Curriculum Vitae

S. RAGHAVAN

Dean's Professor of Management Science & Operations Management
Robert H. Smith School of Business & Institute for Systems Research
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I. BACKGROUND

Education

Ph.D., Operations Research, 1995
Massachusetts Institute of Technology (Cambridge, MA)
Department of Electrical Engineering & Computer Science & Sloan School of Management

M.S., Operations Research and Statistics, 1988
Rensselaer Polytechnic Institute
Department of Decision Sciences & Engineering Systems

B.Tech., Aeronautical Engineering, 1987
Indian Institute of Technology, Chennai (India)

Professional Experience

August 2010 – Present: *Professor* of Management Science & Operations Management (joint appointment with Institute for Systems Research, A. James Clark School of Engineering).
Affiliate Professor, Department of Computer Science (since September 2016).
Faculty, Applied Mathematics & Statistics, and Scientific Computation Program (since 1998).

August 2005 – July 2010: *Associate Professor* of Management Science (joint appointment with Institute for Systems Research effective August 2006).

August 1998 – July 2005: *Assistant Professor* of Management Science
Affiliate Faculty, Institute for Systems Research.

January 1995 – July 1998: *Member of Technical Staff* (Acting Director: January – June 1998)
Optimization and Logistics Group, USWEST Advanced Technologies, 4001 Discovery Drive, Boulder, CO 80303. (Note USWEST became QWEST which became Century Link.)

Honors and Awards

2020 Finalist, INFORMS Public Sector Operations Research Best Paper Award.

Honorable Mention, POMS College of Healthcare Operations Management Best Paper Award.

2019 Finalist, INFORMS Telecommunications Section Best Paper Award for the most outstanding published paper applying operations research techniques in the context of telecommunications.

2016 INFORMS Prize for Teaching OR/MS Practice. This is an annual INFORMS teaching prize given to a faculty member for excellence in teaching the practice of operations research and management science.

INFORMS Telecommunications Section Best Paper Award for the most outstanding published paper applying operations research techniques in the context of telecommunications.

Plenary Speaker, INFORMS Telecommunications Conference, March 2016.

2014 Smith School of Business Distinguished Teaching Award.

2012 Olian Award for the best Summer Research proposal at Smith School of Business.

Outstanding Systems Engineering Faculty Award, Institute for Systems Research.

Doctoral dissertation advisor to Gisela Bardossy. i) Winner INFORMS Society of Location Analysis Dissertation Award. Given every two years to the best dissertation in the area of location analysis. ii) Finalist for INFORMS Telecommunications Section Dissertation Prize for the best dissertation applying operations research to telecommunications.

2010 Management Science Strategic Innovation Prize. This is awarded by the European Operational Research Society annually for an outstanding innovative contribution of Management Science in a particular field of management. For 2010 the topic was Optimization in Telecommunications.

2009 Finalist, European Excellence in Practice Award. This is awarded by the European Operational Research Society annually for a published paper in the field of Operations Research that has the most significant impact on practice.

2008 INFORMS Computing Society Prize for a paper on the use of optimization techniques to calculate fair payments in public sector combinatorial auctions. The INFORMS Computing Society Prize is given for the best paper(s) in the field dealing with the Operations Research/Computer Science interface.

INFORMS Telecommunications Section Outstanding Service Award.

2007 Legg-Mason Teaching Innovation Award, Smith School of Business.

Smith School of Business Distinguished Teaching Award.

Doctoral dissertation advisor to Ioannis Gamvros. Finalist for George B. Dantzig Dissertation Prize for the best dissertation in operations research and management science.

2006 Glover-Klingman Prize for the best paper of the year published in *Networks*.

Olian Award for the best Summer Research proposal at Smith School of Business.

2005 INFORMS Computing Society Prize for a series of papers on the use of genetic algorithms for data mining. The INFORMS Computing Society Prize is given for the best paper(s) in the field dealing with the Operations Research/Computer Science interface.

Finalist, INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice.

INFORMS Computing Society Outstanding Service Award.

Olian Award for the best Summer Research proposal at Smith School of Business.

Doctoral dissertation advisor to Robert W. Day. Winner George B. Dantzig Dissertation Prize for the best dissertation in operations research and management science.

2003 Second Place, INFORMS Junior Faculty Paper Competition.

2002 Smith School of Business Distinguished Teaching Award.

1996 George B. Dantzig Dissertation Award. INFORMS award for the best doctoral dissertation in operations research/management science.

1992 Martin B. Farber Internship. Competitive internship for operations research Ph.D. students awarded by AT&T Bell Laboratories.

Visiting Positions

January 2007 – May 2007: *Visiting Scientist*, Operations Research Center, Massachusetts Institute of Technology, Cambridge, Massachusetts.
August 2006 – December 2006: *Visiting Scholar*, Graduate School of Business, Columbia University, New York.

II. RESEARCH

Books

i. *TutORials in Operations Research: State-of-the-Art Decision Making Tools in the Information Intensive Age*, Zhi-Long Chen and S. Raghavan (editors), INFORMS (2008).
ii. *Telecommunications Modeling, Policy and Technology*, B. Golden, S. Raghavan, and E. Wasil (editors), Springer (2008).
iii. *The Vehicle Routing Problem: Latest Advances and New Challenges*, B. Golden, S. Raghavan, and E. Wasil (editors), Springer (2008).
iv. *Telecommunications Planning: Innovation in Pricing, Network Design and Management*, S. Raghavan and G. Anandalingam (editors), Springer (2006).
v. *The Next Wave in Computing, Optimization, and Decision Technologies*, B. Golden, S. Raghavan, and E. Wasil (editors), Springer (2005).
vi. *Telecommunications Network Design and Management*, G. Anandalingam and S. Raghavan (editors), Kluwer Academic Press (2003).

Research Publications

(*Preprints of most papers are at* http://www.terpconnect.umd.edu/~raghavan/preprints/)

Refereed Journal Papers:

1. S. Raghavan and R. Zhang. "Influence Maximization with Latency Requirements on Social Networks," Accepted *INFORMS Journal on Computing*.
2. S. Raghavan and R. Zhang. "Weighted Target Set Selection on Trees and Cycles," *Networks*, **77**(4), 587-609, 2021.
3. D. Gunnec, S. Raghavan and R. Zhang. "A Branch-and-Cut Approach for the Least Cost Influence Maximization Problem on Social Networks," *Networks*, **76**(1), 84-105, 2020.

4. D. Gunnec, S. Raghavan, and R. Zhang. "Least Cost Influence Maximization on Social Networks," *INFORMS Journal on Computing*, **32**(2), 289-302, 2020.
5. S. Raghavan and R. Zhang. "A Branch-and-Cut Approach for the Weighted Target Set Selection Problem on Social Networks," *INFORMS Journal on Optimization*, **1**(4), 304-322, 2019.
6. M. Mankowski, M. Kosztowski, S. Raghavan, J.M. Garonzik-Wang, D. Axelrod, D. L. Segev, S. E. Gentry. "Accelerating Kidney Allocation: Simultaneously Expiring Offers," *American Journal of Transplantation*, **19**(11), 3071-3078, 2019. *Selected* by Editors of American Journal of Transplantation *as one of the TOP 10 ARTICLES OF 2019.*
7. S. Raghavan, M. Sahin, and F. S. Salman. "The Capacitated Mobile Facility Location Problem," *European Journal of Operational Research*, **277**, 507-520, 2019.
8. D. Gunnec and S. Raghavan. "Integrating Social Network Effects in the Share-of-Choice Problem," *Decision Sciences*, **48**(6), 1098-1131, 2017.
9. M. G. Bardossy and S. Raghavan. "An Inexact Sample Average Approximation Approach for the Stochastic Connected Facility Location Problem," *Networks*, **70**(1), 19-33, 2017. *Finalist, 2019 INFORMS Telecommunications Section Best Paper Award.*
10. M. G. Bardossy and S. Raghavan. "Approximate Robust Optimization for the Connected Facility Location Problem," *Discrete Applied Mathematics*, **210**, 246-260, 2016.
11. S. Raghavan and M. Sahin. "Efficient Edge-Swapping Heuristics for the Reload Cost Spanning Tree Problem," *Networks*, **65**(4), 380-394, 2015.
12. R. Halper, S. Raghavan, and M. Sahin. "Local Search Heuristics for the Mobile Facility Location Problem," *Computers & Operations Research*, **62**, 210-223, 2015.
13. S. Chen, I. Ljubić, and S. Raghavan. "The Generalized Regenerator Location Problem," *INFORMS Journal on Computing*, **27**(2), 204-220, 2015. *Winner of 2016 INFORMS Telecommunications Section Best Paper Award.*
14. E. Alvarez-Miranda, I. Ljubić, S. Raghavan, and P. Toth. "The Recoverable Robust Two-Level Network Design Problem," *INFORMS Journal on Computing*, **27**(1), 1-19, 2015.
15. S. Raghavan and D. Stanojević. "Designing WDM Optical Networks using Branch-and-Price," *Journal of Mathematical Modelling and Algorithms in Operations Research*, **12**(4), 407-428, 2013.
16. B. Golden, Z. Naji-Azimi, S. Raghavan, M. Salari and P. Toth. "The Generalized Covering Salesman Problem," *INFORMS Journal on Computing*, **24**(4), 534-553, 2012.
17. I. Gamvros, L. Gouveia, and S. Raghavan. "Reload Cost Trees and Network Design," *Networks*. **59**(4), 365-379, 2012.
18. I. Gamvros and S. Raghavan. "Multi-Period Traffic Routing in Satellite Networks," *European Journal of Operational Research*, **219**(3), 738-750, 2012. *Winner of 2010 EURO Management Science Strategic Innovation Prize.*
19. R. Halper and S. Raghavan. "The Mobile Facility Routing Problem," *Transportation Science*, **45**(3), 413-434, 2011.
20. S. Raghavan and D. Stanojević. "Branch-and-Price for WDM Optical Networks with no Bifurcation of Flow," *INFORMS Journal on Computing*, **23**(1), 56-74, 2011.
21. M. Bardossy and S. Raghavan. "Dual-Based Local Search for the Connected Facility Location and Related Problems," *INFORMS Journal on Computing*, **22**(4), 584-602, 2010

22. Z. Naji-Azimi, M. Salari, B. Golden, S. Raghavan and Paulo Toth. "Variable Neighborhood Search for the Cost Constrained Minimum Label Spanning Tree and Label Constrained Minimum Spanning Tree Problems," *Computers & Operations Research*, **37**(11), 1952-1964, 2010.

23. S. Chen, I. Ljubić, and S. Raghavan. "The Regenerator Location Problem," *Networks*, **55**(3), 205-220, 2010.

24. R. Day and S. Raghavan. "Matrix Bidding in Combinatorial Auctions," *Operations Research*, **57**(4), 916-933, 2009.

25. R. Day and S. Raghavan. "A Combinatorial Procurement Auction featuring Bundle Price Revelation without Free Riding," *Decision Support Systems*, **44**(3), 621-640, 2008.

