

Andrew C. Trapp

CURRICULUM VITAE

RENSSELAER POLYTECHNIC INSTITUTE
INDUSTRIAL AND SYSTEMS ENGINEERING
TROY, NY 12180

WORK: (518) 276-4096
EMAIL: trappa@rpi.edu
WEBSITE: users.wpi.edu/~atrapp

PROFESSIONAL POSITIONS HELD

- ◇ March 2026 – Present, *The Frank and Lillian Gilbreth Endowed Chair*
Industrial and Systems Engineering
Rensselaer Polytechnic Institute

- ◇ July 2024 – March 2026, *Professor*
Operations and Industrial Engineering
Collaborative Appointments in:
 - ▷ Data Science
 - ▷ Mathematical Sciences
 - ▷ Computer ScienceWorcester Polytechnic Institute

- ◇ July 2017 – Present, *Associate Professor, with tenure*
Operations and Industrial Engineering
Collaborative Appointments in:
 - ▷ Data Science
 - ▷ Mathematical SciencesWorcester Polytechnic Institute

- ◇ July 2011 – February 2017, *Assistant Professor*
Operations and Industrial Engineering
Collaborative Appointments in:
 - ▷ Data Science
 - ▷ Mathematical SciencesWorcester Polytechnic Institute

PUBLICATIONS

Refereed Journal Articles

1. Ö. Aygül, S. Azizi, T. Hellgren, A. C. Trapp, "A Predict-and-Prescribe Framework for Dynamic Course Scheduling Toward Strategic University Scaling," *accepted, Omega*, 2025.
2. J. Zhang, O. Özaltın, A. C. Trapp, "Solving a Class of Stochastic Nonlinear Integer Programs Using Value Functions," *Journal of Global Optimization*, 91(1), pp. 129-153, 2025.
3. S. Sedghi, S. Azizi, K. Canada, V. Charles, A. C. Trapp, "Performance Evaluation of Child Welfare Departments Using Data Envelopment Analysis: A Comparative Study Across US States," *Socio-Economic Planning Sciences*, 97, 102101, 2025.

4. G. L. Dimas, K. L. Maass, R. A. Konrad, A. C. Trapp, H. Stoklosa, "From Data to Action: Responsible Analytics for Tackling Human Trafficking in the Health Care Sector," *Journal of Forensic Nursing*, 21(3), pp. E42–E53, 2025.
5. N. Ahani, P. Gözl, A. Procaccia, A. Teytelboym, A. C. Trapp, "Dynamic Placement in Refugee Resettlement," *Operations Research*, 72(3), pp. 1087-1104, 2024.
6. N. Ahani, P. Gözl, A. Procaccia, A. Teytelboym, A. C. Trapp, "Dynamic Placement in Refugee Resettlement," *Communications of the ACM, Research Highlights*, 67(5), pp. 99-106, 2024.
7. Y. Kaya, K. Maass, G. L. Dimas, R. Konrad, A. C. Trapp, M. Dank "Improving Access to Housing and Supportive Services for Runaway and Homeless Youth: Reducing Vulnerability to Human Trafficking in New York City," *IISE Transactions*, 56(3), pp. 296-310, 2024.
8. I. Ahanor, H. Medal, A. C. Trapp, "Computing Diverse Sets of Near-Optimal Solutions to Mixed-Integer Optimization Problems," *INFORMS Journal on Computing* 36(1), pp. 61-77, 2024.
9. R. A. Konrad, K. L. Maass, G. L. Dimas, A. C. Trapp, "Perspectives on How to Conduct Responsible Anti-Human Trafficking Research in Operations and Analytics," *European Journal of Operational Research*, 309(1), pp. 319-329, 2023.
10. P. Wiratchotisatian, A. C. Trapp, "A Reformulation Technique to Linearize A Class of Polynomial Functions of Bounded Integer Variables," *Optimization Letters*, 17, pp. 851-866, 2023.
11. S. Azizi, Ö. Aygül, A. C. Trapp, R. Konrad, S. Johnson, B. Faber, "Select, Route and Schedule: Optimizing Community Paramedicine Service Delivery with Mandatory Visits and Patient Prioritization," *Health Care Management Science*, 26, pp. 719-746, 2023.
12. G. L. Dimas, M. El Khalkhali, A. Bender, J. Blom, R. Konrad, K. L. Maass, A. C. Trapp, J. Zhu, "Estimating Effectiveness of Identifying Human Trafficking Victims: An Application of Data Envelopment Analysis on the Nepal-India Border," *INFORMS Journal on Applied Analytics*, 53(6), pp. 389-465, 2023.
13. G. L. Dimas, R. A. Konrad, K. L. Maass, A. C. Trapp, "Operations Research and Analytics to Combat Human Trafficking: A Systematic Review of Academic Literature," *PLOS One*, 17(8), e0273708, 2022.
14. P. Wiratchotisatian, H. Atef Yekta, A. C. Trapp, "Stability Representations of Many-to-One Matching Problems: An Integer Optimization Approach," *INFORMS Journal on Computing*, 34(6), pp. 3325-3343, 2022.
15. S. Azizi, C. Bozkir, A. C. Trapp, E. Kundakcioglu, A. K. Kurbanzade, "Aid Allocation for Camp-Based and Urban Refugees with Uncertain Demand and Replenishments," *Production and Operations Management*, 30(12), pp. 4455-4474, 2021.
16. N. Ahani, T. Andersson, A. Martinello, A. Teytelboym, A. C. Trapp, "Placement Optimization in Refugee Resettlement," *Operations Research*, 69(5), pp. 1349-1650, 2021.
17. 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?," *Transportation Research, Part D*, 87, 102507, 2020.
18. W. Liu, A. C. Trapp, S. Djasasbi, "Outlier-Aware, Density-Based Gaze Fixation Identification," *Omega*, 102, 102298, 2020.
19. K. Maass, A. C. Trapp, R. A. Konrad, "Optimizing Placement of Residential Shelters for Human Trafficking Survivors," *Socio-Economic Planning Sciences*, 70, 100730, 2020.
20. 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," *Journal of the Operational Research Society*, pp. 1-15, 2020.
21. A. C. Trapp, W. Liu, S. Djasasbi, "Identifying Fixations in Gaze Data via Inner-Density and Optimization," *INFORMS Journal on Computing*, 31(3), pp. 459-476, 2019.

