

CURRICULUM VITAE

PROFILE

- Strong research skills with a cross disciplinary formation.
- Efficient in multitasking and task prioritization.
- Proven leadership with strong communication skills.
- Fluent in English and Spanish and intermediate proficiency in French.

RESEARCH INTERESTS

- Theory and applications of Mixed Integer Linear and Non-Linear Programming.
- Integrating machine-learning, economic models, and optimization methods for decision making.

EDUCATION

2014 - present	Ph.D. in Industrial Engineering Concordia University, Montréal, QC, Canada
2010 - 2011	M.Sc. in Industrial Engineering (Summa Cum Laude) Fundación Universidad de las Américas Puebla, Cholula, Puebla, Mexico
2006 - 2010	B.Sc. in Applied Mathematics and Computers (Magna Cum Laude) Fundación Universidad de las Américas Puebla, Cholula, Puebla, Mexico

PROFESSIONAL EXPERIENCE

2014 - present	Research Assistant- Concordia university <ul style="list-style-type: none">• Developed solution methods for optimization under uncertainty.• Applied decomposition methods to solve network optimization problems.
2012- 2014	Associate/Senior Consultant- Management Solutions Mexico <ul style="list-style-type: none">• Identified, proposed, and established improvement areas for clients.• Led a team in technology projects for capital reporting.• Developed tools that allowed the client to meet unsatisfied reporting requirements.
Fall 2011	Visiting Research Scholar- Universitat Autònoma de Barcelona (UAB) <ul style="list-style-type: none">• Developed the theory of gamma active constraints for convex semi-infinite programming.• Completed the writing of my M.Sc. thesis and manuscript preparation.
July 2011	Environment Health and Safety Intern- Belize Natural Energy Limited <ul style="list-style-type: none">• Developed an interface of the Emergency Spill Management Plan.• Synchronized the interface with available command center tools.• Provided a detailed user manual and tutorial.

PUBLICATIONS

Under Review

- [5] C.A. Zetina, I. Contreras, J.F. Cordeau. Exact Algorithms for the Multicommodity Uncapacitated Fixed-charge Network Design Problem. Submitted to INFORMS Journal on Computing.
- [4] C.A. Zetina, I. Contreras, E. Fernández, C. Luna-Mota. Solving the Optimum Communication Spanning Tree Problem. Submitted to the European Journal of Operational Research.

Accepted or in press

- [3] C.A. Zetina, I. Contreras, J.F. Cordeau, E. Nikbakhsh, 2017. Robust Uncapacitated Hub Location. *Transportation Research Part B: Methodological*, 106, 393-410.
- [2] J.E. Martinez-Legaz, M.I. Todorov, C.A. Zetina, 2014. γ - Active Constraints in Convex Semi Infinite Programming. *Numerical Functional Analysis and Optimization* 35, Issue 7-9, 1078-1094.
- [1] J.A. Diaz, D.E. Luna, C.A. Zetina, 2013. A Hybrid Algorithm for the Manufacturing Cell Formation Problem. *Journal of Heuristics*, 19, Issue 1, 77-96.

SCHOLARLY PRESENTATIONS

- [9] Profit oriented network design with elastic demand.
- *CORS annual meeting* , Halifax, N.S, Canada. June 2018. (Session Organizer)
- [8] Benders cut-and-solve: A new versatile tool for mixed integer programming problems.
- *29th European conference on Operational Research* , Valencia, Spain. July 2018.
- *Les Journées de l'Optimisation* , Montréal, QC, Canada. May 2018. (Session Chair)
- [7] Benders decomposition for the uncapacitated multicommodity network design problem.
- *INFORMS Annual Meeting* , Houston, TX, U.S.A. October 2017.
- *21st IFORS Conference* , Québec City, QC, Canada. July 2017.
- *Les Journées de l'Optimisation* , Montréal, QC, Canada. May 2017. (Session Chair)
- [6] An overview of optimization: history, classification and solution algorithms.
- *MORSC seminar* , Montréal, QC, Canada. August 2016.
- [5] A computational study of enhancements to Benders decomposition in network design.
- *CORS annual meeting* , Banff, AB, Canada. May 2016.
- [4] Cut selection strategies for Benders decomposition in network design.
- *Les Journées de l'Optimisation* , Montréal, QC, Canada. May 2016.
- [3] Benders decomposition from a convex analysis perspective- subgradients and epigraphs.
- *GERAD séminaires pas ordinaires* , Montréal, QC, Canada. April 2016.
- [2] Robust uncapacitated hub location.
- *CIRRELT Joint Seminar, Montréal, QC, Canada. December 2015.*
- [1] Formulations and exact algorithms for robust uncapacitated hub location.
- *CORS/INFORMS International Meeting, Montréal, QC, Canada. June 2015.*

