Mumtaz Karatas

Ph.D. in Industrial Engineering

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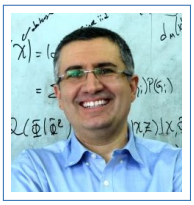

Education

2012–2013 **Postdoctoral Study**, *Naval Postgraduate School*, Monterey, California/USA
Operations Research

2008–2012 **PhD**, *Kocaeli University*, Kocaeli/Turkey
Industrial Engineering

2010–2011 **PhD Fellow**, *Naval Postgraduate School*, California/USA
Operations Research

2004–2006 **MSc**, *University of Michigan*, Ann Arbor, Michigan/USA
Industrial and Operations Engineering

1997–2001 **BSc**, *Turkish Naval Academy*, Istanbul/Turkey
Industrial Engineering

Research Interests

- OR & Optimization
- Machine Learning
- Location and Routing Problems
- Data Analytics
- Logistics and Transportation
- OR in Healthcare, Energy, Defense

Professional History

2024–Cont. **Associate Professor**, *Wright State University*, Department of Biomedical, Industrial and Human Factors Engineering, Dayton, OH/USA

2023–2023 **Department Head**, *Turkish Navy Research Center*, Modeling and Simulation Department, Istanbul, Turkey
- Head of the Modeling and Simulation Department.
- Coordinated the R&D projects of the Navy.

2017–2023 **Associate Professor**, *Turkish Naval Academy*, Dept. of Industrial Engineering, Istanbul/Turkey
- Head, Department of Operations Research.
- Taught undergraduate and graduate level courses.
- Taught courses as a guest instructor at several prestigious universities.

2020–2021 **Vice Dean**, *Turkish Naval Academy*, Istanbul/Turkey
- Coordinated research and teaching activities.

2013–2017 **Assistant Professor**, *Turkish Naval Academy*, Dept. of Industrial Engineering, Istanbul/Turkey
- Taught undergraduate and graduate level courses.
- As the director of the ERASMUS+ mobility program, coordinated international ERASMUS student and teaching staff exchanges between Naval Academy and partner ERASMUS European Union Higher Institutions.)
- Served as the secretary and member of the scientific development committee of the Turkish Naval Academy.

2012–2013 **Postdoctoral Fellow**, *Naval Postgraduate School*, Department of Operations Research, California/USA

- Received postdoctoral study scholarship from Turkish Navy.
- Performed research on optimization, location theory, and large-size combinatorial optimization problems.

2010–2011 **PhD Fellow**, *Naval Postgraduate School*, Department of Operations Research, California/USA

- Received graduate study scholarship from TÜBİTAK (Scientific and Technological Research Council of Turkey).
- Performed research on PhD thesis topic.

2006–2010 **Operations Research Analyst**, *Naval Tactics & Doctrines Research Center*, Kocaeli/Turkey

- Worked with a team of engineers having degrees in computer science and operations research.
- Developed solutions for naval tactical problems through the analysis of accumulated data.
- Developed optimization models and decision support systems for NATO and Turkish Navy.

2004–2006 **Graduate Education**, *University of Michigan, Ann Arbor*, Michigan/USA

- MSc in Industrial and Operations Engineering.
- Received graduate study scholarship from Turkish Navy.

2001–2004 **Officer**, *Turkish Navy*, Istanbul

- Gained profound experience in decision making under uncertainty, multinational operations, leadership and personnel management.

Skills & Accomplishments

Awards

2022 **Best Paper Award**, *Selected in the category "Fast Track Covid-19 Publication" among papers published between 2019-2022*, "Real-time neural network scheduling of emergency medical mask production during COVID-19", Applied Soft Computing Journal

2022 **Finalist Award**, *INFORMS Innovative Applications in Analytics Award*, Houston, Texas/USA, Business Analytics Conference

2013-2023 **13 Excellence in Teaching & Research Commendation**, *Naval Academy*

2009 **Outstanding Achievement Award**, *Commander of Turkish Naval Forces (Four-star admiral)*, Ankara, Turkey, For success in leading a decision support tool development project for the navy.

