

CURRICULUM VITAE

Ali Danandeh Mehr

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h-index: 41 (google scholar); 36 (Scopus)

Total Number of SCI/SCI-E/ESCI Papers: 106

Civil Engineering Department,
Faculty of Engineering, Antalya Bilim University, Antalya, Turkey.
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Education

- 2012 – 2016 **Ph.D.**
Istanbul Technical University, Istanbul, Turkey.
Major Field: Civil Eng. Minor Field: Hydraulics and Water Resources.
Title of the thesis: *Climate change impacts on catchment-scale extreme rainfall variability*
- 2002 – 2005 **M.Sc.**
Power and Water University of Technology, Tehran, Iran
Major Field: Civil Engineering Minor Field: River Engineering
Title of the thesis: *Optimization of Flood Control Structures in Urban Catchments*
- 1997 – 2001 **B.Sc.**
Islamic Azad University – Tabriz Branch (www.iaut.ac.ir) – Tabriz, Iran
Major Field: Civil Engineering

Academic/Work Experience

- 2024 (Oct.) **Professor**, Civil Engineering Department,
– Faculty of Engineering, Antalya Bilim University, Antalya, Turkey.
- 2019 (Apr.) **Associate Professor**, Civil Engineering Department,
–2024 (Sept.) Faculty of Engineering, Antalya Bilim University, Antalya, Turkey.
Approved by Presidency of the Inter-University Board, Republic of Turkey (29.04.2019)
- 2022 (Aug.) **Visiting Scholar**, Centre of Excellence in Hydroinformatics, Faculty of Civil Engineering,
–2023 (Jul.) University of Tabriz, Tabriz, Iran
- 2021 (Aug.) **Postdoctoral Researcher**, Water, Energy and Environmental Research Unit
–2022 (Jul.) University of Oulu, Oulu, Finland
- 2017 (Sept.) **Assistant Professor**, Civil Engineering Department,
–2019 (Sept.) Faculty of Engineering, Antalya Bilim University, Antalya, Turkey.
- 2016 (Jul.) **Postdoctoral Research Fellow**, Water Resources Engineering Department
–2017 (Jul.) Faculty of Civil Engineering, University of Tabriz, Tabriz, Iran.
- 2017 – 2017 **Guest Lecturer**, Civil Engineering Department
Near East University, Nicosia, North Cyprus.
- 2016 – 2016 **Guest Lecturer**, Civil Engineering Department
Eastern Mediterranean University, Famagusta, North Cyprus.

- 2014 – 2016 **Research Assistant**, Marine Engineering Department
Istanbul Technical University, North Cyprus Education and Research Campuses,
Famagusta, North Cyprus.
- 2009 – 2011 **Senior Expert**, Bureau of Rivers & Coastal Engineering
Iran Water Resources Management Company. (www.wrm.ir) Tehran, Iran.

Consulting Experience

- 2017 – 2025 **RTR Engineering and Consulting Co.**, Antalya, Turkey
Hydrology and water resources engineering expert
- 2007 – 2009 **Sangab Zagros Consulting Engineering Co.**, Shiraz, Iran
Hydrological and hydraulic studies of river training projects
- 2004 – 2007 **Ab Pouyeshgaran Novin Consulting Engineering Co.**, Tehran, Iran
Hydrologic and hydraulic studies for river training projects
- 2002 – 2004 **Tarh-e No Andishan Consulting Engineering Co.**, (www.tna.ir). Tehran, Iran
Hydrological and hydraulic design of bridges/culverts

Awards/honors

- 2022 Top 1% of scholars in the specific fields of genetic programming, forecasting, and programming models (the World Highly Ranked Scholars 2022, reported by ScholarGPS™)
- 2022 Hydrological Science Journal Reviewer Award (IAHS with the support of Taylor and Francis)
- 2019-2024 Top 2% Scientist in the field of Engineering (Elsevier and Stanford University Selection)
- 2019 Best oral presentation award (The 1st International and 4th National Congress on Iranian Irrigation and Drainage, 13-14 November 2019, Urmia University, Iran)
- 2018-2023 Top Researcher Award (Antalya Bilim University)
- 2017 Young Researcher Award (Near East University)
- 2017 Publons Peer Review Awards (One of top one percent peer reviewers)
- 2016 Best Ph.D. Thesis Award, Istanbul Technical University

Languages: **English:** Fluent, **Turkish:** Fluent, **Farsi:** Fluent, **Azerbaijani:** Mother tongue, **Arabic:** Beginner

Professional Software Application Experience

- HEC Series (HMS, RAS, SSP, DSSvu)
- WMS (Watershed Modeling System)
- MATLAB (Matrix Laboratory)
- Arc GIS/QGIS
- Panoply/NCview
- Discipulus/Gene-Xpro-Tools/GPTIPS/GPdotNet (Genetic Programming Tools)/RapidMiner

Editorial board membership

- AQUA, IWA Publishing, London, UK. (Guest Editor, 2023-2024)

- Water, MDPI (Guest Editor, 2022-2023)
- Associate Editor, Discover Water (Springer)
- Associate Editor, J. Civil. Env. Eng. (Tabriz Univ.)

