

Andrew C. Trapp

CURRICULUM VITAE

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EDUCATION

- ◇ **Ph.D., Industrial Engineering**, 2011
University of Pittsburgh, Pittsburgh, Pennsylvania
- ◇ **M.S., Computer Science and Operations Research**, 2006
Bowling Green State University, Bowling Green, Ohio
- ◇ **B.S., Applied Mathematics**, 2000
Rochester Institute of Technology (RIT), Rochester, New York

RESEARCH INTERESTS

The theory of mathematical optimization and its application in prescriptive analytics, such as stochastic, integer linear and nonlinear optimization, combined with predictive analytics such as machine learning, to improve systems that serve society, especially those that focus on vulnerable peoples.

SUMMARY OF EXPERIENCE

- ◇ February 2017 – Present, Associate Professor, *with tenure*
Operations and Industrial Engineering
Mathematical Sciences (Collaborative Appointment)
Data Science (Collaborative Appointment)
Worcester Polytechnic Institute
- ◇ July 2011 – February 2017, Assistant Professor
Operations and Industrial Engineering
Mathematical Sciences (Collaborative Appointment)
Data Science (Collaborative Appointment)
Worcester Polytechnic Institute

PUBLICATIONS

Refereed Journal Articles

1. A. C. Trapp, A. Teytelboym, A. Martinello, T. Andersson, N. Ahani, "Placement Optimization in Refugee Resettlement," *accepted, Operations Research*, 2020.
2. A. C. Trapp, I. Harris, V. Sanchez Rodrigues, J. Sarkis, "Maritime Container Shipping from a Fourth-Party Logistics Perspective: Does Coopetition Improve Cost and Environmental Efficiencies?," *accepted, Transportation Research, Part D*, 2020.
3. W. Liu, A. C. Trapp, S. Djamasbi, "Outlier-Aware, Density-Based Gaze Fixation Identification," *accepted, Omega*, 2020.
4. K. Maass, A. C. Trapp, R. A. Konrad, "Optimizing Placement of Residential Shelters for Human Trafficking Survivors," *accepted, Socio-Economic Planning Sciences*, 2019.