2008 **Honor Prize**, *Commander of the Turkish Naval Forces (Four-star admiral)*, Ankara, Turkey, Selected for excellence in research accomplishments.

Certificates & Trainings

April 2007 **Operations Research Systems Analysis Technologies and Applications Course**, *United States Army Logistics Management College*, Fort Lee, VA/USA

Dec 2006 **Statistical Process Control**, *Department of Defense Training Center*, Ankara/Turkey

Honors

2012-2013 **Postdoctoral Research Scholarship**, *One in 5 in 20 years' time*, Turkish Naval Forces

2010-2011 **Graduate Scholarship for PhD Education**, *Selected among hundreds of candidates nation-wide*, TÜBİTAK

2004-2006 **Full Scholarship for Master's Education**, *Selected among hundreds of officers in the Navy*, Turkish Naval Forces

Computer Skills

Programming	R, Python, MATLAB, GAMS, Latex, MAPLE
Statistics	Minitab, SPSS
Simulation	Arena, Vensim, iThink

Research Projects

TÜBİTAK **Code: TEYDEP 1501**, *Industrial R&D Projects Grant Programme*

- **Title:** Sea Surface Cleaning via Autonomous Unmanned Surface and Aerial Vehicles that Use Innovative Methodologies
- **Industry Partner:** IWROBOTX Co.Ltd.
- **Role:** Researcher
- **Period:** January 2022 - December 2023

TÜBİTAK **Code: TEYDEP 1711**, *Artificial Intelligence Ecosystem Call*

- **Title:** Improving the Production Efficiency of Wide Area Nano Glass Coating Process with Artificial Intelligence
- **Industry Partner:** Turkish Glass and Bottle Factories (ŞİŞECAM) Corp.
- **Role:** Executive
- **Period:** October 2022 - April 2024

TÜBİTAK **Code: 3501**, *Career Development Program*

- **Title:** Determining Temporary Earthquake Shelter and Humanitarian Logistics Warehouse Locations for Istanbul
- **Government Partner:** Istanbul Municipality
- **Role:** Researcher
- **Period:** August 2021 - April 2023

TÜBİTAK **Code: 1001**, *The Scientific and Technological Research Projects Funding Program*

- **Title:** An Optimization and Artificial Intelligence Based Cooperative Mucilage Removal Approach via Autonomous Unmanned Surface and Aerial Vehicles
- **Industry Partner:** IWROBOTX Co.Ltd.
- **Role:** Executive
- **Period:** October 2021 - September 2022

TÜBİTAK **Code: 1002**, *Short Term R&D Funding Program*

- **Title:** Location and Routing Optimization of Armed UAVs and Carrier Platforms
- **Government Partner:** Turkish Navy
- **Role:** Researcher
- **Period:** November 2021 - November 2022

TÜBİTAK **Code: 3001**, *Starting R&D Projects Funding Program*

- **Title:** An Integrated Border Protection via Heterogeneous Wireless Sensor Networks
- **Role:** Executive
- **Period:** December 2018 - June 2020

Thesis Supervised

Graduate Thesis Supervision

Gökhan METİN — **PhD Thesis**, *Solving a Routing Problem for Multiple Mobile Multistatic Sensors*, Serol Bulkan (Advisor), Mümtaz Karataş (Co-advisor)
Marmara University, Ongoing

Dilber Ünlü AŞLAYCI — **MSc. Thesis**, *A Multi Objective Robust Optimization Model for Shelter Location and Allocation Problem*, Levent Erişkin (Advisor), Mümtaz Karataş (Co-advisor)
Naval Science and Engineering Institute, Ongoing

Funda YÖN — **MSc. Thesis**, *A Planar Facility Sizing and Location Problem In the Presence of Joint Coverage*, Mümtaz Karataş (Advisor), Levent Erişkin (Co-advisor)
Naval Science and Engineering Institute, Ongoing

