

Samuel Burer

Professor
Department of Management Sciences
Henry B. Tippie College of Business
University of Iowa

Iowa City, IA 52242-1994
+1 (319) 335-0931
samuel-burer@uiowa.edu
tippie.uiowa.edu/sburer

EXPERIENCE

- 2012.07 – present** **Professor**, Department of Management Sciences, University of Iowa
Henry B. Tippie Research Fellow (2012–present)
Faculty Director, Business Analytics Graduate Program (2014–present)
Faculty, Applied Mathematical and Computational Sciences (2004–present)
- 2007.07 – 2012.06** **Associate Professor**, Department of Management Sciences, University of Iowa
Martha and Dennis Hesse Faculty Fellow (2004–12)
- 2009.04 – 2009.05** **Visiting Associate Professor**, Department of CS and Systems, Sapienza Università di Roma
- 2007.01 – 2007.05** **Visiting Assistant Professor**, Tepper School of Business, Carnegie Mellon University
- 2001.08 – 2007.06** **Assistant Professor**, Department of Management Sciences, University of Iowa

EDUCATION

Georgia Institute of Technology

- Ph.D., Algorithms, Combinatorics, and Optimization, August 2001
- *New Algorithmic Approaches for Semidefinite Programming with Applications to Combinatorial Optimization*, advised by R.D.C. Monteiro

University of Georgia

- B.S., Mathematics, June 1997
- First Honor Graduate, *Summa Cum Laude*, With Highest Honors

RESEARCH AND TEACHING INTERESTS

- Analytics, operations research, management sciences
- Discrete and continuous optimization
- Convex, copositive, semidefinite, and nonlinear optimization
- Decision making and optimization under uncertainty

GRANTS

- National Science Foundation Grant for *CAREER: Computation, Theory, and Applications for Nonconvex Quadratic and Conic Optimization*, \$400,000, 2006–12
- National Science Foundation Grant for *Collaborative Research: Theory and Implementation of Semidefinite Programming and Its Application to Combinatorial Optimization*, \$255,818, 2000–05
- New Technology in the Learning Environment Grant, University of Iowa, \$1,500, 2004
- Old Gold Fellowships, University of Iowa, \$12,000, 2002–03

JOURNAL PUBLICATIONS (listed in reverse chronological order by appearance of manuscript)

- [J01] [A Gentle, Geometric Introduction to Copositive Optimization](#) September 2014, revised January 2015, to appear in *Mathematical Programming Series B*, DOI 10.1007/s10107-015-0888-z.
- [J02] [Faster, but Weaker, Relaxations for Quadratically Constrained Quadratic Programs](#), with S. Kim and M. Kojima, *Computational Optimization and Applications*, 59(1), 27–45, 2014.
- [J03] [The Trust Region Subproblem with Non-Intersecting Linear Constraints](#), with B. Yang, *Mathematical Programming Series A*, 149, 253–264, 2015.
- [J04] [Non-Convex Mixed-Integer Nonlinear Programming: A Survey](#), with A. Letchford, *Surveys in Operations Research and Management Science*, 17, 97–106, 2012.
- [J05] [A First-Order Smoothing Technique for a Class of Large-Scale Linear Programs](#), with J. Chen, *SIAM Journal on Optimization*, 24(2), 598–620, 2014.
- [J06] [Robust Rankings for College Football](#), *Journal of Quantitative Analysis in Sports*, 8(2), 2012, DOI 10.1515/1559-0410.1405.
- [J07] [Unbounded Convex Sets for Non-Convex Mixed-Integer Quadratic Programming](#), with A. Letchford, *Mathematical Programming Series A*, 143(1-2), 231–256, 2014.
- [J08] [Representing Quadratically Constrained Quadratic Programs As Generalized Copositive Programs](#), with H. Dong, *Operations Research Letters*, 40(3), 203–206, 2012.
- [J09] [Second-Order Cone Constraints for Extended Trust-Region Subproblems](#), with K. Anstreicher, *SIAM Journal on Optimization*, 23(1), 432–451, 2013.
- [J10] [Globally Solving Nonconvex Quadratic Programming Problems via Completely Positive Programming](#), with J. Chen, *Mathematical Programming Computation*, 4(1), 33–52, 2012.
- [J11] [Separation and Relaxation for Cones of Quadratic Forms](#), with H. Dong, *Mathematical Programming Series A*, 137(1), 343–370, 2013.
- [J12] [Modifying Soysters Model for the Traveling Salesman Problem with Interval Travel Times](#), with N. Cho and A.M. Campbell, *Far East Journal of Applied Mathematics*, 86(2), 117–144, 2014.
- [J13] [Optimizing a Polyhedral-Semidefinite Relaxation of Completely Positive Programs](#), *Mathematical Programming Computation*, 2(1), 1–19, 2010.
- [J14] [A Semidefinite Approach to the Hypergraph Minimum Bisection Problem](#), with C. Choi, *Optimization*, 60(3):413–427, 2011.
- [J15] [On Non-Convex Quadratic Programming with Box Constraints](#), with A.N. Letchford, *SIAM Journal on Optimization*, 20(2):1073–1089, 2009.
- [J16] [The Difference Between 5x5 Doubly Nonnegative and Completely Positive Matrices](#), with K. Anstreicher and M. Dür, *Linear Algebra and Its Applications*, 431:1539–1552, 2009.
- [J17] [A p-Cone Sequential Relaxation Procedure for 0-1 Integer Programs](#), with J. Chen, *Optimization Methods and Software*, 24(4):523–548, 2009.
- [J18] [Relaxing the Optimality Conditions of Box QP](#), with J. Chen, *Computational Optimization and Applications*, 48:653–673, 2011.
- [J19] [Computable Representations for Convex Hulls of Low-Dimensional Quadratic Forms](#), with K. Anstreicher, *Mathematical Programming Series B*, 124(1-2):33–43, 2010.