22. T. Petit, A. C. Trapp, "Enriching Solutions to Combinatorial Problems via Solution Engineering," *INFORMS Journal on Computing*, 31(3), pp. 429-444, 2019.
23. M. Shojaeizadeh, S. Djasasbi, R. C. Paffenroth, A. C. Trapp, "Detecting Task Demand via an Eye Tracking Machine Learning System," *Decision Support Systems*, 116, pp. 91-101, 2019.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. 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.
30. A. C. Trapp, R. A. Konrad, "Finding Diverse Optima and Near-Optima to Binary Integer Programs," *IIE Transactions*, 47 (11), pp. 1300-1312, 2015.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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. V. W. Slaugh, L. Dierks, A. Scheller-Wolf, A. C. Trapp, and M. U. Ünver, "Child Welfare Services in the United States: An Operations Research Perspective," in G. Berenguer and M. G. Sohoni (eds.), *Nonprofit Operations and Supply Chain Management: Theory and Practice*, Cham: Springer Nature Switzerland, pp. 321-347, 2025.
2. F. Farajzadeh, A. C. Trapp, "Optimization for Secure and Humane Border Operations," Chapter for Edited Volume *Encyclopedia of Optimization, 3rd edition*, P. M. Pardalos and O. A. Prokopyev (Eds.), Springer International Publishing, 2022, pp. 1-6.
3. F. Zhang, C. Wang, A. C. Trapp, P. Flaherty, "A Global Optimization Algorithm for Sparse Mixed Membership Matrix Factorization," In *New Advances in Statistics and Data Science*, L. Zhang et al. (Eds.), ICSA Book Series in Statistics, Springer, 2019, pp. 129-156.

Refereed Conference Publications

1. W. Huang, E. Deshusses, J. Pazour, Y. Telliel, A. C. Trapp, "Empowering Collective Impact: Introducing the SWAP System for Resource Sharing," *Proceedings of the 3rd ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (ACM EAAMO)*, oral presentation, November 2023.
2. F. Farajzadeh, R. Killea, A. Teytelboym, A. C. Trapp, "Optimizing Sponsored Humanitarian Parole," *Proceedings of the 3rd ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (ACM EAAMO)*, poster presentation, November 2023.
3. Y. Kaya, S. Mantell, K. Maass, R. Konrad, A. C. Trapp, G. Dimas, M. Dank, "Discrete Event Simulation to Evaluate Shelter Capacity Expansion Options for LGBTQ+ Homeless Youth," *2022 Winter Simulation Conference*, Singapore, December 2022.
4. Y. Kaya, K. Maass, G. Dimas, R. Konrad, A. C. Trapp, M. Dank "Improving Access to Housing and Supportive Services for Runaway and Homeless Youth: Reducing Vulnerability to Human Trafficking in New York City," *Proceedings of the 2nd ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (ACM EAAMO)*, oral presentation, [†]**Best Student Paper Award**, November 2022.
5. G. Dimas, A. Ferrarotti, R. Konrad, and A. C. Trapp, "Streamlining The United States Immigration Court System: Using Simulation and Data Science to Effectively Deploy Capacity," *2021 Winter Simulation Conference*, Phoenix, Arizona, December 2021.
6. N. Ahani, P. Gözl, A. Procaccia, A. Teytelboym, A. C. Trapp, "Dynamic Placement in Refugee Resettlement," *ACM conference on Economics and Computation*, Budapest, Hungary (virtual), July 2021.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.

13. 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.
14. 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.
15. 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.

Articles under Review/Revision

1. W. Huang, C. A. M. Figueroa, A. Venat, S. Stanlick, Y. Telliell, A. Teytelboym, J. A. Pazour, A. C. Trapp, "Community-Oriented Market Design for Nonprofit Resource Exchange," under 2nd review, *Operations Research*.
2. F. Farajzadeh, S. Stanlick, V. Charles, A. C. Trapp, "The Role of Social Capital in Community-Powered Refugee Resettlement," under 1st revision, *European Journal of Operational Research*.
3. F. Farajzadeh, N. Ahani, O. Özaltın, A. C. Trapp, "Risk Averse Placement Optimization in Refugee Resettlement," under 1st revision, *Socio-Economic Planning Sciences*.
4. M. Vasconcellos, S. Sedghi, A. C. Trapp, "Stable Many-to-Many Matching in Opportunity-Aware Employment Systems via Data-Driven Integer Optimization," under 1st review, *INFORMS Journal on Computing*.
5. S. Gupta, A. C. Trapp, M. Vasconcellos, "Alignment and Misalignment of Fairness Constraints in Candidate-Job Matching," under 1st review, *EC '26, 27th ACM Conference on Economics and Computation*.

Selected Working Papers

1. Ö. Aygöl, Y. Ito, S. Stanlick, Y. Telliell, J. Pazour, A. C. Trapp, "From Auction to Delivery: Fast Resource Exchange and Collaborative Routing with SWAP-and-Route," *Target Outlet: European Journal of Operational Research*.
2. F. Farajzadeh, S. Stanlick, L. Caddell, F. Murai, A. C. Trapp, "Proactive Resource Staging for Migratory Crises," *Target Outlet: Nature Communications*.
3. E. Tanrikulu, S. Azizi, C. Johnston, E. Kundakcioglu, A. C. Trapp, "Optimizing Foster Care Visitations via Vehicle Routing and Scheduling," *Target Outlet: Operations Research*.
4. G. L. Dimas, R. A. Konrad, R. Roet-Green, A. C. Trapp, "Streamlining the United States Immigration Court System: Using Simulation and Data Science to Effectively Deploy Capacity," *Target Outlet: Manufacturing & Service Operations Management*.
5. M. Vasconcellos, F. Farajzadeh, G. L. Dimas, A. C. Trapp, "Immigration Operations and Analytics: Opportunities for Methods, Models, and Applications," *Target Outlet: PLOS One*.
6. R. Killea, O. Özaltın, A. C. Trapp, "Exploiting Level-Set Optimality to Solve Mixed-Integer Nonlinear Programs," *Target Outlet: INFORMS Journal on Computing*.
7. W. Huang, F. Monachou, A. C. Trapp, "Cohort Design for Strategic Resource Exchange Across Organizations," *Target Outlet: EC '27, 28th ACM Conference on Economics and Computation*.

