Rémi WATRIGANT

Assistant Professor
Université Claude Bernard Lyon 1

Born in 1988 in Nîmes (France)

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Education

2011-2014 **Ph.D. in Computer Science.**
Title: *Approximation and parameterized complexity of some graph optimization problems.* LIRMM, University of Montpellier 2 (France). Supervised by Rodolphe Giroudeau and Marin Bougeret.
Defended on October 2nd, 2014. Jury:
- Frédéric Havet. CNRS, INRIA Sophia-Antipolis. Reviewer.
- Vangelis Th. Paschos. University of Paris-Dauphine . Reviewer.
- Mathieu Liedloff. University of Orléans. Examiner.
- Christophe Paul. CNRS, LIRMM Montpellier. Examiner.
- Stéphan Thomassé. École Normale Supérieure, Lyon. President of the jury.
- Vassilis Zissimopoulos. Kapodistrian University of Athens. Examiner.

2009 - 2011 **Master's degree in Computer Science.**
University of Montpellier 2 (France).
Research internship (6 months) supervised by Christophe Paul (LIRMM).

2006 - 2009 **Bachelor's degree in Mathematics - Computer Science.**
University of Nîmes (France).

Academic Positions

10/17-... **Assistant Professor.**
Université Claude Bernard Lyon 1.

11/16-09/17 **Postdoctoral Researcher.** Supervised by Dorian Mazauric and Frédéric Havet.
ABS and COATI Teams, INRIA Sophia-Antipolis.

09/15-07/16 **Research Assistant.** Supervised by Gregory Gutin.
Computer Science Department, Royal Holloway University of London.

10/14-07/15 **Research and Teaching Assistant.** Supervised by Yixin Cao.
Department of Computing, Hong Kong Polytechnic University.

09/11-10/14 **Ph.D. student.** Supervised by Rodolphe Giroudeau and Marin Bougeret.
LIRMM, University of Montpellier 2 (France).

Publications

Journals

The Bi-Objective Workflow Satisfiability Problem and Workflow Resiliency.
With Jason Crampton, Gregory Gutin and Daniel Karapetyan.
Journal of Computer Security (accepted).

Multidimensional Binary Vector Assignment Problem: Standard, Structural and Above Guarantee Parameterizations.
With Marin Bougeret, Guillerme Duvillié and Rodolphe Giroudeau.
Discrete Mathematics & Computer Science. Accepted.
(journal version of the FCT'15 paper).

Approximating the Sparsest k-Subgraph in Chordal Graph.
With Marin Bougeret and Rodolphe Giroudeau.
Theory of Computing Systems, 58(1), pp. 111-132, 2016.
(journal version of the WAOA'13 paper).

On the Sum-Max Graph Partitioning Problem.
With Marin Bougeret, Rodolphe Giroudeau and Jean-Claude König.
Theoretical Computer Science 540-541, pp. 143-155.
(journal version of the ISCO'12 paper).

Conferences

Complexity Dichotomies for the Minimum F-Overlay Problem.
With Nathann Cohen, Frédéric Havet, Dorian Mazauric and Ignasi Sau
IWOCA 2017, accepted.

On the satisfiability of workflows with release points.
With Jason Crampton and Gregory Gutin.
SACMAT 2017, pp. 207-217.

Parameterized Resiliency Problems via Integer Linear Programming..
With Jason Crampton, Gregory Gutin and Martin Koutecký.
CIAC 2017, pp. 164-176.

A Multivariate Approach for Testing Resiliency in Access Control.
With Jason Crampton and Gregory Gutin.
AAIM 2016, Springer LLNCS 9778, pp 173-184.

Resiliency Policies in Access Control Revisited.
With Jason Crampton and Gregory Gutin.
Proceedins of SACMAT 2016, ACM, pp 101-111. **Best paper award**.

Multidimensional Binary Vector Assignment Problem: Standard, Structural and Above Guarantee Parameterizations.
With Marin Bougeret, Guillerme Duvillié and Rodolphe Giroudeau.
Proceedings of FCT 2015, Springer LNCS 9210, pp. 189-201.
Journal version submitted.

Parameterized Complexity of the Sparsest k-Subgraph Problem in Chordal Graphs.
With Nicolas Bousquet, Marin Bougeret and Rodolphe Giroudeau.
Proceedings of SOFSEM 2014, Springer LNCS 8327, pp. 150-161.
Journal version in revision for ToCS.

Approximating the Sparsest k-Subgraph in Chordal Graphs.
With Marin Bougeret and Rodolphe Giroudeau.
Proceedings of WAOA 2013, Springer LNCS 8447, pp. 73-84.