- [J20] [Globally Solving Box-Constrained Nonconvex Quadratic Programs with Semidefinite-Based Finite Branch-and-Bound](#), with D. Vandenbussche, *Computational Optimization and Applications*, 43(2):181-195, 2009.
- [J21] [On the Copositive Representation of Binary and Continuous Nonconvex Quadratic Programs](#), *Mathematical Programming Series A*, 120(2):479-495, 2009.
- [J22] [On Handling Free Variables in Interior-Point Methods for Conic Linear Optimization](#), with M.F. Anjos, *SIAM Journal on Optimization*, 18(4):1310-1325, 2007.
- [J23] [Ensemble Pruning via Semi-definite Programming](#), with Y. Zhang and W.N. Street, *Journal of Machine Learning Research*, 7:1315-1338, 2006.
- [J24] [A Finite Branch-and-Bound Algorithm for Nonconvex Quadratic Programming via Semidefinite Relaxations](#), with D. Vandenbussche, *Mathematical Programming Series A*, 113(2):259-282, 2008.
- [J25] [Coordinating the Supply Chain in the Agricultural Seed Industry](#), with P.C. Jones and T. Lowe, *European Journal of Operational Research*, 185:354-377, 2008.
- [J26] [Solving Maximum-Entropy Sampling Problems Using Factored Masks](#), with J. Lee, *Mathematical Programming Series B*, 109:263-281, 2007.
- [J27] [Newsvendor Games: Convex Optimization of Centralized Inventory Operations](#), with M. Dror, *TOP*, 20(3):707-728, 2012.
- [J28] [Computational Enhancements in Low-Rank Semidefinite Programming](#), with C. Choi, *Optimization Methods and Software*, 21(3):493-512, 2006.
- [J29] [Solving Lift-and-Project Relaxations of Binary Integer Programs](#), with D. Vandenbussche, *SIAM Journal on Optimization*, 16(3):726-750, 2006.
- [J30] [Local Minima and Convergence in Low-Rank Semidefinite Programming](#), with R.D.C. Monteiro, *Mathematical Programming Series A*, 103:427-444, 2005.
- [J31] [D.C. Versus Copositive Bounds for Standard QP](#), with K. Anstreicher, *Journal of Global Optimization*, 33:299-312, 2005.
- [J32] [Semidefinite Programming in the Space of Partial Positive Semidefinite Matrices](#), *SIAM Journal on Optimization*, 14:139-172, 2003.
- [J33] [A Computational Study of a Gradient-Based Log-Barrier Algorithm for a Class of Large-Scale SDPs](#), with R.D.C. Monteiro and Y. Zhang, *Mathematical Programming Series B*, 95:359-379, 2003.
- [J34] [A Nonlinear Programming Algorithm for Solving Semidefinite Programs via Low-Rank Factorization](#), with R.D.C. Monteiro, *Mathematical Programming Series B*, 95:329-357, 2003.
- [J35] [Maximum Stable Set Formulations and Heuristics Based on Continuous Optimization](#), with R.D.C. Monteiro and Y. Zhang, *Mathematical Programming Series A*, 94:137-166, 2002.
- [J36] [Rank-Two Relaxation Heuristics for Max-Cut and Other Binary Quadratic Programs](#), with R.D.C. Monteiro and Y. Zhang, *SIAM Journal on Optimization*, 12:503-521, 2001.
- [J37] [Interior Point Algorithms for Semidefinite Programming Based on a Nonlinear Formulation](#), with R.D.C. Monteiro and Y. Zhang, *Computational Optimization and Applications*, 22:49-79, 2002.
- [J38] [Solving a Class of Semidefinite Programs via Nonlinear Programming](#), with R.D.C. Monteiro and Y. Zhang, *Mathematical Programming Series A*, 93:97-122, 2002.
- [J39] [A General Framework for Establishing Polynomial Convergence of Long-Step Methods for Semidefinite Programming](#), with R.D.C. Monteiro, *Optimization Methods and Software*, 18:1-38, 2003.