26. B. Golden, S. Raghavan and D. Stanojević. "The Prize-Collecting Generalized Minimum Spanning Tree Problem," *Journal of Heuristics*, **14**(1), 69-93, 2008.

27. R. Day and S. Raghavan. "Fair Payments for Efficient Allocations in Public Sector Combinatorial Auctions," *Management Science*, **53**(9), 1389-1406, 2007. *Winner of 2008 INFORMS Computing Society Prize. Finalist 2009 EURO Excellence in Practice Award.*

28. I. Gamvros, R. Nidel and S. Raghavan. "Investment Analysis and Budget Allocation at Catholic Relief Services," *Interfaces*, **36**(5), 400-406, 2006. *Finalist for the 2005 INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice.*

29. Z. Fu, B. Golden, S. Lele, S. Raghavan and E.Wasil. "Diversification for Better Classification Trees," *Computers & Operations Research*, **33**(11), 3185-3202, 2006. *Winner of 2005 INFORMS Computing Society Prize.*

30. R. Abbiw-Jackson, B. Golden, S. Raghavan and E. Wasil. "A Divide-and-Conquer Local Search Heuristic for Data Visualization," *Computers & Operations Research*, **33**(11), 3070-3087, 2006.

31. I. Gamvros, B. Golden and S. Raghavan. "The Multi-Level Capacitated Minimum Spanning Tree Problem," *INFORMS Journal on Computing*, **18**(3), 348-365, 2006.

32. T. Magnanti and S. Raghavan. "Strong Formulations for Network Design Problems with Connectivity Requirements," *Networks*, **45**(2), 61-79, 2005. *Winner of 2006 Glover-Klingman Prize.*

33. B. Golden, S. Raghavan and D. Stanojević. "Heuristic Search for the Generalized Minimum Spanning Tree," *INFORMS Journal on Computing*, **17**(3), 290-304, 2005.

34. G. Anandalingam, R. Day and S. Raghavan. "The Landscape for Electronic Market Design," *Management Science*, **51**(3), 316-327, 2005.

35. S. Raghavan. "Low-Connectivity Network Design on Series-Parallel Graphs," *Networks*, **43**(3), 163-176, 2004.

36. R. Berger and S. Raghavan. "Long Distance Access Network Design," *Management Science*, **50**(3), 309-325, 2004. *Awarded 2nd place INFORMS Junior Faculty Paper Competition.*

37. Z. Fu, B. Golden, S. Lele, S. Raghavan and E. Wasil. "Genetically Engineered Decision Trees: Population Diversity Produces Smarter Trees," *Operations Research*, **51**(6), 894-907, 2003. *Winner of 2005 INFORMS Computing Society Prize.*

38. Z. Fu, B. Golden, S. Lele, S. Raghavan and E. Wasil. "A Genetic Algorithm-based Approach for Building Accurate Decision Trees," *INFORMS Journal on Computing*, **15**(1), pp 3-22, 2003. *Winner of 2005 INFORMS Computing Society Prize*

39. S. Raghavan, M. Ball and V. Trichur. "Bicriteria Product Design Optimization," *Naval Research Logistics*, **49**(6), 574-592, 2002.
40. E. Condon, B. Golden, S. Lele, S. Raghavan and E. Wasil. "A Visualization Model Based on Adjacency Data," *Decision Support Systems*, **33**(4), pp 349-362, 2002.
41. D. Berger, B. Gendron, J.-Y. Potvin, S. Raghavan and P. Soriano "Tabu Search for a Network Loading Problem with Multiple Facilities," *Journal of Heuristics*, **6**(2), pp 253-267, 2000.

Refereed Conference Proceedings:

1. E. Demaine, M. Hajiaghayi, H. Mahini, D. Malec, S. Raghavan, A. Sawant, M. Zadimoghadam "How to Influence People with Partial Incentives" Proceedings of the *23rd International World Wide Web Conference*, 937-948, 2014.

Refereed Book Chapters:

1. R. Day and S. Raghavan. "Assignment Preferences and Combinatorial Auctions," in *Selected Proceedings of the 12th INFORMS Computing Society Conference*, edited by Robert Dell and Kevin Wood, INFORMS, pp 50-69, 2011.
2. B. Chandran and S. Raghavan. "Modeling and Solving the Capacitated Vehicle Routing Problem on Trees," in *The Vehicle Routing Problem: Latest Advances and New Challenges*, edited by B. Golden, S. Raghavan, and E. Wasil, Springer, pp 239-261, 2008.
3. J. Bailey, J. Nagel and S. Raghavan. "Ex-Post Internet Charging," in *Telecommunications Modeling, Policy, and Technology*, edited by S. Raghavan, B. Golden, and E. Wasil, Springer, pp 59-79, 2008.
4. J. Bailey, I. Gamvros and S. Raghavan. "Ex-Post Internet Charging: An Effective Bandwidth Model," in *Extending the Horizons: Advances in Computing, Optimization, and Decision Technologies*, edited by E. Baker, A. Joseph, A. Mehrotra, and M. Trick. Springer, pp 221-245, 2007.
5. S. Raghavan. "Twinless Strongly Connected Components," in *Perspectives in Operations Research: Papers in Honor of Saul Gass' 80th Birthday*, edited by F. Alt, B. Golden, and M. Fu. Springer, pp 285-304, 2007.
6. S. Raghavan and D. Stanojevic. "A Note on Search by Objective Relaxation" in *Telecommunications Planning: Innovations in Pricing, Network Design and Management*, edited by S. Raghavan and G. Anandalingam. Springer, pp 181-201, 2006.
7. S. Raghavan. "A Note on Eswaran and Tarjan's Algorithm for the Strong Connectivity Augmentation Problem," in *The Next Wave in Computing, Optimization, and Decision Technologies*, edited by B. Golden, S. Raghavan, and E. Wasil. Kluwer Academic Press, pp 19-26, 2005.
8. I. Gamvros, B. Golden, S. Raghavan and D. Stanojevic. "Heuristic Search for Network Design," in *Operations Research and Technology: Tutorials from INFORMS 2004*, edited by H. Greenberg. Kluwer Academic Press, pp 1-49, 2004.
9. I. Gamvros, S. Raghavan, and B. Golden. "An Evolutionary Approach to the Multi-Level Capacitated Minimum Spanning Tree problem," in *Telecommunications Network Design and*

Management, edited by G. Anandalingam and S. Raghavan. Kluwer Academic Press, pp 99-124, 2003.

10. Z. Fu, B. Golden, S. Lele, S. Raghavan and E. Wasil. "Building a High-Quality Decision Tree with a Genetic Algorithm," in *Computing Tools for Modeling, Optimization and Simulation: Interfaces in Computer Science and Operations Research*, edited by M. Laguna and J. L. G. Velarde. Kluwer Academic Publishers, pp 25-38, 1999.
11. S. Raghavan and T. Magnanti. "Network Connectivity," in *Annotated Bibliographies in Combinatorial Optimization*, edited by M. Dell'Amico, F. Maffioli and S. Martello. John Wiley & Sons, pp 335-354, 1997.

Other Publications:

1. S. Raghavan. "Industry Experiences Shape Teaching Philosophy," *OR/MS Today*, 26-29, August 2017.
2. E. Olinick and S. Raghavan. "Introduction to the Special Issue on Telecommunications," *Networks and Spatial Economics*, **8**(1), 1-2, 2008.
3. R. Day and S. Raghavan. "Computing Core Payments in Combinatorial Auctions". *ACM SIGecom Exchange*, **7**(1), 2007.
4. G. Anandalingam and S. Raghavan. "Introduction to the Special Issue on Electronic Markets," *Management Science*, **51**(3), 315-315, 2005.
5. Z. Fu, B. Golden, S. Lele, S. Raghavan, and E. Wasil. "Genetic Algorithms for Intelligent Trees," in Proceedings of the Artificial Neural Networks in Engineering (ANNIE) Conference. November 1999, St. Louis Missouri, ASME Press.

Papers Under Review:

1. S. Raghavan and R. Zhang. "Rapid Influence Maximization on Social Networks: The Positive Influence Dominating Set Problem."
2. S. Akshat, S. Gentry, and S. Raghavan. "Heterogeneous Donor Circles for Fair Liver Transplant Allocation."
3. B. Golden, E. Oden, and S. Raghavan. "The Urban Air Mobility Problem."
4. B. Golden, E. Oden, and S. Raghavan. "The Rendezvous Vehicle Routing Problem."

Working Papers:

1. A. Pani, S. Raghavan, and M. Sahin. "Large-Scale Advertising Portfolio Optimization in Online Marketing."
2. A. Pani, S. Raghavan, and M. Sahin. "Targeted Online Advertising with Multidimensional Bid Adjustments."
3. S. Akshat, L. Ma, and S. Raghavan. "Does Broader Sharing Improve Patient Outcomes? Analysis of Share 35 Liver Allocation Policy."

Invited Seminars

1. November 2020. Uppsala University, Sweden. (virtual)
2. October 2020. Economics of Transplantation Seminar Series, Stanford University. (virtual)
3. March 2020. Smith School of Business, University of Maryland, College Park.
4. February 2020. ESSEC Business School, Paris, France.
5. February 2020. Uber Advanced Technology Group and Ecole Polytechnique, Paris, France.
6. February 2020. Telecom SudParis, Evry, France.
7. June 2019. Strathclyde Business School, Glasgow, Scotland.
8. August 2018. Tsinghua University, Beijing, China.
9. October 2017. Department of Mathematics, United States Naval Academy.
10. January 2017. Tuck School of Business, Dartmouth College.
11. March 2015. University of Lisbon, Portugal.
12. April 2014. Department of Computer Science, University of Maryland.
13. December 2012. Koc University, Istanbul, Turkey.
14. November 2012. Institute for Systems Research, University of Maryland.
15. August 2012. Department of Mechanical Engineering, IIT Delhi.
16. March 2011. Department of Industrial and Systems Engineering, University of Florida.
17. September 2010. Interuniversity Research Centre on Enterprise Networks, Logistics and Transportation. University of Montréal.
18. August 2010. 15th Latin American School on Operations Research (ELAVIO), Fortaleza, Brazil.
19. April 2010. Smith School of Business, University of Maryland.
20. April 2010. University of Lisbon, Portugal.
21. March 2010. University of Alberta, Edmonton, Canada.
22. January 2010. University of Bologna, Italy.
23. June 2009. Indian Institute of Management, Bangalore, India.
24. March 2009. University of Vienna, Austria.
25. January 2008. University of Lisbon, Portugal.
26. October 2007. Department of Industrial Engineering and Management Sciences, Northwestern University.
27. April 2007. Katholieke University, Leuven, Belgium.
28. April 2007. Fuqua School of Business, Duke University.
29. March 2007. Department of Computer Science, Harvard University.
30. March 2007. Kenan-Flagler Business School, University of North Carolina, Chapel Hill.
31. April 2006. Department of Industrial Engineering, Pennsylvania State University.
32. April 2006. Institute for Systems Research, University of Maryland.
33. March 2006. Leeds School of Business. University of Colorado.
34. October 2004. Department of Industrial and Systems Engineering, Lehigh University.
35. July 2004, IBM Research, Yorktown Heights.
36. March 2004, Department of Mathematics and Statistics, University of Maryland, Baltimore County.

