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Education

- **PhD**, Industrial Engineering and Operations Management, Koç University, İstanbul, Turkey, 2005-2009
Reliability and Maintenance of Semi-Markov Missions
- **MS**, Industrial Engineering, İstanbul Technical University, İstanbul, Turkey, 2003-2005
Artificial Neural Network Application in Insurance Sector
- **BS**, Industrial Engineering, İstanbul Technical University, İstanbul, Turkey, 1997-2003

Work Experience

- **Associate Professor**, Gebze Technival University, Department of Industrial Engineering, İstanbul, Turkey, December 2021 -
- **Associate Professor**, Doğuş University, Department of Industrial Engineering, İstanbul, Turkey, December 2019 - 2021
- **Vice Director of Institute of Science and Technology**, Doğuş University, 2017-2018
- **Assistant Professor**, Doğuş University, Department of Industrial Engineering, İstanbul, Turkey, September 2011- December 2019
- **Postdoctoral Research Fellow**, McGill University, Desautels Faculty of Management, Montreal, Quebec, Canada, 2009-2010
- **Research and Teaching Assistant**, Koç University, İstanbul, Turkey, 2005-2009
- **Research and Teaching Assistant**, İstanbul Technical University, İstanbul, Turkey, 2004-2005

Research Interests

- Stochastic modeling applications in operations research and management science
 - Reliability and maintenance
 - Markov decision process and dynamic programming applications
- Transportation system planning

Awards and Scholarships

- Postdoctoral research fellowship, McGill University, Faculty of Management, Montreal, Quebec, Canada, 2009-2010.
- PhD Scholarship of The Scientific and Technological Research Council of Turkey, 2006-2009.
- Koç University PhD scholarship, 2005-2009.

Participation in Research Projects

As Researcher

- Turkey and the issue of quotas for transit permits, 114K582, TÜBİTAK 3001, 2014-2017.
- Simulation Analysis of Kapıkule Border Crossing, funded by UND, 2016-2017.
- Mission-based component testing, 106M044, TÜBİTAK 1001, 2006-2009.

Publications

Refereed Publications (SCI or SSCI)

- (2021) A simulation-based approach for improving the largest border crossing between Europe and Turkey, *Transport Policy*, 114, December, 350-363, (with F. Ülengin, B. Çekyay, M. Işık, Ö. Özaydın, Ö. Kabak, P. Toktaş Palut, Ş. Önsel Ekici and Y. İ. Topçu).
- (2021) Reliability of Mission-Based k-out-of-n Systems with Exponential Phase Durations and Component Lifetimes, *Proceedings of the Institution Of Mechanical Engineers Part O-Journal of Risk and Reliability*, 235 (3), June, 446-457.
- (2019) A Multi-Commodity Network Flow and Gravity Model Integration for Analyzing Impact of Road Transport Quotas on International Trade, *Research in Transportation Economics*, accepted for publication, (with O. Kabak, F. Ülengin, B. Ülengin, P. T. Palut, and Ö. Özaydın).
- (2019) Reliability of Semi-Markov Missions, *Stochastic Models*, 35 (1), 63-88 (with S. Özekici), ([doi:10.1080/15326349.2019.1577142](https://doi.org/10.1080/15326349.2019.1577142)).
- (2018) Customizing Exponential Semi-Markov Decision Processes under the Discounted Cost Criterion, *European Journal of Operational Research*, 266 (1), 168-178.
- (2017) Analysis of the Impact of Bilateral and Transit Quotas on Turkey's International Trade via Road Transport: An Integrated Maximum Flow and Gravity Model Approach, *Research in Transportation Economics*, 66, 70-77 (with P. Toktaş Palut, Ö. Kabak, F. Ülengin, Ö. Özaydın and B. Ülengin).
- (2016) Critical Success Factors for the Iron and Steel Industry in Turkey: A Fuzzy DEMATEL Approach, *International Journal of Fuzzy Systems*, 18 (3), 523-536 (with Ö. Kabak, F. Ülengin, Ş. Önsel, and Ö. Özaydın).
- (2015) Effects of quotas on Turkish foreign trade: a gravity model, *Transport Policy*, 38, 1-7 (with Ö. Özaydın, Ş. Önsel, Ö. Kabak, P. Toktaş Palut, B. Ülengin, and F. Ülengin).
- (2015) Reliability, MTTF and Steady-State Availability Analysis of Systems with Exponential Lifetimes, *Applied Mathematical Modelling*, 39 (1), 284-296 (with S. Özekici).