- [J40] [A Projected Gradient Algorithm for Solving the Maxcut SDP Relaxation](#), with R.D.C. Monteiro, *Optimization Methods and Software*, 15:175-200, 2001.

REFEREED BOOK CHAPTERS (listed in reverse chronological order)

- [B01] [Copositive Programming](#), *Handbook of Semidefinite, Cone and Polynomial Optimization: Theory, Algorithms, Software and Applications*, edited by M.F. Anjos and J.B. Lasserre, 201-218, 2011.
- [B02] [The MILP Road to MIQCP](#), with A. Saxena, *IMA Volumes in Mathematics and Its Applications*, edited by J. Lee and S. Leyffer, 154:373-406, 2011.

REFEREED CONFERENCE PUBLICATIONS

- [C01] [Sharing Classifiers Among Ensembles from Related Problem Domains](#), with Y. Zhang and W.N. Street, *Proceedings of the Fifth IEEE International Conference on Data Mining (ICDM'05)*, 522-529, 2005.

MANUSCRIPTS UNDER REVIEW (listed in reverse chronological order by appearance of manuscript)

- [M01] [A Branch-and-Bound Algorithm for Instrumental Variable Quantile Regression](#), with G. Xu, August 2014, submitted to *Mathematical Programming Computation*.
- [M02] [How to Convexify the Intersection of a Second Order Cone and a Nonconvex Quadratic](#), with F. Kılınç-Karzan, June 2014, submitted to *Mathematical Programming Series A*.
- [M03] [A Two-Variable Analysis of the Two-Trust-Region Subproblem](#), with B. Yang, November 2013, revised October 2014, under second-round review for *SIAM Journal on Optimization*.

PRESENTATIONS (listed in reverse chronological order)

- [P01] A Gentle, Geometric Introduction to Copositive Optimization, Twenty-Second International Symposium on Mathematical Programming, Pittsburgh, July 2015 (invited semi-plenary).
- [P02] Robust Sensitivity Analysis for Linear Programming, First Pacific Optimization Conference, Wuxi, China, November 2014 (invited).
- [P03] A Gentle, Geometric Introduction to Copositive Optimization, Workshop on Emerging Topics in Conic and Discrete Optimization, Engineering Systems and Design, Singapore University of Technology and Design, Singapore, October 2014 (invited tutorial).
- [P04] Robust Rankings for American College Football, Università degli Studi di Roma “Tor Vergata,” Rome, May 2014 (invited).
- [P05] Interior-Point Methods for Linear Programming, Università degli Studi di Roma “Tor Vergata,” Rome, May 2014 (invited).
- [P06] Copositive Optimization, Third University of Florida SIAM Gators Conference, Gainesville, FL, March 2014 (invited faculty speaker).
- [P07] A Two-Variable Analysis of the Two-Trust-Region Subproblem, Eighteenth Combinatorial Optimization Workshop, CNRS Centre Paul Langevin, Aussois, France, January 2014 (invited).
- [P08] The Trust Region Subproblem with Non-Intersecting Linear Constraints, INFORMS, Minneapolis, MN, October 2013 (invited).
- [P09] Robust Rankings for College Football, INFORMS, Minneapolis, MN, October 2013 (invited).