Büşra Sultan BAYAT — **MSc. Thesis**, *An Inventory Routing Problem with Integrated Location and Sizing Decisions*, Ertan Yakıcı (Advisor), Mümtaz Karataş (Co-advisor)
Naval Science and Engineering Institute, Ongoing

Kerim DOĞAN — **MSc. Thesis**, *A Multi Objective Model Approach for Locating Preventive Health Care Facilities*, Mümtaz Karataş (Advisor), Ertan Yakıcı (Co-advisor)
Naval Science and Engineering Institute, 2021

Mehmet YÜKSEL — **MSc. Thesis**, *The Effect Of Perceived Service Quality on Customer Satisfaction: An Application in Maritime Transportation*, Mümtaz Karataş (Advisor), Mehmet Bilge Kağan ÖNAÇAN (Co-advisor)
Naval Science and Engineering Institute, 2018

Ahmet DURMAZ — **MSc. Thesis**, *The Effect of Logistic Performance on Relationship Satisfaction of Shipyards' Relations with Suppliers*, Mümtaz Karataş (Advisor), Mehmet Bilge Kağan ÖNAÇAN (Co-advisor)
Naval Science and Engineering Institute, 2018

Nasuh RAZI — **MSc. Thesis**, *A Multi-Objective Optimization Model for Locating Search and Rescue Boats*, Mümtaz Karataş (Advisor)
Naval Science and Engineering Institute, 2016

İlknur KARACAN — **MSc. Thesis**, *Multi Criteria Decision Making For Technology Selection*, Hakan Tozan (Advisor), Mümtaz Karataş (Co-advisor)
Naval Science and Engineering Institute, 2015

Undergraduate Graduation/Capstone Projects Supervision (Selected list)

- A combined facility location and sizing problem for a retail company in Istanbul.
- A mathematical model for designing supply chains in the presence of uncertain facilities.
- Optimization of convoy and escort size in convoy operations carried out under submarine threat.
- Optimal location and routing of multiple unmanned surface vehicles for prize collection.
- Optimal routing of a UAV in the presence of hostile detection sensors.
- P-median problem re-visited: A comparison of heuristics and commercial solvers.
- An MCDM approach for assessing armed UAVs to be stationed on a carrier.
- A mathematical model for designing a monthly meal menu for students at the university.
- Designing a computer application for solving knapsack problems via dynamic programming.
- Location optimization of search and rescue assets in the Aegean Sea.
- Modeling and simulation of searching an expanding area by helicopters.
- A case study of a facility layout optimization for naval shipyards.

Courses Taught

Undergraduate

- Operations Research I / II
- Supply Chain Management
- Probability Theory
- Stochastic Models
- Statistical Quality Control
- Decision and Game Theory
- Introduction to Risk Analysis
- Understanding and Aiding Human Decision Making
- Production Planning & Control
- Operations Management
- Introduction to Business Analytics
- Network Models
- Project Management
- System Dynamics
- Simulation Modeling

Graduate

- Advanced Production Planning & Control
- Mathematical Modeling
- Nonlinear Optimization
- Stochastic Processes
- Understanding and Aiding Human Decision Making
- Location Theory
- Strategic and Operational Planning
- Naval Operations Analysis
- Search and Detection

▪ Taught some of these courses as a guest instructor at several prestigious universities, including Sabanci University, Istanbul Medipol University, Bahçeşehir University, Beykent University, and Istanbul Okan University.