- (2015) Optimal Maintenance of Semi-Markov Missions, *Probability in the Engineering and Informational Sciences*, 29 (1), 77-98 (with S. Özekici).
- (2014) Matching Patient and Physician Preferences in Designing a Primary Care Facility Network, *Journal of the Operational Research Society*, 65, 483-496 (with E.D. Güneş, V. Verter and H. Yaman).
- (2013) The Design of Mission Based Component Test Plans for Series Connection of Subsystems, *IIE Transactions*, 45 (11), 1202-1220 (with İ.K. Altınel, O. Feyzioğlu, M.E. Keskin, and S. Özekici).
- (2012) Performance measures for Systems with Markovian Missions and Aging, *IEEE Transactions on Reliability*, 61 (3), 769-778 (with S. Özekici).
- (2012) Optimal Maintenance of Systems with Markovian Mission and Deterioration, *European Journal of Operational Research*, 219, 123-133, (with S. Özekici).
- (2011) Mission-Based Component Testing for Series Systems, *Annals of Operations Research*, 186, 1-22, (with İ.K. Altınel, O. Feyzioğlu, M.E. Keskin and S. Özekici).
- (2011) Design of Optimum Component Test Plans in the Demonstration of Diverse System Performance Measures, *IIE Transactions*, 43, 535-546, (with E. Yamangil, İ.K. Altınel, O. Feyzioğlu, and S. Özekici).
- (2010) MTTF and Availability of Semi-Markov Missions with Maximal Repair, *European Journal of Operational Research*, 207, 1442-1454 (with S. Özekici).

Refereed Publications (Others)

- (2018) Sürekli Zaman Markov Karar Süreçlerinin Özgüleştirilmesi, *Doğuş University Journal*, 19 (2), 65-74.

Submitted for Publication

- (2022) MTTF and availability of semi-Markov missions under no repair, (with S. Özekici).
- (2021) On computing the multivariate Poisson probability distribution, submitted to *Statistics and Computing* (with J. B. G. Frenk and S. Javadi).
- (2019) Discounted cost exponential semi-Markov decision processes with unbounded transition rates: a service rate control problem with impatient customers, submitted to *Annals of Operations Research*.

Research Reports

- (2010) Transportation of hazardous materials in urban areas (with V. Verter).

Book Chapters

- (2011) Condition-Based Maintenance under Markovian Deterioration. *Wiley Encyclopedia of Operations Research and Management Science*, J.J. Cochran, L.A. Cox, Jr., P. Keskinocak, J.P. Kharoufeh and J.C. Smith (editors), John Wiley & Sons, 911-922 (with S. Özekici).
- (2008) Markov renewal processes in reliability modeling. *Encyclopedia of Statistics in Quality and Reliability*, R. S. Kenett, F. Ruggeri and F. Faltin (editors), John Wiley Sons, ID: eqr127, 1029-1037 (with S. Özekici).
- (2005) Integrated Clustering Modeling with Back-propagation Neural Network for Efficient Customer Relationship Management. *Intelligent Data Mining Techniques and Applications*, Springer, 355-374 (with T. Ertay).

Book Chapter Translation to Turkish

- (2017) Maintenance and Reliability. *Operations Management*, J. Heizer, B. Render, 11th edition, Pearson.
- (2017) Waiting-Line Models. *Operations Management*, J. Heizer, B. Render, 11th edition, Pearson.

Proceedings

- (2017) Logistics Process Improvement of Kapıkule Border Crossing. *Proceedings of The 15th International Logistics and Supply Chain Congress (LMSCM)*, Doğu University, İstanbul, Turkey (with M. Işık, F. Ülengin, Ö. Kabak, I. Topcu, O. Ozaydin, P. Toktas Palut, S. Onsel Ekici, and B. Bozkaya).
- (2009) Reliability of Markovian Missions. *Proceedings of Mathematical Methods in Reliability*, Moscow, Russia, 33-36, (with S. Özekici).
- (2009) Çok ölçütlü eniyi bileşen sınam planlarının tasarlanması. 29. *Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi Bildirileri*, Ankara, Türkiye, (with S. Özekici, İ.K. Altınel, E. Yamangil, O. Feyzioğlu).
- (2008) Dizge tabanlı bileşen denemelerinin tasarımında beklenen dizge yaşam süresinin modellenmesi. 28. *Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi Bildirileri*, İstanbul, Türkiye, (with S. Özekici, İ.K. Altınel, E. Yamangil, O. Feyzioğlu).
- (2007) Görev tabanlı dizgelerin güvenilirlik analizi. 27. *Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi Bildirileri*, 2-4 Temmuz, İzmir, Türkiye, 1122-1127 (with S. Özekici, İ.K. Altınel, M.E. Keskin, O. Feyzioğlu).
- (2007) Görev tabanlı sıralı dizgelerin bileşen sınamı. 27. *Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi Bildirileri*, İzmir, Türkiye, 1128-1133 (with S. Özekici, İ.K. Altınel, M.E. Keskin, O. Feyzioğlu).
- (2007) Reliability of Mission-Based Systems. *Bulletin of the International Statistical Institute*, Volume LXII, Instituto Nacional de Estatística (INE), Lisbon, Portugal, 5302-5305 (with S. Özekici).
- (2005) IS Project Selection Based on Fuzzy-ANP and ZOGP. *The 35th International Conference on Computers & Industrial Engineering Proceedings*, Türkiye (with Ç.A. Gümüşsoy and T. Ertay).
- (2005) Risk Assessment Using Artificial Neural Networks in Life Insurance Sector. *The 35th International Conference on Computers & Industrial Engineering Proceedings*, İstanbul, Türkiye (with Ş.Ö. Şahin).
- (2004) Solving Location-Allocation Problems With Rectilinear Distances Using SOFM: An Application in Food Industry (with Ç.A. Gümüşsoy). *International Logistics Congress Proceedings*, İzmir, Turkey.

