

**Miguel F. Anjos, Ph.D., FCAE**  
**NSERC-Hydro-Québec-Schneider Electric**  
**Senior Industrial Research Chair**  
**Inria International Chair**

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**Citizenship** Canadian.

**Language Skills**

Fluency in English, Portuguese (mother tongue), and French.  
Elementary knowledge of Spanish and German.

**Educational and Professional Certifications**

Doctor of Philosophy (PhD, 2001) in Combinatorics & Optimization, University of Waterloo, Canada.

Certificate in University Teaching (CUT, 2000), University of Waterloo, Canada.

Master of Science (MS, 1994) in Scientific Computing and Computational Mathematics, Stanford University, U.S.A.

Bachelor of Science (BSc, 1992) in Computer Science with First Class Honours, University Scholar, McGill University, Canada.

Licensed Professional Engineer (Ontario, Canada).

**National Honours**

- **Fellow of the Canadian Academy of Engineering (FCAE).**  
The Canadian Academy of Engineering is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada.
- Recipient of the **Queen Elizabeth II Diamond Jubilee Medal** for significant contributions to mathematical optimization and its industrial applications.

**Major Research Awards**

- **NSERC Senior Industrial Research Chair on *Optimization for the Smart Grid*** since 2016.
- **Inria International Chair on *Power Peak Minimization for the Smart Grid*** since 2016.

- **Canada Research Chair (Tier 2)** for 2011-2016.
- **Humboldt Research Fellowship for Experienced Researchers** in 2009–2010.

## Other Awards and Recognition

- The paper *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions* (co-authored with A. Kennings and A. Vannelli) was a **Top-10 Cited Paper** in the journal *Discrete Optimization* for the period 2005–2010.
- Recipient of the **Méritas Best Teacher Award** (Graduate-level Mathematics) from Polytechnique Montreal for 2011–2012.
- Recipient of an **Outstanding Performance Award** from the University of Waterloo in 2007.
- Recipient of two **Distinguished Performance Awards** from the Faculty of Engineering, University of Waterloo, in 2006 and 2009.
- Awarded the **Best Poster Prize** at the International Workshop on Large-Scale Nonlinear and Semidefinite Programming 2004 for the poster entitled *Towards an SDP-based Algorithm for the Satisfiability Problem*.

## Current Academic and Research Appointments

**Full Professor**, Department of Mathematics and Industrial Engineering, Polytechnique Montreal, Canada (Associate Professor 2010–2013; promoted to Full Professor in 2013).

Member, Groupe d'Études et de Recherche en Analyse de Décisions (GERAD), Montreal, Canada (since October 2010).

Member, Integrated Optimization with Complex Structure (INOCS) Team, Inria Lille-Nord Europe, Villeneuve d'Ascq, France (since September 2016).

Member, Waterloo Institute for Sustainable Energy (WISE), University of Waterloo, Canada (since September 2008).

## Current Editorial Appointments

**Editor in Chief** of *Optimization and Engineering* (2013–present).

Guest Editor for a special issue of *INFOR* on “Facility Layout” (2016–present).

Guest Editor for a special issue of *Annals of Operations Research* on “Paths, Pivots, and Practice: The Power of Optimization” (2015–present).

Editor for *IEEE Transactions on Power Systems* (2014–present).

Associate Editor for *Pacific Journal of Mathematics for Industry* (2016–present).

Associate Editor for *Operations Research Letters* (2013–present).

Associate Editor for *RAIRO-OR* (2011–present).

Member of the Editorial Board of *Discrete Applied Mathematics* (2014–present).

## Current Professional Service Positions

Member of the Mitacs Research Council (2011–present).

The Council provides Mitacs with scientific leadership and a critical assessment of its programs. It is chaired by the Mitacs Associate Scientific Director and composed of 16 representatives from Canadian universities, companies and governments.

President of the Montreal Section of the Canadian Operational Research Society (2016–present).

## Previous Academic Positions

**September 2010 – August 2013:** Adjunct Associate Professor, Department of Management Sciences, University of Waterloo, Canada.

**July 2004 – August 2010:** Department of Management Sciences, University of Waterloo, Canada (Assistant Professor 2004–2007; granted tenure and promoted to Associate Professor in 2007).

**July 2004 – August 2010:** Associate Professor (cross-appointed), Department of Electrical and Computer Engineering, University of Waterloo, Canada (Assistant Professor 2004–2007).

**September 2004 – August 2010:** Affiliated Member of the Centre for Computational Mathematics in Industry and Commerce, University of Waterloo, Canada.

**September 2002 – June 2004:** Lecturer in Operational Research, School of Mathematics, University of Southampton, United Kingdom.

**August 2001 – March 2002:** DO-Net Postdoctoral Researcher at the Institute for Computer Science, University of Cologne, Germany.

## Previous Editorial Appointments

Associate Editor for *Surveys in Operations Research and Management Science* (2013–2016).

Associate Editor for *Discrete Applied Mathematics* (2007–2013).

Associate Editor for *Optimization and Engineering* (2008–2012).

Guest Editor for the special issue of *Mathematical Programming Series B* on Cone Programming and its Applications that appeared as Volume 129, Number 1 (2011).

## Previous Professional Service Positions

**2013–2016:** Vice-president of the Montreal Section of the Canadian Operational Research Society.

**2012–2014:** Council Member, Mathematical Optimization Society (elected by the society's membership).

**2011–2013:** Program Director, SIAM Activity Group on Optimization (elected by the society's membership).

**2009–2011:** Vice-Chair (Linear Prog. & Complementarity), INFORMS Optimization Society (elected by the society's membership).

**2009–2011:** Member of the Mitacs Research Review Committee.

## Previous Academic Administrative Appointments

**March 2013 – August 2016: Founding Academic Director of the Institut de l'énergie Trottier**, Polytechnique Montreal, Canada.

The mission of the institute is to disseminate knowledge on international cutting-edge innovation, to create knowledge and innovate in order to contribute to meet the energy needs of future generations, and to raise the level of the societal conversations on energy issues.

**May 2007 – April 2009:** Associate Chair for Graduate Studies & Research, Department of Management Sciences, University of Waterloo, Canada.

## Previous Consulting Appointments

**December 2013 – April 2016:** Scientific expert, Trottier Energy Futures Project

This was a Canada-wide project concerned with charting a course for Canada to reduce by 2050 its greenhouse gas emissions by 80% with respect to the 1990 levels.

**August – October 2013:** Expert Advisor to the Ordre des Ingénieurs du Québec (OIQ) for the preparation of the brief submitted by the OIQ to the Commission sur les enjeux énergétiques du Québec.

## Previous Academic Visiting Positions

**July – August 2013:** Visiting Fellow, Isaac Newton Institute for Mathematical Sciences, Cambridge, U.K.

**September 2009 – August 2010:** Alexander von Humboldt Research Fellow, Institute for Computer Science, University of Cologne, Germany.

**June 2009:** Visiting Academic, Churchill College, Cambridge University, U.K.

**May – August 2008:** Visiting Fellow, Operations Research & Financial Engineering, Princeton University, U.S.A.

**April – June 2002:** Visiting Assistant Professor, Department of Electrical and Computer Engineering, University of Waterloo, Canada.

**January 2002 – September 2005:** Adjunct Assistant Professor, Department of Electrical and Computer Engineering, University of Waterloo, Canada (replaced by a cross-appointment in October 2005).

## Industrial Work Experience

**June 1994 – July 1997:** Director of Operations at Lusimat Inc., Quebec, Canada.

## Research Publications

### Books

1. T. Terlaky, M.F. Anjos and S. Ahmed (eds.). *Advances and Trends in Optimization with Engineering Applications*, SIAM, 2017 (ISBN 978-1-6119-7467-6).

2. M.F. Anjos and J.B. Lasserre (eds.). *Handbook of Semidefinite, Conic and Polynomial Optimization: Theory, Algorithms, Software and Applications*. Springer, 2012 (ISBN 978-1-4614-0768-3).

### Refereed Book Chapters

1. E. Adams and M.F. Anjos. *Exact Separation of  $k$ -Projection Polytope Constraints*. Accepted for publication in: *Modeling and Optimization: Theory and Applications*, M. Takáč et al. (eds.) (accepted March 2017).
2. M.F. Anjos. *Conic Optimization*. In: *Advances and Trends in Optimization with Engineering Applications*, SIAM, 2017, 107-120.
3. M.F. Anjos. *Optimization for Power Systems and the Smart Grid* (invited chapter). In: *Modeling and Optimization: Theory and Applications*, B. Defourny and T. Terlaky (eds.), Springer, 2015, 29-47.
4. M.F. Anjos. *Recent Progress in Modeling Unit Commitment Problems* (invited chapter). In: *Modeling and Optimization: Theory and Applications*, L.F. Zuluaga and T. Terlaky (eds.), Springer, 2013, 1-29.
5. M.F. Anjos, B. Ghaddar, L. Hupp, F. Liers, and A. Wiegele. *Solving  $k$ -way Graph Partitioning Problems to Optimality: The Impact of Semidefinite Relaxations and the Bundle Method* (invited chapter). In: *Facets of Combinatorial Optimization - Festschrift for Martin Grötschel*, M. Jünger and G. Reinelt (eds.), Springer, 2013, 355-386.
6. M.F. Anjos, F. Liers, G. Pardella, and A. Schmutzer. *Engineering Branch-and-Cut Algorithms for the Equicut Problem* (invited chapter). In: *Discrete Geometry and Optimization*, A. Deza, K. Bezdek and Y. Ye (eds.), Fields Institute Communications, Vol. 69, Springer, 2013, 17-32.
7. M.F. Anjos and J.B. Lasserre. *Introduction to Semidefinite, Conic and Polynomial Optimization*. In: *Handbook on Semidefinite, Conic and Polynomial Optimization*, M.F. Anjos and J.B. Lasserre (eds.), International Series in Operations Research & Management Science, Frederick S. Hillier (ed.), Springer, 2012, 1-22.
8. M.F. Anjos and F. Liers. *Global Approaches for Facility Layout and VLSI Floorplanning*. In: *Handbook on Semidefinite, Conic and Polynomial Optimization*, M.F. Anjos and J. Lasserre (eds.), International Series in Operations Research & Management Science, Frederick S. Hillier (ed.), Springer, 2012, 849-877.
9. M.F. Anjos. *Progress in Semidefinite Optimization Techniques for Satisfiability* (invited chapter). In: *Progress in Combinatorial Optimization*, A.R. Mahjoub (ed.), Wiley-ISTE, 2011, 489-520.
10. M.F. Anjos. *A History of Satisfiability - Nonlinear Formulations* (invited chapter section). In: *Handbook on Satisfiability*, A. Biere, M. Heule, H. van Maaren, and T. Walsh (eds.), IOS Press, 2009, 45-49.

11. A. Engau, M.F. Anjos, and A. Vannelli. *A Primal-Dual Slack Approach to Warmstarting Interior-Point Methods for Linear Programming*. In: *Operations Research and Cyber-Infrastructure*, J.W. Chinneck, B. Kristjansson, M.J. Saltzman (eds.), Springer-Verlag, 2009, 195-217.

### Research Articles Published or Accepted for Publication

1. V.J.R. de Sousa, M.F. Anjos and S. Le Digabel. *Computational Study of Valid Inequalities for the Maximum  $k$ -Cut Problem*. To appear in *Annals of Operations Research* (accepted February 2017). <http://dx.doi.org/10.1007/s10479-017-2448-9>
2. M.F. Anjos and M.V.C. Vieira. *Mathematical Optimization Approaches for Facility Layout Problems: The State-of-the-Art and Future Research Directions* (invited review). To appear in the *European Journal of Operational Research* (accepted January 2017). <http://dx.doi.org/10.1016/j.ejor.2017.01.049>
3. J.A. Gómez and M.F. Anjos. *Power Capacity Profile Estimation for Building Heating and Cooling in Demand Side Management*. To appear in *Applied Energy* (accepted January 2017). <http://dx.doi.org/10.1016/j.apenergy.2017.01.064>
4. A. Engau and M.F. Anjos. *A Primal-Dual Interior-Point Algorithm for Linear Programming with Selective Addition of Inequalities*. To appear in *Optimization* (accepted September 2016). <http://dx.doi.org/10.1080/02331934.2016.1244268>
5. M.F. Anjos and M.V.C. Vieira. *On Semidefinite Least Squares and Minimum Unsatisfiable Subformulas*. *Discrete Applied Mathematics*, 217(2), 2017, 79-96. <http://dx.doi.org/10.1016/j.dam.2016.09.008>
6. M.F. Anjos and M.V.C. Vieira. *An Improved Two-Stage Optimization-Based Framework for Unequal-Areas Facility Layout*. *Optimization Letters*, 10(7), 2016, 1379-1392. <http://dx.doi.org/10.1007/s11590-016-1008-6>
7. E. Adams, M.F. Anjos, F. Rendl, and A. Wiegele. *A Hierarchy of Subgraph Projection-Based Semidefinite Relaxations for some NP-Hard Graph Optimization Problems*. *INFOR*, 53(1), 2016, 40-48. <http://dx.doi.org/10.3138/infor.53.1.40>
8. B. Ghaddar, J.C. Vera, and M.F. Anjos. *A Dynamic Inequality Generation Scheme for Polynomial Programming*. *Mathematical Programming*, 156(1), 2016, 21-57. <http://dx.doi.org/10.1007/s10107-015-0870-9>
9. M. Manickavasagam, M.F. Anjos, and W.D. Rosehart. *Sensitivity-Based Chance-Constrained Generation Expansion Planning*. *Electric Power Systems Research*, 127, 2015, 32-40. <http://dx.doi.org/10.1016/j.epsr.2015.05.011>
10. F. Gilbert, M.F. Anjos, P. Marcotte, and G. Savard. *Optimal design of bilateral contracts for energy procurement*. *European Journal of Operational Research*, 246, 2015, 641-650. <http://dx.doi.org/10.1016/j.ejor.2015.04.050>
11. P. Hungerländer and M.F. Anjos. *A Semidefinite Optimization-Based Approach for Global Optimization of Multi-Row Facility Layout*. *European Journal of Operational Research*, 245, 2015, 46-61. <http://dx.doi.org/10.1016/j.ejor.2015.02.049>