- [P10] Robust Rankings for American College Football, Tilburg University, Tilburg, Netherlands, July 2013 (invited).
- [P11] Copositive Optimization, Fourth International Conference on Continuous Optimization (ICCOPT-IV), Lisbon, Portugal, July 2013 (invited semi-plenary).
- [P12] Unbounded Convex Sets for Non-Convex Mixed-Integer Quadratic Programming, INFORMS Computing Society Conference, Santa Fe, NM, January 2013 (invited).
- [P13] Robust Rankings for College Football, Department of Mathematics, Grinnell College, December 2012 (invited).
- [P14] Robust Rankings for American College Football, Mixed Integer Programming (MIP), Davis, CA, July 2012 (invited).
- [P15] Uncertainty and Robustness: Two Optimization Models, Fuqua School of Business, Duke University, March 2012.
- [P16] Separation and Relaxation for Completely Positive Matrices, Tenth SIAM Conference on Optimization, Darmstadt, Germany, May 2011 (invited).
- [P17] Cuts for Nonconvex Quadratic Programming, Optimization Days, Montreal, May 2011 (invited).
- [P18] Cuts for Nonconvex Quadratic Programming, IBM T. J. Watson Research Center, Yorktown Heights, NY, March 2011 (invited).
- [P19] Separating Cuts for Quadratic Programs, INFORMS, Austin, TX, November 2010 (invited).
- [P20] New Approximations for Copositive Matrices, INFORMS, Austin, TX, November 2010 (invited).
- [P21] Nonconvex Quadratic Programming: Models and Algorithms, West Coast Optimization Meeting, University of Washington, Seattle, WA, May 2010 (invited).
- [P22] Nonconvex Quadratic Programming with Box Constraints, Operations Research Seminar, Carnegie Mellon University, Pittsburgh, PA, April 2010 (invited).
- [P23] Nonconvex Quadratic Programming: Models and Algorithms, Department of Industrial and Systems Engineering, University of Wisconsin-Madison, Madison, WI, September 2009 (invited).
- [P24] Optimizing a Polyhedral-Semidefinite Relaxation of Completely Positive Programs, Twentieth International Symposium on Mathematical Programming, Chicago, August 2009 (invited).
- [P25] Optimizing a Polyhedral-Semidefinite Relaxation of Completely Positive Programs, Università di Firenze, Florence, May 2009 (invited).
- [P26] Short Course on Semidefinite Programming, Sapienza Università di Roma, Rome, May 2009 (invited).
- [P27] Optimizing a Polyhedral-Semidefinite Relaxation of Completely Positive Programs, OptimA Workshop, University of Illinois Urbana-Champaign, March 2009 (invited).
- [P28] New Results on Non-Convex Quadratic Programming, Chinese University of Hong Kong, November 2008 (invited).
- [P29] Convex Hulls of Low-dimensional Quadratic Forms over Polytopes, INFORMS, Washington D.C., October 2008 (invited).
- [P30] On the Copositive Representation of Binary and Continuous Nonconvex Quadratic Programs, Ninth SIAM Conference on Optimization, Boston, May 2008 (invited).
- [P31] Representing NP-Hard Problems as Convex Programs, Northwestern University, Evanston, November 2007 (invited).
- [P32] On the Copositive Representation of Binary and Continuous Nonconvex Quadratic Programs, INFORMS, Seattle, November 2007 (invited).

- [P33] Representing NP-Hard Problems as Convex Programs, Second International Conference on Continuous Optimization (ICCOPT-II), McMaster University, Hamilton, Ontario, August 2007 (invited).
- [P34] An Introduction to Semidefinite Programming and Its Applications, INFORMS International, Puerto Rico, July 2007 (invited tutorial).
- [P35] Representing NP-Hard Problems as Convex Programs, Tepper School of Business, Carnegie Mellon University, Pittsburgh, March 2007 (invited).
- [P36] Representing NP-Hard Problems as Convex Programs, Department of Industrial Engineering, University of Pittsburgh, February 2007 (invited).
- [P37] Handling Free Variables in Conic Optimization with Application to Moment Relaxations, Nineteenth International Symposium on Mathematical Programming, Rio de Janeiro, August 2006 (invited).
- [P38] A Finite Branch-and-Bound Algorithm for Nonconvex Quadratic Programming via Semidefinite Programming, 21st European Conference on Operational Research, Iceland, July 2006 (invited).
- [P39] A Finite Branch-and-Bound Algorithm for Nonconvex Quadratic Programming via Semidefinite Programming, Department of Mathematics, University of Washington, February 2006 (invited).
- [P40] A Finite Branch-and-Bound Algorithm for Nonconvex Quadratic Programming via Semidefinite Programming, Department of Mathematics, North Carolina State University, February 2006 (invited).
- [P41] A Finite Branch-and-Bound Algorithm for Nonconvex Quadratic Programming via Semidefinite Programming, Workshop on Semidefinite Programming and Its Applications, National University of Singapore, Singapore, January 2006 (invited).
- [P42] A Finite Branch-and-Bound Algorithm for Nonconvex Quadratic Programming via Semidefinite Programming, INFORMS, San Francisco, November 2005 (invited).
- [P43] The Low-Rank Algorithm for Large-Scale Semidefinite Programming, University of Waterloo, Waterloo, October 2005 (invited).
- [P44] Solving Lift-and-Project Relaxations of Binary Integer Programs, University of Michigan, Ann Arbor, September 2005 (invited).
- [P45] Solving Lift-and-Project Relaxations of Binary Integer Programs, Tepper School of Business, Carnegie Mellon University, Pittsburgh, February 2005 (invited).
- [P46] Solving Lift-and-Project Relaxations of Binary Integer Programs, Workshop on Integer Programming and Continuous Optimization, Chemnitz University of Technology, Germany, November 2004 (invited).
- [P47] Computational Enhancements in Low-Rank Semidefinite Programming, INFORMS, Denver, October 2004 (invited).
- [P48] Computational Enhancements in Low-Rank Semidefinite Programming, First International Conference on Continuous Optimization (ICCOPT-I), Rensselaer Polytechnic Institute, Troy, August 2004 (invited).
- [P49] Maximum Stable Set Formulations and Heuristics Based on Continuous Optimization, SIAM Conference on Discrete Mathematics, Nashville, June 2004 (invited).
- [P50] Local Minima and Convergence in Low-Rank Semidefinite Programming, Workshop on Large Scale Nonlinear and Semidefinite Programming, University of Waterloo, Waterloo, May 2004 (invited).
- [P51] Solving Semidefinite Programs via Nonlinear Programming, University of Maryland, Baltimore County, Baltimore, November 2003 (invited).
- [P52] Local Minima and Convergence in Low-Rank Semidefinite Programming, INFORMS, Atlanta, October 2003 (invited).

