

Marius Roland

André-Aisenstadt Pavillon, 2920 Tour Road
Montreal, Quebec H3T 1N8
mmmroland@gmail.com
mariusroland.gitlab.io

EDUCATION	PhD in Mathematics	September 2019 – November 2022
	Thesis: Adaptive Refinement Algorithms for Optimization Problems in Energy Transport Networks	
	Advisor: Prof. Martin Schmidt Universität Trier, Germany	
	Master in Mathematical Engineering	September 2017 – June 2019
	Major: Optimization and Operations Research Engineering	
	Thesis: Analyzing Retail Pricing Options in Distribution Systems	
	Advisor: Prof. Anthony Papavasiliou UCLouvain, Belgium	
	Erasmus+ Exchange	September 2018 – February 2019
	Followed most of the courses given in the ORCO master (Operational Research and Combinatorial Optimization) Grenoble INP - Ensimag, France	
	Bachelor in Engineering	September 2014 – June 2017
	Major: Applied Mathematics Minor: Electricity UCLouvain, Belgium	
EXPERIENCE	Postdoctoral Researcher	June 2023–Present
	Funding: SCALE AI Research Chair in Data-Driven Supply Chains Advisor: Prof. Thibaut Vidal Polytechnique Montreal, Canada	
	Junior Assistant	2017–2018/2018–2019
	Supervised exercise/laboratory sessions for engineering students Courses: Numerical Methods and Telecommunications UCLouvain, Belgium	
	Internship	September 2017
	Subject: Optimal scheduling for the oncology clinic of the Jewish General Hospital Advisors: Prof. Gilbert Laporte and Prof. Ivan Contreras CIRRELT, Canada	
SCHOLARSHIPS PRIZES AWARDS	International Student Scholarship	July 2022 – September 2022
	Scholarship for international students in an advanced stage of their doctoral degree Obtained through the German Academic Exchange Service (DAAD)	
	Project TRR154	January 2022 – June 2022
	Scholarship for external PhD students Funded by the German Research Foundation (DFG)	
	Scientific prize of the EURO/ROADEF Challenge 2020	February 2022
	Campus Lyon Tech, France	

Finalist of the EURO/ROADEF Challenge 2020
Campus Lyon Tech, France

February 2022

Second prize of the IEEE/ICTeam Best Master Thesis Award
UCLouvain, Belgium

June 2019

PUBLICATIONS

Preprints

D. Cattaruzza, M. Labbé, M. Petris, M. Roland, and M. Schmidt. "On extended disjunctive cuts for chance constrained problems with finite support". Working paper.

M. Roland, A. Forel, and T. Vidal. "Adaptive partitioning for chance-constrained problems with finite support". Submitted. 2023. URL: <https://arxiv.org/abs/2312.13180>.

Journal Articles

D. Cattaruzza, M. Labbé, M. Petris, M. Roland, and M. Schmidt. "Exact and Heuristic Solution Techniques for Mixed-Integer Quantile Minimization Problems". In: *INFORMS Journal on Computing* (May 2022). Accepted for publication. URL: <https://optimization-online.org/2021/11/8673/>.

H. Dänschel, V. Mehrmann, M. Roland, and M. Schmidt. "Adaptive nonlinear optimization of district heating networks based on model and discretization catalogs". In: *SeMA Journal* (June 2023). DOI: [10.1007/s40324-023-00332-6](https://doi.org/10.1007/s40324-023-00332-6).

M. Roland and M. Schmidt. "Mixed-Integer Nonlinear Optimization for District Heating Network Expansion". In: *at - Automatisierungstechnik* 68.12 (2020), pp. 985–1000. DOI: [10.1515/auto-2020-0063](https://doi.org/10.1515/auto-2020-0063).

SELECTED TALKS

2023

INOCs Seminar, University of Lille, France, Adaptive Partitioning for Chance-Constrained Problems with Finite Support, December 21

DS4DM Coffee Talks, Polytechnique Montreal, Canada, Adaptive Partitioning for Chance-Constrained Problems with Finite Support, November 11

2022

EURO 32, Aalto University, Finland, Exact and Heuristic Solution Techniques for Mixed-Integer Quantile Minimization Problems, July 06

Optimization Days 2022, HEC Montréal, Canada, Exact and Heuristic Solution Techniques for Mixed-Integer Quantile Minimization Problems, May 16

2021

Energy Seminar, CORE - Catholic University of Louvain, Belgium, Adaptive Nonlinear Optimization of District Heating Networks Based on Model and Discretization Hierarchies, November 5

EURO 31, University of West Attica, Greece, Mixed-Integer Nonlinear Optimization for District Heating Network Expansion, July 12

EUROPT 2021, ENAC Toulouse, France, Mixed-Integer Nonlinear Optimization for District Heating Network Expansion, July 8

ECMI 21, University of Wuppertal, Germany, Mixed-Integer Nonlinear Optimization for District Heating Network Expansion, April 14

2020

YMSGGR 2020, Technical University of Kaiserslautern, Germany, Mixed-Integer Non-linear Optimization for District Heating Network Expansion, September 14

**DOCTORAL
SCHOOLS**

2021

NATCOR Forecasting and Predictive Analytics Course, Lancaster University, United Kingdom, February 22-26

2020

Mixed-Integer Nonlinear Optimization Compact Course, Universität Trier, Germany, February

2019

Optimal Control and Optimization with PDEs, Universität Trier, Germany, October 7-10

SKILLS

Scientific: Optimization Techniques and Software (Linear/Nonlinear/Stochastic), Artificial Intelligence Techniques and Software, Energy Network Simulation and Optimization, High Performance Computing, Scientific Writing and Publishing

Programming Languages & Software: Microsoft Office, Git, Bash, \LaTeX , Python (PuLP and Pyomo package), Matlab/Simulink, C++, Java, AMPL, Julia (JuMP package), Gurobi, Baron, Knitro, GAMS, Scikit Learn

General: Team Working, Project Management

**EXTRA-
CURRICULAR
EXPERIENCE**

Scout team leader

September 2014 – July 2018

Organized 3 summer camps abroad (Austria, Ireland and France)

Followed first aid training at DAN Europe

Fédération des Scouts Baden-Powell de Belgique ASBL

Volunteer

September 2016 – July 2018

Project oriented housing called “Kot Meca”

Consisted of living with 8 people while organizing multiple events around Mechanics Louvain-la-Neuve, Belgium

LANGUAGES

French: C2 level Dutch: C1 level English: C1 level German: A2 level