37. May 2003, University of Maryland Institute for Advanced Computer Science.
38. November 2001, Department of Systems Engineering and Operations Research, George Mason University.
39. March 2001, Decision and Information Technologies, The Robert H. Smith School of Business, College Park, Maryland.
40. April 1999, Decision and Information Technologies, The Robert H. Smith School of Business, College Park, Maryland.
41. February 1998, Maryland Business School, University of Maryland, College Park.
42. September 1997, Center for Economic Research, Tilburg University, Tilburg, The Netherlands.
43. June 1997, Operations Research Department, AT&T Laboratories, Holmdel, New Jersey.
44. June 1997, Department of Mathematics and Computer Science, Drexel University, Philadelphia.
45. May 1997, Department of Industrial Engineering, University of Houston, Texas.
46. April 1997, Department of Mechanical and Industrial Engineering, University of Illinois, Urbana-Champaign.
47. November 1996, Econometrics Department, Erasmus University, Rotterdam, The Netherlands.
48. November 1996, Econometrics Department, University of Maastricht, Maastricht, The Netherlands.
49. February 1996, Department of Mathematics, University of Colorado, Denver.
50. January 1996, Operations Research Center, Massachusetts Institute of Technology, Cambridge.
51. October 1995, School of Business, University of Colorado, Boulder.
52. March 1994, Department of Industrial Engineering and Operations Research, Columbia University, New York.
53. February 1994, Department of Applied Mathematics, State University of New York, Stonybrook.
54. September 1992, Operations Research Department, AT&T Laboratories, Holmdel, New Jersey.

Conference/Workshop Presentations

1) Does Broader Sharing Improve Patient Outcomes? Analysis of Share 35 Liver Allocation Policy. INFORMS Healthcare Conference, July 21-23, 2021. co-authors: Shubham Akshat, Liye Ma.
2) A Continuous Scoring Model for Fair Liver Transplant Allocation. INFORMS Healthcare Conference, July 21-23, 2021. co-authors: Shubham Akshat.
3) The Rendezvous Vehicle Routing Problem. INFORMS Transportation Science and Logistics Workshop, July 19-20, 2021. co-authors: Bruce Golden, Eric Oden.
4) Does Broader Sharing Improve Patient Outcomes? Analysis of Share 35 Liver Allocation Policy. Manufacturing and Service Operations Management Conference, June 5-10, 2021. co-authors: Shubham Akshat, Liye Ma.
5) Does Broader Sharing Improve Patient Outcomes? Analysis of Share 35 Liver Allocation Policy. POMS Annual Conference, April 30-May 5, 2021. co-authors: Shubham Akshat, Liye Ma.
6) Heterogeneous Donor Circles for Fair Liver Transplant Allocation. INFORMS Annual Meeting, November 8-13, 2020. co-authors: Shubham Akshat, Sommer Gentry.

7) Does Broader Sharing Improve Patient Outcomes? A Structural Model Analysis of Share 35 Liver Allocation Policy. INFORMS Annual Meeting, November 8-13, 2020. co-authors: Shubham Akshat, Liye Ma.
8) The Rendezvous Vehicle Routing Problem. INFORMS Annual Meeting, November 8-13, 2020. co-authors: Bruce Golden, Eric Oden.
9) Rapid Influence Maximization on Social Networks: The Positive Influence Dominating Set Problem. INFORMS Annual Meeting, November 8-13, 2020. co-author: Rui Zhang.
10) A Pickup and Delivery Problem with Demand Regions. INFORMS Annual Meeting, November 8-13, 2020. co-authors: Bruce Golden, Eric Oden.
11) Rapid Influence Maximization on Social Networks: The Positive Influence Dominating Set Problem. 15th INFORMS Telecommunications & Network Analytics Conference, October 20-21, 2020, Berlin, Germany. co-author: Rui Zhang.
12) Heterogeneous Donor Circles for Fair Liver Transplant Allocation. 4th Workshop on Mechanism Design for Social Good, August 17-19, 2020. co-authors: Shubham Akshat, Sommer Gentry.
13) Fair Liver Transplant Allocation: A Scalable Optimization Model. INFORMS Seattle, October 20-23, 2019. co-authors: Shubham Akshat, Sommer Gentry.
14) An Inexact Sample Average Approximation Approach for the Stochastic Connected Facility Location Problem. INFORMS Seattle, October 20-23, 2019. co-author: Gisela Bardossy.
15) Fair Liver Transplant Allocation: A Scalable Optimization Model. INFORMS Healthcare Conference, July 26-29, 2019, Boston, MA. co-authors: Shubham Akshat, Sommer Gentry.
16) Fair Liver Transplant Allocation: A Scalable Optimization Model. 30th EURO Conference, June 23-26, 2019, Dublin, Ireland. co-authors: Shubham Akshat, Sommer Gentry
17) Methods for Solving Problems in Urban Air Mobility. 7th VEROLOG Conference, June 3-5, 2019, Seville, Spain. co-authors: Bruce Golden, Eric Oden.
18) Flying Taxis: The Future of Urban Mobility. 30th Annual POMS Conference, May 2-6, 2019, Washington, D.C. co-authors: Bruce Golden, Eric Oden.
19) Fair Liver Transplant Allocation: A Scalable Optimization Model. 30th Annual POMS Conference, May 2-6, 2019, Washington, D.C. co-authors: Shubham Akshat, Sommer Gentry.
20) Rapid Influence Maximization on Social Networks: The Positive Influence Dominating Set Problem. 16th INFORMS Computing Society Conference, January 6-8, 2019, Knoxville, TN. co-author: Rui Zhang.
21) Targeted Online Advertising with Multi-dimensional Bids. Workshop in Management Science, January 3-5, 2019, Santa Cruz, Chile. co-authors: Abhishek Pani, Mustafa Sahin.
22) Generalizations of the Dominating Set Problem on Social Networks. INFORMS Phoenix, November 4-7, 2018. co-author: Rui Zhang.
23) The Weighted Target Set Selection Problem on Cycles. INFORMS Phoenix, November 4-7, 2018. co-author: Rui Zhang.
24) Estimated Impact of the Number of Simultaneous Offers on Kidney Delay and Discard. 2018 American Transplant Congress, June 2-6, 2018. co-authors: Sommer Gentry, Courtenay Holscher, Martin Kosztowski, Michal Mankowski, Dorry Segev.
25) Weighted Target Set Selection Problem on Cycles. INFORMS Optimization Society Conference, Denver, CO, March 23-25, 2018. co-author: Rui Zhang.
26) Generalizations of the Dominating Set Problem on Social Networks. INFORMS Optimization Society Conference, Denver, CO, March 23-25, 2018. co-author: Rui Zhang.

27) Impact of the Number of Simultaneous Offers on Kidney Delay and Discard. Poster Session at 18th Annual State of the Art Symposium, American Society of Transplant Surgeons. co-authors: Sommer Gentry, Courtenay Holscher, Martin Kosztowski, Michal Mankowski, Dorry Segev.
28) The Joys and Challenges of Teaching. INFORMS Doctoral Colloquium. INFORMS Houston, October 22-25, 2017.
29) The One-Time Period Least Cost Influence Maximization Problem on Social Networks. INFORMS Houston, October 22-25, 2017. co-author: Rui Zhang.
30) Generalizations of the Dominating Set Problem on Social Networks. 21st Conference of the International Federation of Operational Research Societies, Quebec City, Canada, July 17-21, 2017. co-author: Rui Zhang.
31) The Bid Adjustment Problem in Search Advertising. POMS Seattle, May 5-8, 2017. co-authors: Abhishek Pani, Mustafa Sahin.
32) The One-Time Period Least Cost Influence Maximization Problem on Social Networks. 8th International Network Optimization Conference, Lisbon, Portugal, February 26-28, 2017. co-author: Rui Zhang.
33) The Bid Adjustment Problem in Search Advertising. INFORMS Nashville, November 14-17, 2016. co-author: Abhishek Pani, Mustafa Sahin.
34) Mathematical Programming Approaches to Influence Maximization Problems on Social Networks. INFORMS Nashville, November 14-17, 2016. co-author: Rui Zhang.
35) Weighted Target Set Selection on Social Networks. INFORMS Nashville, November 14-17, 2016. co-author: Rui Zhang.
36) Large-Scale Bid Optimization in Online Advertising Auctions. POMS Orlando, May 6-9, 2016. co-author: Abhishek Pani, Mustafa Sahin.
37) Mathematical Programming Approaches to Influence Maximization Problems on Social Networks. Plenary talk at 13th INFORMS Telecommunications Section Conference, Boca Raton, FL, March 20-22, 2016.
38) The Generalized Regenerator Location Problem. 13th INFORMS Telecommunications Section Conference, Boca Raton, FL, March 20-22, 2016. co-authors: Si Chen, Ivana Ljubic.
39) Weighted Target Set Selection on Social Networks. INFORMS Optimization Conference, Princeton, NJ, March 17-19, 2016. co-author: Rui Zhang.
40) Large-Scale Bid Optimization in Online Advertising Auctions. INFORMS Philadelphia, November 1-4, 2015. co-author: Abhishek Pani, Mustafa Sahin.
41) Tailored Incentives and Least Cost Influence Maximization on Social Networks. INFORMS Philadelphia, November 1-4, 2015. co-author: Dilek Gunnec, Rui Zhang.
42) Generalizations of the Dominating Set Problem on Social Networks. INFORMS Philadelphia, November 1-4, 2015. co-author: Rui Zhang.
43) Branch-and-Price for the Capacitated Mobile Facility Location. INFORMS Philadelphia, November 1-4, 2015. co-author: Mustafa Sahin, Sibel Salman
44) Weighted Target Set Selection. 22nd International Symposium on Mathematical Programming, Pittsburgh, July 12-17, 2015. co-author: Rui Zhang.
45) The Positive Influence Dominating Set Polytope. 22nd International Symposium on Mathematical Programming, Pittsburgh, July 12-17, 2015. co-author: Rui Zhang
46) Capacitated Mobile Facility Location. 22nd EURO Working Group on Locational Analysis Meeting, Hungary, Budapest, May 20-22, 2015. co-author: Mustafa Sahin, Sibel Salman.

47) The Positive Influence Dominating Set Polytope. 7th International Network Optimization Conference, Warsaw, Poland, May 18-20, 2015. co-author: Rui Zhang.

48) Capacitated Mobile Facility Location. 7th International Network Optimization Conference, Warsaw, Poland, May 18-20, 2015. co-author: Mustafa Sahin, Sibel Salman.

49) Weighted Target Set Selection. 14th INFORMS Computing Society Conference, Richmond, VA, January 11-13, 2015. co-author: Rui Zhang.