- [P53] Semidefinite Programming in the Space of Partial Positive Semidefinite Matrices, Eighteenth International Symposium on Mathematical Programming, Copenhagen, August 2003 (invited).
- [P54] Semidefinite Programming in the Space of Partial Positive Semidefinite Matrices, INFORMS, San Jose, November 2002 (invited).
- [P55] Computational Experience with a Gradient-Based Algorithm for Semidefinite Programming, Seventh SIAM Conference on Optimization, Toronto, May 2002 (invited).
- [P56] Rank-Two Semidefinite Relaxation Heuristics for Max-Cut and Other Binary Quadratic Programs, Seventh SIAM Conference on Optimization, Toronto, May 2002 (invited).
- [P57] A Nonlinear Programming Algorithm for Solving Semidefinite Programs via Low-rank Factorization, Seventh SIAM Conference on Optimization, Toronto, May 2002 (invited).
- [P58] Solving Semidefinite Programs via Nonlinear Programming, Northwestern University, Evanston, April 2002 (invited).
- [P59] The Maximum Stable Set Problem: New Approaches via Continuous Optimization, McMaster University, Hamilton, March 2002 (invited).
- [P60] Rank-Two Semidefinite Relaxation Heuristics for Max-Cut and Other Binary Quadratic Programs, INFORMS, Miami, November 2001 (invited).
- [P61] Computing the Lovasz Theta Number of a Graph, INFORMS, Miami, November 2001 (invited).
- [P62] Maximum Stable Set Formulations and Heuristics Based on Continuous Optimization, Novel Approaches to Hard Discrete Optimization, University of Waterloo, Waterloo, April 2001 (contributed).
- [P63] Rank-Two Relaxation Heuristics for Maxcut, Seventh U.S.-Mexico Workshop in Numerical Analysis, Mrida, Mexico, January 2001 (contributed).
- [P64] A Nonlinear Programming Algorithm for Solving Semidefinite Programs via Low-Rank Factorization, INFORMS, San Antonio, November 2000 (invited).
- [P65] Solving Semidefinite Programs via Nonlinear Programming, INFORMS, San Antonio, November 2000 (invited).
- [P66] A Nonlinear Programming Algorithm for Solving Semidefinite Programs via Low-Rank Factorization, DIMACS Seventh Implementation Challenge, Rutgers, November 2000 (invited).
- [P67] A Nonlinear Programming Algorithm for Solving Semidefinite Programs via Low-Rank Factorization, Seventeenth International Symposium on Mathematical Programming, Atlanta, August 2000 (invited).
- [P68] Solving Semidefinite Programs via Nonlinear Programming: Transformations, Derivatives and Computational Results, Tokyo Institute of Technology, Tokyo, June 2000 (invited).
- [P69] A General Framework for Establishing Polynomial Convergence of Long-Step Methods for Semidefinite Programming, INFORMS, Salt Lake City, May 2000 (invited).
- [P70] Solving Semidefinite Programs via Nonlinear Programming: Transformations, Derivatives and Computational Results, INFORMS, Salt Lake City, May 2000 (invited).
- [P71] Solving Semidefinite Programs via Nonlinear Programming: Transformations, Derivatives and Computational Results, INFORMS, Philadelphia, November 1999 (invited).
- [P72] A General Framework for Establishing Polynomial Convergence of Long-Step Methods for Semidefinite Programming, Sixth SIAM Conference on Optimization, Atlanta, May 1999 (invited).

