Dr. Yasar Levent Kocaga

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Education

2010 **Marshall School of Business**
University of Southern California
Ph.D. in Business Administration (Operations Management)
Dissertation Title: Essays on Capacity Sizing and Dynamic Control of Large Scale Service Systems
Advisor: Dr. Amy R. Ward

2004 **Bilkent University**
M.S. in Industrial Engineering
Thesis Title: Spare Parts Inventory Management with Delivery Lead Times and Rationing
Advisor: Dr. Alper Sen

2002 **Bilkent University**
B.S. in Industrial Engineering

Research Interests

Methodology: Stochastic Modeling and Optimization, Stochastic Optimal Control, Markov Decision Processes, and Queueing Theory.
Application Areas: Inventory and Supply Chain Management, Pricing and Revenue Management, Service Operations Management, and Operations-Marketing Interface.

Academic Positions

9/2018 - present	Associate Professor of Operations Management
9/2010 - 9/2018	Assistant Professor of Operations Management Information and Decision Sciences Department Sy Syms School of Business, Yeshiva University
2/2014 - 6/2014	Visiting Scholar Department of Information, Operations, and Management Sciences Stern School of Business, New York University
7/2012 - 9/2012	Academic Mentor Research in Industrial Projects for Students Program Institute for Pure and Applied Mathematics University of California Los Angeles
7/2011 - 9/2011	Academic Mentor Research in Industrial Projects for Students Program Institute for Pure and Applied Mathematics University of California Los Angeles
2004 - 2010	Research and Teaching Assistant Department of Information and Operations Management Marshall School of Business, University of Southern California.
2002 - 2004	Research and Teaching Assistant Industrial Engineering Department, Bilkent University, Ankara, Turkey

Publications

Journal Publications (Accepted or Appeared)

1. Kocaga, Y. L. 2017. An Approximating Diffusion Control Problem for Dynamic Admission and Service Rate Control in a $G/M/N+G$ Queue. *Operations Research Letters* **45** (6) 538-542.

2. Kocaga, Y. L., M. Armony and A. R. Ward. 2015. Staffing Call Centers with Uncertain Arrival Rates and Co-sourcing. *Production and Operations Management* **24** (7) 1101-1117.

3. Giloni, A., Y. L. Kocaga and P. Troy. 2013. State Dependent Pricing Policies: Differentiating Customers Through Valuations and Waiting Costs . *Journal of Revenue and Pricing Management* **12** 139–161.

4. Kocaga, Y. L. and A. R. Ward. 2010. Admission Control for a Multiserver Queue with Abandonment. *Queueing Systems* **65** (3) 275–323.

5. Kocaga, Y. L. and A. Sen. 2007. Spare Parts Inventory Management with Demand Lead Times and Rationing. *IIE Transactions* **39** (9) 879–898. (Also featured in Industrial Engineer, September 2007)

Working Papers

1. Kocaga, Y. L. and C. Lee. Operational Perils and Benefits of Free Trials in Large Scale Service Systems. In preparation. April 2019.

2. Kocaga, Y. L. and Y. - M. Lee. Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. In progress. April 2019.

3. Kocaga, Y. L. Universal Optimal Staffing for Service Systems with Unknown Arrival Rates. In progress. April 2019.

4. Kocaga, Y. L. Pricing for Renewable Assets with an Unknown Demand Function. In progress. April 2019.

5. Kocaga, Y. L. Asymptotically Optimal Admission and Service Rate Control for a multi-server queue with abandonment. In progress. April 2019.

Conference and Seminar Presentations

- ◇ Operational Perils and Benefits of Free Trials in Large Scale Service Systems. INFORMS 2018 Conference, Phoenix, AZ, November 5, 2018.
- ◇ Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. INFORMS 2018 Conference, Phoenix, AZ, November 6, 2018.
- ◇ Operational Perils and Benefits of Free Trials in Large Scale Service Systems. INFORMS International Conference, Taipei, Taiwan, June 17, 2018.
- ◇ Operational Perils and Benefits of Free Trials in Large Scale Service Systems. POMS 2018 Conference, Houston, TX, May 4, 2018.
- ◇ Operational Perils and Benefits of Free Trials in Large Scale Service Systems. School of Business, Stevens Institute of Technology, Hoboken, NJ, March 5, 2018.
- ◇ Operational Perils and Benefits of Free Trials in Large Scale Service Systems. Zicklin School of Business, Baruch College, New York, NY, March 1, 2018.

