

EDUCATION

- Ph. D. Candidate, Biosystems and Agricultural Engineering, Oklahoma State University, Stillwater, Oklahoma, USA. 2022 – Present
GPA: 4/4
- M.Sc., Civil Engineering Environmental Engineering, University of Tabriz, Tabriz, Iran. 2019 - 2021
- B.Sc., Civil Engineering, Sahand University of Technology, Tabriz, Iran 2015 - 2019

HISTORY OF EMPLOYMENT

- Staff Engineer/Project Manager at Standard Engineering + Field Services (Internship) 2026 - present
- Graduate Research Assistant at Oklahoma State University 2022 - 2026

RESEARCH EXPERIENCE

Undergraduate: Probabilistic seismic hazard analysis of Tabriz, Iran, and dispersion of multi-walled carbon nanotubes (MWCNTs) in cement nanocomposites.

Master's: Developed deep learning methods to quantify uncertainty in climate change impacts on groundwater resources.

Ph.D.: Primary modeler for the conjunctive freshwater–saltwater management project integrating AI, SWAT, and MODFLOW to simulate watershed-scale salt fate and transport. Conduct field monitoring, environmental sampling, instrument deployment, stakeholder engagement. Serves as Early Career Researcher and Collaborative Lead for the AccelNet: PEER2PEER International Convergence Research Networks in Transboundary Water Security project, organizing workshops, convening technical sessions, developing educational materials, hosting webinars connecting scientists, policymakers, water managers, and stakeholders.

PUBLICATIONS

- **Khodkar, K.**, Mirchi, A., Nourani, V., Sadler, J. M., & Wagner, K. (2026). Uncertainty-informed topology-aware transfer learning for robust stream salinity prediction. *Journal of Hydrology: Regional Studies*, 65, 103487.
- AghaKouchak, A., Hjelmstad, A., **Khodkar, K.**, de Oliveira, D., Aleisa, E., Alexander, A. C., Feldman, D. L., Khujanazarov, T., Madani, K., Mirchi, A., Placht, D., & Najib, D. (2026). Transboundary water conflicts, cooperation, and pathways forward. *Proceedings of the National Academy of Sciences of the United States of America*, 123(6), e2537439123.
- Akbar, M. U., Mirchi, A., Arshad, A., Alian, S., Mehata, M., Taghvaeian, S., **Khodkar, K.**, Kettner, J., Datta, S., & Wagner, K. (2025). Multi-model ensemble mapping of irrigated areas using remote sensing, machine learning, and ground truth data. *Agricultural Water Management*, 312, 109416.
- **Khodkar, K.**, Mirchi, A., Nourani, V., Kaghazchi, A., Sadler, J. M., Mansaray, A., Wagner, K., Alderman, P. D., Taghvaeian, S., & Bailey, R. T. (2024). Stream salinity prediction in data-scarce regions: Application of transfer learning and uncertainty quantification. *Journal of Contaminant Hydrology*, 266, 104418.
- Nourani, V., **Khodkar, K.**, Hosseini Baghanam, A., Kantoush, S. A., and Demir, I., (2023). Uncertainty quantification of deep learning based statistical downscaling of climatic parameters. *J. Applied Meteorology and Climatology*.
- Nourani, V., Hassan Pour Garajeh Tapeh, A., **Khodkar, K.**, and Huang, J., (2023). Assessing long-term climate change impact on spatiotemporal changes of groundwater level using autoregressive-based and ensemble machine learning models. *Journal of environmental management*. 336.
- Nourani, V., **Khodkar, K.**, and Gebremichael, M., (2022). Uncertainty assessment of LSTM based groundwater level predictions, *Hydrological Sciences Journal*.
- Nourani, V., **Khodkar, K.**, Paknezhad, N.J., Laux, P., (2022). Deep learning-based uncertainty quantification of groundwater level predictions. *Stochastic Environmental Research Risk Assessment* (2022).
- Nourani V., Sadikoglu F., **Khodkar K.**, Shahli A. (2021). Downscaling Precipitation from GCM Parameters Using Recurrent Neural Networks. *Lecture Notes in Networks and Systems*, vol 362. Springer, Cham.

CONFERENCE PRESENTATIONS

- Delivered 30 conference presentations (21 oral, 9 poster), serving as presenting author on 18, at:
- AGU Fall Meetings 2023-2025 • ASABE AIMs 2023-2024
- UCOWR-NIWR Annual Conference 2024-2025 • Oklahoma Governor's Water Conference 2022-2025
- The fall Colorado SWAT Conference 2025 • OCLWA Conference 2024; 2026
- Annual SDSU Student Water Conference 2023-2024

TEACHING EXPERIENCE

- Presented and co-organizer of the Power Skills Workshop and CV Workshop in UCOWR 2026 Conference with Dr. Gillian Paolino, University Council on Water Resources 2026 Annual Conference, San Antonio, TX.
- Co-instructor with Dr. Ali Mirchi for Water Resources Management BAE 6520, Biosystems and Agricultural Engineering Department (BAE), Oklahoma State University (OSU), Fall 2025.
- Teaching Assistant, Guest Lecturer for Design Hydrology BAE 4314, Instructed by: Dr. Ali Mirchi, BAE, OSU, Fall 2023; 2024.

