RESEARCH CENTER
Lille - Nord Europe

FIELD

Activity Report 2019

Section Dissemination

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

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 chair): Intl. Conf. on Multiple Objective Programming and Goal Programming (MOPGP'2019), Marrakech, Morocco, Oct 28-31, 2019.
- N. Melab (Workshop co-chair): Intl. Workshop on the Synergy of Parallel Computing, Optimization and Simulation (HPCS/PaCOS'2019), Dublin, Ireland, Jul 15-19, 2019.
- E-G. Talbi (Steering committee Chair): Intl. Conf. on Optimization and Learning (OLA'2019), Bangkok, Thailand, Jan 29-31, 2019.
- E-G. Talbi (Steering committee): 9th IEEE Workshop Parallel Distributed Computing and Optimization (IPDPS/PDCO'2019), Rio de Janeiro, Brazil, May 20-24, 2019.
- O. Abdelkafi, B. Derbel and A. Liefooghe (workshop co-chairs): 2nd Intl. Workshop on Computational Intelligence for Massive Optimization (CIMO 2019), Lille, France, July 2019 (with H. Aguirre, K. Tanaka and S. Verel).
- B. Derbel (workshop co-chair): Decomposition Techniques in Evolutionary Optimization (DTEO), workshop at GECCO 2019, Prague, Czech Republic, July 2019 (with K. Li, X. Li, S. Zapotecas, and Q. Zhang).
- A. Liefooghe (workshop co-chair): Landscape-aware heuristic search (LAHS), workshop at GECCO 2019, Prague, Czech Republic, July 2019 (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 CEC 2019, Wellington, New Zealand, June 2019 (with S. Zapotecas, K. Li and Q. Zhang).
- A. Liefooghe (track chair): GECCO 2019: Genetic and Evolutionary Computation Conference, Evolutionary multi-objective Optimization (EMO) track (Prague, Czech Republic, 2019).
- N. Melab: Chair of 4 simulation and HPC-related seminars at Université de Lille: The Arctic University of Norway (HPC Group, UiT), IBM, DSI (Supercomputing division) Ulille, Inria Lille), Oct-Dec 2019.

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- A. Liefooghe (program co-chair): EvoCOP 2019: 19th European Conference on Evolutionary Computation in Combinatorial Optimisation (Leipzig, Germany, 2019).

10.1.2.2. Member of the Conference Program Committees

- IEEE Congress on Evolutionary Computation (CEC), Wellington, New Zealand, Jun 10-13, 2019.
- IEEE Workshop on Understanding of Evolutionary Optimization Behavior, Wellington, New Zealand, Jun 10-13, 2019.
- The ACM Genetic and Evolutionary Computation Conference (GECCO), Prague, Czech Republic, July 13-17, 2019.
- 13th Metaheuristics International Conference (MIC), Cartagena, Colombia, July 28-31, 2019.

- The 2018 International Conference on High Performance Computing & Simulation (HPCS), Dublin, Ireland, July 15–19, 2019.
- IEEE Intl. Workshop on Parallel/Distributed Computing and Optimization (IPDPS/PDCO), Rio de Janeiro, Brazil, May 20-24, 2019.
- EvoCOP'2019, 19th European Conference on Evolutionary Computation in Combinatorial Optimization, Leipzig, Germany, Apr 24-26, 2019.
- Int. Conf. on Multiple objective Programming and Goal Programming (MOPGP'2019), Marrakech, Morocco, Oct 28-31, 2019.
- Intl. Conf. on Optimization and Learning (OLA'2019), Bangkok, Thailand, Jan 29-31, 2019.
- Int. Conf. on Computing (ICC 2019), Springer's CCIS Book Series, Riyadh, Saudi Arabia, Oct 22-24, 2019.
- 15th Workshop on Foundations of Genetic Algorithms (FOGA), Potsdam, Germany, 2019.
- 10th Intl. Conference on Evolutionary Multi-criterion Optimization (EMO), Michigan, USA, 2019.
- ICANN'2019 28th Intl. Conf. on Artificial Neural Networks, Munich, Germany, Sept 2019.
- Metaheuristics Intl. Conference (MIC'2019), Cartagena, Colombia, July 2019.
- Intl. Conference on Industrial Engineering and Systems Management (IESM 2019), Shanghai, China, Sept 2019.
- 8th Intl. Conf. on Modeling, Simulation and Applied Optimizaiton (ICMSAO'2019), Bahrin, April 2019.
- Colloque sur l'Optimisation et les Systèmes d'information (COSI), Tizi-Ouzou, Algérie, Jun 24-26, 2019.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- N. Melab: Associate Editor of ACM Computing Surveys (IF: 6.131) since 2019.
- N. Melab: Guest and Managing Editor (in collaboration with P. Korosec, J. Gmys and I. Chakroun) of a special on *Synergy between Parallel Computing, Optimization and Simulation* in *Journal of Computational Science (JoCS)*, 2019.
- E-G. Talbi: Guest Editor (with L. Amodeo and F. Yalaoui) of a special issue on *Metaheuristics in Industry 4.0* in *Swarm and evolutionary computation*, 2019.
- E-G. Talbi. Guest Editor (with H. Masri) on *Multiple criteria decision making models for economic developement* in *JMCDA Journal of Multi-Criteria Decision Analysis*, 2019.
- B. Derbel: Associate Editor, IEEE Transactions on Systems, Man and Cybernetics: Systems (IEEE).

10.1.3.2. Reviewer - Reviewing Activities

- Transactions on Evolutionary Computation (IEEE TEC, IF: 8.508), IEEE.
- ACM Computing Surveys (IF: 6.131), ACM.
- Swarm and Evolutionary Computation (SWEVO, IF: 6.330), Elsevier.
- Future Generation Computer Systems (FGCS, IF: 5.7), Elsevier.
- European Journal of Operational Research [15], Elsevier.
- IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS, IF: 3.4), IEEE.
- Journal of Computational Science (JoCS, IF: 2.5), Elsevier.
- Annals of Operations Research (IF: 2.284), Springer.
- Journal of Heuristics (JoH, IF: 1.392), Springer.
- Intl. Journal on Artificial Intelligence Tools (IJAIT, IF: 0.8), World Scientific.

10.1.4. Invited Talks

- E-G. Talbi. Learning-based metaheuristics, Distinguished seminar, University of Michigan, USA, Jan 2019.
- E-G. Talbi. Machine learning and optimization: inseparable disciplines, Keynote speaker, KST'2019 11th Intl. Conf. on Knowledge and Smart Technology, Phuket, Thailand, Jan 2019.
- E-G. Talbi. How machine learning can help metaheuristics?, Invited seminar, American University of Sharjah, Emirates Arabs United, Feb 2019.
- E-G. Talbi. Machine learning into optimization, Invited seminar, University of Elche, Spain, Nov 2019.

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: 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 Scientific Board (Bureau Scientfique du Centre) for the Inria Lille - Nord Europe research center.
- N. Melab: Member of the steering committee of "Maison de la Simulation" at Université de Lille.

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 High-perforpmance Computing and Simulation, 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.
- Master leading: O. Abdelkafi, superviser of the Master MIAGE alternance, Université de Lille, FRANCE.

10.2.2. Supervision

- PhD: Z. Garroussi, Multi-objective matheuristics for demand-side management in smart grids, To be defended on December 21th, 2019. PhD supervised by 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, Deep Gaussian processes and Bayesian optimization for non-stationary, multi-objective and multi-fidelity problems, Oct 2017, El-Ghazali Talbi and Nouredine Melab.
- PhD in progress (cotutelle): Maxime Gobert, Parallel multi-objective global optimization with applications to several simulation-based exlporation parameter, Oct 2018, Nouredine Melab (Université de Lille) and Daniel Tuyttens (Université de Mons, BELGIUM).
- PhD in progress (cotutelle): Guillaume Briffoteaux, Bayesian Neural Networks-assisted multi-objective evolutionary algorithms: Application to the Tuberculosis Transmission Control, Oct 2017, Nouredine Melab (Université de Lille) and Daniel Tuyttens (Université de Mons, BELGIUM).
- PhD in progress: Jeremy Sadet, Surrogate-based optimization in automotive brake design, El-Ghazali Talbi (Université de Lille), Thierry Tison (Université Polytechnique Hauts-de-France, FRANCE).
- 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 (cotutelle): Alexandre Jesus, Algorithm selection in multi-objective optimization, Bilel Derbel and Arnaud Liefooghe (Université de Lille), Luís Paquete (University of Coimbra, PORTUGAL).

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

- N. Melab: Chargé de Mission of High Performance Computing and Simulation at Université de Lille, since 2010.

10.3.2. Internal action

- A. Liefooghe: 30 minutes de sciences, Inria Lille-Nord Europe, Lille, France, June 2019.
- O. Abdelkafi: Intervention auprès des inspecteurs d'académie, Inria Lille-Nord Europe, Lille, France, Mars 2019.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- 23rd Belgian Mathematical Optimization Workshop, La Roche, Belgium, April 25-26, 2019: Bernard Fortz (Organizer)

10.1.1.2. Member of the Organizing Committees

- 8th Winter School on Network Optimization, Estoril, Portugal, January 14-18, 2019: Bernard Fortz

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

LI Brazilian Symposium on Operational Research (LI SBPO), Limeira/SP - Brazil, September 2019: Martine Labbé

ORBEL 2019, Hasselt, Belgium, January 2019: Bernard Fortz, Martine Labbé

ROADEF2019 - 19ème Conférence de la Société Française de Recherche Opérationnelle et d'Aide à la Décision, Le Havre, France, February 2019: Luce Brotcorne, Diego Cattaruzza, Bernard Fortz, Frédéric Semet

INOC 2019, International Network Optimization Conference, Avignon, France, June 2019: Bernard Fortz

EURO 2019, European Conference of Operational Research Societies, Dublin, Ireland, June 2019: Bernard Fortz

5th JuliaCon, Baltimore, USA, July 22-26, 2019: Mathieu Besançon

TRISTAN X-Triennial Symposium on Transportation Analysis, Jun 2019, Hamilton Island, Australia, June 2019: Frédéric Semet

Workshop of the Transportation and Logistics Society, INFORMS, Jun 2019, Vienna, Austria, June 2019: Frédéric Semet

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 - Member of the Advisory Board
- 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, IEEE Transactions on Power Systems, IEEE Transactions on Smart Grids, IEEE Power Engineering Letters: Mathieu Besançon, Luce Brotcorne, Diego Cattaruzza, Bernard Fortz, Martine Labbé, Maxime Ogier, Frédéric Semet.

10.1.4. Invited Talks

- Mathieu Besançon was invited speaker at the JuliaNantes workshop in Nantes, France, June 2019
- Martine Labbé was plenary speaker at CPAIOR in Tessalonik, Greece, June 2019
- Martine Labbé was plenary speaker at AMSI Optimise in Perth, Australia, June 2019
- Martine Labbé was plenary speaker at the 7th International Conference on Variable Neighborhood Search, Rabat, Marocco, October 2019
- Frédéric Semet was invited speaker at the Workshop on the Logistics of Autonomous Vessels, Bergen, Norway, May 2019

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

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

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

Center for Mathematics, Fundamental Applications and Operations Research, 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

Fund for research training in industry and agriculture (FRIA) PE1 - jury 1: Bernard Fortz - Member

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: Frédéric Semet - Reviewer

Evaluation committee NSERC - EG 1509: Bernard Fortz - Member

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

Scientific council of OPTIMA thematic group of CRIStAL: Diego Cattaruzza Member

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Bernard Fortz, Recherche Opérationnelle et Applications, 30hrs, M1, University of Mons (Charleroi campus), Belgium

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

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 opérationnelle, 16hrs, M1 apprentissage, Polytech Lille

Master: Diego Cattaruzza, Maxime Ogier, Frédéric Semet, Prescriptive analytics and optimization, 64hrs, 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

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: Bernard Fortz, Algorithmique 1, 12hrs, L1, Université libre de Bruxelles, Belgium

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

10.2.2. Supervision

PhD: Simon Bélières, Mathematical programming for tactical transportation planning in a multi-product supply chain, November 2019, Nicolas Jozefowiez, Frédéric Semet

PhD: Wenjuan Gu, Location routing for short and local fresh food supply chain, November 2019, Maxime Ogier, Frédéric Semet

PhD: Yuan Yuan, Vehicle Routing Problems with Synchronization for City Logistics, October 2019, Diego Cattaruzza, Frédéric Semet

PhD: Léonard Von Niederhausern, Design and pricing of new services in energy in a competitive environment, March 2019, Luce Brotcorne, Didier Aussel

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: Matteo Petris, Column generation approaches for integrated operationnal problems, from October 2019, Diego Cattaruzza, Maxime Ogier, Frédéric Semet

PhD in progress: Concepción Domínguez Sánchez, Mixed Integer Linear Models and Algorithms for Pricing Problems, from October 2017, Martine Labbé

PhD in progress: Moises Rodriguez Madrena, Problems in data analysis and location Theory, from January 2019, Martine Labbé, Justo Puerto

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: 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

10.2.3. Juries

- Ikram Bouras, PhD, Université de Montpellier, 2019, "Fixed Charge Network Design Problem with User Optimal flows": Luce Brotcorne (reviewer)
- Umar Hashmi, PhD, Université PSL, Paris, 2019, "Optimization and Control of Storage in Smart Grids": Luce Brotcorne (reviewer)
- Léonard von Niederhäusern, PhD, Centrale Lille, 2019, "Design and pricing of new energy services in a competitive environment": Bernard Fortz (president)
- Meihui Gao, PhD, Université de Lorraine, 2019, "Models and methods for Network Function Virtualization (NFV) architectures": Bernard Fortz (reviewer)
- Yuan Yuan, PhD, Centrale Lille, 2019, "Models and Algorithms for Last Mile Delivery Problems with Multiple Shipping Options": Martine Labbé (member)
- José Neto, HDR, Université Evry, 2019, "Some contributions to mathematical programming and combinatorial optimization": Bernard Fortz (reviewer)
- Marc-Antoine Coindreau, PhD, University of Lausanne, Switzerland, 2019, "Managing Advanced Synchronization Aspects in Logistics Systems": Frédéric Semet (reviewer)
- Ruslan Sadykov, HDR, Université de Bordeaux, 2019, "Modern Branch-Cut-and-Price": Frédéric Semet (reviewer)

10.3. Popularization

- Luce Brotcorne, Journées scientifiques de l'Inria, Lyon, June 2019
- Frédéric Semet, Cité de l'IA - Intelligence Artificielle, MEDEF Lille Métropole, April 2019
- Maxime Ogier, Frédéric Semet, 4ème séminaire humAIn : IA, optimisation et retail - logistique, Polytech Lille, October 2019

10.3.1. Internal or external Inria responsibilities

- Frédéric Semet, 30 minutes de sciences, Inria Lille Nord Europe, April 2019

MEPHYSTO Team

7. Dissemination

7.1. Promoting Scientific Activities

7.1.1. Scientific Events: Organisation

7.1.1.1. Member of the Organizing Committees

A. de Laire co-organized the "Journée des Doctorants en Mathématiques du Nord-Pas-de-Calais".

7.1.2. Journal

7.1.2.1. Member of the Editorial Boards

S. De Bièvre is Associate Editor of the Journal of Mathematical Physics since January 2019.

7.1.2.2. Reviewer - Reviewing Activities

M. Simon is reviewer for the main international peer-reviewed journals in probability and statistical physics. In 2019, G. Dujardin served as a reviewer for the numerical analysis journals ESAIM:M2AN, Numerische Mathematik and IMA Journal of Numerical Analysis.

