

## ALIREZA BOLOORI

Michigan State University  
Department of Statistics and Probability  
C409 Wells Hall  
619 Red Cedar Rd, East Lansing, MI 48824

Phone: 517-353-3899  
E-mail: [bolooria@msu.edu](mailto:bolooria@msu.edu)  
[Google Scholar Page](#)

### EMPLOYMENT

---

- Assistant Professor, Michigan State University (Aug 2019 – present)  
Department of Statistics and Probability  
Department of Family Medicine (Joint Appointment)

### EDUCATION

---

- Ph.D. in **Industrial Engineering**, Arizona State University (May 2019)  
Dissertation title: *Data-driven Decision-Making for Medications Management Modalities*  
Advisor: Soroush Saghafian (Kennedy School of Government, Harvard University)  
Other committee members: John Fowler, Esma S. Gel, Douglas Montgomery, Curtiss B. Cook
- M.Sc. in **Industrial Engineering**  
Wayne State University, Detroit, MI (May 2013)  
Amirkabir University of Technology (Tehran Polytechnic), Iran (Jan 2010)
- B.Sc. in **Industrial Engineering**, Azad University, Tehran, Iran (Jun 2006)

### RESEARCH INTERESTS

---

- **Application:** healthcare policy and operations, healthcare delivery systems, medical decision-making, data-driven decision-making
- **Methodology:** stochastic operations research, dynamic programming, Markov decision processes, robust optimization, machine learning and big data analytics, agency and game theory

### RESEARCH AND PUBLICATIONS

---

#### *Works in Progress*

- J11. Evidence-based analytical models for the opioid prescription and abuse epidemic  
Joint work with Soroush Saghafian (Harvard University) and Stephen J. Traub (M.D.) (Mayo Clinic, Department of Emergency Medicine)
- J10. Misalignment of incentives in healthcare: A review with illustrations from the opioid crisis perspective  
Joint work with Frederi Viens and Taps Maiti (Michigan State University, Department of Statistics and Probability) and Bengt Arnetz (M.D.) and Judy Arnetz (Michigan State University, Department of Family Medicine)
- J9. Analyzing the impact of FDA-approved chemotherapy agents on clinical practice  
Joint work with John Fowler (Arizona State University), Alan Bryce (M.D.) (Mayo Clinic, Division of Hematology/Oncology), and Jeff Betcher (Mayo Clinic, Pharmacy)

*Peer-Reviewed Published Journal Articles*

- J8. **Boloori, A.**, S. Saghafian, H.A. Chakkera (M.D.), C.B. Cook (M.D.). [Data-driven management of post-transplant medications: An Ambiguous Partially Observable Markov Decision Process approach.](#) *Manufacturing & Service Operations Management*, 2020.
- INFORMS 2018: Decision Analysis Society Best Student Paper Award (runner-up)  
 MSOM 2018: Healthcare Special Interest Group (SIG) (among 9 papers accepted)  
 POMS 2017: College of Healthcare Operations Management Best Paper Award (runner-up)  
 INFORMS 2016: IBM Service Science Best Student Paper Award (finalist)
- J7. **Boloori, A.**, S. Saghafian, H.A. Chakkera (M.D.), C.B. Cook (M.D.). [Characterization of remitting and relapsing hyperglycemia in post-renal-transplant recipients.](#) *PLoS One*, 2015, 10(11):e0142363. doi: 10.1371/journal.pone.0142363.
- J6. Farahani, R.Z., M. Hekmatfar, **A. Boloori**, E. Nikbakhsh. [Hub location problems: A review of models, classification, solution techniques, and applications.](#) *Computers and Industrial Engineering.*, 2013, 64(4): 1096-1109.
- Cited over 400 times (Google Scholar)
- J5. **Boloori, A.**, R.Z. Farahani. [Facility location dynamics: An overview of classifications and applications.](#) *Computers and Industrial Engineering.*, 2012, 62(1): 408-420.
- Cited over 270 times (Google Scholar)
- J4. **Boloori, A.**, M. Zandieh, S.M.T. Fatemi Ghomi. [A cross-docking scheduling problem with sub-population multi-objective algorithms.](#) *The International Journal of Advanced Manufacturing Technology*, 2012, 58(5): 741-761.
- J3. **Boloori, A.**, S.M.T. Fatemi Ghomi, M. Zandieh. [Meta-heuristics implementation for scheduling of trucks in a cross-docking system with temporary storage.](#) *Expert Systems with Applications*, 2011, 38(3): 1964-1979.
- Cited over 130 times (Google Scholar)
- J2. **Boloori, A.**, S.M.T. Fatemi Ghomi, M. Zandieh. [Multi-objective genetic based algorithms for a cross-docking scheduling problem.](#) *Applied Soft Computing*, 2011, 11(8): 4954-4970.
- J1. **Boloori, A.**, S.M.T. Fatemi Ghomi, M. Zandieh. [A multi-criteria cross-docking scheduling with just in time approach.](#) *The International Journal of Advanced Manufacturing Technology*, 49(5), 2010: 741-756.