12. J. Ostrowski, M.F. Anjos, and A. Vannelli. *Modified Orbital Branching for Structured Symmetry with an Application to Unit Commitment*. Mathematical Programming, 150(1), 2015, 99-129. <http://dx.doi.org/10.1007/s10107-014-0812-y>
13. M.F. Anjos, X.-W. Chang, and W.-Y. Ku. *Lattice Preconditioning for the Real Relaxation Branch-and-Bound Approach for Integer Least Squares Problems*. Journal of Global Optimization, 59(2-3), 2014, 227-242. <http://dx.doi.org/10.1007/s10898-014-0148-4>
14. M.F. Anjos and M.V.C. Vieira. *Semidefinite Resolution and Exactness of Semidefinite Relaxations for Satisfiability*. Discrete Applied Mathematics, 161, 2013, 2812-2826. <http://dx.doi.org/10.1016/j.dam.2013.06.021>
15. S. Bernardi and M.F. Anjos. *A Two-Stage Mathematical-Programming Method for the Multi-Floor Facility Layout Problem*. Journal of the Operational Research Society, 64, 2013, 352-364. <http://dx.doi.org/10.1057/jors.2012.49>
16. A. Engau, M.F. Anjos and I.M. Bomze. *Constraint Selection in a Build-Up Interior-Point Cutting-Plane Method for Solving Relaxations of the Stable-Set Problem*. Mathematical Methods of Operations Research, 78(1), 2013, 35-59. <http://dx.doi.org/10.1007/s00186-013-0431-z>
17. G.T. Costanzo, G. Zhu, M.F. Anjos, and G. Savard. *A System Architecture for Autonomous Demand Side Load Management in the Smart Grid*. IEEE Transactions on Smart Grid, 3(4), 2012, 2157-2165. <http://dx.doi.org/10.1109/TSG.2012.2217358>
18. A. Engau, M.F. Anjos, and A. Vannelli. *On Handling Cutting Planes in Interior-Point Methods for Solving Semidefinite Relaxations of Binary Quadratic Optimization Problems*. Optimization Methods and Software, 27(3), 2012, 539-559. <http://dx.doi.org/10.1080/10556788.2010.544308>
19. J. Ostrowski, M.F. Anjos, and A. Vannelli. *Tight Mixed Integer Linear Programming Formulations for the Unit Commitment Problem*. IEEE Transactions on Power Systems, 27(1), 2012, 39-46. <https://doi.org/10.1109/TPWRS.2011.2162008>
20. A. Alfakih, M.F. Anjos, V. Piccialli, and H. Wolkowicz. *Euclidean Distance Matrices, Semidefinite Programming, and Sensor Network Localization*. Portugaliae Mathematica, 68(1), 2011, 53-102 (invited survey). <http://dx.doi.org/10.4171/PM/1881>
21. B. Ghaddar, M.F. Anjos, and F. Liers. *A Branch-and-Cut Algorithm Based on Semidefinite Programming for the Minimum k-Partition Problem*. Annals of Operations Research, 188, 2011, 155-174.
22. B. Ghaddar, J.C. Vera, and M.F. Anjos. *Second-Order Cone Relaxations for Binary Quadratic Polynomial Programs*. SIAM Journal on Optimization, 21(1), 2011, 391-414.
23. I. Jankovits, C. Luo, M.F. Anjos, and A. Vannelli. *A Convex Optimisation Framework for the Unequal-Areas Facility Layout Problem*. European Journal of Operational Research, 214(2), 2011, 199-215.

24. A. Engau, M.F. Anjos, and A. Vannelli. *On Interior-Point Warmstarts for Linear and Combinatorial Optimization*. SIAM Journal on Optimization, 20(4), 2010, 1828-1861.  
This paper earned Engau the **2009 Mitacs Best Student Paper Award**.
25. A. Engau, M.F. Anjos, and A. Vannelli. *An Improved Interior-Point Cutting-Plane Method for Binary Quadratic Optimization*. Electronic Notes in Discrete Mathematics, 36, 2010, 743-750.
26. M.F. Anjos and G. Yen. *Provably Near-Optimal Solutions for Very Large Single-Row Facility Layout Problems* (invited paper). Optimization Methods and Software, 24(4), 2009, 805-817.
27. M.F. Anjos and A. Vannelli. *Computing Globally Optimal Solutions for Single-Row Layout Problems Using Semidefinite Programming and Cutting Planes*. INFORMS Journal on Computing, 20(4), 2008, 611-617.
28. I. El-Samahy, K. Bhattacharya, C. Cañizares, M.F. Anjos, and J. Pan. *A Procurement Market Model for Reactive Power Services Considering System Security*. IEEE Transactions on Power Systems, 23(1), 2008, 137-149.  
This paper earned El-Samahy the **2007 Mitacs Best Novel Use of Mathematics in Technology Transfer Award**.
29. K. Vorwerk, A. Kennings, and M.F. Anjos. *VLSI Floorplan Repair Using Dynamic Whitespace Management, Constraint Graphs, and Linear Programming*. Engineering Optimization, 40(6), 2008, 559-577.
30. C. Luo, M.F. Anjos, and A. Vannelli. *A Nonlinear Optimization Methodology for VLSI Fixed-Outline Floorplanning*. Journal of Combinatorial Optimization, 16(4), 2008, 378-401 (invited paper).
31. M.F. Anjos. *An Extended Semidefinite Relaxation for Satisfiability*. Journal on Satisfiability, Boolean Modeling and Computation, 4, 2007, 15-31.
32. M.F. Anjos and S. Burer. *On Handling Free Variables in Interior-Point Methods for Conic Linear Optimization*. SIAM Journal on Optimization, 18(4), 2007, 1310-1325.
33. G. Bautista, M.F. Anjos, and A. Vannelli. *Numerical Study of Affine Supply Function Equilibrium in AC Network-Constrained Markets*. IEEE Transactions on Power Systems, 22(3), 2007, 1174-1184.
34. G. Bautista, M.F. Anjos, and A. Vannelli. *Modeling Market Power in Electricity Markets: Is the Devil Only in the Details?* The Electricity Journal, 20(2), 2007, 82-92.
35. G. Bautista, M.F. Anjos, and A. Vannelli. *Formulation of Oligopolistic Competition in AC Power Networks: An NLP Approach*. IEEE Transactions on Power Systems, 22(1), 2007, 105-115.  
This paper earned Bautista the **2006 Mitacs Best Student Paper Award**.  
This paper was a **Selected Prize Paper in Power System Analysis and Economics** at the 2012 IEEE Power & Energy Society General Meeting.



36. M.F. Anjos. *An Explicit Semidefinite Characterization of Satisfiability for Tseitin Instances on Toroidal Grid Graphs*. Annals of Mathematics and Artificial Intelligence, 48(1-2), 2006, 1-14.
37. M.F. Anjos and A. Vannelli. *A New Mathematical Programming Framework for Facility Layout Design*. INFORMS Journal on Computing, 18(1), 2006, 111-118.
38. M.F. Anjos. *An Improved Semidefinite Programming Relaxation for the Satisfiability Problem*. Mathematical Programming, 102(3), 2005, 589-608.
39. M.F. Anjos. *Semidefinite Optimization Approaches for Satisfiability and Maximum-Satisfiability Problems*. Journal on Satisfiability, Boolean Modeling and Computation, 1, 2005, 1-47 (invited survey).
40. M.F. Anjos, C.S.M. Currie, and R.C.H. Cheng. *Optimal Pricing Policies for Perishable Products*. European Journal of Operational Research, 166(1), 2005, 246-254.
41. M.F. Anjos, A. Kennings, and A. Vannelli. *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions*. Discrete Optimization, 2(2), 2005, 113-122.  
This paper was a **Top-10 Cited Paper** in the journal Discrete Optimization for the period 2005-2010.
42. M.F. Anjos. *On Semidefinite Programming Relaxations for the Satisfiability Problem*. Mathematical Methods of Operations Research, 60(3), 2004, 349-367.
43. M.F. Anjos, C.S.M. Currie, and R.C.H. Cheng. *Maximising Revenue in the Airline Industry Under One-Way Pricing*. Journal of the Operational Research Society, 55(5), 2004, 535-541.
44. M.F. Anjos and H. Wolkowicz. *Strengthened Semidefinite Relaxations via a Second Lifting for the Max-Cut Problem*. Discrete Applied Mathematics, 119(1-2), 2002, 79-106.
45. M.F. Anjos and H. Wolkowicz. *Geometry of Semidefinite Max-Cut Relaxations via Matrix Ranks*. Journal of Combinatorial Optimization, 6(3), 2002, 237-270.
46. M.F. Anjos and A. Vannelli. *An Attractor-Repeller Approach to Floorplanning*. Mathematical Methods of Operations Research, 56(1), 2002, 3-27.
47. H. Wolkowicz and M.F. Anjos. *Semidefinite Programming for Discrete Optimization and Matrix Completion Problems*. Discrete Applied Mathematics, 123(1-3), 2002, 513-577.
48. M.F. Anjos. *A Modified Broyden Update with Interpolation*. SIAM Journal on Scientific Computing, 14(6), 1993, 1359-1367.

### Research Articles in Refereed Conference Proceedings

1. A.I. Tammam, C.S. Watters, M.F. Anjos, and M. Gendreau. *A Methodology for Ensemble Wind Power Scenarios Generation From Numerical Weather Predictions*. In: Proceedings of the IEEE PES General Meeting 2016.

2. M.F. Anjos, A. Fischer, and P. Hungerländer. *Solution Approaches for the Double-Row Equidistant Facility Layout Problem*. In: Operations Research Proceedings 2014, Springer-Verlag, 2014, to appear (accepted December 2014).
3. M. Manickavasagam, M. Hajian, M.F. Anjos, and W.D. Rosehart. *Chance-Constrained Generation Expansion Planning Based on Iterative Risk Allocation*. In: Proceedings of IREP IX Bulk Power System Dynamics and Control Symposium, 2013.
4. G.T. Costanzo, A.M. Kosek, G. Zhu, L. Ferrarini, M.F. Anjos, and G. Savard. *An Experimental Study on Load-Peak Shaving in Smart Homes by Means of Online Admission Control*. In: Proceedings of IEEE PES Innovative Smart Grid Technologies (ISGT) Europe Conference, 2013.
5. B. Ghaddar, J.C. Vera, and M.F. Anjos. *An Iterative Scheme for Valid Polynomial Inequality Generation in Binary Polynomial Programming* In: Proceedings of the 15th Conference on Integer Programming and Combinatorial Optimization (IPCO XV), Lecture Notes in Computer Science Vol. 6655, 2011, 207-222.
6. J. Ostrowski, M.F. Anjos, and A. Vannelli. *Tight Mixed Integer Linear Programming Formulations for Generator Self-Scheduling*. In: Proceedings of IEEE Canadian Conference on Electrical and Computer Engineering 2010.
7. C. Luo, M.F. Anjos, and A. Vannelli. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization Techniques*. In: Proceedings of ASP-DAC 2008, 198-203.
8. M.F. Anjos, M. Desroches, A. Haque, O. Grodzevich, H. Wei, and H. Wolkowicz. *Multi-Stage Investment Decision under Contingent Demand for Networking Planning*. In: Proceedings of IEEE Global Telecommunications Conference (Globecom) 2006, 1-5.

### Research Articles in Other Conference Proceedings

1. P. Hungerländer and M.F. Anjos. *An Exact Approach for the Combined Cell Layout Problem*. In: Operations Research Proceedings 2012, Springer-Verlag, 2014, 275-281.
2. R.J. Avalos, C.A. Cañizares, and M.F. Anjos. *A Practical Voltage-Stability-Constrained Optimal Power Flow*. In: Proceedings of Power Engineering Society (PES) General Meeting 2009, 1-6.
3. G. Bautista, M.F. Anjos, and A. Vannelli. *Beyond the Use of Linear Approximations for Modelling Nash-Cournot Equilibria*. In: Proceedings of IEEE PowerTech 2007 Conference, 2008, 831-836.
4. G. Bautista, M.F. Anjos, and A. Vannelli. *Analysis of Market Power Using an AC Transmission System*. In: Proceedings of Power Systems Conference & Exposition (PSCE), 2006, 677-682.
5. M.F. Anjos and A. Vannelli. *On the Computational Performance of a Semidefinite Programming Approach to Single Row Layout Problems*. In: Proceedings of Operations Research 2005, Springer-Verlag, 2006, 277-282.

6. M.F. Anjos, P.L. Takouda, and A. Vannelli. *Global Lower Bounds for the VLSI Macrocell Floorplanning Problem*. In: Proceedings of the Fifth International Workshop System-on-Chip for Real-Time Applications (IWSOC), 2005, 275-280.
7. M.F. Anjos. *Proofs of Unsatisfiability Using Semidefinite Programming*. In: Operations Research Proceedings 2003, Springer-Verlag, 2004, 308-315.
8. M.F. Anjos, C.S.M. Currie, and R.C.H. Cheng. *Revenue Management for Perishable Products Using Simulation*. In: Proceedings of the Sixth United Kingdom Simulation Society Conference, 2003, 114-120.
9. M.F. Anjos and H. Wolkowicz. *Strengthened Semidefinite Programming Relaxations for the Max-Cut Problem*. In: Proceedings of the International Conference on Advances in Convex Analysis and Global Optimization, Kluwer, 2001, 409-420.