7.1.3. Invited Talks

M. Simon has been invited speaker at several conferences, among them:

- *Interactions PDEs/Probability: particle systems, hyperbolic conservation laws*, CIRM, Marseille
- *1st SFB International Workshop Taming Complexity in Partial Differential Systems*, University of Vienna, Austria

7.2. Teaching - Supervision - Juries

7.2.1. Teaching

Licence: A. de Laire, Mathématiques fondamentales 1, 54 TD, L1, Université de Lille

Licence: G. Dujardin, Calcul différentiel et intégral, 60h, BA2, Université Libre de Bruxelles, Belgium.

Master: A. de Laire, "Etude de Problèmes Elliptiques", 60h, M1, Université de Lille

Master: A. Hardy, "Probabilité, modèles et applications" 60h, M1, Université de Lille

Master: A. Hardy, "Séries temporelles", 30h, M1, Université de Lille

Master: M. Simon, "Introduction à la physique statistique", 56h, M2, Université de Lille

Master: M. Simon, "Markov Chains and Applications", Université de Lille and École Centrale Lille

In addition, A. de Laire is in charge of the Master 2 of Applied Mathematics at Université de Lille.

7.2.2. Supervision

PhD: P. Mennuni, "Ondes progressives de l'équation de Gross–Pitaevskii non locale : analyse et simulations", Université de Lille, defended on the November 4, 2019; advisors: S. De Bièvre, A. de Laire, G. Dujardin.

7.3. Popularization

7.3.1. Interventions

M. Simon participated in the programs "Chercheurs itinérants" and "Fête de la Science", and gave several lectures aimed at high-school students.

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

10.1.1.1. General Chair, Scientific Chair

- Hemant Tyagi and Pascal Germain are the organizers of the MODAL team scientific seminar.
- Sophie Dabo-Niang is the co-organizer of:
    - Session "Recent non-parametric approaches: Applications to envi- ronmental, hydrological, oceanological and economic data analyzes" of the ISI conference (62nd World Statistics Congress), 18-23, August, 2019, Kuala Lumpur, Malaysia.
    - Session "Modeling dependence through graphical models", CMStatistics, 14-16 December 2019, London.
- Christophe Biernacki is a co-organizer (and the chair) of the special session on co-clustering called "Co-clustering: model-based or model-free approaches" at the 62nd ISI World Statistics Congress 2019 in Malaysia [45]
- Alain Celisse is the organizer and the chair of two sessions on change-points detection and early stopping rules at ERCIM 2019, London.
- Vincent Vandewalle organized a session on Model-based and multivariate functional data at CRoNoS & MDA 2019.

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

- Sophie Dabo-Niang was a member of the scientific program committee of: CRONOS-MDA2019, 14-16 April 2019, Limassol, Cyprus and African Econometric Society Conference, 11-13 July 2019, Rabat, Morocco.
- Benjamin Guedj has been a PC member for UAI 2019 and IJCAI 2019.

10.1.2.2. Reviewer

- Hemant Tyagi acted as a reviewer for journals (Foundations of Computational Mathematics, Journal of Machine Learning Research, SIAM Journal on Scientific Computing, Advances in Data Analysis and Classification) and a conference (NeurIPS 2019).
- Pascal Germain acted as a reviewer for a journal (IEEE Transactions on Pattern Analysis and Machine Intelligence) and conferences (ICML 2019, ICLR 2019, NeurIPS 2019, COLT 2019, PHM 2019).
- Benjamin Guedj served as a reviewer for journals (JMLR, Neurocomputing, Journal of international research on robotics,...) and conferences (ICML 2019, ICLR 2019, NeurIPS 2019, COLT 2019, IJCAI 2019, UAI 2019, AISTATS 2019 & 2020).
- Alain Celisse acted as a reviewer for journals (IEEE Transactions on Pattern Analysis and Machine Intelligence, Annals of Statistics, JMLR,...) and conferences (ALT 2019, COLT 2019).
- Sophie Dabo-Niang acted as a reviewer for journals Annals of Statistics, JASA, Journal of Nonparametric statistics, TEST, METRIKA.
- Christophe Biernacki acted as a reviewer for CSDA, ESWA, JCGS, JMIV.
- Serge Iovleff acted as a reviewer for CSDA and Journal of Statistics and Computing.

- Vincent Vandewalle acted as a reviewer for ADAC, Statistics in Medicine, COST.
- Cristian Preda is a reviewer for Bernoulli, MCAP, ADAC.

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 for Methodological and Computing in applied probability (MCAP) and for Journal of Mathematical and Computer Science.
- Serge Iovleff is member of the Editorial Board of Astrostatistics (specialty section of Frontiers in Astronomy and Space Sciences)

10.1.4. Invited Talks

- Christophe Biernacki:
  - 3rd International Conference on Econometrics and Statistics (EcoSta 2019), Taiwan, June 25, 2019 [42]
  - 12th Scientific Meeting Classification and Data Analysis Group (CLADAG 2019), Italy, September 12, 2019 [41]
  - APSEM 2019 (Apprentissage et SEMantique) : écosystèmes pour la science ouverte et recherche par les données, Toulouse [39]
  - Séminary of Probability and Statistics of the University of Nice - Sophia Antopolis, France, November 19, 2019
- Hemant Tyagi:
  - Probability-Statistics seminar, Laboratoire de Mathematiques, Universite de Franche-Comte, Besancon, France, June 13, 2019
  - Probability-Statistics seminar, Université de Lille, France, September 18, 2019
- Pascal Germain:
  - Journées de la statistique, Nancy, France, June 6, 2019
- Benjamin Guedj:
  - Speaker (with John Shawe-Taylor) for a plenary tutorial at ICML 2019 (June 2019).
  - Several seminars in the UK (Gatsby unit, UCL CSML, UCL stats, ElementAI).
- Sophie Dabo-Niang:
  - 62nd World Statistics Congress, August, 18-23, 2019, Kuala Lumpur, Malaysia.
  - 7th Statistical Meeting of Avignon-Marseille, 14 June, 2019, Avignon, France.
  - Workshop on Non-Parametric Statistics, 18th, September, 2019, Grenoble, France.
  - CFIES 2019, 24-27 September 2019, Strasbourg, France.
  - Symposium of young Senegalese researchers in Pured and Applied Mathematics, December, 16-19, 2019, Mbour, Senegal.
- Cristian Preda:
  - Conference on scan statistics, IMS China, Dalian, 6-10 july, 2019.
  - Conference on categorical functional data at Romanian statistical society, 10-11 May 2019.
- Alain Celisse:

- – Session on Model selection at ERCIM 2018, London.
- – Several seminars in France (Nantes, Paris,...) and abroad WIAS Institute of Berlin.
- Vincent Vandewalle:
  - – Session clustering categorical and mixed type data at IFCS 2019, Thessaloniki.

10.1.5. Leadership within the Scientific Community

- Benjamin Guedj and Pascal Germain are founding members of the Machine Learning and Artificial Intelligence group (MALIA) of the French statistical association (SFdS).
- Benjamin Guedj is the new French representative at the board of ECAS (since Nov 2019).
- Since 2017, Benjamin Guedj is an elected member of the board of the Statistical French Society (SFdS).

10.1.6. Scientific Expertise

Christophe Biernacki reviewed one project as an expert for the ANR and for Innoviris (Brussels).

10.1.7. Research Administration

- Sophie Dabo-Niang is the person in charge of the MeQAME axis of laboratory LEM, CNRS 9221.
- Christophe Biernacki is Scientific Head of the Inria Lille center since June 2017.
- Benjamin Guedj has been the list head for the election of the Evaluation Committee in June 2019. He has been an elected member of CE since 2017 and is a member of its executive board since Sept 2019.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

- Pascal Germain taught

  Master: Introduction aux réseaux de neurones, 15 heures, M2, Université de Lille, France
- Sophie Dabo-Niang is teaching

  Master: Spatial Statistics, 24h, M2, Université de Lille, France

  Master: Advanced Statistics, 24h, M2, Université de Lille, France

  Master: Multivariate Data Analyses, 24h, M2, Université de Lille, France

  Licence: Probability, 24h, L2, Université de Lille, France

  Licence: Multivariate Statistics, 24h, L3, Université de Lille, France
- Cristian Preda is teaching

  Polytech'Lille engineer school: Linear Models, 48h.

  Polytech'Lille engineer school: Advanced statistics, 48h.

  Polytech'Lille engineer school: Biostatistics, 10h.

  Polytech'Lille engineer school: Supervised clustering, 24h. France
- Christophe Biernacki is teaching

  New Master Data Science: Statistics, 24h, M1, Université de Lille, France
- Benjamin Guedj is teaching

  Advanced machine learning (M2, 6h), University College London, UK
- Serge Iovleff is teaching

  Licence: Analyse et méthodes numériques, 56h, Université de Lille, DUT Informatique

  Licence: R.O. et aide à la décision, 32h, Université de Lille, DUT Informatique

- Vincent Vandewalle is teaching

    Licence: Probability, 60h, Université de Lille, DUT STID

    Licence: Case study in statistics, 45h, Université de Lille, DUT STID

    Licence: R programming, 45h, Université de Lille, DUT STID

    Licence: Supervised clustering, 32h, Université de Lille, DUT STID

    Licence: Analysis, 24h, Université de Lille, DUT STID

10.2.2. Supervision

10.2.2.1. PhD defense:

- Maxime Baelde, September 20th 2019, supervised by Christophe Biernacki and Raphaël Greff on "Generative models for the classification and separation of real-time sound sources" [11].

- Anne-Lise Bedenel, April 1st 2019, supervised by Christophe Biernacki and Laetitia Jourdan on "Matching descriptors evolving over time: application to insurance comparison" [12].

- Adrien Ehrhardt, September 3rd 2019, supervised by Christophe Biernacki, Philippe Heinrich and Vincent Vandewalle on "Formalization and study of statistical problems in Credit Scoring" [13].

10.2.2.2. PhD in progress:

- Felix Biggs, Generative models and kernels, University College London, Sep 2019, Benjamin Guedj.

- Antoine Vendeville, Learning on graph to stop the propagation of fake news, University College London, Sep 2019, Benjamin Guedj.

- Luxin Zhang, Domain adaptation from a pre-trained source model – Application to fraud detection in electronic payments, February 2019, Christophe Biernacki, Pascal Germain, Yacine Kessac.

- Paul Viallard, Interpreting representation learning through PAC-Bayes theory, September 2019, Amaury Habrard, Emilie Morvant, Pascal Germain.

- Dang Khoi Pham, Planning and re-planning of nurses in an oncology department using a multi-objective and interdisciplinary approach, September 2016, Sophie Dabo-Niang.

- Solange Doumun, Performance evaluation and contribution to the development of multispectral image analysis strategies for automatic and rapid diagnosis of malaria, December 2018, Sophie Dabo-Niang.

- Alaa Ali Ayad, Statistical modeling of large spatial data and its applications in health, September 2018, Sophie Dabo-Niang.

- Wilfried Heyse, Prise en compte de la structure temporelle dans l'analyse statistique de données protéomiques à haut débit, October 2019, Christophe Bauters, Guillemette Marot and Vincent Vandewalle.

- Margot Selosse, October 2017, Christophe Biernacki and Julien Jacques.

- Filippo Antonazzo, October 2019, Christophe Biernacki and Christine Keribin.

- Yaroslav Averyanov, September 2016, Early stopping and filters estimators, Alain Celisse.

10.2.3. Juries

- Sophie Dabo-Niang acted as a reviewer and an examinator for PhD theses.

- Christophe Biernacki acted as a reviewer for the following PhD theses: Keefe Murphy December 17th 2019 (UCD Dublin), Jocelyn Chauvet April 19th 2019 (University of Montpellier).

- Christophe Biernacki acted as an examinator for the following HdR defenses: Madalina Olteanu December 10th 2019 (University Paris 1), Servane Gey February 7th 2019 (University Paris 5).

- Christophe Biernacki participated in the following juries of recruitment: MC jury université d'Avignon, Jury CR Lille, Jury DR Inria.

- Christophe Biernacki participated in the following juries of recruitment: MCF jury Université de Nice May 2019, Jury CR Paris 2019, Jury CR Inria (nationwide) 2019.

- Vincent Vandewalle participated in an MC jury Université Versailles Saint Quentin May 2019.

- Alain Celisse acted as a reviewer for the HdR defense of Zoltan Szabo in December 2019 at Ecole Polytechnique, Palaiseau.

- Cristian Preda acted as a referee for the PhD thesis of Amandine Schmutz, Université de Lyon 2, November 15, 2019.

- Cristian Preda acted as a referee for the HDR defense of Raluca Vernic, July 10, 2019, Universitatea Ovidiu, Constanta, Romania.

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

Christophe Biernacki acts as a member of the working group calculation for Inria.

10.3.2. Interventions

- Pascal Germain participated in the school activity "Jouer à débattre" of the organization "L'arbre des connaissances", as an expert in artificial intelligence (Lycée EIC de Tourcoing, February 7, 2019).

- Pascal Germain gave a vulgarization talk about neural networks and deep learning at the "Journée de l'Enseignement de l'Informatique et de l'Algorithmique" (Université de Lille, March 6, 2019).

- Christophe Biernacki participated in a round table "Deep Learning for PHM: Opportunities and Challenges", The 10th Prognostics and System Health Management Conference Paris, France, May 2 - May 5, 2019.

- Christophe Biernacki gave a talk at the Forum Teratec in June 12nd 2019, Ecole Polytechnique, Palaiseau with Margot Correard (DiagRAMS) on Predictive maintenance solution without additional sensors [40].

- Cristian Preda was invited as a speaker at IoT Week on predictive maintenance, Méaulte, December 4, 2019.

- Cristian Preda was invited as a speaker at IT Tour by Le Monde Informatique on artificial inteligence, November 14, 2019.

RAPSODI Project-Team

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

M. Herda co-organized the yearly Journée de la Fédération de Recherche Mathématique du Nord-Pas-de-Calais which took place on October 15 in Lille. This one-day conference brought together all the maths research laboratories from the Hauts-de-France region and gave the opportunity to new permanent members to present their research.

E. Creusé was part of the organizing committee of the first Rencontres Mathématiques Valenciennoises, that were held on March 13. This meeting was organized for maths students at Université Polytechnique Hauts-de-France as well as for high-school students of Lycée Wallon in Valenciennes. Several researchers presented some applications of mathematics in industry as well as in academic research. This meeting gathered around 500 participants.

T. Rey organized the yearly ANEDP team day at Laboratoire Paul Painlevé on December 17.

C. Cancès and T. Rey co-organized mini-symposia on, respectively, (i) cross-diffusion systems and (ii) novel time discretization methods and moment models for kinetic equations at ICIAM 2019 in Valencia. S. Lemaire co-organized a mini-symposium on polytopal methods at MAFELAP 2019 in Brunel University, London.

