Dr. Tim Hoheisel

Curriculum Vitae

Research Interests

Nonsmooth Optimization, Variational Analysis.

Academic Appointments

07/2021- **Director of Applied Math Lab**, *Centre de Recherches Mathématiques (CRM)*, Montréal

06/2021- **Associate Professor (early tenure)**, *Continuous Optimization*, Department of Mathematics and Statistics, McGill University, Montréal

08/2016-05/2021 **Assistant Professor**, *Continuous Optimization*, Department of Mathematics and Statistics, McGill University, Montréal

10/2011–02/2012 **Acting Professor**, Chair of Applied Mathematics, University of Düsseldorf

02/2010-07/2016 **Postdoctoral Researcher**, Chair of Numerical Mathematics and Optimization, University of Würzburg

08/2006–01/2010 **Research Associate**, Chair of Numerical Mathematics and Optimization, University of Würzburg

Education

12/2009 **Doctorate degree**, *Dr. rer. nat.*, Chair of Numerical Mathematics and Optimization, University of Würzburg

07/2006 **Diploma**, *Dipl.-Math.*, Institute of Mathematics, University of Würzburg

2002–2006 **Studies**, Mathematics (Minor: Economics), University of Würzburg

2001–2002 **Studies**, Jazz and Jazz-related Music (Major: Saxophone), School of Performing Arts (*Hochschule für Musik und Theater*) Hamburg

2000–2001 **Community Service (*Zivildienst*)**, Albert-Schweitzer-Hospital, Northeim

06/2000 **Abitur**, Gymnasium Corvinianum, Northeim

tim.hoheisel@mcgill.ca
http://www.math.mcgill.ca/hoheisel

Editorial Activities

05/2023 **Mathematics of Operations Research**, *Associate Editor*

01/2023 **Open Journal of Mathematical Optimization (OJMO)**, *Associate Editor*

12/2021-12/22 **Journal of Convex analysis**, *Guest Editor*, Special Issue on the occasion of Roger J.-B. Wets' 85th birthday

01/2015-1/2021 **Optimization (A Journal of Mathematical Programming and Operations Research)**, *Associate Editor*, Taylor & Francis

Longer Research Visits ($\geq$ 2 months)

12/2022-2/2023 **Institute of Applied and Numerical Mathematics**, *Georg-August University*, Göttingen

08–12/2022 **Institute of Applied Mathematics**, *University of British Columbia*, Vancouver

04–10/2014 **Department of Mathematics**, *University of Washington*, Seattle

03–10/2012 **Department of Mathematics**, *University of Washington*, Seattle

Memberships in Professional Institutions

2019- **MTL ML Opt**, *Core member*

2017- **Society of Applied and Industrial Mathematics (SIAM)**

2016- **CRM Applied Math Lab**

Funding history

2018 **Start-up Supplement for Teaching Innovation**, *10,000 CAD*

2017-2024 **NSERC Discovery Grant**, *104,000 CAD*

2016 **University Start-up Fund**, *100,000 CAD*

2014 **DFG Research Scholarship**, *€18,000*, Research Stay at the University of Washington, Seattle
April-October 2014

2012 **DFG Research Scholarship**, *€18,000*, Research Stay at the University of Washington, Seattle
March-October 2012

Awards

2010 **UTIA Best Paper Award (2nd prize)**, Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic

Academic Service

2021- **Chairs Advisory Committee**, *Elected Member*, Department of Mathematics and Statistics, McGill University

2020- **CRM Applied Math Seminar**, *Co-Organizer*, Department of Mathematics and Statistics, McGill University

2018- **Science Scholarships Committee**, *Department Representative*, Department of Mathematics and Statistics, McGill University

2017-2021 **Committee of Undergraduate Affairs**, *Member*, Department of Mathematics and Statistics, McGill University

Publications

Submitted for publication

- **Maximum entropy on the mean and the Cramér rate function in statistical estimation and inverse problems: properties, models, and algorithms**, *Y. Vaisbourd, R. Choksi, A. Goodwin, T. Hoheisel and C.-B. Schönlieb*, submitted to Mathematical Programming, June 2023