50) A Branch-and-Price Algorithm for the Capacitated Mobile Facility Location Problem. 14th INFORMS Computing Society Conference, Richmond, VA, January 11-13, 2015. co-author: Mustafa Sahin, Sibel Salman.

51) Weighted Target Set Selection. INFORMS San Francisco, November 9-12, 2014. co-author: Rui Zhang.

52) The Least Cost Influence Problem (LCIP) in Dynamic Social Networks. INFORMS San Francisco, November 9-12, 2014. co-author: Dilek Gunnec.

53) Panelist: External Letters of Recommendation for Tenure: Hear from those who Write and Read Them. INFORMS San Francisco, November 9-12, 2014.

54) The Least Cost Influence Problem. 20th IFORS Conference, Barcelona, Spain, July 13-18, 2014. co-author: Dilek Gunnec, Rui Zhang.

55) A Tight Extended Formulation for the Target Set Selection Problem on Trees. 3rd International Symposium on Combinatorial Optimization, Lisbon, Portugal, March 5-7, 2014. co-author: Rui Zhang.

56) Engineering Diffusion on a Social Network at Minimum Cost. 3rd International Symposium on Combinatorial Optimization, Lisbon, Portugal, March 5-7, 2014. co-author: Dilek Gunnec, Rui Zhang.

57) Robust Optimization for the Connected Facility Location Problem. 12th INFORMS Telecommunications Conference, Lisbon Portugal, March 2-4, 2014. co-author: Gisela Bardossy.

58) Local Search for the Reload Cost Spanning Tree Problem. 12th INFORMS Telecommunications Conference, Lisbon Portugal, March 2-4, 2014. co-author: Mustafa Sahin.

59) An Inexact Sample Average Approximation Approach for the Stochastic Connected Facility Location Problem. 12th INFORMS Telecommunications Conference, Lisbon Portugal, March 2-4, 2014. co-author: Gisela Bardossy.

60) Local Search for the Reload Cost Spanning Tree Problem. EURO/INFORMS Joint International Meeting, Rome, Italy, July 1-4, 2013. co-author: Mustafa Sahin.

61) The Least Cost Influence Problem. EURO/INFORMS Joint International Meeting, Rome, Italy, July 1-4, 2013. co-author: Dilek Gunnec, Rui Zhang.

62) The Least Cost Influence Problem. International Network Optimization Conference, Tenerife, Spain, May 20-22, 2013. co-author: Dilek Gunnec, Rui Zhang.

63) Local Search for the Reload Cost Spanning Tree Problem. International Network Optimization Conference, Tenerife, Spain, May 20-22, 2013. co-author: Mustafa Sahin.

64) The Least Cost Influence Problem. 13th INFORMS Computing Society Conference, Santa Fe, New Mexico, January 6-8, 2013. Co-author: Dilek Gunnec, Rui Zhang.

65) Tutorial on Combinatorial Auctions. INFORMS Phoenix, October 14-17, 2012

66) Social Network Effects on Product Line Design. INFORMS Phoenix, October 14-17, 2012. Co-author: Dilek Gunnec.

67) Recoverable Robust Two-Level Network Design. 21st International Symposium on Mathematical Programming, Berlin, Germany, August 19-24, 2012. Co-author: Eduardo Alvarez-Miranda, Ivana Ljubic, Paolo Toth.

68) The Recoverable Robust Two-Level Network Design Problem. INFORMS Telecommunications Conference, Boca Raton, FL, March 14-16, 2012. Co-author: Eduardo Alvarez-Miranda, Ivana Ljubic, Paolo Toth.

69) The Least Cost Influence Problem (LCIP) on a Social Network. INFORMS Optimization Conference, Miami, FL, February 24-26, 2012. Co-author: Dilek Gunnec.

70) Social Network Effects on Product Design and Diffusion. INFORMS Charlotte, November 13-16, 2011. Co-author: Dilek Gunnec.

71) The Least Cost Influence Problem (LCIP) on a Social Network. INFORMS Charlotte, November 13-16, 2011. Co-author: Dilek Gunnec.

72) The SAA Method with Heuristics and Lower Bounds with an Application to the SConFL Problem. INFORMS Charlotte, November 13-16, 2011. Co-author: Gisela Bardossy.

73) The Generalized Regenerator Location Problem. 12th INFORMS Computing Society Conference, Monterey, CA, January 9-11, 2011. co-authors: Si Chen, Ivana Ljubic.

74) Assignment Preferences and Combinatorial Auctions. 12th INFORMS Computing Society Conference, Monterey, CA, January 9-11, 2011. co-author: Robert W. Day.

75) Integrating Social Network Effects in Product Design. INFORMS Austin, November 7-10, 2010. Co-author: Dilek Gunnec.

76) The Stochastic Connected Facility Location Problem. INFORMS Austin, November 7-10, 2010. co-author: Maria Gisela Bardossy.

77) Multi-Period Traffic Routing in Satellite Networks. (2010 MSSIP award winning plenary talk at EURO conference). 24th European Conference on Operational Research (EURO), Lisbon, July 11-14, 2010. co-author: Ioannis Gamvros.

78) The Generalized Regenerator Location Problem. 24th European Conference on Operational Research (EURO), Lisbon, July 11-14, 2010. co-authors: Si Chen, Ivana Ljubic.

79) The Generalized Regenerator Location Problem. Optimization Days, Montreal, May 10-12, 2010. co-authors: Si Chen, Ivana Ljubic.

80) The Mobile Facility Location Problem. 10th INFORMS Telecommunications Conference, Montreal, May 5-7, 2010. co-author: Russell Halper.

81) The Stochastic Connected Facility Location Problem. 10th INFORMS Telecommunications Conference, Montreal, May 5-7, 2010. co-author: Maria Gisela Bardossy.

82) Efficient Utilization of Mobile Facilities in Humanitarian Logistics. INFORMS San Diego, October 11-14, 2009. co-author: Russell Halper.

83) The Generalized Regenerator Location Problem. INFORMS San Diego, October 11-14, 2009. co-authors: Si Chen, Ivana Ljubic.

84) Dual-based Local Search for the Connected Facility Location and Related Problems. 20th International Symposium on Mathematical Programming, Chicago, August 23-28, 2009. co-author: Maria Gisela Bardossy.

85) The Generalized Regenerator Location Problem. 20th International Symposium on Mathematical Programming, Chicago, August 23-28, 2009. co-authors: Si Chen, Ivana Ljubic.

86) Fair Payments for Efficient Allocations in Public Sector Combinatorial Auctions. European Excellence in Practice Award talk given at Euro Bonn, July 5-8, 2009. co-author: Robert W. Day.

87) Dual-Based Heuristics for the Connected Facility Location Problem. International Network Optimization Conference, Pisa, Italy, April 26-29, 2009. co-author: Maria Gisela Bardossy.

88) The Generalized Regenerator Location Problem. International Network Optimization Conference, Pisa, Italy, April 26-29, 2009. co-authors: Si Chen, Ivana Ljubic.

89) Dual-Based Heuristics for the Connected Facility Location Problem. 11th INFORMS Computing Society Conference, Charleston, SC, January 10-13, 2009. co-author: Maria Gisela Bardossy.

90) Dual-Based Heuristics for the Connected Facility Location Problem. 6th ALIO/EURO Workshop on Applied Combinatorial Optimization, Buenos Aires, Argentina, December 15-17, 2008. co-author: Maria Gisela Bardossy.

91) Fair Payments for Efficient Allocations in Public Sector Combinatorial Auctions. ICS Prize talk given at INFORMS Washington, October 12-15, 2008. co-author: Robert W. Day.

92) The Mobile Facility Routing Problem. INFORMS Washington, October 12-15, 2008. co-author: Russell Halper.

93) The Single Mobile Facility Routing Problem. INFORMS Washington, October 12-15, 2008. co-author: Russell Halper.

94) Dual-ascent for the Connected Facility Location Problem. INFORMS Washington, October 12-15, 2008. co-author: Maria Gisela Bardossy.

95) The Generalized Regenerator Location Problem. INFORMS Washington, October 12-15, 2008. co-authors: Si Chen, Ivana Ljubic.

96) Multi-Period Traffic Routing in Satellite Networks. SIAM Optimization Conference, Boston, MA, May 10-13, 2008. co-author: I. Gamvros.

97) The Mobile Facility Routing Problem. INFORMS Telecommunications Conference, College Park, MD, March 27-29, 2008. co-author: Russell Halper.

98) Dual-ascent for the Connected Facility Location Problem. INFORMS Telecommunications Conference, College Park, MD, March 27-29, 2008. co-author: Maria Gisela Bardossy.

99) The Generalized Regenerator Location Problem. INFORMS Telecommunications Conference, College Park, MD, March 27-29, 2008. co-authors: Si Chen, Ivana Ljubic.

100) Ex-Post Internet Charging. INFORMS Telecommunications Conference, College Park, MD, March 27-29, 2008. co-authors: Joseph Bailey, Jose Nagel.

101) The Generalized Regenerator Location Problem. INFORMS Seattle, Nov 4-7, 2007. co-authors: Si Chen, Ivana Ljubic.

102) Dual-ascent for the Connected Facility Location Problem. INFORMS Seattle, Nov 4-7, 2007. co-author: Maria Gisela Bardossy.

103) Bid-Optimization in Sponsored Search Auctions. INFORMS International Conference, Puerto Rico, July 8-11, 2007. co-author: A. Pani.

104) Invited Tutorial on Combinatorial Auctions. INFORMS International Conference, Puerto Rico, July 8-11, 2007.

105) Reload Cost Trees and Network Design. International Network Optimization Conference, Spa, Belgium, April 22-25, 2007. co-author: I. Gamvros, L. Gouveia.

106) The Regenerator Location Problem. International Network Optimization Conference, Spa, Belgium, April 22-25, 2007. co-author: S. Chen.

107) Bid-Optimization in Sponsored Search Auctions. 10th INFORMS Computing Society Conference, Miami, January 3-5, 2007. co-author: A. Pani.

108) An Exact Algorithm for Multistage Integer Multi-Commodity Flow Problems with Demand Uncertainty. 10th INFORMS Computing Society Conference, Miami, January 3-5, 2007. co-author: I. Gamvros.

109) Ex-Post Internet Charging: An Effective Bandwidth Model. 10th INFORMS Computing Society Conference, Miami, January 3-5, 2007. co-author: J. Bailey.

110) An Exact Algorithm for Multistage Integer Multi-Commodity Flow Problems with Demand Uncertainty. INFORMS Pittsburgh, November 5-8, 2006. co-author: I. Gamvros.

111) Branch-and-Price-and-Cut for Network Design with Reload Costs. INFORMS Pittsburgh, November 5-8, 2006. co-authors: L. Gouveia, I Gamvros.

112) Core Payment Mechanisms for Combinatorial Auctions. INFORMS Pittsburgh, November 5-8, 2006. co-author: R. Day.