8. F. Miller, Y. Kaya, G. L. Dimas, R. Konrad, K. L. Maass, A. C. Trapp, "Optimizing the Benefit to Cost Ratio for Public Sector Decision Making," *Target Outlet: IISE Transactions*.
9. M. Vasconcellos, R. Shraga, A. C. Trapp, "Prompt-HR: Extracting Information for Resume Filtering with Large Language Models," *Target Outlet: ACM Knowledge Discovery in Data Mining (KDD)*.

COURSES TAUGHT

- ◇ OIE 4430 / 559, *Advanced Prescriptive Analytics*: 2021 A term 4.27/5.0; 2022 A term 4.59/5.0; 2023 A term 4.56/5.0; 2025 A term 4.25/5.0
- ◇ OIE 2081, *Introduction to Prescriptive Analytics*: 2020 A term 4.50/5.0; 2021 A term 4.75/5.0; 2022 A term 4.22/5.0; 2023 C term 4.45/5.0; 2023 A term 4.40/5.0; 2025 A term 4.59/5.0
- ◇ OIE 3600, *Scripting for Process and Productivity Improvement*: 2018 B term 4.72/5.0; 2019 B term 4.58/5.0; 2020 B term 4.38/5.0; 2021 B term 4.55/5.0; 2022 B term 4.43/5.0; 2023 B term 4.75/5.0
- ◇ OIE 559, *Optimization Methods for Business Analytics*: 2019 Fall 4.63/5.0
- ◇ OIE 598, *Optimization Methods for Business Analytics*: 2014 Spring 4.67/5.0; 2015 Spring 4.61/5.0; 2016 Spring 4.69/5.0; 2016 Fall 4.69/5.0
- ◇ OIE 4420, *Practical Optimization*: 2015 D term 4.38/5.0; 2016 D term 4.67/5.0; 2016 A term 4.89/5.0; 2018 A term 4.69/5.0; 2019 A term 4.60/5.0; 2019 A term 4.63/5.0
- ◇ OIE 44XX, *Engineering Optimization*: 2013 D term 4.69/5.0; 2014 D term 4.13/5.0
- ◇ BUS 2080, *Data Analysis for Decision Making*: 2011 B term 3.33/5.0; 2012 D term 4.14/5.0; 2013 D term 4.30/5.0
- ◇ OIE 2850, *Engineering Economics*: 2011 A term 4.38/5.0; 2012 A term 4.13/5.0; 2013 A term 4.15/5.0; 2014 A term 4.43/5.0; 2015 A term 4.44/5.0; 2016 B term 4.57/5.0

FUNDING

Funded Awards

- ◇ **A. C. Trapp (co-PI)**. \$11,000. Emerson Collective, "Gift in Support of Research on Algorithmic Fairness for AI Hiring Systems", May 2026 through Aug. 2026.
- ◇ **A. C. Trapp (co-PI)**. \$49,500. Livelihood Impact Fund, "Gift in Support of Research on Algorithmic Fairness for AI Hiring Systems", May 2025 through Apr. 2026.
- ◇ **S. Stanlick (PI), A. C. Trapp (co-PI, WPI), Y. Telliel (co-PI)**. \$74,675. National Science Foundation S&CC CIVIC-PG Track B, "Leveraging a Resource Sharing Platform for Long-Term Mutual Aid and Responsiveness to Emergent Needs", Research award 2431414, Oct. 2024 through Apr. 2026.
- ◇ **A. C. Trapp (PI, WPI), S. Stanlick (co-PI)**. \$54,956. National Science Foundation GOALI, supplement to research award CMMI-2233377 "RAPID: Data Collection for Designing Refugee Matching Systems": INTERN Program, Aug. 2024 through Feb. 2025.
- ◇ **A. C. Trapp (PI, WPI), J. Pazour (PI, RPI), S. Stanlick (co-PI), Y. Telliel (co-PI)**. \$16,000. National Science Foundation Future of Work at The Human-Technology Frontier, supplement to research award FW-HTF-2222713 "Collaborative Research: Mobilizing Nonprofit Resources and Talents with a Community Tool for Purpose-Driven Work": REU students, Jun. 2024 through Apr. 2025.
- ◇ **H. Töpler (PI), A. C. Trapp (co-PI)**. \$994,000 (WPI portion \$109,294). Emerson Collective. "Empowering Displaced Persons and Communities through Job Placement and Social Inclusion with Innovative Technology in Mexico and Colombia", Jan. 2023 through Dec. 2024.