Journal Articles

30. **Square Root LASSO: well-posedness, Lipschitz stability and the tuning trade off**, *A. Berk, S. Brugiapaglia, and T. Hoheisel*, SIAM Journal on Optimization, to appear
29. **LASSO reloaded: a variational analysis perspective with applications to compressed sensing**, *A. Berk, S. Brugiapaglia, and T. Hoheisel*, SIAM Journal on Mathematics of Data Science 5(4), 2023, pp. 1102-1129.
28. **Flatness of the nuclear norm sphere, simultaneous polarization, and uniqueness in nuclear norm minimization**, *T. Hoheisel and E. Paquette*, Journal of Optimization Theory and Applications, accepted, January 2023
27. **From perspective maps to epigraphical projections**, *M.P. Friedlander, A. Goodwin and T. Hoheisel*, Mathematics of Operations Research, Mathematics Operations of Research 48(2), 2023, pp. 1712-1740
26. **A note on the K-epigraph**, *A. Gissler and T. Hoheisel*, Optimization 72, 2023, pp. 2251-2285.

25. **Sufficient conditions for metric subregularity of constraint systems with applications to disjunctive and ortho-disjunctive programs**, *M. Benko, M. Cervinka, and T. Hoheisel*, Set-valued and Variational Analysis 30, 2022, pp. 143–177

24. **A study of one-parameter regularizations for mathematical programs with vanishing constraints**, *T. Hoheisel, B. Pablos, A. Pooladian, L. Steverango, and A. Schwartz*, Optimization Methods and Software 37(2), 2022, pp. 503–545

23. **A study of convex convex-composite functions via infimal convolution with applications**, *J.V. Burke, T. Hoheisel, and Q.V. Nguyen*, Mathematics of Operations Research 46(4), 2021, pp. 1235–1657

22. **The maximum entropy on the mean method for image deblurring**, *G. Rioux, R. Choksi, T. Hoheisel, and C. Scarvelis*, Inverse Problems 37, 2021 (29 pp.)

21. **Blind deblurring of barcodes via Kullback-Leibler divergence**, *G. Rioux, C. Scarvelis, R. Choksi, T. Hoheisel, and P. Maréchal*, IEEE Transactions on Pattern Analysis and Machine Intelligence 43(1), 2021, pp. 77–88

20. **A regularization interpretation of the proximal point method for weakly convex functions**, *T. Hoheisel, A. Oberman, and M. Laborde*, Journal of Dynamics and Games 7(1), 2020, pp. 79–96

19. **Variational properties of matrix functions via the generalized matrix-fractional function**, *J.V. Burke, Y. Gao, and T. Hoheisel*, SIAM Journal on Optimization 29(3), 2019, pp. 1958–1987

18. **Convex geometry of the generalized matrix-fractional function**, *J.V. Burke, Y. Gao, and T. Hoheisel*, SIAM Journal on Optimization 28(3), 2018, pp. 2189–2200

17. **Epi-convergence properties of smoothing by infimal convolution**, *J.V. Burke, T. Hoheisel*, Set-Valued and Variational Analysis 25(1), 2016, 201, pp. 1–23,

16. **Matrix support functionals for inverse problems, regularization, and learning**, *J.V. Burke, T. Hoheisel*, SIAM Journal on Optimization 25(2), 2015, pp. 1135–1159

15. **On a smooth dual gap function for a class of player convex generalized Nash equilibrium problems**, *N. Harms, T. Hoheisel, and C. Kanzow*, Journal of Optimization Theory and Applications 166(2), 2015, pp. 659–685

14. **On a a smooth dual gap function for a class of quasi-variational inequalities**, *N. Harms, T. Hoheisel, and C. Kanzow*, Journal of Optimization Theory and Applications, 163, 2014, pp. 413–438