113) Formulations and Reformulations for Network Design Problems with Reload Costs. INFORMS Pittsburgh, November 5-8, 2006. co-authors: L. Gouveia, I. Gamvros.

114) Mining Data with Classification Trees, Discrete Optimization Models, and Sammon Maps. ICS Prize Session, INFORMS Pittsburgh, November 5-8, 2006. co-authors: B. Golden, E. Wasil.

115) Regenerator Location Problem. INFORMS Pittsburgh, November 5-8, 2006. co-author: Si Chen.

116) Invited Tutorial on Combinatorial Auctions. Annual Meeting of the Canadian Operations Research Society, Montreal, May 8-10, 2006.

117) The Regenerator Location Problem. 8th INFORMS Telecommunications Conference, Dallas, March 30-April 1 2006. co-author: Si Chen.

118) Multi-Period Traffic Routing on Satellite Networks with On-board Switching Constraints. 8th INFORMS Telecommunications Conference, Dallas, March 30-April 1 2006. co-author: I. Gamvros.

119) Opportunities for Network Design and Revenue Management in Satellite Communication Networks. 8th INFORMS Telecommunications Conference, Dallas, March 30-April 1 2006. co-authors: B. Fromont, I. Gamvros, B. Srikar.

120) A Branch-and-Price Algorithm for WDM Optical Network Design. INFORMS New Orleans (relocated to San Francisco), November 13-16 2005, San Francisco. co-author: D. Stanojevic.

121) Branch-and-Price-and-Cut for the Multi-Period Routing Problem in Satellite Networks. INFORMS New Orleans (relocated to San Francisco), November 13-16 2005, San Francisco. co-author: I. Gamvros.

122) Integrated Traffic Grooming and Lightpath Routing in WDM Networks. INFORMS New Orleans (relocated to San Francisco), November 13-16 2005, San Francisco. co-author: D. Stanojevic.

123) Investment Analysis and Budget Allocation at Catholic Relief Services. INFORMS New Orleans (relocated to San Francisco), November 13-16 2005, San Francisco. co-authors: I. Gamvros and R. Nidel.

124) Multi-Period Traffic Routing in Satellite Networks. IFORS Triennial Conference, Honolulu, Hawaii, July 11-15, 2005. co-author: I. Gamvros.

125) Fair Payments for Efficient Allocations in Public Sector Combinatorial Auctions. IFORS Triennial Conference, Honolulu, Hawaii, July 11-15, 2005. co-author: R. Day.

126) Branch-and-Price for WDM Optical Network Design. 2nd Workshop on Optimization of Optical Networks (OON 2005), April 14-15, 2005, Montréal. co-author: D. Stanojevic.

127) Directed Connectivity Splitting and Directed Flow Models for Survivable Network Design, International Network Optimization Conference, March 20-23, 2005, Lisbon.

128) Multi-Period Traffic Routing in Satellite Networks. International Network Optimization Conference, March 20-23, 2005, Lisbon. co-author: I. Gamvros.

129) A Note on Eswaran and Tarjan's Strong Connectivity Augmentation Algorithm. INFORMS Computing Society Conference, January 5-7 2005, Annapolis.

130) Multi-Period Traffic Routing in Satellite Networks. INFORMS Computing Society Conference, January 5-7 2005, Annapolis. co-author: I. Gamvros.

131) Column Generation for WDM Optical Network Design. INFORMS Computing Society Conference, January 5-7 2005, Annapolis. co-author: D. Stanojevic.

132) Heuristic Search for Network Design. Invited Tutorial at INFORMS Denver, October 24-27 2004. co-author: B. Golden.

133) Multi-Period Traffic Routing in Satellite Networks. INFORMS Denver, October 24-27 2004. co-author: I. Gamvros.

134) Generation and Selection of Core Outcomes in Sealed Bid Combinatorial Auctions. DIMACS Workshop on Computational Issues in Auction Design, October 7-8, 2004. Rutgers University. co-author: R. Day.

135) Directed Connectivity Splitting for Survivable Network Design. Optimization 2004, July 26-28 2004, Lisbon, Portugal.

136) A Multi-Phase Iterative Combinatorial Auction for Airport Landing Slots. NEXTOR Workshop. Government, the Airline Industry and the Flying Public: A New Way of Doing Business, June 21-23 2004, Wye Woods, Maryland. Co-author: R. Day.

137) Directed Connectivity Splitting for Survivable Network Design. CORS/INFORMS Joint International Meeting, May 16-19 2004, Banff, Canada.

138) Schedule Auctions: Using Assignment Network Structure for Landing-Slot. CORS/INFORMS Joint International Meeting, May 16-19 2004, Banff, Canada. co-author: R. Day.

139) A Note on Search by Objective Relaxation. 7th INFORMS Telecommunications Conference, March 7-10 2004, Boca Raton. co-author: D. Stanojevic.

140) The Prize-Collecting Generalized Minimum Spanning Tree Problem. 7th INFORMS Telecommunications Conference, March 7-10 2004, Boca Raton. co-authors: B. Golden, D. Stanojevic.

141) Heuristic Search for the Generalized Minimum Spanning Tree Problem. INFORMS Atlanta, October 19-22 2003. co-authors: B. Golden, D. Stanojevic.

142) Improved Heuristics for the Multi-level Capacitated Minimum Spanning Tree Problem. INFORMS Atlanta, October 19-22 2003. co-authors: I. Gamvros, B. Golden.

143) Combinatorial Auctions using Matrix Bids. INFORMS Atlanta, October 19-22 2003. co-author: R. Day.

144) A Note on Eswaran and Tarjan's Strong Connectivity Augmentation Algorithm. INFORMS Atlanta, October 19-22 2003.

145) CAMBO: Combinatorial Auctions using Matrix Bids with Order, International Symposium on Mathematical Programming, August 16-20 2003, Denmark. co-author: R. Day.

146) Restricted Preference Combinational Auctions: An Ordered Bidding Scheme, INFORMS San Jose, November 17-20 2002. co-author: R. Day.

147) Heuristics for the Multi-level Capacitated Minimum Spanning Tree Problem, INFORMS San Jose, November 17-20 2002. co-authors: I. Gamvros, B. Golden.

148) Two Formulations for the Capacitated Vehicle Routing Problem on Trees, INFORMS San Jose, November 17-20 2002. co-author: B. Chandran.

149) Two Formulations for the Capacitated Vehicle Routing Problem on Trees, Optimization Days, May 5-8, 2002, Montreal. co-author: B. Chandran.

150) An Evolutionary Approach to the Multi-Level Capacitated Minimum Spanning Tree Problem, International Symposium on Combinatorial Optimization, April 8-10, 2002, Paris. co-authors: I. Gamvros, B. Golden.

151) Two Formulations for the Capacitated Vehicle Routing Problem, International Symposium on Combinatorial Optimization, April 8-10, 2002, Paris. co-author: B. Chandran.

152) An Evolutionary Approach to the Multi-Level Capacitated Minimum Spanning Tree Problem, Sixth INFORMS Telecommunications Conference, March 10-13, 2002, Boca Raton, Florida. co-authors: I. Gamvros, B. Golden.

153) A Discrete Optimization Approach to Data Visualization, INFORMS Miami November 4-7 2001. co-authors: R. Abbiw-Jackson, B. Golden, S. Lele, E. Wasil.

154) A Visualization Model based on Adjacency Data, INFORMS Miami November 4-7 2001. co-authors: E. Condon, B. Golden, S. Lele, E. Wasil.

155) Ex-Post Internet Charging Models, INFORMS Miami November 4-7 2001. co-author: J. Bailey.

156) Bicriteria Product Design Optimization: An Efficient Solution Procedure Using AND/OR Trees, EURO 2001, Rotterdam, The Netherlands, July 9-11, 2001. Co: authors: M. Ball, V. Trichur.

157) A Visualization Model based on Adjacency Data, EURO 2001, Rotterdam, The Netherlands, July 9-11, 2001. Co: authors: E. Condon, B. Golden, S. Lele, E. Wasil.

158) Visualizing data with Adjacency Measures, INFORMS San Antonio November 5-8, 2000. co-authors: E. Condon, B. Golden, S. Lele, E. Wasil.

159) The Degree Constrained Steiner Tree problem, International Symposium on Mathematical Programming, August 6-10, 2000, Atlanta.

160) Dynamic Multidimensional Fitness Functions for Genetic Algorithms for Classification Trees, INFORMS Salt Lake City, May 7-10, 2000. co-authors: Z. Fu, B. Golden, S. Lele, E. Wasil.

161) Ex-Post Internet Pricing. INFORMS Telecom, March 5-8, 2000, Boca Raton. Co-author: J. Bailey.

162) Bicriteria Product Design Optimization. Production and Operations Management Society Conference, Dec 21-24th, 1999, New Delhi, India. co-authors: M. Ball and V. Trichur.

163) Ex-post Internet Pricing. 2nd MIT Workshop on Internet Economics, Cambridge, MA, December 2-3, 1999. co-authors: J. Bailey and J. Nagel.

164) Using Genetic Algorithms to Design Intelligent Decision Trees, INFORMS Philadelphia, November 7-10, 1999. co-authors: Z.Fu, B.Golden, S.Lele and E.Wasil.

165) Genetic Algorithms for Intelligent Trees, ANNIE conference. November 1999, St. Louis Missouri. co-authors: Z.Fu, B.Golden, S.Lele and E.Wasil.

166) Tabu Search for a Network Loading Problem with Multiple Facilities, INFORMS Cincinnati May 2-5, 1999. co-authors: D. Berger, B. Gendron, J-Y Potvin, P. Soriano.

167) Designing Long Distance Access Networks, INFORMS Cincinnati May 2-5, 1999. co-author: R. Berger.

168) Optimization Problems in the Design of Access Networks for Long Distance Communication, INFORMS Cincinnati May 2-5, 1999. co-authors: R. Berger, R. Seguin.

169) Tabu Search for a Network Loading Problem with Multiple Facilities, INFORMS Cincinnati April 26-29, 1998. co-authors: D. Berger, B. Gendron, J-Y Potvin, P. Soriano.

170) Designing Local Access Networks for Long Distance Communications, INFORMS Montreal April 26-29, 1998. co-author: R. Berger.

171) Designing Local Access Telecommunications Networks, International Symposium on Combinatorial Optimization, April 15-17, 1998, Brussels, Belgium. co-author: R. Berger

172) Tabu Search for Broadband Network Design Problems, INFORMS Dallas, October 26-29, 1997. co-authors: B. Gendron, C. Fleurent, J.-Y. Potvin, P. Soriano.

173) A Dual-Based Algorithm for Designing Digital Data Service Networks, INFORMS Atlanta, November 3-6, 1996.

174) Building Large Personal Communication Service Networks: How Can OR Help? INFORMS Washington, May 5-8, 1996. co-authors: S. Chiu, V. Corlew, J. Ryan.

175) Frame Relay Network Optimization, INFORMS Washington, May 5-8, 1996. co-author: S. Chiu.