5. A. C. Trapp, R. A. Konrad, J. Sarkis, A. Z. Zeng, "Closing the Loop: Forging High-Quality Agile Virtual Enterprises in a Reverse Supply Chain via Solution Portfolios," *accepted, Journal of the Operational Research Society*, 2019.
6. A. C. Trapp, W. Liu, S. Djamasbi, "Identifying Fixations in Gaze Data via Inner-Density and Optimization," *INFORMS Journal on Computing*, 31(3), pp. 459–476, 2019.
7. T. Petit, A. C. Trapp, "Enriching Solutions to Combinatorial Problems via Solution Engineering," *INFORMS Journal on Computing*, 31(3), pp. 429–444, 2019.
8. M. Shojaeizadeh, S. Djamasbi, R. C. Paffenroth, A. C. Trapp, "Detecting Task Demand via an Eye Tracking Machine Learning System," *Decision Support Systems*, 116, pp. 91–101, 2019.
9. B. Lyu, Y. Li, J. Fu, A. C. Trapp, H. Xie, Y. Liao, "Scalable User-Substation Assignment with Big Data from Power Grids," *IEEE Transactions on Big Data*, 5(2), pp. 209–222, 2019.
10. A. C. Trapp, C. Li, P. Flaherty, "Recovering All Generalized Order-Preserving Submatrices: New Exact Formulations and Algorithms," *Annals of Operations Research*, 263 (1–2), pp. 385–404, 2018.
11. R. A. Konrad, A. C. Trapp, T. Palmbach, J. S. Blom, "Overcoming Human Trafficking via Operations Research and Analytics: Opportunities for Methods, Models, and Applications," *European Journal of Operational Research*, 259 (2), pp. 733–745, 2017.
12. A. C. Trapp, J. Sarkis, "Identifying Robust Portfolios of Suppliers: A Sustainable Selection and Development Perspective," *Journal of Cleaner Production*, 112 (3), pp. 2088–2100, 2016.
13. B. Tulu, A. C. Trapp, M. Hoque, D. M. Strong, S. A. Johnson, L. Garber, J. Trudel, "An Analysis of Patient Portal Utilization: What Can We Learn about Online Patient Behavior by Examining Portal Click Data?," *Health Systems*, 5 (1), pp. 66–79, 2016.
14. B. D. Faber, R. A. Konrad, C. Tang, A. C. Trapp, "Examining the Impact of Regular Physician Visits on Heart Failure Patients: A Use Case with Electronic Health Data," *Health Systems*, 5 (2), pp. 132–139, 2016.
15. A. C. Trapp, R. A. Konrad, "Finding Diverse Optima and Near-Optima to Binary Integer Programs," *IIE Transactions*, 47 (11), pp. 1300–1312, 2015.
16. A. C. Trapp, O. A. Prokopyev, "A Note on Constraint Aggregation and Value Functions for Two-Stage Stochastic Integer Programs," *Discrete Optimization*, 15, pp. 37–45, 2015.
17. A. C. Trapp, A. S. Rangwala, "Analyzing the Impact of In-rack Sprinklers in a Warehouse Fire: A Demonstration of the Role Optimization Has in Mitigating Damage," *Fire Safety Journal*, 73, pp. 55–62, 2015.
18. B. Shiner, C. Tang, A. C. Trapp, R. Konrad, I. Bar-On, B. V. Watts, "The Provision of Mental Health Treatment after Screening: Exploring the Relationship between Treatment Setting and Treatment Intensity," *General Hospital Psychiatry*, 36 (6), pp. 581–588, 2014.
19. A. C. Trapp, O. A. Prokopyev, A. J. Schaefer, "On A Level-Set Characterization of the Value Function of an Integer Program and Its Application to Stochastic Programming," *Operations Research*, 61 (2), pp. 498–511, 2013.
20. A. C. Trapp, F. Zink, O. A. Prokopyev, L. Schaefer, "Thermoacoustic Heat Engine Modeling and Optimization," *Applied Thermal Engineering*, 31 (14–15), pp. 2518–2528, 2011.
21. A. C. Trapp, O. A. Prokopyev, "Solving the Order-Preserving Submatrix Problem via Integer Programming," *INFORMS Journal on Computing*, 22 (3), pp. 387–400, 2010.
22. N. Temiz, A. Trapp, O. Prokopyev, C. J. Camacho, "Optimization of Minimum Set of Protein-DNA Interactions: a Quasi Exact Solution with Minimum Over-fitting," *Bioinformatics*, 26 (3), pp. 319–325, 2010.
23. A. Trapp, O. A. Prokopyev, S. Busygin, "Finding Checkerboard Patterns via Fractional 0–1 Programming," *Journal of Combinatorial Optimization*, 20 (1), pp. 1–26, 2010.

24. O. A. Prokopyev, S. Butenko, A. Trapp, "Checking Solvability of Systems of Interval Linear Equations and Inequalities via Mixed Integer Programming," *European Journal of Operational Research*, 199 (1), pp. 117–121, 2009.

Refereed Book Chapters

1. F. Zhang, C. Wang, A. C. Trapp, P. Flaherty, "A Global Optimization Algorithm for Sparse Mixed Membership Matrix Factorization," *New Advances in Statistics and Data Science*, Zhang, L. et al. editors, ICSA Book Series in Statistics, Springer, pp. 129–156, 2019.

