

Azadeh Ahmadi

PERSONAL INFORMATION

Date of Birth: March 21, 1979

Place of Birth: Isfahan, Iran

Address: Faculty of Civil, Water and Environmental Engineering, Shahid Beheshti University, Tehran, Iran

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EDUCATION

PhD in Water Resources Management (Civil Engineering) Oct 04 – Oct 09

University of Tehran, Tehran, Iran (Best PhD Student Award)

PhD Project Title: "Planning of River-Reservoir System in Integrated Water Resources Management (IWRM)".

Visiting PhD Student

Mar 08 – Aug 08

Department of Civil Engineering, University of Bristol, UK

MSc in Hydraulic Engineering (Civil Engineering),

Oct 01 – Oct 04

Isfahan University of Technology (IUT), Isfahan, Iran

MSc Project Title: "Water Hammer Analysis by Finite Element Method with Complex Boundary"

BSc in Civil Engineering

Oct 97 – Oct 01

Isfahan University of Technology (IUT), Isfahan, Iran

PROFESSIONAL WORK EXPERIENCE

Current:

Associate Professor, Faculty of Civil, Water and Environmental Engineering, Shahid Beheshti University, Tehran, Iran, 2020 – present.

Head, The Strategic Planning Department, Shahid Beheshti University, Tehran, Iran, 2022 – present.

Past

Head, Water and Wastewater Research Institute, Isfahan University of Technology (IUT), Isfahan, Iran, 2017 – 2022.

Visiting Researcher, Research Scholar, Oulu University, Finland, July 2024- September 2024.

Visiting Researcher, Research Scholar, Swiss Federal Institute of Aquatic Science and Technology (eawag), Switzerland, July 2017- September 2017.

Associate Professor, Department of Civil Engineering, Isfahan University of Technology (IUT), Isfahan, Iran, 2017 – 2020.

Secretary, First National Conference on Soil and Water Assessment Tool (SWAT) Applications, Isfahan, Iran, May 2018.

Executive Secretary, 9th International Congress on Civil Engineering, Isfahan University of Technology (IUT), Isfahan, Iran, May 2012.

Executive Secretary, Second National Conference on Engineering Education (EE), Isfahan University of Technology (IUT), Isfahan, Iran, December 2011

Secretary of Scientific Committee, Second Iranian National Conference on Applied Researches in Water Resources, Ministry of Energy, Zanjan Water Authority, Zanjan, Iran, 18-19 May 2011

Research funding and grants- Principal Investigator:

1. A Comparative Study of Global Experiences in Water Resources Allocation at the Watershed Scale among Stockholders, Ardebil Water Authority, 2023-2024.
2. Modeling of Iran Water Quality and Quantity by SWAT, The Iranian Department of Environment, 2020- 2022.
3. Master Plan of Water Scarcity Adaptation of Isfahan Province, Isfahan Provincial Gov, 2019- 2021.
4. Study and feasibility of water market in the Kashan study area, Isfahan Water Authority, 2019-2021.
5. Framework Development of an Agent Based Model to Investigate and Recognize Behaviors and Roles of Stakeholders and Organs in Water Resources Management, Isfahan Water Authority, 2017-2019.
6. Study and feasibility of water market in the Borkhar study area, Isfahan Water Authority, 2016-2018.
7. Conflict Management of Groundwater Resources as a Common Pool Based on the Tradeoff between the Economy and the Environment, Isfahan Water Authority, 2017-2019.
8. Water Allocation in Transboundary Rivers with a Shared Vision, Case study: Harirood river, Iran Water Resources Management Company, 2017-2018.
9. Evaluation of Eva-transpiration using Remote Sensing Methods, A Case Study, Isfahan Water Authority, 2014-2015.
10. Water Allocation in a River Basin using Conflict Resolution Methods, A Case Study, Isfahan Water Authority, 2013-2014.
11. The Integrated Disaster Management of Isfahan Province, Isfahan Provincial Gov, 2010-2014.
12. Determining of Water Demands of Green Lands of Tehran Park, Ezam Investment Company, 2011- 2014
13. Water Allocation in a River Basin Using Conflict Resolution Methods, A Case Study: Zayanderood River, 2012- 2013.