- ◇ Operational Perils and Benefits of Free Trials in Large Scale Service Systems. Sy Syms School of Business, Yeshiva University, New York, NY, February 19, 2018.
- ◇ Operational Benefits of Free Trials in Large Scale Service Systems. INFORMS 2017 Conference, Houston, TX, October 24, 2017.
- ◇ Optimal Service Rate And Admission Control For A Queue. INFORMS 2016 Conference, Nashville, TN, November 13, 2016.
- ◇ Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. INFORMS 2015 Conference, Philadelphia, PA, November 4, 2015.
- ◇ Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. INFORMS 2014 Conference, San Francisco, CA, November 12, 2014.
- ◇ Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. INFORMS 2013 Conference, Minneapolis, MN, October 7, 2013.
- ◇ Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. MSOM 2013 Conference, INSEAD, Fontainebleau, France, July 29, 2013.
- ◇ Optimal Stock Allocation for Production-Inventory Systems with Multiple Impatient Customer Classes. EURO 2013 Conference, La Sapienza , Rome, Italy, July 2, 2013.
- ◇ Staffing and Admission Control in an $M/M/N+M$ Queue with an Uncertain Arrival Rate, IBM Thomas J. Watson Research Center, Yorktown Heights, NY, November 21, 2012.
- ◇ Staffing and Admission Control in an $M/M/N+M$ Queue with an Uncertain Arrival Rate. INFORMS 2012 Conference, Phoenix, Arizona, October 17, 2012.
- ◇ Staffing and Admission Control in an $M/M/N+M$ Queue with an Uncertain Arrival Rate. MSOM 2012 Conference, Columbia University, New York, NY, June 19, 2012.
- ◇ Staffing and Admission Control in an $M/M/N+M$ Queue with an Uncertain Arrival Rate. IOMS Department OM Ph.D. Seminar, Stern School of Business, NYU, April 30, 2012.
- ◇ Augmenting Revenue Maximization Policies for Facilities where Customers Wait for Service. INFORMS 2011 Conference, Charlotte, NC, November 15, 2011.
- ◇ Augmenting Revenue Maximization Policies for Facilities where Customers Wait for Service. INFORMS Revenue Management and Pricing Section Conference, Columbia University, New York, NY, June 24, 2011.

- ◇ Staffing and Dynamic Outsourcing in a Call Center under Arrival Rate Uncertainty.
  INFORMS 2010 Conference, Austin, TX, November 7, 2010.
- ◇ Dynamic Outsourcing for Call Centers.
  Yeshiva University Sy Syms School of Business, April 9, 2010.
- ◇ Dynamic Outsourcing for Call Centers.
  Sauder School of Business, University of British Columbia, March 12, 2010.
- ◇ Managing Staffing and Control in a Call-Center Co-sourcing Environment.
  INFORMS 2009 Conference, San Diego, CA, October 5, 2009.
- ◇ Dynamic Outsourcing for Call Centers: An Admission Control Model with Abandonments.
  Applied Probability 2009 Conference, Cornell University, Ithaca, NY, July 15,2009.
- ◇ Dynamic Outsourcing for Call Centers: An Admission Control Model with Abandonments.
  MSOM 2009 Conference, MIT, Boston, MA,June 29, 2009.
- ◇ Dynamic Outsourcing for Call Centers: An Admission Control Model.
  SoCal OR/OM Day 2009, UCLA, Los Angeles, CA, June 12, 2009.
- ◇ A Policy for Dynamic Outsourcing in Call Centers.
  INFORMS 2008 Conference, Washington, DC, October 13, 2008.
- ◇ Inventory Models for Substitutable Products.
  INFORMS 2005 Conference, San Francisco, CA, October 13, 2005.
- ◇ Spare Parts Inventory Management with Delivery Lead Times and Rationing.
  MSOM 2004 Conference, TU/e, Eindhoven, Netherlands, July 1, 2004.

Teaching

Teaching, YESHIVA University Sy Syms School of Business

Undergraduate Courses

Course Number and Name	Semester and Year
IDS 2550 Business Intelligence & Consumer Insights	Spring 2018
IDS 1456 Quantitative Methods for Management	Spring 2019 (2 sections), Fall 2018 (3 sections), Spring 2018 (2 Sections), Fall 2017 (2 sections), Spring 2017 (3 sections), Fall 2016 (2 sections), Spring 2016 (3 sections), Fall 2015 (2 sections), Spring 2015 (2 sections) Fall 2014 (2 sections),
IDS 2160 Decision Models	Spring 2015
IDS 1601 Operations Management	Fall 2013 (3 sections), Spring 2013 (3 sections) Fall 2012 (2 sections), Spring 2012 (2 sections) Fall 2011 (2 sections), Spring 2011 (2 sections) Fall 2010 (2 sections)

Operations Management is a core class at the Sy Syms School of Business. The class teaches the students the fundamental aspects of manufacturing and service operations and covers a diverse blend of topics that includes process and capacity analysis, queueing theory, revenue management, inventory and supply chain management, project management and linear programming.