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.

10.1.2.2. Reviewer - Reviewing Activities

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

10.1.3. Invited Talks

C. Calgaro was one of the speakers of the seventh Amarena Days held in Amiens.

C. Cancès was invited to give a talk in Paris during the closure workshop of the MANON common laboratory (CEA Saclay / LJLL Sorbonne Université). He was also invited to give a talk in Kalvåg (Norway) during the workshop Analysis and Computation of Coupled Systems. He finally gave seminars in Compiègne and at the University of Lisbon.

C. Chainais-Hillairet was an invited plenary speaker at the POEMs conference held at CIRM in Marseille, and for the Journées Corrosion MaNu 2019 held in Orsay. She also gave a talk at ENUMATH 2019 that was held in Egmond aan Zee. She finally gave seminars in Nice, Orsay and Paris (Laboratoire Jacques-Louis Lions), as well as a talk for the ANEDP team day.

F. Chave was an invited speaker in ENUMATH 2019 that was held in Egmond aan Zee. He also presented a poster at the POEMs conference held at CIRM in Marseille. He finally gave a seminar for the ANEDP team at Laboratoire Paul Painlevé.

B. Gaudeul was an invited speaker of the Journées Corrosion MaNu 2019 held in Orsay. He also presented a poster at the conference Numerical Methods for Multiscale Models arising in Physics and Biology held in Nantes. He finally gave a seminar at WIAS Berlin, as well as a talk for the PhD students seminar in Lille.

M. Herda was an invited speaker in the workshop Analytical and Computational Problems for Mixtures and Plasma Dynamics which took place at the Hausdorff Research Institute for Mathematics in Bonn in the framework of the Junior Trimester Program in Kinetic Theory. He was also one of the speakers of the mini-symposium "Novel time discretization methods and moment models for kinetic equations" co-organized by T. Rey at ICIAM 2019 in Valencia. Finally, he gave a talk in the Applied PDEs seminar of Imperial College London.

I. Lacroix-Violet was an invited speaker in the workshop Women in PDEs that was held in Vienna. She also gave several seminars in Université Paris-Est Créteil, Nancy, Dijon, and Lyon, as well as a talk for the ANEDP team day.

S. Lemaire was an invited speaker at the GAMM 2019 conference held in Vienna, and for the POEMs conference held at CIRM in Marseille. He also gave a talk for the yearly Journée de la Fédération de Recherche Mathématique du Nord-Pas-de-Calais held in Lille, and a seminar at ENSTA ParisTech.

B. Merlet was an invited speaker of the fourth Journées Optimisation de Formes et Applications held in Palaiseau. He also gave two seminars in École Polytechnique and at the University of Lisbon, as well as a talk for the ANEDP team day.

T. Rey was an invited plenary speaker in the Summer School Trails in kinetic theory: foundational aspects and numerical methods from the Junior Trimester Program in Kinetic Theory of the Hausdorff Research Institute for Mathematics, held in Bonn. He was also one of the speakers of the conference Numerical Methods for Multiscale Models arising in Physics and Biology held in Nantes. He finally gave a colloquium in the mathematics department of Université Paris-Est Créteil, and a seminar at ENS Ker Lann in Rennes.

A. Zurek was an invited speaker of the Journée EDP held in Calais. He was also a contributed speaker in the conference Numerical Methods for Multiscale Models arising in Physics and Biology held in Nantes. He finally gave a talk during the thirteenth Journée des Doctorants en Mathématiques du Nord-Pas-de-Calais in Lens.

10.1.4. Leadership within the Scientific Community

C. Cancès is the head of the French Research Group GdR MaNu on Mathematics for Nuclear Energy (funded by CNRS's INSMI).

He is also the leader of the task "Numerical methods for high-performance computing of coupled processes" within the EURAD project (H2020, EJP COFUND); cf. Section 9.3 .

10.1.5. Research Administration

C. Calgaro is a member of the Conseil de Département de Mathématiques. She has been a member of the CNU 26 until September.

C. Cancès is a member of the Scientific Board of the Inria Lille - Nord Europe research center.

Until September, C. Chainais-Hillairet has been a member of the Conseil de Département de Mathématiques. Since September, she is a member of the Conseil de la Faculté des Sciences et Technologies of Université de Lille. She also joined in January the CNRS evaluation committee of the Laboratoire de Mathématiques de Reims.

B. Gaudeul is the delegate of the PhD students at the Commission Mixte in Mathematics of Université de Lille.

I. Lacroix-Violet is an elected member of the Conseil du Laboratoire Paul Painlevé. She is also a member of the Comité d'Éthique de la Recherche.

S. Lemaire is a member of the Commission de Développement Technologique of the Inria Lille - Nord Europe research center.

B. Merlet is an elected member of the Conseil du Laboratoire Paul Painlevé.

T. Rey is also an elected member of the Conseil du Laboratoire Paul Painlevé. T. Rey and M. Herda (since September) are in charge of the organization of the weekly seminar of the ANEDP team at the Laboratoire Paul Painlevé. T. Rey is a member of the team of Opération Postes.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

RAPSODI team members are strongly involved in teaching at Université de Lille. C. Calgaro is in charge of the Master of Mathematical Engineering. I. Lacroix-Violet is responsible of the IESP2A's third year at Polytech Lille. B. Merlet is in charge of the Master 2 of Scientific Computing. E. Creusé is the director of the Mathematics Department of the Université Polytechnique Hauts-de-France.

In 2019, C. Cancès gave practicals (16h) of scientific computing at the École Centrale de Lille. He also gave lectures (32h) on fundamental notions in mathematics in the framework of the newly created Master on Data Sciences of the Université de Lille and the École Centrale de Lille. F. Chave gave practicals to first-year students at Polytech Lille. M. Herda gave lectures (26h) on mathematical methods for signal processing in the Master of Numerical and Statistical Engineering of Université de Lille. S. Lemaire gave lectures (32h) on mathematical tools for simulation in the Master 2 of Scientific Computing at Université de Lille.

C. Chainais-Hillairet gave lectures about "Finite volume methods, dissipative problems, and long-time behavior" in 2 Summer Schools, at Le Lioran (GdR EGRIN) in June, and at CIRM in Marseille (CEMRACS 2019) in July.

10.2.2. Supervision

Post-doc in progress: F. Chave, on "High-order polytopal discretization methods for electromagnetism", since 12/01/2018; supervisors: S. Lemaire and E. Creusé.

PhD in progress: A. Nahas, on "Vortices in Bose–Einstein condensates", since 09/01/2019; advisors: I. Lacroix-Violet and G. Dujardin (Inria Lille - Nord Europe). The thesis is half funded by the LabEx CEMPI.

PhD in progress: S. Bassetto, on "Towards a more robust and accurate treatment of capillary effects in multiphase flow simulations in porous media", since 01/01/2019; advisors: C. Cancès, G. Enchéry and Q.-H. Tran (IFPEN).

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

PhD: A. Zurek defended his PhD thesis [11] entitled "Problèmes à interface mobile pour la dégradation de matériaux et la croissance de biofilms : analyse numérique et modélisation" on September 26; advisors: C. Chainais-Hillairet and B. Merlet.

PhD: C. Colin defended her PhD thesis [12] entitled "Analyse et simulation numérique par méthode combinée Volumes Finis - Éléments Finis de modèles de type faible Mach" on May 10; advisors: E. Creusé and C. Calgaro.

M2 Modélisation - Optimisation - Sécurité group research in progress (Université Polytechnique Hauts-de-France): L. Romanowicz and A. Violet, on the "Numerical study of the rise of a suspension bridge", 2019-2020; advisor: E. Creusé.

M2 internship: L. Maisonneuve, on the "Mathematical modeling of a knowledge model in structured populations", from April to September; advisors: T. Rey, S. Billiard and M. Derex.

M2 internship: A. Nahas, on the "Numerical study of the local minimizers of a Bose–Einstein energy functional in 2D", from January to July; advisors: I. Lacroix-Violet and G. Dujardin (Inria Lille - Nord Europe).

M2 internship: N. Aghouzzaf, on "Keller–Segel equations for chemotaxis", from December 2018 to July; advisor: T. Rey.

M1 internship: Q. Fourche, on "Spectral moment methods for linear kinetic equations", from June to July; advisor: T. Rey.

M1 internship: M. Jonval, on "Nonlinear numerical schemes for drift-diffusion equations", from June to July; advisor: C. Chainais-Hillairet.

M1 CHPS group research (Université de Lille): M. Ghestin and A. Rotolo, on "Systems of interacting particles and their mean-field limits", from February to May; advisor: T. Rey.

M1 MAS group research (Université de Lille): C. Germain and A. Jossien, on "Deterministic predictive models of the average annual temperature in Morocco in 2019", 2019; advisor: C. Calgaro.

M1 Modélisation - Optimisation - Sécurité group research (Université Polytechnique Hauts-de-France): I. Kahiyehmoumin, A. Ndao and M. Fall, on a "Domain decomposition method for the finite difference approximation of a diffusion problem", 2019; advisor: E. Creusé.

L3 internship: G. Helbecque, on the "Numerical simulation of charged particles in a strong magnetic field", from April to May; advisor: M. Herda.

10.2.3. *Juries*

C. Calgaro was a jury member for the PhD defense of M. Tsegmid (Université du Littoral-Côte-d'Opale). She is also a member of the Jury de l'Agrégation de Mathématiques, which is a national hiring committee for the highest level of high-school teachers.

C. Cancès reported on T. Beltzung's (CEA / UVSQ), J. W. Both's (University of Bergen, Norway), and D. Shylaja's (Monash University / ITT Bombay, Australia / India) PhD theses. He is also a member of the Jury de l'Agrégation de Mathématiques.

C. Chainais-Hillairet reported on A. Gerstenmayer's (T.U. Vienna) PhD thesis. She was also a jury member for the PhD defenses of L. Boittin (Paris), C. Colin (Lille), R. Chalayer (Clermont-Ferrand), P. Mennuni (Lille), and M. Id Moulay (Pau). She finally was part of the selection committee for an associate professor (MCF) position at Orsay.

E. Creusé reported on P. Daniel's PhD thesis, defended on March 22 at Sorbonne Université, and entitled "Éléments finis hp-adaptatifs avec contraction d'erreur garantie et solveurs multi-niveaux inexacts". He was also a jury member for the PhD defenses of J. Tomezyk (Université Polytechnique Hauts-de-France) and G. Jeanmasson (Université de Bordeaux). He finally was part of the selection committee for an associate professor (MCF) position at Université Polytechnique Hauts-de-France.

B. Gaudeul was a jury member for the Tournoi Français des Jeunes Mathématiciennes et Mathématiciens.

I. Lacroix-Violet was a jury member for the PhD defense of I. Bensouilah (Lille), and for the habilitation of D. Sanchez (Toulouse).

B. Merlet reported on M. Bonafini's PhD thesis, defended on April 11 at the University of Trento (Italy), and entitled "Variational and convex approximations of 1-dimensional optimal networks and hyperbolic obstacle problems".

10.3. Popularization

C. Calgaro is in charge of the communication of the Laboratoire Paul Painlevé. She organized in 2019 various events to promote mathematics among young people:

- "Les mathématiciens de Lille fêtent les 80 ans du CNRS" (about 600 participants from high-school or Classes Préparatoires);
- a conference of E. Ghys for the presence of the Jury de l'Agrégation de Mathématiques in Lille (about 200 participants);
- les "Mathématiques itinérantes", a series of conferences in high-schools.

E. Creusé gave two popularization talks at Université Polytechnique Hauts-de-France:

- "Le calcul scientifique pour la simulation et le contrôle des écoulements" for the first Rencontres Mathématiques Valenciennoises in March;

- "Comment prévoir la population de poissons dans l'océan ou le déplacement d'oiseaux migrateurs dans le ciel ? Les maths nous répondent !" for the Semaine des Mathématiques 2019 in March.

M. Herda gave a talk at Inria Lille - Nord Europe for the internal scientific popularization event "30 minutes of Science" in January.

T. Rey was one of the four speakers of the event "Les mathématiciens de Lille fêtent les 80 ans du CNRS".

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Organisation

- the 1st Reinforcement Learning Summer Scool, July 1-12, 2019, Villeneuve d'Ascq
- the 3rd Vigil workshop at NeurIPS 2019

10.1.1.1. Member of the Organizing Committees

- F. Strub, co-organizer of the workshop "Visually Grounded Interaction and Language (ViGIL)" at NeurIPS 2019
- The whole SEQUEL team has organized RLSS

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

- Émilie Kaufmann: ALT
- Odalric-Ambrym Maillard: ICML, ECAI, SIF
- Philippe Preux: ECML, EGC, SFC

10.1.2.2. Reviewer

In 2019, we have reviewed submissions for: AI&Stats, NeurIPS, ALT, ICML, COLT, IJCAI, AAAI, CDC, ECAI

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

- Journal of Machine Learning Research
- Journal of Artificial Intelligence Research
- The Annals of Statistics
- Bernoulli
- IEEE Transactions on Knowledge and Data Engineering
- Machine Learning
- Information and Inference: A Journal of the IMA

10.1.4. Invited Talks

- E. Kaufmann
    - "Beyond Classical Bandit Tools for Monte-Carlo Tree Search", AAAI workshop on Reinforcement Learning for Games, Honolulu, Jan 2019
    - "New tools for Adaptive Testing and Applications to Bandit Problems", Machine Learning and Optimization Working Group, Ecole des Ponts, Feb 2019
    - "Generalized Likelihood Ratios Tests applied to Sequential Decision Making", Statistics Seminar, Agro ParisTech, Paris, May 2019
    - "Generalized Likelihood Ratios Tests applied to Sequential Decision Making", Machine Learning Seminar, University of Leiden, The Netherlands, May 2019
    - "Quelques outils statistiques pour la prise de décision séquentielle", Conférence plénière du GRETSI, Lille, Aug 2019

- "Practical algorithm for multi-player bandits", MAPLE workshop, Milan, Italy Sep 2019
- "Practical algorithm for multi-player bandits", Invited session of the Allerton Conference, Urbana-Champaign, USA Sep 2019

- Odalric-Ambrym Maillard:
  - "La prise de décision séquentielle au service de la société de demain", Euratechnologie, Lille, Feb 2019
  - "Change of mean detection, non-asymptotic delay and aggregation", 3rd non-stationary day, Institut Henry Poincaré, Paris, Mar 2019
  - "A tour of time-uniform concentration inequalities: Laplace, Peeling, Kernel", Workshop on empirical Processes and Applications to Statistics, Besançon, May 2019
  - "A tour of time-uniform concentration inequalities: Laplace, Peeling, Kernel", CWI, Amsterdam, The Netherlands, Jun 2019
  - "Reinforcement Learning: successes and promises", Ecole Polytechnique, Palaiseau, Nov 2019

- Philippe Preux:
  - A brief introduction to supervised learning and reinforcement learning, 1st humAIn seminar, Villeneuve d'Ascq, Feb 2019
  - "Sous le contrôle des bandits", AFCE, June 2019
  - Explainability in machine learning, 3rd humAIn seminar, Lille, June 2019
  - "Learning to act", ENS-Paris-Saclay, Conférence de rentrée, Sep 2019
  - "Apprentissage par renforcement : mythe et réalité", FOOR, Tourcoing, Nov 2019