- ◇ **A. C. Trapp (PI)**, S. Stanlick (co-PI). \$50,000. Ascentria. “Understanding Factors for Improving Refugee Outcomes among NSTs”, Jan. 2023 through Dec. 2023.
- ◇ **A. C. Trapp (PI, WPI)**, J. Pazour (PI, RPI), S. Stanlick (co-PI), Y. Telliel (co-PI). \$16,000. National Science Foundation Future of Work at The Human-Technology Frontier, supplement to research award FW-HTF-2222713 “Collaborative Research: Mobilizing Nonprofit Resources and Talents with a Community Tool for Purpose-Driven Work”: REU students, May 2023 through Dec. 2023.
- ◇ **A. C. Trapp (PI, WPI)**, J. Pazour (PI, RPI), S. Stanlick (co-PI), Y. Telliel (co-PI). \$1,849,994 (WPI portion \$1,153,914). National Science Foundation Future of Work at The Human-Technology Frontier. “Collaborative Research: Mobilizing Nonprofit Resources and Talents with a Community Tool for Purpose-Driven Work”, Research awards 2222713 (WPI), 2222697 (RPI), Oct. 2022 through Sept. 2026.
- ◇ **A. C. Trapp (PI)**. \$65,000. Worcester Polytechnic Institute. “WPI Capacity Planning Project”, Aug. 2022 through Nov. 2022.
- ◇ **A. C. Trapp (PI)**, S. Stanlick (co-PI) \$8,000. National Science Foundation (Operations Engineering), supplement to research award CMMI-2233377 “RAPID: Data Collection for Designing Refugee Matching Systems”: REU student, May 2023 through Aug. 2023.
- ◇ **A. C. Trapp (PI)**, S. Stanlick (co-PI) \$64,930. National Science Foundation (Operations Engineering). “RAPID: Data Collection for Designing Refugee Matching Systems”, Research award CMMI-2233377, Aug. 2022 through Jul. 2023.
- ◇ **A. C. Trapp (PI)**, J. Pazour (co-PI), M. Mitchell (co-PI). \$100,000. T. Rowe Price Foundation. “SWAP Platform and Matchmaking Service”, Jan. 2022 through Jun. 2022.
- ◇ R. Konrad (PI), **A. C. Trapp (co-PI)**, K. Maass (co-PI), M. Dank (co-PI). \$551,565. National Science Foundation (Operations Engineering). “ISN2: Disrupting Human Trafficking via Needs Matching and Capacity Expansion”, Research award CMMI-1935602, Jan. 2020 through Dec. 2024.
- ◇ **A. C. Trapp (PI)**. \$16,000. National Science Foundation (Operations Engineering), supplement to research award CMMI-1825348 “Matching Problems in Refugee Resettlement”: REU students, May 2021 through Aug. 2021.
- ◇ **A. C. Trapp (PI)**. \$54,906. National Science Foundation (Operations Engineering), supplement to research award CMMI-1825348 “Matching Problems in Refugee Resettlement”: INTERN Program, Jul. 2020 through Dec. 2020.
- ◇ **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)**. \$407,333. 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.

Grants Pending

- ◇ Source: NSF; SWAP: Deployment-Ready Technology for Distributed Governance of Nonprofit Resource Exchange; PI: **Andrew C. Trapp**; Co-PIs: Jennifer Pazour, Sarah Stanlick, Yunus Tellieli; Submission Date: December 2025; Requested Amount: \$598,173.
- ◇ Source: William T. Grant Foundation; How Organizational Leaders Use Analytic Research Evidence to Make Foster Family Recruitment Investment and Capacity Decisions; PI: Thea Ramirez; Co-PIs: **Andrew C. Trapp**, Vince Slough; Submission Date: January 2026; Requested Amount: \$500,000.

Grants Unfunded

- ◇ Source: Amazon "Think Big" Initiative; Next-Gen Proactive Optimization of Border Resources under Human Flow Uncertainty; PI: **Andrew C. Trapp**; Co-PIs: F. Murai; Submission Date: May 2025; Requested Amount: \$99,994
- ◇ Source: Amazon Imagine "Go Further, Faster" Program; Scaling Collective Impact through SWAP; PI: M. Mitchell; Co-PIs: **A. C. Trapp**, J. Pazour, S. Stanlick; Submission Date: May 2025; Requested Amount: \$150,000.
- ◇ Source: National Science Foundation (NSF) CIVIC-FA Track B; Adapting and Scaling the SWAP Resource Sharing Platform for Long-Term Mutual Aid and Responsiveness to Nonprofit Needs; PI: S. Stanlick; Co-PIs: **A. C. Trapp**, J. Pazour, Y. Tellieli; Submission Date: March 2025; Requested Amount: \$931,890.
- ◇ Source: National Science Foundation (NSF) TRAILBLAZER (Preliminary Proposal); Broadening AI's Value: The Boundless Impact of Accessible Optimization in the Hands of Social Organizations; PI: **Andrew C. Trapp**; Submission Date: February 2025; Requested Amount: \$3,000,000.
- ◇ Source: National Science Foundation (NSF); Empower, Expand, Enhance (E3): Empowering People with Lived Experience to Expand and Enhance the Research Enterprise through an Apprenticeship Program; PI: P. Vazquez; Co-PIs: S. Koduvayur, G. Johnson, O. Baxter, H. Bilotta, M. Ormsby, **A. C. Trapp**; Submission Date: September 2024; Requested Amount: \$5,402,138.
- ◇ Source: National Science Foundation (NSF) CMMI/OE; Proactive Planning for Migration Crises via Advanced Analytics; PI: **Andrew C. Trapp**; Co-PIs: S. Stanlick, F. Murai; Submission Date: August 2024; Requested Amount: \$841,866
- ◇ Source: Complex Risk Analytics Fund (CRAF'd); Data-Driven Empowerment for Migrant Women: Escaping Crisis through AI and Inclusive Employment; PI: Hannah Töpler; Co-PI: **Andrew C. Trapp**; Submission Date: August 2024; Requested Amount: \$1,036,629 (WPI portion: \$202,940)
- ◇ Source: National Science Foundation (NSF) EFRI; TRAILBLAZER: Broadening AI's Value: The Boundless Impact of Accessible Optimization in the Hands of Social Organizations; PI: **Andrew C. Trapp**; Submission Date: February 2024; Requested Amount: \$2,997,881
- ◇ Source: National Science Foundation (NSF); Shaping a Brighter Future for Underserved Children: Promoting Equity via Actionable Analysis of Child Welfare Data; PI: **Andrew C. Trapp**; Co-PI: S. Azizi (St. John's University); Submission Date: March 2023; Requested Amount: \$74,663.