Service

Board Member	Applied Soft Computing, *Elsevier*	
Board Member	Journal of Business Analytics, *Taylor & Francis Online*	
Board Member	International Journal of Applied Management Science, *Inderscience Publishers*	
Board Member	Journal of Naval Science and Engineering, *Turkish Naval Academy*	
Guest Editor	Frontiers in Computational Neuroscience, *Frontiers* Neurooptimization: brain-inspired methods for solving complex optimization problems	
Guest Editor	Expert Systems, *Wiley* Leveraging simulation modeling capabilities via machine learning and artificial intelligence	
Guest Editor	Drones, *MDPI* Cooperation of drones and other manned/unmanned systems	
Guest Editor	Micromachines, *MDPI* Micro Air Vehicles	
Guest Editor	Frontiers in Public Health, *Frontiers*	
TPC Member	The 16th Int.Conf. on Industrial Engineering and Management	*ICIEM 2024*
TPC Member	The 8th Int.Conf. on Computer Science and Application Engineering	*CSAE 2024*
TPC Member	Int.Conf. on Operations Research & Enterprise Systems	*ICORES 2024*
TPC Member	Int.Conf. on Frontiers of Electrical Power & Energy Systems	*EPES 2023*
TPC Member	Int.Conf. on Intelligent Computing Systems and Applications	*ICICSA 2023*
TPC Member	Int.Conf. on Data Science and Network Engineering	*ICDSNE 2023*
TPC Member	Int.Conf. on Artificial Intelligence and Applications	*ICAIA2021*
TPC Member	Int.Conf. on Advanced Tech. and Applications of Modern Industry	*ATAMI2021*
TPC Member	Int. Workshop on Applied Modeling and Simulation	*WAMS2019*
TPC Member	Int.Conf. on Logistics and Supply Chain Management	*ILSCM2019*
TPC Member	Int.Conf. on Data Mining & Knowledge Management Process	*CDKP2018*
TPC Member	Int. 100% Renewable Energy Conference	*IRENEC2018*
TPC Member	Int.Conf. on Energy Development and Environmental Protection	*EDEP2018*
TPC Member	Int.Conf. on Wireless Communication and Sensor Network	*WCSN2017*
TPC Member	Int.Conf. on Artificial Intelligence and Computer Engineering	*AICE2017*
TPC Member	Int.Conf. on Computing Intelligence and Information System	*CIIS2017*

TPC Member	Int.Conf. on Applied Operational Research	*ICAOR2017*
Session Chair	Australian Int.Conf. on Industrial Eng. and Operations Management	*IEOM2022*
Session Chair	Int. Researchers, Statisticians and Young Statisticians Congress	*IRSYSC2018*

Reviewer — Served as a reviewer for more than 350 manuscripts. A selected list of journals include:

- INFORMS Journal on Computing
- European Journal of Operational Research
- Computers & Operations Research
- Computers & Industrial Engineering
- Journal of the Operational Research Society
- Annals of Operations Research
- Socio-Economic Planning Sciences
- Artificial Intelligence Review
- Applied Energy
- Applied Soft Computing
- Expert Systems with Applications
- EURO Journal on Transportation and Logistics
- Journal of Humanitarian Logistics and Supply Chain Management
- OR Spectrum
- Journal of Cleaner Production
- International Journal of Disaster Risk Reduction
- Transport Policy

Panelist — Assessed more than 30 scientific research projects funded by TÜBİTAK.

Judge — Responsible for evaluating the academic promotion of more than 15 junior faculty members.

Committee member — Dissertation committee member for 8 PhD candidates.

Committee member — Master's thesis oral defense committee member for more than 20 students.

Memberships

Network Researcher	Sabancı University Smart Mobility and Logistics Laboratory	*2016-2022*
INFORMS	The Institute for Operations Research and the Management Sciences	*2012-present*

Publications

Refereed Articles

[1] Mevlut Savas Bilican, Çağatay Iris, and Mumtaz Karatas. A collaborative decision support framework for sustainable cargo composition in container shipping services. ***Annals of Operations Research***, pages 1–33, 2024.

[2] Ning Li, Zhenglian Su, Haifeng Ling, Mumtaz Karatas, and Yujun Zheng. Optimization of air defense system deployment against reconnaissance drone swarms. ***Complex System Modeling and Simulation***, 3(2):102–117, 2023.

[3] Mumtaz Karatas and Levent Eriskin. Linear and piecewise linear formulations for a hierarchical facility location and sizing problem. ***Omega***, 118:102850, 2023.

