# Elisabeth Paulson

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## Interests

Analytics for social good, public sector operations, operations research

## Academic positions

**Harvard Business School**, Harvard University, Cambridge, MA
Technology and Operations Management Unit
Assistant Professor — July 2022 –
Visiting Postdoctoral Fellow — July 2021–July 2022

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

## Education

**Massachusetts Institute of Technology**, Cambridge, MA
PhD in Operations Research — September 2016 – May 2021
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
M.A. in Mathematics — August 2013 – May 2015
Advisor: Prof. Christopher Griffin
Thesis: *A Reformulation of the CSSR Algorithm and Application to Optimal Deception Strategy in Two Player Games*
B.A. in Mathematics — August 2011 – May 2015
B.A. in Statistics — August 2011 – May 2015

## Awards/Honors

- 2nd place, POMS College of Supply Chain Management Best Student Paper Competition — 2021
- Finalist, POMS College of Sustainable Operations Best Student Paper Competition — 2021
- Finalist, IBM Best Student Paper Award — 2019
- NSF Graduate Fellowship — 2016 – 2019
- Gerard L. Bayles Memorial Scholarship — 2011–2015
- Kermit C. Anderson Memorial Award in Mathematics — 2014
- Mary Lister McCammon Award in Mathematics — 2013
- Merit Scholarship, Mathematics Advanced Study Semester — 2012

## Papers

*Submitted, under revision, and working*

R1. Outcome-Driven Dynamic Refugee Assignment with Allocation Balancing. K. Bansak and E. Paulson. Under review.

- Accepted to the 23rd ACM Conference on Economics and Computation (EC '22)

R2. Optimal Interventions for Healthy Food Consumption Among Low Income Households. R. Levi, E. Paulson, and G. Perakis. R&R, *Management Science*.

- Finalist, POMS College of Supply Chain Management Best Student Paper Competition (2021)
- Finalist, IBM Best Student Paper Award (2019)

- Accepted for oral presentation, Workshop on Mechanism Design for Social Good (2020) (acceptance rate 29%)

R3. Reverse Information Sharing: Reducing Costs in Supply Chains with Yield Uncertainty. A. Jagmohan, P. Harsha, R. Levi, E. Paulson, and G. Perakis. R&R, *Management Science*.

- 2nd place, POMS College of Sustainable Operations Best Student Paper Competition (2021)

R4. Impact of Access and Value on Fresh Food Consumption: Policy Implications. R. Levi, E. Paulson, and G. Perakis. R&R, *Food Policy*.

*Published*

*The primary author(s) of each paper is bolded.

P1. 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.

P2. 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.

P3. 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.

P4. Deriving and Optimally Deceptive Policy in Two-Player Iterated Games. **E. Paulson** and C. Griffin. American Control Conference, 2016.

P5. Optimal Process Control of Symbolic Transfer Functions. **C. Griffin** and E. Paulson. Feedback Computing, 2015.

P6. Better Timing of Cyber Conflict. **E. Paulson** and C. Griffin. Third ASE Conference on Cyber Security, 2014.

## Teaching

**Massachusetts Institute of Technology**, Cambridge, MA

- 15.370 - Data, Models, and Decisions — Spring 2020
  Teaching assistant for core Executive MBA class.
  TA evaluation score: 6.73/7
- 15.S60 - Computating in Optimization and Statistics — January 2020
  Co-taught a 3-hour session on machine learning in R to PhD students
- 15.S41 - Software Tools for Business Analytics — January 2020
  Taught a 3-hour session on machine learning in R to MIT undergrads
- 15.734 - Intro to Operations Management — Summer 2018
  Teaching assistant for core Executive MBA class.
  TA evaluation score: 6.26/7
- Microsoft Excel Training — Spring 2018, 2019
  Co-taught Microsoft Excel training for Executive MBA students (three 3-hour sessions).

- 15.731 - Risk Management — January 2018
  Teaching assistant for Executive MBA elective on risk management (two full-day sessions).
  TA evaluation score: 7/7

## Invited Talks

*Outcome-Driven Dynamic Refugee Assignment with Allocation Balancing.*

- London Business School: December 2021

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

- Stanford Causal Science Conference: November 2021

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

- Penn State College of Medicine: March 2021

*Optimizing Group-level Food Policy Interventions.*

- Stanford GSB: October 2021
- USC, Marshall Business School: January 2021
- UCLA, Anderson School of Business: January 2021
- Georgia Tech, ISyE: January 2021
- Naval Postgraduate School, OR: January 2021
- Harvard Business School: January 2021
- Columbia Business School: January 2021
- UBC, Sauder School of Business: December 2021
- University of Minnesota, ISyE: December 2020
- Boston College, Carrol School of Management: December 2020
- Wisconsin School of Business, UW Madison: December 2021
- UC Berkeley, Haas School of Business: December 2020
- Dartmouth, Tuck School of Business: November 2020
- MIT, Sloan School of Management: November 2020

*Optimal Interventions for Healthy Food Consumption Among Low Income Households.*

- Kellogg-Wharton OM Workshop: July 2020
- Health Systems Innovation Seminar Series, MIT Sloan: April 2019

## Conference Presentations

*Outcome-Driven Dynamic Refugee Assignment with Allocation Balancing.*

- ACM EC '22, MSOM '22

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

- POMS '21, INFORMS '20

*Fair Group-level Intervention Bundles.*

- INFORMS '21, INFORMS '20

*Optimal Interventions for Healthy Food Consumption Among Low Income Households.*

- POMS '21, Workshop on Mechanism Design for Social Good '20, INFORMS Annual Meeting '19, INFORMS Annual Meeting '18

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

- MSOM '18, INFORMS '17

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

- INFORMS '14

## Industry experience

**IBM Blockchain Solutions**, Yorktown Heights, NY — June 2019 – August 2019
Research intern

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

**Bates White**, Washington, D.C. — June 2014-August 2014
Summer consultant intern

**U.S. Army Engineer Research and Development Center**, Concord, MA — June 2013 – August 2013
Research intern with the Risk and Decision Science Team
Part of the DHS HS-STEM Summer Internship program

## Service

Reviewer for *M&SOM, Operations Research, POM*
Program Committee, ACM EAAMO Conference 2021
Area Chair, ACM EAAMO Conference 2022
Judge for the 2021 INFORMS Public Sector OR Best Paper Award