13. **Epi-convergent smoothing with applications to convex composite functions**, *J.V. Burke and T. Hoheisel*, SIAM Journal on Optimization 23(3), 2013, pp. 1457–1479
12. **Gradient consistency for integral-convolution smoothing functions**, *J.V. Burke, T.Hoheisel, and C. Kanzow*, Set-valued and Variational Analysis 21(2), 2013, pp. 359–376
11. **A smoothing-regularization approach to mathematical programs with vanishing constraints**, *W. Achtziger, T. Hoheisel, and C. Kanzow*, Computational Optimization and Applications 55(3), 2013, pp. 733–767
10. **Theoretical and numerical comparison of relaxation methods for mathematical programs with complementarity constraints**, *T. Hoheisel, C. Kanzow, and A. Schwartz*, Mathematical Programming 137, 2013, pp. 257–288
9. **On a relaxation method for mathematical programs with vanishing constraints**, *W. Achtziger, T. Hoheisel, and C. Kanzow*, GAMM-Mitteilungen 35, 2012, pp. 110–130
8. **Mathematical programs with vanishing constraints: A new regularization approach with strong convergence properties**, *T. Hoheisel, C. Kanzow, and A. Schwartz*, Optimization 61(6), 2012, pp. 619–636
7. **Generalized Newton's method based on graphical derivatives**, *T. Hoheisel, C. Kanzow, B.S. Mordukhovich, and H. Phan*, Nonlinear Analysis Series A: Theory, Methods, and Applications 75(3), 2012, pp. 1324–1340
6. **Convergence of a local regularization approach for mathematical programs with complementarity or vanishing constraints**, *T. Hoheisel, C. Kanzow, and A. Schwartz*, Optimization Methods and Software 27(3), 2012, pp. 483–512
5. **Improved convergence properties of the Lin-Fukushima-regularization method for mathematical programs with complementarity constraints**, *T. Hoheisel, C. Kanzow, and A. Schwartz*, Numerical Algebra, Control, and Optimization 1(1), 2011, pp. 49–60
4. **Exact penalty results for mathematical programs with vanishing constraints**, *T. Hoheisel, C. Kanzow, and J.V. Outrata*, Nonlinear Analysis Series A: Theory, Methods, and Applications 72, 2010, pp. 2514–2526
3. **On the Abadie and Guignard constraint qualification for mathematical programs with vanishing constraints**, *T. Hoheisel and C. Kanzow*, Optimization 58(4), 2009, pp. 431–448

2. **Stationary conditions for mathematical programs with vanishing constraints using weak constraint qualifications**, *T. Hoheisel and C. Kanzow*, Journal of Mathematical Analysis and Applications 337, 2008, pp. 292–310

1. **First- and second-order optimality conditions for mathematical programs with vanishing constraints**, *T. Hoheisel and C. Kanzow*, Applications of Mathematics 52, 2007, pp. 495–514

Conference Proceedings

2. **Difference of Submodular Minimization via DC Programming**, *M. El Halabi, G. Orfanides, and T. Hoheisel*, International Conference on Machine Learning (ICML), 2023

1. **A principled approach to generating adversarial attacks under non-smooth dissimilarity metrics**, *A. Pooladian, C. Finlay, T. Hoheisel, and A. Oberman*, Proceedings of the 23rd International Conference on Artificial Intelligence and Statistics (AISTATS), 2020

Theses

12/2009 **Dissertation**, *Mathematical Programs with Vanishing Constraints*, Institute of Mathematics, University of Würzburg
Supervisor: Prof. Dr. Christian Kanzow, Co-Supervisor: Prof. Dr. Wolfgang Achtziger

1/2006 **Diploma Thesis**, *Mathematische Programme mit vanishing constraints*, Institute of Mathematics, University of Würzburg
Supervisor: Prof. Dr. Christian Kanzow

Other Publications

- **A note on epi-convergence of sums under the inf-addition rule**, *J.V. Burke, T. Hoheisel*, Optimization Online, 2015

Talks and Conferences

Organizing

05-06/2025 **Thematic Programming 'Mathetmatical Foundations of Data Science', Centre de Recherches Mathématiques (CRM)**, *Co-chair*, Montreal, May/June 2025

07/2024 **25th International Symposium on Mathematical Programming**, *Member of the Organizing Committee*, Montreal, July 2024