*Book Chapters*

- B4. **Boloori, A.**, M. Mahmoudi. [Networks.](#) In R.Z. Farahani, E. Miandoabchi (Eds.) *Graph Theory for Operations Research and Management: Applications in Industrial Engineering.* IGI Global, 2013.
- B3. **Boloori, A.**, M. Mahmoudi. [Digraphs.](#) In R.Z. Farahani, E. Miandoabchi (Eds.) *Graph Theory for Operations Research and Management: Applications in Industrial Engineering.* IGI Global, 2013.
- B2. **Boloori, A.**, M. Mahmoudi. [Networks Flow Applications.](#) In R.Z. Farahani, E. Miandoabchi (Eds.) *Graph Theory for Operations Research and Management: Applications in Industrial Engineering.* IGI Global, 2013.
- B1. Sheikh Sajadieh, M., **A. Boloori.** [Coordination in Supply Chain Management.](#) In R.Z. Farahani, S. Rezapour, L. Kardar (Eds.) *Supply Chain Sustainability and Raw Material Management: Concepts and Processes.* IGI Global, 2012.

### Conference Proceedings

- C3. **Boloori, A.**, S. Saghafian, H.A. Chakkera (M.D.), C.B. Cook (M.D.). [Data-driven management of post-transplant medications: An APOMDP approach](#). 2017 M&SOM Conference (extended abstract).
- C2. **Boloori, A.**, F. Ramtin, S.N. Rafienejad. [Applying Simulated Annealing Algorithm for Cross-Docking Scheduling](#). *Proceedings of the World Congress on Engineering and Computer Science (WCECS) 2009*, San Francisco, USA.
- C1. Rafienejad, S.N., F. Ramtin, **A. Boloori**. [A New Approach to Generate Rules in Genetic Algorithm Solution to a Job Shop Schedule by Fuzzy Clustering](#). *Proceedings of the World Congress on Engineering and Computer Science (WCECS) 2009*, San Francisco, USA.

### GRANT WRITING EXPERIENCE

---

1. Collaboration in writing a grant proposal (with Soroush Saghafian) for the *National Science Foundation* (NSF): [CMMI-1562645: Data-Driven Management of Post-Transplant Medications](#) (funded for \$321,457, Aug 2016 – Aug 2019)
2. Collaboration in writing a seed-grant proposal (with John Fowler) for Mayo Clinic: [AWD00033482: Mayo Small Grant Applications](#) (funded for \$15,000, Spring 2019)

### HONORS AND AWARDS

---

- Paper: Data-driven management of post-transplant medications: An APOMDP approach
  - **INFORMS 2018: Decision Analysis Society Best Student Paper Award** (runner-up)
  - **POMS 2017: College of Healthcare OM Best Paper Award** (runner-up)
  - **INFORMS 2016: IBM Service Science Best Student Paper Award** (finalist)
- Research and Travel Grants:
  - Mayo Clinic Cancer Center, Research Grant, Spring 2019: \$15,000
  - Arizona State University, Graduate College Preparing Future Faculty Travel Award, 2017
  - Arizona State University, Fulton Research Initiative Travel Award, 2017
  - Arizona State University, Graduate and Professional Student Association Award: 2017 MSOM conference, Chapel Hill, NC: \$950  
2015 INFORMS annual meeting, Philadelphia, PA: \$950
  - Wayne State University, College of Engineering: 2012 INFORMS annual meeting, Phoenix, AZ: \$1,100  
2011 INFORMS annual meeting, Charlotte, NC: \$950
- Instructional Fellowship, Wayne State University, College of Engineering (Spring 2013)
- Recipient of the best M.Sc. Thesis Award (university-wide award), Amirkabir University of Technology, Tehran, Iran, 2010
- Ranked 87th among more than 15,000 participants in the Iranian Nationwide Graduate Entrance Exam, 2007.