[4] Levent Eriskin and Mumtaz Karatas. A semi-desirable location and sizing model for hydrogen fuel storage areas: A case study for Istanbul. ***International Journal of Hydrogen Energy***, (online), 2023.

[5] Xin Chen, Hong-Fang Yan, Yu-Jun Zheng, and Mumtaz Karatas. Integration of machine

learning prediction and heuristic optimization for mask delivery in Covid-19. ***Swarm and Evolutionary Computation***, 76:101208, 2023.

[6] Levent Eriskin, Mumtaz Karatas, and Yu-Jun Zheng. A robust multi-objective model for healthcare resource management and location planning during pandemics. ***Annals of Operations Research***, pages 1–48, 2022.

[7] Elif Bozkaya, Levent Eriskin, and Mumtaz Karatas. Data analytics during pandemics: A transportation and location planning perspective. ***Annals of Operations Research***, pages 1–52, 2022.

[8] Mumtaz Karatas, Levent Eriskin, and Elif Bozkaya. Transportation and location planning during epidemics/pandemics: Emerging problems and solution approaches. ***IEEE Transactions on Intelligent Transportation Systems***, 23(12):25139–25156, 2022.

[9] Mumtaz Karatas, Levent Eriskin, Muhammet Deveci, Dragan Pamucar, and Harish Garg. Big data for healthcare industry 4.0: Applications, challenges and future perspectives. ***Expert Systems with Applications***, page 116912, 2022.

[10] Levent Eriskin and Mumtaz Karatas. Applying robust optimization to the shelter location–allocation problem: A case study for istanbul. ***Annals of Operations Research***, pages 1–47, 2022.

[11] Mumtaz Karatas and Ertan Yakici. A multi-objective location analytics model for temporary emergency service center location decisions in disasters. ***Decision Analytics Journal***, 1:100004, 2021.

[12] Huseyin Guden, Baris Kececi, Mumtaz Karatas, and Ertan Yakici. Inter-city bus scheduling with central city location and trip selection. ***International Journal of Industrial Engineering***, 27(6), 2020.

[13] Mumtaz Karatas and Levent Eriskin. The minimal covering location and sizing problem in the presence of gradual cooperative coverage. ***European Journal of Operational Research***, 295(3):838–856, 2021.

[14] Ertan Yakici and Mumtaz Karatas. Solving a multi-objective heterogeneous sensor network location problem with genetic algorithm. ***Computer Networks***, 192:108041, 2021.

[15] F Tevhide Altekin, Abdullah Dasci, and Mumtaz Karatas. Linear and conic reformulations for the maximum capture location problem under multinomial logit choice. ***Optimization Letters***, 15(8):2611–2637, 2021.

[16] Ertan Yakici, Mumtaz Karatas, and Serhan Duran. A multi-objective approach in expanding the pre-positioning warehouse networks in humanitarian logistics. ***European Journal of Industrial Engineering***, 15(1):67–102, 2021.

[17] Mumtaz Karatas. A dynamic multi-objective location-allocation model for search and rescue assets. ***European Journal of Operational Research***, 288(2):620–633, 2021.

[18] Mumtaz Karatas, Ertan Yakici, and Abdullah Dasci. Solving a bi-objective unmanned aircraft system location-allocation problem. ***Annals of Operations Research***, pages 1–24, 2021.

[19] Chen-Xin Wu, Min-Hui Liao, Mumtaz Karatas, Sheng-Yong Chen, and Yu-Jun Zheng. Real-time neural network scheduling of emergency medical mask production during Covid-19. ***Applied Soft Computing***, 97:106790, 2020, **Winner of Best Paper Award**.

[20] Mumtaz Karatas. A multi-objective bi-level location problem for heterogeneous sensor networks with hub-spoke topology. ***Computer Networks***, 181:107551, 2020.