Technical Program Committee Member/Invited Speaker

- *Plenary Keynote Speaker*: 7th International Conference on Modeling & Simulation in Civil Engineering - Focusing on global partnership for sustainable development and circular economy through technology, infrastructure and research 5th - 7th Dec 2024 (ICMSC 2024), TKM College of Engineering, **Kollam**, India
- *Plenary Keynote Speaker*: International Conference on Engineering and Technologies for Sustainable Development (ICETSD 2024). 28th August 2024, INTI International University, **Nilai**, Negeri Sembilan, Malaysia.
- *Invited speaker*: The blt and road workshop on water resources, May 28, 2024, Nanjing University, **Nanjing**, China
- *Invited speaker*: 1st National Conference on Application of New Technologies in Civil Engineering, May 15, 2024, Islamic Azad University, **Tabriz**, Iran
- *Special Session Chair*: 7th International Conference on Control, Instrumentation and Automation (ICCIA), **Tabriz**, Iran.
- *Keynote speaker and International Program Committee*: 12th International Scientific Conference on Production Engineering (Development and Modernization of Production) September 2019, **Sarajevo**, Bosnia and Herzegovina
- *Special Session Chair*: Intelligence and Fuzzy Systems (INFUS 2019), **Istanbul**, Turkey.
- *Session Chair*: International Water and Environment Congress (SUÇEV 2018), March 22-24, **Bursa**, Turkey.
- *Executive committee*: Joint Workshop-cum-Seminar on Soft Computing Methods in Water Resources Engineering. **Nicosia**, North Cyprus. November 29, 2016.
- *International Program Committee*: 9th International Conference on Theory and Application of Soft Computing, Computing with Words and Perception, ICSCCW 2017, 22-23 August 2017, **Budapest**, Hungary
- *International Program Committee*: 13th International Conference on Applications of Fuzzy Systems and Soft Computing, ICAFTS 2018, 27-28 August 2018, **Warsaw**, Poland.

List of Publications

SCI/SCI-E/ESCI Journals:

106. Danandeh Mehr, A., Ajith, A., Sankaran, A., Maghrebi, M., Tur, R., Saji, A. S., Nizar, A., & Pottayil, M. N. (2025). A Time-Dependent Intrinsic Correlation Analysis to Identify Teleconnection Between Climatic Oscillations and Extreme Climatic Indices Across the Southern Indian Peninsula. *Atmosphere*, 16(12), 1395. <https://doi.org/10.3390/atmos16121395>
105. Ilyas, M., Niaz, R., Cheng, H., Di Persio, L., Abd Elwahab, M. E., Mehr, A. D., & Hussain, I. (2025). Modeling meteorological drought across scales with regional and global climate indicators. *Theoretical and Applied Climatology*, 156(12), 1-26.
104. Niaz, R., Munir, S., Raza, M. A., Tur, R., Partani, S., & Mehr, A. D. (2025). BAMPP: A Novel Bayesian Network Enhanced by Average Marginal Posterior Probabilities to Identify Critical Ground Truth Meteorological Stations for Drought Monitoring. *Physics and Chemistry of the Earth, Parts A/B/C*, 104215.
103. Salim, S. A., M, K., S, A., Danandeh Mehr, A., & Alex, M. K. (2025). A novel random forest model enhanced by multivariate empirical mode decomposition for daily soil moisture prediction across India. *Environmental Earth Sciences*, 84(23), 693.
102. Lee, S., Danandeh Mehr, A., Moriasi, D., & Mirchi, A. (2025). Large-Scale Drought Forecasting in the US Southern Plains Through a Hybrid Cluster-Based Wavelet-Machine Learning Approach. *Water Resources Research*, 61(11), e2024WR039744.