AWARDS AND HONOURS

1. Editorial Board, Hydrology Research Journal, 2019- present.
2. Distinguished faculty members in collaboration with the community and industry, Ministry of Science, Research and Technology, Tehran, Iran, 2021.
3. Distinguished Woman in First National Festival of Woman and Science (Maryam Mirzakhani Award), Tehran, Iran, 2019.
4. Distinguished Research Leader in Isfahan University of Technology, Research Festival, Isfahan, Iran, 2019.
5. Distinguished researcher of Isfahan Province, Isfahan, Iran, 2012.
6. Khwarizmi Award for the Distinguished PhD Thesis for year 2009
7. Distinguished PhD Thesis, University of Tehran, Tehran, Iran, 2009
8. British Council, Visiting PhD Student Scholarship, Department of Civil Engineering, University of Bristol, UK, March 2007 - August 2008

LIST OF PUBLICATIONS

Books

1. Karamouz, M., **Ahmadi, A.**, Akhbari, M., (2020) Groundwater Hydrology: Engineering, Planning, and Management, Second Edition, CRC Publishing, Boca Raton, New York, 778 p.
2. Karamouz, M., **Ahmadi, A.**, Akhbari, M., (2010) Groundwater Hydrology: Engineering, Planning, and Management, CRC Publishing, Boca Raton, New York, 712 p.
3. Karamouz, M., **Ahmadi, A.** and M. Fallahi, (2006) *System Engineering*, Amirkabir University Press, 550 p. (In Persian)

Journal Papers

1. Zabihi, O., **Ahmadi, A.**, Haghghi, A.T. (2025) A framework for assessing uncertainties in drought projections under climate change: Insights from CMIP6 models, *Science of The Total Environment* 982, 179679.
2. Azad, N., **Ahmadi, A.** (2025) Assessing temperature and precipitation bias nonstationarity of CMIP6 global climate models over Iran, *Theoretical and Applied Climatology* 156 (2), 80.
3. Azad, N., **Ahmadi, A.** (2024) Assessment of CMIP6 models and multi-model averaging for temperature and precipitation over Iran, *Scientific Reports* 14 (1), 24165.
4. Masaeli, N., **Ahmadi, A.** (2024) Assessing the suitability of groundwater resources based on farmers' predicted intentions and human–water feedbacks, *Journal of Hydrology* 644, 132057.
5. Zabihi, O., **Ahmadi, A.**, (2024) Multi-criteria evaluation of CMIP6 precipitation and temperature simulations over Iran, *Journal of Hydrology: Regional Studies* 52, 101707.
6. Mohammadi Khouzani, N., **Ahmadi, A.**, Yousefi, A., Abbaspour, K.C., (2024) Tracing water resources flows by complementary use of hydrological and water accounting models, *Hydrological Processes* 38 (3), e15098.
7. Ohab-Yazdi, S.A., **Ahmadi, A.** (2024) Assessing the impacts of groundwater management policies on farmer cooperation using agent-based modeling, *Frontiers of Agricultural Science and Engineering* 11 (4), 527-543.
8. Motiee, S., Motiee, H., **Ahmadi, A.**, (2024) Analysis of rapid snow and ice cover loss in mountain glaciers of arid and semi-arid regions using remote sensing data, *Journal of Arid Environments*, 222, 105153.
9. **Ahmadi, A.**, Jalali, J., Mohammadpour, A., (2022) Future runoff assessment under climate change and land-cover alteration scenarios: a case study of the Zayandeh-Roud dam upstream watershed, *Hydrology Research*, 53 (11): 1372–1392.

