

E. LERZAN ÖRMECİ

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RESEARCH INTERESTS

Modeling and analyzing systems such as health care systems, call centers, supply chains and marketing applications, mainly using Markov decision processes; Analysis of telecommunication systems using queueing theory; Statistical analysis and estimation of random processes

EDUCATION

CASE WESTERN RESERVE UNIVERSITY, Weatherhead School of Management, Cleveland.
Ph.D. Degree in Operations Research; November 1998

Dissertation Topic: “*Idling rules for queues with preferred customers*”

Dissertation Advisors: Dr. Apostolos Burnetas and Dr. Hamilton Emmons

MIDDLE EAST TECHNICAL UNIVERSITY, School of Engineering, Ankara, Turkey
Master of Science in Industrial Engineering, January 1993

Thesis Topic: “*Normalization Constant Based Exact Algorithms for Queueing Networks*”

Thesis Advisor: Dr. Çağlar Güven

MIDDLE EAST TECHNICAL UNIVERSITY, School of Engineering, Ankara, Turkey
Bachelor of Science in Industrial Engineering, May 1990

EXPERIENCE

KOÇ UNIVERSITY, İstanbul, Turkey

Associate Professor, Department of Industrial Engineering *2009-Present*

Assistant Professor, Department of Industrial Engineering *2001-2009*

The Council of Higher Education of the Republic of Turkey, Ankara, Turkey *2005-Present*

Associate Professor, Industrial Engineering

UNIVERSITY OF PENNSYLVANIA, WHARTON SCHOOL, Philadelphia, Pennsylvania, USA

Visiting Professor, Operations and Information Management Department
2010-2011

EURANDOM, Technical University of Eindhoven (TUE), The Netherlands *1999-2001*

Research Fellow, Stochastic Networks Group

ERASMUS UNIVERSITY, Rotterdam, The Netherlands *Fall 2000*

Instructor, Rotterdam School of Economics

CASE WESTERN RESERVE UNIVERSITY, Cleveland, Ohio, USA *1993-1998*

Teaching Assistant, Department of Operations Research

CLEVELAND CLINIC FOUNDATION, Cleveland, Ohio, USA *Summer 1997*

System Analyst, Department of Anesthesiology

CASE WESTERN RESERVE UNIVERSITY, Cleveland, Ohio, USA *Summer 1996*

Research Assistant, Department of Operations Research

CASE WESTERN RESERVE UNIVERSITY, Cleveland, Ohio, USA *Summer 1995*

System Analyst, Associate Dean's Office-Case School of Engineering

MIDDLE EAST TECHNICAL UNIVERSITY, Ankara, Turkey *1990-1993*

Teaching Assistant, Department of Industrial Engineering

PUBLICATIONS

Publications in Refereed Journals

Örmeci, E. L., Burnetas A. N. and van der Wal J., “Admission Policies for a Two Class Loss System,” *Stochastic Models*, Vol. 17, Issue Nr. 4, 513-540, 2001.

Örmeci, E. L., Burnetas A. N. and Emmons H., “Admission Policies for a Two Class Loss System with Random Rewards,” *IIE Transactions*, Vol 34, 813-822, 2002.

Resing J. and Örmeci, E. L., “A Tandem Queueing Model with Coupled Processors,” *Operations Research Letters*, Vol. 31, 383-389, 2003.

Örmeci, E. L. and Burnetas A. N., “Admission control with batch arrivals,” *Operations Research Letters*, Vol. 32, 448-454, 2004.

Örmeci, E. L., “Dynamic admission control in a call center with one shared and two dedicated service facilities,” *IEEE Transactions on Automatic Control*, Vol. 49, 1157-1161, 2004.

Örmeci, E. L. and Burnetas A. N., “Dynamic admission control for loss systems with batch arrivals,” *Advances App. Prob.*, Vol. 37, 915-937, 2005.

Örmeci, E. L. and van der Wal J., “Admission Policies for a Two Class Loss System with General Interarrival Times,” *Stochastic Models*, Vol. 22, No:1, 37-53, 2006.

Örmeci E. L., Gürsoy, A., Tunca, G., and Erman B., “Computational Basis of Knowledge-Based Conformational Probabilities Derived from Local and Long-Range Interactions in Proteins,” *PROTEINS: Structure, Function, and Bioinformatics*, vol 66, No:1, 29-40, 2007.

Çil E. B., Karaesmen F., and Örmeci E. L., “Structural Results on a Batch Acceptance Problem for Capacitated Queues,” *Mathematical Methods of Operations Research*, vol 66:2, 263-274, 2007.

