#### Renault Gabriel

### Doctor in computer science

Member of the University of Mons's Effective Mathematics team

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# **University Curriculum:**

- 2014-Present: post-doctorate in University of Mons (Mons, Belgium) with Thomas Brihaye within the CASSTING project.
- Jan-Aug 2014: post-doctorate in Beijing Jiaotong University (Beijing, China) with Yanquan Feng.
- 2010-2013: PhD supervised by Paul Dorbec and Éric Sopena on the subject *Combinatorial Games on Graphs*, defended on 29/11/2013.
- 2008-2011: Master of Fundamental Computer Science at ÉNS Lyon. Civil Servant.
- 2007-2008: Licence 3 of Fundamental Computer Science at ÉNS Lyon. Civil Servant.
- 2005-2007: Preparatory classes (MPSI then MP\*) at Lycée Henri IV in Paris.

Due to a stay in Japan where I mostly had language lessons, I followed two Master courses in computer science in Bordeaux during the first year of my PhD.

## **Professional Experience and International Stays:**

- Jun-Sep 2012: research stay at Dalhousie University (Halifax, Canada) with Richard Nowakowski.
- Feb-Jul 2010: Master internship at LaBRI (Bordeaux, France) supervised by Éric Sopena and Paul Dorbec on the subject Partizan combinatorial games on coloring graphs.
- 2009-2010: exchange student at Nagoya University, Japan.
- May-Jul 2009: M1 internship at University of Bergen (Norway) supervised by Binh-Minh Bui-Xuan on the subject FPT Algorithms on graphs.
- Jun-Jul 2008: L3 internship at LSV at ÉNS Cachan (France) supervised by Patricia Bouyer and Nicolas Markey on the subject Optimal Multi-strategies.

#### **Publications**

#### **International Journals**

- Gabriel Renault: Binary dicots, a core of dicot games. *Integers*, Volume 15, (2015), Article G1.
- Paul Dorbec, Gabriel Renault, Aaron Siegel, Éric Sopena: Dicots, and a taxonomic ranking for misère games (extended version). *Journal of Combinatorial Theory Series A*, Volume 130, (2015), pp.42-63.
- Paul Dorbec, Gašper Košmrlj, Gabriel Renault: The domination game played on union of graphs. *Discrete Mathematics* 338 (2015), 71-79.
- Éric Duchêne, Gabriel Renault: Vertex Nim played on graphs. *Theorical Computer Science*, Volume 516 (2014), pp.20-27.
- Rebecca Milley, Gabriel Renault: Dead ends in misère play: the misère monoid of canonical numbers. *Discrete Mathematics* 313 (2013), pp. 2223-2231.
- Richard J. Nowakowski, Gabriel Renault, Emily Lamoureux, Stephanie Mellon, Timothy Miller: The game of timber! *Journal of Combinatorial Mathematics and Combinatorial Computing* 85 (2013), 213-225.

#### **International Conferences**

- Paul Dorbec, Gabriel Renault, Aaron N. Siegel, Éric Sopena: Dicots, and a taxonomic ranking for misère games. *EuroComb* 2013.
- Isolde Adler, Binh-Minh Bui-Xuan, Yuri Rabinovich, Gabriel Renault, Jan Arne Telle, Martin Vatshelle: On the Boolean-Width of a Graph: Structure and Applications. *36th International Workshop "Graph Theoretic Concepts in Computer Science"*, *WG 2010*, Zarós, Crete, Greece, June 28-30. Lecture Notes in Computer Science 6410 (2010), pp. 159-170.
- Patricia Bouyer, Marie Duflot, Nicolas Markey, Gabriel Renault: Measuring Permissivity in Finite Games. *20th International Conference "Concurrency Theory"*, *CONCUR 2009*, Bologna, Italy, September 1-4. Lecture Notes in Computer Science 5710 (2009), 196-210.

#### **National Conferences**

- Paul Dorbec, Urban Larsson, Richard Nowakowski, Gabriel Renault, Carlos Santos, Aaron Siegel, Éric Sopena :
  - About Misère Dicot Games
  - Journées Graphes et Algorithmes, November 2014, Dijon.
- Paul Dorbec, Gašper Košmrlj, Gabriel Renault: Domination Game and no-minus graphs. *Journées Graphes et Algorithmes*, November 2013, Orsay.
- Paul Dorbec, Gabriel Renault, Aaron N. Siegel, Éric Sopena: Dicots, and a taxonomic ranking for misère games. *CMS Summer Meeting*, May 2013, Halifax, Canada.
- Richard J. Nowakowski, Gabriel Renault: Le jeu de Timber. *Journées Graphes et Algorithmes*, November 2012, Clermont-Ferrand.
- Éric Duchêne, Gabriel Renault: Vertex Nim : une variante de Nim dans les graphes. *Journées Graphes et Algorithmes*, November 2011, Lyon.
- Paul Dorbec, Gabriel Renault, Éric Sopena: Une étude du jeu de Col. *Journées Graphes et Algorithmes*, November 2010, Marseille.

#### Workshops

- Gabriel Renault: *Comparing comparison modulo sets of games*. Combinatorial Game Theory Colloquium 1 (2015), Lisbon, Portugal.
- Paul Dorbec, Gabriel Renault, Éric Sopena: *Toppling Switches*. Games at Dal 2012, Halifax, Canada.

#### **Manuscripts**

- Paul Dorbec, Gabriel Renault, Éric Sopena: Toppling switches.
- Gabriel Renault, Simon Schmidt: On the Complexity of the Mis\`ere Version of Three Games Played on Graphs. Submitted.
- Julien Bensmail, Gabriel Renault: Decomposing oriented graphs into 6 locally irregular oriented graphs. Submitted.
- Boštjan Brešar, Paul Dorbec, Sandi Klavžar, Gašper Košmrlj, Gabriel Renault: Complexity of the Game Domination Problem. Submitted.
- Thomas Brihaye, Gilles Geeraerts, Axel Haddad, Benjamin Monmege, Guillermo A. Pérez, Gabriel Renault : Quantitative Games under Failures. Submitted.

## **Teaching Experience:**

- 2013-2014: Supervision of a tutorial on Theoretical Computer Science 1 (L2, 24h+15h) and of a tutorial on Networks (M1, 24h).
- 2012-2013: Supervision of a tutorial on Theoretical Computer Science 1 (L2, 34.67h) and of two tutorials on Network Usage (L3, 2\*15h).
- 2011-2012: Supervision of a tutorial on Theoretical Computer Science 1 (L2, 34.67h) and of two tutorials on Internet and Informatics Certificate (L1, 2\*13.33).

## **Scientific mediation:**

- MATh.en.JEANS: Supervision of a student group working on research problems, from 2010 to 2013.
- Maths à Modeler: Supervision of two classes (CM2 and 6°) working on simplified research problem, to understand what a proof is, in 2013.

These activities have also been carried out during mathematic games fair, science fair and open doors day of University Bordeaux 1, with a more varied public.

# **Project membership:**

- Member of project PEPS CNRS Misère (2012-2013).
- Member of projet PHC Franco-Slovène Graph Domination (2013-2014).
- Member of project FP7 EU CASSTING (2014-2015).
- Member of project ANR GAG (2015-2018).

### **Collective interest tasks:**

- Member of the organisation comitee of BGW 2012 (http://bgw.labri.fr/2012/).
- Member of the organisation comitee of BWIC 2011 (http://bwic2011.labri.fr/).
- Reviewer of an article for the book Games of No Chance 5, published by Mathematical Science Research Institute, Berkeley, USA.
- Reviewer of an article for the International Journal of Game Theory, published by Springer, Berlin, Germany.