SOFTWARE

- *QuadProgBB version 20120229*, proposed and developed in publication [J09] (available from personal webpage)
- *OptDNN*, proposed and developed in publications [J12] and [J20] (available from personal webpage)
- *SDPLR 1.03-beta*, proposed and developed in publications [J27], [J29], [J33], and [J39] (available from personal webpage and over the Web at www-neos.mcs.anl.gov)
- *Max-AO*, proposed in publication [J35] (available on [GitHub](#))
- *CirCut*, proposed in publication [J36] (available from [coauthor](#))

AWARDS AND HONORS

- Top 5 Most Downloaded, *Surveys in Operations Research and Management Science* journal, 2014
- Strategic Innovation Faculty Member of the Year, University of Iowa MBA, 2013
- Certificate of Excellence in Reviewing, *Operations Research Letters*, 2013
- Meritorious Service Award for Associate Editors, *Operations Research*, 2012
- G.R.E.A.T. Faculty Award (First Year), Des Moines Executive MBA Class of 2012, April 2012
- Dean's Teaching Excellence Recognition, Fall 2005, Fall 2006, Fall 2011
- Dean's Teaching Award in Management Sciences, 2011
- *Computational Optimization and Applications* Best Paper Award, 2009 for the paper [J18]. Award citation has appeared in: COAP 2009 Best Paper Award, *Computational Optimization and Applications*, 47:567-570, 2010
- Top 10 Most Highly Cited, *Optimization Methods and Software* journal, 2000-2008
- Honorable Mention, Young Researcher Competition, International Conference on Continuous Optimization, 2004
- New Hot Paper recognition by ISI Essential Science Indicators for the paper [J36]
- Optimization Prize for Young Researchers, Optimization Section of INFORMS, 2002
- Delta Sigma Pi Outstanding Faculty Award, University of Iowa, 2002
- Presidential Fellowship, Georgia Institute of Technology, 1997–2001
- Strahan Mathematics Award, University of Georgia, 1996
- Phi Beta Kappa member

PROFESSIONAL SERVICE AND EXTERNAL ACTIVITIES

Editorial positions

- Associate Editor, *Management Sciences*, 2014–present
- Co-Editor, *Discrete Optimization*, special issue on Conic Discrete Optimization, 2014–2015
- Associate Editor, *Operations Research*, 2011–present
- Associate Editor, *SIAM Journal on Optimization*, 2011–present
- Associate Editor, *Mathematics of Operations Research*, 2011–present
- Co-Editor, *Optima* (newsletter of the Mathematical Optimization Society), 2010–present
- Associate Editor, *Operations Research Letters*, 2009–14
- Associate Editor, *Mathematical Programming Computation*, 2008–13
- Associate Editor, *Surveys in Operations Research and Management Science*, 2009–13
- Associate Editor, *Asia-Pacific Journal of Operational Research*, 2007–10

Society positions

- Member, Board of Directors, Computing Society, INFORMS, 2014–17
- Council Member, Mathematical Optimization Society, 2012–15
- Vice-Chair for Linear Programming and Complementarity, Optimization Society, INFORMS, 2008–10
- Member, INFORMS (Institute for Operations Research and the Management Sciences)
- Member, SIAM (Society for Industrial and Applied Mathematics)
- Member, MPS (Mathematical Programming Society)

Conference organization

- Session Organizer, International Symposium on Mathematical Programming (ISMP), Pittsburgh, 2015
- Session Organizer, Eleventh SIAM Conference on Optimization, San Diego, 2014
- Program Committee, 17th Conference on Integer and Combinatorial Optimization, Bonn, 2014
- Session Organizer, INFORMS Annual Meeting, Minneapolis, MN, 2013
- Session Organizer, Fourth International Conference on Continuous Optimization (ICCOPT-IV), Lisbon, 2013
- Session Organizer, International Symposium on Mathematical Programming (ISMP), Berlin, 2012
- Session Organizer, Modeling Optimization Conference: Theory and Applications (MOPTA), Bethlehem, PA, 2012
- Cluster Organizer, INFORMS Midwest Regional Meeting, Columbus, Ohio, 2011
- Session Organizer, Tenth SIAM Conference on Optimization, Darmstadt, Germany, 2011
- Session Organizer, INFORMS Annual Meeting, Austin, 2010
- Cluster and Session Organizer, INFORMS Annual Meeting, San Diego, 2009
- Cluster Organizer, INFORMS Annual Meeting, Washington D.C., 2008
- Session Organizer, Ninth SIAM Conference on Optimization, Boston, 2008
- Session Organizer, INFORMS Annual Meeting, Seattle, 2007
- Stream Co-Organizer and Session Chair, Second International Conference on Continuous Optimization (ICCOPT-II), McMaster University, Hamilton, Ontario, 2007
- Session Chair, EURO XXI, Reykjavik, Iceland, 2006
- Session Chair, INFORMS Annual Meeting, San Francisco, 2005
- Session Chair, INFORMS Annual Meeting, Atlanta, 2003

