

# Curriculum Vitae

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Citizenship: Canadian Citizen

## Academic Position

Lecturer, Applied Calculus Workshop Coordinator

Department of Mathematics  
Simon Fraser University

## Education

- **Ph. D.** Applied mathematics

Hamilton Institute  
National University of Ireland Maynooth, Maynooth, Ireland  
Dissertation title: Real-data modeling of transportation networks  
Advisor: Professor Robert Shorten ( [robert.shorten@ucd.ie](mailto:robert.shorten@ucd.ie) )

- **M.Sc.** Applied mathematics

Chalmers University/University of Gothenburg, Gothenburg, Sweden  
Dissertation title: Mathematical modeling of the scheduling of a production line at SKF factory  
Advisors: Ann-Brith Strömberg ([anstr@chalmers.se](mailto:anstr@chalmers.se))  
Anders Leire ([Andres.Leire@skf.com](mailto:Andres.Leire@skf.com))

- **B.Sc.** Applied mathematics

Khaje Nasireddin Toosi University of Technology, Tehran, Iran

## **Awards, Fellowships, Scholarships**

- Best scientific paper award: F. Häusler, M. Faizrahneem, E. Crisostomi, A. Schlote, I. Radusch, and R. Shorten, "A framework for real-time emissions trading in large-scale vehicle fleets", *9th ITS European Congress*, 2013.
- Industrial Postdoc proposal accepted and funded by "Mitacs" and "Wesgar" company
- 100% PhD scholarship funded by "Science Foundation Ireland (SFI)" and the European project "Tomorrow's Elastic Adaptive Mobility (TEAM)".
- 100% Master thesis scholarship funded by "SKF" factory in Sweden.

## **Experience**

- **Simon Fraser University**, Burnaby, BC, Canada  
Lecturer, Workshop Coordinator
- **Simon Fraser University**, Surrey, BC, Canada,  
Postdoctoral
- **Wesgar**, Port Coquitlam, BC, Canada,  
Industrial Postdoctoral
- **Coquitlam College**, Coquitlam, BC, Canada  
Lecturer
- **Alexander College**, Vancouver, BC, Canada  
Lecturer
- **University of Manitoba**, Winnipeg, Canada,  
visiting the department of mathematics to do a chapter of the PhD thesis
- **NEC Europe Ltd**, Heidelberg, Germany,  
  
Major duties and responsibilities for the **Internship**:  
Analyzing the quality of the traffic data
- **SKF Sverige AB**, Gothenburg, Sweden  
  
Major duties and responsibilities for the Master thesis:  
Scheduling the future production channel

## Publications

- F. Alesiani, L. Moreira-Matias, M. Faizrahnemoon, "On Learning from Inaccurate and Incomplete Traffic Flow Data", *IEEE Transactions on Intelligent Transportation Systems*. Early access, pp. 1-11, 2018.
- J. Breen, E. Crisostomi, M. Faizrahnemoon, S. Kirkland, and R. Shorten, "Clustering behavior in Markov chains with eigenvalues close to one", *Linear Algebra and its Applications*. vol. 555, Issue. , pp. 163- 185, 2018.
- M. Faizrahnemoon, A. Schlote, L. Maggi, E. Crisostomi, and R. Shorten, "A big-data model for multi-modal public transportation with application to macroscopic control and optimisation", *International Journal of Control*, vol. 88, Issue. 11, pp. 1-28, 2015.
- F. Häusler, M. Faizrahnemoon, E. Crisostomi, A. Schlote, I. Radusch, and R. Shorten, "A framework for real-time emissions trading in large-scale vehicle fleets", *IET Intelligent Transport Systems*, vol. 9, Issue. 3, pp. 275-284, 2015.
- M. Faizrahnemoon, F. Alesiani, L. Matias, "A Scenario-Oriented approach for Noise detection on Traffic Flow data", *18th IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2015.
- L. Maggi, and M. Faizrahnemoon, "Demo: Dial-a-Ride: a green shortest path algorithm", *15th ACM international symposium on Mobile ad hoc networking and computing*, 2014.
- N. Floudas, R. Drakoulis, L. Maggi, M. Faizrahnemoon, P. Lytrivis, A. Amditis, "Public transport optimisation based on traveller requests and network efficiency ", *Road Transport Information and Control (RTIC)*, 2014.
- M. Faizrahnemoon, A. Schlote, E. Crisostomi, and R. Shorten, "A Google-like model for public transport", *International Conference on Connected Vehicles and Expo(ICCVE)*, 2013.
- F. Häusler, M. Faizrahnemoon, E. Crisostomi, A. Schlote, I. Radusch, and R. Shorten, "A framework for real-time emissions trading in large-scale vehicle fleets", *9th ITS European Congress*, 2013 (**winner of the best scientific paper award**).
- M. Faizrahnemoon, F. Hosseinzadeh Lotfi, M. Alimardani Jondabeh, "Sensitivity Analysis of the additive model in data envelopment analysis while inputs and outputs are fuzzy data", *International Journal of Computer Mathematics*, Vol. 89, 2012, Issue.5, pp.625-638.
- F. Hosseinzadeh Lotfi, M. Alimardani Jondabeh, M. Faizrahnemoon, "Sensitivity Analysis in fuzzy environment", *Applied Mathematical Science*, Vol. 4, 2010, no. 33, pp. 1635 – 1646.
- M. Faizrahnemoon, A. Davoodi, "Sensitivity Analysis of the additive model while inputs and outputs are fuzzy data by changing the cores", *24<sup>th</sup> annual conference of the Belgian Operational Research Society*, 2010.

## **Presentations**

- Institute of Transportation Studies Seminar, University of California Irvine, Irvine.
- California State University Fullerton, Department of Mathematics Seminar, Fullerton.
- San Jose State University, Department of Mathematics Seminar, San Jose.
- Operations Research Seminar, Simon Fraser University, Surrey.
- Tomorrow's Elastic Adaptive Mobility meeting, Athens.
- International Conference on Connected Vehicles and Expo, Los Vegas.
- Annual Conference of the Belgian Operational Research Society, Liege.

## **Current Projects**

- Mathematical transportation: Accident Forecasting and ambulance relocation accordingly.
- Mathematical biology: Mixed Integer Linear Programming Approach for Plasmid Assembly.
- Mathematical Scheduling: Ordering with precedence constraints and budget minimization.

## **Courses**

- Optimal Public Transport (under preparation)
- Linear Optimization, Math 308.
- Discrete Mathematics, Macm 201.
- Vector and Complex Analysis, Math 254.
- Applied Linear Algebra, Math 232.
- Calculus I, II, III, Math 111, Math 112, Math 101, Math 154, Math 155, Math 157, Math 152, Math 150, Math 251,

## **Research Interests**

Mathematical modelling  
Optimization  
Operation Research  
Data analysis

## **Computer Skills**

MATLAB  
Python  
SQL  
Sumo  
AMPL  
Gurobi  
Gams  
Latex

## **Languages**

English (advanced)  
French (elementary)  
Farsi (mother tongue)