### Research Reports Submitted for Publication

1. M.F. Anjos and J.A. Gómez. *Operations Research Approaches for Building Demand Response in a Smart Grid*. Submitted in June 2017 to INFORMS Tutorials in Operations Research (invited tutorial).
2. A. Barbry, M.F. Anjos, and E. Delage. *Robust self-scheduling of a price-maker energy storage facility in the New York electricity market*. Submitted in May 2017 to Energy Economics.
3. J.A. Gómez and M.F. Anjos. *Power Capacity Profile Estimation for Activity-Based Residential Loads*. Submitted in May 2017 to Applied Energy.
4. M. Habibian, G. Zakeri, A. Downward, M.F. Anjos, and M. Ferris. *Co-optimization of Demand Response and Reserve Offers for a Major Consumer*. Submitted in March 2017 to the IEEE Transactions on Power Systems.
5. M.F. Anjos, A. Fischer, and P. Hungerländer. *Improved Exact Approaches for Row Layout Problems with Departments of Equal Length*. Submitted in March 2017 to the European Journal of Operational Research.
6. J.A. Gómez and M.F. Anjos. *Collaborative Demand-Response Planner for Smart Buildings*. Submitted in March 2017 to Energy and Buildings.
7. P. Hungerländer and M.F. Anjos. *A Specialized Semidefinite Approach to Space-Free Multi-Row Layout and Parallel Row Ordering Problems*. Submitted in December 2016 to the European Journal of Operational Research.
8. J.C. Góez and M.F. Anjos. *Second Order Conic Optimization Formulations for Service System Design Problems with Congestion*. Submitted in November 2016 to Computers & Operations Research.
9. F. Djeumou Fomeni, S.A. Gabriel, and M.F. Anjos. *Applications of Logic Constrained Equilibria to Traffic Networks and to Power Systems with Storage*. Submitted in September 2016 to the Journal of the Operational Research Society.

10. F. Djeumou Fomeni, S.A. Gabriel, and M.F. Anjos. *An RLT Approach for Solving the Binary-Constrained Mixed Linear Complementarity Problem*. Submitted in June 2015 to the European Journal of Operational Research; revised July 2016, April 2017.

### Doctoral Dissertation

*New Convex Relaxations for the Maximum Cut and VLSI Layout Problems*,  
Department of Combinatorics and Optimization, University of Waterloo, 2001.  
Supervisor: H. Wolkowicz.

### Honors BSc Project

*Solving the Generalized Symmetric Eigenvalue Problem*, School of Computer Science,  
McGill University, December 1991 (research work with S. Hammarling and C.C. Paige).

### Other Research-Related Publications

1. E. Adams, M. Peyrega, and M.F. Anjos. *Time-Ahead Pricing of Energy Supply*. Cahier du GERAD G-2014-73, September 2014.
2. M.F. Anjos, E. de Klerk, and F. Rendl. *Preface of the special issue on Cone Programming and its Applications*. Mathematical Programming, 129(1), 2011, 1-3.
3. M.F. Anjos. *Proofs of Unsatisfiability Via Semidefinite Programming*. EUROPT Newsletter #17, October 2009, 18-23.

## White Papers on Energy Policy

1. E. Lachapelle, R. Nadeau, S. Guertin-Armstrong, L. Beaumier, and M.F. Anjos. *Feeling the Heat? The Paradox of Public Opinion and Climate Change Policy in Canada*. (also translated into French). Institut de l'énergie Trottier, December 2015, 20 pages. Available online at [http://www.polymtl.ca/iet/doc/Feeling-the-Heat\\_eng\\_20151203.pdf](http://www.polymtl.ca/iet/doc/Feeling-the-Heat_eng_20151203.pdf).
2. N. de Marcellis-Warin, I. Peignier, M.H. Bui, M.F. Anjos, S.A. Gabriel, and C. Guerra. *L'énergie et les changements climatiques: Perceptions québécoises* (Energy and climate change: Quebec's perceptions; in French). Institut de l'énergie Trottier, May 2015, 52 pages. Available online at [http://www.polymtl.ca/iet/doc/ChangementsClimatiques\\_FR\\_web-Aout15.pdf](http://www.polymtl.ca/iet/doc/ChangementsClimatiques_FR_web-Aout15.pdf).
3. M.F. Anjos, S.A. Gabriel, and C. Guerra. *Energy in Quebec and in Canada: A Conversation Starter* (also translated into French). Institut de l'énergie Trottier, February 2015, 34 pages. Available online at [https://www.mcgill.ca/tised/files/tised/energy\\_in\\_quebec\\_and\\_canada\\_-\\_a\\_conversation\\_starter\\_-\\_eng.pdf](https://www.mcgill.ca/tised/files/tised/energy_in_quebec_and_canada_-_a_conversation_starter_-_eng.pdf).
4. N. Mousseau plus 18 others including M.F. Anjos. *Elements of an Eastern Canada Energy Strategy* (also translated into French). December 2014, 8 pages. Available online at [http://normandmousseau.com/IMG/pdf/white\\_paper\\_easterncanada.pdf](http://normandmousseau.com/IMG/pdf/white_paper_easterncanada.pdf).

5. V. Lalande, T. Gervais, and M.F. Anjos. *Vers un Québec autonome et 100% énergie propre* (Toward a self-sufficient Quebec with 100% clean energy; in French). Submitted to the Commission sur les enjeux énergétiques du Québec, October 2013, 21 pages. Available online at [http://mern.gouv.qc.ca/energie/politique/memoires/20131011\\_401\\_Institut\\_energie\\_Trottier\\_M.pdf](http://mern.gouv.qc.ca/energie/politique/memoires/20131011_401_Institut_energie_Trottier_M.pdf).

## Articles for a General Audience

1. M.F. Anjos. *Portugueses em IO Pelo Mundo: Miguel Anjos* (Portuguese in OR Around the World: Miguel Anjos; in Portuguese). Boletim APDIO #51, Semester 2, 2014.
2. M.F. Anjos. *Keeping the Lights On*. GERAD Newsletter #8(2), November 2011.
3. M.F. Anjos. *A Major Challenge: Warmstarting Interior-Point Methods*. GERAD Newsletter #8(1), May 2011.
4. M.F. Anjos. *Viver a mobilidade académica* (Experiencing Academic Mobility; in Portuguese). Educação e Emprego #2, Julho-Setembro 2011.
5. M.F. Anjos. *Book Review: Convex Optimization*. Journal of the Operational Research Society 58(8), pp. 1118-1119, 2007.
6. T. Terlaky and M.F. Anjos. *High Performance Optimization: Theory, Algorithm Design and Engineering Applications*. Mitacs Connections Newsletter, October 2006.
7. M.F. Anjos. *Book Review: Graph Drawing Software*. Journal of the Operational Research Society 56(5), p. 616, 2005.
8. M.F. Anjos. *Book Review: Stable Parametric Programming*. Journal of the Operational Research Society 55(1), pp. 97-98, 2004.

## Media Interviews

1. *Quebecers sound off on energy and global warming*. Montreal Gazette, 27 May 2015.
2. *Les enjeux énergétiques intéressent peu les gens* (Energy issues are of little interest to people; in French). Le Journal de Montréal, 27 May 2015.
3. *Les Québécois manquent de connaissances en matière dénergie* (Quebecers lack knowledge about energy; in French). Journal Métro, 27 May 2015.
4. *L'énergie a son institut* (Energy has an Institute; in French). PLAN, the magazine of the Ordre des ingénieurs du Québec, June-July 2014, pages 40-42.
5. *Polytechnique Montréal: du nouveau pour le génie énergétique* (Polytechnique Montreal: New Developments in Energy Engineering; in French). La Presse, 14 Aug 2013.

# Research Grants and Contracts

## Industrial Research Contracts

**2013** Funding from Energy Pool for research on models for demand-response.

Principal investigator: M.F. Anjos.  
Other investigators: P. Marcotte, G. Savard.

**2011–2012** Funding from Schneider Electric Canada for research on models for demand-response.

Principal investigators: M.F. Anjos.  
Other investigator: G. Savard.

**2009–2010** Funding from the Region of Waterloo EMS for the project *Ambulance Location and Redeployment*.

Principal investigator: E.M. Jewkes.  
Other investigators: M.F. Anjos, S. Elhedhli.

**2002–2003** Funding from British Midland Airways Ltd. for revenue management research.

Principal investigator: M.F. Anjos.  
Other investigators: C.S.M. Currie, and R.C.H. Cheng.

## Major Academic Research Grants (Grants of CAD\$100,000 or more as P.I.)

**2016–2021** NSERC-Hydro-Quebec-Schneider Electric Senior Industrial Research Chair on *Optimization for the Smart Grid*.

Amount: CAD\$1,740,000 Principal Investigator: M.F. Anjos.

**2015–2020** NSERC Strategic Network Grant for the project *NSERC Energy Storage Technology Network*.

Amount: CAD\$8,596,213 (\$957,500 to M.F. Anjos, and \$1,818,100 to Theme led by M.F. Anjos)

Principal Investigator: B. Venkatesh (Ryerson).  
Theme Leads: M.F. Anjos, C.A. Cañizares (Waterloo),  
L. Chang (UNB), F.H. Tezel (Ottawa).  
Other investigators: 21 other Canadian researchers.

**2015–2020** NSERC Discovery Grant for the project *Conic Optimization Approaches for Hard Discrete Problems in Engineering*.

Amount: CAD\$140,000 Principal Investigator: M.F. Anjos.

**2011–2016** Canada Research Chair in Discrete Nonlinear Optimization in Engineering.

Amount: CAD\$500,000 Principal Investigator: M.F. Anjos.

**2008–2010** Mitacs Grant for the project *High Performance Optimization: Theory, Algorithm Design, and Engineering Applications* (joint collaboration of 14 researchers including M.F. Anjos).

Amount: CAD\$310,000 (\$33,200 to M.F. Anjos)  
Principal Investigators: M.F. Anjos & A. Vannelli.

**2005–2010** NSERC Discovery Grant for supporting research on *Semidefinite Programming Approaches for Hard Combinatorial Optimization Problems*.

Amount: CAD\$165,000

Principal Investigator: M.F. Anjos.

**2005–2009** Canada Foundation for Innovation (CFI) New Opportunities and Ontario Research Fund - Research Infrastructure (ORF-RI) Awards for the project *Electricity Market Simulation & Optimization Laboratory (EMSOL)* supported by a total investment in infrastructure of over CAD\$540,000 (jointly with K. Bhattacharya).

Amount: CAD\$290,000 (\$145,000 to M.F. Anjos)

Principal Investigators: M.F. Anjos & K. Bhattacharya.

### Other Academic Research Grants

**2017** Mitacs-Inria Globalink Research Award.

Amount: CAD\$7,500

Principal Investigators: M.F. Anjos, L. Brotcorne.

**2017** FRQNT Award for a 6-month visit at the University of Edinburgh, U.K.

Amount: CAD\$16,800

Principal Investigator: M.F. Anjos.

**2016–2017** Mitacs Accelerate Internship in partnership with Rio Tinto Alcan.

Amount: CAD\$45,000

Principal Investigator: M.F. Anjos.

Other investigators: P. Côté, G. Desaulniers.

**2016** NSERC Engage Award in partnership with Rio Tinto Alcan.

Amount: CAD\$24,900

Principal Investigator: M.F. Anjos.

**2015–2017** NSERC-FRQNT BMP Innovation in partnership with ExPretio Technologies Inc.

Amount: CAD\$42,000

Principal Investigator: M.F. Anjos.

Other investigator: G. Savard.

**2015–2021** GERAD Research Center Grant, Strategic clusters, Fonds de recherche du Québec - Nature et technologies (FRQNT).

Amount: CAD\$2,361,087 (\$30,000 to M.F. Anjos)

Principal Investigator: G. Desaulniers.

Other investigators: GERAD Members (64 researchers including M.F. Anjos).

**2015–2021** GERAD Infrastructure Funding (HEC Montréal, Polytechnique Montréal, McGill, UQAM).

Amount: CAD\$1,050,000 (\$10,000 to M.F. Anjos)

Principal Investigator: G. Desaulniers.

Other investigators: GERAD Members (64 researchers including M.F. Anjos).

**2014–2015** Mitacs-FRQNT Accelerate Internship in partnership with Hydro-Québec (IREQ)

Amount: CAD\$30,000

Principal Investigator: M.F. Anjos.

Other investigator: S. Alarie.

**2014–2017** NSERC-FRQNT BMP Innovation in partnership with ExPretio Technologies Inc.

Amount: CAD\$81,000

Principal Investigator: M.F. Anjos.

Other investigator: G. Savard.

