

Master: Meta programming, Universite de Bretagne Occidental, 9 EdTD, brest, France.

Licence : Thomas Dupriez, Mathématiques Discrètes, 39 heures en équivalent TD, L2, Université Lille, France

Master : Marcus Denker, 2 hours (spring and fall each), Advanced Reflection. MetaLinks, VUB Brussels, Belgium.

License: open-dev L3 option 17 hours Lille, France

License: Introduction à la Programmation L3 option 31.5 hours Paul Sabatier Toulouse, France

E-learning

Pharo Mooc, 7 weeks, Licences and Master students

Pedagogical resources: Books, Learning Object-Oriented Programming, Design and TDD with Pharo, A simple reflective object kernel.

10.2.2. Supervision

PhD: Brice Govin, *Support to Implement a Rejuvenated Software Architecture in Legacy Software* CIFRE Thales, 26 June 2018, Anne Etien, Nicolas Anquetil. [1]

PhD: Pablo Tesone, *Hot Software Update In Robotics Applications*, IMT Lille-Douai, 16 December, Luc Fabresse, Stéphane Ducasse

PhD in progress: Jason Lecerf, *Reuse of Code Artifacts for Embedded Systems Through Refactoring*, started Oct 2016, CEA Thierry Goubier, Stéphane Ducasse

PhD in progress: Julien Delplanque, *Software Engineering Techniques Applied to Databases*, started Oct 2017, Anne Etien, Nicolas Anquetil

PhD in progress: Lionel Akue, *Fortran Analysis*, started Oct 2018, Anne Etien, Nicolas Anquetil

PhD in progress: Thomas Dupriez, *New Generation Debugger and Application Monitoring*, started Oct 2018, Stephane Ducasse, Guillermo Polito

PhD in progress: Houekpetodji Mahugnon Honore, *Multi-Facet Actionable for Information System Rejuvenation*, SPI Lille, France, Stephane Ducasse, Nicolas Anquetil, Nicolas Dias, Jerome Sudich

PhD in progress: Carolina Hernandez, *Tools for MicroKernels* Guillermo Polito and Luc Fabresse

10.3. Popularization

10.3.1. Articles and contents

- Stéphane Ducasse and Guillermo Polito. Stéphane Ducasse (Ed.). Physche: A Little Scheme in Pharo, p. 50, Square Bracket Associates, 2018. [20]
- Stéphane Ducasse. Stéphane Ducasse (Ed.). A Simple Reflective Object Kernel, p. 40, Square Bracket Associates, 2018. [19]

10.3.2. Education

- A MOOC for Pharo is online (Stéphane Ducasse).
  http://mooc.pharo.org

10.3.3. Interventions

- Multiple public Pharo Sprints in Lille.
  https://association.pharo.org/events
- IoT Hackathon. One Day Event in Cologne, Germany. Using PharoIoT
  http://zweidenker.de/de/iot-hackathon-2018
  Video: https://www.youtube.com/watch?v=dIl9FAatKyw
- RMOD co-organized and participated at ESUG 2018.
  http://www.esug.org/wiki/pier/Conferences/2018
  - Presentation about PharoIoT.
    https://www.slideshare.net/MarcusDenker/pharo-iot

SEQUEL Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. EWRL 2018

We organized the 14th European Workshop on Reinforcement Learning (EWRL) in October 2018 in Lille. 183 people registered. Despite its name, the audience goes really beyond Europe with 42 from North Amercia, 38 from France, 19 from Germany, 16 from the UK, 12 from Italy, 12 from Israel, 9 from Belgium, ... 40% of participants were students, mostly PhD students, but also some Master students. Among non students, 40% came from industry, the other 60% being academics. We had a quite unique panel of invited speakers highlighted by historical figures of reinforcement learning with Prof. Richard Sutton (U. Alberta and Deepmind), bandit theory with Tze Leung Lai (Stanford U.). EWRL is really the main scientific event on reinforcement learning in the world today.

After 2008 and 2015, this is the third time EWRL is organized in Lille.