- Jill-Jênn Vie:
  - "IA, éducation et formation", Hermès, Paris, Oct 2019
  - "JJ Vie's Factorization IV", LaBRI, Bordeaux, Nov 2019
  - "Deep Learning for Anime & Manga", Paris Open Source Summit, Dec 2019
  - "Deep Learning for Recommender Systems", Université Cergy-Pontoise, Dec 2019

- R. Gautron, O-A. Maillard, Ph. Preux, "Reinforcement learning for crop-management: a sequential decision-making under uncertainty approach", CGIAR convention, Hydebarad, India, Oct 2019
- Ph. Preux, M. Seurin, "L'IA, les données, ... et l'Homme dans tout ça ?", congress "Les données et leurs usages dans les technologies du numérique", Douai, Oct 2019

10.1.5. Scientific Expertise

- Émilie Kaufmann:
  - member of the hiring committee for an assistant professor in probability/statistics at Université Paris-Sud
- Odalric-Ambrym Maillard:
  - member of the hiring committee for CRCN at Inria Lille
- Philippe Preux:
  - member of the hiring committee for CRCN at Inria Rennes
  - member of the hiring committee for CRCN at Inria (national)
  - evaluation of submissions to ANRT (he also declined many such invitations due to lack of time, *e.g.* with ANR)

10.1.6. Research Administration

- Odalric-Ambrym Maillard is:

- member of the CER at Inria Lille
- 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 until Jan 2019
  - the head of the "Data Intelligence" thematic group at CRIStAL until Jan 2019

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Doctorat: Émilie Kaufmann and Odalric-Ambrym-Maillard, "Bandit algorithms I", RLSS Summer School, Lille, 9h, July 2019

Master: Émilie Kaufmann, "Data Mining", 36h, M1, Université de Lille, Jan-Apr 2019

Master: Émilie Kaufmann, "Reinforcement Learning", 24h, M2, Ecole Centrale de Lille, Nov 2019-Jan 2020

Master: Odalric-Ambrym Maillard, "Reinforcement Learning", 38h equivalent TD, M2, Ecole Polytechnique, Palaiseau, Jan-Mar 2019

Doctorat: Odalric-Ambrym Maillard, "Bandit algorithms II", RLSS Summer School, Lille, 9h, July 2019

Doctorat: Philippe Preux, "Reinforcement Learning", Fall School on AI (IA2) of the GDR IA (CNRS), Lyon, 3h, Oct 2019

Doctorat: Philippe Preux, "AI learns to act", MOMI, Sophia-Antipolis, 1h30, Feb 2019

10.2.2. Supervision

HdR: Odalric-Ambrym Maillard, Mathematics of Sequential Decision Making, Université de Lille, Feb 11, 2019

PhD: Lilian Besson, Multi-players Bandit Algorithms for Internet of Things Networks, Centrale-Supélec Rennes, Nov 20, 2019, supervisors: Christophe Moy (Université de Rennes) et Émilie Kaufmann

PhD: Ronan Fruit, Exploration–exploitation dilemma in Reinforcement Learning under various form of prior knowledge, Université de Lille, Nov 6, 2019, supervisor: Alessandro Lazaric

PhD: Nicolas Carrara, "Apprentissage par renforcement pour optimisation de systèmes de dialogue via l'adaptation à chaque utilisateur", Université de Lille, Dec 18, 2019, supervisor: Oliier Pietquin

PhD in progress: Dorian Baudry, "Efficient Exploration for Structured Bandits and Reinforcement Learning", since Nov 2019, supervisors: É. Kaufmann, O-A. Maillard

PhD in progress: Omar Darwiche Domingues, "Sequential Learning in Dynamic Environments", since Oct 2018, supervisors: É. Kaufmann, M. Valko

PhD in progress: Johan Ferret, "Explainable Reinforcement Learning via Deep Neural Networks", since Fall 2019, supervisor: Ph. Preux, O. Pietquin

PhD in progress: Yannis Flet-Berliac, "Deep reinforcement learning in stochastic and non stationary environments", since Oct 2018, supervisor: Ph. Preux

PhD in progress: Guillaume Gautier, DPPs in ML, started Oct 2016, defense scheduled in March 2020. Supervisors: R. Bardenet, M. Valko.

PhD in progress: Jean-Bastien Grill, "Création et analyse d'algorithmes efficaces pour la prise de décision dans un environnement inconnu et incertain", started Oct 2014, defended on Dec 19, 2019. Supervisors: R. Munos, M. Valko

PhD in progress: Nathan Grinsztajn, "Apprentissage par renforcement pour la résolution séquentielle de problèmes d'optimisation combinatoire incertains et partiellement définis", since Fall 2019, supervisor: Ph. Preux

PhD in progress: Léonard Hussenot, "Adversarial reinforcement learning: attacks and robustness", since Fall 2019, supervisor: Ph. Preux, O. Pietquin

PhD in progress: Édouard Leurent, "Autonomous vehicle control: application of machine learning to contextualized path planning", since Oct 2017, supervisors: O-A. Maillard, D. Effimov (Valse), W. Perruquetti (CRIStAL)

PhD in progress: Reda Ouhamma, "Automated feature representation", since Fall 2019, O-A. Maillard

PhD in progress: Pierre Perrault, "Online Learning on Streaming Graphs", since Sep 2017, supervisors: M. Valko, V. Perchet

PhD in progress: Sarah Perrin, "Reinforcement Learning in Mean Field Games", since Fall 2019, supervisors: O. Pietquin, R. Elie

PhD in progress: Hassan Saber, "Structured multi-armed bandits", since Oct 2018, Structured Multi-armed bandits, supervisor: O-A. Maillard.

PhD in progress: Mathieu Seurin, "Multi-scale rewards in reinforcement learning", since Oct 2017, supervisors: O. Pietquin, Ph. Preux

PhD in progress: Julien Seznec, "Sequential Learning for Educational Systems", since Mar 2017, supervisors: M. Valko, A. Lazaric, J. Banon

PhD in progress: Xuedong Shang, "Adaptive methods for optimization in stochastic environments", started Oct 2017, supervisors: É. Kaufmann, M. Valko

PhD in progress: Florian Strub, "Reinforcement Learning for visually grounded interaction", since Jan 2016, defense scheduled for Jan 2020, supervisors: O. Pietquin and J. Mary

PhD in progress: Kiewan Villatel, "Deep Learning for Conversion Rate Prediction in Online Advertising", started Oct 2017, aborted June 2019, supervisor: Ph. Preux

10.2.3. Juries

- Émilie Kaufmann:
  - Aristide Tossou, member of the jury, Chalmers University, Sweden, Nov 18, 2019
  - Rémi Degenne, member of the jury, Université Paris-Diderot, Dec 18, 2019
  - member of the Mathematics jury for the admission competition of ENS, section B/L
- Odalric-Ambrym Maillard:
  - Léonard Torossian, reviewer, Université Toulouse III, Dec 17, 2019.
- Philippe Preux:
  - Quentin Waymel (medical doctorate), member of the jury, Université de Lille, Jun 2019
  - Adrien Legrand, reviewer, Université de Picardie, Amiens, Nov 29, 2019
  - Erinc Merdivan, reviewer, Centrale-Supélec Metz, Dec 17, 2019
  - Nicolas Carrara, member of the jury, Université de Lille, Dec 18, 2019
- Michal Valko:
  - Aristide Tossou, opponent, Chalmers University, Sweden, Nov 18, 2019

10.3. Popularization

10.3.1. Articles and contents

- Philippe Preux:

– interviewed by *Le Monde* pulished in Sep 2019
– interview on I-SITE project B4H, Inria

10.3.2. Education

- Odalric-Ambrym Maillard:
  – "Reinforcement Learning: successes and promises", Executive Master, Ecole Polytechnique, Palaiseau, Nov 2019

10.3.3. Interventions

- Philippe Preux:
  – panel on "Promises and perils of AI", CGIAR, Hyderabad, India, Oct 2019
  – panel on "AI and man", Euratechnologies, Lille, Sep 2019
- Yannis Flet-Berliac and Philippe Preux: panel on "Who's the pilot: man of software?", FOOR, Le Fresnoy, Tourcoing, Nov 2019
- Yannis Flet-Berliac: "Princess of parallelograms" installation (with Thomas Depas), Le Fresnoy, Tourcoing, "Damien & The Love Guru" gallery in Brussels, Belgium, Sep–Dec 2019

Figure 1.

Princess of parallelograms is a collaborative project between Yannis Flet-Berliac and a student from Le Fresnoy National Studio of Contemporary Arts. They created an interactive sculpture made of a variety of computer vision attributes: a support for anthropomorphic projections, a set of generated virtual masks, or a new form of photographic trap. When visitors stand in front of the device's webcam, a Deep Convolutional Conditional-GAN Auto-Encoder model applies a filter on their face with virtual flesh, hair, and facial expressions in real-time. In the meantime, an emotion detection model trained on the FER-2013 dataset is running in the background. The system allows the users to actively interact with the installation. So far, the project has been exposed at Le Fresnoy and in Brussels.

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

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Selection

9.1.1.1. Member of the Conference Program Committees

- J.-P. Richard, EUCA-IEEE ECC (Napoli, Italy)
- J.-P. Richard, IFAC TDS (Sinaia, Romania)
- J.-P. Richard, IEEE CODIT (Paris, France)
- D. Efimov, IFAC ALCOS (Winchester, UK)

9.1.1.2. Reviewer

The members of the team participate in reviewing for all major international conferences in the domain of control theory.

9.1.2. Journal

9.1.2.1. Member of the Editorial Boards

- R. Ushirobira, Guest editor, European Journal of Control
- A. Polyakov, Associate editor, Automation and Remote Control
- D. Efimov, Guest editor, International Journal of Control
- D. Efimov, Guest editor, European Journal of Control
- D. Efimov, Guest editor, International Journal on Robust and Nonlinear Control
- D. Efimov, Associate editor, IFAC Journal on Nonlinear Analysis: Hybrid Systems
- D. Efimov, Associate editor, Asian Journal of Control
- D. Efimov, Associate editor, IEEE Transactions on Automatic Control

9.1.2.2. Reviewer - Reviewing Activities

The members of the team participate in reviewing for all major international journals in the domain of control theory: IEEE Transactions on Automatic Control, Automatica, European Journal of Control, International Journal of Control, International Journal on Robust and Nonlinear Control, Asian Journal of Control, SIAM Journal on Control and Optimization etc.

9.1.3. Invited Talks

D. Efimov and A. Polyakov participated in organization of a workshop Finite-, fixed-, and prescribed-time stabilization and estimation for IEEE Conference on Decision and Control (CDC) at Nice.

9.1.4. Research Administration

- J.-P. Richard, Director of the professional training "Researcher" for last year students at Centrale Lille
- R. Ushirobira, a member of the executive board of CIMPA
- R. Ushirobira, the vice-president of the Recruitment research committee of Inria Lille (PhD, postdoc, secondments, visitors)

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Master: J.-P. Richard, Dynamical systems, 10h, M2, Université de Lille, France

Licence: R. Ushirobira, Basic courses in Linear algebra and Calculus, 75h, L3, Polytech Lille, France

Master: D. Efimov, Dynamical systems, 17h, M2, Université de Lille, France

Licence: D. Efimov, Estimation for engineers, 24h, L3, École Centrale de Lille, France

9.2.2. Supervision

PhD: Y. Wang, Development of a blimp robot for indoor operation, École Centrale de Lille, 15/03/2019

PhD: T. Kharkovskaya, Design of interval observers for uncertain distributed systems, École Centrale de Lille & ITMO University (Russia), 02/12/2019

9.2.3. Juries

- R. Ushirobira, a member of PhD thesis committee of D. Yamalova (Uppsala University, Sweden), June 2019

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

At Inria (Lille), R. Ushirobira is responsible for a monthly organized talks "30 minutes de sciences".

9.3.2. Education

- R. Ushirobira, referent researcher for projects with middle-school students at Collège A. Daudet (Leers) within the framework of Math en Jeans

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

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. General Chair, Scientific Chair

- Valeria Loscri is General Chair of ACM NanoCom 2020
- Nathalie Mitton is a member of the Steering committee of CIoT
- Nathalie Mitton is demo/poster chair of infocom 2019
- Valeria Loscri is Short Papers, Posters & Demos chair and Local Organizer of WiMoB 2019

9.1.1.2. 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, CoRES 2020, TPC chair for Persist-IoT workshop at mobihoc 2019, TPC chair for Persist-IoT at Infocom 2020
- Nathalie Mitton is TPC co-chair of ICC 2019.

9.1.1.3. Member of the Conference Program Committees

- Valeria Loscri is/was member in the Technical Program Committee (TPC) in IoTDI 2020, IEEE GLOBECOM 2020 & 2019, VTC 2020 & 2019, SECON 2020 & 2019, GIoTS 2019, CCNC 2019, ICC 2020 & 2019, WiMob 2020 & 2019 WF-IoT
- Nathalie Mitton is/was in the Technical Program Committee (TPC) of REFRESH 2020, Infocom 2020, Percom 2020 & 2019, WCNC 2020 & 2019, DCOSS 2020 & 2019, CORES 2020 VTC 2020 & 2019, IEEE GLOBECOM 2020 & 2019, GIIS 2020, ICC 2020, AdHoc-Now 2019.
- Antoine Gallais was/is in the Technical Program Committee (TPC) of IEEE GLOBECOM 2019, IEEE ICNC 2019

9.1.2. Journal

9.1.2.1. 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
- Valeria Loscri is editorial board member of Wiley Transactions Emerging Telecommunications Technologies since 2019

9.1.2.2. Guest editorial activities

- Nathalie Mitton is (co-)editor of Sensor Special Issues of MDPI Sensors on Optimization and Communication in UAV Networks and Lead Guest Editor of the Green Data Collection and Processing in Smart Cities SI at Annals of Telecoms.
- Valeria Loscri is co-editor of Future Internet Special issues of MDPI The Internet of Things in smart environments

9.1.3. Invited Talks

- Nathalie Mitton gave an invited talks at the following events: Journées scientifiques Inria in June, Recontres Inria EuraSanté in June, Journées SPOC at UTC in November and Smart Logistic at IoT Week in December and IoT Days at Paris Sorbonne in December.
- Julien Vandaele and Matthieu Berthome gave an invited talk at TechTalk S Station F in April.

9.1.4. Leadership within the Scientific Community

- Nathalie Mitton is a member of the Steering Committee of the GDR RSD 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
- Valeria Loscri is Newsletter Chair for the Technical Committee for Social Networks (TCSN) IEEE Comsoc since April 2019.