- Teaching Assistant, Guest Lecturer, Teaching Practicum for GIS for Water Resources Management BAE 4323/5323, Instructed by: Dr. Sara Alian, BAE, OSU, Spring 2024; 2025; and 2026.
- Teaching Assistant for K12 recruiting activities of College of Engineering, Architecture, and Technology, OSU.
- Material preparation for Google Earth Engine for Water Resources workshop 2025 AccelNet PEER2PEER Workshop: Advanced Technologies for Transboundary Water Resources Management: Between Science Diplomacy, Global Water Security, and Peace-building, University of Dar es Salaam, Dar es Salaam, Tanzania.

PEER REVIEWER

- Earth's Future (2 reviews; IF: 7.3)
- Journal of Hydrology (51 reviews; IF: 5.9)
- Scientific Reports (1 review; IF: 3.9)
- Environmental Earth Sciences (2 review, IF: 2.8)
- Journal of Groundwater Science and Engineering (1 review; IF: 1.7)
- AQUA – Water Infrastructure, Ecosystems and Society (4 reviews; IF: 3.12)

HONORS & AWARDS

- Selected for the 2026 Christine Mirzayan Science and Technology Policy Graduate Fellowship Program.
- Selected as the Outstanding Biosystems and Agricultural Engineering Graduate Student of 2024/2025 academic year in College of Engineering, Architecture and Technology Faculty, Staff, and Students Awards Banquet, OSU.
- Awarded first place in the Student Oral Presentations at the 2024 AWRA, UCOWR, NIWR Joint Water Resources Conference.
- The winner of the ASABE Oral/Poster Competition within the ITSC-Information Technology, Sensors & Control Systems technical community for the poster presented during the ASABE's 2024 Annual International Meeting.
- Selected as one of the recipients of the Presentation Excellence Award for outstanding presentation at the ASABE's 2024 Annual International Meeting.
- The Winner of Fountain Wars Student Design Competition at the ASABE's 2024 Annual Meeting.
- Awarded Summer 2024 Graduate College Robberson Research and Creative Activity Grant.
- Honorable Mention Presentation at South Dakota Student Water Conference, South Dakota Water Resources Institute, 2023.
- Awarded 2023 Biosystems and Agricultural Engineering Graduate Support Fellowship for Sustainable Agriculture, Natural Resources, and Food Systems.
- The Winner of 3-Minute Presentation contest in American Society of Agricultural and Biological Engineer Oklahoma Section Annual Meeting.

MEMBERSHIPS

AGU	2023-present	Tau Beta Pi - OK Gamma*	2025-present
ASABE	2023-2024	Alpha Epsilon*	2023-present
UCOWR	2024-2026	*Honor Societies	

TECHNICAL SESSIONS

- Moderated 3 webinars for AccelNet: PEER2PEER webinar series.
- Student/Early Career Convener of Technical Session: Mirchi, A., AghaKouchak, A., Najib, D., Placht, D., **Khodkar, K.** (2025). H43Q - Water and Society: Innovations in Transboundary Water Resources Management I Oral & II Poster, American Geophysical Union Fall meeting 2025. New Orleans, LA.
- Moderator for Technical Session: Mirchi, A., **Khodkar, K.** (2024). Session no. 242 Understanding the Agro-Hydrologic Effects of Regenerative Agricultural Practices, American Society of Agricultural and Biological Engineers Annual International Meeting 2024. Anaheim, CA.

LEADERSHIP EXPERIENCES

- Graduate Student Board Member of University Council on Water Resources. 2025-2026.
- Member of Student Activities Subcommittee of Conference Planning Team of University Council on Water Resources/National Institute for Water Resources 2026 Conference. 2025-2026.
- Early Career Member and OSU Collaborative Lead in AccelNet: PEER2PEER International Convergence Research Networks in Transboundary Water Security Project. 2024-present.
- Member of organizing committee for IPGS Symposiums on Natural Resources & Development in Iran (2025) and the State of the Environment in Iran (2024), Oklahoma State University, Stillwater, OK.
- Vice President (2022–2023) and President (2023–2024), Oklahoma State University Biosystems and Agricultural Engineering Graduate Student Association.
- Member of Cowboys Water Works team of Oklahoma State University for the ASABE Water Works Competition 2024.
- President of Civil Engineering Scientific Association, 2017 to 2018.
- Vice-president (2017-2018) and President (2016-2017) of the Scientific Association of Nanoscience and Nanotechnology Engineering, 2017 to 2018.