10.1.1.2. General Chair, Scientific Chair

M. Valko was a program co-chair for CNRS Summer school on Networks, Graphs, and Machine Learning (RESCOM 2018)

10.1.1.3. Member of the Organizing Committees

- F. Strub, co-organizer of the workshop "Visually Grounded Interaction and Language (ViGIL)" at NIPS 2018
- M. Valko was an organizing co-chair of the ITS Workshop: Optimizing Human Learning (ITS 2018)
- R. Fruit, M. Seurin, M. Pirotta, F. Strub organized the 14th European Workshop on Reinforcement Learning

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

- Philippe Preux: SPC IJCAI 2018; PC of ICML, ECML, LOD, EWRL, and French speaking conferences: EGC, SFC JFPDA
- Michal Valko: Area Chair of NIPS 2018, Top 10 reviewer recognition for reviewing at ICML
- Emilie Kaufmann: PC Chair for WiML 2018, Top 10 reviewer recognition for reviewing at ICML
- Odalric-ambrym Maillard: PC chair for ALT

10.1.2.2. Reviewer

Members of SEQUEL have been involved in the following reviewing activities for conferences in 2018:

- AI&Stats, NIPS, ALT, ICML, COLT, IJCAI

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

- The Annals of Statistics
- Journal of Machine Learning Research
- Machine Learning Research
- Bernoulli
- Annual Reviews in Control
- European Journal of Operation Research
- Information and Inference: a Journal of the IMA (Institute of Mathematics and its Application)
- Operations Research
- IEEE Transactions on Signal Processing

10.1.4. Invited Talks

- Odalric-Ambrym Maillard: invited Opponent for the PhD defence of Stefan Magureanu (Stockholm, Sweden), February 2018
- Odalric-Ambrym Maillard: invited speaker at LTCI, Telecom ParisTech, February 2018
- Odalric-Ambrym Maillard: invited speaker at Journées Probabilités et statistiques de Lille, June 22, 2018
- Odalric-Ambrym Maillard: invited speaker at RL Lab, McGill University, August 23, 2018
- Odalric-Ambrym Maillard: invited speaker at the 21st IBIS conference (Sapporo, Japan), November 06, 2018
- Odalric-Ambrym Maillard: invited speaker at the RIKEN Institute (Tokyo, Japan), November 07, 2018
- Michal Valko: *The power of graphs in speeding up online learning and decision making* Presented on October 23rd, DeepMind, London, UK (*DeepMind 2018*)
- Michal Valko: *Active block-matrix completion with adaptive confidence sets*, Presented on September 10–13th, 2018, International Workshop on Optimization and Machine Learning, CIMI, Toulouse (*CIMI 2018*)
- Michal Valko: *Online influence maximization*, Presented on May 14th, 2018, Workshop on Graph Learning, LINCS, Paris (*LINCS 2018*)
- Michal Valko: *Recommender systems*, Presented on March 22nd, 2018, Journée Big data, Polytech'Lille (*Polytech'Lille 2018*)
- Michal Valko: *Pliable rejection sampling*, Presented on February 8th, 2018 at GDR Isis, Télécom ParisTech in Paris (*ISIS 2018*)
- Michal Valko: *Graph Bandits*, Presented on January 7th, 2018 at MIST conference in Rajecká Lesná (*MIST 2018*)
- Pierre Perrault: *Stochastic multi-arm bandit problem and some extensions*, Presented on November, 23rd, 2018 at Lambda seminar at Université de Bordeaux (*Lambda 2018*)
- Emilie Kaufmann: *(Optimal) Best Arm Identification and applications to Monte-Carlo Tree Search*, presented on January, 18th, 2018 at the Probability and Statistics seminar of IECL, Nancy
- Emilie Kaufmann: *Bandits (for) Games*, presented on March 26th, 2018 at Amazon Research, Berlin
- Emilie Kaufmann, *Bandits (for) Games*, presented on April 25th, 2018 as an invited talk to the Workshop on Modern Challenges on Learning Theory at Univerisé de Montréal