- ◇ Source: Army Research Office (ARO); Robust and Diverse Optimal Solutions for Clustering Problems; PI: **Andrew C. Trapp**; Co-PI: P. Flaherty (UMass Amherst); Submission Date: February 2021; Requested Amount: \$270,479.
- ◇ Source: National Science Foundation (NSF) CMMI/OE; Title: Proactive Planning for Migration Crises via Advanced Analytics; PI: **Andrew C. Trapp**; Co-PI: Yanhua Li; Submission Date: September 2021; Requested Amount: \$499,342
- ◇ Source: National Science Foundation (NSF) FW-HTF Futr Wrk Hum-Tech Frnrtr; Title: Collaborative Research: FW-HTF-R: SWAP: A New Platform for Optimizing and Catalyzing Resource Sharing and Collaboration in Nonprofit Ecosystems; PI: **Andrew C. Trapp**; Co-PI: Elizabeth Lingo; Submission Date: March 2021; Requested Amount: \$1,447,666
- ◇ Source: National Science Foundation (NSF) D-ISN-Illicit Supply Networks; Title: D-ISN: TRACK 1: Collaborative Research: Informing Anti-Trafficking Policy in the Agricultural Supply Chains using Data Analytics; PI: **Andrew C. Trapp**; Submission Date: March 2020; Requested Amount: \$332,506
- ◇ Source: National Science Foundation (NSF) FW-HTF Futr Wrk Hum-Tech Frnrtr; Title: FW-HTF-RL: Collaborative Research: Transforming Individual and Nonprofit Organizational Capacity through a Reskilling Matching Platform; PI: **Andrew C. Trapp**; Co-PI: John Lindholm; Submission Date: March 2020; Requested Amount: \$1,314,989
- ◇ Source: National Science Foundation (NSF) CMMI/OE; Title: A Solution Engineering Framework for Optimization; PI: **Andrew C. Trapp**; Co-PI: Thierry Petit; Submission Date: February 2015; Requested Amount: \$323,240
- ◇ Source: Health Resources in Action; Title: Conducting Analytics for Pediatric Asthma Intervention Project; PI: Brenton D. Faber; Co-PIs: **Andrew C. Trapp**, Michael J. Radzicki; Submission Date: December 2012; Requested Amount: \$148,000
- ◇ Source: National Science Foundation (NSF) CMMI/SES; Title: Coordinating System-wide Care for Chronic Diseases in a Community Setting via Optimization and Data Mining Techniques; PI: **Andrew C. Trapp**; Co-PIs: Renata A. Konrad, Brenton D. Faber; Submission Date: February 2012; Requested Amount: \$368,788
- ◇ Source: National Science Foundation(NSF) CMMI/SES; Title: Collaborative Research: Modeling Patient Population Requirements to Advance Patient-Centered Medical Home Implementation; PI: Sharon A. Johnson; Co-PIs: **Andrew C. Trapp**, Renata A. Konrad, D. Bates (Brigham and Women’s Hospital), S. Emani (Brigham and Women’s Hospital); Submission Date: February 2012; Requested Amount: \$494,752

CONFERENCE LEADERSHIP

- ◇ **Child Welfare Operations Symposium (CWOS) 2024**. *Cornell University*, Ithaca, NY, October 2024. <https://web.cvent.com/event/8a384472-9520-4756-a5a8-012df7490dd2/summary>
- ◇ **Child Welfare Operations Symposium (CWOS) 2023**. *Cornell University*, Ithaca, NY, November 2023. https://www.linkedin.com/posts/vslaugh_child-welfare-operations-symposium-2023-recap-activity-7141921088959070208-vO_Q
- ◇ **Innovations in Immigration Analytics Conference (IIAC)**. *Worcester Polytechnic Institute (WPI)*, Worcester, MA, June 2023. <https://www.wpi.edu/c/iiac>

CURRENT POST-DOCTORAL FELLOWS

- ◇ Dr. Weixiao Huang

CURRENT DOCTORAL STUDENTS

- ◇ Fatemeh Farajzadeh
- ◇ Marcela Vasconcellos
- ◇ Sepideh Sedghi
- ◇ Özge Aygöl

FORMER DOCTORAL STUDENTS

- ◇ Dr. Weixiao Huang, Post-Doctoral Fellow, School of Business, Worcester Polytechnic Institute
- ◇ Dr. Geri Dimas, Assistant Professor of Data Science, Department of Information Systems and Analytics, Bryant University
- ◇ Dr. Narges Ahani, Vice President Operation Research Analyst III, Bank of America
- ◇ Dr. Shima Azizi, Data Scientist, INFICON
- ◇ Dr. Pitchaya Wiratchotisan, Assistant Professor of Statistics, Khon Kaen University
- ◇ Dr. Wen Liu, Optimization Engineer, Meta

MEDIA COVERAGE

- ◇ **Communications of the ACM, Research Highlights.** *Technical Perspective: Improving Refugees' Integration with Online Resource Allocation.* 2024. <https://cacm.acm.org/opinion/technical-perspective-improving-refugees-integration-with-online-resource-allocation>
- ◇ **CNN.** *Ellis Island History: Irish Teen Annie Moore Was the First Immigrant to Arrive.* 2023. <https://www.cnn.com/2023/03/17/us/irish-history-ellis-island-annie-moore-cec/index.html>
- ◇ **IISE Podcast,** *Operations Research for Social Good,* Public Interview by Dr. Yongjia Song and Karmel Shehadeh. 2023. <https://open.spotify.com/episode/02JUmBiSHkVfheWem6TZ8d?si=2e5c89dfc63a4958>
Also on LinkedIn: <https://www.linkedin.com/feed/update/urn:li:share:7047556658851405826>
- ◇ **Outgoing President of INFORMS PSOR (Public Sector Operations Research),** *Public Interview on Scholarship.* 2023. <https://www.youtube.com/watch?v=nagkn3VJCNw>
- ◇ **Press Release, Worcester Polytechnic Institute.** *NSF Awards WPI and RPI Research Team \$1.8M to Create Resource Sharing Platform for Nonprofits.* 2022. <https://www.wpi.edu/news/nsf-awards-wpi-and-rpi-research-team-18m-create-platform-help-nonprofits-find-resources-and>
- ◇ **HIAS News,** *New Algorithm for Preference-Based Matching for Ukrainian Refugees to US Communities.* 2022. <https://hias.org/news/how-innovative-algorithm-helps-ukrainian-refugees-find-new-homes>
- ◇ **INFORMS News Room,** *Thoughts on Ukrainian Refugee Crisis.* 2022. <https://www.informs.org/About-INFORMS/News-Room/Additional-Media-Materials/New-Audio-Available-for-Media-Use-Ukraine-s-Refugee-Crisis-and-Its-Impact-on-the-World>
- ◇ **CDO (Chief Data Officer) Magazine.** *List of Academic Data Leaders.* 2021. https://www.cdomagazine.tech/cdo_magazine/topics/leadership/cdo-magazine-announces-its-2021-list-of-leading-academic-data-leaders/article_c2d71764-4468-11eb-9c4b-af371efc64f4.html
- ◇ **Forbes.** *Autonomous in Action.* 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>