- 2012–2016** Natural Resources Canada project on *Managing Energy Storage Capacities Dispersed in an Electrical Grid to Reduce the Effects of Renewable Energy Source Variability*.  
Amount: CAD\$1,061,000 Principal investigators: R. Malhamé, F. Sirois.  
Other investigators: M.F. Anjos, M. Gendreau, M. Bernier, and B. Sansó.
- 2011–2016** Mitacs Research Grant  
Amount: CAD\$50,000 Principal Investigator: M.F. Anjos.
- 2010–2012** Mitacs Grant for the project *High Performance Optimization: Theory, Algorithm Design, and Engineering Applications* (joint collaboration of 14 researchers including M.F. Anjos).  
Amount: CAD\$316,000 (\$58,000 to M.F. Anjos)  
Principal Investigators: M.F. Anjos & A. Vannelli.
- 2010–2015** NSERC Discovery Grant for the project *Semidefinite-Programming-based Approaches for Hard Combinatorial Optimization Problems in Engineering: Modelling, Algorithms, and Applications*.  
Amount: CAD\$165,000 Principal Investigator: M.F. Anjos.
- 2010–2015** GERAD Research Center Grant, Strategic clusters, Fonds de recherche du Québec - Nature et technologies (FRQNT).  
Amount: CAD\$1,950,000 (\$15,000 to M.F. Anjos) Principal Investigator: J.-Ph. Waaub.  
Other investigators: GERAD Members.
- 2010–2015** GERAD Infrastructure Funding (HEC Montréal, Polytechnique Montréal, McGill, UQAM).  
Amount: CAD\$885,000 (\$5,000 to M.F. Anjos) Principal Investigator: J.-Ph. Waaub.  
Other investigators: GERAD Members.
- 2006–2009** Faculty of Engineering Dean’s Graduate Student Support Award  
Amount: CAD\$51,666 Principal Investigator: M.F. Anjos.
- 2009–2011** Mitacs Research Grant  
Amount: CAD\$15,750 Principal Investigator: M.F. Anjos.
- 2007** Bell University Laboratories (BUL) Grant for the conclusion of the research project *Multi-Period Demand Forecasting for Networking Planning with Several Central Offices* (jointly with H. Wolkowicz and A. Vannelli).  
Amount: CAD\$65,000 (\$25,000 to M.F. Anjos) Principal Investigator: H. Wolkowicz.
- 2006** BUL Grant for the continuation of the research project *Multi-Period Demand Forecasting for Networking Planning with Several Central Offices* (jointly with H. Wolkowicz and A. Vannelli).  
Amount: CAD\$60,000 (\$20,000 to M.F. Anjos) Principal Investigator: H. Wolkowicz.
- 2006–2008** Mitacs Grant for Project *High Performance Optimization: Theory, Algorithm Design, and Engineering Applications* (joint collaboration of 13 researchers including M.F. Anjos).  
Amount: CAD\$310,000 (\$50,000 to M.F. Anjos) Principal Investigator: T. Terlaky.



- 2005–2006** Communications and Information Technology Ontario (CITO) Grant, and Matching Funds from Bell Canada, for a Student Internship.  
Amount: CAD\$30,000 Principal Investigator: M.F. Anjos.
- 2005–2006** Mitacs Grant for Project *New Interior Point Methods and Software for Convex Conic-Linear Optimization and Their Application to Solve VLSI Circuit Layout Problems* (joint collaboration of 11 researchers including M.F. Anjos).  
Amount: CAD\$155,000 (\$5,000 to M.F. Anjos) Principal Investigator: T. Terlaky.
- 2005–2006** NSERC Research Tools and Instruments (Category I) Grant for the acquisition of *High Performance Computing Equipment for Solving Semidefinite Programming Relaxations of Hard Combinatorial Optimization Problems*.  
Amount: CAD\$22,060 Principal Investigator: M.F. Anjos.
- 2005** BUL Grant for the research project *Multi-Period Demand Forecasting for Networking Planning with Several Central Offices* (jointly with H. Wolkowicz and A. Vannelli).  
Amount: CAD\$110,000 (\$30,000 to M.F. Anjos) Principal Investigator: H. Wolkowicz.
- 2004** University of Waterloo Start-up Grant  
Amount: CAD\$45,000 Principal Investigator: M.F. Anjos.
- 2003–2004** University of Southampton Annual Research Grant for the project *Application of Semidefinite Programming to the Facility Layout Problem*.  
Amount: £21,930 Principal Investigator: M.F. Anjos.
- 2003–2005** Nuffield Foundation “New Lecturers in Science, Engineering and Mathematics” Grant for the project *Application of Semidefinite Programming to the Facility Layout Problem*.  
Amount: £5,400 Principal Investigator: M.F. Anjos.

## Research Supervision

Postdoctoral Researchers:

1. Martim Joyce-Moniz (co-supervised with B. Gendron since May 2017).
2. Zhao Sun (co-supervised with A. Lodi, September 2015 – August 2016).
3. Franklin Djeumou Fomeni (September 2014 – August 2016).  
Dr. Fomeni was awarded a 2014 GERAD Postdoctoral Scholarship.  
He is now a Research Associate at Lancaster University, U.K.
4. Julio C. Góez (November 2013 – November 2015).  
Dr. Góez was awarded a 2013 GERAD Postdoctoral Scholarship.  
He is now Post Doktor (similar to Assistant Professor) at the Norwegian School of Economics, Norway.
5. François Gilbert (co-supervised with G. Savard, September 2011 – May 2014).  
Dr. Gilbert is now at Argonne National Laboratories, U.S.A.

6. James Ostrowski (co-supervised with A. Vannelli, January 2009 – November 2010).  
Dr. Ostrowski is now an Assistant Professor at the University of Tennessee-Knoxville, U.S.A.
7. Alexander Engau (co-supervised with A. Vannelli, August 2007 – July 2009).  
Dr. Engau was awarded the Best Poster Prize at MOPTA 2008, and the Second Poster Prize at the Mitacs Conference 2009.  
Dr. Engau is now a Senior Lecturer at Lancaster University, U.K.
8. Juan C. Vera Lizcano (September 2007 – August 2008).  
Dr. Vera is now an Assistant Professor at Tilburg University, The Netherlands.
9. Johannes Hatzl (November 2006 – August 2007).  
Dr. Hatzl is now an Assistant Professor at the Graz University of Technology, Austria.
10. Guillermo Bautista (co-supervised with A. Vannelli, August 2005 – May 2007).  
Dr. Bautista was awarded a Mitacs Best Student Paper 2006 Prize for the paper *Formulation of Oligopolistic Competition in AC Power Networks: An NLP Approach* (co-authored with M.F. Anjos and A. Vannelli).  
Dr. Bautista is now a Senior Market Performance Analyst at the California Independent System Operator.
11. Matthias P.L. Takouda (September 2003 – August 2005).  
Dr. Takouda is now an Assistant Professor at Laurentian University, Canada.

#### Doctoral Students:

1. Mariana Faria Pires Gama Rocha, PhD student in Industrial Engineering at Polytechnique Montreal (since September 2016).
2. Mathieu Tanneau, PhD student in Engineering Mathematics at Polytechnique Montreal, co-supervised with A. Lodi (since September 2015).  
Mr Tanneau was awarded an Electric Power Research Institute (EPRI) Full Scholarship to attend the ESA 27th Annual Conference and Expo 2017.
3. Michael David De Souza Dutra, PhD student in Engineering Mathematics at Polytechnique Montreal, co-supervised with S. Le Digabel (since September 2015).  
Mr Dutra is supported by a Ciência sem Fronteiras scholarship.
4. Christian Bingane, PhD student in Engineering Mathematics at Polytechnique Montreal, co-supervised with S. Le Digabel (since January 2015).
5. Vilmar Jefte Rodrigues de Sousa, PhD student in Engineering Mathematics at Polytechnique Montreal, co-supervised with S. Le Digabel (since January 2015).
6. Thibault Barbier, PhD student in Industrial Engineering at Polytechnique Montreal, co-supervised with G. Savard (since June 2014).  
Mr. Barbier is financially supported by a BMP Innovation Scholarship for 2014-2017, funded by NSERC and FRQNT with industrial partner ExPretio Technologies Inc.

7. Jesús Andrés Rodríguez Sarasty, PhD student in Engineering Mathematics at Polytechnique Montreal, co-supervised with G. Desaulniers (since August 2013).
8. Ahmed Chaouachi, PhD student in Operations Research at University of Montreal, co-supervised with P. Marcotte (since September 2012).
9. Juan Alejandro Gómez Herrera, PhD student in Engineering Mathematics at Polytechnique Montreal (since May 2012).  
Mr. Gómez Herrera was awarded a 2017 Mitacs-Inria Globalink Scholarship for the project *Optimal energy management in a smart building with storage*.
10. Adham I. Tammam (PhD in Industrial Engineering, Polytechnique Montreal, 2016).  
Thesis title: *Lissage optimal de la charge électrique en présence de sources d'énergies renouvelables via le pilotage de la consommation des chauffe-eau* (co-supervised with M. Gendreau).  
After graduating, Dr. Tammam was hired as Operations Research Analyst at GIRO.
11. Patricia Lynn Gillett-Kawamoto (PhD in Engineering Mathematics, Polytechnique Montreal, 2016).  
Thesis title: *Semidefinite Programming Approaches and Software Tools for Quadratic Programs with Linear Complementarity Constraints*.  
After graduating, Dr. Gillett-Kawamoto was hired as Merchant Optimization Developer at Shopify.
12. Elspeth Clair Adams (PhD in Engineering Mathematics, Polytechnique Montreal, 2015).  
Thesis title: *A Novel Approach to Tightening Semidefinite Relaxations for Certain Combinatorial Problems*.  
The thesis of Dr. Adams was nominated for the Best Thesis Prize at Polytechnique Montreal. Dr. Adams was a member of the Polytechnique team that placed second at the MOPTA 2014 Competition. After graduating, she was a postdoctoral researcher at Lehigh University, U.S.A. She is now a Business Analyst at EA Games.
13. Bissan Ghaddar (PhD in Management Sciences, University of Waterloo, 2011).  
Thesis title: *New Conic Optimization Techniques for Solving Binary Polynomial Programming Problems* (co-supervised with J.C. Vera).  
Dr. Ghaddar was awarded an NSERC Canada Graduate Scholarship (CGS) for 2009–2011, and Ontario Graduate Scholarships (OGS) for 2007–2008 and 2008–2009. She was awarded the Fraser Research Prize 2008 for the Best Research Paper by a graduate student in Management Sciences at Waterloo.  
After graduating, she held an NSERC Postdoctoral Fellowship at the Department of National Defense of Canada. She is now an Assistant Professor at the University of Waterloo, Canada.
14. Jose Rafael Avalos Muñoz (PhD in Electrical Engineering, University of Waterloo, 2008).  
Thesis title: *Analysis and Application of Optimization Techniques to Power System Security and Electricity Markets* (co-supervised with C. Cañizares).  
Dr. Avalos Muñoz was supported by a CONACYT Scholarship for 2004–2007.  
After graduating, he was hired as an Associate Regional Transmission Engineer at the California Independent System Operator.

15. Chaomin Luo (PhD in Electrical Engineering, University of Waterloo, 2008).  
 Thesis title: *Novel Convex Optimization Techniques for VLSI Floorplanning*  
 (co-supervised with A. Vannelli).  
 Dr. Luo was awarded an NSERC Doctoral Scholarship for 2003–2005, and an OGS for  
 2005–2006.  
 He was awarded the SWORD 2007 Best Presentation Award for the talk entitled  
*Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization Techniques*  
 (co-authored with M.F. Anjos and A. Vannelli).  
 After graduating, he was hired as Assistant Professor at the National Taipei University,  
 Taiwan. He is currently an Associate Professor at the University of Detroit-Mercy, U.S.A.
16. Andrew Drake (PhD in Operational Research, University of Southampton, 2009).  
 Thesis title: *Approaches for Solving Some Scheduling and Routing Problems*  
 (co-supervised with C. Potts).  
 Dr. Drake was supported by a scholarship from EPSRC.  
 After graduating, he was hired as a Researcher at the University of Southampton.  
 He is currently Finance Officer at Carewatch Gillingham, UK.

Masters Students:

1. Rachel Stephenson (MSc in Operational Research, University of Edinburgh, 2017).
2. Diego Beas Lagos (MSc in Operational Research, University of Edinburgh, 2017).
3. Émilie Chénier, MScA student in Energy Engineering at Polytechnique Montreal (since  
 January 2017).
4. Mathilde K. Bourque, MScA student in Energy Engineering at Polytechnique Montreal  
 (since September 2016).
5. Neda Etebari Alamdari, MScA student in Industrial Engineering at Polytechnique  
 Montreal, co-supervised with G. Savard (since September 2015).  
 Ms. Etebari Alamdari is financially supported by a BMP Innovation Scholarship for  
 2015-2017, funded by NSERC and FRQNT with industrial partner ExPretio  
 Technologies Inc.
6. Adrien Barbry, MScA student in Energy Engineering at Polytechnique Montreal (since  
 September 2015).
7. Nicolas Barris, MScA student in Industrial Engineering at Polytechnique Montreal  
 (co-supervised with S. Alarie, January 2014 - December 2015).  
 Mr. Barris was financially supported by a Mitacs Internship with industrial partner  
 Hydro-Quebec.  
 After graduating, Mr. Barris was hired as a Project Manager by Lainco Inc.
8. Xiaoxi Xu (MScA in Applied Mathematics, Polytechnique Montreal, 2013).  
 After graduating, Ms. Xu was hired as an Analyst by GIRO.
9. Thibault Barbier (MScA in Applied Mathematics, Polytechnique Montreal, 2013).  
 Mr. Barbier is working on his PhD at Polytechnique Montreal.

10. Giuseppe C. Costanzo (MScA in Electrical Engineering, Polytechnique Montreal, 2011).  
Mr. Costanzo completed a PhD at the Technical University of Denmark (DTU), and is now R&D Applications Engineer at ETEL S.A.
11. Uwe Truetsch (Diplom in Wirtschaftsmathematik, University of Cologne, Germany, 2010).  
Mr. Truetsch is working on his PhD at the University of Tilburg, The Netherlands.
12. Jie Hu (MASc in Management Sciences, University of Waterloo, 2011).  
After graduating, Mr. Hu was hired as an Analyst by Canadian Tire.
13. Sabrina Bernardi (MMath in Computational Mathematics, University of Waterloo, 2010).  
Ms. Bernardi was awarded an OGS for 2009–2010.  
She received the Best Presentation Prize in Computational Mathematics for 2010.  
After graduating, Ms. Bernardi was hired as a Business Application Analyst by One-Eighty Corp.
14. Elspeth Adams (MASc in Management Sciences, University of Waterloo, 2010).  
Ms. Adams was awarded an OGS for 2009–2010.  
After graduating, she completed a PhD at Polytechnique Montreal under my supervision.
15. Jason Landry (MASc in Management Sciences, University of Waterloo, 2009).  
Mr. Landry was awarded an NSERC Postgraduate Scholarship for 2007–2009.  
After graduating, Mr. Landry was hired as an Analyst by Concentra (UK).
16. Ginger Yen (MASc in Management Sciences, University of Waterloo, 2008).  
Ms. Yen was awarded an OGS in Science and Technology for 2007–2008.  
After graduating, Ms. Yen was hired as an Analyst by IMS Health.
17. Bryan Leung (MASc in Management Sciences, University of Waterloo, 2008).  
Mr. Leung was awarded an OGS for 2006–2007.  
After graduating, Mr. Leung was hired by Ontario Power Generation Inc. He now works at Trans-Alta Energy Marketing Corp.
18. Ibolya Jankovits (MASc in Management Sciences, University of Waterloo, 2007).  
Ms. Jankovits was awarded an OGS in Science and Technology for 2005–2006, and an OGS for 2006–2007.  
After graduating, Ms. Jankovits was hired as a System Analyst for Deloitte.
19. Bissan Ghaddar (MASc in Management Sciences, University of Waterloo, 2007).  
Ms. Ghaddar was awarded the Annual Clough Memorial Award 2006 and the El-Gabbani Annual Scholarship 2006, both from the Department of Management Sciences at the University of Waterloo, in recognition of superior scholarship.  
After graduating, she completed her PhD under my supervision.
20. Laksmi W. Suharsono (MSc in Management Science, University of Southampton, 2003).  
After graduating, Ms. Suharsono was hired as an SAP Consultant in Indonesia.
21. Nicole Pulici (MSc in Operational Research, University of Southampton, 2003).  
After graduating, Ms. Pulici was hired as a Transport Planner for WS Atkins PLC (UK).