Refereed Conference Publications

1. P. Flaherty, P. Wiratchotisatian, A. C. Trapp, "Globally Optimal Model-Based Clustering via Mixed Integer Nonlinear Programming," *Sets & Partitions: NeurIPS 2019 Workshop*, Vancouver, BC, Canada, December 2019.
2. A. C. Trapp, A. Teytelboym, N. Ahani, T. Andersson, "Refugee Resettlement via Machine Learning and Integer Optimization," *OR60 Annual Conference*, Lancaster, United Kingdom, September 2018.
3. W. Liu, S. Djamasbi, A. C. Trapp, M. Shojaeizadeh, "Measuring Focused Attention Using Fixation Inner Density," *Human-Computer Interaction International Conference 2018 (HCII2018)*, Las Vegas, Nevada, July 2018.
4. C. Chagnon, A. C. Trapp, S. Djamasbi, "Creating a Decision Support System for Service Classification and Assignment through Optimization," *Americas' Conference on Information Systems (AMCIS)*, Boston, MA, August 2017.
5. H. Saddiki, A. C. Trapp, P. Flaherty, "A Deterministic Global Optimization Method for Variational Inference," *Advances in Approximate Bayesian Inference: NIPS 2016 Workshop*, Barcelona, Spain, December 2016.
6. B. Lyu, S. Li, Y. Li, J. Fu, A. C. Trapp, H. Xie, and Y. Liao, "Scalable User Assignment in Power Grids: A Data Driven Approach," *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, San Francisco, CA, October 2016.
7. M. Shojaeizadeh, S. Djamasbi, A. C. Trapp, "Density of Gaze Points within a Fixation and Information Processing Behavior," *Human-Computer Interaction International Conference 2016 (HCII2016)*, Toronto, Ontario, Canada, July 2016.
8. M. Shojaeizadeh, S. Djamasbi, A. C. Trapp, "Does Pupillary Data Differ During Fixations and Saccades? Does It Carry Information about Task Demand?," *Thirteenth Annual Workshop on HCI Research in MIS*, Fort Worth, TX, December 2015.
9. T. Petit, A. C. Trapp, "Finding Diverse Solutions of High Quality to Constraint Optimization Problems," *International Joint Conference on Artificial Intelligence (IJCAI)*, Buenos Aires, Argentina, July 2015. [Invited Oral (Long Talk) and Poster Presentation].

Non-Refereed Articles / Book Reviews

1. [Book Review] A. C. Trapp, J. Sarkis, "Decision Science for Housing and Community Development: Localized and Evidence-Based Responses to Distressed Housing and Blighted Communities," *Interfaces*, 2017.

FUNDING

- ◇ R. Konrad (PI), **A. C. Trapp (co-PI)**, K. Maass (co-PI), M. Dank (co-PI). \$535,565. National Science Foundation (Operations Engineering). " ISN2: Disrupting Human Trafficking via Needs Matching and Capacity Expansion", Research award CMMI-1935602, Jan. 2020 through Dec. 2022.
- ◇ **A. C. Trapp (PI)**. \$63,730. National Science Foundation (Operations Engineering), supplement to research award CMMI-1825348 "Matching Problems in Refugee Resettlement": "Extension of Immigration Study to Operational Challenges at the United States Southern Border," Aug. 2018 through Aug. 2021.

- ◇ **A. C. Trapp (PI)**. \$336,427. National Science Foundation (Operations Engineering), “Matching Problems in Refugee Resettlement”, Research award CMMI-1825348, Aug. 2018 through Aug. 2021.
- ◇ R. Konrad (PI), **A. C. Trapp (co-PI)**, M. Dank (co-PI), K. Maass (co-PI). \$166,098. National Science Foundation (Operations Engineering). “EAGER: ISN: A Data Analytic Approach to Understanding Human Trafficking Networks”, Research award CMMI-1841893, Aug. 2018 through Aug. 2019.
- ◇ **A. C. Trapp (PI)**. \$10,400. Ragnar Söderberg Foundation. “Project: Outcome Optimization in Refugee Resettlement, Research grant E8/13”, 2018.
- ◇ **A. C. Trapp (PI)**. \$13,600. Jan Wallander & Tom Hedelius Foundation. “Project: Outcome Optimization in Refugee Resettlement, Research grant P2016-0126:1”, 2017.
- ◇ S. Johnson (PI), **A. C. Trapp (co-PI)**, R. Konrad (co-PI). \$30,000. WPI internal grant “Designing and Deploying Hospital Capacity Effectively,” collaboration with UMass Memorial Healthcare to develop and evaluate methods for improved matching of supply and demand capacity in healthcare systems, 2016.
- ◇ **A. C. Trapp (PI)**. \$4,000. LIRS (Lutheran Immigration and Refugee Services). Research grant to extend development of Refugee Placement Optimization Tool, 2016.
- ◇ **A. C. Trapp (PI)**. \$10,000. LIRS (Lutheran Immigration and Refugee Services). Research grant to fund development of Refugee Placement Optimization Tool, 2015.
- ◇ B. Faber (PI), **A. C. Trapp (co-PI)**, R. Konrad (co-PI). \$350,000. Dimensional Insight. Grant to establish WPI Analytics Lab (\$300,000 in kind, \$50,000 cash), 2012.