- ◇ **United Nations Report**, *Anti-Human Trafficking Work Mentioned*. 2020. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/226/64/PDF/G1922664.pdf>
- ◇ **Discrete Optimization Talks**, *A Comparative Study of Stability Representations for Solving Many-to-One Matching Problems (Virtual Presentation)*. 2020. <https://www.youtube.com/watch?v=R4OAdgVE7CQ>
- ◇ **Annie MOORE Video**, *Video Presentation on Refugee Resettlement Software System*. 2020. <https://vimeo.com/392893650>
- ◇ **Market Design Blog (by Nobel Laureate Al Roth)**. *Refugee Resettlement in the US, by HIAS, Using Matching Technology*. 2019. <http://marketdesigner.blogspot.com/2019/04/refugee-resettlement-in-us-by-hias.html>
- ◇ **NPR Boston WBUR 90.9**. *Tool to Recommend Improvements to US Asylum Process*. 2019. <http://users.wpi.edu/~atrapp/Tool.mp3>
- ◇ **WPI President Laurie Leshin**, *Conversation with WPI President Dr. Laurie Leshin on My Research*. 2019. <https://www.youtube.com/watch?v=aajTusaFaOo>
- ◇ **The Atlantic**. *How Technology Could Revolutionize Refugee Resettlement*. 2019. <https://www.theatlantic.com/international/archive/2019/04/how-technology-could-revolutionize-refugee-resettlement/587383>
- ◇ **WPI Arts & Sciences Week Lightning Talk**, *Developing Data-Informed Holding and Judicial Capacity Levels for Asylum Seekers at the Southern Border*. 2019. <https://www.youtube.com/watch?v=Lg0pSLst7e0>
- ◇ **OR/MS Today**. *Refugee Resettlement via Analytics*. 2019. <https://pubsonline.informs.org/doi/10.1287/orms.2019.02.09/full>
- ◇ **Market Design Blog (by Nobel Laureate Al Roth)**. *Resettling refugees thoughtfully, by Trapp, Teytelboym, Martinello, Andersson, and Ahani*. 2018. <http://marketdesigner.blogspot.com/2018/10/resettling-refugees-thoughtfully-by.html>
- ◇ **Financial Times**. *Just the Job: How AI Is Helping Build A Better Life for Refugees*. 2018. <https://www.ft.com/content/9332fffc-ec57-11e8-89c8-d36339d835c0>
- ◇ **HIAS News**, *New Software Does the Hard Work in Placing Refugees*. 2018. <https://hias.org/news/new-software-does-the-hard-work-in-placing-refugees>
- ◇ **OR/MS Today**. *Optimization Support Software Matches Up Refugees, Employment*. 2018. <https://pubsonline.informs.org/doi/10.1287/orms.2018.06.06/full>
- ◇ **Analytics Magazine**. *Using Machine Learning and Optimization to Improve Refugee Integration*. 2018. <https://web.archive.org/web/20201103054755/http://analytics-magazine.org/using-machine-learning-and-optimization-to-improve-refugee-integration>
- ◇ **WPI News & Events**. *Global Lab Welcomes Fellows in Residence*. 2018. <https://www.wpi.edu/news/global-lab-welcomes-fellows-residence>
- ◇ **Press Release, Worcester Polytechnic Institute**. *The National Science Foundation Funds Research at WPI Aimed at Disrupting Human Trafficking Networks*. 2018. <https://www.wpi.edu/news/national-science-foundation-funds-research-wpi-aimed-disrupting-human-trafficking-networks>
- ◇ **The Conversation**. *Data Science Can Help Us Fight Human Trafficking*. 2017. <https://theconversation.com/data-science-can-help-us-fight-human-trafficking-81647>
- ◇ **Refugees.ai**, *Showcases Works and Academic Collaborations in the Refugee Space*. 2017present. <https://www.refugees.ai>
- ◇ **The Daily Herd: "News & Info for the WPI Campus"**. *Refugee Equation*. 2016. <https://www.wpi.edu/news/refugee-equation>
- ◇ **OpenSolver**. *Cool OpenSolver Applications*. 2016. <https://opensolver.org/opensolver-application-reports>

- ◇ **Technology, Innovation, and Entrepreneurship (TIES).** *Using Math to Do Good.* WPI Business School newsletter. 2016.