10. Zolfagharipoor M.A., **Ahmadi A.**, Nikouei, A. (2022) Market-based groundwater resources allocation mechanism: An inter-sectoral water exchanges programming analysis, *Water Resources and Economics*, 37: 100193.
11. Jalali, J., **Ahmadi, A.**, Abbaspour, K. (2021) Runoff responses to human activities and climate change in an arid watershed of central Iran, *Hydrological Sciences Journal* 66 (16), 2280-2297.
12. Zolfagharipoor M.A., **Ahmadi A.** (2021) Agent-based modeling of participants' behaviors in an inter-sectoral groundwater market, *Journal of Environmental Management* 299, 113560.
13. Zolfagharipoor M.A., **Ahmadi A.**, Nikouei, A. (2021) Bottom-up capping (BUC) policy under bargaining techniques for inter-sectoral groundwater trading: a case study from Iran, *Water Policy* 23 (4), 912-929.
14. Saedi, F., **Ahmadi, A.**, Abbaspour, K., (2021) Optimal water allocation of the Zayandeh-Roud Reservoir in Iran based on inflow projection under climate change scenarios, *Journal of Water and Climate Change* 12 (5), 2068-2081
15. Salimian, N., Nazari, S., **Ahmadi, A.**, (2021) Assessment of the uncertainties of global climate models in the evaluation of standardized precipitation and runoff indices: a case study, *Hydrological Sciences Journal* 66 (9), 1419-1436.
16. Nazari, S., **Ahmadi, A.**, Kamrani S., (2020) Application of non-cooperative dynamic game theory for groundwater conflict resolution, *Journal of Environmental Management*, 270, 110889.
17. Nazari, S., **Ahmadi, A.** (2019) Non-cooperative stability assessments of groundwater resources management based on the tradeoff between the economy and the environment, *Journal of Hydrology*, 578, 124075.
18. Nazari-Sharabian, M., Taheriyoun, M., Ahmad, S., Karakouzian, M., **Ahmadi, A.**, (2019) Water Quality Modeling of Mahabad Dam Watershed–Reservoir System under Climate Change Conditions, Using SWAT and System Dynamics, *Water* 11 (2), 394
19. Mehrparvar, M., **Ahmadi, A.**, Safavi, H.R. (2019) Resolving water allocation conflicts using WEAP simulation model and non-cooperative game theory, *Simulation* 0037549719844827.
20. Ashraf Vaghefi, S., Keykhai, M., Jahanbakhshi, F., Sheikholeslami, J., **Ahmadi, A.**, Yang, H., Abbaspour, C. (2019) The future of extreme climate in Iran, Nature, *Scientific Reports* 9, Article number: 1464.
21. **Ahmadi, A.**, Zolfagharipoor, M.A., Afzali, A.A. (2019) Stability Analysis of Stakeholders' Cooperation in Inter-Basin Water Transfer Projects: a Case Study, *Water Resources Management* 33 (1), 1-18
22. **Ahmadi, A.**, Fatemi, Z., Nazari, S. (2018) Assessment of input data selection methods for BOD simulation using data-driven models: a case study, *Environmental Monitoring and Assessment* , 190, 239.
23. Ohab-Yazdi, S.A., **Ahmadi, A.** (2018) Using the agent-based model to simulate and evaluate the interaction effects of agent behaviors on groundwater resources, a case study of a sub-basin in the Zayandehroud River, *Simulation Modelling Practice and Theory*, 87: 274-292.
24. **Ahmadi, A.**, Ohab-Yazdi, S.A., Zadehvakili, N., Safavi, H.R. (2018) A dynamic model of water resources management using the scenario analysis technique in downstream of the Zayandehroud basin, *International Journal of River Basin Management*, 1-13, doi.org/10.1080/15715124.2018.1505734
25. **Ahmadi A.**, Zolfagharipoor M.A., Nafisi, M. (2018) Development of a Hybrid Algorithm for the Optimal Design of Sewer Networks, *Journal of Water Resources Planning and Management*, *Journal of Water Resources Planning and Management* 144 (8), 04018045.
26. Kefayati, M., Saghafian, B., **Ahmadi, A.** Babazadeh, H. (2018) Empirical evaluation of river basin sustainability affected by inter-basin water transfer using composite indicators, *Water and Environment Journal* 32 (1), 104-111.
27. Ohab-Yazdi, S.A., **Ahmadi, A.** (2018) Closure to “Design and Evaluation of Irrigation Water Pricing Policies for Enhanced Water Use Efficiency” by Sayed Ali Ohab-Yazdi and Azadeh Ahmadi, *Journal of Water Resources Planning and Management* 144 (4), 07018002