[21] Yu-Jun Zheng, Si-Lan Yu, Jun-Chao Yang, Tie-Er Gan, Qin Song, Jun Yang, and Mumtaz Karatas. Intelligent optimization of diversified community prevention of Covid-19 using traditional chinese medicine. ***IEEE Computational Intelligence Magazine***, 15(4):62–73, 2020.

[22] Mevlut Savas Bilican, Ramazan Evren, and Mumtaz Karatas. A mathematical model and two-stage heuristic for the container stowage planning problem with stability parameters. ***IEEE Access***, 8:113392–113413, 2020.

[23] Hakan Merdanoğlu, Ertan Yakici, O Tufan Dogan, Serhan Duran, and Mumtaz Karatas. Finding optimal schedules in a home energy management system. ***Electric Power Systems Research***, 182:106229, 2020.

[24] Mumtaz Karatas and Abdullah Dasci. A two-level facility location and sizing problem for maximal coverage. ***Computers & Industrial Engineering***, 139:106204, 2020.

[25] Mumtaz Karatas. Hydrogen energy storage method selection using fuzzy axiomatic design and analytic hierarchy process. ***International Journal of Hydrogen Energy***, 45(32):16227–16238, 2020.

[26] Emily Craparo and Mumtaz Karatas. Optimal source placement for point coverage in active multistatic sonar networks. ***Naval Research Logistics***, 67(1):63–74, 2020.

[27] Armin R Fugenschuh, Emily M Craparo, Mumtaz Karatas, and Samuel E Buttrey. Solving multistatic sonar location problems with mixed-integer programming. ***Optimization and Engineering***, 21(1):273–303, 2020.

[28] Kerim Dogan, Mumtaz Karatas, and Ertan Yakici. A model for locating preventive health care facilities. ***Central European Journal of Operations Research***, 28(3):1091–1121, 2020.

[29] Oktay Yilmaz, Ertan Yakici, and Mumtaz Karatas. A UAV location and routing problem with spatio-temporal synchronization constraints solved by ant colony optimization. ***Journal of Heuristics***, 25(4):673–701, 2019.

[30] Mumtaz Karatas and Bhakti Stephan Onggo. Optimising the barrier coverage of a wireless sensor network with hub-and-spoke topology using mathematical and simulation models. ***Computers & Operations Research***, 106:36–48, 2019.

[31] Emily M Craparo, Armin Fugenschuh, Christoph Hof, and Mumtaz Karatas. Optimizing source and receiver placement in multistatic sonar networks to monitor fixed targets. ***European Journal of Operational Research***, 272(3):816–831, 2019.

[32] Mumtaz Karatas and Ertan Yakici. An analysis of p-median location problem: effects of backup service level and demand assignment policy. ***European Journal of Operational Research***, 272(1):207–218, 2019.

[33] Mumtaz Karatas, Emily Craparo, and Gülşen Akman. Bistatic sonobuoy deployment strategies for detecting stationary and mobile underwater targets. ***Naval Research Logistics***, 65(4):331–346, 2018.

[34] Hakan Tozan, Mumtaz Karatas, and Ozalp Vayvay. Reducing demand signal variability via a quantitative fuzzy grey regression approach. ***Tehnički Vjesnik***, 25(Supplement 2):411–419, 2018.

[35] Mumtaz Karatas, Egemen Sulukan, and Ilknur Karacan. Assessment of Turkey's energy management performance via a hybrid multi-criteria decision-making methodology. ***Energy***, 153:890–912, 2018.

[36] Mumtaz Karatas, Ilknur Karacan, and Hakan Tozan. An integrated multi-criteria decision making methodology for health technology assessment. ***European Journal of Industrial Engineering***, 12(4):504–534, 2018.

[37] Mumtaz Karatas. Optimal deployment of heterogeneous sensor networks for a hybrid point and barrier coverage application. ***Computer Networks***, 132:129–144, 2018.

[38] Mumtaz Karatas and Ertan Yakici. An iterative solution approach to a multi-objective facility location problem. ***Applied Soft Computing***, 62:272–287, 2018.

