

Zain Al Hour, Ph.D.

Department of Civil and Construction Engineering and Management
College of Engineering/Houston Engineering Center
University of Texas at Tyler

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Professional Summary

Experienced Civil and Environmental Engineering professor specializing in hydrology, stormwater management, and climate-resilient infrastructure. Over two decades of teaching, research, and leadership in the U.S. and Jordan. Strong publication record and demonstrated excellence in teaching, research, and service.

Research Interests

Surface and subsurface hydrology, water resources management, hydrologic impacts of climate change, extreme rainfall events, urban stormwater management, stormwater BMPs.

Education

Ph.D., Civil and Environmental Engineering (Water Resources)

Washington State University, Pullman, WA

Dissertation: Modifications on the existing design parameters to improve the performance of infiltration treatment BMPs in cold climates.

M.Sc., Civil and Environmental Engineering (Water Resources)

University of South Carolina, Columbia, SC

Thesis: A regression method for estimating the saturated hydraulic conductivity of unsaturated soil from cone permeameter data

B.Sc., Agricultural Engineering and Technology

Jordan University of Science and Technology, Irbid, Jordan

Project: Loading Simulation of a Drawbar for Tractor-Trailer Combination

Academic & Professional Experience

University of Texas at Tyler – Houston Engineering Center

Assistant Professor of Instruction (01/2023 – Present) - Teach undergraduate courses in Fluid Mechanics, Environmental Design, and Hydrology. - Advise senior design projects and curriculum development.

University of Utah, Salt Lake City, UT

Associate Professor of Instruction (08/2022 – 12/2022)

Al al-Bayt University, Mafrq, Jordan

Chair and Associate Professor, Civil Engineering Department (08/2021 – 07/2022)

Associate Professor (09/2019 – 07/2021)

Ajloun National University, Jordan

Chair and Associate Professor, Civil Engineering Department (09/2018 – 08/2019)

University of Utah, Salt Lake City, UT

Associate Professor-Lecturer (08/2017 – 06/2018)

Texas A&M University, College Station, TX

Visiting Research Scholar (08/2016 – 06/2017)

Applied Science University, Amman, Jordan

Chair and Associate Professor, Civil Engineering (09/2015 – 08/2016)

Assistant Professor (09/2008 – 08/2015)

Washington State University, Pullman, WA

Graduate Research Assistant (01/2005 – 08/2008)

UNESCO Chair in Wadi Hydrology, University of Jordan

Associate Researcher (03/2003 – 12/2004)

Engineering Roles in Jordan (2001–2003)

Water Resource Engineer, Al Shamil Engineering Company

Water Resource Engineer, Expertise Water Treatment Plant

Awards & Fellowships

- Distinguished Professors Award – Applied Science University (2016)
- First/Second Place Outstanding Academic Advisor – Jordan Engineers Association (2010, 2015, 2016)
- Doctoral Fellowship – Washington State University (2005–2008)
- Master's Fellowships – University of South Carolina; Jordan University of Science & Tech.
- Excellence in High School Scholarship – Ministry of Higher Education, Jordan

Publications & Presentations

A full list of peer-reviewed journal articles, conference proceedings, and technical reports is available *on Google Scholar and Research Gate*

Selected Peer-Reviewed Journal Articles

- Muhammetoglu, A., Al-Omari, A., **Al-Houri, Z.**, et al. (2023). Assessment of energy performance and GHG emissions for the urban water cycle. *Journal of Water and Climate Change*, 14(01), 223-238.
- Al-Omari, A., **Al-Houri, Z.**, et al. (2022). Energy and Carbon Footprints for the Urban Water Cycle in Amman, Jordan. *International Journal of Environmental Research*, 16(5), 1-12.
- **Al-Houri, Z.**, & Al-Omari, A. (2022). Assessment of rooftop rainwater harvesting in Ajloun, Jordan. *Water Reuse*, 12(1), 22-32.
- **Al-Houri, Z.**, & Barber, M. (2011). Assessment of the SCS-CN initial abstraction ratio for predicting runoff treatment volumes. *Fresenius Environmental Bulletin*, 20(9a), 2391-2399.
- **Al-Houri, Z.**, Al-Omari, A., Ramadan, K., & Shakaa, H. (2011). Quality of highway runoff at two locations in Amman City: a preliminary investigation. In *Proceedings of the International Conference on Environment and Bioscience* (pp. 21-23).
- **Al-Houri, Z.**, Barber, M., Yonge, D., Ullman, J., & Beutel, M. (2009). Impacts of frozen soils on the performance of infiltration treatment facilities. *Cold Regions Science and Technology*, 59(1), 51-57.
- Nelson, S., Yonge, D., Barber, M., Beutel, M., & **Al-Houri, Z.** (2006). Performance evaluation of cold weather flow control and runoff treatment BMPs. In *Current Practices in Cold Regions Engineering*, 1-14.