176) A Dual-Based Algorithm for the Steiner *k*-Branching Problem, INFORMS Washington, May 5-8, 1996.

177) A Frame Relay Network Planning Tool, INFORMS Washington, May 5-8, 1996. co-author: S. Chiu

178) Strong Formulations for Network Design Problems with Connectivity Requirements. INFORMS New Orleans, October 29-November 1, 1995. co-author: T. Magnanti

179) Designing Digital Data Service Networks. INFORMS New Orleans, October 29-November 1, 1995.

180) Panelist: Students' Perceptions of Future Directions in OR/MS. ORSA/TIMS Joint National Meeting, Boston, April 24-27, 1994.

181) A Flow-Based Approach to Network Design with Connectivity Constraints, ORSA/TIMS Joint National Meeting, Phoenix, October 31-November 3, 1993. co-author: T. Magnanti.

182) A Dual-Ascent Procedure for Network Design with Connectivity Requirements. ORSA/TIMS Joint National Meeting, San Francisco, November 1-4, 1992. co-author: T. Magnanti.

183) Polyhedral Approaches to Capacitated Spanning Trees. ORSA/TIMS Joint National Meeting, Anaheim, November 3-6, 1991. co-authors: L. Hall, T. Magnanti.

Research Grants Received

i) Co-Principal Investigator, National Science Foundation, Grant Number: 2039862, Project Title: "Discovery, Analysis, and Disruption of Illicit Narcotic Supply Networks", Amount: $743,806, October 2020–September 2025. Other-PIs: M. Bjarnadottir, M. Boyd, J. Dickerson, G. Midgette.

ii) University of Maryland Faculty-Student Research Award. "Logistics Design of an eVTOL Network for Rapid Organ Delivery", Amount $10,000, July 2021-June 2022.

iii) Smith School/CS Department Seed Grant Program. "Analyzing Data Streams with AI and Machine Learning", Amount: $20,000, January-December 2018. Other-PIs: M. Hajiaghayi, P.K. Kannan, M. Trusov.

iv) INTELSAT Global Service Corporation. Project Title: "Routing Models for Satellite Networks", Amount: $32,000, February–December 2005.

v) Co-Principal Investigator, National Science Foundation, Grant Number: DMI-0205489, Project Title: "Rapid Response Electronic Markets for Time Sensitive Goods", Amount: $2,000,000, September 2002–August 2005. Other-PIs: G. Anandalingam, L. Ausubel, M. Ball, P. Cramton, H. Lucas, S. Raghavan, L. Raschid, V.S. Subrahmanian.

vi) Co-Principal Investigator, National Security Agency, Project Title: "Internet Pricing and the Economics of Communications/Networking Technology", Amount $90,000, January–December 2005. Other-PI: Joseph Bailey.

vii) Co-Principal Investigator, National Security Agency, Project Title: "Internet Pricing and the Economics of Communications/Networking Technology", Amount $96,000, January–December 2004. Other-PI: Joseph Bailey.

viii) Co-Principal Investigator, National Security Agency, Project Title: "Internet Pricing and the Economics of Communications/Networking Technology", Amount $120,000, January–December 2003. Other-PI: Joseph Bailey.

ix) Co-Principal Investigator, National Security Agency, Project Title: "Internet Pricing and the Economics of Communications/Networking Technology", Amount $104,000, June–December 2002. Other-PI: Joseph Bailey.

x) Co-Principal Investigator, National Security Agency, Project Title: "Pricing Mechanisms for Managing Differentiated Services", Amount $260,000, April 2000–December 2001. Other-PI: Joseph Bailey.

Patents

- Frame Relay Network Planning Tool (U. S. Patent number: 5,940,373).

- Method and System to Optimize Capacity of a CDMA Cellular Communication System (U.S. Patent number: 6,128,500).

III. TEACHING & ADVISING

Doctoral Supervision

Thesis Advisor:

- Shubham Akshat, Ph.D. in Management Science. Expected May 2022.
  Honorable Mention: POMS College of Healthcare Operations Management Best Paper Award.
  Finalist: 2020 INFORMS Public Sector Operations Research Best Paper Award.
- Eric Oden, Ph.D. in Applied Mathematics. Expected May 2022.

Winner: 2020 Trevor Evans Award from the Mathematical Association of America.

- Mustafa Sahin, Ph.D. in Management Science. August 2017.
  Thesis Title: Algorithms for Online Advertising Portfolio Optimization and Capacitated Mobile Facility Location.
  Placement: Data Scientist, Uber.
- Rui Zhang, Ph.D. in Management Science. August 2016.
  Thesis Title: Mathematical Programming Models for Influence Maximization on Social Networks.
  Placement: Assistant Professor, Leeds School of Business, University of Colorado, Boulder.
  Finalist: 2016 INFORMS Social Media Analytics Best Paper Award.
- Dilek Gunnec, Ph.D. in Management Science. August 2012.
  Thesis Title: Integrating Social Network Effects in Product Design and Diffusion.
  Placement: Assistant Professor, Industrial Engineering Department, Oyzegin University, Istanbul, Turkey.
- Gisela Bardossy. Ph.D. in Management Science. August 2011.
  Thesis Title: Dual-Based Local Search for Deterministic, Stochastic, and Robust Variants of the Connected Facility Location Problem.
  Placement: Assistant Professor, Merrick School of Business, University of Baltimore.
  Winner: 2012 INFORMS SOLA Dissertation Award. Given every two years to the best dissertation in the area of location analysis.
  Finalist: 2012 INFORMS Telecommunications Dissertation Award. INFORMS Telecommunications Section award for the best doctoral dissertation applying operations research techniques to telecommunications problems.
- Abhishek Pani. Ph.D. in Management Science. November 2010.
  Thesis Title: Models for Budget Constrained Auctions: An Application to Sponsored Search & Other Auctions.
  Placement: Research Scientist, Efficient Frontier.
- Russell Halper. Ph.D. in Applied Math. February 2010.
  Thesis Title: On the Routing and Location of Mobile Facilities.
  Placement: Research Scientist, Nestle Inc.
- Si Chen. Ph.D. in Management Science. August 2007.
  Thesis Title: A Study of Four Network Problems in Transportation, Telecommunications, and Supply Chain Management.
  Placement: Assistant Professor, College of Management, Murray State University.
- Ioannis Gamvros. Ph.D. in Management Science. August 2006.
  Thesis Title: Satellite Network Design, Optimization and Management.
  Placement: Consultant, ILOG.
  Finalist: 2007 George B. Dantzig Dissertation Award. INFORMS award for the best doctoral dissertation in operations research/management science.
- Daliborka Stanojevic. Ph.D. in Management Science, December 2005.
  Thesis Title: Optimization of Contemporary Telecommunications Networks: Generalized Spanning Trees and WDM Optical Networks.
  Placement: Consultant, Decisive Analytics.
- Robert W. Day. Ph.D. in Applied Mathematics, August 2004.
  Thesis Title: Expressing Preferences with Price-Vector Agents in Combinatorial Auctions.
  Placement: Assistant Professor, Operations and Information Technologies, School of Business, University of Connecticut, Storrs.

Winner: 2005 George B. Dantzig Dissertation Award. INFORMS award for the best doctoral dissertation in operations research/management science.

Thesis Committee Member:

- Naveed Haghani, Ph.D. in Applied Mathematics, November 2020.
  Thesis Title: Stabilizing Column Generation via Dual Optimal Inequalities with Applications in Logistics and Robotics.
- Stefan Poikonen, Ph.D. in Applied Mathematics, July 2018.
  Thesis Title: Hybrid Routing Models Utilizing Trucks or Ships to Launch Drones.
- Ladan Rabieekenari, Ph.D. in Electrical Engineering, October 2016.
  Thesis Title: Coverage and Routing in Dynamic Networks.
- Melika Abolhassani, Ph.D. in Computer Science, May 2016.
  Thesis Title: Allocation in Networks with Economic Applications.
- Keith A. Burghardt, Ph.D. in Physics, April 2016.
  Thesis Title: The Physics of Ideas: Inferring the Mechanics of Opinion Formation from Macroscopic Statistical Patterns.
- Hyoshin Park, Ph.D. in Civil and Environmental Engineering, December 2015.
  Thesis Title: Dispatching and Relocation of Emergency Vehicles on Freeways.
- Anshul Sawant, Ph.D. in Computer Science, November 2015.
  Thesis Title: Computational Analysis of Intelligent Agents: Social and Strategic Settings.
- Kaustubh Jain, Ph.D. in Electrical Engineering, November 2015.
  Thesis Title: Performance Evaluation of Wireless Ad-hoc Networks and the Presence of Heavy-Tails and LRD.
- Vahid Liaghat, Ph.D. in Computer Science, March 2015.
  Thesis Title: Primal-Dual Techniques for Online Algorithms and Mechanisms.
- Tuan Ta, Ph.D. in Electrical Engineering, October 2014.
  Thesis Title: Energy Efficiency and Privacy protection in Cellular Networks.
- Doohyun Sung, Ph.D. in Electrical Engineering, August 2014.
  Thesis Title: Radio Resource Management in Heterogeneous Cellular Networks.
- Chen Dong, Ph.D. in Applied Mathematics and Statistics and Scientific Computation, August 2014.
  Thesis Title: Hierarchical Bayesian ANOVA.
- Rajesh Chitnis, Ph.D. in Computer Science, August 2014.
  Thesis Title: Directed Graphs: Fixed-Parameter Tractability and Beyond.
- Anup Menon, Ph.D. in Electrical Engineering, June 2014.
  Thesis Title: Learning in Engineered Multi-Agent Systems.
- Prem Swaroop, Ph.D. in Management Science, August 2013.
  Thesis Title: Problems and Models in Strategic Air Traffic Flow Management
- David Coleman, Ph.D. in Electrical Engineering, May 2013.
  Thesis Title: Predictive Analytics Lead to Smarter Self-organizing Directional Wireless Backbone Networks.
- Hua Chen, Ph.D. in Electrical Engineering, December 2012.
  Thesis Title: Efficient Media Access Control and Distributed Channel-Aware Scheduling for Wireless Ad-hoc Networks.
- Zhichao Wang, Ph.D. in Mechanical Engineering, August 2012.
  Thesis Title: Strategic Product Design Decisions for Uncertain, Converging and Service Oriented Markets.