[39] Elif Karakaya, Hakan Tozan, Mumtaz Karatas, and Michael R. Bartolacci. Scenario-based cycle time comparison of cellular transport systems with conventional warehouse systems. ***Global Journals of Research in Engineering***, 17(G2):1–8, 2017.

[40] Emily M Craparo, Mumtaz Karatas, and Tobias U Kuhn. Sensor placement in active multistatic sonar networks. ***Naval Research Logistics***, 64(4):287–304, 2017.

[41] Mumtaz Karatas. A multi-objective facility location problem in the presence of variable gradual coverage performance and cooperative cover. ***European Journal of Operational Research***, 262(3):1040–1051, 2017.

[42] Emily Craparo, Mumtaz Karatas, and Dashi I Singham. A robust optimization approach to hybrid microgrid operation using ensemble weather forecasts. ***Applied Energy***, 201:135–147, 2017.

[43] Mumtaz Karatas. Multiattribute decision making using multiperiod probabilistic weighted fuzzy axiomatic design. ***Systems Engineering***, 20(4):318–334, 2017.

[44] Mumtaz Karatas, Nasuh Razi, and Hakan Tozan. A multi-criteria assessment of the p-median, maximal coverage and p-center location models. ***Tehnički Vjesnik***, 24(Supplement 2):399–407, 2017.

[45] Mumtaz Karatas, Nasuh Razi, and Murat M Gunal. An ILP and simulation model to optimize search and rescue helicopter operations. ***Journal of the Operational Research Society***, 68(11):1335–1351, 2017.

[46] Nasuh Razi and Mumtaz Karatas. A multi-objective model for locating search and rescue boats. ***European Journal of Operational Research***, 254(1):279–293, 2016.

[47] Bhakti Stephan Onggo and Mumtaz Karatas. Test-driven simulation modelling: A case study using agent-based maritime search-operation simulation. ***European Journal of Operational Research***, 254(2):517–531, 2016.

[48] Mumtaz Karatas, Nasuh Razi, and Hakan Tozan. A comparison of p-median and maximal coverage location models with q–coverage requirement. ***Procedia Engineering***, 149:169–176, 2016.

[49] Ilknur Karacan, Hakan Tozan, and Mumtaz Karatas. Multi criteria decision methods in health technology assessment: A brief literature review. ***Eurasian Journal of Health Technology Assessment***, 1(1):12–19, 2016.

[50] Alan Washburn and Mumtaz Karatas. Multistatic search theory. ***Military Operations Research***, 20(1):21–38, 2015.

[51] Mumtaz Karatas and Gulsen Akman. Bistatic sonobuoy deployment configuration for stationary targets. ***Journal of Naval Sciences and Engineering***, 11(2):1–10, 2015.

[52] Mumtaz Karatas. A multi foci closed curve: Cassini oval, its properties and applications. ***Doğuş University Journal***, 14(2):231–248, 2013.

[53] Mumtaz Karatas and Gulsen Akman. Performance prediction for randomly deployed multistatic sensor fields. ***Dokuz Eylul University Journal of Engineering Sciences***, 16(2):1–12, 2014.

[54] Mumtaz Karatas. An analytical comparison of random and exhaustive search of an expanding area with binary sensors. ***Engineer & the Machinery Magazine***, (635), 2012.

[55] M Karatas. Optimization of distributed underwater sensor networks with mixed integer non-linear programming. ***Marmara University Journal of Science***, 24(3):77–92, 2012.

[56] Mumtaz Karatas and Hakan Gecili. The role of decision support systems in steel industry. ***Engineering Science & Technology, an International Journal***, 15(1):45–52.

[57] Mumtaz Karatas and Gulsen Akman. Evaluation of innovative culture structures of organizations by axiomatic design. ***Journal of Science and Technology of Dumlupinar University***, 16(2):45–62, 2009.