101. Danandeh Mehr, A., & Moghaddam Nia, A. (2025). Emerging machine learning and optimization techniques in urban water systems. *AQUA—Water Infrastructure, Ecosystems and Society*, jws2025202.
100. Luo, L., Ke, C. Q., Cai, Y., Li, H., Xiao, Y., Nourani, V., Danandeh Mehr, A., & Sankaran, A. (2025). Abrupt decline and subsequent recovery of extreme precipitation associated with Atmospheric Rivers in the Southeastern Tibetan Plateau. *Atmospheric Research*, 108461.
99. Modaresi, F., Danandeh Mehr, A., Bajgiran, I. S., & Safari, M. J. S. (2025). Multi-level trend analysis of extreme climate indices by a novel hybrid method of fuzzy logic and innovative trend analysis. *Scientific Reports*, 15(1), 27432.
98. Mert, I.S., Danandeh Mehr, A., Abulaligah, L. (2025). The management genetic code: courageous dimensions, morality and evolutionary satisfaction. *Management Decision*, 63.
97. Danandeh Mehr, A., Ghavifekr, A. A., Ghazaei, E., Safari, M. J. S., Ke, C. Q., & Nourani, V. (2025). S-Transformer: a new deep learning model enhanced by sequential transformer encoders for drought forecasting. *Earth Science Informatics*, 18(2), 341.
96. Alkubaisi, H., Danandeh Mehr, A., S, A., & Khan, M. M. H. (2025). Drought modelling and forecasting using shallow and deep machine learning techniques. *Modeling Earth Systems and Environment*, 11(1), 41.
95. Danandeh Mehr, A., Jabarnejad, M., & Safari, M. J. S. (2025). MOGGP: A Novel Multi Objective Geometric Genetic Programming Model for Drought Forecasting. *Physics and Chemistry of the Earth, Parts A/B/C*, 103879.
94. Özdemir, S., Celebi, A., Dede, G., Maghrebi, M., & Danandeh Mehr, A. (2025). Impact of Land Use Change on Lake Pollution Dynamics: A Case Study of Sapanca Lake, Turkey. *Water*, 17(2), 182; <https://doi.org/10.3390/w17020182>
93. Lee, S., Moriasi, D. N., Fortuna, A. M., Mirchi, A., Danandeh Mehr, A., Chu, M. L., ... & Starks, P. (2025). Modeling the impact of measured and projected climate and management systems on agricultural fields: Surface runoff, soil moisture, and soil erosion, *Journal of Environmental Quality* 54 (1), 147-159.
92. Wang, G., Ke, C. Q., Fan, Y., Shen, X., Nourani, V., Sankaran, A., Danandeh Mehr, A. & Popov, S. V. (2024). Accelerated basal melt rates of ice shelves in North Greenland from 2013 to 2022 estimated with the high-resolution ArcticDEM. *Journal of Geophysical Research: Oceans*, 129(12), e2024JC021509.
91. Elbeltagi, A., Katipoğlu, O. M., Kartal, V., Danandeh Mehr, A., Berhail, S., & Elsadek, E. A. (2024). Advanced reference crop evapotranspiration prediction: a novel framework combining neural nets, bee optimization algorithm, and mode decomposition. *Applied Water Science*, 14(12), 256.
90. Thi Bui, Q. A., Jani, R., Mohajeri, F., Shabani, E., & Danandeh Mehr, A. (2024). Investigation of nonlinear dynamics and stochastic characteristics of fine particulate matter in urban environments. *Acta Geophysica*, 1-16.
89. Lee, S., Nourani, V., Danandeh Mehr, A., Moriasi, D., & Mirchi, A. (2024). Wavelet-Entropy Enhanced Clustering: A Comprehensive Analysis of Drought Patterns in the Southern Plains, USA. *Journal of Hydrometeorology*, 25(12), 1809-1822.
88. Partani, S., Danandeh Mehr, A., Amir Ahmadi, K., Alaei, M., Maghrebi, M., Taniwaki, R. H., & Jafari, A. (2024). Identifying toxic elements in water, sediments, and roots of mangrove forest (*Avicennia marina*) in Chabahar Bay, Sea of Oman. *Science of The Total Environment*, 954, 171518.
87. Hussain, A., Reihanifar, M., Niaz, R., Albalawi, O., Maghrebi, M., Ahmed, A.T., Danandeh Mehr, A. (2024). Characterizing Inter-Seasonal Meteorological Drought Using Random Effect Logistic Regression. *Sustainability*, 16, 8433. <https://doi.org/10.3390/su16198433>
86. Modaresi, F., Danandeh Mehr, A., & Kazemi Choolanak, A. (2024). SMRF: a new class-based probabilistic approach for season-ahead monthly rainfall forecasting. *Acta Geophysica*, 1-15.
85. Danandeh Mehr, A., Shadkani, S., Abualigah, L., Safari, M. J. S., & Migdady, H. (2024). A novel stabilized artificial neural network model enhanced by variational mode decomposing. *Heliyon*, 10, e34142.
84. Partani, S., Danandeh Mehr, A., Bostanmaneshrad, F., et al. (2024). Determining the main driver of hypoxia potential in freshwater inland lakes. *Journal of Cleaner Production*, 458,142521.