- Xiaorong Lai, Ph.D. in Civil Engineering, May 2012.
  Thesis Title: Optimization of Station Locations and Track Alignments for Rail Transit Lines.
- Senni Perumal, Ph.D. in Electrical Engineering, May 2012.
  Thesis Title: Performance Analysis and Design of Mobile Ad-Hoc Networks.
- Shanshan Zheng, Ph.D. in Electrical Engineering, December 2011.
  Thesis Title: Security, Trust and Cooperation in Wireless Sensor Networks.
- Oleg Baranov, Ph.D. in Economics, August 2011.
  Thesis Title: Essays on Package Auctions.
- Terence Johnson, Ph.D. in Economics, August 2011.
  Thesis Title: Essays on Auction and Matching Theory.
- Kiran Somasundaram, Ph.D. in Electrical Engineering, November 2010.
  Thesis Title: Topology Control Algorithms for Rule Based Routing.
- He Huang, Ph.D. in Electrical Engineering, November 2010.
  Thesis Title: A Component Based Routing Protocol Design Methodology for MANETs.
- Leo Jones, Ph.D. in Civil and Environmental Engineering, November 2010.
  Thesis Title: Efficient Spectrum Management for Mobile Ad Hoc Networks.
- Pacharasut Sujarittanonta, Ph.D. in Economics, August 2010.
  Thesis Title: Analysis of Discrete Clock Auctions.
- Sunghyun Chun, Ph.D. in Electrical Engineering, December 2009.
  Thesis Title: Auction Based Mechanisms for Dynamic Spectrum Sharing.
- Matias Herrera Dappe, Ph.D. in Economics, May 2009.
  Thesis Title: Essays on Uniform Price Auctions
- Enlu Zhou, Ph.D. in Electrical and Computer Engineering, May 2009.
  Thesis Title: Particle Filtering for Stochastic Control and Global Optimization.
- Punyaslok Purkayastha. Ph.D. in Electrical and Computer Engineering, May 2009.
  Thesis Title: Multipath Routing Algorithms for Communication Networks: Ant Routing and Optimization based Approaches.
- Austin Parker. Ph.D. in Computer Science, August 2008.
  Thesis Title: Spatial Probabilistic Temporal Databases.
- Thayer Morrill, Ph.D. in Economics, May 2008.
  Thesis Title: Three Essays in Market Design.
- April Kuo, Ph.D. in Civil and Environmental Engineering, March 2008.
  Thesis Title: Multi-carrier track capacity allocation in forward and spot markets of freight transport.
- Dipan Ghosh, Ph.D. in Economics, February 2008.
  Thesis Topic: Open Bid Auctions: A Theoretical and an Experimental Study.
- Yohan Shim, Ph.D. in Civil and Environmental Engineering, December 2007.
  Thesis Title: Topology Control and Pointing in Free Space Optical Networks.
- Pedram Fard, Ph.D. in Electrical and Computer Engineering, September 2007.
  Thesis Title: Dynamic Reconfiguration of Network Topology in Optical Networks.
- Julian Mestre, Ph.D. in Computer Science, July 2007.
  Thesis Title: Primal-Dual Algorithms for Combinatorial Optimization Problems.
- Roselyn Abbiw-Jackson, Ph.D. in Applied Mathematics. December 2004.
  Thesis Title: Discrete Optimization Models in Data Visualization.
- Anubhav Arora, Ph.D. in Electrical and Computer Engineering, March 2002.
  Thesis Title: Performance Management in ATM Networks.
- Paul McAree, Ph.D. in Decision and Information Technologies, June 2001.

Thesis Title: Models for the Design and Analysis of a Large Package Sort Facility.
- Zhiwei Fu, Ph.D. in Decision and Information Technologies, June 2000.
  Thesis Title: Using Genetic Algorithms to Develop Intelligent Decision Trees.
- Vinai Trichur, Ph.D. in Decision and Information Technologies, December 1999.
  Thesis Title: Integer Programming Models for Product Design.
- Yoram Sussman, Ph.D. in Computer Science, February 1999.
  Thesis Title: Approximation Algorithms for Facility Location Problems.

Masters Supervision

Thesis Advisor:
- Ioannis Gamvros. M.S. in Management Science, December 2002.
  Thesis Title: The Multi-Level Capacitated Minimum Spanning Tree Problem.

Thesis Committee:
- Yufei Huang. M.S. in Systems Engineering, May 2018.
  Thesis Title: Route Planning with Statistical Models
- Saurabh Kumar. M.S. in Computer Science, November 2016.
  Thesis Title: Combinatorial Algorithms for the Active Time and Bust Time Problems.
- Asa Palley. M.S. in Applied Mathematics, December 2009.
  Thesis Title: Sequential Search with Ordinal Ranks and Cardinal Values: An Infinite Discounted Secretary Problem.
- Ali Pilehvar. M.S. in Systems Engineering, May 2007.
  Thesis Title: Queueing network approximations for mass dispensing and vaccination clinics.
- Youyu Feng. M.S. in Electrical and Computer Engineering, August 2001.
  Thesis Title: Resource Allocation in Ka-band Satellite Systems.
- Vineet Birmani. M.S. in Electrical and Computer Engineering, December 1999.
  Thesis Title: Resource Allocation for Ka-Band Broadband Satellite Systems.

Project Advisor (M.S. in Telecommunications Program):
- Fall 2005: Cyrus Havewala, Tejas Vora.
- Spring 2005: Tushar Gala.
- Fall 2004: Vasily Gerasimov, Ajay Joshi
- Fall 2003: Nalini Bharatula, Airin Cherian.
- Fall 2002: Ali El-Yaacoubi, Chi-Hao Yu.
- Fall 2001: Nathalie Barboza, Prajna Tuladhar.
- Summer 2001: Ioannis Gamvros, Noe Guitirrez, Vikas Shah.
- Spring 2001: Suthee Limpitigranon.
- Fall 2000: Angela Bayona, Sergio Correal, Tantana Thitiporn.
- Spring 2000: Clay Gump, Carlos Hernandez.
- Fall 1999: Natha Chantra, Kevin Hetrick, Samuel Yagui.
- Summer 1999: Jose Nagel, Sangboon Sangmanee.
- Spring 1999: Tanya Fulgham.

Courses Taught & Evaluations

Semester	Program	Course Title	No. of students (approx.)	Student evaluations (1-4 scale)
Summer 2021	OMBA[1]	Decision Modeling (BUSO716) 1 Section	22	3.40
Summer 2020	OMBA	Decision Modeling (BUSO716) 2 Sections	42	3.60
Fall 2019	M.S.	Decision Analytics (BUDT758P) 2 Sections	96	3.55
Fall 2019	Ph.D.	Linear Programming (BMGT 830)	4	N/A
Summer 2019	EMBA[2]	Data Models and Decisions (EMBA630)	28	3.49
Summer 2019	OMBA	Decision Modeling (BUSO758M) 1 Section	24	3.64
Fall 2018	M.S.	Decision Analytics (BUDT758P) 2 Sections	90	3.47
Summer 2018	EMBA	Data Models and Decisions (EMBA630)	31	3.66
Summer 2018	OMBA	Decision Modeling (EMBA758M) 2 Sections	36	3.56
Fall 2017	Ph.D.	Linear Programming (BMGT 830)	10	3.80
Fall 2017	M.S.	Decision Analytics (BUDT758P)	75	3.22
Summer 2017	EMBA	Data Models and Decisions (EMBA630)	30	3.85
Spring 2017	MBA	Decision Analytics (BUSM762)	23	3.51
Fall 2016	Ph.D.	Linear Programming (BMGT 830)	16	3.36
Summer 2016	EMBA	Data Models and Decisions (EMBA630)	30	3.61
Fall 2015	Ph.D.	Linear Programming (BMGT 830)	17	3.38
Summer 2015	EMBA	Data Models and Decisions (EMBA630)	22	3.65
Spring 2015	MBA	Decision Analytics (BUDT732) 3 Sections	98	2.93
Fall 2014	Ph.D.	Linear Programming (BMGT 830)	12	3.45
Summer 2014	EMBA	Data Models and Decisions (EMBA630)	21	3.67
Summer 2013	EMBA	Data Models and Decisions (EMBA630)	21	3.91
Spring 2013	MBA & MS	Decision Analytics (BUDT732) 2 Sections	80	3.57
Fall 2012	M.S.	Data Models and Decisions (BUSI630)	49	3.87
	Ph.D.	Linear Programming (BMGT 830)	15	3.44
Summer 2012	EMBA	Data Models and Decisions (EMBA630) 2 sections	58	3.08
Spring 2012	MBA	Decision Analytics (BUDT732)	43	3.26
Fall 2011	Ph.D.	Linear Programming (BMGT 830)	20	3.19
Summer 2011	EMBA	Data Models and Decisions (EMBA630)	38	2.19

[1] OMBA: Online MBA program.
[2] EMBA: Executive MBA program.

Semester	Program	Course Title	No. of students (approx.)	Student evaluations (1-4 scale)
Fall 2010	Ph.D.	Linear Programming (BMGT 830)	22	3.34
	MBA	Data Models and Decisions (BUSI630)	25	3.22
Summer 2010	EMBA	Data Models and Decisions (EMBA630)	35	3.39
Fall 2009	Ph.D.	Linear Programming (BMGT 830)	12	2.92
	ENTS[3]	Decision Support Methods for Telecommunications Managers (ENTS635)	20	3.49
Summer 2009	EMBA	Data Models and Decisions (EMBA630)	28	3.50
Fall 2008	Ph.D.	Linear Programming (BMGT 830)	27	3.03
	ENTS	Decision Support Methods for Telecommunications Managers (ENTS635)	23	3.53
Summer 2008	EMBA	Data Models and Decisions (EMBA630)	33	3.48
Spring 2008	EMBA	Data Models and Decisions (EMBA630)	39	3.11
	Ph.D.	Seminar in Applications of Operations Research (BMGT828)	10	2.97
Fall 2007	Ph.D.	Linear Programming (BMGT 830)	14	2.98
	EMBA	Data Analysis & Decision Modeling (EMBA627)	39	2.86
Summer 2007	EMBA	Data Models and Decisions (EMBA630)	39	3.51
Fall 2006	Ph.D.	Linear Programming (BMGT 830)	13	3.10
Summer 2006	EMBA	Decision Modeling (EMBA624)	22	3.60
Spring 2006	ENTS	Network Planning and Design (ENTS 675)	15	3.59
	EMBA	Data Models and Decisions (EMBA630)	25	3.47
Fall 2005	Ph.D.	Linear Programming (BMGT 830)	18	3.40
	ENTS	Decision Support Methods for Telecommunications Managers (ENTS635)	40	3.57
Spring 2005	ENTS	Network Planning and Design (ENTS 675)	13	3.20
Fall 2004	MBA	Decision Modeling with Spreadsheets (BUDT 732)	18	2.89
	ENTS	Decision Support Methods for Telecommunications Managers (ENTS635)	40	3.52
Spring 2004	MBA	Decision Modeling with Spreadsheets (BUDT 732)	23	3.16
	ENTS	Network Planning and Design (ENTS 675)	19	3.61
	EMBA	Data Analysis and Decision Modeling (BMGT630)	35	3.40
Fall 2003	Ph.D.	Computational Aspects of Integer Programming (BMGT808K)	7	3.73
	ENTS	Decision Support Methods for Telecommunications Managers (ENTS635)	39	3.17
Spring 2003	MBA	Decision Modeling with Spreadsheets (BUDT 732)	25	2.89
	Ph.D.	Integer Programming (BMGT 833)	13	3.37
	ENTS	Network Planning and Design (ENTS 675)	22	3.29
Spring 2002	ENTS	Network Planning and Design (ENTS 675)	14	3.61
Fall 2001	MBA	Decision Making for Digital Technology Managers	12	3.46

[3] ENTS: Masters of Science in Telecommunications Program. This is a joint program between the Robert H. Smith School of Business and the School of Engineering.