Quantitative Methods for Management is the core course that introduces students to applied calculus and is geared towards developing analytical thinking and modeling skills necessary for managers. The first half of the course starts with an algebra review and then proceeds to functions and then to special functions such as logarithmic and exponential functions and their applications in business and ends with the derivative of a function and optimization of functions of a single variable. The second part of the course is primarily on simple and multiple linear regression using a hands-on approach.

Decision Models is an advanced undergraduate elective course on **prescriptive analytics** (and core for Business Intelligence and Marketing Analytics major) and focuses on spreadsheet modeling, optimization, and simulation. The course begins with a review of advances Excel tools such as data tables, pivot tables, vlookup, hlookup and goal seek, and is geared primarily towards business applications. Then, the course proceeds to linear and nonlinear optimization followed by decision trees and simulation.

Business Intelligence & Consumer Insights is an advanced undergraduate elective course on **predictive analytics** (and a core course for Business Intelligence and Marketing Analytics major) and introduces students to advanced statistical learning methods. The course has two components: (1) A theoretical component where the learning objective is to equip students with the concepts behind learning techniques including regression, classification, and unsupervised learning. (2) A practical component where the aforementioned techniques are illustrated hands-on via applied R labs.

Teaching/Advising, UCLA Institute for Pure and Applied Mathematics

Semester and Year	**Program Name**
Summer 2012	Research in Industrial Projects for Students (RIPS). (Academic Mentor for Symantec Research Project Team)

Academic Mentor for the Symantec Research sponsored student project titled "Optimization of the Cybersecurity TRIAGE Method for Real-world Criminal Events". I held introductory lectures to familiarize the students with Multi-Criteria Decision Analysis (MCDA), Aggregation Functions, Fuzzy Measures, and the Chouquet Integral. I also provided feedback and advise with regards to the progress of the project via regular meetings throughout the program.

Teaching/Advising, UCLA Institute for Pure and Applied Mathematics

Semester and Year	**Program Name**
Summer 2011	Research in Industrial Projects for Students (RIPS). (Academic Mentor for IBM Research Project Team)

Academic Mentor for the IBM Research sponsored student project titled "Adversary Deception in Planning under Uncertainty". I held introductory lectures to familiarize the students with Markov Decision Processes (MDP) and Hidden Markov Models (HMM), and provided feedback and advise with regards to the progress of the project via regular meetings throughout the program.

Teaching, USC Marshall School of Business

Undergraduate Courses

Semester and Year	Course Number and Name
Summer 2007	BUAD 311 Operations Management

Operations Management is a core class at Marshall School of Business. I was solely responsible for the administration of the class, which was organized around a blend of topics including process and capacity analysis, queueing theory, inventory and supply chain management, project management and linear programming. I also administered the "Factory Simulation Game" and had the students analyze and presents case studies to foster a dynamic and hands-on learning environment.

Professional Service and Membership

- Ad hoc reviewer for:
  - *Journal of the Operational Research Society*
  - *IIE Transactions*
  - *IIIE Transactions on Automation Science and Engineering*
  - *Management Science*
  - *Manufacturing and Service Operations Management*
  - *Mathematics of Operations Research*
  - *Naval Research Logistics*
  - *Operations Research*
  - *Operations Research Letters*
  - *Queueing Systems*
- Member of Institute for Operations Research and Management Science (INFORMS), Manufacturing and Service Operations Management Society (MSOM), Applied Probability Society (APS), Production and Operations Management Society (POMS) and Revenue Management and Pricing Section of INFORMS.
- Curriculum Committee, Sy Syms School of Business, Yeshiva University.

Honors and Awards

- ◇ Applied Probability Society 2009 Conference Student and Young Faculty Support.
- ◇ Doctoral Fellowship, University of Southern California.
- ◇ Graduate Fellowship, Bilkent University.
- ◇ Undergraduate Fellowship, Bilkent University.

References

- ◇ Dr. Amy R. Ward (Co-author and Ph.D. Advisor)
  Professor of Operations Management
  Marshall School of Business, University of Southern California
  amyward@marshall.usc.edu
- ◇ Dr. Mor Armony (Co-author)
  Professor of Operations Management
  Leonard N. Stern School of Business, New York University
  marmony@stern.nyu.edu
- ◇ Dr. Chihoon Lee (Co-author)
  Associate Professor of Business Intelligence & Analytics
  School of Business, Stevens Institute of Technology
  chihoon.lee@stevens.edu