9.1.5. Scientific Expertise

- Nathalie Mitton
  - She is an elected member of the evaluation community of Inria.
  - She has acted as a reviewer for ANRT and ANR project submissions.
  - She is also member of the scientific committees of the competitiveness cluster of MATIKEN and for CITC (International Contactless Technologies Center).
  - She is member of the CA of CITC.
  - She has been a member of the PRIX Roberval committee.
  - She has been a member of the Bourses L'Oreal FRANCE.
  - She is a member of the HCERES visiting committee for the LISIS laboratory.
  - She has been appointed as reviewer for the Polish National Science Centre.
  - She has been appointed as reviewer for the Heinz Maier-Leibnitz-Prize 2020.
- Valeria Loscri
  - She has been reviewer for TOP grant for senior researchers for Netherlands Organisation for Scientific Research (NWO) program.
  - She has been reviewer for proposal for grant competition at the Center for Excellence in Applied Computational Science and Engineering (CEACSE), UTC (USA).
  - She has been external evaluator of ERC Consolidator Grants.

–   She was Scientific European Responsible for Inria Lille - Nord Europe till September 2019.

–   She is Scientific International Responsible for Inria Lille from September 2019.

9.2. Teaching - Supervision - Juries

9.2.1. 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 2019

SPOC, Nathalie Mitton, EIT Digital "Technological challenges of participatory Smart cities", 5-week by the IPL CityLab@Inria team in November 2019

Remote curse, Nathalie Mitton, Internet of things, 5-week + face to face week in May 2019

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

Master: Nathalie Mitton, Wireless networks, 16h eqTD (Master TiiR), Université Lille 1, France

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

Master: Nathalie Mitton, Smart objects, 10h CM + 12h TP, Ecole centrale de Lille, France

Master: Nathalie Mitton, Industrial Internet of Things, 10h CM Ecole centrale de Lille, France

Master: Ibrahim Amadou, Industrial to Internet of Things, 12h TP Ecole centrale de Lille, France

Master: Nathalie Mitton, Introduction to Internet of Things, 4h CM Ecole centrale de Lille, France

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

Master: Nathalie Mitton, Wireless sensor networks, 16h eqTD (Master ROC), IMT, France

Licence: Brandon Foubert, Conception Orientée Objet, 42.06h eqTD (Licence 3), FST, France

9.2.2. Supervision

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

PhD in progress: Edward Staddon, Threat detection, identification and quarantine in wireless IoT based Critical Infrastructures, Université Lille 1, 2019-2022, Nathalie Mitton & Valeria Loscri

PhD in progress: Carola Rizza, Nouveaux paradigmes de communication basés sur les technologies émergentes, Université Lille 1, 2019-2022, Valeria Loscri

PhD in progress: Emilie Bout, Denial-of-sleep over IoT networks, Université Lille 1, 2019-2022, Valeria Loscri & Antoine Gallais

PhD in progress: Meysam Mayahi, Communication Protocols based on alternative paradigm for wireless mobile devices, Université Lille 1, 2019-2022, Valeria Loscri

PhD in progress: Mohammad Hussein Ghosn, Université Lille 1, 2019-2022, Valeria Loscri & Alia Ghadar

9.2.3. Juries

*   PhD and HDR committees:
    –   Valeria Loscri is/was member of the following PhD thesis committees:
        *   Xiaojun Xi, CentraleSupeléc, Dec. 2019.
        *   Jian Song, CentraleSupeléc, Dec. 2019.

* Jorge Martinez, Universidade Politecnica Valencia, Spain, June 2019 (reviewer).
– Nathalie Mitton is/was member of the following PhD thesis committees:
    * Domga Rodrigue Komguem INSA Lyon/University of Yaoundé (reviewer)
    * Maxime Mroue, Université de Nantes, December 2019 (chair)
    * Alwan Safwan, Université Paris Est, December 2019
    * Gewu Bu, Université Paris Sorbonne, December 2019 (reviewer)
    * Marija Stojanova, Université de Lyon, December 2019
    * Henry-Joseph Audeoud, Université de Grenoble, December 2019
    * Francisco Jose Fabra Collado, Universitat Politecnica de Valencia, December 2019 (reviewer)
    * Lilian Besson, Centrale Supelec Rennes, novembre 2019 (reviewer, chair)
    * Dorin Rautu, ENSEEITH, October 2019 (chair)
    * Mariem Harmassi, Université de La Rochelle, September 2019 (reviewer)
    * Nicolas De Araujo Moreira, Université de Lille, July 2019
    * Wei Hu, Centrale Lille, July 2019 (chair)
    * Philippe Pittoli, Université de Strasbourg (reviewer) may 2019
    * Fadhlallah Baklouti, Université Bretagne Sud, February 2019
    * Mohammed Islam Naas, Université de Bretagne Occidentale (reviewer), February 2019
– Nathalie Mitton was a member of the HDR defense committees
    * Thomas Watteyne, Sorbonne Université, May 2019
* Researcher selection committees:
    – Nathalie Mitton was a member of the Professor competition selection committee at INSA Lyon
    – Nathalie Mitton was a member of the Assistant Professor (MdC) committee for Université de Lyon.
    – Nathalie Mitton was a member of a CPPI selection for Inria Saclay.
    – Nathalie Mitton was a member of the Inria chaire committee for Centrale Supelec Rennes.
    – Nathalie Mitton was a member of the Inria SRP/ARP selection.
    – Nathalie Mitton was a member of the national Inria junior researcher competition committee.
    – Valeria Loscri was a member of the Inria junior researcher competition committee for Lille center.
    – Valeria Loscri was a member of the MdC committee for Centrale Supelec.
* PhD follow-up committees:
    – Nathalie Mitton is/was reviewer of the following PhD follow-up committees:
        * Rodrigue Domgua Rodriguez, INSA Lyon
        * Alexis Bitaillou, Université de Nantes
        * Vaseileios Kotsiou, Université de Strasbourg
    – Valeria Loscri is/was reviewer of the following PhD follow-up committees:
        * Lin Chen, Centrale Supélec.

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

* Nathalie Mitton is the referent researcher for the creation of the MATH Laboratory in Nord

9.3.2. Articles and contents

* Nathalie Mitton published a paper in Techniques de l'Ingénieur.
* Valeria Loscri released an interview "Innovation Valeria Loscri, la lumière des LED contre le wifi électromagnétique" for the newspaper La Voix du Nord

RMOD Project-Team

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 2019, 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.
- Anne Etien has been PC chair of Sattose 2019.
- Santiago Bragagonolo: IWBOSE 2020 CFP Manager, Chair (workshop on blockchain software engineering).
- Stéphane Ducasse: PC-chair International Conference on Software Reuse 2020.

10.1.2.2. Member of the Conference Program Committees

- Marcus Denker has been a member of ICOOLPS 2019.
- Steven Costiou has been member of IWST 2019.
- Anne Etien has been member of BENEVOL 2019, IWor 2019, VISSOFT 2019, ICPC 2019, CIEL 2019, GDRGPL 2019, Modelwards Program Committees.
- Guillermo Polito has been PC of IWST 2019
- Guillermo Polito has been PC of Meta Workshop 2019.
- Vincent Aranega was in the PC of IWST 2019.

10.1.2.3. Reviewing Activities

- Vincent Aranega reviewed for MODELSWARD19.
- Damien Pollet reviewed for ICSOFT.

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

- Anne Etien has been a member of the editorial board for the Special issue on Dynamic Languages of *Science of Computer Programming* journal.
- Anne Etien has been editor for *CEUR* journal vol 2510.

10.1.3.2. Reviewing Activities

- Anne Etien was reviewer for *Journal of Systems and Software*.
- Steven Costiou was reviewer for *Science of Computer Programming*.
- Guillermo Polito was reviewer for *Journal IEEE Transactions on Industrial Informatics*.
- Damien Pollet was reviewer for *Science of Computer Programming*.
- Gordana Rakic was reviewer for the 3rd call for *The Programming Journal* (and Programming 2020 conference).
- Gordana Rakic was reviewer for the *Computing and Informatics* journal.

10.1.4. Invited Talks

Steven Costiou: Keynote ICCR2019 6th International Conference on Cloud and Robotics (Remote and live debugging of IOT applications: tools for researchers and developers.)

10.1.5. Scientific Expertise

- Anne Etien: expert for the French government on Research Tax Credit.
- Anne Etien: expert for the ANRT to evaluate a CIFRE file.
- Steven Costiou: program committee of the GDR-GPL 2020 challenges.

10.1.6. Research Administration

- Steven Costiou: representative of the post-doc researchers of the CRIStAL lab for the 2019 HCERES evaluation.
- Anne Etien is animator of the Software Engineering thematic Group of the CRIStAL lab since 2019.
- Anne Etien is elected at the committee of Inria Lille - Nord Europe center since 2016.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Master: Marcus Denker, 2 hours, Advanced Reflection. MetaLinks, VUB Brussels, Belgium.

Master: Steven Costiou, Fondamentaux du debugging, 20h, M2, Université de Lille

Master: Steven Costiou, Fondamentaux du debugging, 12h eTD, M2, Université de Bretagne Occidentale

Master: Steven Costiou, Introduction au C, 10h, M1 + M2, Polytech-Lille

Master: Steven Costiou, IOT, 13h, M2, Polytech-Lille

Master: Steven Costiou, IOT, 8h, M2, Université de Picardie Jules Verne

Licence: Steven Costiou, Systèmes d'information, 36h, L3, Université de Bretagne Occidentale

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

Master: Bragagnolo Santiago, Robotique avec ROS, 36h TD, M2, ISEN

Master: Bragagnolo Santiago, Introduction a la blockchain, 6h TD, M2, Université de Lille

Licence: Bragagnolo Santiago, Programmation par objet, 26.3h TD, Polytech-Lille, France

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

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

Licence: Anne Etien, Bases de données, 30h, M1, Polytech-Lille, France

Master: Anne Etien, Test et Maintenance, 10h, M1, Polytech-Lille, France

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

Master: Anne Etien, Système d'information objet, 10h, M1, Polytech Lille, France

Master: Anne Etien, Bases de données Avancées, 17h, M1, Polytech-Lille, France

Licence: Vincent Aranega, Programmation Python, 42h, niveau (L1), Université de Lille, France

Master: Vincent Aranega, Génie Logiciel, 42h, niveau (M1), Université de Lille, France

Master: Vincent Aranega, Paradigme de Programmation par la Pratique, 40h, niveau (M1), Université de Lille, France

Master: Vincent Aranega, Paradigme de Programmation par la Pratique, 15h, niveau (M1), Université de Lille, France

Licence: Vincent Aranega, Programmation C, 42h, niveau (L2), Université de Lille, France

Licence: Vincent Aranega, Programmation avancée, 32h, niveau (L3), Polytech-Lille, France

Licence: Nicolas Anquetil, Principes des Système d'Exploitation, 30h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Conception OO Avancée, 34h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Modélisation Mathématique, 36h, L2, UT-A, Université de Lille, France

Licence: Nicolas Anquetil, Production d'Application, 30h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Programation Mobile, 30h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Projets Agiles, 12h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Graphes & Languages, 64h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Suivi de Stages, 15h, L2, IUT-A, Université de Lille, France

Licence: Nicolas Anquetil, Interfaces Hommes-Machines, 32h, L2, IUT-A, Université de Lille, France

Licence: Benoît Verhaeghe, Structure de données, 22 EdTD, L3, Polytech Lille, France

Licence: Benoît Verhaeghe, Système d'exploitation, 20 EdTD, L2, Université de Montpellier, France

Licence: Benoît Verhaeghe, Fondamentaux Architecture et Systèmes d'Exploitation, 15 EdTD, L3, Polytech Montpellier, France

Master: Benoît Verhaeghe, Architecture Logicielles, 25 EdTD, M1, Polytech Lille, France

Master: Benoît Verhaeghe, Évolution et restructuration, 9 EdTD, M2, Université de Montpellier, France

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

License: Damien Pollet, Programmation objet en Java, 140h, L3, IMT Lille-Douai, France

License: Damien Pollet, Systèmes numériques, 18h, L3, IMT Lille-Douai, France

Master: Damien Pollet, Technologies des systèmes d'informations, 28h, M1, IMT Lille-Douai, France

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

Master: Damien Pollet, Algorithmes pour les réseaux, 22h, M2, IMT Lille-Douai, France

Licence: Julien Delplanque, Structure de données, 18 EdTD, L3, Polytech Lille, France

Licence: Julien Delplanque, Base de données relationnelles, 16 EdTD, L3, Polytech Lille, France

Master: Julien Delplanque, Base de données, 12 EdTD, M1, Polytech Lille, France

Master: Julien Delplanque, Informatique Industrielle 2, 12 EdTD, M1, Polytech Lille, France

Master: Stéphane Ducasse. Pharo, 20h, University of Prague, Czech Republic

Master: Stéphane Ducasse, Advanced Design, 16h, M1, Université Brest, France

Licence: Stéphane Ducasse, Interpreters, 24h, L3, Université de Lille, France

Master: Stéphane Ducasse, Pharo, 2h, M1, Polytech Lille, France

Master: Stéphane Ducasse, Advanced Design, 2h, M1, ENS Paris Sud, France

Master: Stéphane Ducasse, Advanced Design, 20h, M1, Université de Picardie, France

Master: Stéphane Ducasse, Advanced Design, 20h, M2, Tunis ENSI, Tunisia

Master: Stéphane Ducasse, Advanced Design, 9h, M1, Université de Brest, France

Master: Stéphane Ducasse, Modelisation, 18h, M1, Paris Pantheon Sorbonne, France

Licence: Carolina Hernández Phillips, Algorithmique et Programmation, 12 EdTD, L3, IMT Lille Douai, France

E-learning

Pharo Mooc, 7 weeks, Licences and Master students

Pedagogical resources: *TinyBlog: Develop your First Web App with Pharo* [16] and *Pharo with Style* [17]

10.2.2. Supervision

PhD: Jason Lecerf, *Designing Language-Agnostic Code Transformation Engines*, 26 Nov 2019, CEA, Thierry Goubier, Stéphane Ducasse

PhD in progress: Oleksandr Zaitsev, *Machine Learning-Based Tools to Support Software Evolution*, started Jul 2019, Stéphane Ducasse, Nicolas Anquetil

PhD in progress: Benoît Verhaeghe, *Support à l'automatisation de la migration d'interface d'applications Web : le cas de GWT vers Angular*, started Jan 2019, Anne Etien, Nicolas Anquetil

PhD in progress: Théo Rogliano, *On multiple language kernel*, started Oct 2019, Stéphane Ducasse, Luc Fabresse

PhD in progress: Pierre Misse-Chanabier, *Modular, green, versatile Virtual Machines*, started Oct 2019, Stéphane Ducasse, Noury Bouraqadi

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

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

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

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

10.2.3. Juries

Dynamic program analysis for suggesting test improvements to developers, Oscar Luis Vera Perez, KTH Royal Institute of Technology, (Sweden), 17/12/2019.

Adaptation non-anticipée de comportement : application au déverminage de programmes en cours d'exécution, Steven Costiou, Université de Bretagne Occidentale, Brest (France), 26/11/2018.

Modélisation et évaluation de la sécurité des parcours d'authentification Youssou Ndaye, Université Rennes 1, France, 10/12/19

Challenges in the collaborative evolution of a proof language and its ecosystem Théo Zimmermann, Université de Paris, France, 12/12/19

ARIANE: Automated Re-documentation to Improve software Architecture uNderstanding and Evolution, Alexandre Le Borgne, IMT Mines Alès, France, 12/12/19.