- Emilie Kaufmann, *Bandits (for) Games*, presented on June 13th, 2018 as an invited talk to the Paris Symposium on Game Theory, Paris
- Emilie Kaufmann *New tools for Adaptive Testing and Applications to Bandit Problems*, presented on December 3rd, 2018 at the Probability and Statistics seminar of IRMA, Strasbourg

10.1.5. Scientific Expertise

- Philippe Preux was a member of the hiring committee for CR at Inria Nancy
- Philippe Preux was a member of the hiring committee for an associate professor at Université de Lille
- Philippe Preux evaluated submissions to ANRT (he also declined many such invitations due to lack of time)
- Philippe Preux was a member of an auditing committee of an international company which can not be named (NDA)
- Philippe Preux participates to a "AI mission" with an (other) international company which can not be named (NDA)
- Odalric-Ambrym Maillard evaluated a submission to OTKA (Hungarian ANR), and to ANR.
- M. Valko is an elected member of the evaluation committee and participates in the hiring, promotion, and evaluation juries of Inria, notably
    - Selection committee for Inria award for scientific excellence of confirmed researchers
    - Inria working group for the creation of team RandOpt
    - National committee for the secondments at Inria
- Michal Valko participates in a collaboration with an international company which can not be named (NDA)
- Emilie Kaufmann was a member of the hiring committee for an associate professor position at Université de Lille
- Emilie Kaufmann was a member of the hiring committee for an associate professor at ENS Paris (Computer Science departement)

10.1.6. Research Administration

- Philippe Preux is:
    - "délégué scientifique adjoint" of the Inria center in Lille
    - member of the Inria evaluation committee (CE)
    - member of the Inria internal scientific committee (COSI)
    - member of the scientific committee of CRIStAL
    - the head of the "Data Intelligence" thematic group at CRIStAL
- Michal Valko is a member of the Inria evaluation committee (CE)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: E. Kaufmann, Spring 2018, Data Mining, M1 Maths/Finances, Université de Lille (36 hours)

Master: E. Kaufmann, Spring 2018, Machine Learning, M2 Maths/Finances, Université de Lille (18 hours)

Master: M. Valko, 2018/2019: Graphs in Machine Learning, 36h eqTD, M2, ENS Cachan

Master: O. Maillard, Spring 2018: Sequential Learning course, parcours DAD, 30h eqTD, Ecole Centrale Lille.

Master: O. Maillard, January 2018: Sequential Learning tutorial, Technicolor, 6h eqTD, Rennes

10.2.2. Supervision

PhD completion: Merwan Barlier, Human-in-the loop reinforcement learning for dialogue systems, started Oct. 2014, advisor: Olivier Pietquin

PhD completion: Alexandre Bérard, Deep learning for post-editing and automatic translation, started Oct. 2014, advisor: Olivier Pietquin

PhD in progress: Lilian Besson, Bandit approach to improve Internet Of Things Communications, started Oct. 2016, advisor: Émilie Kaufmann, Christophe Moy (CentraleSupélec Rennes)

PhD in progress: Ronan Fruit, Exploration-exploitation in hierarchical reinforcement learning, Inria, started Dec. 2015, advisor: Daniil Ryabko, Alessandro Lazaric

PhD in progress: Guillaume Gautier, DPPs in ML, started Oct. 2016, advisor: Michal Valko; Rémi Bardenet

PhD in progress: Jean-Bastien Grill, Création et analyse d'algorithmes efficaces pour la prise de décision dans un environnement inconnu et incertain, Inria/ENS Paris/Lille 1, started Oct. 2014, advisor: Rémi Munos, Michal Valko

PhD in progress: Édouard Leurent, Autonomous vehicle control: application of machine learning to contextualized path planning, started Oct. 2017, advisor: Odalric Maillard, Philippe Preux, Denis Effimov (NON-A), Wilfrid Perruquetti (NON-A)

PhD aborted: Sheikh Waqas Akhtar, Bandits for non-stationarity and structure, started Oct. 2017, advisor: Odalric Maillard, Daniil Ryabko.