07/2021 **SIAM Conference on Optimization**, *Minisymposium on the occasion of Jim Burke's 65th birthday*, Spokane, July 2021

08/2019 **International Conference on Continuous Optimization**, *Minisymposium on Convex-Composite Optimzation (with J.V. Burke)*, Berlin, August 2019

07/2018 **23rd International Symposium on Mathematical Programming**, *Stream on Nonsmooth Optimization (with D. Russell Luke, S. Sabach)*, Bordeaux, July 2018

07/2017 **15th EUROPT Conference on Continuous Optimization**, *Member of the Program Committee*, Montréal, July 2017

05/2017 **SIAM Conference on Optimization**, *Stream on Nonsmooth Optimization (with D. Russell Luke)*, Vancouver, May 2017

05/2014 **SIAM Conference on Optimization**, *Minisymposium Variational Analysis and Optimization*, San Diego, May 2014

08/2013 **International Conference on Continuous Optimization**, *Session within the Cluster Convex and Nonsmooth Optimization*, Lisbon, July/August 2013

Plenary speaker or lecturer

05/2019 **Spring School on Variational Analysis 2019**, *Topics in Convex Analysis*, Paseky, May 2019

Invited talks and lectures

08/2023 **INTER-MATH-AI annual retreat**, *Optimization and Variational Analysis Research*, Station Biologique des Laurentides, St. Hippolyte, August 2023

06/2023 **Foundations of Computational Mathematics (FoCM)**, *Some applications of implicit function theorems from variational analysis*, Paris, June 2023

05/2023 **SIAM Conference on Optimization**, *Some applications of implicit function theorems from variational analysis*, Seattle, May-June 2023

03/2023 **Department Colloquium**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, Department of Mathematics, Michigan State University, March 2023

02/2023 **IOR-Colloquium**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, Karlsruhe Institute of Technology, February 2023

02/2023 **Colloquium of the Institute of Mathematical Stochastics**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, TU Braunschweig, February 2023

01/2023 **Mathematical Colloquium of the University of Würzburg**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, University of Würzburg, January 2023

12/2022 **Kolloquium über Angewandte Mathematik**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, University of Göttingen, December 2022

10/2022 **Operations Research Seminar**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, Simon Fraser University, Vancouver, October 2022

09/2022 **IAM Distinguished Colloquium**, *The Maximum Entropy on the Mean Method for Inverse Problems (and Beyond)*, University of British Columbia, Vancouver, September 2022

08/2022 **Modern Nonsmooth Optimization: A Workshop in Honor of the 60th Birthday of Adrian Lewis**, *The Maximum Entropy on the Mean Method for Inverse Problems*, Seattle, August 2022

09/2021 **One World Optimization Seminar**, *From perspective maps to epigraphical projections*, Vienna (Online), September 2021

07/2021 **SIAM Conference on Optimization**, *From perspective maps to epigraphical projections*, Spokane (Online), July 2021

12/2020 **CMS Winter Meeting**, *From perspective maps to epigraphical projections*, Montreal (Online), December 2020

05/2020 **Montreal ML OPT Seminar**, *Cone-Convexity and Composite Functions*, Montreal (Online), May 2020

03/2020 **Department Colloquium**, *Cone-convexity and composite functions*, Department of Mathematics and Statistics, Queen's University, March 2020

12/2019 **Kolloquium über Angewandte Mathematik**, *A study of convex convex-composite functions*, University of Göttingen, December 2019

11/2019 **Special Semester Optimization: Workshop on Nonsmooth Optimization**, *A study of convex convex-composite functions*, RICAM Linz, November 2019

11/2019 **Oberseminar Optimierung**, *A study of convex convex-composite functions*, Institute of Mathematics, University of Würzburg, November 2019

10/2019 **CRM Applied Math Seminar**, *A study of convex convex-composite functions*, McGill University, Montreal, October 2019

09/2019 **West Coast Optimization Meeting (WCOM)**, *Convex convex-composite functions*, Vancouver, September 2019

08/2019 **International Conference on Continuous Optimization**, *Convex convex-composite functions*, Berlin, August 2019