Contribution à la conception d'un Système de Recommandation dédié à la réutilisation de composants logiciels, Brice Evrard Tarehy, Université de Fianarantsoa, Madagascar, Jan. 2020.

10.3. Popularization

10.3.1. Articles and contents

- Olivier Auverlot, Stéphane Ducasse, Luc Fabresse. *TinyBlog: Créer votre première application web avec Pharo* [15].
- Olivier Auverlot, Stéphane Ducasse, Luc Fabresse. *TinyBlog: Develop your First Web App with Pharo* [16].
- Stéphane Ducasse. *Pharo with Style* [17].

10.3.2. Education

- A MOOC for Pharo is online (Stéphane Ducasse). http://mooc.pharo.org
- The Pharo Consortium was part of GSOC (Google Summer of Code) again in 2019. Oleksandr Zaitsev was co-organizer. RMoD mentored some of the Students.

10.3.3. Interventions

- Multiple public Pharo Sprints in Lille.
  https://association.pharo.org/events
- RMOD co-organized and participated at ESUG 2019.
  http://www.esug.org/wiki/pier/Conferences/2019

10.3.4. Internal action

- 30 Minutes de Sciences, Inria Lille - Nord Europe. 25 octobre 2019: *Hard bugs and how to track them with Unanticipated Debugging*, Steven Costiou.

<h2 style="color:red; text-align:center">SPIRALS Project-Team</h2>

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 Workshop on Methods and Tools for Rigorous System Design (MeTRiD)

Laurence Duchien

- general chair European Conference on Software Engineering (ECSA)

Walter Rudametkin Ivey

- Atelier sur la Protection de la Vie Privée (APVP)

10.1.1.2. Member of the Organizing Committees

Pierre Bourhis

- Atelier sur la Protection de la Vie Privée (APVP)
- Knowledge Comparison Workshop (KOCOON)

Clément Quinton

- publicity chair International Systems and Software Product Line Conference (SPLC)
- proceedings chair European Conference on Software Engineering (ECSA)

Romain Rouvoy

- poster & demonstration chair International Symposium on Reliable Distributed Systems (SRDS)

10.1.2. Scientific Events Selection

10.1.2.1. Chair of Conference Program Committees

Laurence Duchien

- co-chair International Systems and Software Product Line Conference (SPLC)

10.1.2.2. Member of the Conference Program Committees

Simon Bliudze

- International Conference on Coordination Models and Languages (Coordination)
- International Conference on Formal Methods in Software Engineering (FormaliSE)
- International Conference on Formal Aspects of Component Software (FACS)
- International Conference on Verification and Evaluation of Computer and Communication Systems (VECoS)
- International Symposium on Model-Based Safety and Assessment (IMBSA)
- Workshop on Formal Approaches for Advanced Computing Systems (FAACS)
- International Workshop on Foundations of Coordination Languages and Self-Adaptative Systems (FOCLASA)
- Embedded Systems and the Internet of Things track at Euromicro Software Engineering and Advanced Applications conference (ES-IoT@SEAA)

Pierre Bourhis

- International Conference on Database Theory (ICDT)
- ACM SIGMOD International Conference on Management of Data (PODS)
- International Joint Conferences on Artificial Intelligence (IJCAI)
- Conférence sur la Gestion de Données – Principes, Technologies et Applications (BDA)

Laurence Duchien

- International Conference on Software Architecture (ICSA)
- International Workshop Series on Conducting Empirical Studies in Industry (CESI) in conjonction with the ICSE conference
- International Workshop on Software Qualities And Their Dependencies (SQADE) in conjunction with the ESEC/FSE conference
- Belgium-Netherlands Software Evolution Workshop

Pierre Laperdrix

- USENIX Workshop on Offensive Technologies (WOOT)

Philippe Merle

- International Conference on Cooperative Information Systems (CoopIS)
- International Conference on Evolving Internet (INTERNET)
- International Conference on Cloud Computing, GRIDs, and Virtualization (CLOUD COMPUTING)
- International Conference on Advanced Service Computing (SERVICE COMPUTATION)
- International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM)
- Workshop on CrossCloud Infrastructures & Platforms (CrossCloud)
- International Workshop on Adaptive and Reflective Middleware (ARM)

Clément Quinton

- International Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)
- ACM Symposium on Applied Computing (SAC) SA-TTA Track
- International Systems and Software Product Line Conference (SPLC)
- SPLC Demonstration and Tools Track
- International Workshop on Software Product Line Teaching (SPLTea)
- Women in Software Architecture (WSA ECSA)

Romain Rouvoy

- International Conference on Service Oriented Computing (ICSOC)
- ACM Symposium on Applied Computing (SAC) DADS Track
- International Conference on Ambient Systems, Networks and Technologies (ANT)
- ACM International Conference on Distributed and Event-based Systems (DEBS)
- International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP)
- International Workshop on Advances in Mobile App Analysis (A-Mobile)
- Eurosys Doctoral Workshop

Lionel Seinturier

- IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)
- ACM Symposium on Applied Computing (SAC) SA-TTA Track
- International Conference on Software Technologies (ICSOFT)
- International Conference on Service Oriented Computing (ICSOC)
- ACM International Conference on Management of Emergent Digital EcoSystems (MEDES)
- International Conference on Computational Collective Intelligence (ICCCI)

Walter Rudametkin Ivey

- International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS) Track D: Security and Privacy

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

Simon Bliudze: Science of Computer Programming (SCICO), Journal of Logical and Algebraic Methods in Programming (JLAMP)

Laurence Duchien: Journal of Systems and Software (JSS).

Pierre Laperdrix: IEEE Access, Emerald Journal of Intellectual Capital.

Philippe Merle: ACM Computing Surveys (CSUR), Elsevier Future Generation Computer Systems (FGCS), IEEE Transactions on Services Computing (TSC), IEEE Access, Wiley Software Practice and Experience (SPE).

Clément Quinton: Elsevier Information and Software Technology (IST), Science of Computer Programming (SCICO).

Romain Rouvoy: Elsevier Information and Software Technology (IST), Elsevier Journal of Systems and Software (JSS), ACM Transactions on Internet of Things (TOIT), ACM Computing Surveys (CSUR), IEEE Transactions on Software Engineering (TSE).

Walter Rudametkin Ivey: ACM Transactions on the Web (TWEB), IEEE Transactions on Services Computing (TSC), IEEE Communications Magazine.

Lionel Seinturier: ACM Transactions on Software Engineering and Methodology (TOSEM), Springer Journal of Internet Services and Applications (JISA), Wiley Journal of Software Evolution and Process (JSME).

10.1.4. Invited Talks

Simon Bliudze gave a tutorial on the Rigorous Component-based Design in BIP at the 6th International Symposium on Model-Based Safety and Assessment (IMBSA) and an invited lecture on Component-Based Design of Concurrent Software in BIP for a group of Master 2 students at the Aristotle University of Thessaloniki (Greece).

Pierre Bourhis gave an invited talk on Reasoning on Leak of Information for Database Views at the Emerging Challenges in Databases and AI Research Seminar in Santa Cruz, Chile.

Romain Rouvoy gave an invited talk on "*Enabling In situ Location Privacy*" during the IRIXYS workshop organized in Lyon in June 2019. He was also a keynote speaker during the national days of the GDR GPL in June 2019 with a talk entitled "*Quels défis pour le développement durable des logiciels ?*".

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 Hcéres committee for the UMR Laboratoire d'Informatique de Grenoble (LIG). She was expert for Canada NSERC, and DGRI (Ministère de la Recherche) program PHC. She was chair of the recruitment committee for Professor in Computer Science at ENS Lyon. She was member of the recruitment committee for two associate professor positions at the University of Luxembourg.

Romain Rouvoy was vice-chair of the recruitment committee for research scientists at Inria Lille - Nord Europe. He was member of the recruitment committee for associate researchers at University of Luxembourg. He was member of scientific committee 25 - Infrastructures (networks, high performance computing and storage), software sciences and technologies of the French Research Agency (ANR). He was scientific expert for DRRT IDF.

Lionel Seinturier was chair of the recruitment committee for Professor in Computer Science at CNAM Paris. He was member of the promotion committee to Tenured Associate Professor, Department of Electrical and Computer Engineering, University of Waterloo, Canada. He was member of the IEEE Technical Council on Software Engineering Distinguished Educational Award Committee. He was scientific expert for Chile CONICYT, Belgium Innoviris, DRRT IDF.

10.1.7. Research Administration

Simon Bliudze was member of steering committees of International Interaction and Concurrency Experience workshop (ICE) and the International Symposium on Formal Approaches to Parallel and Distributed Systems (4PAD). He is lead guest editor for a special issue on Verification and Evaluation of Computer and Communication Systems (VECoS) of Innovations in Systems and Software Engineering: A NASA Journal (ISSE, Springer) and guest editor for a special issue on Methods and Tools for Rigorous System Design (MeTRiD) of the International Journal on Software Tools for Technology Transfer (STTT, Springer).

Laurence Duchien is member of the CNRS CoCNRS section 6 committee, and of the "bureau" of this committee. She is chairing the scientific and technical council of the PICOM business and research cluster for the retail industry. She is member of the scientific councils of IMT Atlantique (Nantes), Labex CIMI (Toulouse), IRT SystemX (Saclay). She is member of the steering committees of the European Conference on Software Architecture (ECSA) and of the Systems and Software Product Lines Conference (SPLC). She was guest editor for a special issue on the Configurable Systems of Springer Empirical Software Engineering journal. She was member of the committee for the Women in Science and Engineering Award from IEEE TCSE. She was member of a panel on soft skills for PhD students on humanities and social sciences for MESHS Lille. She is in charge of the Career development & Intersectoral secondments in the PEARL Project ("Programme for EArly-stage Researchers in Lille") at I-SITE Université Lille Nord Europe.

Philippe Merle is elected member of the Inria scientific board (CS), elected member of the Inria technical committee (CTI), elected member of the Inria national committee on "hygiène, de sécurité et des conditions de travail" (CNHSCT), 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 elected 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 SPI doctoral school council of University of Lille.

Romain Rouvoy is an elected member of the "bureau" of the French chapter of the ACM Special Interest Group in Operating Systems (SIGOPS / ASF) and elected member of the administrative council of SpecifCampus. He is a member of the steering committee of DAIS (International Conference on Distributed Applications and Interoperable Systems).

Walter Rudametkin Ivey is member of the CDT (Comité de Développement Technologique) of the Inria Lille - Nord Europe research center.

Lionel Seinturier is member of the BSC (Bureau Scientifique du Centre) for the Inria Lille - Nord Europe research center. Until August 2019, he was Scientific Advisor for the evaluation of ICT research laboratories

at the Hcéres. Since December 2019, he is chair of CNU27, the Computer Science section of the "Conseil National des Universités".

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, 2nd year of the Engineering cycle
- INF442: Traitement des données massives, 40h, 2nd year of the Engineering cycle

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).

- Info553: Bases de données, 18h, Cycle Polytechnique
- Modal Graphe Géant, 36h

Laurence Duchien teaches at the Université de Lille in the FST faculty. She is project leader for doctoral studies at Université de Lille.

- Software engineering project, 60h, Level M2, Master MIAGE FI
- Software engineering project, 50h, Level M2, Master MIAGE FC/FA
- Research initiation, 20h, Level M2, Master of Computer Science

Clément Quinton teaches at the Université de 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 Université de Lille in the FST faculty. He heads the Master of Computer Science program at the Université de 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 Université de 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 Université de Lille in the FST faculty. Until July 2019, he headed the Computer Science Department at the Faculty of Science and Technology of the Université de 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: Antoine Vastel, Cartographie de la qualité d'expérience pour l'accès à l'internet mobile, Université de Lille, October 2019, Romain Rouvoy & Walter Rudametkin. [14]
- PhD: Benjamin Danglot, Automatic Unit Test Amplification for DevOps, Université de Lille, November 2019, Martin Monperrus & Lionel Seinturier. [11]
- PhD: Lakhdar Meftah, Cartography of the Quality of Experience for Mobile Internet Access, Université de Lille, December 2019, Romain Rouvoy, co-supervision with Isabelle Chrisment (Inria Madynes). [13]
- PhD: Sarra Habchi, Une supervision de contexte sensible à la confidentialité pour les développements logiciels en crowdsource, Université de Lille, December 2019, Romain Rouvoy. [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: Trình Lê Khánh, Design of Correct-by-Construction Self-Adaptive Cloud Applications using Formal Methods, October 2019, Philippe Merle & Simon Bliudze.

10.2.3. Juries

Simon Bliudze

- Wajeb Saab (École polytechnique fédérale de Lausanne, Switzerland), examiner
- Rim El Ballouli (Université Grenoble Alpes), examiner

Laurence Duchien

- Stepan Shevtsov (Linnaeus University, Sweden and KU Leuven, Belgium), reviewer
- HDR, Marius Bilasco (Université de Lille), chair
- Thibault Raffaillac (Université de Lille), chair

Romain Rouvoy

- Hanyang Cao (Université de Bordeaux), reviewer
- Mousa Hayam (INSA Lyon), reviewer
- Stefan Contiu (Université de Bordeaux), reviewer
- Adrien Luxey (Université de Rennes 1), reviewer

Lionel Seinturier

- HDR, Thomas Polacsek (Université de Toulouse), reviewer
- Xinxiu Tao (Université Grenoble Alpes), reviewer
- Benjamin Benni (Université Nice Sophia Antipolis), reviewer

10.3. Popularization

10.3.1. Interventions

Pierre Laperdrix gave a talk in May at the RuhrSec IT security conference organized by the Ruhr University Bochum. The aim of the conference is to popularize different topics to an audience of non-experts so that they are familiar with the latest trends in computer security.

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 member of Bureau ED (Ecole Doctorale) SPI 072 in the domain of AGITSI (Automatique, Génie Informatique Traitement du Signal et des Images), 2020-2024.
- Gang Zheng is member of Bureau Scientifique (ex-BCP) of Inria Lille – Nord Europe, from February 2019.
- Gang Zheng was a vice-chair of the IFAC Technical Committee "Social Impact of Automation", International Federation of Automatic Control, TC9.2, till 2019
- Gang Zheng is co-chair of the working group "Commande et pilotage en environnement incertain" of GRAISYHM
- Christian Duriez was chair of the workshop " Modeling, Simulation and Control of Deformable Robots on SOFA Framework" organized during Robosoft Conference 2019 https://team.inria.fr/defrost/software/defrost-platform-modeling-simulation-and-control-of-deformable-robots-on-sofa-framework/

10.1.1.2. Member of the Organizing Committees

- This year, Stefan Escaida Navarro was a Co-Organizer of the *2nd Workshop on Proximity Perception in Robotics* at *IROS 2019* in Macao, China. [0]
- Gang Zheng, Associate Editor, SIAM CT19, Chengdu, China (SIAM Conference of Control & Its Applications 2019)
- Christian Duriez is member of the organizing committee of ICRA 2020 (in Paris), chair of Social Media and Community.