Referee positions, prize committees, and grant review panels

- Member, Evaluation Team for ICIAM15 (International Congress on Industrial and Applied Mathematics 2015) Travel Awards, 2015
- Member, INFORMS Optimization Society Young Researcher Prize committee, 2013
- Member, ICCOPT 2013 Young Researcher Prize committee, 2013
- National Science Foundation review panel, 2007, 2012
- Member, INFORMS Junior Faculty Interest Group Paper Prize committee, 2012
- Member, Mixed Integer Programming Workshop Poster Award committee, 2012
- Chair, INFORMS Computing Society Paper Prize committee, 2011
- INFORMS Nicholson Student Paper Prize committee, 2010–11
- INFORMS Computing Society Paper Prize committee, 2010
- INFORMS Optimization Society Student Paper Prize committee, 2009
- Referee for *Mathematical Programming*, *SIAM Journal on Optimization*, *Optimization Methods and Software*, *Optimization Letters*, *INFORMS Journal on Computing*, *Journal of Global Optimization*, *Computational Optimization and Applications*, *Discrete Applied Mathematics*, *Discrete Optimization*, *Mathematics of Opera-*

tions Research, Operations Research, Optimization and Engineering, 4OR, Annals of Operations Research, ANZIAM Journal, Automatica, European Journal of Operational Research, Foundations of Computational Mathematics, INFORMS Transactions on Education, International Transactions on Operational Research, Journal of Computational and Graphical Statistics, RAIRO, SIAM Review, TOP

Additional training

- *UI Student Judicial Procedures and Sexual Violence Investigation Strategies and Response* offered by the University of Iowa, 2015
- *Statement of Accomplishment with Distinction* for Coursera course *R Programming*, 2015
- *The Intersection of Title IX and Title VII in Higher Education: What Every Faculty Grievance Panel Needs to Know* offered by the University of Iowa, 2014
- *TILE Classroom Essentials* offered by the University of Iowa, 2013
- *Lean Academy Course* offered by the Lean Aerospace Initiative, 2006

Consulting and external seminars

- Medcara Pharmaceuticals, 2012
- Caterpillar, 2011–12
- Discover Financial Services, 2008

UNIVERSITY SERVICE

- Member, Faculty Panel, NSF CAREER Workshop, University of Iowa, 2014
- Member, Promotion-and-Tenure Departmental Review Committee, Department of Management Sciences, 2013–14
- Member, Post-Tenure Review Committee, Department of Management Sciences, 2013–14
- Chair, Analytics Master's Proposal Committee, Department of Management Sciences, 2013–15
- Member, Management Sciences Graduate Committee, 2003–05, 2006–07, 2013–15
- Member, Faculty Judicial Commission, 2013–16
- Member, Internal Funding Initiatives Review, Office of the VP for Research and Economic Development, 2013–15
- Chair, Management Sciences Faculty Recruiting Committee, 2012–13
- Member, AMCS (Applied Mathematical and Computational Sciences) Executive Committee, 2012–present
- Member, Management Sciences Internal Evaluation Sub-Committee, 2008–09, 2012–13
- Member, Core MBA Committee, 2002–03, 2010–11, 2012–13
- Member, Collegiate and Dean Teaching Awards Committee, 2011–12, 2012–2013
- Member, AMCS (Applied Mathematical and Computational Sciences) Admission Committee, 2011–12
- Member, University of Iowa Faculty Engagement Corps, 2010
- Secretary, Elected Faculty Council, Tippie College of Business, 2008–10
- Member, Management Sciences Faculty Recruiting Committee, 2001–02, 2005–06, 2007–08
- Organizer, Management Sciences Seminar Series, 2001–02, 2006–07
- Executive MBA Committee, 2003–05

ADVISING, MENTORING, AND SUPERVISING

Sponsored Postdoctoral Fellows

| | | |
|-------------|--|---------------------------|
| Nayoung Cho | Management Sciences (with A. Campbell) | 2009 Spring – 2010 Summer |
|-------------|--|---------------------------|

Ph.D. Advisor

| | | |
|---------------|--|------------------------|
| Guanglin Xu | Management Sciences | 2016 Summer (expected) |
| Boshi Yang | Appl Math and Comp Sci | 2015 Summer (expected) |
| Hongbo Dong | Appl Math and Comp Sci (with K. Anstreicher) | 2011 Fall |
| Jieqiu Chen | Management Sciences | 2010 Summer |
| Changhui Choi | Management Sciences | 2007 Spring |