28. Zolfagharipoor M.A., **Ahmadi A.** (2017) Effluent trading in river systems through stochastic decision-making process: a case study, *Environmental Science and Pollution Research*, DOI 10.1007/s11356-017-9720-z.
29. Abrishamkar, M., **Ahmadi, A.** (2017) Evapotranspiration Estimation Using Remote Sensing Technology Based on SEBAL Algorithm, *Iranian Journal of Science and Technology*. 41 (1): 65–76, DOI: 10.1007/s40996-016-0036-x
30. Zolfagharipoor M.A., **Ahmadi A.** (2016) A decision-making framework for river water quality management under uncertainty: Application of social choice rules, *Journal of Environmental Management*. 183, 152-163, doi: 10.1016/j.jenvman.2016.07.094.
31. Mehrparvar, M., **Ahmadi, A.**, Safavi, HR., (2016) Social resolution of conflicts over water resources allocation in a river basin using cooperative game theory approaches: a case study, *International Journal of River Basin Management* 14 (1), 33-45
32. **Ahmadi, A.**, Moridi, A., Sarang, A., (2016) Integrated Planning of Water Resources Based on Sustainability Indices, A Case Study: Hamoon- Jazmorian Basin. *Environmental Energy and Economics International Research* 1(1):63-76.
33. Ohab-Yazdi, S.A., **Ahmadi, A.**, (2015) Design and Evaluation of Irrigation Water Pricing Policies for Enhanced Water Use Efficiency, *Journal of Water Resources Planning and Management*, 142 (3), 05015011
34. **Ahmadi, A.**, Moridi, A., Han, D., (2015) Uncertainty Assessment in Environmental Risk through Bayesian Networks, *Journal of Environmental Informatics*, 25(1): 46-59.
35. **Ahmadi, A.**, Han, D., Kakaei Lafdani, E., Moridi, A., (2015) Input selection for long-lead precipitation prediction using large-scale climate variables: a case study, *Journal of Hydroinformatics*. 17(1): 114- 129. doi:10.2166/hydro.2014.138.
36. **Ahmadi, A.**, Moridi, A., Kakaei Lafdani, E., Kianpisheh , G., (2014) Assessment of Climate Change Impacts on Rainfall Using Large Scale Climate Variables and Downscaling Models, A Case study. *Journal of Earth System*, 123(7): 1603- 1618.
37. Karamouz, M., **Ahmadi, A.**, Yazdi, M., and Ahmadi, B. (2013). "Economic Assessment of Water Resources Management Strategies." *J. Irrig. Drain Eng.* 10.1061/(ASCE)IR.1943-4774.0000654 , 04013005.
38. **Ahmadi, A.**, Han, D. (2013) Identification of Dominant Sources of Sea Level Pressure for Precipitation Forecasting over Wales, *Journal of Hydroinformatics*, 15(3): 1002-1021, doi:10.2166/ hydro.2012.110.
39. Safaei, M., Safavi, H.R., Loucks, D. P., **Ahmadi, A.**, Krogt, W.V.D., (2013) Integrated River Basin Planning and Management: A Case Study of the Zayanderud River Basin, Iran, *Water International*, DOI: 10.1080/02508060.2013.823815
40. Kakaei Lafdani, E., Moghaddam Nia, A., **Ahmadi, A.** (2013). Daily suspended sediment load prediction using artificial neural networks and support vector machines. *Journal of Hydrology*, 478, 50-62.
41. Kakaei Lafdani, E., Moghaddam Nia, A., **Ahmadi, A.**, Jajarmizadeh, M., Ghafari Gosheh, M. (2013). Stream Flow Simulation using SVM, ANFIS and NAM Models: A Case Study. *Caspian Journal of Applied Sciences Research* 2(4), pp. 131-138.
42. Kakaei Lafdani, E., Moghaddam Nia, A., Pahlavanravi, A., **Ahmadi, A.** (2013). Rainfall-Runoff Simulation using MIKE11/NAM and ANFIS Models: A Case Study: Qleh Shahrokh Basin in Iran. *World of Sciences Journal*; 2013-April-Special Issue, 53-61.
43. Kakaei Lafdani, E., Moghaddam Nia, A., Pahlavanravi, A., **Ahmadi, A.** (2013) A. Daily Rainfall-Runoff Prediction and Simulation Using ANN, ANFIS and Conceptual Hydrological MIKE11/NAM Models. *International Journal of Engineering & Technology Sciences (IJETS)* 1 (1): 32-50.
44. Rezaei, F., Safavi, H., **Ahmadi, A.** (2013) Groundwater Vulnerability Assessment Using Fuzzy Logic: A Case Study in the Zayandehrood Aquifers, Iran, *Environ Manage.* 51:267–277.
45. **Ahmadi, A.**, Karamouz, M., Moridi, A., Han, D. (2013) "Integrated Planning of Land Use and Water Allocation on a Watershed Scale Considering Social and Water Quality Issues", *Water Resources Planning and Management- ASCE*, 138(6): 671-681.

