

# Sakine Batun

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## EDUCATION

- Ph.D. in Industrial Engineering, 2011 - University of Pittsburgh, Pittsburgh, PA, USA
- M.S. in Industrial Engineering, 2006 - Middle East Technical University, Ankara, Turkey
- B.S. in Industrial Engineering, 2004 - Middle East Technical University, Ankara, Turkey

## CURRENT AND PREVIOUS APPOINTMENTS

- Assistant Professor: July 2012 to date  
Department of Industrial Engineering, Middle East Technical University, Ankara, Turkey
- Postdoctoral Fellow: September 2011 – May 2012  
Richard Ivey School of Business, University of Western Ontario, London, ON, Canada
- Intern: May 2007 – August 2007  
Health Care Policy & Research Department, Mayo Clinic, Rochester, MN, USA
- Research Assistant: September 2006 – August 2011  
Department of Industrial Engineering, University of Pittsburgh, Pittsburgh, PA, USA
- Research Assistant: September 2004 – August 2006  
Department of Industrial Engineering, Middle East Technical University, Ankara, Turkey

## RESEARCH ACTIVITIES

### Journal Publications

- Batun, S., Çavdar, B. and A. Dipkaya, "Managing Word-of-Mouth through Capacity and Advertisement Level Decisions", to appear in *Flexible Services and Manufacturing Journal*.
- Batun, S., Begen, M.A. and G.S. Zaric, "Optimal Co-Development Contracts for Companion. Diagnostics", *European Journal of Operational Research*, Volume 323, Issue 1, pages 241-252, 2025.
- Göksoy Kalaycılar, E., Azizoğlu, M. and S. Batun, "Disassembly line balancing with hazardous task failures – Model based solution", *Computers and Industrial Engineering*, 190, # 110089, 2024.
- Canbilen Sütüçen, T., Batun, S. and M. Çelik, "Integrated Reinforcement and Repair of Interdependent Infrastructure Networks Under Disaster-Related Uncertainties", *European Journal of Operational Research*, Volume 308, Issue 1, pages 369-384, 2023.
- Göksoy Kalaycılar, E., Batun, S. and M. Azizoğlu, "A Stochastic Programming Approach for the Disassembly Line Balancing with Hazardous Task Failures", *International Journal of Production Research*, Volume 60, Issue 10, pages 3237-3262, 2022.
- Biçe, K. and S. Batun, "Closed-Loop Supply Chain Network Design under Demand, Return and Quality Uncertainty", *Computers & Industrial Engineering*, Volume 155, Article Number 107081, 2021.
- Karpuz, E. and S. Batun, "Nurse Scheduling and Rescheduling Under Uncertainty", *Hacettepe University Journal of Economics and Administrative Sciences*, Volume 38, Issue 1, pages 75-95, 2020.
- Batun, S., Schaefer, A.J., Bhandari, A. and M.S. Roberts, "Optimal Liver Acceptance for Risk-Sensitive Patients", *Service Science*, Volume 10, Issue 3, pages 320-333, 2018.

- Batun, S. and L.M. Maillart, "Reassessing Tradeoffs Inherent to Simultaneous Maintenance and Production Planning", *Production and Operations Management*, Volume 21, Issue 2, pages 396-403, 2012.
- Batun, S., Denton, B.T., Huschka, T.R., and A.J. Schaefer, "Operating Room Pooling and Parallel Surgery Processing Under Uncertainty", *INFORMS Journal on Computing*, Volume 23, Issue 2, pages 220-237, 2011.
- Köksalan, M. and S. Batun, "Assigning Regions to Sales Representatives at Pfizer Turkey", *INFORMS Transactions on Education*, Volume 9, Issue 2, pages 70-83, 2009.
- Batun, S. and M. Azizoğlu, "Single Machine Scheduling with Preventive Maintenances", *International Journal of Production Research*, Volume 47, Issue 7, pages 1753-1771, 2009.

### Conference Proceedings Publications

- Göksoy Kalaycılar, E., Batun, S. and M. Azizoğlu, "A Disassembly Line Balancing Problem with Hazardous Task Failures", *IFAC-PapersOnLine*, Volume 55, Issue 10, pages 458-463, 2022.
- Batun, S., "A Tabu Search Algorithm for Sales Territory Alignment Problem", *35th International Conference on Computers & Industrial Engineering*, pp.251-256, Istanbul, Turkey, June 2005.