Gayon, J. P., Talay I., Karaesmen F., and Örmeci, E. L., “Optimal Pricing and Production Policies of a Make-to-Stock System with Fluctuating Demand,” *Probability in the Engineering and Informational Sciences*, vol 23, 205–230, 2009.

Çil E. B., Örmeci E. L., Karaesmen F., “Effects of System Parameters on the Optimal Policy Structure in a Class of Queueing Control Problems,” *Queueing Systems*, vol 61, 273-304, 2009.

Güneş, E. D., Akşin O. Z., Örmeci, E. L., and Özden, S. H., “Modeling Customer Reactions to Sales Attempts: When Cross-Selling Backfires,” *Journal of Service Research*, vol 13, 168 – 183, 2010.

Örmeci, E. L., and Akşin O. Z., “Revenue Management Through Dynamic Cross-Selling in Call Centers,” *Production and Operations Management*, 19(6): 742–756, 2010.

Ulukuş, M. Y., Güllü R., Örmeci E. L., “Admission and Termination Control of a Two Class Loss System,” *Stochastic Models*, 27: 2–25, 2011.

Çil E. B., Karaesmen F., Örmeci E. L., “Dynamic Pricing and Scheduling in a Multi-Class Single-Server Queueing System,” *Queueing Systems*, 67: 305–331, 2011.

Publications in Refereed Conference Proceedings

Örmeci, E. L., Gayon, J. P., Talay I., and Karaesmen F., “Optimal Policies under Different Pricing Strategies in a Production System with Markov-Modulated Demand,” *System Modeling and Optimization - Proceedings of 22nd IFIP TC 7 Conference*, eds. Ceragioli, F., Dontchev, A., Furuta, H., Marti, K. Pandolfi L., 239-250, Springer, 2006.

Çil E. B., Karaesmen F., and Örmeci E. L., “Sensitivity Analysis on a Dynamic Pricing Problem of an M/M/c Queueing System,” 12th IFAC Symposium on ICP in Manufacturing (INCOM), 2006.

Çakan N., Akşin O. Z., Karaesmen F., and Örmeci E. L., “Joint Flexibility and Capacity Design in Service and Manufacturing Systems,” Prague Stochastics, 2006.

Emil, E., Salman, S., and Örmeci, E. L., “Shift Scheduling in Call Centers with Multiple Skill Sets and Transportation Costs,” IEEE International Conference on Service Operations and Logistics, and Informatics, 2007.

Gel, A. , Gel, E., Örmeci, E. L., Salman, F. S., Yücel E., “Designing Routes to Match Collected Workload with the Processing Capacity”, Proceedings of the International Workshop on Freight Transportation and Logistics (ODYSSEUS), May 26-29 2009, Cesme, Turkey.

Publications in Other Conference Proceedings

Akşin O. Z., Karaesmen F., and Örmeci E. L., “On the Interaction Between Resource Flexibility and Flexibility Structures,” *Proceedings of the Fifth International Conference on 'Analysis of Manufacturing Systems - Production Management'*, 2005.

Refereed Book Chapters

Akşin O. Z., Karaesmen F., and Örmeci E. L., “A Review of Workforce Cross-Training in Call Centers from an Operations Management Perspective,” in *Handbook on Workforce Cross Training*, d. D. Nembhard, CRC Press, 2007.

Research in Progress

Bavafa, H., Örmeci, E. L., Savin, S., “Optimal Mix of Surgical Procedures Under Stochastic Patient Length of Stay,” 2011.

Çakan N., Akşin O. Z., Karaesmen F., Örmeci E. L., “Joint Flexibility and Capacity Design with Human Resource Considerations,” 2009.

Güneş, E. D., Örmeci E. L., Kunduzcu, D., “Screening for Colorectal Cancer: The Case of Resource Constraints,” 2010.

Güneş, E. D., Örmeci E. L., Kunduzcu, D., “Admission Control and Scheduling for Preventive Services,” 2010.

Kaya, O., Kubali D., Örmeci E. L., “A Coordinated Production and Shipment Model in a Supply Chain,” 2010.

Kaya, O., Kubali D., Örmeci E. L., “Stochastic Models for the Coordinated Production and Shipment Problem in a Supply Chain,” 2010.

Salman, S., Örmeci, E. L., Emil, E., “Shift Scheduling in Call Centers with Transportation Costs,” 2010.