PhD in progress: Pierre Perrault, Online Learning on Streaming Graphs, started Sep. 2017, advisor: Michal Valko; Vianney Perchet

PhD in progress: Mathieu Seurin, Multi-scale rewards in reinforcement learning, started Oct. 2017, advisor: Olivier Pietquin, Philippe Preux

PhD in progress: Julien Seznec, Sequential Learning for Educational Systems, started Mar. 2017, advisor: Michal Valko; Alessandro Lazaric, Jonathan Banon

PhD in progress: Xuedong Shang, Adaptive methods for optimization in stochastic environments, started Oct. 2017, advisor: Émilie Kaufmann, Michal Valko

PhD in progress: Florian Strub, Reinforcement Learning for visually grounded interaction, started Jan. 2016, advisors: Olivier Pietquin and Jeremie Mary

PhD in progress: Kiewan Villatel, Deep Learning for Conversion Rate Prediction in Online Advertising, started Oct. 2017, advisor: Philippe Preux

PhD in progress: Yannis Flet-Berliac, start Oct. 2018

PhD in progress: Hassan Saber, start Oct. 2018, Structured Multi-armed bandits, advisor: Odalric Maillard, Philippe Preux.

PhD in progress: Omar Darwiche, start Oct. 2018, Sequential Learning in Dynamic Environments, advisor: Émilie Kaufmann, Michal Valko

10.2.3. Juries

PhD and HDR juries:

- É. Kaufmann:
    - Stefan Magureanu, KTH Stockholm, February 20th, 2018
    - Valentin Reis, LIG, Grenoble, September 28th, 2018
    - Maryam Aziz, Northestearn University (Boston), December 6th, 2018
- O. Maillard: Stefan Magureanu, February 20th, 2018
- Ph. Preux:

- – Saeed Varasteh Yazdi, LIG, Grenoble
- – Fabien Vilar, Marseille
- – Merwan Barlier, Lille
- M. Valko:
  - – *Pierre Ménard*, Université Toulouse 3 Paul Sabatier, June 2018, Sur la notion d'optimalité dans les problèmes de bandits stochastiques. *Reviewer*
  - – *Mariana Vargas Vieyra*, Université Lille, September 2017, Adaptive graph learning with application to natural language processing. *Ph.D. mid-term evaluation reviewer*

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Philippe Preux chaired the Inria evaluation seminar of theme "Optimization, machine learning and statistical methods" in March 2018.

10.3.2. Articles and contents

- Ph. Preux interviewed for various journals ("Les échos", ...).
- Adobe research highlights M. Valko's work on online influence maximization presented (January 2018)
- Daniele Calandriello (supervised by A. Lazaric and M. Valko) wins the prize for the Best AI Thesis in France in 2018. Articles in:
  - – La Voix du Nord
  - – CNRS journal
  - – Newstank
  - – Lille1
  - – Actu

10.3.3. Education

- Ph. Preux presented and animated 3 sessions on AI at the "congrès annuel du réseau national professionnel des cultures scientifique technique et industrielle" (Amcsti)

10.3.4. Interventions

- Philippe Preux:
  - – presented AI related to health industry at the yearly general assembly of Eurasanté
  - – presented and animated 3 sessions on AI at the "congrès annuel du réseau national professionnel des cultures scientifique technique et industrielle" (Amcsti)
  - – participated to a panel at Conext forum (Lille)
- the work on Guesswhat?!:
  - – has been invited to be presented on the Inria booth during The Web Conf in Lyon
  - – is presented at the Inria showroom inaugurated in Dec. 2018 in Lille

10.3.5. Creation of media or tools for science outreach

- Ph. Preux was interviewed for a video about robots and AI

<p style="text-align:center;color:red;font-weight:bold;">SPIRALS Project-Team</p>