CURRENT DOCTORAL STUDENTS

- ◇ Pitchaya Wiratchotisatian
- ◇ Shima Azizi
- ◇ Narges Ahani
- ◇ Geri Dimas

FORMER DOCTORAL STUDENTS

- ◇ Dr. Wen Liu, current position: Walmart Labs

MEDIA MENTIONS

- ◇ **Autonomous in Action**, *Forbes*, 2020. <https://www.forbes.com/sites/oraclecloud/2020/01/16/autonomous-in-action-self-driving-cars-get-all-the-publicity-but-other-industries-are-already-getting-exceptional-value-from-ai-based-systems/#292789b76e94>
- ◇ **Refugee Resettlement in the US, by HIAS, Using Matching Technology**, *Market Designer Blog (by Nobel Laureate Al Roth)*, 2019. <http://marketdesigner.blogspot.com/2019/04/refugee-resettlement-in-us-by-hias.html>
- ◇ **Tool to Recommend Improvements to US Asylum Process**, *NPR Boston WBUR 90.9*, 2019. <http://users.wpi.edu/~atrapp/Tool.mp3>
- ◇ **A Conversation with WPI President Laurie Leshin**, *WPI Magazine*, 2019. <https://www.wpi.edu/news/andrew-trapp-conversation-president>

- ◇ **How Technology Could Revolutionize Refugee Resettlement**, *The Atlantic*, 2019. <https://www.theatlantic.com/international/archive/2019/04/how-technology-could-revolutionize-refugee-resettlement/587383>
- ◇ **Refugee Resettlement via Analytics**, *OR/MS Today*, 2019. <https://pubsonline.informs.org/doi/10.1287/orms.2019.02.09/full>
- ◇ **Just the Job: How AI Is Helping Build A Better Life for Refugees**, *Financial Times*, 2018. <https://www.ft.com/content/9332fffc-ec57-11e8-89c8-d36339d835c0>
- ◇ **Optimization Support Software Matches Up Refugees, Employment**, *OR/MS Today*, 2018. <https://pubsonline.informs.org/doi/10.1287/orms.2018.06.06/full/>
- ◇ **Using Machine Learning and Optimization to Improve Refugee Integration**, *Analytics Magazine*, 2018. <http://analytics-magazine.org/using-machine-learning-and-optimization-to-improve-refugee-integration/>
- ◇ **Global Lab Welcomes Fellows in Residence**, *WPI News & Events*, 2018. <https://www.wpi.edu/news/global-lab-welcomes-fellows-residence>
- ◇ **The National Science Foundation Funds Research at WPI Aimed at Disrupting Human Trafficking Networks**, *Press Release, Worcester Polytechnic Institute*, 2018. <https://www.wpi.edu/news/national-science-foundation-funds-research-wpi-aimed-disrupting-human-trafficking-networks>
- ◇ **Data Science Can Help Us Fight Human Trafficking**, *The Conversation*, 2017. <https://theconversation.com/data-science-can-help-us-fight-human-trafficking-81647>

PRESENTATIONS

- ◇ Placement Optimization in Refugee Resettlement, *University of Toronto*, Toronto, Ontario, Canada, 2019.
- ◇ Dynamic Management of Local Community Capacity for Refugee Resettlement, *Presented by Narges Ahani, INFORMS Annual Meeting*, Seattle, WA, 2019.
- ◇ Human Trafficking Transit Monitoring in Nepal: A Data Analytics Case Study, *Presented by Geri Dimas, INFORMS Annual Meeting*, Seattle, WA, 2019.
- ◇ Improving Community Paramedicine via Data Driven Optimization: Selective, Proactive Treatment of Patients, *Presented by Shima Azizi, INFORMS Annual Meeting*, Seattle, WA, 2019.
- ◇ Solving MAP Estimation via Mixed-integer Quadratic Optimization and Customized Branch-and-bound, *Presented by Pitchaya Wiratchotsatian, INFORMS Annual Meeting*, Seattle, WA, 2019.
- ◇ On Finding Stable and Efficient Solutions for Assigning Students to Project Centers with Cohort Considerations, *Presented by Pitchaya Wiratchotsatian, INFORMS Annual Meeting*, Seattle, WA, 2019.
- ◇ Placement Optimization in Refugee Resettlement, *University of Massachusetts, Amherst*, Amherst, Massachusetts, 2019.
- ◇ Improving Community Paramedicine via Data Driven Optimization: Selective, Proactive Treatment of Patients, *Poster Presentation by Shima Azizi, INFORMS Healthcare Conference*, Cambridge, MA, 2019.
- ◇ Placement Optimization in Refugee Resettlement, *Middle East Technical University*, Ankara, Turkey, 2019.
- ◇ A Broader Perspective: Integrating Societal Factors into Human Trafficking Shelter Location Models, *Presented by Kayse Maass, POMS Annual Conference*, Washington DC, 2019.
- ◇ Integrating Vehicle Routing and Scheduling to Optimize Foster Care Visitations, *Presented by Caroline Johnston, POMS Annual Conference*, Washington DC, 2019.
- ◇ Placement Optimization in Refugee Resettlement, *POMS Annual Conference*, Washington DC, 2019.