Ph.D. Committee

| | | |
|----------------------|----------------------------|------------------------|
| Silviya Valeva | Appl Math and Comp Sci | 2016 Summer (expected) |
| Nathaniel Richmond | Appl Math and Comp Sci | 2016 Summer (expected) |
| Alexander Vinel | Industrial Engineering | 2015 Spring (expected) |
| Amit Verma | Management Sciences | 2014 Summer |
| Alexander Michalka | Columbia University | 2013 Summer |
| Lian Duan | Management Sciences | 2012 Summer |
| Moh. Khoshneshin | Management Sciences | 2012 Summer |
| Gaurav Kanade | Computer Science | 2011 Summer |
| Nicholas Liefker | Management Sciences | 2010 Summer |
| Jon Van Laarhoven | Mathematics | 2010 Spring |
| Samid Hoda | Carnegie Mellon University | 2010 Spring |
| Policarpio Soberanis | Industrial Engineering | 2009 Fall |
| Benton McCune | Computer Science | 2009 Fall |
| Chih-Lin Chi | Health Informatics | 2009 Summer |
| Dengfeng Zhang | Management Sciences | 2008 Fall |
| Anureet Saxena | Carnegie Mellon University | 2008 Spring |
| Kaan Ataman | Management Sciences | 2007 Summer |
| Rajiv Raman | Computer Science | 2007 Spring |
| Thaddeus Sim | Management Sciences | 2007 Spring |
| Victoria Shimanovich | Computer Science | 2006 Summer |
| Yi Zhang | Management Sciences | 2006 Summer |

Ph.D Qualifying / Comprehensive / Preliminary Committee

| | | |
|--------------------|---------------------|------------------------|
| Santanu Bhowmick | Computer Science | 2015 Spring |
| Vivek Sardeshmukh | Computer Science | 2014 Fall |
| Preethi Isaac | Management Sciences | 2014 Spring |
| Guanglin Xu | Management Sciences | 2014 Spring |
| Xi Chen | Management Sciences | 2014 Spring |
| Wenjun Wang | Management Sciences | 2014 Spring |
| Huan Jin | Management Sciences | 2014 Spring |
| Fahrettin Cakir | Management Sciences | 2013 Spring |
| Stacy Voccia | Management Sciences | 2013 Spring |
| Qiong Zhang | Management Sciences | 2013 Spring |
| Shu Zhang | Management Sciences | 2013 Spring |
| Huan Jin | Management Sciences | 2012 Fall |
| Kamal Lamsal | Management Sciences | 2012 Spring |
| Chuanjie Liao | Management Sciences | 2012 Spring |
| Senay Yasar Saglam | Management Sciences | 2011 Spring |
| Amit Verma | Management Sciences | 2010 Fall, 2012 Spring |
| Lian Duan | Management Sciences | 2010 Spring |

| | | |
|------------------|------------------------|-------------|
| Hongbo Dong | Appl Math and Comp Sci | 2009 Fall |
| Gaurav Kanade | Computer Science | 2008 Fall |
| Darin Mohr | Appl Math and Comp Sci | 2008 Summer |
| Seyon Yoon | Appl Math and Comp Sci | 2007 Fall |
| Nicholas Liefker | Management Sciences | 2007 Fall |
| Justin Goodson | Management Sciences | 2007 Fall |
| Jieqiu Chen | Management Sciences | 2007 Fall |
| Chih-Lin Chi | Health Informatics | 2007 Spring |
| Benton McCune | Computer Science | 2006 Fall |
| Hui Chen | Management Sciences | 2006 Spring |
| Dengfeng Zhang | Management Sciences | 2005 Fall |
| Thaddeus Sim | Management Sciences | 2005 Fall |
| Benton McCune | Computer Science | 2005 Spring |
| Rajiv Raman | Computer Science | 2004 Fall |

Graduate or Undergraduate Project Advisor

| | | |
|--------------------|---------------------|-------------|
| Deepakkumar Rohida | MBA | 2010–11 |
| Kevin Kotek | Management Sciences | 2010 Summer |
| Daniela Navarro | Management Sciences | 2006 Summer |

Directed Readings

| | | |
|-----------------|------------------------|-------------|
| Natalie Clark | Appl Math and Comp Sci | 2013 Fall |
| Anonya Bagchi | MBA | 2013 Spring |
| Danielle Walker | MBA | 2013 Spring |
| Pankaj Kumar | MBA | 2013 Spring |
| Scott Marsh | MBA | 2012 Spring |
| Isaac Hess | MBA | 2012 Spring |

Graduate Mentor (Ethnic Inclusion Effort for Iowa Engineering)

| | | |
|---------------|------------------------|---------|
| James Ratliff | Industrial Engineering | 2011–13 |
|---------------|------------------------|---------|

Sponsored Short-Term Visitors

| | | |
|----------------------|--------------------------------------|------------|
| Peter J.C. Dickinson | University of Groningen, Netherlands | 2012 March |
| Mirjam Dür | University of Groningen, Netherlands | 2007 June |