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organisation

10.1.1.1. General Chair, Scientific Chair

Simon Bliudze

- co-chair International Conference on Verification and Evaluation of Computer and Communication Systems (VECoS)
- co-chair International Workshop on Methods and Tools for Rigorous System Design (MeTRiD)

Laurence Duchien

- IEEE TCSE Distinguished Women in Science and Engineering Leadership Award Committee
- co-chair ECSA Track for Women in Software Architecture

10.1.2. Scientific Events Selection

10.1.2.1. Member of the Conference Program Committees

Simon Bliudze

- International Conference on Formal Aspects of Component Software (FACS)
- International Symposium on Formal Approaches to Parallel and Distributed Systems (4PAD)
- Interaction and Concurrency Experience International Workshop (ICE)
- Euromicro Conference on Software Engineering and Advanced Applications (SEAA)
- International Conference on Coordination Models and Languages (COORDINATION)
- FME Workshop on Formal Methods in Software Engineering (FormaliSE)
- International Workshop on Foundations of Coordination Languages and Self-Adaptative Systems (Foclasa)

Pierre Bourhis

- International Joint Conferences on Artificial Intelligence (IJCAI)
- AAAI Conference on Artificial Intelligence

Laurence Duchien

- International Workshop on Variability Modelling of Software-Intensive Systems (VAMOS)
- Live Adaptation of Software Systems (LASSY)
- International Workshop on Software Qualities and their Dependencies (SQUADE)
- Workshop on Distributed Software Development, Software Ecosystems and Systems-of-Systems (WDES)
- Doctoral Symposium ECSA
- ICSE Poster Session
- International Workshop on Software Engineering Research and Industrial Practise (ICSE/SER&IP)
- Conference on Software Engineering Education and Training (CSEE&T)
- European Conference on Software Architecture (ECSA)

Philippe Merle

- International Conference on Cooperative Information Systems (CoopIS)
- International Conference on Cloud Computing Work-in-Progress Track (IEEE CLOUD)
- International Conference on Web Engineering (ICWE)
- International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM)
- International Conference on Cloud Computing, GRIDs, and Virtualization (CLOUD COMPUTING)
- International Conference on Advanced Service Computing (SERVICE COMPUTATION)
- Workshop on CrossCloud Infrastructures & Platforms (CrossCloud)

Clément Quinton

- International Workshop on Software Engineering for Systems-of-Systems (SESOS)
- Euromicro Conference on Software Engineering and Advanced Applications (SEAA)
- International Systems and Software Product Line Conference (SPLC)

Romain Rouvoy

- IEEE/ACM International Conference on Automated Software Engineering (ASE), demonstration track
- ACM/USENIX European Conference on Computer Systems (Eurosys)
- IEEE International Conference on Cloud Engineering (IC2E)
- IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)
- ACM Symposium on Applied Computing (SAC), DADS track

Lionel Seinturier

- International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)
- IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)
- ACM Symposium on Applied Computing (SAC) SA-TTA & OS Tracks
- Australasian Software Engineering Conference (ASWEC)
- International Conference on Software Technologies (ICSOFT)
- International Conference on Service Oriented Computing (ICSOC)
- ACM International Conference on Management of Emergent Digital EcoSystems (MEDES)

Faiez Zalila

- International Conference on Verification and Evaluation of Computer and Communication Systems (VECoS)

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Lionel Seinturier is editor for software engineering of the ISTE-Wiley Computer Science and Information Technology book collection.

10.1.3.2. Reviewer - Reviewing Activities

Yahya Al-Dhuraibi: IEEE Transactions on Services Computing (TSC), The Computer Journal of Oxford University Press.

Simon Bliudze: Elsevier Science of Computer Programming (SCICO).

Stéphanie Challita: Wiley Software: Practice & Experience (SPE), Wiley Concurrency and Computation: Practice and Experience (CCPE).

Laurence Duchien: Elsevier Journal of Systems and Software (JSS), IEEE Transaction on Cloud Computing (TCC).