- ◇ A Data Analytic Approach to Understanding Human Trafficking Networks, *Presented by Renata Konrad, NSF Grantees Meeting, Washington DC, 2019.*
- ◇ Placement Optimization in Refugee Resettlement, *INFORMS Computing Society Conference, Knoxville, TN, 2019.*
- ◇ Solutions Powered by Algorithms and Blockchain, *Presented by Alessandro Martinello, Techfugees Global Summit, Paris, France, 2018.*
- ◇ Advances in Density-based Gaze Fixation Identification: Optimization for Outlier Sensitivity, and Automated Detection of Density-modulation Parameter, *Presented by Wen Liu, INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ A Broader Perspective: Integrating Societal Factors Into Human Trafficking Shelter Location Models, *Presented by Dr. Kayse Maass, INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ Improving Community Paramedicine via Data Science and Optimization: Selective, Proactive Management of ED Patients, *Presented by Shima Azizi, INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ Machine Learning and Optimization for Service Classification and Assignment of Information Technology Services, *Presented by Pitchaya Wiratchotisatian, INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ Optimization-based Mechanism for Matching Students to International Projects, *Presented by Dr. Hoda Atef Yekta, INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ Refugee Resettlement via Integer Programming, *INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ Integrating Vehicle Routing and Scheduling to Optimize Foster Care Visitations, *Poster presented by Caroline Johnston, INFORMS Annual Meeting, Phoenix, AZ, 2018.*
- ◇ Can Data Analytics and Mathematical Models Aid Anti-Human Trafficking and Social Justice Efforts?, *Presented by Dr. Kayse Maass, Human Trafficking and Social Justice Conference, Toledo, Ohio, 2018.*
- ◇ Placement Optimization for Refugee Resettlement, *Keynote presented by Dr. Alexander Teytelboym, OR60 Annual Conference, Lancaster, United Kingdom, 2018.*
- ◇ Measuring Focused Attention Using Fixation Inner-Density (FID), *Presented by Wen Liu, Human-Computer Interaction International Conference (HCII2018), Las Vegas, Nevada, 2018.*
- ◇ Integrating Vehicle Routing and Scheduling to Optimize Foster Care Visitations, *Poster presented by Caroline Johnston, SIAM Annual Meeting (AN18), Portland, OR, 2018.*
- ◇ Optimizing Refugee Resettlement Decisions, *19th ACM Conference on Economics and Computation (ACM EC18), Ithaca, NY, 2018.*
- ◇ Refugee Resettlement via Integer Programming, *INFORMS Annual Meeting, Houston, TX, 2017.*
- ◇ Selecting Locations of Rehabilitative Shelters for Human Trafficking Survivors among States in the U.S.: A Decision Analytic Approach, *Presented by Dr. Kayse Lee Maass, INFORMS Annual Meeting, Houston, TX, 2017.*
- ◇ New Density-based Optimization Formulations and Algorithms to Identify Fixations in Gaze Data, *Presented by Wen Liu, INFORMS Annual Meeting, Houston, TX, 2017.*
- ◇ Optimal Compromises Between Efficiency And Practicality, *Cardiff University, Cardiff, Wales, UK, 2017.*
- ◇ Locating Rehabilitative Shelters for Survivors of Domestic Human Trafficking, *Presented by Dr. Renata A. Konrad, Conference on Health & Humanitarian Logistics, Copenhagen, Denmark, 2017.*
- ◇ Using Density to Identify Fixations in Gaze Data: Optimization-Based Formulations and Algorithms, *University of Massachusetts, Machine Learning and Friends, Amherst, MA, 2017.*