07/2018 **23rd International Symposium on Mathematical Programming**, *Applications of the Generalized Matrix-Fractional Function*, Bordeaux, July 2018

03/2018 **COCANA Live Seminar Series**, *Epi-convergent Smoothing with Applications to Convex-composite Functions*, Centre for Optimization, Convex Analysis, and Nonsmooth Analysis, University of British Columbia, Kelowna, March 2018

11/2017 **CRM Lecture**, *Convex Analysis on a Class of Matrix Support Functionals*, Department of Mathematics, University of Ottawa, November 2017

10/2017 **CACM Seminar**, *Convex Analysis on a Class of Matrix Support Functionals*, Center for Applied and Computational Mathematics, Rochester Insitute of Technology (RIT), Rochester, NY, October 2017

07/2017 **Mathematical Congress of the Americas**, *On a class of Matrix Support Functionals with Applications*, Montreal, July 2017

07/2017 **EUROPT Workshop on Continuous Optimization**, *On a class of Matrix Support Functionals with Applications*, Montreal, July 2017

05/2017 **SIAM Conference on Optimization**, *On a class of Matrix Support Functionals with Applications*, Vancouver, May 2017

05/2017 **Mathematisches Kolloquium**, *Convex Analysis on a Class of Matrix Support Functionals*, Institute of Mathematics, Technical University of Darmstadt, May 2017

05/2017 **Oberseminar Optimierung**, *Convex Analysis on a Class of Matrix Support Functionals*, Institute of Mathematics, University of Würzburg, May 2017

12/2016 **CMS Winter Meeting**, *Epi-convergent Smoothing with Applications to Convex-composite Functions*, Niagara Falls, December 2016

08/2016 **Modelling and Optimization: Theory and Applications**, *On a New Class of Matrix Support Functionals with Applications*, Bethlehem, PA, August 2016

10/2015 **Central European Set-Valued and Variational Analysis Meeting**, *On a New Class of Matrix Support Functionals with Applications*, Göttingen, October 2015

07/2015 **22nd International Symposium of Mathematical Programming (ISMP)**, *On a New Class of Matrix Support Functionals with Applications*, Pittsburgh, July 2015

06/2015 **Kolloquium at the Institute of Operations Research**, *On a New Class of Matrix Support Functionals with Applications*, Karlsruhe, June 2015

01/2015 **Kolloquium on Applied Mathematics**, *Epi-convergent Smoothing with Applications to Convex-composite Functions*, Institute of Numerical and Applied Mathematics, University of Göttingen, January 2015

05/2014 **SIAM Conference on Optimization**, *Epi-convergent Smoothing with Applications to Convex-composite Functions*, San Diego, May 2014

01/2014 **Kolloquium at the Institute of Operations Research**, *Epi-Glättungen mit Anwendungen auf konvex-veknüpfte Funktionen*, Karlsruhe, January 2014

08/2013 **International Conference on Continuous Optimization**, *Epi-convergent Smoothing with Applications to Convex-composite Functions*, Lisbon, July/August 2013

07/2013 **European Conference on Computational Optimization**, *On Relaxation Methods for Mathematical Programs with Complementarity Constraints*, Chemnitz, July 2013

05/2013 **Oberseminar Mathematik in den Naturwissenschaften**, *Epi-convergent Smoothing with Applications to Convex-composite Functions*, Würzburg, May 2013

06/2012 **Optimization Seminar**, *Mathematical Programs with Vanishing Constraints*, University of Washington, June 2012

05/2011 **SIAM Conference on Optimization**, *Mathematical Programs with Vanishing Constraints*, Darmstadt, May 2011

09/2010 **International Conference on Operations Research**, *Mathematical Programs with Vanishing Constraints*, Munich, September 2010

08/2009 **20th International Symposium of Mathematical Programming (ISMP)**, *Mathematical Programs with Vanishing Constraints*, Chicago, August 2009

07/2009 **23rd European Conference on Operational Research**, *Mathematical Programs with Vanishing Constraints*, Bonn, July 2009