### Book Chapters

- Köksalan M. and S. Batun, "Assigning Regions to Sales Representatives at Pfizer Turkey", In: Huber S., Geiger M., de Almeida A. (eds) *Multiple Criteria Decision Making and Aiding (International Series in Operations Research & Management Science, Vol. 274)*, Springer, Cham, 2019.
- Batun, S. and M.A. Begen, "Optimization in Healthcare Delivery Modeling: Methods and Applications", In: Denton B. (eds) *Handbook of Healthcare Operations Management (International Series in Operations Research & Management Science, Vol. 184)*, Springer, New York, NY, 2013.

### Graduate Theses Supervised

#### MS Theses

- "A Stochastic Programming Approach to the Single Machine Makespan Problem with Random Breakdowns", Tarık Gürel, December 2022 (co-advised with Meral Azizoğlu).
- "Managing Word-of-Mouth with Capacity Allocation and Advertisement", Asya Dipkaya, September 2021 (co-advised with Bahar Çavdar).
- "Management of Interdependent Infrastructure Networks Under Disaster-Related Uncertainties", Tuğçe Canbilen, August 2020 (co-advised with Melih Çelik).
- "Multi-Period Appointment Planning and Scheduling in Healthcare", Utku Tarık Bilgiç, December 2019.
- "Order Picking Oriented Storage Assignment Problem in A Vertical Lift Module System", Burak Öz, December 2019 (co-advised with Haldun Süral).
- "Value of Modeling Uncertainty in Multi-Objective Programming", Ece Yiğit, September 2019 (co-advised with Melih Çelik).
- "Closed-Loop Supply Chain Network Design Under Demand, Return and Quality Uncertainty", Kadir Biçe, May 2017.
- "Nurse Scheduling and Rescheduling Problem Under Uncertainty", Ece Karpuz, December 2015.

#### PhD Dissertations

- "A Stochastic Disassembly Line Balancing Problem with Hazardous Tasks", Eda Göksoy Kalaycılar, October 2020 (co-advised with Meral Azizoğlu).

### Research Projects

- Stochastic Programming Approaches for Multi-Period Appointment Scheduling Problems (Çok Dönemli Randevu Çizelgeleme Problemi İçin Rassal Programlama Yaklaşımları)  
BAP-08-11-2016-065, METU Scientific Research Project, Ankara, Turkey, July 2016 – December 2016

## **TEACHING ACTIVITIES**

### **Courses Taught**

*Department of Industrial Engineering, Middle East Technical University*

- Introduction to Probability (Fall 2022, 2023, 2024)
- Network Flows and Integer Programming (Spring 2022, 2023, 2024, 2025)
- Mathematical Modeling and Applications (Spring 2019, Fall 2019, 2020)
- Fundamentals of Operational Research (Fall 2015, 2016, 2017, 2018, 2021)
- Stochastic Programming (Spring 2015, 2016, 2020)
- Decision Analysis (Spring 2013, 2016, 2017, 2018)
- Decision Making in Health Care (Spring 2013, 2014, 2015, 2017, 2020, 2021)
- Work Systems Analysis and Design (Fall 2012, 2013, 2014, 2017, 2020)

*Department of Industrial Engineering, University of Pittsburgh*

- Probability and Statistics for Engineers I (Fall 2010)

### **HONORS AND AWARDS**

- Postdoctoral Fellowship from the University of Western Ontario and Ontario Ministry of Research and Innovation, September 2011 – May 2012
- Outstanding Teaching Assistant Award from the Department of Industrial Engineering, University of Pittsburgh, 2011
- First place in the 2010 IIE Doctoral Colloquium Poster Competition
- First place in the 2006 INFORMS Case Competition (joint work with Murat Köksalan)
- Graduate Study Scholarship from TUBITAK, October 2005 – June 2006

### **PROFESSIONAL AFFILIATIONS**

- ORST (Operational Research Society, Turkey)
- INFORMS (Institute for Operations Research and the Management Sciences)