PRESENTATIONS

- ◇ SWAP-and-Route: Fast Resource Exchange and Collaborative Routing for NPOs, *Analytics for a Better World (virtual seminar)*, Amsterdam, Netherlands, 2026.
- ◇ SWAP-and-Route: Fast Resource Exchange and Collaborative Routing for NPOs, *University of Pittsburgh*, Pittsburgh, PA, 2026.
- ◇ SWAP-and-Route: Fast Resource Exchange and Collaborative Routing, *ACM EAAMO Local Conference*, University of Oxford, Oxford, England, UK, 2025.
- ◇ SWAP-and-Route: Fast Resource Exchange and Collaborative Routing, *Presented by Özge Aygül, ACM EAAMO Conference*, Pittsburgh, Pennsylvania, 2025.
- ◇ SWAP: Empowering Community Collective Impact Through Innovative Resource Sharing, *Presented by Weixiao Huang, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ Cohort Formation for Resource Sharing in the Nonprofit Sector, *Presented by Weixiao Huang, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ From Auction to Delivery: Fast Resource Exchange and Collaborative Routing with MicroSWAP, *Presented by Özge Aygül, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ Stable Many-to-Many Matching in Opportunity-Aware Employment Systems via Data-Driven Integer Optimization, *Presented by Sepideh Sedghi, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ Alignment and Misalignment of Fairness Constraints in Candidate-Job Matching, *Presented by Marcela Vasconcellos, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ Data Envelopment Analysis Meets Private Refugee Resettlement, *Presented by Fatemeh Farajzadeh, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ Talk Math to Nonprofits: A Methodology to Capture Nonprofit Values into Optimization Models, *Presented by Carlos Morel Figueroa, INFORMS Annual Meeting*, Atlanta, Georgia, 2025.
- ◇ Proactive Staging of Resources for Migratory Crises, *Presented by Fatemeh Farajzadeh, Annual Production and Operations Management Society Conference*, Atlanta, Georgia, 2025.
- ◇ Redeveloping an Optimization Model of a Resource Sharing Platform Using Nonprofit Stakeholder Feedback, *Presented by Carlos Morel Figueroa, IISE Research Conference*, Atlanta, Georgia, 2025.
- ◇ Optimizing Emergency Response: The MicroSWAP Framework for Nonprofit Resource Sharing and Collaboration, *Presented by Özge Aygül, INFORMS Computing Society Conference*, Toronto, Ontario, Canada, 2025.
- ◇ Scaling Human-Centered Optimization: Pioneering Societally Impactful Decision Systems, *Rensselaer Polytechnic Institute*, Troy, NY, 2025.
- ◇ Proactive Staging of Resources along International Borders for Migratory Crises, *Presented by Fatemeh Farajzadeh, INFORMS Annual Meeting*, Seattle, Washington, 2024.
- ◇ Value Sensitive Design of a Resource Sharing Platform for Nonprofits, *Presented by Carlos Morel-Figueroa, INFORMS Annual Meeting*, Seattle, Washington, 2024.
- ◇ SWAP: A New System for Facilitating Resource Sharing Among Nonprofits Through Market Design and Mathematical Optimization, *Presented by Weixiao Huang, INFORMS Annual Meeting*, Seattle, Washington, 2024.

- ◇ Optimizing Foster Care Visitation Scheduling, *Presented by Shima Azizi, INFORMS Annual Meeting, Seattle, Washington, 2024.*
- ◇ Modeling and Evaluating Policy Impacts on the United States Immigration Court System: An Application of Simulation and Data Science, *Presented by Geri Dimas, INFORMS Annual Meeting, Seattle, Washington, 2024.*
- ◇ Co-Designing Solutions to Societal Issues with Lived Experts, *Presented by Kayse Lee Maass, INFORMS Annual Meeting, Seattle, Washington, 2024.*
- ◇ New Explorations in Integer Optimization for Minimal Egyptian Fraction Representations, *Presented by Sepideh Sedghi, INFORMS Annual Meeting, Seattle, Washington, 2024.*
- ◇ Dynamic Course Scheduling for Strategic University Scaling, *Presented by Ö. Aygül, INFORMS Annual Meeting, Seattle, Washington, 2024.*
- ◇ Empowering Collective Impact: Introducing the SWAP System for Resource Sharing, *University of Rochester Operations Management Research Seminar, Rochester, NY, 2024.*
- ◇ Empowering Collective Impact: Introducing the SWAP System for Resource Sharing, *Rochester Institute of Technology ISE Graduate Seminar, Rochester, NY, 2024.*
- ◇ Empowering Collective Impact: Introducing the SWAP System for Resource Sharing, *University of Dayton Niehaus Chair Distinguished Speaker Series, Dayton, OH, 2024.*
- ◇ Improving Foster Care Visitation Scheduling by Optimizing Visitation Routing, *Child Welfare Operations Symposium, Cornell University, Ithaca, NY, 2023.*
- ◇ Empowering Collective Impact: Introducing the SWAP System for Resource Sharing, *Presented by Weixiao Huang, ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization, Boston, MA, 2023.*
- ◇ Optimizing Sponsored Humanitarian Parole, *Poster presented by Fatemeh Farajzadeh and Ryan Killea, ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization, Boston, MA, 2023.*
- ◇ Operations Research and Management Science for Societal Impact, *Invited Seminar, INFORMS Doctoral Student Colloquium, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Stability in Many-to-Many Matching of Refugees to Employment Opportunities via Integer Optimization, *Presented by Marcela Vasconcellos, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Optimizing Sponsored Humanitarian Parole, *Presented by Fatemeh Farajzadeh, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Collecting Data in the Human Trafficking Domain: Youth-Informed and Data-Driven Recommendations for Runaway and Homeless Youth in NYC, *Presented by Renata Konrad, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Data Analytics in the Public Sector: Challenges and Critical Considerations, *Presented by Geri Louise Dimas, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Navigating Responsible University Expansion: The Art of Data-Driven Course Scheduling, *Presented by Özge Aygül, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Empowering Collective Impact: Introducing the SWAP System for Resource Sharing, *Presented by Weixiao Huang, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Improving Foster Care Visitation Scheduling: Maximizing Visitation Appointments via Time-Space Networks, *Presented by Shima Azizi, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*
- ◇ Performance Evaluation Of Child Welfare Departments Using Data Envelopment Analysis: A Comparative Study Across US States, *Presented by Sepideh Sedghi, INFORMS Annual Meeting, Phoenix, Arizona, 2023.*