10.1.2. Scientific Events: Selection

10.1.2.1. Member of the Conference Program Committees

- Gang Zheng is IPC member of SIAM19, ICSRT19, ICFCTA19, ICRAI19, AITC19, APCRAS20, ICSRT20, ETFA20, ICSC20.
- Jeremie Dequidt is IPC member of International Symposium on Visual Computing 2019
- Christian Duriez is IPC of Robosoft 2019 and Robosoft 2020

10.1.2.2. Reviewer

Alexandre Kruszewski was revewier for:

- 2020 21st IFAC World Congress
- 2020 3rd IEEE International Conference on Soft Robotics
- 2020 American Control Conference
- 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems
- 2019 IEEE Conference on Decision and Control
- 2019 IEEE International Conference on Fuzzy Systems
- 2019 Chinese Control and Decison Conference

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[0] https://www.proxelsandtaxels.org/en/

Olivier Goury was reviewer for:

- 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- IEEE International Conference on Soft Robotics (ROBOSOFT 2020)

Stefan Escaida Navarro was reviewer for:

- 2020 IEEE International Conference on Robotics and Automation (ICRA 2020)
- 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019)

Jeremie Dequidt was reviewer for:

- 2019 International Symposium on Visual Computing
- 2020 IEEE Conference on Virtual Reality and 3D User Interfaces
- 2019 IEEE International Conference on Robotics and Automation (ICRA 2019)
- 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019)

Christian Duriez was reviewer for:

- 2019 IEEE International Conference on Robotics and Automation (ICRA 2019)
- 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019)
- Conference Robotics Science and System (RSS 2019)
- Siggraph Conference 2019

10.1.3. Journal

10.1.3.1. Member of the Editorial Boards

Christian Duriez is associate editor of:

- IEEE Transactions on Haptics
- IEEE Robotics and Automation Letters

10.1.3.2. Reviewer - Reviewing Activities

Olivier Goury was reviewer for:

- ACM CHI Conference on Human Factors in Computing Systems
- International Journal of Robotics Research (IJRR)
- IEEE Robotics and Automation Letters

Stefan Escaida Navarro was reviewer for:

- IEEE Robotics and Automation Letters (RA-L)
- IEEE Sensors Journal

Alexandre Kruszewski was revewier for:

- IEEE Transaction on Fuzzy Systems
- IEEE Robotics and Automation Letters
- IEEE Transactions on Vehicular Technology
- International Journal of Robotics Research
- Systems & Control Letters
- Fuzzy Sets and Systems
- IET Control Theory & Applications

Jeremie Dequidt was reviewer for:

- IEEE Transaction on Haptics
- IEEE Robotics and Automation
- IEEE Robotics and Automation Letters

Christian Duriez was reviewer for:
- Nature Robotics
- International Journal of Robotic Research
- IEEE Robotics and Automation Letters
- IEEE Transactions on Graphics

10.1.4. Invited Talks

Christian Duriez was invited for:
- Keynote at IEEE Robosoft Conference
- Keynote during scientific day of FEMTO (Besançon)
- Keynote & Practice during the 9th Summer School on Surgical Robotics
- Keynote during the FOOR 2019 (Forum Ouvert Oeuvre et Recherche) in Lille

10.1.5. Scientific Expertise

Christian Duriez is expert of the European Community for monitoring the FET project HybridHeart

10.1.6. Research Administration

- Christian Duriez has been nominated Director of the Inria Lille – Nord Europe center for an interim of 3 months (July to September). He is also the president of the "Commission des Emplois de Recherche" (Research Jobs Commission)
- Olivier Goury is an elected member of the "Comité de centre" and a member of the "Comité de développement technologique" (CDT) at Inria Lille – Nord Europe.
- Alexandre Kruszewski is member of the Laboratory council (CRIStAL).
- Damien Marchal is lead of the "Pôle d'Appui au Développement et à la Recherche" of the CRIStAL Laboratory.

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

Engineering cycle: Walid Amehri, Start & Go Arts et Sciences, 24h, level L3, Centrale Lille.

Engineering cycle: Walid Amehri, Start & Go Conception et Environement, 10h, level L3, Centrale Lille.

Engineering cycle: Walid Amehri, Automatique IE3, 20h, level L3, Centrale Lille.

Engineering cycle: Alexandre Kruszewski, 14 modules (automatic control, numeric control, embedded systems, robotics etc.), ≈250h, level (L3, M1, M2), Centrale Lille

Engineering cycle: Jeremie Dequidt 6 modules (Programming, Software Engineering, Embedded Systems, Databases, Medical Simulation etc.) ≈350h, level (L3, M1, M2), Polytech Lille

Master: Christian Duriez, Soft robotics, 24h, M2, Graduate degree en intelligence artificielle à l'Ecole Polytechnique (Palaiseau)

Master: Christian Duriez, Interactive simulation, 20h, M2, Master Image Visualisation Interaction, Université de Lille

10.2.2. Supervision

PhD: Eulalie Coevoet, Optimization Based Inverse Model of Soft Robots With Contact Handling, Université de Lille, 9/01/2019, C. Duriez

PhD: Zhongkai Zhang, Vision-based calibration, position control and force sensing for soft robots, Université de Lille, 10/01/2019, J. Dequidt, C. Duriez

PhD: Maxime Thieffry, Modélisation et contrôle de robots déformables à grande vitesse, UPHF, 16/10/2019, A. Kruszewski, C. Duriez, T.M. Guerra

PhD in progress: Walid Amehri, Workspace analysis of soft robots, G. Zheng, A. Kruszewski

PhD in progress: Ke Wu, Control of soft robot under constraints, G. Zheng

PhD in progress: Pierre Schegg, Catheter Navigation using Reinforcement Learning, J. Dequidt and C. Duriez

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

10.2.3. *Juries*

Gang Zheng has participated the following juries of thesis:

- Imen Mrad, Observabilité et inversion à gauche des systèmes dynamiques hybrides, defended at 16/12/2019, Université de Cergy-Pontoise (Reviewer);
- Yanqiao Wei, Non-asymptotic and robust fractional order differentiators using generalized modulating functions, defended at 15/11/2019, INSA Val de Loire (Examinator);
- Saber Laamiri, Commande des systèmes électriques: Machines synchrones et convertisseurs multi-niveaux, defended at 27/09/2019, Ecole centrale de Nantes (Examinator).

Christian Duriez was member of the following juries of PhD thesis:

- Margaret Koehler, Model-Based Design And Control Of Deformable Robots And Haptic Devices, Stanford University, USA, defended on the 14th of November 2019 (Reviewer)
- François Schmitt, Méthodes et procédés pour l'assistance à la chirurgie laparoscopique par comanipulation, University of Strasbourg, defended the 30th of September 2019 (Reviewer)
- Quentin Peyron, Concept de robot à tube concentrique magnétique: introduction et analyse, defended the 5th of December 2019 (President of the Jury)

Christian Duriez was member of the following juries for Habilitation thesis:

- Sinan Haliyo, Interactions Multi-Echelles, defended the 6th of December 2019 (Reviewer)
- Guillaume Caron, Vision Robotique Directe, defended the 10th of December 2019 (President of the Jury)

10.3. Popularization

- http://handsonsoftrobotics.lille.inria.fr/
- SIDO 2019: SIDO is leading European Solutions and Technologies event for IoT, Artificial Intelligence and Robotics for strategic decision-makers in innovation and business operations. Jeremie Dequidt has presented current research works arund Soft Robotics.

10.3.1. *Interventions*

- Fête de la science 2019: Bruno Carrez and Olivier Goury took part in the " village des sciences" at the "Gare Saint-Sauveur" in Lille city center to present soft robots to several groups of students from middle school and high school which represents about 150 children over 2 days between October 10th and 11th 2019.
- FOSDEM 2019 Brussels: its an open-software manifestation which happen every years during 2 days. Some people of our team (Damiens Marchal, Eulalie Coevoet, Bruno Marques, Bruno Carrez and Félix Vanneste) went there to help the SOFA consortium to make some advertisement of our simulation tools.
- ISN intervention: Olivier Goury presented the field of soft robotics to high school students taking a Computer Science option (Informatiques sciences du numérique) and exchanged about the school projects on March the 20th 2019.

- Défi Robotique at Lycée Baggio: Olivier Goury took part in the Défi Robotique at Lycée Baggio in which teams of middle school, high school, preparatory classes and engineering students have 24 hours to solve a robotics challenge. Olivier Goury gave a conference on Soft Robotics and was a member of jury.

- Journée de la recherche Centrale Lille: Alexandre Kruszewski, Thor Morales-Bieze and Bruno Carrez presented the research activities (with live demos) in a showroom dedicated to the promotion of the scientific activities of the Laboratory of the campus.

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LINKS Project-Team

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10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events: Selection

10.1.1.1. Chair of Conference Program Committees

J. Niehren was co-chair of the programm committee of WPTE 2019.

10.1.1.2. Member of the Conference Program Committees

- J. Niehren: member of the Program Committee of LATA 2019
- S. Tison: member of the program committee of FSCD (International Conference on Formal Structure for Computation and Deduction) 2019.
- S. Staworko: member of the program committee of EDBT 2020: International Conference on Extending Database Technology, Copenhagen, Denmark, March 30–April 2, 2020; Demonstration Track
- F. Capelli: member of the program committee of IJCAI 2019

10.1.2. Journal

10.1.2.1. Member of the Editorial Boards

J. Niehren is editor of Fundamenta Informaticae

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)

10.1.3. Invited Talks

- S. Staworko has been invited in GT Automata, Logic, Games and Algebra (ALGA) to give the talk *Shape Expressions Schemas for RDF: Semantics, Complexity, and Inference* (Oct 2019, Paris)
- I. Boneva and J. Dusart have been invited to Ghent University, Belgium Wikidata and Wikibase Workshop: developing a Wikibase instance (3 - 5 July 2019) as expert on ShapeDesigner
- F. Capelli has been invited in the seminar of LIMD (Université de Savoie) (13/06/2019)
- F. Capelli has been invited in the Dagstuhl Seminar "Deduction Beyond Satisfiability" (10/09/2019)
- F. Capelli has been invited in the seminar of LACL (Université Paris-Est Creteil) (18/11/2019)
- F. Capelli has been invited in "Journée du GT ALGA" (Paris, 11/10/201)9

10.1.4. Scientific Expertise

- S. Tison: member of the coordinating committee of I-Site Université Lille Nord Europe, about innovation and relationship with social economical world
- S. Tison: head of CITC-Eurarfid until June 2019
- J. Niehren: member of the board of the comittee of project-teams of Inria Lille

10.1.5. Research Administration

- S. Salvati: elected alternate member of Inria Evaluation Commission (2019-2023)
- F. Capelli: co-organizer of *Groupe de Travail* of CNRS IMIA (Informatique Mathématique Intelligence Artificielle)
- F. Capelli: organiser of a AI DAY for the GDR IM

- F. Capelli: organiser of an international workshop on knowledge compilation (project SACRe Kocoon - http://kocoon.gforge.inria.fr/)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

I. Boneva teaches computer science in DUT Informatique of Université de Lille

F. Capelli teaches computer science in UFR LEA of Université de Lille for around 200h per year (Licence and Master). He is also responsible of remediation of Licence 1 in its UFR.

A. Lemay teaches computer science in UFR LEA of Université de Lille for around 200h per year (Licence and Master). He is also responsible for computer science and numeric correspondent for its UFR.

J. Niehren gives two lessons for the 2nd year students of the Master MOCAD (Université de Lille): one on databases (20.5h) and one on information extraction (21h).

C. Paperman teaches computer science for a total of around 200h per year. He gives lessons in UFR MISASH (Université de Lille), in Licence and Master. He also gives a database lesson of 25h in Master MOCAD (Université de Lille).

S. Salvati teaches computer science for a total of around 230h per year in computer science departement of Université de Lille. That includes Introduction to Computer Science (L1, 50h), Logic (L3, 50h), Algorithmic and operational research (L3, 36h), Functional Programming (L3, 35h), Research Option (L3, 10h), Semantic Web (M2, 30h), Advanced Databases (M1, 20h). He is *directeur d'étude* of Master MIAGE FA. He is a member of conseil de departement in Computer Science department of Université de Lille and of the ad-hoc commission of Doctoral School that studies PhD applications in computer science.

S. Staworko teaches computer science for a total of around 200h in UFR MIME (Université de Lille). He is co-head of the master web-analyst at Université de Lille.

S. Tison teaches computer science for a total of around 120h at Université de Lille. That includes a course on Advanced algorithms and complexity (54h, M1) and Business Intelligence (36h, M1).

S. Tison is member of the selection Board for "Agrégation" in Mathematics, more specifically in charge of the option "Computer Science".

10.2.2. Supervision

PhD: L. Gallois, Recursive Queries, defended on December 19, 2019, supervised by P. Bourhis (Team SPIRALS) and S. Tison

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

PhD in progress: P. Gallot, On safety of data transformations, since October 2017, supervised by A. Lemay and S. Salvati

PhD in progress: J.M. Lozano, On data integration for mixed database formats, supervised by I. Boneva and S. Staworko

PhD in progress: M. Sakho, Hyperstreaming Query answering on graphs, since 2016, supervised by J. Niehren and I. Boneva

10.2.3. Juries

10.2.3.1. PhDs committees

- J. Niehren was a reviewer of the PhD thesis of *Antony Lick* at ENS Cachan 2019
- S. Tison was member of the jury for *Xinzhe Wu*, Université de Lille, March 2019

- S. Tison was member of the jury for *Stathis Delivorias*, Université de Montpellier, September 2019 (reviewer)
- S. Tison was member of the jury for *Nicolas Bloyet*, Université Bretagne Sud, December 2019 (reviewer)

10.2.3.2. HDR committees

- S. Tison was member of the jury for *Arnaud Carayol*, December 2019, Université Paris Est-Marne la Vallée (reviewer)
- S. Salvati was member of the jury for *Colin Riba*, ENS Lyon, December 2019

10.3. Popularization

10.3.1. Education

RIC Days   S. Salvati organizes the *Recherche Innovation et Créativité days*. It presents research professions to student (primarily Master students)

10.3.2. Interventions

Introduction to programming   I. Boneva has supervised second year students from DUT while they conducted activities on introduction to programming to 9-10 years old students in Villeneuve d'Ascq

TFJM[2]   In 2019, L. Gallois participated in the organization of this event of the *Tournoi Français des jeunes mathématiciennes et mathématiciens*, a national contest of mathematics for high-school students

10.3.3. Internal action

- Inria by Lille: J. Niehren contributed an article in the december issue of "Inria by Lille" titled "Interroger les bases de données d'une manière plus intelligente"

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

10. Dissemination

10.1. Promoting Scientific Activities

10.1.1. Scientific Events Organization

10.1.1.1. General Chair, Scientific Chair

- **HAID 2019**: Thomas Pietrzak, Marcelo Wanderley

10.1.2. Scientific Events: Selection

10.1.2.1. Chair of Conference Program Committees

- **IHM** (AFIHM): Thomas Pietrzak

10.1.2.2. Member of the Conference Program Committees

- **CHI** (ACM): Géry Casiez, Stéphane Huot, Thomas Pietrzak
- **IHM** (AFIHM): Mathieu Nancel, Thibault Raffaillac (Work in Progress)
- **WebMedia** (SBC): Raiza Hanada
- **ISS** (ACM): Sylvain Malacria