Selected National and International Presentations

- **Al-Houri, Z.**, Al-Omari, A.S. (2021). Green Infrastructure for sustainable water management in Amman, Jordan. *Water Security and Climate Change Conference (WSCC 2021)*, Hanoi, Vietnam (online).
- **Al-Houri, Z.**, Maaitah T., Albraim A., Abu-Sharkh A., and Abu Shamleh Y. (2018). Laboratory Study to Determine Runoff Coefficients of Two Types of Permeable Pavements. *Water Security and Climate Change Conference (WSCC 2018)*, Nairobi, Kenya.
- **Al-Houri, Z.**, (2014). Sustainable Urban Drainage Systems: Recommendation for Future Direction in Rainwater Management in Jordan. *The Third International Conference on Water Resources and Environmental Management (ICWRE 2014)*, Antalya, Turkey.
- **Al-Houri, Z.**, Abu Hadba, O.K., and Hamdan, K. A. (2013). The Potential of Roof Top Rainwater Harvesting as a Water Resource in Jordan: Featuring Two Application Case Studies. *International Conference on Civil, Environmental and Structural Engineering*, Barcelona, Spain.

- **Al-Houri, Z.**, and Al-Omari, A.S. (2012). Evaluation of Drainage Conditions along Selected Roadways in Amman. International Conference of Environmental, Biological, Ecological Sciences and Engineering, Venice, Italy.
- Barber, M.E., and **Al-Houri, Z.**, (2009), Frozen Soil Impacts on Stormwater Infiltration Treatment BMP Designs, 2009 UCOWR/NIWR Annual Conference, Urban Water Management: Issues and Opportunities, July 7-9, Chicago, Illinois.
- **Al-Houri, Z.** and M. Barber, (2009), Frozen Soil Impacts on Stormwater Infiltration Treatment BMP Designs, Lessons from Continuity and Change in the Fourth International Polar Year Symposium, Inland Northwest Research Alliance, March 4-7, Fairbanks, Alaska.

Teaching Portfolio

University of Texas at Tyler – Houston, TX

- Fluid Mechanics and Hydraulics, Introduction to Environmental Engineering, Environmental Design, Engineering Hydrology and Hydraulic Design, Construction Management

University of Utah – Salt Lake City, UT

- Fluid Mechanics and Hydraulics, Open Channel Hydraulics, Statics, Engineering Economy, Probability and Statics.

Al al-Bayt University – Jordan

- Fluid Mechanics, Hydraulics, Hydrology, Climate Change & Environment, Special Topics in Water, Fluid and Hydraulic Laboratory, Capstone Design.

Ajloun National University – Jordan

- Fluid Mechanics, Hydraulics, Hydrology, Climate Change & Environment, Special Topics in Water, Capstone Design.

Applied Science University-Jordan

- Fluid Mechanics, Hydraulics, Hydrology, Sanitary Engineering, Environmental Engineering, Senior Design Capstone Course, Technical Writing & Scientific Research Principles, Fluid and Hydraulic Laboratory, Groundwater Hydrology, Special Topics in Water & Environmental Engineering

Other Institutions

- Hydraulics, Environmental Engineering, Water/Wastewater Treatment, Sanitary Engineering.
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Certifications & Technical Training

- ACUE Certificate in Effective Teaching Practices (2025)
 - Certified Online Instructor – University of Texas at Tyler (2024)
 - MINITAB, Python, Big Data, Radiation Safety
 - EPA Workshops on Water Reuse, BMPs, and Drinking Water
 - GIS & Hydrodynamic Modeling – TELEMAC 2D, ENVI, HYDRUS, HEC-RAS, HEC-HMS
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Professional Activities

Committee Memberships

- Curriculum Committee – Reviewing and updating course content to ensure alignment with accreditation standards (e.g., ABET).
- Faculty Search Committee – Participating in the recruitment and hiring process for new faculty members.
- Senior Design Project Committee – Overseeing policies and procedures for undergraduate senior design projects.
- Laboratory Equipment Committee – Managing the acquisition, maintenance, and development of laboratory resources.
- Faculty Senate – Representing faculty in university governance and decision-making.
- Student Conduct & Academic Integrity Committee – Addressing cases of academic misconduct and upholding academic standard.

University Service / Academic Service

- Academic Advisor – ASCE Student Chapter, University of Texas at Tyler-Houston Engineering Center – Aug 2023 to Present

Conference Involvement

- The Second International Conference on Wadi Hydrology, Jordan- Organizing committee member- 2023
- The First Middle East Conference on Regional Environment, Amman Arab University- Scientific committee member-2017

Reviewer Roles

- ASCE Journal of Sustainable Water in the Built Environment
- American Journal of Environmental Sciences
- World Academy of Science, Engineering, and Technology: International Scientific Committee and Editorial Review Board on Civil & Environmental Engineering

- Pakistan Journal of Scientific & Industrial Research.

Professional Memberships

- Women Engineer Society (WES) – Since 2023
 - World Academy of Science Engineering and Technology (WASET) – Since 2016
 - American Association of Civil Engineering (ASCE) – Since 2011
 - Jordanian Engineers Association (JEA) – Since 1995
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LINKS

Google Scholar Profile:

<https://scholar.google.com/citations?user=9vOy2BsAAAAJ&hl=en>

ResearchGate Profile:

https://www.researchgate.net/profile/Zain-Al-Houri?ev=hdr_xprf