Philippe Merle: Elsevier Future Generation Computer Systems (FGCS), Wiley Software: Practice and Experience (SPE), Elsevier Sustainable Computing, Informatics and Systems (SUSCOM), Wiley Concurrency and Computation: Practice and Experience (CCPE), IGI Global International Journal of Web Services Research (IJWSR).

Romain Rouvoy: Elsevier Information and Software Technology (IST).

Lionel Seinturier: Springer Software Quality Journal (SQJ), Elsevier Sustainable Computing, Informatics and Systems (SUSCOM), Springer Empirical Software Engineering (EMSE), Elsevier Future Generation Computer Systems (FGCS).

Faiez Zalila: Elsevier Future Generation Computer Systems (FGCS), IEEE ACCESS, Springer Journal of Internet Services and Applications (JISA).

10.1.4. Invited Talks

Philippe Merle: International Conference on Cloud and Robotics (ICCR), invited talk.

Faiez Zalila: Cloudification of the Internet of Things Conference (CIoT), tutorial.

10.1.5. Leadership within the Scientific Community

Romain Rouvoy is the co-head of the "Groupe de Travail Génie Logiciel pour les Systèmes Cyber-physiques" of the GDR GPL.

10.1.6. Scientific Expertise

Laurence Duchien was member of the recruitment committee for Professor in Computer Science at Université du Littoral Côte d'Opale. She was scientific expert for DGRI PHC Ulysse, NSERC-Canada, PHC Van Gogh Netherlands, PHC Amadeus Austria, Programme Emergence Ville de Paris Vinci, Prix de thèse GDR GPL, Prix de valorisation de la MESHS.

Philippe Merle was member of the recruitment committee for junior researcher (CRCN) at Inria Lille - Nord Europe, and Associate Professor at Télécom SudParis. He was scientific reviewer for ANR.

Romain Rouvoy was member of the recruitment committees for associate professor in Computer Science at ENSEIRB MATMECA (Bordeaux), Université de Nantes and Université de Rennes. He was also a member of the scientific evaluation committee of ANR (CES25). He was scientific expert for DRRT IDF, ADEME PERFECTO and FET-OPEN - Novel Ideas for Radically New Technologies - *Research and Innovation Actions* (RIA).

Lionel Seinturier was member of the recruitment committee for Professor in Computer Science at CNAM Paris, and Associate Professor at University of Lille. He was member of the Promotion Committee to Full Professor for Charles University, Prague. He was scientific expert for ANRT, ECOS Nord, DRRT IDF, PICOM/Silab Retail Booster.

10.1.7. Research Administration

Laurence Duchien is member of the CNRS CoCNRS section 6 committee, and of the "bureau" of this committee. She is elected member-at-large for the IEEE Technical Council of Software Engineering (TCSE) 2016–18.

Philippe Merle is member of the Inria scientific board, president of the CUMI (Comité des Utilisateurs des Moyens Informatiques), permanent secretary of the CLHSCT (Comité Local d'Hygiène, de Sécurité et de Conditions de Travail), and member of the centre committee for the Inria Lille - Nord Europe research center. He is member of the steering committee of the Inria's continuous integration service. He is member of the steering committee of CIEL (Conférence en Ingénierie du Logiciel).

Romain Rouvoy is an elected member of the "bureau" of the ACM SIGOPS French chapter (ASF) and elected member of the administrative council of SpecifCampus.

Lionel Seinturier is president of the CDT (Commission Développement Technologique), and member of the BCEP (Bureau du Comité des Équipes-Projets), for the Inria Lille - Nord Europe research center. He is Scientific Advisor for the evaluation of ICT research laboratories at the Hcéres.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Simon Bliudze is, in addition to his tenure junior research position at Inria, chargé d'enseignement at École Polytechnique, Palaiseau, France, in the Department of Computer Sciences (DIX).

- INF411: Les bases de la programmation et de l'algorithmique, 40h, 2e année du Cycle ingénieur
- INF442: Traitement des données massives, 40h, 2e année du Cycle ingénieur

Pierre Bourhis is, in addition to his tenure junior research position at CNRS, chargé d'enseignement spécialité Sciences des données at École Polytechnique, Palaiseau, France, in the Department of Computer Sciences (DIX).