46. Karamouz, M., Nazif, S., and **Ahmadi, A.** (2013). "Development of an Integrated Drought Evaluation and Monitoring System: Case Study of Aharchay River Basin." *J. Hydrol.* 18(7): 897-910.
47. Kisi, O., Moghaddam Nia, A., Gosheh, M. G., Tajabadi, M.R.J., **Ahmadi, A.**, (2012) Intermittent Streamflow Forecasting by Using Several Data Driven Techniques, *Water Resour Manage.* 26:457–474.
48. Karamouz, M., Noori, N., Moridi, A. and **Ahmadi, A.**, (2011) Evaluation of floodplain variability considering impacts of climate change, *Hydrological Processes*, 25, 90–103, doi: 10.1002/hyp.7822.
49. Karamouz, M., Mojahedi, A., **Ahmadi, A.**, (2010) Inter- Basin Water Transfer: An Economic - Water Quality Based Model", *Journal of Irrigation and Drainage Engineering*, ASCE, 136(2): 90-98, doi:10.1061/(ASCE)IR.1943-4774.0000140.
50. **Ahmadi, A.**, Karamouz, M., Moridi, A., (2010) "Robust Methods for Identifying Optimal Reservoir Operation Strategies Using Deterministic and Stochastic Formulations", *Water Resources Management*, 24(11): 2527-2552, doi: 10.1007/s11269-009-9566-3.
51. Remesan, R., **Ahmadi, A.**, Shamim, M.A., Han, D., (2010) "Effect of Data Time Interval on Real-time Flood Forecasting", 12(4):396–407, *Journal of Hydroinformatics*, doi:10.2166/hydro.2010.063.
52. **Ahmadi, A.**, Han, D., Karamouz, M., Remesan, R., (2009) "Input data selection for solar radiation estimation", *Hydrological Processes*, DOI: 10.1002/hyp.7372.
53. Karamouz, M., Imani, M., **Ahmadi, A.**, Moridi, A., (2009) "Optimal Flood Management Options with Probabilistic Optimization: A Case Study", *Iranian Journal of Science & Technology*, 33(B1), 109-121.
54. Karamouz, M., Abesi, O., Moridi, A., **Ahmadi, A.**, (2009) "Development of Optimization Schemes for Floodplain Management; A Case Study", *Water Resources Management*, 23(9): 1743-1761, DOI 10.1007/s11269-008-9350-9.
55. Karamouz, M., **Ahmadi, A.**, Moridi, A., (2009) "Probabilistic Reservoir Operation Using Bayesian Stochastic Model and Support Vector Machine", *Advances in Water Resources*, doi:10.1016/j.advwatres.2009.08.003, 32: 1588–1600.