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SELECTED AWARDS AND DISTINCTIONS

- April 2018 **Outstanding Contribution Award**
Concordia Council on Student Life- Concordia University
- April 2017 **Ph.D. research seminar award and Ph.D. poster presentation award**
Mechanical, Industrial and Aerospace Engineering Department- Concordia University
- June 2011 **Valedictorian of the Faculty of Science**
Fundación Universidad de las Américas Puebla

SCHOLARSHIPS AND BURSARIES

- December 2017 **Concordia Accelerator Award (\$5,000 CAD)**
Concordia University
- Bourse d'excellence au doctorat- Rédaction (\$7,500 CAD)**
Centre interuniversitaire de recherche sur les réseaux d'entreprise,
la logistique et le transport (CIRRELT)
- July 2017 & July 2018 **Conference and Exposition Award (\$1,000 CAD)**
School of Graduate Studies- Concordia University
- Conference and Travel Support (\$500 CAD)**
Faculty of Engineering and Computer Science- Concordia University
- December 2015 **Bourse d'excellence au doctorat- Accueil (\$5,000 CAD)**
Centre interuniversitaire de recherche sur les réseaux d'entreprise,
la logistique et le transport (CIRRELT)
- August 2014 **Concordia Graduate Recruitment Award (\$45,000 CAD)**
Concordia University
- Fall 2011 **Bursary for research visit at Universitat Autònoma de Barcelona (\$3,000 CAD)**
Consejo Nacional de Ciencia y Tecnología (CONACYT)
- August 2010 **Stipend for graduate studies (\$10,000 CAD)**
Consejo Nacional de Ciencia y Tecnología (CONACYT)
- Excellence Scholarship for graduate studies (\$14,000 CAD)**
Fundación Universidad de las Américas Puebla
- March 2007 **Stipend for undergraduate studies (\$20,000 CAD)**
Secretaría de Relaciones Exteriores de México
- August 2006 **Full Scholarship for undergraduate studies (\$58,000 CAD)**
Fundación Universidad de las Américas Puebla

SERVICE

Reviewing Transportation Science
 Transportation Research Part B: Methodological
 European Journal of Operational Research
 Computers and Operations Research
 Transportation Research Part E: Logistics and Transportation Review

Organizations

Mechanical, Industrial and Aerospace Engineering department- Concordia University

2017- present Ph.D. Mentorship program founder and mentor.
 Graduate Student Committee member.

CORS/INFORMS Montréal Operations Research Student Chapter (www.mtl-students.com)

2016- present Co-founder.

2017-2018 Editor-in-chief.

2016-2017 President & website maintenance volunteer.

The Operations Research Challenge- Montréal (<http://orchallenge.org>)

2016- present Co-founder.

2016-2018 Co-president.

Event Committees

- 2018**
- 1st Annual O.R./M.S. scientific writing activity (w/ CIRRELT, DS4DM, GERAD, MORSC).
 - 2nd Annual TORCH- Montréal. (w/ Faculty of ENCS, GERAD, MIAE department).

- 2017**
- We have no idea- public lecture and Scicomm workshop by Jorge Cham from PHD Comics (w/ Faculty of ENCS, Dean of Graduate Studies, MIAE GSC, MORSC).
 - Advanced CPLEX training school (w/ CIRRELT, DS4DM, GERAD, IBM, MORSC).
 - Speed networking activity (w/ CIRRELT, DS4DM, GERAD, MORSC).
 - Introduction to Calcul Québec computing resources (w/ Calcul Québec).
 - 1st Annual TORCH- Montréal. (w/ Faculty of ENCS, GERAD, MIAE department, CMS).

- 2016**
- Panel: So you're finishing your Ph.D. What's next? (w/ GERAD).
 - Professional development workshop- Skills for the Ph.D. (w/ GradPro Skills).
 - Constraint programming tutorial- Prof. Christopher Beck from the University of Toronto (w/ Concordia Council on Student Life, MIAE department, MORSC).