Semester	Program	Course Title	No. of students (approx.)	Student evaluations (1-4 scale)
		(BMGT798D)		
	ENTS	Decision Support Methods for Telecommunications Managers (ENTS635)	35	3.07
Spring 2001	MBA	Decision Making for Digital Technology Managers (BMGT798Z)	26	3.19
	ENTS	Network Planning and Design (ENTS 675)	9	3.87
Fall 2000	ENTS	Decision Support Methods for Telecommunications Managers (ENTS689C)	32	3.42
Spring 2000	ENTS	Network Planning and Design (ENTS 689D)	13	3.21
	Ph.D.	Integer Programming (BMGT 833)	17	1.62[4]
Fall 1999	MBA	Management of Telecommunications Networks (BMGT798D)	15	3.09
	ENTS	Telecommunications Operations Management (ENTS689)	10	2.85
Spring 1999	MBA	Design of Telecommunications Solutions to Business Problems (BMGT 798G)	19	3.28
	ENTS	Network Design and Management (ENTS660)	25	2.34
Fall 1998	ENTS	Design of Telecommunications Solutions to Business Problems (ENTS689)	3	N/A

Other Teaching: Telecommunications Seminar (ENTS 608) in Fall 2006, Fall 2003, Spring 2002, Fall 2001, Spring 2001, Spring 2000, Spring 1999. MBA Group Field Project (BMGT698) in Fall 2001, Fall 1998. Regularly supervise independent study course for Ph.D. students.

Teaching Honors:

- **INFORMS Prize for Teaching OR/MS Practice** (2016). This is an annual INFORMS award (and the only INFORMS teaching prize) given to one faculty member worldwide for excellence in teaching the practice of operations research and management science and success in helping students acquire the knowledge and skills necessary to be effective practitioners of operations research or the management sciences.
- **Legg-Mason Award** for Teaching Innovation (2007).
- **Distinguished Teaching Awards** (based on teaching evaluations) for academic years 2012-2013, 2005-2006 and in Spring 2001.

Curriculum Development: Instrumental in developing online MBA course Decision Modeling (EMBA758M). Shared all developed course materials with other faculty and successfully coordinated rollout of this course across 11 Sections. Instrumental in developing successful MBA (analytics) elective course Decision Analytics (BUDT 732). Shared all developed course materials with other faculty (tenure track and clinical) so that course could be rolled out across all of our campuses. Also instrumental in developing this class as a core course in the MS in Information Systems as well as the MS in Business Analytics programs. Also instrumental in developing new curriculum and courses for Masters in Telecommunications Program. Specifically developed core class Decision Support Methods for Telecommunications Managers

[4] This appears to be an erroneous evaluation. The engineering students in the course were not familiar with the business school rating system.

(ENTS 635) and elective course Network Planning and Design (ENTS 675) for Masters in Telecommunications Program (have now handed this course over to other faculty).

IV. SERVICE

Administrative Service

- Member, M.S. Oversight Committee, Smith School of Business, July 2020-present.
- Chair, Operations Management Faculty Search Committee, Robert H. Smith School of Business, July 2021-present.
- Member, Institute for Systems Research, Executive Committee. August 2019-July 2021, August 2012-July 2016. Chair of Committee 2019-2021, 2015-2016 and 2012-2013.
- Member, University Appointments, Promotion, and Tenure Appeals Committee. August 2019-present.
- Member, Institute for Systems Research, Salary Committee. August 2016-July 2020. Chair of Committee 2019-2020.
- Research Integrity Officer, Smith School of Business and Provost's Office of Faculty Affairs, March 2017-present.
- Chair, Operations Management & Analytics Faculty Search Committee, Robert H. Smith School of Business, August 2019-April 2020.
- Faculty Advisory Board, Provost's Office of Faculty Affairs, August 2012-May 2018.
- Member, Senate Nominations Committee 2017-2018.
- Faculty Senator, University Senate. May 2016-April 2018.
- Member, University Appointments, Promotion, and Tenure Committee. August 2011-August 2014. Chair of Committee 2013-2014.
- Chair, Smith School Operating Plan Committee. November 2013-May 2016.
- Applied Mathematics and Scientific Computation Program Graduate Advisory Committee, 2011-2013, 2007-2009, 2004-2006.
- MS Business Analytics Program Oversight Committee, 2018-2019. One of four members of a committee that provides oversight to the MS in Business Analytics program.
- MS Business Analytics Program Development Committee, 2014-2017. One of four members of a committee that put together the MS in Business Analytics program for the Smith School.
- Business Analytics Executive Certificate Program Committee, 2013-2017. One of three members of a committee that worked to put together a certificate program in business analytics for executives.
- Business Analytics MBA Electives Committee, 2011-2016.
- Course Coordinator BUDT732: Decision Analytics. 2012-present.
- MSIS curriculum redesign committee, 2012-2013.
- Ph.D. admissions and comprehensive exam committee. 2000 – present
- Chair, Business Analytics Faculty Search Committee, Robert H. Smith School of Business, August 2012-March 2013.

- Chair, Operations Management/Analytics Faculty Search Committee, Robert H. Smith School of Business, August 2011-March 2012.
- Member, Operations Management Faculty Search Committee, Robert H. Smith School of Business, August 2010-April 2011.
- Area Review Committee (ARC) and College Review Committee (CRC) promotion committees, 2006-present. Over the years I have served as ARC chair for several DOIT promotion cases and have also served on several CRC committees for both DOIT and other departmental candidates.
- Co-director e-markets research lab. June 2007 – July 2011.
- University Communications Service Fee Committee. November 2009 – May 2011.
- Provost Mobility Initiative Committee. May 2008 – May 2011.
- Institute for Systems Research, Educational Programs Committee, 2007-2009.
- Seminar Coordinator, Decision & Information Technologies Group, Smith School of Business, May 2005 – February 2006.
- Chair Statistics Faculty Search Committee, Robert H. Smith School of Business, September 2005 – April 2006.
- Smith School of Business, Salary Review Committee, February-May 2004.
- Business School Faculty Director for M.S. in Telecommunications (ENTS) Program, 1998-2006. I played a lead role in facilitating interaction between the engineering school and the business school to effectively administer the ENTS program.
- M.S. in Telecommunications Program Curriculum Review Committee, member, 1999-2012.
- Faculty Advisor: Telecommunications Students and Alumni Network. Student club of M.S. in Telecommunications Program.
- Operations Research Faculty Search Committee, member, Robert H. Smith School of Business, September 2000-March 2001.
- Entrepreneurship Faculty Search Committee, member, Robert H. Smith School of Business, September 1999 - April 2000.
- Joint Institute for Systems Research/Robert H. Smith School Telecommunications Faculty Search Committee, member, October 1998 - April 1999.
- Telecommunications Concentration Committee, member, Robert H. Smith School of Business. Fall 1999 – Spring 2001.

Professional Service

Editorial

- Guest Co-editor: *Networks*. Special issue (2021) to celebrate 50th anniversary of the journal Networks.
- Area Editor for Network Optimization and Applications. *INFORMS Journal on Computing*. Jan 2007-December 2018.
- Area Editor for Telecommunications, *Networks and Spatial Economics*, March 2006-December 2014.
- Associate Editor, *Networks*, August 1999-present.
- Associate Editor, *Operations Research*, June 2008-December 2011.

- Associate Editor, *INFORMS Journal on Computing*. June 2004-Dec 2006.
- Editorial Advisory Board, *Algorithmic Operations Research*, 2006-2012.
- Guest Co-editor: *Management Science*. Special issue on electronic markets (2005).
- Guest Co-editor: *Networks and Spatial Economics*. Special Issue on Telecommunications (2008).
- Newsletter editor, INFORMS Computing Society, 1998-2001.
- Referee for most academic journals in Operations Research/Management Science, including – *Algorithmica, Annals of Operations Research, Computers and Operations Research, Decision Support Systems, Discrete Optimization, European Journal of Operational Research, IIE Transactions, INFOR, INFORMS Journal on Computing, INFORMS Transactions on Education, International Journal of Game Theory, Journal of Applied Mathematics and Decision Sciences, Journal of Combinatorial Theory Series B, Journal of Heuristics, Management Science, Mathematical Programming, Mathematics of Operations Research, Networks, Operations Research, Operations Research Letters, Telecommunications Systems, Transportation Science.*

Leadership

- Vice President, Technology & Strategy, Institute for Operations Research and Management Science. 2019-2022.
- Chair, INFORMS Computing Society Prize Committee (2009).
- Chair, INFORMS JFIG Paper Competition (2008).
- Chair, INFORMS Telecommunications Section Doctoral Dissertation Award Committee (2006).
- Member, INFORMS Nicholson Prize Committee 2015, 2014, 2007, 2006.
- Past Chair, INFORMS Telecommunications Section, 2008-2010.
- Chair, INFORMS Telecommunications Section, 2006-2008.
- Vice-Chair (Chair 2006-2008), INFORMS Telecommunications Section, 2004-2006.
- Treasurer, INFORMS Telecommunications Section, 2002-2004.
- Secretary, INFORMS Telecommunications Section, 2000-2002.
- Member-of-Council, INFORMS Telecommunications Section, 1998-2000.

Conferences

- Program Committee, International Network Optimization Conference: 2022, 2019, 2017, 2015, 2013, 2011, 2009, 2007, 2005.
- Program Committee, INFORMS Telecommunications Conference: 2016, 2014, 2012, 2010, 2006, 2004, 2002, 2000.
- Program Committee, INFORMS Computing Society Conference, 2013, 2011, 2009, 2007.
- Program Committee, INFORMS Optimization Society Conference, February 2012, Miami, Florida.
- Program Committee, 11th ACM Conference on Electronic Commerce, June 7-10, 2010, Harvard University, Cambridge, Massachusetts.
- Program Committee, Design of Reliable Communication Networks, 2009, 2007.

- Tutorials Co-chair. INFORMS Washington 2008.
- Co-chair, INFORMS Telecommunications Section Conference, March 27-29, 2008, College Park, MD.
- Cluster Chair, Auctions and Electronic Markets, INFORMS International, July 2007, Puerto Rico.
- Cluster Chair, Auctions and Electronic Markets, IFORS 2005, July 2005, Hawaii.
- Co-chair, INFORMS Computing Society Conference, January 5-7, 2005, Annapolis, MD.
- Program Committee, Workshop on Information Technologies and Systems (WITS), 2003, Seattle.
- Telecommunications Cluster Chair, INFORMS Cincinnati 1999, and INFORMS Miami 2001.

Other

- National Science Foundation Panel Reviewer, Operations Research Division, and Service Enterprise Engineering Division.