10.1.2.3. Reviewer

- **CHI** (ACM): Géry Casiez, Stéphane Huot, Sylvain Malacria, Mathieu Nancel, Thomas Pietrzak
- **UIST** (ACM): Géry Casiez, Sylvain Malacria, Mathieu Nancel, Thomas Pietrzak
- **IDC** (ACM): Géry Casiez
- **DIS** (ACM): Stéphane Huot, Mathieu Nancel
- **GI**: Géry Casiez, Mathieu Nancel
- **ISS** (ACM): Mathieu Nancel, Thomas Pietrzak
- **SUI** (ACM): Mathieu Nancel

10.1.3. Journal

10.1.3.1. Reviewer - Reviewing Activities

- **Transactions on Computer-Human Interaction** (ACM): Géry Casiez, Thomas Pietrzak, Mathieu Nancel
- **Intl. Journal of Human-Computer Studies** (Elsevier): Sylvain Malacria
- **User Modeling and User-Adapted Interaction** (Springer): Sylvain Malacria

10.1.4. Invited Talks

- *Who [was|is|will be] in Control?: Some Control-Related Challenges in Interacting with Complex Systems*, **2nd JST-ANR Joint Symposium: Symbiotic Interaction**, Tokyo, Japan: Stéphane Huot

10.1.5. Leadership within the Scientific Community

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

- Géry Casiez: member of the scientific council since March 2019
- Stéphane Huot: member of the scientific council until March 2019

10.1.6. Scientific Expertise

- Agence Nationale de la Recherche: Stéphane Huot (vice-chair for the CES33 "Interaction and Robotics" committee)
- CN35 AFNOR normalization committee about normalizing the French keyboard: Mathieu Nancel (publication of the NF Z71-300 standard)

10.1.7. Research Administration

10.1.7.1. For Inria

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

10.1.7.2. For Inria Lille – Nord Europe

- "Bureau du comité des équipes projets" (BCEP): Stéphane Huot (member)
- "Commission des Emplois de recherche du centre Inria Lille – Nord Europe" (CER): Sylvain Malacria (member)
- "Comité opérationnel d'évaluation des risques légaux et éthiques" (COERLE, the Inria Ethics board): Stéphane Huot (local correspondent)
- "Commission de développement technologique" (CDT): Mathieu Nancel (member)

10.1.7.3. For the CRIStAL lab of Université de Lille & CNRS

- Direction board: Géry Casiez
- Computer Science PhD recruiting committee: Géry Casiez (member)

10.1.7.4. For the Université de Lille

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

10.1.8. Hiring committees

- Université de Valenciennes hiring committee for a Computer Science Professor position: Géry Casiez (member)
- ENAC hiring committee for a Computer Science faculty position: Stéphane Huot (member)

10.2. Teaching - Supervision - Juries

10.2.1. Teaching

DUT Informatique: Géry Casiez (38h), Stéphane Huot (28h), Axel Antoine (28h), Thibault Raffaillac (56h) *IHM*, 1st year, IUT A de Lille - Université de Lille

DUT Informatique: Axel Antoine (32h), CDIN-CALC, 1st year, IUT A de Lille - Université de Lille

DUT Informatique: Marc Baloup, Algorithme et Programmation, 21.5h, 1st year, IUT A de Lille - Université de Lille

DUT Informatique: Marc Baloup, CDIN Web, 11h, 1st year, IUT A de Lille - Université de Lille

DUT Informatique: Thibault Raffaillac, Codage et Systèmes d'exploitation, 64h, 1st year, IUT A de Lille - Université de Lille

DUT Informatique: Thibault Raffaillac, Algorithmique avancée, 64h, 1st year, IUT A de Lille - Université de Lille

Licence Informatique: Thomas Pietrzak, *Logique*, 36h, L3, Université de Lille

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

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

Master Informatique: Thomas Pietrzak (18h), *NIHM*, M2, Université de Lille

Master Informatique: Sylvain Malacria (12h), *NIHM*, M2, Université de Lille

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

Master Informatique: Mathieu Nancel, *Evaluation*, 8h, M2, Université de Lille

10.2.2. Supervision

PhD: Thibault Raffaillac, *Languages and System Infrastructure for Interaction*, defended in Dec. 2019, advised by Stéphane Huot

PhD: Hakim Si Mohammed, *Improving Interaction Based on a Brain-Computer Interface*, defended in Dec. 2019, advised by Anatole Lecuyer, Ferran Argelaguet, Géry Casiez & Nicolas Roussel (in Rennes)

PhD: Jeronimo Barbosa, *Design and Evaluation of Digital Musical Instruments*, McGill University, defended in May 2019, advised by Marcelo Wanderley & Stéphane Huot (in Montréal)

PhD in progress: Grégoire Richard, *Touching avatars : le rôle du retour haptique dans les interactions avec les avatars en réalité virtuelle*, started Oct. 2019, advised by Géry Casiez & Thomas Pietrzak

PhD in progress: Philippe Schmid, *Command History as a Full-fledged Interactive Object*, started Oct. 2019, advised by Mathieu Nancel & Stéphane Huot

PhD: Damien Masson, *Supporting Interactivity with Static Content*, University of Waterloo, started in January 2019, advised by Edward Lank, Géry Casiez & Sylvain Malacria (in Waterloo)

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

10.2.3. Juries

Hugo Romat (PhD, Université Paris-Saclay): Stéphane Huot, president

Emmanouil Giannisakis (PhD, Université Paris-Saclay): Géry Casiez, reviewer

Marie-Éléonore Kessaci (HDR, Université de Lille): Géry Casiez, president

10.2.4. Mid-term evaluation committees

Antonin Durey (PhD, Université de Lille): Géry Casiez

Théo Voillemin (PhD, Université de Lille): Géry Casiez

Vikas Mishra (PhD, Université de Lille): Géry Casiez

10.3. Popularization

10.3.1. Internal or external Inria responsibilities

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

10.3.2. Articles and contents

The Mother Of All Demos, l'autre révolution de 1968, interview for Carré, Petit, Utile : Le programme radio des gens du numérique on Radio <FMR>, Stéphane Huot

web series *Dopamine* on Arte.tv, scientific expertise, Stéphane Huot

10.3.3. Interventions

Intervention during the official launch event of the new NF Z71-300 French keyboard standard at the Assemblée Nationale: Mathieu Nancel

MAGNET Project-Team

9. Dissemination

9.1. Promoting Scientific Activities

9.1.1. Scientific Events: Organisation

9.1.1.1. Member of the Organizing Committees

- MARC TOMMASI and AURÉLIEN BELLET co-organized the APVP conference on privacy [0].

9.1.2. Scientific Events: Selection

9.1.2.1. Member of the Conference Program Committees

- MARC TOMMASI served as PC member for ICML'19, CAP'19, IJCAI'19 (Senior PC chair), ECML'19 (Area Chair), NeurIPS'19 (Area Chair), APVP'19.
- JAN RAMON served as PC member for AAAI'19, AISTATS'19 & '20, APVP'19, Bigdata'19, CIKM'19, DS'19, ECML/PKDD'19, GEM@ECML'19, IEEE-ICDM'19, ICML'19, IJCAI'19, ILP'19, LEG@ECML'19, LOD'19, MLG'19, NeurIPS'19, SDM'19 & '20.
- PASCAL DENIS served as PC member for ACL'19 and EMNLP'19.
- AURÉLIEN BELLET served as Area Chair for ICML'19, and PC member for AISTATS'20, NeurIPS'19, PPML workshop at CSS'19, PPML workshop at NeurIPS'19, FL workshop at NeurIPS'19, PPAI workshop at AAAI '20, CAP'19.
- MIKAELA KELLER served as PC member for ICML'19, CAP'19 and ECML'19.
- RÉMI GILLERON served as PC member for AISTATS'19 & '20, ICLR'19 & '20, ECML/PKDD'19, NeurIPS'19 and CAP'19.

9.1.3. Journal

9.1.3.1. Member of the Editorial Boards

- JAN RAMON was member of the editorial board of Data mining and knowledge discovery (DMKD), and of the editorial board of Machine learning journal (MLJ)

9.1.3.2. Reviewer - Reviewing Activities

- MARC TOMMASI was reviewer for the ECML-PKDD Journal Track.
- AURÉLIEN BELLET was reviewer for SIAM Journal on Mathematics of Data Science.

9.1.4. Invited Talks

- AURÉLIEN BELLET gave invited talks at several workshops and research school: "Graph signals: learning and optimization perspectives" [0], "The power of graphs in machine learning and sequential decision making" [0], "CIFAR-UKRI-CNRS Workshop on AI & Society: From principles to practice" [0], "Workshop on Federated Learning and Analytics" [0], "International Workshop on Machine Learning & Artificial Intelligence" [0], "Kick-off seminar of the HumAIn Alliance in Artificial Intelligence" [0], "Research School on Uncertainty in Scientific Computing" [0], "GDR RSD and ASF Winter School on Distributed Systems and Networks" [0].
- AURÉLIEN BELLET was invited to talk at the seminars of Thales Research & Technology, Miles team at Paris Dauphine.
- MIKAELA KELLER gave an invited talk on "Algorithmiques de graphes pour l'étude de réseaux sociaux" at "École d'été internationale : Formation de maîtrise et de doctorat en méthodes et outils numériques : l'analyse de réseaux en histoire" [0].

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[0] https://project.inria.fr/apvp2019/
[0] https://graph-sig-2019.sciencesconf.org/
[0] https://graphpower.inria.fr/
[0] https://www.turing.ac.uk/events/cifar-ukri-cnrs-ai-society-principles-practice
[0] https://sites.google.com/view/federated-learning-2019/
[0] https://workshopmlai.wp.imt.fr/
[0] https://www.alliance-humain.fr/
[0] http://www.gdr-mascotnum.fr/etics.html
[0] https://sites.google.com/site/rsdwinterschool/

9.1.5. 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].

- JAN RAMON was a member of the jury for the European Young Researchers Award (EYRA) of Euroscience.

- PASCAL DENIS served as CoCNRS representative for the evaluation panel of Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur, HCERES [0].

- PASCAL DENIS acted as external expert for Innovis [0], Brussels Institute for Research and Innovation (Belgium).

9.1.6. Research Administration

- MIKAELA KELLER is member of the Conseil du laboratoire CRIStAL.

- MARC TOMMASI is co-head of the DatInG group (4 teams, 80 persons) and member of the Conseil Scientifique du laboratoire CRIStAL.

- PASCAL DENIS served as an elected member of the Comité National du CNRS, section 34 (Sciences du Langage).

- PASCAL DENIS served as a member of the CNRS Pre-GDR NLP Group.

- JAN RAMON was a member of the Inria-Lille committee emploi-recherche (CER).

9.2. Teaching - Supervision - Juries

9.2.1. Teaching

Licence SCE: FABIO VITALE, Apprentissage et émergence des comportements, 30h, L2, Université de Lille.

Licence MIASHS: FABIO VITALE, Algorithmique et programmation, 42h, L3, Université de Lille.

Licence SoQ: FABIO VITALE, Bases de données et SQL, 16h, L1, Université de Lille.

Licence MIASHS: FABIO VITALE, Introduction aux bases de données, 18h, L3, Université de Lille.

Licence SHS: MARC TOMMASI, Data Science, 24h, L2, Université de Lille.

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

Licence: MARC TOMMASI, Traitement de textes et tableur, 28h Université de Lille.

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

Master SHS: MARC TOMMASI, IT Tools for professional translators, 24h, M2 Université de Lille.

Licence SHS: MARC TOMMASI, Python Programming, 48h, L2 Université de Lille.

Licence MIASHS: MIKAELA KELLER, Python II, 40h, L2, Université de Lille.

Licence MIASHS: MIKAELA KELLER, Traitement de données, 42h, L2, Université de Lille.

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

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

Master Computer Science: MIKAELA KELLER, Machine Learning, 24h, M1, Université de Lille.

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[0]http://www.grhs.uqam.ca/?portfolio=ecole-dete-internationale-formation-de-maitrise-et-de-doctorat-methodes-et-outils-numeriques-lanalyse-de-reseaux-en-histoire

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

[0]https://www.hceres.fr/en

[0]https://innoviris.brussels/

Master Data Science: FABIO VITALE, Algorithms and their complexity, 30h, M1, Ecole Centrale de 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, 14h, Télécom ParisTech.

Master Informatique: PASCAL DENIS, Foundations of Machine Learning, 46h, M1, Université de Lille.

9.2.2. Supervision

Postdoc: MOHAMED MAOUCHE, supervised by AURÉLIEN BELLET, MARC TOMMASI, Privacy attacks on representation learning for speech processing, since November 2019.

PhD: MATHIEU DEHOUCK, Multi-lingual Dependency Parsing: Word Representation and Joint Training for Syntactic Analysis, 2015-2019, 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.

PhD in progress: MOITREE BASU, Integrated privacy-preserving AI, since 2019. JAN RAMON.

PhD in progress: CÉSAR SABATER, Privacy Preserving Machine Learning, since 2019. JAN RAMON.

Master internship in progress: PAUL MANGOLD, supervised by AURÉLIEN BELLET and MARC TOMMASI, since October 2019.

9.2.3. Juries

MARC TOMMASI was member of the PhD jury of Corentin Hardy (rapporteur), Guillaume Metzler (rapporteur), Ronan Fruit (President)

MARC TOMMASI was member of the Habilitation jury of Rémi Eyraud (rapporteur).

MARC TOMMASI was member of the recruitment committee of Assistant Professors in Computer Science at École centrale de Lille.

AURÉLIEN BELLET was member of the PhD jury of Alexandre Garcia (Télécom Paris).

MIKAELA KELLER was member of the PhD jury of Guillaume Lample (LIP6)

MIKAELA KELLER was member of the recruitment committee of Assistant Professors in Computer Science at Sorbonne Université (LIP6).

RÉMI GILLERON was head of the PhD jury of Lily Galois (Université de Lille)

9.3. Popularization

9.3.1. Internal or external Inria responsibilities

AURÉLIEN BELLET is member of the Operational Committee for the assesment of Legal and Ethical risks (COERLE).

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

9.3.2. Articles and contents

AURÉLIEN BELLET and MARC TOMMASI provided expertise for the Dopamine TV program on Arte about new technologies [0].

AURÉLIEN BELLET co-authored an article in the French daily newspaper Libération on AI and transparency [0].

RÉMI GILLERON authored a book (in French) introducing Machine Learning [0].

RÉMI GILLERON gave a talk in order to popularize Artificial Intelligence.

9.3.3. Interventions

In educational institutions: MARC TOMMASI was facilitator for the event *Jouer à débattre*, about machine learning in high school (Tourcoing).

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[0] https://www.arte.tv/fr/videos/RC-017841/dopamine/
[0] https://www.liberation.fr/debats/2019/04/07/grand-debat-et-ia-quelle-transparence-pour-les-donnees_1719944
[0] https://www.editions-ellipses.fr/accueil/4741-apprentissage-machine-cle-de-l-intelligence-artificielle-une-introduction-pour-non-specialistes-9782340028807.html