83. Lee, S., Moriasi, D. N., Fortuna, A.M., Mirchi, A., Danandeh Mehr, A., Chu, M.L., Guzman, J.A. & Starks, P. (2024). Modeling the impact of measured and projected climate and management systems on agricultural fields: Surface runoff, soil moisture, and soil erosion. *Journal of Environmental Quality*, 54, (1), 147-159, DOI: 10.1002/jeq2.20565.
82. Lee, S., Moriasi, D. N., Danandeh Mehr, A., & Mirchi, A. (2024). Sensitivity of Standardized Precipitation and Evapotranspiration Index (SPEI) to the choice of SPEI probability distribution and evapotranspiration method. *Journal of Hydrology: Regional Studies*, 53, 101761.
81. Çelebi, A., Şengörür B., Torabi Haghighi, A., & Danandeh Mehr, A. (2024) Riparian Soil Pollution Caused by Sediment Metal Transport: Seasonal Changes and Ecological Risk Assessment. *Toxics*, 12(3):213.
80. Partani, S., Danandeh Mehr, A., & Jafari, A. (2024). Enhancing nutrient absorption through the influence of mangrove ecosystem on flow rate and retention time in salt marshes. *Science of The Total Environment*, 171518.
79. Modaresi, F., Danandeh Mehr, A. (2024). A novel approach to predictor selection among large-scale climate indices for seasonal rainfall forecasting in small catchments. *Hydrological Sciences Journal*, 69(4), 488-505. <https://doi.org/10.1080/02626667.2024.2313572>
78. Darabi, H., Danandeh Mehr, A., Kum, G., Sönmez, M. E., Dumitrache, C. A., Diani, K., ... & Torabi Haghighi, A. (2023). Hydroclimatic Trends and Drought Risk Assessment in the Ceyhan River Basin: Insights from SPI and STI Indices. *Hydrology*, 10(8), 157.
77. Fathian, F., Dehghan, Z., Alee, M. M., Vaheddoost, B., Abualigah, L., & Danandeh Mehr, A. (2023). Regional classification of extreme droughts across Iran. *Acta Geophysica*, 1-25.
76. Salamttalab, M. M., Parmas, B., Mustafa Alee, H., Hooshyaripor, F., Danandeh Mehr, A., Vosoughifar, H., ... & Noori, R. (2023). A Finite Volume Method for a 2D Dam-Break Simulation on a Wet Bed Using a Modified HLLC Scheme. *Water*, 15(21), 3841.
75. Partani, S., Danandeh Mehr, A., Maghrebi, M., Mokhtari, R., Nachtnebel, H. P., Taniwaki, R. H., & Arzhang, A. (2023). A new spatial estimation model and source apportionment of aliphatic hydrocarbons in coastal surface sediments of the Nayband Bay, Persian Gulf. *Science of The Total Environment*, 166746.
74. Achite, M., Gul, E., Elshaboury, N., Jehanzaib, M., Mohammadi, B., & Mehr, A. D. (2023). An improved adaptive neuro-fuzzy inference system for hydrological drought prediction in Algeria. *Physics and Chemistry of the Earth, Parts A/B/C*, 131, 103451.
73. Reihanifar, M., Danandeh Mehr, A., Tur, R., Ahmed, A. T., Abualigah, L., & Dąbrowska, D. (2023). A new multi-objective genetic programming model for meteorological drought forecasting. *Water*, 15(20), 3602.
72. Danandeh Mehr, A., Reihanifar, M., Alee, M. M., Vazifekhhah Ghaffari, M. A., Safari, M. J. S., & Mohammadi, B. (2023). VMD-GP: A New Evolutionary Explicit Model for Meteorological Drought Prediction at Ungauged Catchments. *Water*, 15(15), 2686.
71. Soylu Pekpostalci, D., Tur, R., Danandeh Mehr, A. (2023) Spatiotemporal Variations of Meteorological Drought across Mediterranean Region of Türkiye. *Pure and Applied Geophysics*, 180, 3089–3104.
70. Haghighi, A. T., Akbari, M., Noori, R., Danandeh Mehr, A., Gohari, A., Sönmez, M. E., ... & Kløve, B. (2023). The impact of Turkey's water resources development on the flow regime of the Tigris River in Iraq. *Journal of Hydrology: Regional Studies*, 48, 101454.
69. Danandeh Mehr, A. (2023). A Gene-Random Forest Model for Meteorological Drought Prediction. *Pure and Applied Geophysics*, 180(7), 2927-2937.
68. Mustafa Alee, M., Danandeh Mehr, A., Akdegirmen, O., & Nourani, V. (2023). Drought Assessment across Erbil Using Satellite Products. *Sustainability*, 15(8), 6687.
67. Soylu Pekpostalci, D., Tur, R., Danandeh Mehr, A., Vazifekhhah Ghaffari, M.A., Dąbrowska, D., Nourani, V. (2023) Drought Monitoring and Forecasting across Turkey: A Contemporary Review. *Sustainability* 2023, 15, 6080. <https://doi.org/10.3390/su15076080>

