

# Maryam Daryalal

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## ACADEMIC POSITIONS

**HEC Montreal, University of Montreal**

*Department of Decision Sciences*

Assistant Professor of Operations Research

(2022 - present)

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## EDUCATION

**University of Toronto**

*Mechanical & Industrial Engineering Department*

Ph.D. in Industrial Engineering

(2022)

– *Dissertation*: Sequential decision-making under uncertainty: Methodologies and applications

– *Advisor*: Merve Bodur

**Concordia University**

*Computer Science and Software Engineering Department*

M.Sc. in Computer Science

(2016)

– *Thesis*: Efficient spectrum utilization in large-scale RWA and RSA problems

**Amirkabir University of Technology**

*Department of Industrial Engineering & Management Systems*

M.Sc. in Industrial Engineering

(2013)

– *Thesis*: A location-allocation problem with stochastic price-sensitive demands

B.Sc. in Industrial Engineering & Systems Analysis

(2011)

– *Thesis*: A decomposition method for supplier-retailer flexible contracts

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## RESEARCH

Research Interests:

**Methodologies:** Stochastic optimization, Robust optimization, Integer programming, Large-scale optimization

**Application Areas:** Sequential decision-making under uncertainty, Telecommunications, Healthcare, Supply chain planning, Service systems staffing, Scheduling, Description logic

Journal Papers:

[1] **M. Daryalal**, H. Pouya. Network migration problem: A logic-based Benders decomposition approach driven by column generation and constraint programming. *INFORMS Journal on Computing*, accepted for publication. [\[pdf\]](#)

[2] **M. Daryalal**, M. Bodur, J. Luedtke. Lagrangian dual decision rules for multistage stochastic mixed integer programming. *Operations Research*, articles in advance, pp. 1–21, 2022. [\[pdf\]](#)

- [3] M. Daryalal, M. Bodur. Stochastic RWA and lightpath rerouting in WDM networks. *INFORMS Journal on Computing*, volume 34, issue 5, pp. 2383-2865, C2, 2022. [\[pdf\]](#)
- [4] B. Jaumard, M. Daryalal. Efficient spectrum utilization in large-scale RWA problems. *IEEE/ACM Transactions on Networking*, volume 25, pp. 1263-1278, 2017. [\[pdf\]](#)

Peer-Reviewed Conference Proceedings:

- [1] B. Jaumard, M. Daryalal. Optimizing spectrum utilization in dynamic RWA. *IEEE International Conference on Optical Network Design and Modeling (ONDM)*, pp. 1-6, 2016. [\[pdf\]](#)
- [2] B. Jaumard, M. Daryalal. Scalable elastic optical path networking models. *IEEE International Conference on Transparent Optical Networks (ICTON)*, pp. 1-4, 2016. [\[pdf\]](#)
- [3] J. Vlasenko, M. Daryalal, V. Haarslev, B. Jaumard. A saturation-based algebraic reasoner for  $\mathcal{ELQ}$ . *Practical Aspects of Automated Reasoning at International Joint Conference on Automated Reasoning (IJCAR)*, pp. 110-124, 2016. [\[pdf\]](#)
- [4] B. Jaumard, M. Daryalal. Solving very large RWA data instances. *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)*, pp. 1-6, 2016. [\[pdf\]](#)

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**AWARDS & HONORS**

- Judith Liebman Award, *INFORMS* (2021)
- MIE Teaching Assistant Award, *University of Toronto* (2021)
- CORS Best Student Paper Finalist, *Canadian Operational Research Society* (2021)
- Seth Bonder Foundation Student Grant, *INFORMS* (2020)
- MIE Best Operations Research Poster, *MIE Graduate Research Symposium* (2018)
- Connaught International Scholarship Award, *University of Toronto* (2017)
- Concordia Merit Award, *Concordia University* (2014)

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**TALKS & POSTERS**

- Logic-based Benders decomposition for the network migration problem, *International Network Optimization Conference* (2022)
- Novel bounding techniques for multistage adaptive robust optimization, *CORS/INFORMS International Conference*, Vancouver (2022)
- On primal and dual bounding techniques for multistage adaptive robust optimization, *Optimization Days*, Montreal (2022)
- Logic-based Benders decomposition and hybrid column generation for the network migration problem, *Optimization Days*, Montreal (2022)
- Stochastic routing and wavelength assignment problem in WDM networks, *INFORMS Annual Meeting* (2021)
- Lagrangian dual decision rules for integrated staffing and scheduling in service systems, *CORS Annual Conference* (2021)

- Stochastic routing and wavelength assignment problem in WDM networks, *CIRRELT* (2021)
  - Lagrangian dual decision rules for integrated staffing and scheduling in service systems, *INFORMS Annual Meeting* (invited, 2020)
  - Stochastic routing and wavelength assignment problem in network defragmentation, *INFORMS Telecommunications and Network Analytics Conference* (2020)
  - Integrated staffing and scheduling for service systems via multistage stochastic integer programming, *International Conference on Stochastic Programming*, Trondheim (2019)
  - Lagrangian dual decision rules for multistage stochastic integer programming, *Optimization Days*, Montreal (2019)
  - Integrated pricing and routing decisions, *INFORMS Revenue Management & Pricing*, Toronto (invited, 2018)
  - Facility location problem with general objective functions, *MIE Graduate Research Symposium*, Toronto (poster, 2018)
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**SUPERVISION**

- Haoyuan Xue (co-supervised, B.A.Sc. 2022)
    - Centennial Senior Project Award, *University of Toronto* (2022)
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**TEACHING  
EXPERIENCE**

**HEC Montreal**

- Linear Optimization Models (undergraduate elective) (Fall 2022)
- Statistics (undergraduate core) (Winter 2023)

Teaching Assistant:

**University of Toronto**

- Algorithms & Numerical Methods (undergraduate core) (2021 - 2022)
- Integer Programming (graduate) (2020)
- Stochastic Programming & Robust Optimization (graduate) (2019 - 2020)
- Operations Management (undergraduate core) (2019)
- Mathematical Programming (undergraduate core) (2019)

**Concordia University**

- Algorithms (graduate) (2015)
- Data Communication & Computer Networks (undergraduate core) (2015)
- Discrete Structures & Formal Languages (professional degree) (2015)

**Amirkabir University of Technology**

- Simulation (undergraduate elective) (2012 - 2013)

- Design of Industrial Systems (graduate) (2012 - 2013)
  - Operations Research I (undergraduate core) (2011 - 2013)
  - Operations Research II (undergraduate core) (2011 - 2012)
  - Theory of Probability & Statistics (undergraduate core) (2010 - 2013)
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**ACADEMIC  
SERVICE**

- Committee member: INFORMS Chapters and Fora (2022 - present)
- Session chair/organizer:
  - CORS/INFORMS International Conference (2022)
  - Optimization Days, Montreal (2022)
  - INFORMS Annual Meeting (2020, 2021)
  - INFORMS Telecommunications and Network Analytics Conference (2020)
- President of INFORMS/CORS Student Chapter at University of Toronto, (2019 - 2022)
  - INFORMS Student Chapter Award - Magna cum laude, 2021
  - INFORMS Student Chapter Award - Honorable mention, 2020

Ad-hoc Reviewer/Referee:

Mathematical Programming, Operations Research, INFORMS Journal on Computing, European Journal of Operational Research, IEEE Communications Letters, CPAIOR

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**CORPORATE  
EXPERIENCE**

**Morgan Stanley Canada** (2017 - 2018)  
*Wealth Management Division*  
 Technology Analyst

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**REFERENCES**

*References available upon request.*