### TEACHING EXPERIENCE

---

#### *Instructor*

- Michigan State University, Department of Statistics and Probability

- *STT 430: Introduction to Probability and Statistics*  
Fall 2019      Avg. evaluation score: 2.0/5.0 (1: highest, 5: lowest) (33 students)
- Arizona State University, W. P. Carey School of Business (Department of Supply Chain Management)
  - *SCM 314: Analytics for Logistics* (online course) (Fall 2017)
  - *SCM 315: Business Decision Models (Business Analytics)*
    - Fall 2018      Avg. evaluation score: 5.91/7.0 (4 sessions, 108 students)
    - Spring 2018      Avg. evaluation score: 6.23/7.0 (6 sessions, 185 students)
    - Fall 2017      Avg. evaluation score: 5.10/7.0 (7 sessions, 216 students)
    - Summer 2017      Avg. evaluation score: 5.10/7.0 (2 sessions, 41 students)
    - Spring 2017      Avg. evaluation score: N/A (teaching internship) (2 sessions, 80 students)
- Wayne State University, College of Engineering
  - *BE 2100: Probability and Statistics for Engineering*  
Spring 2013      Avg. evaluation score: 3.80/5.0 (1 session, 66 students)

#### ***Lab Instructor***

- Arizona State University, Department of Industrial Engineering
  - *IEE 475: Simulating Stochastic Systems* (Fall 2015)

#### ***Teaching Assistant***

- Arizona State University, Department of Industrial Engineering
  - *IEE 300: Economic Analysis for Engineers* (Summer 2016)
  - *IEE 380: Probability and Statistics for Engineering* (Spring 2016)
- Wayne State University, Department of Industrial and Systems Engineering
  - *IE 6560: Deterministic Optimization* (Fall 2011 and 2012)
  - *BE 2100: Probability and Statistics for Engineering* (Spring 2012)

#### **INVITED TALKS AND PRESENTATIONS**

---

- Michigan State University, Dept. of Family Medicine (2019)
- University of Illinois at Chicago, Dept. of Mechanical & Industrial Engineering (2019)
- California State University Northridge, Dept. of Systems & Operations Management (2019)
- POMS 2019 (Washington, DC): “Analyzing the Impact of FDA-Approved Chemotherapy Agents on Clinical Practice”
- “Data-driven Management of Post-transplant Medications: An APOMDP Approach”
  - INFORMS 2018 (Phoenix, AZ): session chair
  - MSOM 2018 (Dallas, TX): Healthcare SIG
  - INFORMS 2017 (Houston, TX): session chair
  - MSOM 2017 (Chapel Hill, NC)
  - POMS 2017 (Seattle, WA): POMS CHOM Best Paper Award
  - INFORMS 2016 (Nashville, TN): IBM Service Science Best Student Paper Award

- **INFORMS 2018** (Phoenix, AZ): “An Empirical Analysis Of The Opioid Prescription Epidemic”
- **INFORMS 2017** (Houston, TX): “A Contract Mechanism For The Opioid Prescription Epidemic”
- **POMS 2017** (Seattle, WA): “Impact of Medicare’s Guidelines on the Opioid Epidemic”
- **INFORMS 2016** (Nashville, TN): “Impact of Ambiguity on Medications Management Strategies: An Application to NODAT”
- **POMS 2016** (Orlando, FL): “An Ambiguous POMDP Framework for the Management of Post-transplant Medications”
- **INFORMS 2015** (Philadelphia, PA): “A Robust POMDP Framework for the Management of Post-transplant Medications”
- **INFORMS 2012** (Phoenix, AZ): “Managing Diabetes through Integrated Care Delivery Systems for Prevention and Treatment”
- **INFORMS 2011** (Charlotte, NC): “Analyzing The Kidney Transplantation System with Immediate and Long-term Effects” (session chair)
- **Khaje Nasir Toosi University**, Dept. Industrial Engineering, Tehran, Iran (2009 and 2010)

## **PROFESSIONAL, COMMUNITY, AND UNIVERSITY SERVICES**

### ***Journal Referee or Reviewed Manuscripts***

- *Management Science*
- *Operations Research*
- *Manufacturing & Service Operations Management*
- *Production and Operation Management*
- *European Journal of Operational Research*
- *IIE Transactions*
- *IIE Transactions on Healthcare Systems Engineering*
- *Health Care Management Science*

### ***Mentorship***

- Department of Supply Chain Management, Arizona State University
  - Thesis committee member: Hibah Agwani (Fall 2018)
  - Internship mentoring: Pierre Marot (Fall 2017)

## **PROFESSIONAL DEVELOPMENT**

- Preparing Future Faculty (PFF) Program, Arizona State University (Aug 2016 – May 2017)

## **WORK EXPERIENCE**

- Company: ACE SANAT Co., Ltd.
  - Activity: Supplier of automotive manufacturing parts for IKCO and SAIPA
  - Position: Quality control engineer (Sep 2007 – Jun 2010)

## **MEMBERSHIPS**

- Institute for the Operations Research and the Management Sciences (INFORMS) Societies:
  - Manufacturing and Service Operations Management (MSOM)
  - Health Applications Society (HAS)
  - Decision Analysis Society (DAS)
  - Public Sector Operations Research (PSOR)
  - Applied Probability Society (APS)
- Production and Operation Management Society (POMS)
- Institute of Industrial and Systems Engineering (IISE)