- ◇ Using Density to Identify Fixations in Gaze Data: Optimization-Based Formulations and Algorithms, *Presented by Wen Liu, INFORMS Computing Society Conference, Austin, TX, 2017.*
- ◇ Using Density to Identify Fixations in Gaze Data: Optimization-Based Formulations and Algorithms, *INFORMS Annual Meeting, Nashville, TN, 2016.*
- ◇ Optimal Compromises Between Efficiency And Practicality, *INFORMS Annual Meeting, Nashville, TN, 2016.*
- ◇ Human Trafficking: Opportunities for Operations Research and Management Science, *Presented by Dr. Renata A. Konrad, INFORMS Annual Meeting, Nashville, TN, 2016.*
- ◇ Scalable User Assignment in Power Grids: A Data Driven Approach, *Presented by Dr. Yanhua Li, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, San Francisco, CA, 2016.*
- ◇ Locating Rehabilitative Shelters for Survivors of Domestic Human Trafficking, *Presented by Dr. Renata A. Konrad, Conference on Health & Humanitarian Logistics, Atlanta, GA, 2016.*
- ◇ Does Pupillary Data Differ During Fixations and Saccades? Does it Carry Information About Task Demand?, *Poster Presented by Mina Shojaeizadeh, The Fourteenth Annual Pre-ICIS Workshop on HCI Research in MIS, Fort Worth, TX, 2015.*
- ◇ Sparse Mixed-Membership Matrix Factorization via Mixed-Integer Programming, *INFORMS Annual Meeting, Philadelphia, PA, 2015.*
- ◇ Finding Diverse Solutions of High Quality to Constraint Optimization Problems, *Presented by Dr. Thierry Petit, International Joint Conference on Artificial Intelligence (IJCAI), Buenos Aires, Argentina, July 2015. [Invited Oral (Long Talk) and Poster Presentation; Acceptance Rate 28.8% (575/1,996)].*
- ◇ Sparse Mixed-Membership Matrix Factorization via Mixed-Integer Programming, *22nd International Symposium on Mathematical Programming, Pittsburgh, Pennsylvania, 2015.*
- ◇ Human Trafficking: Opportunities for Operations Research and Management Science, *Presented by Dr. Renata Konrad, Annual Industrial & Systems Engineering Research Conference (ISERC), Nashville, Tennessee, 2015.*
- ◇ New Exact Formulations to Solve Generalizations and Extensions of the OPSM Problem, *INFORMS Computing Society Conference, Richmond, Virginia, 2015.*
- ◇ Assessing Both Solution Diversity and Solution Quality in Constraint Programming, *Presented by Dr. Thierry Petit, INFORMS Computing Society Conference, Richmond, Virginia, 2015.*
- ◇ Sparse Mixed-Membership Matrix Factorization via Mixed-Integer Programming, *INFORMS Computing Society Conference, Richmond, Virginia, 2015.*
- ◇ Sparse Mixed-Membership Matrix Factorization via Mixed-Integer Programming, *INFORMS Annual Meeting, San Francisco, CA, 2014.*
- ◇ Minimizing Water Requirements for Electricity Generation in Water Scarce Areas, *Presented by Dr. Erica Stults, INFORMS Annual Meeting, San Francisco, CA, 2014.*
- ◇ Finding Multiple Optimal Solutions to Binary Integer Programs, *University of Tennessee, Knoxville, TN, 2013.*
- ◇ Finding Diverse Solutions of High Quality to Binary (0–1) Integer Programs, *INFORMS Annual Meeting, Minneapolis, MN, 2013.*
- ◇ Analysis of the Effect of Technology Distribution on the Water Requirements for Energy Generation, *Presented by Dr. Erica Stults, INFORMS Annual Meeting, Minneapolis, MN, 2013.*
- ◇ Assessing and Maintaining Quality of Care for Veterans with Mental Health Disorders, *Presented by Sett Oo, INFORMS Health Care Conference, Chicago, IL, 2013.*
- ◇ The Role of Preventative Care for Congestive Heart Failure Patients in a Rural Health System, *Presented by Dr. Renata Konrad, INFORMS Health Care Conference, Chicago, IL, 2013.*