- Jonathan Hall (MSc in Operational Research, University of Southampton, 2003).  
After graduating, Mr. Hall was hired as an Operations Research Analyst for Scott Wilson (UK).

#### Research Internship Students:

- Vilmar Jefté Rodrigues de Sousa (ISIMA, Université Blaise Pascal), co-supervised with S. Le Digabel, April-August 2014.  
The internship of Mr. de Sousa was supported by a Visiting Undergraduate Trainee Scholarship from GERAD.
- Tristan Rigaut (ENSTA ParisTech), co-supervised with M. Gendreau, April-October 2014.
- Quentin Laudereau (Polytechnique Paris), co-supervised with G. Zhu, April-July 2014.
- Dorien Meijer Cluwen (University of Twente), August–December 2013.
- Monishaa Manickavasagam (University of Calgary), October–December 2013.  
The internship of Ms. Manickavasagam was supported by a full scholarship from the Fonds de recherche du Québec – Nature et technologies (FRQNT).

#### Undergraduate Research Students:

- Guillaume Baggio Ferla, undergraduate research assistant, October 2016–April 2017.  
Mr. Baggio Ferla was awarded a competitive *Unité de participation et d'initiation à la recherche* (UPIR) undergraduate research scholarship by Polytechnique Montreal.
- Frédéric Ebacher, undergraduate research assistant, October 2014–April 2015.  
Mr. Ebacher was awarded a competitive *Unité de participation et d'initiation à la recherche* (UPIR) undergraduate research scholarship by Polytechnique Montreal.
- Zack Zhu, undergraduate research assistant, January–April 2009.
- Alan Thai, undergraduate research assistant, January–April 2009.
- Christie Kong, co-op research student, September-December 2007; undergraduate research assistant, January–August 2008.
- Rajesh Kumar Swaminathan, undergraduate research assistant, September 2007–April 2008.
- Felicia Wong, NSERC Undergraduate Summer Research Award (USRA), May–August 2006.
- Mirue Choi, co-op research student, September–December 2004.

## Academic Visitors for Extended Periods

Ms. Mahbubeh Habibian, University of Auckland, New Zealand (2015).

Prof. Steven A. Gabriel, University of Maryland - College Park, MD, USA (2015).

Prof. Manuel V.C. Vieira, Nova University of Lisbon, Portugal (2011, 2012, 2013, 2014, 2015, 2016).

Prof. Dr. Joaquim João Júdice, University of Coimbra, Portugal (2013, 2014).

Dr. Sourour Elloumi, École Nationale Supérieure d'Informatique pour l'Industrie et l'Entreprise, France (2013).

Prof. Xiao-Wen Chang, McGill University, Canada (2012–2013).

Prof. Alexander Engau, University of Colorado Denver, U.S.A. (2010, 2011, and 2012).

Prof. Philipp Hungerländer, University of Klagenfurt, Austria (2011).

## Research Presentations

### Plenary Presentations

1. *Harnessing Flexibility in Smart Grids*, Workshop on Complex Energy Systems, ISCI, Pontificia Universidad Católica, Santiago, Chile, November 2016.
2. *Recent Progress and Current Challenges in Optimization for the Smart Grid*, Joint NZSA & ORSNZ Annual Conference, Wellington, New Zealand, November 2014.
3. *Bilateral Contract Optimization in Power Markets*, 8th Annual Trans-Atlantic Infraday on Energy, Federal Energy Regulatory Commission (FERC), Washington DC, U.S.A., November 2014.
4. *Recent Progress and Current Challenges in Optimization for the Smart Grid*, Modeling and Optimization: Theory and Applications (MOPTA) 2014, Bethlehem, PA, U.S.A., August 2014.
5. *Conic Optimization: An Exciting Present and a Promising Future*, 12th EUROPT Workshop on Advances in Continuous Optimization, Perpignan, France, July 2014.
6. *Advances in Conic Relaxations for Discrete Optimization*, Canadian Discrete and Algorithmic Mathematics (CanaDAM) Conference, St. John's, Canada, June 2013.
7. *Optimization Challenges in Smart Grid Operations*, Conference on Principles and Practice of Constraint Programming (CP), Quebec QC, Canada, October 2012.
8. *Semidefinite Optimization: Yesterday, Today, and Tomorrow*, Annual Meeting of the Portuguese Mathematical Society, Algarve, Portugal, July 2012.
9. *A Match Made in Heaven: Semidefinite Optimization and Combinatorial Optimization*, 25th Conference on Combinatorial Optimization (ECCO 2012), Antalya, Turkey, April 2012.
10. *Valid Polynomial Inequality Generation in Polynomial Optimization*, Second Alpen-Adria Workshop on Optimization, Klagenfurt, Austria, May 2011.
11. *Warm-Starts and Hip Cuts for Interior-Point Methods in Combinatorial Optimization*, Fall 2009 West Coast Optimization Conference, Vancouver BC, Canada, October 2009.
12. *An Improved Semidefinite Programming Relaxation for the Satisfiability Problem*, Workshop on Semidefinite Programming and its Applications in Control Theory, Combinatorial and Global Optimization, Toulouse, France, September 2002.

13. *Can Semidefinite Programming Make the Cut?*, Graduate Student Conference of the Faculty of Mathematics of the University of Waterloo, Canada, June 2000.

### **Semi-Plenary Presentation**

1. *Semidefinite Relaxations: The Cutting Edge*, OR 2013 - the International Conference on Operations Research, Erasmus University Rotterdam, Rotterdam, the Netherlands, September 2013.

### **Invited Tutorial Presentations**

1. *Optimization on Smart Grids*, Centro de Matemática e Aplicações, FCT, Nova University of Lisbon, Monte da Caparica, Portugal, December 2015.
2. *Semidefinite Optimization*, MINO/COST Spring School on Convex Optimization and Applications, Klagenfurt, Austria, April 2014.
3. *Conic Relaxations for Discrete Optimization*, 2013 PIMS Optimization Summer School, Calgary, Canada, June 2013.
4. *(Semi)Definitely the Future! A Course on Semidefinite Optimization*, Portuguese Operational Research Society (APDIO), Coimbra, Portugal, May 2011.
5. *(Semi)Definitely Going Global*, Optimization Days 2010, Montreal, Canada, May 2010.

### **Other Invited Presentations with Financial Support of the Host Institution**

1. *Optimization for Demand Response in Smart Grids*, Energy Institute Seminar, University of Birmingham, U.K., June 2017.
2. *Mathematical Optimization Approaches for Facility Layout Problems*, ISOR-Kolloquium, Universität Wien, Vienna, Austria, March 2017.
3. *Optimization for Demand Response in Smart Grids*, Business and Management Science Seminar, NHH Norwegian School of Economics, Norway, February 2017.
4. *Smart Grids and Optimization: A Winning Combination*, Computational Optimisation Seminar, Imperial College, U.K., December 2016.
5. *Smart Grids and Optimization: A Winning Combination*, Applied Mathematics and Statistics Seminar, University of Copenhagen, Denmark, October 2016.
6. *Smart Grids and Optimization: A Winning Combination*, PGMO Seminar, l'X, Palaiseau, France, October 2016.
7. *Smart Grids and Optimization: A Winning Combination*, OPTIMA Seminar, Inria Lille-Nord Europe, France, October 2016.
8. *Smart Grids and Optimization: A Winning Combination*, Workshop on Computational Optimization in Action, ICMS, Edinburgh, U.K., June 2016.
9. *Smart Grids and Optimization: A Winning Combination*, Workshop on Nonlinear Optimization Algorithms and Industrial Applications, Fields Institute, Toronto, Canada, June 2016.
10. *Smart Grids and Optimization: A Winning Combination*, Department of Industrial and Systems Engineering, University of Florida, FL, U.S.A., April 2016.



11. *The Trottier Energy Futures Project: An Analytical Study of Energy Pathways for Greenhouse Gas Reductions in Canada*, Alan Turing Institute Workshop on Data Science for Whole Energy Systems, ICMS, Edinburgh, U.K., January 2016.
12. *Optimal Management of Bilateral Contracts for Energy Procurement*, Workshop on “Smart Grids: Today and The Future”, University of Waterloo, Waterloo, Canada, October 2015.
13. *Current Challenges and Recent Progress in Optimization for the Smart Grid*, ERGO Seminar, School of Mathematics, University of Edinburgh, U.K. September 2015.
14. *Progress on Computing Solutions to Binary-Constrained and to Quadratic Complementarity Problems*, Optimization Workshop, Quinta das Lágrimas, Coimbra, Portugal, July 2015.
15. *Current Challenges and Recent Progress in Optimization for the Smart Grid*, Fields Industrial Optimization Seminar, Fields Institute, Toronto, Canada, March 2015 (presented jointly with Innocent Kamwa, Hydro-Québec).
16. *Improved Mixed Integer Linear Optimization Formulations for Unit Commitment*, Seminar, Econometrics & Operations Research, Tilburg University, Tilburg, Netherlands, October 2014.
17. *Recent Progress and Current Challenges in Optimization for the Smart Grid*, Seminar Series, Mechanical & Industrial Engineering, University of Toronto, Toronto, Canada, October 2014.
18. *Recent Progress and Current Challenges in Optimization for the Smart Grid*, ISyE Colloquium, Georgia Institute of Technology, Atlanta GA, U.S.A., October 2014.
19. *Demand-Response: Le jumelage des technologies de gestion de l’énergie et de la recherche opérationnelle* (in French), joint presentation with S. Leblond (Schneider Electric Canada), Colloquium on Smart Grids entitled “Défis énergétiques”, Entretiens Jacques Cartier 2014, Polytechnique Montreal & ETS, Montreal, Canada, October 2014.
20. *Demand Response: Marrying Energy Management Applications and Operations Research*, joint presentation with Y. Kulp (Schneider Electric Canada), Smart Grid Canada, Montreal, Canada, October 2014.
21. *Improved Mixed Integer Linear Optimization Formulations for Unit Commitment*, Civil Systems Special Seminar, University of Maryland College Park, College Park MD, U.S.A., March 2014.
22. *Optimisation de systèmes hybrides avec batteries pour sites isolés* (in French), Colloquium on Smart Grids entitled “Intégration future des énergies renouvelables : l’habitat, le réseau et leurs interactions”, Entretiens Jacques Cartier 2013, LAAS-CNRS, Toulouse, France, November 2013.
23. *Optimal Load Management in Autonomous Systems*, ERGO Seminar, School of Mathematics, University of Edinburgh, U.K. August 2013.
24. *Applications of Linear and Nonlinear Optimisation in the Electricity Sector*, Isaac Newton Institute for Mathematical Sciences, Cambridge, U.K., August 2013.
25. *Towards Efficient Higher-Order Semidefinite Relaxations for Max-Cut*, Isaac Newton Institute for Mathematical Sciences, Cambridge, U.K., July 2013.

26. *Optimization Challenges in Smart Grid Operations*, Engineering Science, University of Auckland, Auckland, New Zealand, June 2013.
27. *Optimization Challenges in Smart Grid Operations*, Centre for Urban Energy, Ryerson University, Toronto, Canada, March 2013.
28. *Optimization Challenges in Smart Grid Operations*, Management Sciences, University of Waterloo, Waterloo, Canada, March 2013.
29. *Vers un effacement optimal des charges* (in French), Colloquium on Smart Grids entitled “L’électricité intelligente: vers des systèmes à valeur ajoutée”, Entretiens Jacques Cartier 2012, EPFL, Lausanne, Switzerland, November 2012.
30. *Optimization Challenges in Smart Grid Operations*, Humboldt Colloquium “Excellence in Research”, Toronto, Canada, November 2012.
31. *Optimization Challenges in Smart Grid Operations*, Electrical and Computer Engineering, University of Calgary, Calgary, Canada, September 2012.
32. *A Match Made in Heaven: Semidefinite Optimization and Combinatorial Optimization*, Operations Research, Universität Klagenfurt, Klagenfurt, Austria, May 2012.
33. *(Semi)Definitely Going Global*, Joint Mathematical Sciences and Industrial & Systems Engineering Colloquium, Rensselaer Polytechnic Institute, Troy, NY, U.S.A., April 2012.
34. *Valid Polynomial Inequality Generation in Polynomial Optimization*, Workshop on Optimization, Fields Institute, Toronto, Canada, September 2011.
35. *Valid Polynomial Inequality Generation in Polynomial Optimization*, Industrial & Systems Engineering Seminar, Lehigh University, Bethlehem, PA, U.S.A., June 2011.
36. *Iterative Valid Polynomial Inequality Generation in Polynomial Optimization*, Faculté de Mathématiques Pierre et Marie Curie, Université Pierre et Marie Curie - Paris 6 (UPMC), Paris, France, May 2011.
37. *Recent Progress in the Application of SDP to Discrete Optimization*, Mathematisches Institut, Heinrich-Heine-Universität, Düsseldorf, Germany, April 2010.
38. *Second-Order Cone Programming Relaxations of Binary Quadratic Problems*, Minisymposium Diskrete Optimierung, TU-Graz, Graz, Austria, April 2010.
39. *Polynomial Programming Relaxations of Binary Quadratic Problems*, Operations Research, Universität Klagenfurt, Klagenfurt, Austria, April 2010.
40. *Warm-Starts for Interior-Point Methods in Combinatorial Optimization*, ISDS-Kolloquium, Universität Wien, Vienna, Austria, April 2010.
41. *Warm-Starts for Interior-Point Methods in Combinatorial Optimization*, Max-Planck-Institut für Informatik, Saarbrücken, Germany, January 2010.
42. *Warm-Starts for Interior-Point Methods in Combinatorial Optimization*, Universität Konstanz, Konstanz, Germany, January 2010.
43. *Novel Semidefinite Models & Improved Algorithms for Maximum-k-Cut Problems*, Network Meeting of the Humboldt Foundation, Heidelberg, Germany, November 2009.
44. *Warm-Starts and Hip Cuts for Interior-Point Methods in Combinatorial Optimization*, Operations Research Seminar, Tilburg University, The Netherlands, November 2009.

45. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, Operations Research Seminar, Department of Mathematics, Simon Fraser University, Vancouver BC, Canada, October 2009.
46. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, Centre for Operational Research, Management Science and Information Systems (CORMSIS) Seminar, University of Southampton, U.K., June 2009.
47. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, Management Science Seminar, Judge Business School, Cambridge University, U.K., June 2009.
48. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, Department of Mathematics, University of Coimbra, Coimbra, Portugal, May 2009.
49. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, CEOC Seminar, Department of Mathematics, University of Aveiro, Aveiro, Portugal, May 2009.
50. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, Operations Research Seminar, Tepper School of Business, Carnegie-Mellon University, Pittsburgh PA, U.S.A., April 2009.
51. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, DIMACS Workshop in Memory of Leo Khachiyan, Rutgers University, New Brunswick NJ, U.S.A., March 2009.
52. *Optimal and Near-Optimal Solutions for Very Large Single-Row Facility Layout Problems*, Dept of Decision Sciences, Drexel University, Philadelphia PA, U.S.A., February 2009.
53. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, LIDS Seminar, Massachusetts Institute of Technology, Cambridge MA, U.S.A., May 2008.
54. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, Computational Science & Engineering Seminar, McGill University, Montreal, Canada, February 2008.
55. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, GERAD, Montreal, Canada, February 2008.
56. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, Operations Research Seminar, North Carolina State University, Raleigh NC, U.S.A., November 2007.
57. *Globally Optimal Solutions for Large Single-Row Facility Layout Problems*, Management Sciences Seminar, Tippie College of Business, University of Iowa, Iowa City IA, U.S.A., April 2006.
58. *Recent Progress in Applying Semidefinite Optimization to the Satisfiability Problem*, Algorithms Group Seminar, Delft University of Technology, The Netherlands, February 2006.
59. *Towards an SDP-Based Algorithm for the Satisfiability Problem*, Computational Mathematics and Applications Seminar, Oxford University, U.K., May 2004.
60. *Towards an SDP-Based Algorithm for the Satisfiability Problem*, Mathematical Programming Seminar, CORE, Louvain-la-Neuve, Belgium, March 2004.

61. Guest Lecturer at the School of Computer Science of McGill University, presented a series of lectures on *Semidefinite Programming and Combinatorial Optimization*, February 2004.
62. *Semidefinite Relaxations for the Max-Cut Problem*, Mathematisches Institut, Heinrich-Heine-Universität, Düsseldorf, Germany, November 2001.
63. *Semidefinite Relaxations for the Max-Cut Problem*, Institut für Informatik Colloquium, Universität zu Köln, Cologne, Germany, February 2001.
64. *Semidefinite Relaxations for the Max-Cut Problem*, GSIA OR Seminar, Carnegie-Mellon University, Pittsburgh PA, U.S.A., September 2000.
65. *Strengthened Semidefinite Relaxations for the Max-Cut Problem*, Universität Klagenfurt, Klagenfurt, Austria, May 2000.
66. *Semidefinite Relaxations for the Max-Cut Problem*, McGill Computational Science and Engineering Seminar, McGill University, Montreal, Canada, February 2000.

### Invited Conference Presentations

1. *Computational Study of Valid Inequalities for k-Way Graph Partitioning*, Fourth Alpen-Adria Workshop on Optimization, Klagenfurt, Austria, November 2016.
2. *A Decomposition Approach For Hydropower Operation and Maintenance Scheduling*, INFORMS Annual Meeting, Nashville TN, U.S.A., November 2016.
3. *An Improved Two-Stage Optimization-Based Framework for Unequal-Areas Facility Layout*, Workshop on Advances in Optimization, Tokyo, Japan, August 2016.
4. *Computational Study of Valid Inequalities for the Maximum k-Cut Problem*, International Conference on Continuous Optimization (ICCOPT) 2016, Tokyo, Japan, August 2016.
5. *An Improved Two-Stage Optimization-Based Framework for the Unequal-Areas Facility Layout Problem*, MOPTA 2015, Bethlehem PA, U.S.A., July 2015.
6. *Current Challenges and Recent Progress in Optimization for Smart Power Networks*, NOW 2015, La Rochelle, France, May 2015.
7. *Hierarchical Cuts to Strengthen Semidefinite Relaxations of NP-hard Graph Problems*, IFORS 2014, Barcelona, Spain, July 2014.
8. *Towards Efficient Higher-Order Semidefinite Relaxations for Max-Cut*, MINLP 2014, Pittsburgh PA, U.S.A., June 2014.
9. *Improved Mixed Integer Linear Optimization Formulations for Unit Commitment*, SIAM Conference on Optimization, San Diego CA, U.S.A., May 2014.
10. *Improved Mixed Integer Linear Optimization Formulations for Unit Commitment*, INFORMS Optimization Society Conference, Houston TX, U.S.A., March 2014.
11. *Optimization of Wind, Diesel and Battery Systems for Remote Areas*, INFORMS Annual Meeting, Minneapolis MN, U.S.A., October 2013.
12. *Towards Efficient Higher-Order Semidefinite Relaxations for Max-Cut*, INFORMS Annual Meeting, Minneapolis MN, U.S.A., October 2013.
13. *Towards Efficient Higher-Order Semidefinite Relaxations for Max-Cut*, International Conference on Continuous Optimization (ICCOPT) 2013, Lisbon, Portugal, July 2013.

14. *A System Architecture for Autonomous Demand Side Load Management in Smart Buildings*, Annual Meeting of the Canadian Applied and Industrial Mathematics Society (CAIMS), Quebec QC, Canada, June 2013.
15. *Convergence and Polynomiality of a Primal-Dual Interior-Point Algorithm for Linear Programming with Selective Addition of Inequalities*, International Symposium on Mathematical Programming, Berlin, Germany, August 2012.
16. *A Semidefinite Optimization Approach to Multi-Row Facility Layout*, MOPTA 2012, Bethlehem, PA, U.S.A., July 2012.
17. *Improved Models of Strategic Behaviour in Power Markets*, 32nd Annual Conference of the International Association for Impact Assessment, Porto, Portugal, May 2012.
18. *A Semidefinite Optimization Approach to Space-free Multi-row Facility Layout*, INFORMS Optimization Society Conference, Miami FL, U.S.A., February 2012.
19. *An Iterative Scheme for Valid Polynomial Inequality Generation in Binary Polynomial Programming*, INFORMS Annual Meeting, Charlotte NC, U.S.A., November 2011.
20. *An Iterative Scheme for Valid Polynomial Inequality Generation in Binary Polynomial Programming*, Optimization 2011, Lisbon, Portugal, July 2011.
21. *Computational Experience with Copositive Programming-Based Approximations of the Stability Number*, SIAM Conference on Optimization, Darmstadt, Germany, May 2011.
22. *Computing Exact Solutions for Row Layout Problems*, EURO XXIV Meeting, Lisbon, Portugal, July 2010.
23. *HIPCUT I - Background and Theory*, INFORMS Annual Meeting, San Diego CA, U.S.A., October 2009. (HIPCUT II was presented by Alexander Engau.)
24. *On Interior-Point Warmstarts for Linear and Combinatorial Optimization*, Aussois 2009: Thirteenth International Workshop in Combinatorial Optimization, Aussois, France, January 2009.
25. *Cone Programming Relaxations for Complementarity Constraints*, INFORMS Annual Meeting, Washington DC, U.S.A., October 2008.
26. *Provably Near-Optimal Solutions for Very Large Single-Row Facility Layout Problems*, INFORMS Annual Meeting, Washington DC, U.S.A., October 2008.
27. *Recent Results on the Application of Semidefinite Programming to Characterize Satisfiability*, SIAM Conference on Optimization, Boston MA, U.S.A., May 2008.
28. *Solving Minimum  $k$ -Partition Problems Using Semidefinite Programming*, INFORMS Conference on Optimization, Atlanta GA, U.S.A., March 2008.
29. *A Branch-and-Cut Algorithm Based on Semidefinite Programming for the Minimum  $k$ -Partition Problem*, Aussois 2008: Twelfth International Workshop in Combinatorial Optimization, Aussois, France, January 2008.
30. *A Branch-and-Cut Algorithm Based on Semidefinite Programming for the Minimum  $k$ -Partition Problem*, NCP07 International Conference on Nonconvex and Global Optimization, Rouen, France, December 2007.
31. *Globally Optimal and Near-Optimal Solutions for Large Single-Row Facility Layout Problems*, Second International Conference on Continuous Optimization, Hamilton, Canada, August 2007.

32. *Finding Nash Equilibria in Electricity Markets: An AC-Network Approach*, CORS Annual Meeting, London, Canada, May 2007.
33. *Finding Nash Equilibria in Electricity Markets: An AC-Network Approach*, Workshop on Advances in Optimization, Tokyo, Japan, April 2007.
34. *Finding Supply Function Equilibrium in Electricity Markets Using an AC Approach*, BIRS Optimization & Engineering Applications Workshop, Banff, Canada, November 2006.
35. *Finding Supply Function Equilibrium in Electricity Markets Using an AC Approach*, INFORMS Annual Meeting, Pittsburgh PA, U.S.A., November 2006.
36. *Globally Optimal Solutions for Large Single-Row Facility Layout Problems*, INFORMS Annual Meeting, Pittsburgh PA, U.S.A., November 2006.
37. *Globally Optimal Solutions for Large Single-Row Facility Layout Problems*, International Symposium on Mathematical Programming, Rio de Janeiro, Brazil, August 2006.
38. *Globally Optimal Solutions for Large Single-Row Facility Layout Problems*, MOPTA 2006, Waterloo, Canada, July 2006.
39. *Optimal and Near-Optimal Solutions for Single-Row Layout Problems via Semidefinite Optimization*, EURO XXI Meeting, Reykjavik, Iceland, July 2006.
40. *A Semidefinite Optimization Approach for Row Layout Problems*, INFORMS Annual Meeting, San Francisco CA, U.S.A., November 2005.
41. *Recent Progress in Applying Semidefinite Optimization to Satisfiability Problems*, Eighth SIAM Conference on Optimization, Stockholm, Sweden, May 2005.
42. *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions*, Aussois 2005: Ninth International Workshop in Combinatorial Optimization, Aussois, France, March 2005.
43. *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions*, INFORMS Annual Meeting, Denver CO, U.S.A., October 2004.
44. *A Convex Optimization Approach for VLSI Floorplanning*, Seventh SIAM Conference on Optimization, Toronto, Canada, May 2002.
45. *Properties of a New Semidefinite Relaxation for the Max-Cut Problem*, Workshop on Optimization and Applications, Oberwolfach, Germany, January 2002.
46. *Properties of a New Semidefinite Relaxation for the Max-Cut Problem*, Aussois 2002: Sixth International Workshop in Combinatorial Optimization, Aussois, France, January 2002.
47. *Properties of a New Semidefinite Relaxation for the Max-Cut Problem*, Workshop on Novel Approaches to Hard Discrete Optimization, Waterloo, Canada, April 2001.
48. *Semidefinite Relaxations for the Max-Cut Problem*, Dagstuhl Seminar on Algorithmic Techniques in Physics, Schloss Dagstuhl, Germany, February–March 2001.
49. *Strengthened Semidefinite Relaxations for the Max-Cut Problem*, Seventeenth International Symposium on Mathematical Programming, Atlanta GA, U.S.A., August 2000.