Sum-Max Graph Partitioning Problem.
With Marin Bougeret, Rodolphe Giroudeau and Jean-Claude König.
Proceedings of ISCO 2012, Springer LNCS 7422, pp. 297-308.

Theses

Approximation and Parameterized Complexity of Graph Optimization Problems (in French).
Ph.D. thesis. Supervised by Rodolphe Giroudeau and Marin Bougeret.

Lower Bounds for Kernelization (in French).
M.Sc. thesis. Supervised by Christophe Paul.

Talks and presentations (selection)

2017	**Resiliency problems: algorithms and applications.** Computer Science department Seminar. Royal Holloway University of London (UK), January 10th.
2016	**Resiliency Policies in Access Control Revisited.** SACMAT 2016. Shanghai (China). June 6-8, 2016. **Parameterized Complexity Analysis of Testing Resiliency.** Seminar, Institure for Computer Science and Control. Budapest (Hungary). June 2nd, 2016. **On a Parameterized Problem in Access Control.** COATI's group seminar. Sophia Antipolis (France). March 15h, 2016.
2015	**Multidimensional Binary Vector Assignment Problem.** 20th International Symposium on Fundamentals of Computation Theory. Gdansk (Poland). August 17-19, 2015. **Cardinality Constrained Optimization Problems.** Workshop on Parameterized Algorithms. Tokyo (Japan). February 28-March 1, 2015.
2014	**Parameterized Complexity of the Sparsest k-Subgraph Problem in Chordal Graphs.** SOFSEM 2014. High Tatras (Slovakia). January 25-30, 2014.
2013	**Parameterized Complexity of Graph Compaction Problems.** Journées Graphes et Algorithmes. Orsay (France). November 13-15, 2013. **Approximating the Sparsest k-Subgraph in Chordal Graphs.** Workshop on Approximation and Online Algorithms (WAOA'13). Sophia-Antipolis (France). September 5-6, 2013. **Finding a Sparse k-Subgraph in Restricted Graph Classes.** Combinatorial Optimization seminar, LAMSADE. Paris (France). February 25, 2013.
2012	**Sum-Max Graph Partitioning Problem.** International Symposium on Combinatorial Optimization (ISCO'12). Athens (Greece). April 17-21, 2012. **Approximability of the Sum-Max Graph Partitioning Problem.** International Workshop on Approximation, Parameterized and Exact Algorithms (APEX'12). Paris (France). February 28-29, 2012. **Kernel Lower Bound for the k-Domatic Partition Problem.** French AGAPE project on Parameterized and Exponential Algorithms. Montpellier (France). February 6-10, 2012.
2011	**Lower Bounds for Kernelization.** AlGCo group seminar. Montpellier (France). May 12, 2011.

Teaching (total: 320h eq. TD)

2016-2017	**Teaching fellow, University of Nice (DUT Informatique):** Introduction to Object Oriented Programming: lectures, labs. 48h. Introduction to networks: lectures, labs. 24h.
2014-2015	**Teaching fellow, Hong Kong Polytechnic University:** Advanced Topics in Optimization (teaching assistant). Business and Information Systems Strategies (teaching assistant).
2013-2014	**Teaching fellow, University of Nîmes (France):** Introduction to C++: lectures, labs. 64h.
2012-2013	**Teaching fellow, University of Nîmes (France):** Introduction to C++: lectures, labs. 32h. Networks: labs. 8h. Data Structures: labs. 20h. Project supervision: 6h. **Supervision of a Master thesis, University of Montpellier 2:** Algorithmic complexity of some graph partitioning problems. With Rodolphe Giroudeau and Marin Bougeret.
2011-2012	**Teaching fellow, University of Nîmes (France):** Introduction to C++: lectures, labs. 32h. Mathematics for Computer Science: lectures, labs. 32h.
2008-2009	**Tutoring, University of Nîmes (France):** Mathematical programming in Maple. 20h.

Reviewing for conferences/journals

- **Journal of Computer and System Science**.
- **Theory of Computing Systems**.
- **Theoretical Computer Science**.
- **WG '16, ISAAC '15, COCOON '15, MFCS '15, ALGOTEL '14, WADS '13**

Other duties

2014	President of the Ph.D. student's council of the LIRMM. Member of the LIRMM's laboratory council.
2013-2014	Member of the Ph.D. students' council of the LIRMM.
2012-2013	Co-organizer of the LIRMM's Ph.D. students seminar.

Work Experience

06/2010-08/2010	Developer for data mining applications. LGI2P Laboratory, Nîmes (France).
06/2009-08/2009	Developer for data mining applications. LGI2P Laboratory, Nîmes (France).