03/2009 **4th German-Polish Conference on Optimization**, *Mathematical Programs with Vanishing Constraints*, Moritzburg, March 2009

Teaching

As a primary instructor

Winter 2024	**Honours Applied Linear Algebra**, *McGill University*
Fall 2023	**Honours Linear Optimization**, *McGill University*
Fall 2023	**Nonlinear Optimization**, *McGill University*
Winter 2022	**Honours Applied Linear Algebra**, *McGill University*
Fall 2021	**Intermediate Calculus (Course Coordinator)**, *McGill University*
Winter 2021	**Honours Applied Linear Algebra**, *McGill University (online)*
Fall 2020	**Honours Linear Optimization**, *McGill University (online)*
Winter 2020	**Optimization (Nonlinear Programming)**, *McGill University*
	Honours Applied Linear Algebra, *McGill University*
Winter 2019	**Optimization (Nonlinear Programming)**, *McGill University*
	Honours Applied Linear Algebra, *McGill University*
Fall 2018	**Topics in Applied Mathematics (Convex Optimization)**, *McGill University*
Winter 2018	**Optimization (Nonlinear Programming)**, *McGill University*
Fall 2017	**Mathematical Programming (Linear Optimization and Extensions)**, *McGill University*
Winter 2017	**Topics in Analysis (Convex Analysis and Nonsmooth Optimization)**, *McGill University*
Fall 2016	**Mathematical Programming (Linear Optimization and Extensions)**, *McGill University*
Summer 2016	**Convex Analysis**, *University of Würzburg*
Winter 2015/16	**Linear Algebra II**, *University of Würzburg*
Summer 2015	**Linear Algebra I**, *University of Würzburg*
Winter 2011/12	**An Introduction to Optimization**, *University of Düsseldorf*
Winter 2011/12	**Computer-aided Linear Algebra**, *University of Düsseldorf*

Lecture Notes

- **Optimization**, *McGill University 2020*, 175 pages
- **Honours Applied Linear Algebra**, *McGill University 2022*, 147 pages
- **Convex Optimization**, *McGill University 2018*, 144 pages

- **Linear Optimization and Extensions**, *McGill University 2020*, 193 pages
- **Convex Analysis**, *University of Würzburg 2016*, 140 pages
- **Linear Algebra I+II**, *University of Würzburg 2016*, 235 pages, in German
- **An Introduction to Optimization**, *University of Düsseldorf 2012*, 143 pages, in German

Student and Post Doctoral Supervision

Postdocs

09/2021-07/203 **Post Doc**, *Aaron Berk*, supported by a grant from the CRM Applied Math Lab and by and IVADO stipend, co-supervision with Simone Brugiapaglia (Concordia)

09/2020-08/2022 **Post Doc**, *Yakov Vaisbourd*, supported by a grant from the CRM Applied Math Lab, co-supervision with Courtney Paquette

09/2018-08/20 **Post Doc**, *Quang V. Nguyen*, supported by a grant from the CRM Applied Math Lab

Grad students

10/2022- **PhD student**, *Matthew King-Roskamp*, fully supported by and NSERC grant, co-supervised with R. Choksi

01/2021- **PhD student**, *George Orfanides*, supported by an NSERC CREATE and FRQNT grant, co-supervised with Adam Oberman

09/2021-08/2023 **MSc student**, *Quentin Fruytier*, co-supervised with Abbas Khalili
Thesis: *A Review of the Expectation-Maximization Algorithm and its Applications to Mixture Models*

09/2018-08/2020 **MSc student**, *Gabriel Rioux*, suported by a CGSM-NSERC grant, co-supervised with Rustum Choksi
Thesis: *The Maximum Entropy on the Mean Method for Image Deblurring: Applying Fenchel-Rockafellar Duality in Finite and Infinite Dimensions*

09/2018-05/2020 **MSc student**, *George Orfanides*
Thesis: *A Smoothing-Regularization Method for Mathematical Programs with Cardinality Constraints*

05/2018-08/2020 **MSc student**, *Aram Pooladian*, supported by a CGSM-NSERC grant, co-supervised with Adam Oberman
Thesis: *Numerical Methods for the Fermat-Weber Problem in the polyhedral l_p norms*