Turgay, Z. Z., Karaesmen, F., Örmeci, E. L. “A Robust Revenue Management Problem with Interval Uncertainty,” 2011.

Turgay, Z. Z., Karaesmen, F., Örmeci, E. L. “Robust Control of Stochastic and Queueing Problems,” 2011.

Yücel, E., Salman F. S., Örmeci E. L., Gel, E. S. , Gel A., “Logistics of Clinical Testing: Bicriteria Heuristics for Routing and Scheduling of Specimen Collection,” 2011.

Yücel, E., Salman S., Gel E. S., Örmeci E. L, Gel A. “Optimizing Specimen Collection for Processing in Clinical Testing Laboratories,” 2011.

Yücel, E., Salman S., Örmeci E. L, Gel E. S., “An Approximation Algorithm for Multi-Vehicle Collection for Processing Problem with Accumulating Workload at Nodes,” 2011.

SPONSORED RESEARCH

TÜBİTAK, 2012 - 2014: Optimal Patient Admission Policies Under Random Patient Length of Stay; Principal Investigator: E. L. Örmeci; Funding: 90,066 YTL.

TÜBİTAK, 2011 - 2013: Service Systems with Strategic Customers: Equilibrium Analysis and the Value of Information; Principal Investigator: O. Z. Akşin; Investigators: A. F. Karaesmen, E. L. Örmeci; Funding: 25,000 YTL.

TÜBİTAK, 2006 - 2008: Workforce Planning for Call Centers; Principal Investigator: E. L. Örmeci; Investigators: D. Aksen, A. Erdem (Boğaziçi Üniversitesi), F. S. S. Salman, S. Savaş; Funding: 101,114.50 YTL.

KÜMPER, 2004 - 2006: Flexibility Design and Optimization in Service Systems; Co-Principal Investigators: O. Z. Akşin, F. Karaesmen, E. L. Örmeci; Funding: \$19,000.

KÜMPREM, 2004 - 2005: Cross-Selling in Call Centers: Accounting for Customer Reactions; Co-Principal Investigators: O. Z. Akşin, E. D. Güneş, E. L. Örmeci; Funding: \$15,000.

SELECTED PRESENTATIONS

16th INFORMS Applied Probability Conference, “Robust Control of Inventory and Queueing Problems,” Stockholm, Sweden, July 2011.

INFORMS Conference, “Logistics of Clinical Testing,” October 2010.

3rd Meeting of the EURO Working Group on Stochastic Modeling, “Admission Control and Scheduling for Preventive Services,” University of Athens, Nafplio, June 2010.

15th INFORMS Applied Probability Conference, “Dynamic Pricing and Scheduling in a Multi-Class Queue,” Ithaca, USA, July 2009.

INFORMS Conference, “Dynamic Cross-Selling and Pricing with Promotional Products,” October 2008.

INFORMS Conference, “Shift Scheduling in Call Centers with Multiple Skill Sets and Transportation,” October 2008.

14th INFORMS Applied Probability Conference, “Effects of System Parameters on the Optimal Policy Structure in a Class of Queueing Control Problems,” Eindhoven, The Netherlands, July 2007.

14th INFORMS Applied Probability Conference, “Joint Flexibility and Capacity Design in Service Systems,” Eindhoven, The Netherlands, July 2007.

YA/EM 27. Ulusal Kongresi, “Hizmet Sistemlerinde Birleşik Esneklik ve Kapasite Tasarımı,” İzmir, Turkey, July 2007.

University of Athens, Mathematics Seminar Series, “Effects of System Parameters on the Optimal Policy Structure in a Class of Queueing Control Problems,” January 2007.

INFORMS Conference, “The Structure and Sensitivity of Dynamic Pricing and Replenishment Policies in a Production System,” November 2006.

Vrije University, OBP Seminar Series, “Effects of System Parameters on the Optimal Policy Structure in a Class of Queueing Control Problems,” August 2006.

INFORMS International Conference, “Customer Value Optimizing Marketing Decisions with Reacting Customers,” Hong Kong, June 2006.

Tilburg University, OR Seminar Series, “Structure of optimal replenishment policies under different pricing strategies in a production/inventory system with Markov-modulated demand,” September 2005.

22nd IFIP TC 7 Conference on System Modeling and Optimization, “Optimal Policies under Different Pricing Strategies in a Production System with Markov-Modulated Demand,” Torino, Italy, July 2005.

12th INFORMS Applied Probability Conference, “Effects of arrival streams on the optimal dynamic admission policies,” Beijing, China, June 2004.