- École Polytechnique, Bases de données, 18h, Cycle Polytechnique Info553
- École Polytechnique, Modal Graphe Géant, 36h
- École Centrale de Lille, Master DAD, Bases de données, 12h

Laurence Duchien teaches at the University of Lille in the FST faculty. She headed the Carrières et Emplois service. She was Director of Doctoral Studies for Computer Science in the Doctoral School Engineering Science (SPI) - ComUE Lille Nord de France. She is now project leader for the doctoral studies at University of Lille.

- Software Project Management, 50h, Level M2, Master MIAGE
- Design of distributed applications, 42h, Level M1, Master of Computer Science
- Research and Innovation Initiation, 22h, Level M2 IAGL, Master of Computer Science
- Tutoring Internship, 16h, Level M2, Master of Computer Science

Clément Quinton teaches at the University of Lille in the FST faculty.

- Introduction to Computer Science, 46.5h, Level L1, Licence of Computer Science
- Object-oriented programming, 36h, Level L2, Licence of Computer Science
- Object-oriented design, 42h, Level L3, Licence of Computer Science
- Design of distributed applications, 42h, Level M1, Master of Computer Science
- Advanced design of distributed applications, 37.5h, Level M2, Master MIAGE
- Infrastructure and frameworks for the Internet, 33.75h, Level M2, Master of Computer Science
- Software product lines, 7.5h, Level M2, Master of Computer Science
- Suivi de stages et de projets, 30h, Licence and Master of Computer Science

Romain Rouvoy teaches at the University of Lille in the FST faculty. He heads the Master of Computer Science program at the University of Lille.

- Design of distributed applications, 12h, Level M1, Master of Computer Science
- Object-oriented design, 4h, Level L3, Licence of Computer Science
- Suivi de projets, 20h, Level M2, Master of Computer Science

Walter Rudametkin Ivey teaches at the University of Lille in the Polytech engineering school.

- GIS4 Programmation par Objets, 32h
- GIS4 Architectures Logicielles, 26h
- GIS2A3 (apprentissage) Projet programmation par Objet, 24h
- IMA2A4 (apprentissage) Conception Modélisation Objet, 24h
- IMA3 Programmation Avancée, 62h
- GBIAAL4 Bases de données, 22h
- GIS5 Suivi de projets, 42h
- GIS2A (apprentissage) Suivi d'apprentis, 28h

Lionel Seinturier teaches at the University of Lille in the FST faculty. He heads the Computer Science Department at the Faculty of Science and Technology of the University of Lille.

- Conception d'Applications Réparties, 50h, Level M1, Master MIAGE
- Infrastructures et Frameworks Internet, 70h, Level M2 E-Services IAGL TIIR, Master of Computer Science