Interns

10/2020-7/2021 **Resarch Intern**, *Armand Gissler*, ENS Paris-Saclay

05/2018 **Research Intern**, *Blanca Pablos*, University of the Bundeswehr Munich

Undergraduate students

Summer 2024 **Honours research project**, *Jemma Zhao*, The DC approach for portfolio optimization

Summer 2024 **SURA summer research fellowship**, *Alexander Wang*, Stability of nonsmooth optimzation problems via implicit differentiation

Summer 2024 **NSERC sumer research fellowship**, *Nicholas Barnfield*, Numerical methods for the maximum entropy on the mean problem

Summer 2021 **Summer research**, *Jack Richter-Powell*, Maximum Entropy on the Mean Methods in Data Science, Co-supervised with R. Choksi

Summer 2021 **NSERC summer research fellowship**, *Ariel Goodwin*, Maximum Entropy on the Mean Methods in Data Science, Co-supervised with R. Choksi

Fall 2020 **Honours independent study**, *Ariel Goodwin*, Projections onto K-epigraphs

Summer 2020 **NSERC summer research fellowship**, *Ariel Goodwin*, Epigraphical Projections

Summer 2018 **SURA summer research fellowship**, *Benjamin Paul-Dubois-Taine*, Newton-type Methods for the Fermat-Weber Problem with Weighted Euclidean norms

Summer 2018 **CRM-ISM summer research fellowship**, *Luke Steverango*, Comparison of Relaxation Methods for Mathematical Programs with Vanishing Constraints

Summer 2018 **NSERC summer research fellowship**, *Gabriel Rioux*, Barcode Deblurring via Kullback-Leibler Divergence, Co-supervised with R. Choksi

Summer 2018 **NSERC summer research fellowship**, *Christopher Scarvelis*, Barcode Deblurring via Kullback-Leibler Divergence, Co-supervised with R. Choksi

Winter 2018 **Honours independent study**, *Luke Steverango*, Relaxation Methods for Mathematical Programs with Vanishing Constraints

Winter 2018 **Honours independent study**, *Aram Pooladian*, Proximal-Point Methods for Weakly Convex Minimization

Winter 2018 **Independent study**, *Frédéric Boileau*, DC Optimization

Fall 2017 **Honours Research Project**, *Luke Steverango*, Relaxation Methods for Mathematical Programs with Vanishing Constraints

Fall 2017 **Honours Research Project**, *Aram Pooladian*, Weakly Convex Functions

Summer 2017 **NSERC summer research fellowship**, *Aram Pooladian*, Semismooth Methods for Smoothed Composite Minimization

Refereeing

Journals

Annals of Operations Research
Asia-Pacific Journal of Operational Research
Computational and Applied Mathematics
Foundations of Comutations Mathematics
Journal of Convex Analysis
Journal of Global Optimization
Journal of Mathematical Analysis and Applications
Journal of Nonsmooth Analysis and Optimizationn
Journal of Optimization Theory and Applications
Mathematical Methods of Operations Research
Mathematical Programming
Numerical Functional Analysis and Optimization
Numerische Mathematik
Operations Research Letters
Optimization
Optimization and Engineering
Optimization Letters
Optimization Methods and Software
Pacific Journal of Optimization
SIAM Journal on Mathematics of Data Science
SIAM Journal on Matrix Analysis and Applications
SIAM Journal on Optimization
SIAM Journal on Scientific Computing
SIAM Review

Book reviews

Convex Optimization: Introductory Course, *by Mikhail Moklyachuk*, reviewed for SIAM Review 66(1), p. 193-194.

First-Order Methods in Optimization, *by Amir Beck*, reviewed for SIAM Review 61(2), p. 393

Refereeing of Grant proposals

10/2020 **DFG (German research fundation)**, *Review of Individual Proposal*

04/2018 **DFG (German research foundation)**, *Review of Individual Proposal*

01/2018 **NSERC Discovery Grant**, *External reviewer for 2 grant proposals*