66. Danandeh Mehr, A., Marttila, H., Torabi Haghighi, A. T., Croghan, D., & Fathollahzadeh Attar, N. (2023). GTAR: a new ensemble evolutionary autoregressive approach to model dissolved organic carbon. *Journal of Water Supply: Research and Technology-Aqua*. doi: 10.2166/aqua.2023.235
65. Danandeh Mehr, A., Tur, R., Alee, M. M., Gul, E., Nourani, V., Shoaee, S., & Mohammadi, B. (2023). Optimizing Extreme Learning Machine for Drought Forecasting: Water Cycle vs. Bacterial Foraging. *Sustainability*, 15(5), 3923.
64. Maghrebi, M., Noori, R., Danandeh Mehr, A., Lak, R., Darougheh, F., Razmgir, R., ... & Kløve, B. (2023). Spatiotemporal Changes in Iranian Rivers' Discharge. *Elementa Science of the Anthropocene*, 11(1), 00002.
63. Hisam, E., Danandeh Mehr, A., Alganci, U., & Seker, D. Z. (2023). Comprehensive evaluation of Satellite-Based and reanalysis precipitation products over the Mediterranean region in Turkey. *Advances in Space Research*, 71(7), 3005-3021.
62. Maghrebi, M., Danandeh Mehr, A., Karrabi, S. M., Sadegh, M., Partani, S., Ghiasi, B., & Nourani, V. (2022). Spatiotemporal Variations of Air Pollution during the COVID-19 Pandemic across Tehran, Iran: Commonalities with and Differences from Global Trends. *Sustainability*, 14(23), 16313.
61. Heddam, S., Kim, S., Danandeh Mehr, A., Zounemat-Kermani, M., Ptak, M., Elbeltagi, A., ... & Tikhmarine, Y. (2022). Bat algorithm optimized extreme learning machine (Bat-ELM): A novel approach for daily river water temperature modelling. *Geographical Journal*. 189(1), 78-89. <https://doi.org/10.1111/geoj.12478>
60. Danandeh Mehr, A., Erkinaro, J., Hjort, J., Haghighi, A. T., Ahrari, A., Korpisaari, M., ... & Marttila, H. (2022). Factors affecting the presence of Arctic charr in streams based on a jittered binary genetic programming model. *Ecological Indicators*, 142, 109203.
59. Gholizadeh, R., Yilmaz, H., & Danandeh Mehr, A. (2022). A new binary genetic programming approach to design public transportation systems according to transit-oriented development criteria. *Scientia Iranica*, 30(3), 936-951.
58. Rosbjerg, D., Engeland, K., Førland, E., Haghighi, A. T., Mehr, A. D., & Olsson, J. (2022). Nordic contributions to stochastic methods in hydrology. *Hydrology Research*, 53 (6): 840–866.
57. Tao, H., Hameed, M. M., Marhoon, H. A., Zounemat-Kermani, M., Salim, H., Sungwon, K., ... & Yaseen, Z. M. (2022). Groundwater Level Prediction using Machine Learning Models: A Comprehensive Review. *Neurocomputing*, 489, 271-308.
56. Gholizadeh, R., Yilmaz, H., & Danandeh Mehr, A. (2022). Multitemporal meteorological drought forecasting using Bat-ELM. *Acta Geophysica*, 70(2), 917-927.
55. Danandeh Mehr, A., Torabi Haghighi, A., Jabarnejad, M., Safari, M.J.S., Nourani, V. (2022). A new evolutionary hybrid random forest model for SPEI Forecasting. *Water* 14, 755. <https://doi.org/10.3390/w14050755>
54. Danandeh Mehr, A., Ghadimi, S., Marttila, H., & Torabi Haghighi, A. (2022). A new evolutionary time series model for streamflow forecasting in boreal lake-river systems. *Theoretical and Applied Climatology*, 148(1), 255-268.
53. Danandeh Mehr, A., Rikhtehgar Ghiasi, A., Yaseen, Z. M., Sorman, A. U., & Abualigah, L. (2022). A novel intelligent deep learning predictive model for meteorological drought forecasting. *Journal of Ambient Intelligence and Humanized Computing*, 14(8), 10441-10455.
52. Tur, R., Tas, E., Torabi Haghighi, & A., Danandeh Mehr, A., (2021). Sea Level Prediction Using Machine Learning. *Water* 13, 3566. <https://doi.org/10.3390/w13243566>
51. Gul, E., Safari, M. J. S., Torabi Haghighi, A., Danandeh Mehr, A., (2021). Sediment transport modeling in nondeposition with clean bed condition using different tree-based algorithms. *PLoS ONE* 16(10): e0258125. <https://doi.org/10.1371/journal.pone.0258125>
50. Danandeh Mehr, A., & Fathollahzadeh Attar, N. (2021). A gradient boosting tree approach for SPEI classification and prediction in Turkey. *Hydrological Sciences Journal*, 66(11), 1653-1663.
49. Rahimzad, M., Moghaddam Nia, A., Zolfonoon, H., Soltani, J., Danandeh Mehr, A., & Kwon, H. H. (2021). Performance Comparison of an LSTM-based Deep Learning Model versus Conventional Machine Learning Algorithms for Streamflow Forecasting. *Water Resources Management*, 35(12), 4167-4187.