10.2.2. Supervision

- PhD: Yahya Al-Dhuraibi, Flexible Framework for Elasticity in Cloud Computing, University of Lille, December 2018, Philippe Merle.
- PhD: Stéphanie Challita, Inferring Models from Cloud APIs and Reasoning over Them: a Tooled and Formal Approach, University of Lille, December 2018, Philippe Merle.
- PhD: Thomas Durieux, From Runtime Failures to Patches: Study of Patch Generation in Production, University of Lille, September 2018, Lionel Seinturier & Martin Monperrus. [11]
- PhD: Gustavo Sousa, A Software Product Lines-Based Approach for the Setup and Adaptation of Multi-Cloud Environments, University of Lille, June 2018, Laurence Duchien & Walter Rudametkin Ivey. [12]
- PhD in progress: Mohammed Chakib Belgaid, Développement durable des logiciels vers une optimisation énergétique de bout en bout des systèmes logiciels, January 2018, Romain Rouvoy & Lionel Seinturier.
- PhD in progress: Vikas Mishra, Collaborative Strategies to Protect Against Browser Fingerprinting, October 2018, Romain Rouvoy & Walter Rudametkin & Lionel Seinturier.
- PhD in progress: Marion Tommasi, Collaborative Data-centric Workflows: Towards Knowledge Centric Workflows and Integrating Uncertain Data, October 2018, Pierre Bourhis & Lionel Seinturier.
- PhD in progress: Antonin Durey, Leveraging Browser Fingerprinting to Fitht Fraud on the Web, October 2018, Romain Rouvoy & Walter Rudametkin & Lionel Seinturier.
- PhD in progress: Sacha Brisset, Automatic Spotting and fixing or Recurrent user Experience issues. Detecting and Fixing Anomalies by applying Machine Learning on user Experience Data, November 2018, Lionel Seinturier & Romain Rouvoy & Renaud Pawlak & Yoann Couillec.
- PhD in progress: Zakaria Ournani, Eco-conception des logiciels : modélisation de l'efficience énergétique des logiciels et conception d'outils pour mesurer et réduire leur consommation d'énergie, November 2018, Romain Rouvoy.
- PhD in progress: Zeinab Abou Khalil, November 2017, Laurence Duchien & Clément Quinton, co-supervision with Tom Mens (University of Mons, Belgium).
- PhD in progress: Guillaume Fieni, GreenData : Vers un traitement efficient et éco-responsable des grandes masses de données numériques, October 2017, Romain Rouvoy & Lionel Seinturier.

- PhD in progress: Benjamin Danglot, Software Testing Amplification, December 2016, Martin Monperrus & Lionel Seinturier.
- PhD in progress: Lakhdar Meftah, Cartography of the Quality of Experience for Mobile Internet Access, November 2016, Romain Rouvoy, co-supervision with Isabelle Chrisment (Inria Madynes).
- PhD in progress: Sarra Habchi, Une supervision de contexte sensible à la confidentialité pour les développements logiciels en crowdsource, October 2016, Romain Rouvoy.
- PhD in progress: Antoine Vastel, Cartographie de la qualité d'expérience pour l'accès à l'internet mobile, October 2016, Romain Rouvoy & Walter Rudametkin.

10.2.3. Juries

Simon Bliudze

- Maaz Mashood Mohiuddin (EPFL, Switzerland), examiner
- Emmanouela Stachtiari (Aristhotle U. of Thessaloniki, Greece), examiner

Laurence Duchien

- HDR Chouki Tibermacine (U. Montpellier), reviewer
- HDR Thomas Ledoux (U. Nantes), reviewer
- HDR Nikolaos Georgantas (U. Pierre et Marie Curie), examiner
- HDR Matthieu Roy (U. Toulouse), president
- HDR Raul Mazo (U. Paris 1 Sorbonne), reviewer
- Anne-Lucie Vion (U. Grenoble), reviewer
- Van Cam Pham, CEA, examiner
- Benjamin Allaert (U. Lille), president
- Farzan Kalantari (U. Lille), president
- Eddy Habach (U. Nice Côte d'Azur), examiner
- Mathieu Allon (U. Lille), president
- Juan Carlos Munoz (U. Paris 1 Sorbonne)
- Paola Andreas Gomez Barreto (U. Grenoble), examiner

Philippe Merle

- HDR Sylvain Vauttier (U. Montpellier), reviewer
- Nabila Belhaj (Télécom SudParis), examiner

Lionel Seinturier

- Mohamed Mosli (Telecom SudParis), president
- William Excoffon (U. Toulouse), president
- Alex Palesandro (U. Lyon 3), president
- Bassirou Ngom (Sorbonne U.), reviewer
- Gabriel Campeanu, (Märladalen U., Sweden), examiner
- Isabelle Astic (CNAM Paris), examiner

10.3. Popularization

10.3.1. Interventions

Lionel Seinturier participated in October to the Chercheur itinérant event organized by the Inria Lille Nord Europe research center in the context of La fête de la science. Two classrooms (2nde and terminale) have been visited. The theme of the visit was crowdsensing and data gathering from mobile devices.