Project Reports

- (2012) Sektörel Rekabet Gücü Raporlari III - Kimya Sektörü, SEDEFED, REF, İstanbul (with F.Ülengin, Ş.Önsel, Ö. Özaydin, E. Aktas, Ö. Kabak).
- (2011) Sektörel Rekabet Gücü Raporlari II - Demirçelik Sektörü, SEDEFED, REF, İstanbul (with F.Ülengin, Ş.Önsel, Ö. Özaydin, E. Aktas, Ö. Kabak).

Conference Presentations

- (2018) Görev Tabanlı Sistemlerin Optimal Değişim Problem: Ortalama Maliyet Kriteri. 38. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, Eskişehir, Türkiye.
- (2017) Üstten Sınırlı Olmayan Geçiş Hızlarına Sahip Yarı-Markov Karar Süreçlerinin Analizi: Müşterilerin Sabırsız Olduğu Bir Hizmet Hızı Kontrol Problemi. 37. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, İstanbul, Türkiye.
- (2016) Discounted Semi-Markov Decision Processes with Possibly Accumulation Points: A Service Rate Control Problem with Impatient Customers. 11th Workshop in Retrial Queues, University Amsterdam, Netherlands.
- (2016) Discounted Semi-Markov Decision Processes with Possibly Accumulation Points: A Service Rate Control Problem with Impatient Customers. 28th European Conference on Operational Research, Poznan, Poland.
- (2015) Optimal Maintenance of Semi-Markov Missions. 27th European Conference on Operational Research, Glasgow, United Kingdom.
- (2015) Sosyal Ağlarda Etkinin Enbüyüklenmesi Problemi için Bir Markov Zinciri Yaklaşımı. 35. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, Ankara, Türkiye.
- (2010) Reliability of Mission-Based Systems with Markovian Mission and Deterioration. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, Türkiye.
- (2010) Transportation of Hazardous Materials in Urban Areas. 30. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, Türkiye.
- (2010) Transportation of Hazardous Materials in Urban Areas. Workshop on Transportation of Hazardous Materials in Urban Areas, McGill University, Canada.
- (2008) Reliability, MTTF and Availability Analysis of Systems with Exponential Lifetimes. EURO Working Group Meeting, Koç University, Turkey.
- (2008) Reliability, MTTF and Availability Analysis of Systems with Exponential Lifetimes. INFORMS Annual Meeting, Washington D.C., USA.
- (2008) Seri Bağlanmış Koşut Alt Dizgeler için Görev Tabanlı Bileşen Sınımı. 28. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, İstanbul, Türkiye (with M. E. Keskin, İ. K. Altınel, S. Özekici, O. Feyzioğlu).
- (2008) Üstel Yaşam Süreli Dizgelerin Güvenirlilik, Beklenen Yaşam Süresi ve Kullanılabilirlik Analizi. 28. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, İstanbul, Türkiye (with S. Özekici).
- (2006) Reliability of Mission-Based systems. 22nd European Conference on Operational Research, Prague, Czech Republic.
- (2005) Sigorta Sektöründe Yapay Sinir Ağlarını Kullanarak Risk Tayini.

25. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, İstanbul, Türkiye .

Service to Profession***Refereeing***

- IEEE Transaction on Reliability
- IISE Transactions
- Reliability Engineering and System Safety
- Stochastic Models
- Operations Research Letters
- OR Spectrum
- European Journal of Operational Research
- Probability in the Engineering and Informational Sciences
- European Journal of Industrial Engineering
- Research in Transportation Economics
- Journal of Risk and Reliability
- International Journal of Production Research
- Transportation Research Part C
- Applied Mathematical Modeling
- Applied Stochastic Models in Business and Industry
- Methodology and Computing in Applied Probability
- Transactions on Operational Research

Conference and Workshop Organizations

- 15th International Logistics and Supply Chain Congress (LMSCM 2017), Doğuş University, October, 2017, İstanbul, Turkey. (Scientific Program Committee)
- 37th National Congress on Operations Research and Industrial Engineering, Yıldız Teknik University, July, 2017, İstanbul, Turkey. (Scientific Committee)
- 32nd National Congress on Operations Research and Industrial Engineering, Doğuş University, İstanbul, Turkey.
- Workshop on Transportation of Hazardous Materials, McGill University, March 2010.
- 2nd Meeting of the EURO Working Group on Stochastic Modeling, KOÇ University, May 2008.
- 35th International Computers and Industrial Engineering (CIE) Conference, İstanbul, Turkey, 2005.