

RESEARCH INTERESTS

Analytics for social good, public sector operations

ACADEMIC POSITIONS

Harvard Business School, Boston, MA
Technology and Operations Management Unit

2022 – Assistant Professor
2021 – 2022 Visiting Postdoctoral Fellow

Stanford University, Stanford, CA
2021 – 2022 Postdoctoral Fellow, Immigration Policy Lab

EDUCATION

2016 – 2021 **Massachusetts Institute of Technology**, Cambridge, MA
PhD in Operations Research
Advisors: Prof. Retsef Levi and Prof. Georgia Perakis
Thesis: *Healthy Food Access and Consumption: Informing Interventions Through Analytics*
Supported by the NSF Graduate Research Fellowship (2016-2019)

The Pennsylvania State University, Schreyer Honors College, University Park, PA
2013 – 2015 M.A. in Mathematics
2011 – 2015 B.A. in Mathematics
2011 – 2015 B.A. in Statistics

WORKING PAPERS

Heterogeneous Treatment Effects in Panel Data. R. Levi, E. Paulson, G. Perakis, and E. Zhang.

Public Attitudes on Performance for Algorithmic and Human Decision-Makers. K. Bansak and E. Paulson.

Dynamic Matching with Post-Allocation Service and its Application to Refugee Resettlement. K. Bansak, S. Lee, V. Manshadi, E. Paulson, and R. Niazadeh.

- ◇ Accepted to the *25th ACM Conference on Economics and Computation* (EC '24)
- ◇ Accepted to the *5th Annual Symposium on Foundations of Responsible Computing* (FORC '24)
- ◇ Accepted for Presentation at *9th Marketplace Innovation Workshop* (MIW '24)

Group Fairness in Dynamic Refugee Assignment. D. Freund, T. Lykouris, E. Paulson, B. Sturt, and W. Weng.

- ◇ Accepted to the *24th ACM Conference on Economics and Computation* (EC '23)

- ◇ Accepted to the *4th annual Symposium on Foundations of Responsible Computing* (FORC '23)

Designing Inclusive Offerings. R. Levi, E. Paulson, and G. Perakis.

Optimal Interventions for Increasing Healthy Food Consumption Among Low Income Populations. R. Levi, E. Paulson, and G. Perakis.

- ◇ Accepted for oral presentation, Workshop on Mechanism Design for Social Good (2020)

Enhancing the benefits of dual sourcing with reverse information sharing. A. Jagmohan, P. Harsha, R. Levi, E. Paulson, and G. Perakis.

PUBLISHED PAPERS

Learning Under Random Distributional Shifts. K. Bansak, E. Paulson, and D. Rothenhäusler. Proceedings of the *International Conference on Artificial Intelligence and Statistics* (AISTATS '24).

Outcome-Driven Dynamic Refugee Assignment with Allocation Balancing. K. Bansak and E. Paulson. *Operations Research, Articles in Advance* (2024).

- ◇ Extended abstract appeared in the *23rd ACM Conference on Economics and Computation* (EC '22)

Public Health Risks Arising from Food Supply Chains: Challenges and Opportunities. L. Chen, D. Guttieres, R. Levi, E. Paulson, G. Perakis, N. Renegar, S. Springs. *Naval Research Logistics*, Special Issue on OR Models for Developmental Studies, 2021.

Cooperation Can Emerge in Prisoner's Dilemma from a Multi-Species Predator Prey Replicator Dynamic (2016). E. Paulson and C. Griffin. *Mathematical Biosciences*, 178 p.56-62.

A Game Theoretic Model for Resource Allocation Among Countermeasures with Multiple Attributes (2016). E. Paulson, I. Linkov, and J. Keisler. *European Journal of Operations Research*, 252 p.610-622. DOI: 10.1016/j.ejor.2016.01.026.

Deriving and Optimally Deceptive Policy in Two-Player Iterated Games. E. Paulson and C. Griffin. Proceedings of the *American Control Conference*, 2016.

Optimal Process Control of Symbolic Transfer Functions. C. Griffin and E. Paulson. Proceedings of *Feedback Computing*, 2015.

Better Timing of Cyber Conflict. E. Paulson and C. Griffin. *Third ASE Conference on Cyber Security*, 2014.

TEACHING MATERIALS

E. Paulson and M. Toffel. "Market by Met Council: Revolutionizing Food Pantries in the Digital Age." Harvard Business School Case 624-060, May 2024.

TEACHING AT HBS

2022 – 2024 Technology and Operations Management (Core first-year MBA class)

2024 – Operations and Supply Chain Management, Harvard Business Analytics Program
present (Executive education course, 9 sessions/year)

2023 Summer Venture in Management Program (2 sessions)

2023 Harvard Business Analytics Program (1 session)

OTHER TEACHING

2023 Harvard University, SOCIOL 1186: Refugees in Global Perspective
Guest lecture

2022 NYU Stern PhD Seminar Course
Guest lecture

2020 MIT, 15.370 - Data, Models, and Decisions
Teaching assistant for core Executive MBA class

2020 MIT, 15.S60 - Computing in Optimization and Statistics
3-hour session on machine learning in R for PhD students

2020 MIT, 15.S41 - Software Tools for Business Analytics
3-hour session on machine learning in R for MIT undergrads

2018 MIT, 15.734 - Intro to Operations Management
Teaching assistant for core Executive MBA class

2018, 2019 MIT, Microsoft Excel Training for Executive MBA students
Three 3-hour sessions each spring