## Other Invited Research Presentations

1. *The Unit Commitment Problem: An Important and Challenging Problem*, Energy-Mathematics Seminar, School of Mathematics, University of Edinburgh, U.K. April 2017.
2. *The Unit Commitment Problem: An Important and Challenging Problem*, Operations Seminar, University Adolfo Ibáñez, Santiago, Chile, November 2016.
3. *Recent Progress and Current Challenges in Optimization for the Smart Grid*, CORMSIS Seminar, University of Southampton, Southampton, U.K., May 2015.
4. *Towards Efficient Higher-Order Semidefinite Relaxations for Max-Cut*, Optimization Afternoon, LAAS-CNRS, Toulouse, France, November 2013.
5. *A primal-dual interior-point algorithm for conic optimization with selective addition of inequalities*, Mathematics and Statistics, University of Calgary, Calgary, Canada, June 2013.
6. *Semidefinite Optimization: Yesterday, Today, and Tomorrow*, Chemnitzer Mathematisches Colloquium, Technische Universität Chemnitz, Chemnitz, Germany, June 2012.
7. *Semidefinite Optimization: Yesterday, Today, and Tomorrow*, Über Mittag Seminar, Lehrstuhl für Wirtschaftsmathematik, Universität Erlangen-Nürnberg, Erlangen, Germany, June 2012.
8. *Optimisation SDP: Quoi, comment, pourquoi?*, GERAD, Montreal, Canada, March 2012.
9. *(Semi)Definitely Going Global!*, School of Computer Science Colloquium, McGill University, Montreal, Canada, March 2012.
10. *Warm-Starts for Interior-Point Methods in Combinatorial Optimization*, Institut für Informatik Colloquium, Universität zu Köln, Cologne, Germany, July 2010.
11. *A Branch-and-Cut Algorithm based on Semidefinite Programming for the Minimum  $k$ -Partition Problem*, RUTCOR Colloquium, Rutgers University, New Brunswick NJ, U.S.A., November 2007.
12. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, Advanced Optimization Laboratory Seminar, McMaster University, Hamilton, Canada, October 2007.
13. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, Operations Research Seminar Series, University of Guelph, Guelph, Canada, September 2007.
14. *Recent Progress in Applying Semidefinite Optimization to the Satisfiability Problem*, Institut für Informatik Colloquium, Universität zu Köln, Cologne, Germany, June 2007.
15. *A Semidefinite Programming Approach for Single-Row Facility Layout Problems*, Tsukuba University, Tokyo, Japan, April 2007.
16. *Finding Nash Equilibria in Electricity Markets: An AC-Network Approach*, Management Science Seminar, Judge Business School, Cambridge University, U.K., February 2007.
17. *Finding Nash Equilibria in Electricity Markets: An AC-Network Approach*, Institute for Sustainable Energy, Environment & Economy (ISEEE), University of Calgary, Calgary, Canada, November 2006.

18. *Provably Optimal and Near-Optimal Solutions for Single-Row Layout Problems via Semidefinite Optimization*, Tutte Colloquium, University of Waterloo, Canada, March 2006.
19. *Provably Optimal and Near-Optimal Solutions for Single-Row Layout Problems via Semidefinite Optimization*, Operations Research Seminar, Tilburg University, The Netherlands, February 2006.
20. *Recent Progress in Applying Semidefinite Optimization to the Satisfiability Problem*, Mathematics & Statistics Colloquium, University of Guelph, Canada, November 2005.
21. *Can Semidefinite Programming Make the Cut?*, Applied Mathematics Informal Lunchtime Seminar, University of Southampton, U.K., November 2003.
22. *Towards an SDP-Based Algorithm for the Satisfiability Problem*, Tutte Colloquium, Combinatorics and Optimization, University of Waterloo, Canada, October 2003.
23. *Towards an SDP-Based Algorithm for the Satisfiability Problem*, Advanced Optimization Laboratory Seminar, McMaster University, Hamilton, Canada, October 2003.
24. *An Improved Semidefinite Programming Relaxation for the Satisfiability Problem*, Operational Research Seminar, University of Southampton, U.K., October 2002.
25. *Improved Semidefinite Programming Relaxations for Satisfiability*, Engineering Science, University of Auckland, New Zealand, July 2002.
26. *A New Mathematical Programming Framework for Facility Layout Design*, Engineering Science, University of Auckland, New Zealand, June 2002.
27. *A New Mathematical Programming Framework for Facility Layout Design*, Advanced Optimization Laboratory Seminar, McMaster University, Hamilton, Canada, May 2002.
28. *A New Mathematical Programming Framework for Facility Layout Design*, Tutte Colloquium, Combinatorics and Optimization, University of Waterloo, Canada, May 2002.
29. *A New Mathematical Programming Framework for Facility Layout Design*, Operational Research Seminar, University of Southampton, U.K., March 2002.
30. *A Strengthened Semidefinite Relaxation for the Max-Cut Problem*, Combinatorial Optimization Seminar, University of Waterloo, Waterloo, Canada, February 2000.
31. *A Strengthened Semidefinite Relaxation for the Max-Cut Problem*, SCAMS Seminar Series, Wilfrid Laurier University, Waterloo, Canada, January 2000.

### **Contributed Conference Presentations**

1. *Co-optimization of Offers of Demand Response and Reserve*, PGMO Days, EDFLab Paris Saclay, France, November 2016.
2. *An Improved Two-Stage Optimization-Based Framework for Unequal-Areas Facility Layout*, CORS Annual Meeting, Banff, AB, Canada, May 2016.
3. *Optimal Management of Bilateral Contracts for Energy Procurement*, INFORMS Annual Meeting, Philadelphia PA, U.S.A., November 2015.
4. *An RLT Approach for Solving the Binary-Constrained Mixed Linear Complementarity Problem*, FERC Workshop/9th Annual Trans-Atlantic Infraday, Washington DC, U.S.A., October 2015.



5. *An Improved Two-Stage Optimization-Based Framework for the Unequal-Areas Facility Layout Problem*, International Symposium on Mathematical Programming, Pittsburgh, PA, U.S.A., July 2015.
6. *Exact Separation of  $k$ -Projection Polytope Constraints*, EUROPT Workshop on Advances in Continuous Optimization, Edinburgh, U.K., July 2015.
7. *Unsatisfiability and Semidefinite Certificates of Infeasibility*, Optimization Days, Montreal, Canada, May 2014.
8. *Optimization of Wind, Diesel and Battery Systems for Remote Areas*, 7th Annual Trans-Atlantic Infraday on Energy, Washington DC, U.S.A., November 2013.
9. *Optimization of Wind, Diesel and Battery Systems for Remote Areas*, MOPTA 2013, Bethlehem, PA, U.S.A., August 2013.
10. *Improving the Mixed Integer Linear Programming (MILP) Formulation for Unit Commitment Problems*, Optimization Days, Montreal, Canada, May 2013.
11. *A Semidefinite Optimization Approach to Multi-Row Facility Layout*, INFORMS Annual Meeting, Phoenix AZ, U.S.A., October 2012.
12. *A System Architecture for Autonomous Demand Side Load Management in Smart Buildings*, INFORMS Annual Meeting, Phoenix AZ, U.S.A., October 2012.
13. *A System Architecture for Autonomous Demand Side Load Management in Smart Buildings*, MOPTA 2012, Bethlehem, PA, U.S.A., August 2012.
14. *A Semidefinite Optimization Approach to Space-Free Multi-Row Facility Layout*, Optimization Days, Montreal, Canada, May 2012.
15. *Direct Representation of the Resolution Rule Via Semidefinite Programming*, INFORMS Annual Meeting, Charlotte NC, U.S.A., November 2011.
16. *Valid Polynomial Inequality Generation in Binary Polynomial Optimization*, Optimization Days, Montreal, Canada, May 2011.
17. *On Mixed Integer Linear Programming Formulations for Unit Commitment Problems*, INFORMS Annual Meeting, Austin TX, U.S.A., November 2010.
18. *Second-Order Cone Relaxations of Binary Quadratic Problems via Polynomial Programming*, EUROPT Workshop on Advances in Continuous Optimization, Aveiro, Portugal, July 2010.
19. *Recent Progress in the Application of Semidefinite Programming to Discrete Optimization*, Optimization Days, Montreal, Canada, May 2009.
20. *Recent Results on the Application of Semidefinite Programming to Characterize Satisfiability*, MOPTA 2008, Guelph, Canada, August 2008.
21. *Large-Scale Fixed-Outline Floorplanning Design Using Convex Optimization*, INFORMS Conference on Optimization, Atlanta GA, U.S.A, March 2008.
22. *Recent Progress in Applying Semidefinite Optimization to the Satisfiability Problem*, Optimization 2007, Porto, Portugal, July 2007.
23. *A Semidefinite Optimization Approach for Single-Row Facility Layout Problems*, EUROPT Workshop on Advances in Continuous Optimization, Reykjavik, Iceland, June 2006.

24. *A Semidefinite Optimization Approach for Single-Row Facility Layout Problems*, Joint Optimization Days/CORS Meeting, Montreal, Canada, May 2006.
25. *Recent Progress in Applying Semidefinite Optimization to the Satisfiability Problem*, Joint Optimization Days/CORS Meeting, Montreal, Canada, May 2006.
26. *A Semidefinite Optimization Approach for Row Layout Problems*, Operations Research 2005, Bremen, Germany, September 2005.
27. *Characterizations of Unsatisfiability via Semidefinite Optimization*, Franco-Canadian Workshop on Combinatorial Algorithms, Hamilton, Canada, August 2005.
28. *Recent Progress in Applying Semidefinite Optimization to Satisfiability Problems*, MOPTA 2005, Windsor, Canada, July 2005.
29. *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions*, ICCOPT I, Troy NY, U.S.A., August 2004.
30. *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions*, MOPTA 2004, Hamilton, Canada, July 2004.
31. *A Semidefinite Optimization Approach for the Single-Row Layout Problem with Unequal Dimensions*, HPOPT 2004, Amsterdam, The Netherlands, June 2004.
32. *Solving the Satisfiability Problem Using Semidefinite Programming*, Operations Research 2003, Heidelberg, Germany, September 2003.
33. *Solving the Satisfiability Problem Using Semidefinite Programming*, Eighteenth International Symposium on Mathematical Programming, Copenhagen, Denmark, August 2003.
34. *Tackling the Combinatorial Structure of Floorplanning Problems using Continuous Optimization*, EURO/INFORMS First Joint International Meeting, Istanbul, Turkey, July 2003.
35. *An Improved Semidefinite Programming Relaxation for Satisfiability*, EURO/INFORMS First Joint International Meeting, Istanbul, Turkey, July 2003.
36. *An Improved Semidefinite Programming Relaxation for Satisfiability*, SIAM Annual Meeting 2003, Montreal, Canada, June 2003.

## Teaching Experience

### Dept of Mathematics & Industrial Engineering, Polytechnique Montreal (Montreal, Canada)

- *MTH 1006: Algèbre linéaire.*  
An introductory undergraduate course on linear algebra. The class size is around 70 students per term.
- *ENE 8203: Modélisation techno-économique des systèmes énergétiques.*  
An advanced undergraduate / introductory graduate course on energy technology modelling of energy systems. The class size is around 40 students per term.
- *MTH 6408A / MTH 8408: Méthodes d'optimisation et contrôle optimal.*  
An advanced undergraduate and introductory graduate course on optimization and applied control theory. The class size is around 15 students per term.

- *MTH 6416: Optimisation avancée.*  
An advanced topics course on optimization. The class size is around 5 students.

#### **Dept of Management Sciences, University of Waterloo (Waterloo, Canada)**

- *MSCI 331: Introduction to Optimization.*  
An introductory undergraduate course in the area of optimization. The class size varies from 35 to 70 students per term.
- *MSCI 432: Production and Operations Management.*  
An introductory undergraduate course in the area of supply-chain management. The class size varies from 25 to 90 students per term.
- *MSCI 603: Principles of Operations Research.*  
An introductory Masters-level course in the area of operations research, required of every graduate student in Management Sciences. The class size is around 35 students per term.
- *MSCI 633: Production and Inventory Management.*  
An introductory Masters-level course in the area of supply-chain management. The class size is around 15 students per term.
- *MSCI 700: Semidefinite Programming - Models, Algorithms and Computation.*  
A doctoral-level course in the area of mathematical programming. The class size is around 6 students per term.

#### **School of Mathematics, University of Southampton (Southampton, UK)**

- Mathematical Programming component (15h lectures + 1h lab) of *MATH6002: Deterministic Methods of Operational Research* (MSc compulsory course), 39 students.
- *MATH6012: Mathematical Programming* (MSc optional course, 9h lectures + 3h labs), 12 students.
- Optimization component (7h lectures + 5h tutorials) of *MATH1002: Applications of Mathematics* (first-year undergraduate course), 50 students.
- Optimization component (7h lectures + 5h tutorials) of *MATH2037: Computer Tools in Operational Research* (second-year undergraduate course), 61 students.

#### **Faculty of Mathematics, University of Waterloo (Waterloo, Canada)**

- *MATH 127: Calculus 1* (Fall 2000).  
First part of a two-course calculus sequence (54 students).

#### **Dept of Mathematics, Wilfrid Laurier University (Waterloo, Canada)**

- *MA130: Calculus for Students of Business and Economics* (Jan 1998-Dec 2000).  
A one-term calculus course for first-year students (80 to 90 students).

#### **School of Computer Science, McGill University (Montreal, Canada)**

- *308-350A: Numerical Analysis* (Fall 1995 and Fall 1997).  
An introductory undergraduate course in numerical analysis, compulsory for Computer Science students (63 students and 125 students respectively).

- *308-530A: Formal Languages* (Fall 1997).  
A graduate-level course in the theory of computation (15 students).

## Service Contributions at Polytechnique Montréal

- 2016–present** Member of the Scientific Committee of IVADO.
- 2016–present** Member of the Scientific Committee of GERAD.
- 2016** Member of the Conseil Académique of Polytechnique Montréal.
- 2011–2016** Organizer of the Optimization seminar series at GERAD (approximately 25 seminars per academic year).
- 2016** Member of the University Ad-hoc Committee for Emeritus Appointments.
- 2016** Member of the Departmental Selection Committee for a Research Associate position in Technological Innovation.
- 2016** Member of the Departmental Selection Committee for the Director of the Department of Mathematics and Industrial Engineering.
- 2015–2016** Member of the Departmental Selection Committee for Hiring (Assistant Professorship).
- 2015–2016** Member of the Departmental Ad-hoc Committee for Hiring (Limited-term Researcher Appointment).
- 2015** Member of the Departmental Ad-hoc Committee for Promotion (8 files).
- 2013** Professor in charge of designing and implementing the new course *ENE 8230: Modélisation techno-économique des systèmes énergétiques*, an advanced undergraduate / introductory graduate course on energy technology modelling.  
This was a new course at Polytechnique, and it has few comparators elsewhere because courses known on this subject are mostly expert-level courses offered through the International Energy Agency (IEA).
- 2013–2016** Member of the Strategic Planning Committee for the GERAD research stream on *Mathematical methods for decision-making support*.
- 2013–2014** Co-organizer of the Colloquium *Défis énergétiques : la gestion des réseaux et l'électrification des transports: de la théorie à la pratique* at the Entretiens Jacques-Cartier 2014, Montreal, Canada.
- 2011–2014** Co-coordinator of the course *MTH 1006: Algèbre linéaire* (18 sections of around 70 students each per academic year).
- 2012–2013** Co-organizer of the Colloquium *Intégration future des énergies renouvelables : l'habitat, le réseau et leurs interactions* at the Entretiens Jacques-Cartier 2013, Toulouse, France.