48. Danandeh Mehr, A., Hrnjica, B., Bonacci, & Torabi Haghighi, A. (2021) Innovative and successive average trend analysis of temperature and precipitation in Osijek, Croatia. *Theoretical and Applied Climatology* 145, 875–890.
47. Danandeh Mehr, A. (2021). Drought classification using gradient boosting decision tree. *Acta Geophysica*, 69, 909 – 918.
46. Danandeh Mehr A., Gandomi, A.H. (2021). MSGP-LASSO: an improved multi-stage genetic programming model for streamflow prediction. *Information Sciences*, 561, 181-195.
45. Danandeh Mehr A., Safari, M. J. S., Nourani V. (2021). Wavelet packet-genetic programming: a new model for meteorological drought forecasting. *Teknik Dergi*, 32 (4). 11029-11050.
44. Alizamir, M., Heddami, S., Kim, S., & Danandeh Mehr, A. (2020). On the implementation of a novel data-intelligence model based on extreme learning machine optimized by bat algorithm for estimating daily chlorophyll-a concentration: case studies of river and lake in USA. *Journal of Cleaner Production*, 124868.
43. Modabberi, A., Noori, R., Madani, K., Ehsani, A.H., Danandeh Mehr, A., Hooshyaripor, F., & Kløve B. (2020) Caspian Sea is eutrophying: The alarming message of satellite data. *Environmental Research Letters*, 15, 124047.
42. Danandeh Mehr A., Tur R., Çalışkan C., & Tas E. (2020). A novel fuzzy random forest model for meteorological drought classification and prediction in ungauged catchments. *Pure and Applied Geophysics*, 177, 5993–6006.
41. Danandeh Mehr A., Vaheddoost, B., & Mohammadi, B. (2020). ENN-SA: A novel neuro-annealing model for multi-station drought prediction. *Computers & Geosciences*, 145, 104622
40. Danandeh Mehr A. (2020). Seasonal rainfall hindcasting using ensemble multi-stage genetic programming. *Theoretical and Applied Climatology*. 143(1), 461-472
39. Danandeh Mehr A. (2020). An ensemble genetic programming model for seasonal precipitation forecasting. *SN Applied Science* 2:1821. <https://doi.org/10.1007/s42452-020-03625-x>
38. Mohammadi, B., Vaheddoost, B., & Danandeh Mehr A. (2020). A spatiotemporal teleconnection study between Peruvian precipitation and oceanic oscillations. *Quaternary International*. 565, 1-11.
37. Maghrebi, M., Noori, R., Bhattarai, R., Mundher Yaseen, Z., Tang, Q., Al-Ansari, N., Danandeh Mehr A., ... & Torabi Haghighi, A. (2020). Iran's Agriculture in the Anthropocene. *Earth's Future*, 8(9), e2020EF001547.
36. Danandeh Mehr A., Tas, E., Kahya E. (2020). Risk assessment of fuel supply pipelines: The Kalecik Power Plant Case Study. *Journal of Pipeline Systems - Engineering and Practice*. 11(4): 05020005.
35. Rahmani-Rezaeieh A., Mohammadi, M., Danandeh Mehr A. (2020). Climate change impacts on floodway and floodway fringe: a case study in Shahrchay River Basin, Iran. *Arabian Journal of Geosciences*. 13:12 (494). <https://doi.org/10.1007/s12517-020-05444-1>
34. Afshar, M.H., Şorman, A., Tosunoğlu, F. Bulut B., Yilmaz M.T., Danandeh Mehr A. (2020). Climate change impact assessment on mild and extreme drought events using copulas over Ankara, Turkey. *Theoretical and Applied Climatology*, 141(3-4)1045-1055.
33. Mehdizadeh, S., Ahmadi F., Danandeh Mehr A., Safari, M. J. S. (2020). Drought modeling using classic time series and hybrid wavelet-gene expression programming models. *Journal of Hydrology*, 587, 125017.
32. Safari, M. J. S., Rahimzadeh Arashloo, S., Danandeh Mehr A., (2020). Rainfall-runoff modeling through regression in the reproducing kernel Hilbert space algorithm. *Journal of Hydrology*, 587, 125014.
31. Sheikh Khozani, Z., Safari, M. J. S., Danandeh Mehr, A., & Wan Mohtar, W. H. M. (2020). An ensemble genetic programming approach to develop incipient sediment motion models in rectangular channels. *Journal of Hydrology*, 584, 124753.
30. Danandeh Mehr A., Safari, M. J. S., (2020). Multiple genetic programming: a new methodology to improve genetic-based explicit monthly rainfall models. *Environmental Modeling and Assessment*, 192:25.