2018 MIT, 15.731 - Risk Management
Teaching assistant for Executive MBA elective, two full-day sessions

AWARDS & HONORS

2021 2nd place, POMS College of Supply Chain Management Best Student Paper Competition
Enhancing the Benefits of Dual Sourcing with Reverse Information Sharing

2021 Finalist, POMS College of Sustainable Operations Best Student Paper Competition
Optimal Interventions for Increasing Healthy Food Consumption Among Low Income Populations

2019 Finalist, IBM Best Student Paper Award
Optimal Interventions for Increasing Healthy Food Consumption Among Low Income Populations

2016 – 2019 NSF Graduate Fellowship

2011 – 2015 Gerard L. Bayles Memorial Scholarship

2014 Kermit C. Anderson Memorial Award in Mathematics

2013 Mary Lister McCammon Award in Mathematics

2012 Merit Scholarship, Mathematics Advanced Study Semester

PRESENTATIONS

Outcome-Driven Dynamic Refugee Assignment with Allocation Balancing

- 2024 Invited talk, TTIC Workshop on Data-Driven Decision Processes
- 2024 Invited seminar, Wharton OI&D seminar
- 2024 Invited seminar, Microsoft Research New England
- 2024 Invited seminar, Northwestern Kellogg seminar
- 2024 Invited seminar, Harvard Applied Statistics workshop
- 2023 Invited seminar, Workshop on Migration and Forced Displacement
- 2023 2nd Workshop on AI & Analytics for Social Good
- 2023 Invited seminar, Northeastern, D'Amore-McKim School of Business
- 2023 Invited seminar, Harvard EconCS seminar
- 2022 EC '22
- 2022 MSOM '22
- 2021 Invited seminar, London Business School

Group Fairness in Dynamic Refugee Assignment

- 2022 INFORMS Annual Meeting '22

Short-term Outcomes for Long-term Goals in Dynamic Refugee Matching

- 2021 Invited seminar, Stanford Causal Science Conference

Healthy Food Consumption: Empirical Analysis and Optimization Models of Government Interventions

- 2021 Invited seminar, Penn State College of Medicine

Optimizing Group-level Food Policy Interventions

- 2021 Invited seminar, Stanford GSB
- 2021 Invited seminar, USC Marshall Business School
- 2021 Invited seminar, UCLA Anderson School of Business
- 2021 Invited seminar, Georgia Tech ISyE
- 2021 Invited seminar, Naval Postgraduate School
- 2021 Invited seminar, Harvard Business School
- 2021 Invited seminar, Columbia Business School
- 2020 Invited seminar, UBC Sauder School of Business
- 2020 Invited seminar, University of Minnesota ISyE
- 2020 Invited seminar, Boston College Carroll School of Management
- 2020 Invited seminar, UW Madison Wisconsin School of Business
- 2020 Invited seminar, UC Berkeley Haas School of Business
- 2020 Invited seminar, Dartmouth Tuck School of Business
- 2020 Invited seminar, MIT Sloan School of Management

Reverse Information Sharing: Reducing Waste and Costs in Supply Chains with Yield Uncertainty

- 2021 POMS '21
- 2020 INFORMS Annual Meeting '20

Fair Group-level Intervention Bundles

- 2021 INFORMS Annual Meeting '21
- 2020 INFORMS Annual Meeting '20

Optimal Interventions for Healthy Food Consumption Among Low Income Households

2021 POMS '21

2020 Kellogg-Wharton OM Workshop

2020 Workshop on Mechanism Design for Social Good '20

2019 INFORMS Annual Meeting '19

2019 Invited seminar, MIT Sloan Health Systems Innovation Seminar Series

2018 INFORMS Annual Meeting '18

Impact of Access and Value on Fresh Food Consumption: Policy Implications

2018 MSOM '18

2017 INFORMS '17

Choosing What to Protect, and How: Resource Allocation Among Countermeasures With Multiple Attributes

2014 INFORMS '14

INDUSTRY EXPERIENCE

2019 – 2019 **IBM Blockchain Solutions**, Yorktown Heights, NY
Research Intern

2015 – 2016 **Booz Allen Hamilton**, Annapolis Junction, MD
Data Scientist

Summer **Bates White**, Washington, D.C.
2014 Summer consultant

Summer **U.S. Army Engineer Research and Development Center**, Concord, MA
2013 Research intern, DHS HS-STEM Summer Internship program

PROFESSIONAL SERVICE

2024 Moderator for the 33rd Women in Business Conference at HBS
Ad-hoc Reviewer for *Management Science*, *MI&SOM*, *Operations Research*, *POM*

2024 Program Committee, ACM EC Conference

2022 – 2024 Area Chair, ACM EAAMO Conference

2023 Program Committee, AAAI/ACM AIES

2024 Judge for the POMS College of Sustainable Operations Student Paper Competition

2021 Program Committee, ACM EAAMO Conference

2021, 2024 Judge for the INFORMS Public Sector OR Best Paper Award