4th Annual INFORMS Revenue Management and Pricing Section Conference, “Revenue Management Through Cross-Selling in Call Centers,” Boston, USA, June 2004

EURO/INFORMS 2003 The Joint International Meeting, “Admission Control and Scheduling in a Call Center with one Shared and Two Dedicated Service Facilities,” İstanbul, July 2003.

INFORMS Conference, “A Tandem Queueing Model with Coupled Processors,” San Jose, USA, November 2002.

11th INFORMS Applied Probability Conference, “Dynamic Admission Policies for a Loss System with General Interarrival Times,” New York City, USA, July 2001.

EURO 2001 The European Operational Research Conference, “Threshold Admission Policies for a Two Class Loss System with Batch Arrivals,” Rotterdam, The Netherlands, July 2001.

5th INFORMS Telecommunications Conference, “Optimal Admission Control of a Call Center,” Boca Raton, USA, March 2000.

PROFESSIONAL ACTIVITIES

Journal Editing and Referee:

Editorial Advisory Board of OR Spectrum; Refereeing for 4OR, Annals of Operations Research, Applied Mathematical Modelling, Asia-Pacific Journal of Operational Research, European Journal of Operational Research, Computers and Industrial Engineering, Health Care Management Science, IEEE Transaction on Automatic Control, International Journal of Systems Science, Management Science, Manufacturing and Service Operations Management, Mathematical Methods of Operations Research, Naval Research Logistics, OMEGA, Operations Research, OR Spectrum, Performance Evaluation, Queueing Systems, Stochastic Models, Turkish Journal of Biochemistry.

Thesis Committee:

Selin Özdiñ, MSc. in IE 2011, Koç University (committee member)
Deniz Kubalı, MSc. in IE 2010, Koç University (co-advisor)
Derya Kunduzcu, MSc. in IE 2009, Koç University (co-advisor)
M. Yasin Ulukuş, MSc. in IE 2009, Boğaziçi University (committee member)
Sezer Gül, MSc. in IE 2008, Koç University (committee member)
Ferda Tangüner, MSc. in IE 2008, Koç University (co-advisor)
Demet Özgür Ünlüakın, PhD. in IE 2007, Boğaziçi University (committee member)
Taha Doğru, MSc. in IE 2007, Koç University (committee member)
Seda Tepe, MSc. in IE 2007, Koç University (committee member)
Emrah Ahi, MSc. in CMSE 2007, Koç University (committee member)
M. Soner Yıldız, MSc. in ECE 2006, Koç University (committee member)
Hazal Özden, MSc. in IE 2006, Koç University (co-advisor)
Eren Çil, MSc. in IE 2006, Koç University (co-advisor)
Nesrin Çakan, MSc. in IE 2006, Koç University (committee member)
Burcu Sağlam, MSc. in IE 2005, Koç University (committee member)
Alper Altan, MSc. in IE 2005, Koç University (committee member)
Işıl Talay-Değirmenci, MSc. in IE 2004, Koc University (co-advisor)
Harun Dericioğlu, MSc. in IE 2003, Koç University (committee member)
Ali Ekşim, MSc. in ECE 2003, Koç University (committee member)

Organization Committees:

Co-Organizer of Koç University Healthcare Operations Workshop, July 2011.
Program committee member, 3rd Meeting of the EURO Working Group on Stochastic Modeling, University of Athens, Athens, June 2010.
INFORMS Conference, Co-Organizer of session “Workforce Scheduling in Call Centers,” San Diego, October 2009.
WITOR-09, Joint Workshop of the Turkish and Israeli Operations Research Societies, Co-Organizer of session “Stochastic Modeling,” Boğaziçi University, İstanbul, September 2009.
2nd Meeting of the EURO Working Group on Stochastic Modeling, Koç University, İstanbul, June 2008.
YA/EM National Operations Research/Industrial Engineering Conference, Koç University, İstanbul, July 2005.
Call Center Research Forum, Koç University, İstanbul, June 2005.
EURO/ INFORMS 2003 The Joint International Meeting, Organizer and chair of session “Internet and Wireless Networks,” İstanbul, July 2003.

Affiliations and Awards:

The Institute for Operations Research and Management Science (INFORMS), Turkish Operational Research Society. Participant, INFORMS Doctoral Colloquium New Orleans, November 1995; Finalist, IBM Excellence in Service Research Award, 2010, for “Best Article” in the *Journal of Service Research*.