

CEREN TUNCER ŞAKAR

Assistant Professor Dr., Department of Industrial Engineering
Hacettepe University, 06800, Ankara, Turkey
e-mail: cerents@hacettepe.edu.tr, Phone: (+90) 312 2978950

PROFESSIONAL EXPERIENCE

Assistant Professor Dr. Department of Industrial Engineering, Hacettepe University, Ankara	2014 -
Research/Teaching Assistant Department of Industrial Engineering, Middle East Technical University, Ankara	2005 - 2006, 2009 - 2013
Administrative and Financial Specialist BİLGİ Geographic Information Conversion & Management Systems Co. Ltd., Ankara	2006 - 2009
Accounting Junior Specialist ASELSAN A.Ş., Ankara	2004 - 2005

EDUCATION

Ph.D., Industrial Engineering
Middle East Technical University, Ankara, Turkey, September 2013
Thesis Title: Multicriteria Portfolio Optimization
Advisor: Prof. Dr. Murat Köksalan

M.S., Industrial Engineering
Middle East Technical University, Ankara, Turkey, August 2006
Thesis Title: A DEA-Based Approach to Ranking Multi-Criteria Alternatives
Advisor: Prof. Dr. Murat Köksalan

B.S., Business Administration
Middle East Technical University, Ankara, Turkey, June 2003
Minor Program: Psychology

RESEARCH INTERESTS

Multiple Criteria Decision Making
Portfolio Optimization
Data Envelopment Analysis
Quantitative Decision Methods

PUBLICATIONS

Ekiz, M. K. and Tuncer Şakar, C., “A New Approach to Rank All Alternatives in Data Envelopment Analysis: ASES,” *Journal of the Faculty of Engineering and Architecture of Gazi University* (in Turkish), 35(2), 2020.

Yet, B. and Tuncer Şakar, C., “Estimating Criteria Weight Distributions in Multiple Criteria Decision Making: A Bayesian Approach,” *Annals of Operations Research*, <https://doi.org/10.1007/s10479-019-03313-z>, 2019.

Ekiz, M. K. and Tuncer Şakar, C., “A new DEA approach to fully rank DMUs with an application to MBA programs,” *International Transactions in Operational Research*, <https://doi.org/10.1111/itor.12635>, 2019.

Karakaya, G. and Tuncer Şakar, C., “An interactive ranking-based multi-criteria choice algorithm with filtering: Applications to university selection,” *METU Studies in Development*, 46(1), 2019.

Tuncer Şakar, C. and Karakaya, G., “An interactive approach with filtering to find a preferred solution of a decision maker,” *Journal of the Faculty of Engineering and Architecture of Gazi University* (in Turkish), 34(4), 2019.

Çarman, F. and Tuncer Şakar, C., “An MCDM-integrated maximum coverage approach for positioning of military surveillance systems,” *Journal of the Operational Research Society*, 70(1), 2019.

Tuncer Şakar, C. and Yet, B., “Çok Kriterli Karar Verme Problemlerinde Fayda Fonksiyonu Ağırlıklarının Tahmin Edilmesi için Matematiksel Model Temelli bir Yöntem,” *Uludağ University Journal of the Faculty of Engineering* (in Turkish), 23(1), 2018.

Köksalan, M. and Tuncer Şakar, C., “An Interactive Approach to Stochastic Programming-based Portfolio Optimization,” *Annals of Operations Research*, 245(1-2), 2016.

Tuncer Şakar, C. and Köksalan, M., “Effects of Multiple Criteria on Portfolio Optimization,” *International Journal of Information Technology & Decision Making*, 13(1), 77-99, 2014.

Tuncer Şakar, C. and Köksalan, M., “A Stochastic Programming Approach to Multicriteria Portfolio Optimization,” *Journal of Global Optimization*, 57, 299-314, 2013.

Köksalan, M. and Tuncer, C., “A DEA-Based Approach to Ranking Multi-Criteria Alternatives,” *International Journal of Information Technology & Decision Making*, 8, 29-54, 2009.

PROJECTS

Research Links for Medical Artificial Intelligence: Management of Musculoskeletal Injury, Newton - Katip Çelebi Fund, Researcher (217M518, May 2018 – May 2020).

PRESENTATIONS AT INTERNATIONAL CONFERENCES

Bişkin, B., Tezcaner Öztürk, D. and Tuncer Şakar, C., “Multi-Objective Route Planning of a Fleet of Unmanned Aerial Vehicles,” EURO 2019 Conference, Dublin, Ireland, June 2019.

Cebesoy, M., Tuncer Şakar, C. and Yet, B., “Multicriteria Decision Support Approaches for Physiotherapy under Uncertainty,” EURO 2019 Conference, Dublin, Ireland, June 2019.

Bişkin, B., Tezcaner Öztürk, D. and Tuncer Şakar, C., “A Heuristic Approach to Multi-objective Routing Problem for a Fleet of Unmanned Aerial Vehicles,” 25th International Conference on MCDM, İstanbul, Turkey, June 2019.

Cebesoy, M., Tuncer Şakar, C. and Yet, B., “PROMETHEE Approaches for Medical Decision Support under Uncertainty,” 25th International Conference on MCDM, İstanbul, Turkey, June 2019.

Ekiz, M. K. and Tuncer Şakar, C., “A New DEA-Based Method for Full Ranking of Decision Making Units,” ICINSE 2018, Kiev, Ukraine, September 2018.

Çarman, F. and Tuncer Şakar, C., “An MCDM-integrated maximum coverage approach for positioning of military surveillance systems,” EURO 2018 Conference, Valencia, Spain, July 2018.

Yet, B. and Tuncer Şakar, C., “A Probabilistic Approach for Indirect Elicitation of the Preferences of a Decision Maker,” XIII Balkan Conference on Operational Research, Belgrade, Serbia, May 2018.

