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Mohammed SENHAJI

Doctor in computer science

Education

2015-2018, LaBRI, Bordeaux University

PhD in computer science, under the supervision of Olivier BAUDON and Éric SOPENA. Completed September 2018.

Thesis title : Neighbour distinguishing decompositions of graphs.

Referees :

- Maria AXENOVICH, KIT, Karlsruhe, Germany.
- Alexandre PINLOU, LIRMM, Montpellier, France.

Jury members :

- Aline PARREAU, LIRIS, Lyon, France.
- Arnaud PÊCHER, LaBRI, Bordeaux, FRANCE.

2013-2015, Bordeaux University

Master degree in computer science, Algorithmics and formal methods. Four months internship in LaBRI under the supervision of Olivier BAUDON and Éric SOPENA.

2009-2015

Professional activities.

2005-2008, Enseirb-Matmeca, Engineer school of Bordeaux INP

1st and 2nd year in computer science.

Publications

Published :

- O. Baudon, J. Przybyło, E. Sidorowicz, M. Senhaji, É. Sopena, M. Woźniak, *The neighbour-sum-distinguishing edge-colouring game*, Discrete Mathematics, 340 (2017), 1564-1572.
- O. Baudon, M. Pilśniak, J. Przybyło, M. Senhaji, É. Sopena, M. Woźniak, *Equitable neighbour-sum-distinguishing edge and total colourings*, Discrete Applied Mathematics, 222 (2017), 40-53.
- J. Bensmail, M. Senhaji, K. Szabo Lyngsie, *On a combination of the 1-2-3 Conjecture and the Antimagic Labelling Conjecture*, Discrete Mathematics & Theoretical Computer Science, 19(1), 2017, 22.
- O. Baudon, J. Bensmail, H. Hocquard, M. Senhaji, É. Sopena, *On locally irregular decompositions of subcubic graphs*, Opuscula Mathematica, 38(6), 2018.
- O. Baudon, J. Bensmail, M. Senhaji, E. Sopena, *Neighbour-Sum-2-Distinguishing Edge-Weightings : Doubling the 1-2-3 Conjecture*, Discrete Applied Mathematics, 251 (2018), 83-92.
- O. Baudon, J. Bensmail, T. Davot, H. Hocquard, J. Przybyło, M. Senhaji, E. Sopena, M. Woźniak, *A general decomposition theory for the 1-2-3 Conjecture and locally irregular decompositions*, (accepted 2019).

Submitted :

- Olivier Baudon, J. Bensmail, H. Hocquard, M. Senhaji, E. Sopena, *Edge Weights and Vertex Colours : Minimizing Sum Count*.

Workshops :

- *Bounded acyclic and oriented colourings* 6th Polish Combinatorial Conference, Będlewo, September 19-23, 2016.
- *The neighbour-sum-distinguishing edge-colouring game* Bordeaux Graph Workshop 2016.

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Positions

2018-2019

Postdoc position in ALGCO team of LIRMM, with teaching duties at the university of Montpellier, France.

2019-

Postdoc position in Graphs and optimization team at the LaBRI, with teaching duties at the university of Bordeaux, France.

Teaching

2018-

- *Imperative programming*, to second year undergraduate students at Computer Science department of the university of Montpellier, France.
- *Algorithmic and linear data structures*, to second year undergraduate students at Computer Science department of the university of Montpellier, France.
- *Introduction to algorithmic and programming*, to first year undergraduate students at Computer Science department of the university of Montpellier, France.

2016-2018

- *Cryptology*, to master degree students at Computer Science department in Enseirb-Matmeca, Engineer school of Bordeaux INP.
- *Networks Architecture*, to master degree students at Computer Science department in Enseirb-Matmeca, Engineer school of Bordeaux INP.
- *Probability and statistics*, to undergraduate students at Computer Science department in Enseirb-Matmeca, Engineer school of Bordeaux INP.

2008 - 2009

Mathematics teacher Magendie high school – Bordeaux.

Projects / Contracts

2015-2016

Member of the INTERNATIONAL PROGRAM FOR SCIENTIFIC COOPERATION (PICS) *Graph partitions* (n°6367), between LaBRI and mathematics department of AGH University, Krakow, POLAND.

2017-

Member of the National Research Agency (ANR) funded collaborative research project *Homomorphisms of Signed Graphs* (HOSIGRA).

Research visits

AGH University of Science and Technology, Krakow, Poland

Two visits of two weeks in 2016 and 2017 to the discrete mathematics department as part of the PICS collaboration program *Graphs partitions*.

DTU University, Copenhagen, Denmark

Invited visitor for 10 days by Pr. Carsten THOMASSEN team at the mathematics department in August 2016.

Other activities

2016-2018

Co-organizer of the Graphs and optimisation weekly seminar in LaBRI.

2016

Member of the organisation team of the Bordeaux Graph Workshop 2016.

2016-2017

Deputy president of the PhD students Association (AFoDIB).

2015-2016

Volunteer for the “Maths à modeler” project, proposing mathematical activities for middle school students.