Submitted/Under Review

[1] Ertan Yakici, Mumtaz Karatas, Levent Eriskin, and Engin Cicek. Location and routing of armed unmanned aerial vehicles and carrier platforms against mobile targets. ***Computers & Operations Research***, (under review).

[2] Ertan Yakıcı and Mumtaz Karatas. Solving a bi-level network design problem via an ant colony optimization approach. ***Annals of Operations Research***, (under review).

[3] Arya Sevgen, Mumtaz Karatas, and Abdullah Dasci. Optimal sizing and location of energy storage systems for transmission grids connected to wind farms. ***Omega***, (under review).

[4] Savas Bilican, Mumtaz Karatas, Yu-Jun Zheng, Hasan Husyin Turan, and Muhammet Deveci. Container stowage planning problems: A review of literature. ***Expert systems with Applications***, (under review).

[5] Yu-Jun Zheng, Hong-Fan Yan, Min-Xia Zhang, Qin Song, and Mumtaz Karatas. Ensemble neural network scheduler for quarantine vehicles scheduling during Covid-19. ***Frontiers in Computational Neuroscience***, (under review).

Books

[1] Hakan Tozan and Mumtaz Karatas. Operations research for military organizations. Edited Book, ***IGI Global***, *UK*, ISBN: 9781522555131, 2018.

Book Chapters

[1] Elif Bozkaya, Mumtaz Karatas, and Levent Eriskin. Heterogeneous wireless sensor networks: Deployment strategies and coverage models. ***Comprehensive Guide to Heterogeneous Networks***, editors: Kiran Ahuja, Anand Nayyar and Kavita Sharma, ISBN: 9780323905367:1–32, *Elsevier*, 2023.

[2] Muhammet Deveci, Levent Eriskin, and Mumtaz Karatas. (2020) A survey on recent applications of pythagorean fuzzy sets: A state-of-the-art between 2013 and 2020. ***Pythagorean Fuzzy Sets: Theory and Applications***, editors: Garg, Harish, ISBN: 9789811619892:3–38, *Springer*, 2021.

[3] Murat M. Gunal and Mumtaz Karatas. Industry 4.0, digitisation in manufacturing, and simulation: A review of the literature. ***Simulation for Industry 4.0: Past, Present, and Future***, editors: Gunal, Murat M., ISBN: 9783030041373:19–37, *Springer, 2019*.

[4] Mumtaz Karatas, Ertan Yakici, and Nasuh Razi. Military facility location problems: A brief survey. ***Operations Research for Military Organizations***, editors: Tozan, Hakan, Karatas, Mumtaz, ISBN: 9781522555148:1–27, *IGI Global*, UK, 2019.

[5] Ertan Yakici, Mumtaz Karatas, and Oktay Yilmaz. The problem of locating and routing unmanned aerial vehicles. ***Research Anthology on Reliability and Safety in Aviation Systems, Spacecraft, and Air Transport***, editors: Khosrow, Mehdi ISBN: 9781522555148:1067–1091, *IGI Global*, UK, 2018.

[6] Mumtaz Karatas, Nasuh Razi, and Hakan Tozan. Assessing the performance of a sar boat location-allocation plan via simulation. ***Improving the Safety and Efficiency of Emergency Services: Emerging Tools and Technologies for First Responders***, editor: Information Reso Management Association, ISBN: 9781522555131:142–178, *IGI Global*, UK, 2018.

[7] Egemen Sulukan, Mumtaz Karatas, and Ilker Akgun. Energy management performance in country scale: A data envelopment analysis. ***Towards 100% Renewable Energy: Techniques, Costs and Regional Case-Studies***, editors: Uyar, Tanay Sidki, ISBN: 9783319456591:187–194, *Springer*, 2017.

Technical Reports

[1] Emily M Craparo and Mumtaz Karatas. A method for placing sources in multistatic sonar networks. Technical Report NPS-OR-18-001, **Naval Postgraduate School**, Monterey, CA, United States, 2018.

Presentations

Conference Proceedings

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