- ◇ SWAP: Leveraging a Collaborative Resource-Sharing Tool for Nonprofit Support and Mutual Aid, *Presented by Sarah Stanlick and Yunus Telli, Maryland Nonprofits Conference, Baltimore, MD, 2023.*
- ◇ Proactive Multi-Commodity Border Resource Staging with Scenario Estimation via Stochastic Programming, *Presented by Fatemeh Farajzadeh, International Conference on Stochastic Programming, University of California Davis, Davis, CA, 2023.*
- ◇ Innovations in Migration: Advanced Analytics for Humane Migration Solutions, *Innovations in Immigration Analytics Conference, Worcester Polytechnic Institute, Worcester, MA, 2023.*
- ◇ RUTH: Algorithmic Preference-Based Matching of Refugees to Sponsors, *Presented by Fatemeh Farajzadeh, Marketplace Innovation Workshop, Virtual, 2023.*
- ◇ Risk-Averse Placement Optimization in Refugee Resettlement, *Gordon College, Danvers, MA, 2023.*
- ◇ Optimizing the Benefit-to-Cost Ratio for Public Sector Decision Making, *Presented by Forrest Miller, Joint Mathematics Meetings, Boston, Massachusetts, 2023.*
- ◇ Improving Access to Housing and Supportive Services for Runaway and Homeless Youth: Reducing Vulnerability to Human Trafficking in New York City, *Presented by Yaren Kaya, ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization, Arlington, Virginia, 2022.*
- ◇ Risk-Averse Placement Optimization in Refugee Resettlement, *INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ A Time-space Network Approach for the Foster Care Visitation Scheduling Problem, *Presented by Shima Azizi, INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ Modeling the United States Immigration Court System: An Application of Simulation and Data Science, *Presented by Geri Dimas, INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ Proactive Staging Of Border Resources In A Secure And Humane Manner Via Stochastic Programming, *Presented by Fatemeh Farajzadeh, INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ Combinatorial Exchange for Resource Sharing Among Nonprofits, *Presented by Weixiao Huang, INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ Matching Refugees to Stable Employment Opportunities via Many-to-Many Optimization, *Presented by Marcela Vasconcellos, INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ Optimizing The Benefit-to-Cost Ratio For Effective Capacity Deployment For New York City's Homeless Youth Shelter System, *Presented by Forrest Miller, INFORMS Annual Meeting, Indianapolis, Indiana, 2022.*
- ◇ Risk-Averse Placement Optimization in Refugee Resettlement, *University of Southern California, Los Angeles, CA, 2022.*
- ◇ Risk-Averse Placement Optimization in Refugee Resettlement, *Pennsylvania State University, State College, PA, 2022.*
- ◇ Using Optimization to Tackle Two Open Questions Related to Egyptian Fractions, *Worcester Polytechnic Institute, Worcester, MA, 2022.*
- ◇ Immigration and Mobility: United States Southern Border, *Presented by Geri L. Dimas, WPI Arts & Sciences Week, 2021.*
- ◇ Refugee Camp System Aid Allocation with Uncertain Demand and Replenishment Cycles, *Presented by Shima Azizi, INFORMS Annual Meeting, Anaheim, CA, 2021.*
- ◇ Getting Started in Public Sector Operations Research, *INFORMS Annual Meeting, Anaheim, CA, 2021.*
- ◇ Analytics To Improve The United States Immigration System, *Presented by Geri L. Dimas, INFORMS Annual Meeting, Anaheim, CA, 2021.*

- ◇ Reducing Vulnerability To Human Trafficking By Improving Access To Housing And Support Services, *Presented by Yaren Kaya, INFORMS Annual Meeting, Anaheim, CA, 2021.*
- ◇ Improving Access to Homeless Shelter Services for Youth at Risk of Human Trafficking, *Poster Presented by Yaren Kaya, INFORMS Annual Meeting, Anaheim, CA, 2021.*
- ◇ Risk-Averse Placement Optimization In Refugee Resettlement, *Presented by Narges Ahani, INFORMS Annual Meeting, Anaheim, CA, 2021.*
- ◇ Integrating Vehicle Routing and Scheduling to Optimize Foster Care Visitations, *Presented by Caroline Johnston, Canadian Operational Research Society Annual Conference, 2021.*
- ◇ Refugee Camp System Aid Allocation with Uncertain Demand and Replenishment Cycles, *Presented by Shima Azizi, INFORMS Healthcare Meeting, 2021.*
- ◇ Reducing Risks of Human Trafficking: Improving Access to Housing and Supportive Services for Runaway and Homeless Youth in NYC, *Presented by Yaren Kaya, INFORMS Healthcare Meeting, 2021.*
- ◇ Increasing Access to Homeless Shelter Services for Youth At Risk of Human Trafficking, *Equity & AI Symposium, 2021.*
- ◇ A Comparative Study of Stability Representations for Solving Many-to-One Matching Problems with Ties and Incomplete Lists via Integer Optimization, *Discrete Optimization Talks (DOTs), Virtual, 2021.*
- ◇ Analyzing the Effect of Uncertainty in Predicted Match Quality Scores on Refugee Resettlement Optimization Outcomes, *Presented by Narges Ahani, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ Refugee Camp System Aid Allocation With Uncertain Demand And Replenishment Cycles, *Presented by Shima Azizi, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ Needs Estimation Of At-risk, Runaway And Homeless Youth In NYC Via Survey Design: A First Step To Disrupt The Supply Of Human Trafficking Networks, *Presented by Geri Dimas, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ Modeling The United States (US) Defensive Asylum Process: A Queueing Approach, *Presented by Geri Dimas, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ Estimating Effectiveness Of Identifying Human Trafficking Victims: An Application Of Data Envelopment Analysis (DEA) On The Nepal/India Border, *Presented by Malak El Khalkhali and Alex Bender, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ Dynamic Matching For Refugee Resettlement, *Presented by Paul Gözl, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ Optimizing The Selection, Scheduling, And Routing Of Foster Care Visitation Meetings, *Presented by Caroline Johnston, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ A Comparative Study Of Stability Representations For Optimization Models Of Many-to-one Matching Problems With Ties And Incomplete Lists, *Presented by Hoda Atef Yekta, INFORMS Annual Meeting, Washington, District of Columbia, 2020.*
- ◇ 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 Wiratchotsatian, 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 (HCI2018), 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

- ◇ **Member**, *Ad Hoc Committee on Advancing Analytics at NGOs and NPOs*, INFORMS, 2025.
- ◇ **Associate Editor**, *Operations Research*, 2024–2026.
- ◇ **Invited Panelist**, “*Doing Research with Impact*,” *New Faculty Colloquium*, INFORMS, 2024.
- ◇ **Invited Speaker**, “*Operations Research for Societal Impact*,” *Doctoral Student Colloquium*, INFORMS, 2023.
- ◇ **President**, *Section on Public Sector Operations Research*, INFORMS, 2022.
- ◇ **Invited Panelist**, *Partnerships for AI*, *NetHope Global Summit (Virtual)*, 2021.
- ◇ **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.
- ◇ **Reviewer**, *Operations Research*, *Management Science*, *Production and Operations Management*, *European Journal of Operational Research*, *Transportation Science*, *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*.

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