**2013** Coordonnateur des Programmes d'Études Supérieures en Mathématiques (Coordinator for Graduate Studies in Mathematics).

**2012** Member of the Departmental Selection Committee for Hiring (position 12-A-1).

**2011–2013** Member of the Working Group on Graduate Programs in Energy.

**2011–2012** Co-organizer of the Colloquium *L'électricité intelligente: vers des systèmes à valeur ajoutée* at the Entretiens Jacques-Cartier 2012, Lausanne, Switzerland.

## **Service Contributions at the University of Waterloo**

**2007–2009** Member of the Departmental Advisory Committee on Appointments (hiring).

**2007–2009** Member of the Departmental Merit Committee (performance evaluation).

**2004–2010** Library Representative for the Management Sciences Department.

**2004–2009** Member of the Management Sciences Department Graduate Studies Committee.

**Mar 2008** Invited panellist for the workshop “Documenting Your Teaching for Tenure and Promotion” organized by the Centre for Teaching Excellence (CTE).

**2007–2008** Member of the Departmental Tenure & Promotions Committee.

**2006–2007** Co-lead, in collaboration with Kenneth McKay, of a systematic review of the tactical and operational mechanisms of the employment process at Waterloo's Co-operative Education and Career Services (CECS).

**2004–2007** Management Sciences Representative at Engineering Faculty Council.

**2005–2006** Member of the Advisory Committee on Research Grants for the Faculty of Engineering.

**2004** Member of the Management Sciences Department Task Force for the Faculty of Engineering's “Vision 2010” Planning Exercise.

## **Service Contributions at the University of Southampton**

**2003–2004** Member of the School Student Liaison Committee of the School of Mathematics.

**2002–2004** Member of the Web Strategy Committee.

**2002–2004** Personal tutor for several undergraduate and MSc students at the School of Mathematics.

**2002–2004** Interviewer for undergraduate and graduate admissions at the School of Mathematics.

**2002–2004** Course Coordinator for the programs *Management Mathematics*, *Mathematics with Management*, and *Mathematics with Operational Research*.

**2002–2003** Course reviewer for MA335 (Optimization) at the School of Mathematics.

# Professional Service Activities

## Ongoing

- Chair of the Program Committee for the 15th EUROPT Workshop on Advances in Continuous Optimization, to be held in Montreal, Canada in July 2017.
- Member of the Local Organizing Committee for MIP 2017, to be held in Montreal, Canada in June 2017.
- Member of the Program Committee of the conference *Optimization 2017*, Lisbon, Portugal, September 2017.
- Member of the Program Committee of the Workshop on Graph Theory, Combinatorics and Optimization, Aveiro, Portugal. January 2018.
- Organizer of the workshop *Workshop on Modern Convex Optimization and Applications* at the Fields Institute, Toronto, Canada, in 2018.
- Invited session organizer for IFORS 2017
- Member of the Mitacs Elevate Research Projects Oversight committee (since August 2010).
- Member of the Mitacs College of Reviewers (since December 2007).
- Member of the Advisory Committee, Fields Industrial Optimization Seminar (since September 2010).

## 2017

- Member of the Selects Committee for the INFORMS Conference on Business Analytics and Operations Research 2017.
- Reviewer for two tenure & promotion cases, one in the USA and one in Canada.
- External member of the Doctoral Examination Committee for the thesis entitled “Reducing the Likelihood of Local Solutions to Classic Energy Problems” by Ian Wallace at the University of Edinburgh, U.K. (May 2017).
- Organizer of three minisymposia for the SIAM Conference on Optimization, May 2017.
- Ad-hoc referee for *European Journal of Operational Research*; *Modeling and Optimization: Theory and Applications* (Springer book); *2017 North American Power Symposium (NAPS 2017)*; *Operations Research Letters*.

## 2016

- Member of the Selects Committee for the INFORMS Conference on Business Analytics and Operations Research 2016.
- Chair of the cluster on Mathematical Programming and Optimization at the CORS Annual Conference 2016.
- Invited session organizer for ICCOPT 2016 (for 2 different streams).
- Grant application reviewer for NSERC.
- Reviewer for three tenure & promotion cases in the USA.
- Member of the Selection Committee for the 2017 SIAG/Optimization Prize of the Society for Industrial and Applied Mathematics (SIAM) for the most outstanding paper on a topic in optimization published in the four calendar years preceding the year of the award.
- Member of the Doctoral Examination Committee for the thesis entitled “Microgrid control with a high penetration of renewable generation” by Michael Ross at McGill University, Canada (May 2016).

- External member of the Doctoral Examination Committee for the thesis entitled “Power and Timing Driven Optimal Gate, Clock Buffer and Clock Wire Sizing in High-Performance Digital Integrated Circuits” by Amin Farshidi at the University of Calgary, Canada (May 2016).
- External member (rapporteur) of the Doctoral Examination Committee for the thesis entitled “Méthodes de reconstruction en tomographie de diffraction 3-D” by Corentin Friedrich at the École Centrale de Nantes, France.
- External member of the Doctoral Examination Committee for the thesis entitled “Operations Management in Short Term Power Markets” by Ditte Mølgaard Heide-Jørgensen at the University of Copenhagen, Denmark.
- External member of the Doctoral Examination Committee for the thesis entitled “Revenue Optimization, Demand Response Models And The Smart Grid: A Bilevel Programming Framework” by Sezin Afşar at INRIA Lille-Nord Europe, France.
- Judge for the 2016 IEEE PES student poster contest.
- Ad-hoc referee for *European Journal of Operational Research*; *IEEE Transactions on Power Systems*.

## 2015

- Co-organizer of the conference Paths, Pivots, and Practice: The Power of Optimization, GERAD, Montreal, Canada, June 2015.
- Grant application reviewer for NSERC.
- Member of the Selection Committee for Graduate Scholarships in the area of Energy, Fonds de recherche du Québec.
- Member of the Selection Committee for the Pierre-Dansereau Prize of ACFAS.
- Member of the Selects Committee for the INFORMS Conference on Business Analytics and Operations Research 2015.
- Invited chair for a session entitled *Smart Grid and Climate Change Issues* at CCTC 2015.
- Organizer of the *Mixed-Integer Nonlinear Optimization Stream* for CORS-INFORMS 2015, Montreal, Canada, June 2015.
- Co-organizer of the *Energy Stream* for MOPTA 2015, Bethlehem PA, U.S.A. July 2015.
- Invited session organizer for ISMP 2015 (for 4 different streams).
- Invited session organizer for the INFORMS Annual Meeting 2015.
- Ad-hoc referee for *Asia-Pacific Journal of Operational Research*; *Energy Systems*; *European Journal of Operational Research* (twice); *IEEE Transactions on Power Systems* (thrice); *Mathematical Programming (Series A)*; *Mathematical Programming Computation*; *Renewable and Sustainable Energy Reviews*.

## 2014

- External reviewer for *Acting on Climate Change: Solutions from Canadian Scholar* by Potvin et al., Sustainable Canada Dialogues, McGill University, 2014.
- Reviewer for one tenure & promotion case in the USA.
- Co-chair of the Organizing Committee of the *SIAM Conference on Optimization 2014*, May 2014.
- Member of the Program Committee of the conference *Optimization 2014*, Guimarães, Portugal, July 2014.

- Member of the Selection Committee for Graduate Scholarships in the area of Energy, Fonds de recherche du Québec.
- Member of the International Organizing Committee of the *4th International Conference on Engineering Optimization*, Lisbon, Portugal, September 2014.
- Organizer and chair of the Energy, Natural Resources & the Environment (ENRE) Awards session at the INFORMS Annual Meeting 2014.
- Co-organizer of the *Energy Stream* for MOPTA 2014, Bethlehem PA, U.S.A. July 2014.
- Grant application reviewer for NSERC (twice).
- Grant application reviewer for Northern Illinois University.
- External member of the Doctoral Examination Committee for the thesis entitled “Indirect controlled flexible demand for power system applications” by Fabrizio Sossan at Technical University of Denmark (DTU), Denmark (July 2013).
- External member of the Doctoral Examination Committee for the thesis entitled “A semidefinite programming based branch-and-bound framework for the quadratic assignment problem” by Uwe Truetsch at Tilburg University, The Netherlands (October 2014).
- External Examiner of the Masters Thesis entitled “Decentralized asynchronous agent-based economic dispatch of distributed generation in a microgrid” by Omar Ryan Saadeh at McGill University, Canada (April 2014).
- Ad-hoc referee for *IEEE Transactions on Power Systems*; *International Symposium on Combinatorial Optimization (ISCO 2014)*; *Mathematical Programming (Series A)*; *Mathematical Programming Computation*; *Operations Research*.

## 2013

- Chair of the Selection Committee for the Inaugural 2013 INFORMS-ENRE Young Researcher Prize awarded one or more young researcher(s) for an outstanding paper on the application of OR/MS to an important problem in energy, natural resources and/or the environment.
- Member of the Organizing Committee of the conference *ICCOPT 2013*, Lisbon, Portugal, July–August 2013.
- Co-organizer of the *Conic and Polynomial Optimization Cluster* for the conference *ICCOPT 2013*, Lisbon, Portugal, July–August 2013.
- Co-organizer of the *Copositive and Polynomial Optimization Stream* for the conference *EURO-INFORMS 2013*, Rome, Italy, July 2013.
- Member of the Steering Committee of the conference *Computational Management Science 2013*, Montreal, Quebec, Canada, May 2013.
- Member of the Organizing Committee of the conference *Optimization Days 2013*, Montreal, Quebec, Canada, May 2013.
- Member of the Selects Committee for the INFORMS Conference on Business Analytics and Operations Research 2013.
- Member of the Program Committee of the conference *ICORES 2013*, Barcelona, Spain, February 2013.
- External member of the Doctoral Examination Committee for the thesis entitled “Two Applications of Combinatorial Optimization” by Matthew Oster at Rutgers University, U.S.A.
- Grant proposal reviewer for the Canada-Israel Industrial Research & Development



Foundation (twice).

- Grant proposal reviewer for the National Commission for Scientific and Technological Research (CONICYT) of Chile.
- Ad-hoc referee for *European Journal of Operational Research* (twice); *IEEE Transactions on Power Systems*; *Mathematical Programming (Series A)*.

## 2012

- Member of the Selection Committee for the 2012 A.W. Tucker Prize of the Mathematical Optimization Society (MOS) for an outstanding doctoral thesis.
- Reviewer for two tenure & promotion cases, one in Portugal and one in China.
- External member of the Doctoral Examination Committee for the thesis entitled “Methods for Solving Modern Scale-Borne Problems in VLSI Physical Design” by Logan Rakai at the University of Calgary, Canada (September 2012).
- Reviewer of one grant application for Ryerson University.
- Organizer of the *Linear and Conic Programming Stream* for EURO XXIV, Lithuania, 2012.
- Invited session organizer for Optimization Days 2012.
- Invited session organizer for MOPTA 2012.
- Member of the Program Committee of the conference *ICORES 2012*, Vilamoura, Portugal, February 2012.
- Member of the Program Committee of the *INFORMS Optimization Society 2012* conference, Coral Gables, FL, U.S.A., February 2012.
- Ad-hoc referee for *Computational Optimization & Applications*; *Discrete Applied Mathematics*; *European Journal of Operational Research*; *IEEE Transactions on Computers*; *IEEE Transactions on Power Systems*; *IEEE Transactions on Smart Grid*; *INFORMS Journal on Computing*; *Optimization Letters*; *Optimization Methods and Software*; *RAIRO-OR*.

## Selected service activities prior to 2012

- Chair of the Program Committee of *MOPTA 2008*.
- Member of the Advisory Council of the INFORMS Practice Conference, and co-chair of the Young Researcher Connection, for 2007, 2008, and 2009.
- Member of the Advisory Council of the INFORMS Business Analytics & Operations Research Conference 2011.
- Contributed sessions Co-Chair for the *INFORMS Annual Meeting 2011*, Charlotte, NC, U.S.A., November 2011.
- Reviewer for 5 tenure & promotion cases (Canada, Netherlands, U.K.).
- External examiner for 6 thesis committees.
- Grant application reviewer for NSERC.
- Member of the Selection Committee for the 2011 Cecil Graham Doctoral Dissertation Award of the Canadian Applied and Industrial Mathematics Society (CAIMS).
- Member of the Prize Selection Committee for the INFORMS Optimization Society Student Paper Prize 2010.
- Member of the Organizing Committee, Fields Industrial Optimization Seminar (2008–2010).

## Memberships in Professional Societies

- Higher Education Academy (HEA) of the United Kingdom;
- Society for Industrial and Applied Mathematics (SIAM);
- Mathematical Optimization Society (MOS);
- Institute for Operations Research and the Management Sciences (INFORMS);
- Institute of Electrical and Electronics Engineers (IEEE);
- IEEE Power & Energy Society (IEEE-PES);
- Canadian Operational Research Society (CORS);
- Portuguese Operational Research Society (APDIO).

June 12, 2017