

Lalla MOUATADID

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EDUCATION

- 2014-
[Expected
2018] | **PhD**, Computer Science, Theory Group: **Algorithms & Graph Theory**
University of Toronto (UofT), ON, Canada
Supervisors: Derek Corneil & Allan Borodin
- 2012-2014 | **Master of Science**, Computer Science, Theory Group
University of Toronto (UofT), ON, Canada
Supervisors: Derek Corneil & Allan Borodin
Thesis: *Linear Time Algorithms on Cocomparability Graphs*
- 2006-2009 | **Bachelor of Science**, Computer Science, minor in Mathematics
Vancouver Island University (VIU), BC, Canada
Graduated *magna cum laude* / with *distinction*
Thesis: *Gray Code Generation of Ideals of Crown Posets in CAT*

WORK EXPERIENCE

- 2014 & 2016 | **Course Instructor**, 3rd year Computer Science
University of Toronto, Canada
CSC 373: *Algorithm Design, Analysis & Complexity*, 100+ students
Duties included: Curriculum Design (lectures, assignments, exams). Organizing TAs. Holding Office Hours. Grading.
- 2009 - 2012 | **Software Engineer**, NISA
Nanaimo, BC, Canada
Duties included: Building customized software solutions for clients.
Sole developer for NISA's biggest projects: CanadianNanny.ca
- 2008 | **Java Developer**, Summer Co-op Internship, Pelican Software
Nanaimo, BC, Canada
Duties included: Implementing software components to tubular management inventory systems for businesses in the Oil and Gas industry.

PUBLICATIONS

- 2018 | **Graph Searches and Geometric Convexities in Graphs.**
Feodor Dragan, Michel Habib, & Lalla Mouatadid
ICGT.
- 2017 | **Maximum Induced Matching Algorithms via Vertex Ordering Characterizations.** Michel Habib & Lalla Mouatadid.
ISAAC. Vol. 92, pp 43:1-43:12. LIPIcs.
Invited to the Special Issue - Algorithmica
Preliminary results presented at STOC 2017 - Poster Presentation.
- A New Graph Parameter to Measure Linearity.**
Pierre Charbit, Michel Habib, Lalla Mouatadid, & Reza Naserasr.
COCOA. pp 154-168. Springer. Journal version submitted to DAM.
- 2016 | **A Linear Time Algorithm to Compute a Max Weighted Independent Set on Cocomparability Graphs.** Ekkehard Köhler & Lalla Mouatadid.
Information Processing Letters. Vol. 116, issue 6, pp 391-395.
- 2014 | **Linear Time LexDFS on Cocomparability Graphs.**
Ekkehard Köhler & Lalla Mouatadid.
SWAT. pp 319-330. Springer. Journal version submitted to Algorithmica

UPCOMING WORK - Manuscripts available

· **Approximating Modular Decomposition is Hard.**

Michel Habib, Lalla Mouatadid, & Mengchuan Zou.
Submitted.

· **A Note on the De Bruijn-Erdős Theorem for Asteroidal-Triple Free Graphs.**

Lalla Mouatadid.
Submitted.

· **The LexDFS Structure of Posets.**

Derek Corneil, Lalla Mouatadid, & Gara Pruesse.
In Preparation.

· **Faster Simple Triangle Graphs Recognition.**

George Mertzios, Lalla Mouatadid, & Viktor Zamaraev
In Preparation.

SELECTED [INVITED] TALKS

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| 2018 | Dagstuhl Seminar on High Performance Graph Algorithms
A Toolbox to Extract Structure From Graphs

SIAM Discrete Math , Denver, U.S.A.
Maximum Induced Matching Algorithms via Vertex Orderings |
| 2017 | Princeton University , Princeton, U.S.A.
Graph Searches on Structured Families of Graphs

Shanghai Jiao Tong University , Shanghai, China
Graph Searches on Structured Families of Graphs

Workshop on Graph Classes, Optimization, and Width Parameters (GROW) , Toronto, Canada
Maximum Induced Matching on Cocomparability Graphs |
| 2016 | Fourth Annual Heidelberg Laureate Forum , Heidelberg, Germany
Graph Searches on Structured Families of Graphs - Poster.
Invited by Laureate Professor Stephen Cook.

Search Games: Theory and Algorithms , Leiden, The Netherlands
Graph Searches on Structured Families of Graphs. |
| 2015 | Workshop on Graph Classes, Optimization, and Width Parameters (GROW) , Aussois, France
Path Graphs, Clique Trees, and Flowers.

University Paris Diderot, IRIF , Paris, France
Path Graphs, Clique Trees, and Flowers.

Brandenburgische Technische Universität , Cottbus, Germany
Path Graphs, Clique Trees, and Flowers. |
| 2014 | Southeastern International Conference on Combinatorics, Graph Theory, and Computing , Boca Raton, U.S.A.
Linear Time LexDFS on Cocomparability Graphs. |

RESEARCH VISITS

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| Summer 2015 | University Paris Diderot, IRIF , France

Brandenburgische Technische Universität , Germany |
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AWARDS, HONORS, & FELLOWSHIPS

2018	Alfred B. Lehman Graduate Scholarship.
2017-2018	Doctoral Completion Award.
2015-2018	NSERC Post Graduate Scholarship - Doctoral.
2012-2017	Graduate Student Fellowship, Computer Science, U of Toronto.
2014	ACM-Women full sponsorship for the Grace Hopper Conference.
2013	First Prize: Poster at the ACM Celebration of Women in Computing.
2009	Math Association of America sponsorship to present bachelor's thesis.
2007-2008	Vancouver Island University Academic Excellence Award. Ina Roelants Memorial Award. International Education Academic Excellence Scholarship. David Jones Scholarship for Leadership and Volunteer Work.

TEACHING EXPERIENCE

2013-2018	Teaching Assistant , U. of Toronto: <ul style="list-style-type: none">· CSC 2404: Computability & Logic. Graduate course, Prof. Steve Cook· CSC 2420: Algorithm Design, Analysis, & Theory. Graduate course, Prof. Allan Borodin· CSC 473: Advanced Algorithm Design· CSC 373: Algorithm Design, Analysis, & Complexity· CSC 263: Data Structures and Analysis· CSC 236: Introduction to Theory of Computation· CSC 165: Mathematical Expression & Reasoning for Computer Science
2014, 2016	Course Instructor , U. of Toronto <ul style="list-style-type: none">· CSC 373: Algorithm Design, Analysis, & Complexity. <i>1st</i> & <i>2nd</i> offering.

PROFESSIONAL SERVICE

2013-2018	Reviewer: <ul style="list-style-type: none">· Journal of Graph Theory· SIAM Discrete Mathematics· Discrete Applied Mathematics· Journal of Combinatorics· Discrete Mathematics & Theoretical Computer Science· RAIRO - Operation Research· Information Processing Letters· International Workshop on Graph-Theoretic Concepts in CS (WG)
2017	Program Committee Member - GROW 2017 Girls in STEM Workshop , U. of Toronto <ul style="list-style-type: none">· Organized and ran a workshop for girls in grades 6 to 9.· A collaboration with the U of T Math Department.
2016	Lead Mentor , Undergraduate Summer Research Program, U. of Toronto <ul style="list-style-type: none">· Weekly meetings mentoring and guiding undergraduate students in their summer research projects.

SKILLS

- **Technical:** · C++ (preferred), C, MATLAB, Java, PHP, MySQL, JavaScript, jQuery.
- **Languages:** · Fluent in speaking, reading, and writing in French & English.