29. Danandeh Mehr A., Bagheri, F., Safari, M. J. S., (2020). Electrical energy demand prediction: a comparison between genetic programming and decision tree. *Gazi University Journal of Science*, 33(1), 62-72.
28. Ebtehaj, I., Bonakdari, H., Safari, M. J. S., Gharabaghi, B., Zaji, A. H., Madavar, H. R., ... & Danandeh Mehr, A. (2020). Combination of sensitivity and uncertainty analyses for sediment transport modeling in sewer pipes. *International Journal of Sediment Research*, 35 (2), 157-170.
27. Danandeh Mehr, A., Vaheddoost, B. (2020). Identification of the trends associated with the SPI and SPEI indices in Ankara, Turkey. *Theoretical and Applied Climatology*, 139(3-4), 1531-1542.
26. Danandeh Mehr A., Safari, M. J. S., (2020). Application of soft computing techniques for particle Froude number estimation in sewer pipes. *Journal of Pipeline Systems - Engineering and Practice* 11(2): 04020002.
25. Rahmani-Rezaeieh A, Mohammadi, M., Danandeh Mehr A. (2020). Ensemble gene expression programming: a new approach for evolution of parsimonious streamflow forecasting model. *Theoretical and Applied Climatology*, 139 (1-2), 549-564.
24. Danandeh Mehr A., Sorman, A.U., Kahya E., Hesami Afshar, M. (2020). Climate change impacts on meteorological drought using SPI and SPEI: case study of Ankara, Turkey. *Hydrological Sciences Journal* 65(2), 254-268.
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2025 (May) – 2026 (May), International Cooperation Program for the Development of Applied Research, 1.200.000.000,00 I.R.I. Riyals, “Developing advanced transformer encoder models to predict drought in the Urmia Lake basin using standardized precipitation evapotranspiration index”. Project No: 4030321, Ministry of Science, Research and Technology (Iran)

My role: Co-PI (Ongoing project)

2021 (Jan.) – 2022 (Dec.), Foreign expert project, Ministry of Science and Technology of China, 300.000,00 ¥ (Chinese Yuan), “Monitoring glacial lake change in western Asia supported by remote sensing big data and artificial intelligence”, DL2021140001L,

My roles: Contribution in research proposal preparation and Foreign Researcher

Principal investigator: Prof. Chang-Qing Ke (School of Geography and Ocean Science, Nanjing University, China)

2013 (Jan.) – 2015 (Dec.), Scientific and Technological Research Council of Turkey (TUBITAK) 120.000,00 TL (Turkish Lire), FRA-PFC: Flood Risk Assessment: Present and Future Conditions in Rize (Project No. 112Y214). Projects No: 112y214.

My roles: Contribution in research proposal preparation and PhD Scholar

Principal investigator: Prof. Mehmet Özger (Civil Engineering Faculty, Istanbul Technical University, Turkey)

Technical Reports:

2. Kahya, E. Danandeh Mehr, A. 2016. *AKSA Coastal Pollution Risk Assessment*. Istanbul Technical University-North Cyprus Campuses, R&D technical report.
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41. Alkubaisi, H., Danandeh Mehr, A., S. A., & Khan, M. M. H. Drought Modeling and forecasting using shallow and deep machine learning techniques, International Conference on Engineering and Technologies for Sustainable Development (ICETSD 2024), 28th August 2024, INTI International University, Malaysia
- 40 Hrnjica. B., A. Danandeh Mehr, E. Jakupović, A. Crnkić and R. Hasanagić, "Application of Deep Learning Neural Networks for Nitrate Prediction in the Klokot River, Bosnia and Herzegovina," 2021. *7th International Conference on Control, Instrumentation and Automation (ICCIA)*, 2021, pp. 1-6, doi: 10.1109/ICCIA52082.2021.9403565.
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35. Danandeh Mehr, A., Farrokh Ghatte (2019). Treated wastewater for concrete mixing; a comparative study between ASTM and Turkish standards. 12th International Scientific Conference on Production Engineering (Development and Modernization of Production) 18-20 September 2019, Sarajevo, Bosnia and Herzegovina
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33. Ağırlioğlu N., A. Danandeh Mehr, Ciftci M., Ö. Akdeğirmen (2019). Flood Wave Routing at Çamlıova Reservoir, Antalya, Turkey. 4th Eurasian Conference on Civil and Environmental Engineering (ECOCEE 2019) Conference 17-18 June 2019. Istanbul, Turkey.
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5. Danandehmehr, A., M. M. Vanolia and M. R. M. Tabatabai. 2005. “Flood Control Structures Optimization in Urban Catchments”. Proceedings of 5th Iranian hydraulic conference, Shahid Bahonar University of Kerman, Kerman, Iran, 8th - 10th Nov.
4. Danandehmehr, A. Shishegar, M., and E. Malekabaslou. 2005. “Application of HEC-HMS in Flood Control of Tabriz River”. Proceedings of 12th student's conference on civil engineering, Iran University of Science and Technology, Tehran, Iran, 21st - 23rd Dec.
3. Danandehmehr, A. 2004, “A Comparison of Structural Methods Used for the Control of Urban Floods and Selection of Optimal Structure”. Proceedings of 11th students' conference on civil engineering, Hormozgan University, Bandar Abbas, Iran.
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1. Danandehmehr, A. 2003. “Evaluation and Measurement of Flood Damages”. Proceedings of 10th Civil Engineering Students Conference, Amir Kabir University of technology, Tehran, Iran, 21st - 23rd Oct. 2003

Research interests: Statistical Hydrology; Hydroinformatics; Natural Hazards; River Basin Modeling

Supervised M.Sc. and Ph.D. Thesis

M.Sc.

- Şehriban Tuğçe Buruzan, 2024-2025 (Antalya Bilim University), Optimum Storage Sizing for Rainwater Harvesting in Antalya: Hydrological Simulation and Economic Assessment < in progress >
- Nooria Soltani, 2024-2025 (Antalya Bilim University), Advanced genetic programming models for precipitation forecasting
- Hasan Zirabadi, 2024-2025 (University of Bojnord, Iran), Investigation on the effect of streamflow regime on nitrate concentration <co-advisor – in progress >
- Iman Sardarian Bajgiran, 2024 (Ferdowsi University of Mashhad, Iran), Prediction of SPEI and SPI drought indices using time delay neural networks in different climatic conditions <co-advisor >
- Hiba Alkubaisi, 2023-2024 (Antalya Bilim University), Drought modeling and forecasting using emerging deep learning techniques
- Melike Çiftçi, 2023-2024 (Akdeniz University), Flood Routing along the Aksu River, Giresun <co-advisor>
- Enes Hişam, 2021-2022 (Istanbul Technical University), Performance assessment of satellite-based rainfall products over Akdeniz Basin <co-advisor>
- Erkin TAS, 2021 (Akdeniz University), Prediction of sea level changes using meteorological factors <co-advisor>
- Esmâ KALE, 2021 (Antalya Bilim University), Drought forecasting using decision tree. <co-advisor>
- Bahareh Karimi, 2018, (University College of Science and Technology, Iran), Monthly rainfall prediction using standard and gene-expression programming and comparing with ARIMA model < co-advisor >
- Saeed Abutalebi, 2018, (University College of Science and Technology, Iran), Monthly rainfall prediction using standard and multi-gene genetic programming and comparing with ARIMA model < co-advisor >
- Yunes Musavi, 2018, (University College of Science and Technology, Iran), Monthly rainfall prediction using standard and linear genetic programming and comparing with ARIMA model < co-advisor >

Ph.D.

- Dilayda Soylu (Akdeniz University, Turkey), Climate changes impact on drought across Akdeniz Basin, Turkey < 2020-2024, co-advisor >
- Aidin Rahmani -Rezaeieh (Islamic Azad University, Iran), Climate changes impact on floodway: a case study on Shahrchi River < 2018-2021, co-advisor >

Courses taught over the past five years.

- **B.Sc.:** Water Resources Engineering, Case studies in Civil Engineering, Environmental Engineering, Fluid Mechanics, Hydraulics Engineering, Hydrology
- **M.Sc.:** Soft computing in Civil Engineering, Advanced Hydrology, River Engineering, Scientific Research Techniques and Ethics.
- **Ph.D.:** Special Topics in Hydrology