Karakaya, G. and Tuncer Şakar, C., “A filtering-enabled interactive algorithm to find preferred solutions of the decision maker,” INFORMS 2018 Annual Meeting, Phoenix, USA, November 2018.

Tuncer Şakar, C. and Yet, B., “Estimating the Weights of a Utility Function using a Bayesian Approach,” 24th International Conference on MCDM, Ottawa, Canada, July 2017.

Tuncer Şakar, C. and Köksalan, M., “Properties of Optimal Stochastic Programming Solutions in Portfolio Optimization with Different Criteria and Planning Periods,” INFORMS 2016 Annual Meeting, Nashville, USA, November 2016.

Tuncer Şakar, C. and Köksalan, M., “Effects of Multiple Criteria and Cardinality and Weight Constraints on Portfolio Optimization,” 23rd International Conference on MCDM, Hamburg, Germany, August 2015.

Tuncer Şakar, C. and Köksalan, M., “An Interactive Approach to Multicriteria Multi-period Portfolio Optimization,” 20th Conference of the IFORS, Barcelona, Spain, July 2014.

Tuncer Şakar, C. and Köksalan, M., “An Interactive Approach to Stochastic Programming-based Portfolio Optimization,” 1st International IIE Conference, İstanbul, Turkey, June 2013.

Tuncer Şakar, C. and Köksalan, M., “Effects of Multiple Criteria and Different Planning Horizons on Portfolio Optimization,” 21st International Symposium on Mathematical Programming (ISMP), Berlin, Germany, August 2012.

Tuncer Şakar, C. and Köksalan, M., “A Stochastic Programming Approach to Multicriteria Portfolio Optimization,” INFORMS Annual Meeting, Charlotte, North Carolina, USA, November 2011.

Tuncer Şakar, C. and Köksalan, M., “A Stochastic Programming Approach to Multicriteria Portfolio Optimization,” 21st International Conference on MCDM, Jyväskylä, Finland, June 2011.

Tuncer Şakar, C. and Köksalan, M., “A Multicriteria Decision Making Approach to Portfolio Optimization,” 20th International Conference on MCDM, Chengdu, China, June 2009.

PRESENTATIONS AT NATIONAL CONFERENCES

Cebesoy, M., Tuncer Şakar, C. and Yet, B., “Belirsizlik Altında Karar Destek için Çok Kriterli Karar Verme Yaklaşımları,” Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) 39. Ulusal Kongresi, Ankara, Turkey, June 2019.

Güner, G.G., Tuncer Şakar, C. and Yet, B., “Otomotiv Endüstrisinde Çok Kriterli Güvenilirlik Yaklaşımları,” Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) 39. Ulusal Kongresi, Ankara, Turkey, June 2019.

Bişkin, B., Tezcaner Öztürk, D. and Tuncer Şakar, C., “Farklı Önceliklik Hedefler İçeren Üç-Amaçlı İHA Filosu Rotalama Problemi,” Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) 39. Ulusal Kongresi, Ankara, Turkey, June 2019.

İşyar, S., Yet, B. and Tuncer Şakar, C., “Sıralı Düğümler Yöntemi ile Bayes Ağı Temelli Fizyoterapi Karar Destek Aracı Öğrenme,” Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) 39. Ulusal Kongresi, Ankara, Turkey, June 2019.

Tuncer Şakar, C. and Karakaya, G., “Karar vericinin tercih ettiği çözümü bulmak için filtreleme yardımlı interaktif bir yöntem,” Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) 38. Ulusal Kongresi, Eskişehir, Turkey, June 2018.

Tuncer Şakar, C. and M. Köksalan, “Farklı Kriter ve Planlama Dönemleriyle Eniyilenmiş Stokastik Programlama Çözümlerinin Özellikleri,” Yöneylem Araştırması ve Endüstri Mühendisliği (YAEM) 35. Ulusal Kongresi, Ankara, Turkey, September 2015.

SEMINARS

Tuncer Şakar, C. and M. Köksalan, “Effects of Multiple Criteria on Portfolio Optimization,” Department of Industrial Engineering, Middle East Technical University, Ankara, Turkey, October 2012.

Tuncer Şakar, C., “A Preference-Based Evolutionary Algorithm to Solve Portfolio Optimization with Cardinality and Weight Constraints,” Preconference of the 21st International Conference on MCDM, Helsinki, Finland, June 2011.

Tuncer Şakar, C., “A Stochastic Programming Approach to Multicriteria Portfolio Optimization,” Aalto University, School of Economics, Helsinki, Finland, March 2011.

THESIS SUPERVISED

Büşra Ceyda Önemli, M.Sc. “Customer Order Scheduling Problem for the Box Packaging Industry: An Application,” 2019.

Gürkan Güven Güner, M.Sc. “A Multicriteria Preventive Maintenance Approach and its Application in the After-sales Service of a Truck and Bus Company,” 2019.

Melike Kübra Ekiz, M.Sc. “New Approaches to Rank Decision Making Units in Data Envelopment Analysis,” 2018.

Fatma Çarman, M.Sc. “Positioning of Military Surveillance Systems in a Pilot Area within Urban Safety,” 2016.

TEACHING

Undergraduate Courses:

EMÜ 221 – Introduction to Optimization and Modeling

EMÜ 222 – Deterministic Operations Research

EMÜ 421 – Multicriteria Decision Making

EMÜ 443 – Revenue Management

Graduate Courses:

EMÜ 621 – Optimization Techniques and Applications

EMÜ 623 – Multicriteria Optimization

EMÜ 645 – Pricing and Revenue Management

MÜY 622 – Operations Planning and Control

MÜY 656 – Optimization of Engineering Systems