- ◇ Finding Diverse Solutions of High Quality to Binary (0–1) Integer Programs, *INFORMS Computing Society Conference*, Santa Fe, NM, 2013.
- ◇ Comparing Value Function-Based Approaches to Solving Two-stage Integer Programs, *INFORMS Annual Meeting*, Phoenix, AZ, 2012.
- ◇ Exact Solution Approaches for Generalizations to the Order-Preserving Submatrix Problem, *INFORMS Annual Meeting*, Phoenix, AZ, 2012.
- ◇ Solving a Class of Two-stage Stochastic Integer Programs (2SSIPs): Value Function Considerations, *INFORMS Optimization Society Conference*, Miami, FL, 2012.
- ◇ Using Constraint Aggregation to Solve a Class of Two-stage Stochastic Integer Programs, *INFORMS Annual Meeting*, Charlotte, NC, 2011.
- ◇ On a Level-Set Characterization of the Integer Programming Value Function and its Application to Stochastic Programming, *INFORMS Annual Meeting*, Austin, TX, 2010.
- ◇ Optimizing Interaction Code Parameters for Zinc Finger / DNA Recognition, *INFORMS Annual Meeting*, Austin, TX, 2010.
- ◇ Solving The OPSM Problem Using Integer Programming, *INFORMS Annual Meeting*, Austin, TX, 2010.
- ◇ Solving a Class of Two-Stage Stochastic Integer Programs Using Partial Value Functions, *12th International Conference on Stochastic Programming*, Halifax, Nova Scotia, Canada, 2010.
- ◇ On Global Optimization of Two-Stage Stochastic Integer Programs, *INFORMS Annual Meeting*, San Diego, CA, 2009.
- ◇ Solving The OPSM Problem Using Integer Programming, *Industrial Engineering Research Conference (IERC)*, Vancouver, BC, 2008.

PROFESSIONAL ACTIVITIES AND SERVICE

- ◇ **Reviewer**, *European Journal of Operational Research*, *IIE Transactions*, *Omega*, *Networks*, *Annals of Operations Research*, *IJCAI Conference*, *PLOS ONE*, *Optimization Letters*, *Journal of Global Optimization*, *IIE Transactions on Healthcare Systems Engineering*, *Journal of Combinatorial Optimization*, *Journal of the Operational Research Society*, *Journal of Industrial and Management Optimization*, *Sustainable Energy Technologies and Assessments*.
- ◇ **Invited Panelist**, Doctoral Student Colloquium, *INFORMS Annual Meeting*, National Harbor, MD, 2020.
- ◇ **Invited Session Chair**, Public Sector OR, *INFORMS Annual Meeting*, Phoenix, AZ 2018; *INFORMS Computing Society Conference*, Austin, TX 2017; MSOM / Healthcare OM Cluster, *INFORMS Annual Meeting*, Philadelphia, PA 2015; *INFORMS Computing Society Conference*, Richmond, VA 2015; Computing Society, *INFORMS Annual Meeting*, San Francisco, CA 2014; Computing Society, *INFORMS Annual Meeting*, Minneapolis, MN 2013; Optimization/Global Optimization, *INFORMS Annual Meeting*, Phoenix, AZ 2012; Optimization/Global Optimization, *INFORMS Annual Meeting*, Charlotte, NC 2011; Stochastic Programming, *INFORMS Annual Meeting*, Austin, TX 2010; Stochastic Programming, *INFORMS Annual Meeting*, San Diego, CA, 2009; Operations Research, *IIE Annual Conference*, Vancouver, BC, 2008.
- ◇ **Invited Panel Session Chair**, Junior Faculty Interest Group, *INFORMS Annual Meeting*, San Francisco, CA 2014.

PREVIOUS EXPERIENCE

- ◇ Erie Insurance
 - Software Quality Assurance Analyst, 2003.
- ◇ Larson Texts, Incorporated
 - Product Specialist and Software Trainer, 2002.
- ◇ Hope For Homeless Youth
 - Assistant Director of Men's Rehabilitation Home, 2000 – 2001.
- ◇ Thomson West / Westlaw
 - Software Quality Assurance Analyst, 1999 – 2000.

PROFESSIONAL SOCIETY MEMBERSHIPS

- ◇ Institute for Operations Research and the Management Sciences (INFORMS)
 - Computing Society
 - Section on Public Sector OR
 - Data Mining Section
 - Optimization Society
 - Health Applications Section
 - Section on Energy, Natural Resources, and the Environment