

# Yuan Shi

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## Research Interests & Methodologies

I apply data-driven optimization, game theory, behavioral and field experiments for social good, in domains including smallholder supply chains, sustainability, nonprofit and healthcare operations. I am driven by developing new, practical solutions with real-world impact that addresses the [United Nations Sustainable Development Goals](#).

## Education

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<b>Massachusetts Institute of Technology</b> , Cambridge, MA, US PhD Candidate in Operations Research; GPA: 5.0/5.0 Advisor: Prof. Yanchong (Karen) Zheng	<b>September 2021 – Present</b>
<b>Stanford University</b> , Stanford, CA, US Master's in Management Science & Engineering; GPA: 4.078/4.3	<b>September 2019 – June 2021</b>
<b>University of Cambridge</b> , Cambridge, UK Bachelor of Arts in Natural Sciences (Physics); First Class Honors	<b>September 2015 – June 2018</b>

## Journal Publications

(\*indicates first author by contribution)

### 1. [Two-sided Benefits of Price Transparency in Smallholder Supply Chains](#)

Yuan Shi\*, Joann de Zegher and Irene Lo, *Accepted at Management Science*

- 2nd Place, POMS College of Supply Chain Management Best Student Paper Award
- Accepted for presentation at 2022 *Marketplace Innovation Workshop*
- Accepted for presentation at 2022 *ACM conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO'22)*

### 2. [Surgical Scheduling via Optimization and Machine Learning with Long-Tailed Data](#)

Yuan Shi\*, Saied Mahdian, Jose Blanchet, Peter Glynn, Andrew Y. Shin, David Scheinker, *Health Care Management Science*, September 4, 2023, Vol. 26, 692-718

- Featured as outstanding publication in Health Care Management Science at 2024 *INFORMS Annual Meeting*

3. **Criteria for Early Pacemaker Implantation in Patients With Postoperative Heart Block After Congenital Heart Surgery**

Son Q Duong, Yuan Shi, David Scheinker, Claudia Algaze, et al.,

*Circulation: Arrhythmia and Electrophysiology*, November 2022, 15(11), e011145

## **Working Papers**

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4. **Incentive Design for Sustainable Practices in Smallholder Supply Chains**

Yuan Shi\*, Joann de Zegher and Yanchong Zheng, *Submitted*

- Accepted for presentation at 2024 MSOM Main Conference
- Accepted for presentation at 2025 Early-Career Sustainable Operations Management Workshop

5. **Incentivizing Smallholder Supplier Sustainability under Behavioral Regularities**

Yuan Shi\*, Iskandar Z Siregar and Yanchong Zheng, *Working paper*

- Winner, MIT Operations Research Center (ORC) Best Student Paper Award, 2025
- Accepted for presentation at 2025 MSOM Sustainable Operations SIG
- Accepted for presentation at 18th Annual Behavioral Operations Conference

6. **Optimizing Nonprofit Warehouse Operations under Display-Dependent Demand**

With Mahyar Eftekhari, Yanchong Zheng and collaborators from Midwest Food Bank (Arizona),  
*Work in progress*

- Accepted for presentation at 2025 MSOM Main Conference

## **Selected Talks**

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**“Incentivizing Smallholder Supplier Sustainability under Behavioral Regularities”**

- 2025 INFORMS Annual Meeting (upcoming)
- 2025 MSOM Sustainable Operations SIG (upcoming)
- 18th Annual Behavioral Operations Conference, 2025 (upcoming)
- 35th Annual POMS Conference, 2025

**“Optimizing Nonprofit Warehouse Operations under Display-Dependent Demand”**

- 2025 INFORMS Annual Meeting (upcoming)
- 2025 MSOM Main Conference (upcoming)
- 2025 INFORMS Computing Society Conference
- 35th Annual POMS Conference, 2025

**“Incentive Design for Sustainable Practices in Smallholder Supply Chains”**

- 2025 Early-Career Sustainable Operations Management Workshop
- 2024 MSOM Main Conference

- 34<sup>th</sup> Annual POMS Conference, 2024
- 2023 and 2024 INFORMS Annual Meeting

#### **“Two-sided Benefits of Price Transparency in Smallholder Supply Chains”**

- 35th Annual POMS Conference, 2025
- 2022 INFORMS Annual Meeting
- 2022 Marketplace Innovation Workshop

#### **“Surgical Scheduling via Optimization and Machine Learning with Long-Tailed Data”**

- 2024 INFORMS Annual Meeting

### **Scholarships and Awards**

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Winner, MIT Operations Research Center (ORC) Best Student Paper Award	2025
2 <sup>nd</sup> Place, POMS College of Supply Chain Management Best Student Paper	2025
Martin Fellowship, MIT Martin Family Society of Fellows for Sustainability	2025-2026
Rosemary Murray Scholarship for Academic Excellence	2016, 2017 and 2018
Silver Medal, Singapore Physics Olympiad	2014
Gold Medal, Singapore Mathematics Olympiad	2011

### **Teaching Experience**

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**Teaching Assistant**, 15.769 Operations Strategies (Spring 2025, upcoming), MIT

- *MIT Sloan MBA Elective with 84 MBA students*
- *Held weekly office hours, graded cases and reports. Student Rating: 6.9/7.0*

**Instructor**, 15.S60 Computing in Optimization and Statistics (Winter 2025), MIT

- *Led a 3-hour data analytics session using R with 22 first-year doctoral students*

**Teaching Assistant**, MS&E 220 Probabilistic Analysis (Summer 2020), Stanford University

- *Graduate-level class with 33 students*
- *Developed material, held weekly office hours, graded assignments and exams.*

### **Service and Volunteering**

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<b>Coordinator</b> , MIT ORC Seminar Series	2025
<b>Session Chair</b> , 2025 INFORMS Annual Meeting	2025
<b>Session Chair</b> , 35 <sup>th</sup> Annual POMS Conference	2025
<b>Reviewer</b> for Health Care Management Science	2024
<b>Global Impact Manager</b> , Bridges for Enterprise	2019 – Present
<ul style="list-style-type: none"> <li>▪ <i>Co-led impact research division, tracking the nonprofit's social impact and publishing annual reports for management and fundraising.</i></li> </ul>	

## Employment

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**Pempem**, Montreal, Canada

Summer Research Intern

**Summer 2023**

- *Developed centralized, data-driven pricing algorithms for smallholder commodity supply chains*

**Morgan Stanley**, London, UK

Full-time Fixed Income Analyst

**June 2018 – July 2019**

- *FX derivative structuring and pricing for hedge fund clients in Europe and Asia*

Sales and Trading Summer Analyst

**Summer 2017**

## Languages

English (fluent) and Mandarin Chinese (native)