Dr. Rana Ammar Aslam

Assistant Professor
Department of Structures and Environmental Engineering,
Faculty of Agriculture Engineering and Technology,
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Education

Ph.D. Water Engineering and Management, Apr 2016 – May 2020.
Asian Institute of Technology (AIT), Thailand.
AIT World Ranking 2020: Times Higher Education (19); QS World Ranking (151 – 200 impact ranking).

M.Sc. Agriculture Engineering, Feb 2012 – July 2015.
University of Agriculture Faisalabad, Pakistan.
UAF World Ranking 2020: Times Higher Education (301 – 400 impact ranking).

B.Sc. Agriculture Engineering, Sep 2007 – July 2011.
University of Agriculture Faisalabad, Pakistan.
UAF World Ranking 2020: Times Higher Education (301 – 400 impact ranking).

Career

Assistant Professor, September 2024 to date.
Department of Structures and Environmental Engineering, Faculty of Agriculture Engineering and Technology, University of Agriculture Faisalabad.

Lecturer, Jun 2020 to September 2024.
Department of Structures and Environmental Engineering, Faculty of Agriculture Engineering and Technology, University of Agriculture Faisalabad.

Graduate Teaching Assistant, Apr 2017 – May 2018.
Water Engineering and Management, Asian Institute of Technology (AIT), Thailand.

Graduate Research Assistant, Apr 2016 – May 2020.
Water Engineering and Management, Asian Institute of Technology (AIT), Thailand.

Lecturer, Jun 2012 – Apr 2016.
Department of Structures and Environmental Engineering, Faculty of Agriculture Engineering and Technology, University of Agriculture Faisalabad.

Publications with Impact Factor

Impact Factor: 42.8; Citations: 281.

1. Tayyab, M., **Aslam, R.A.** Farooq, U., Ali, S., Khan, S.N., Iqbal, M., Khan, M.I. & Saddique, N. Comparative Study of Geospatial Techniques for Interpolating Groundwater Quality Data in Agricultural Areas of Punjab, Pakistan. *Water* **2024**, *16*, 139. https://doi.org/10.3390/w16010139

2. **Aslam, R.A.**, Shrestha, S., Usman, M.N., Khan, S.N., Ali, S. Sharif, M.S., Sarwar, M.W., Saddique, N., Sarwar, A., Ali, M.U. & Arshad, A. (2022). Integrated **SWAT-MODFLOW** Modeling-Based Groundwater Adaptation Policy Guidelines for Lahore, Pakistan under Projected Climate Change, and Human Development Scenarios. *Atmosphere*, *13*, 2001. https://doi.org/10.3390/atmos13122001

3. Afzal, M.A., Ali, S., Nazeer, A., Khan, M.I., Waqas, M.M., **Aslam, R.A.,** Cheema, M.J.M., Nadeem, M., Saddique, N., & Muzammil, M. (2022). Flood Inundation Modeling by Integrating HEC–RAS and Satellite Imagery: A Case Study of the Indus River Basin. Water, 14 (19), 2984. https://doi.org/10.3390/w14192984

4. Saddique, N., Muzammil, M., Jahangir, I., Sarwar, A., Ahmed, E., **Aslam, R.A.,** & Bernhofer, C. (2022) Hydrological evaluation of 14 satellite-based, gauge-based and reanalysis precipitation products in a data-scarce mountainous catchment, Hydrological Sciences Journal, DOI: 10.1080/02626667.2021.2022152

5. Umar, M., Khan, S. N., Arshad, A., **Aslam, R.A**., Khan, H., Rashid, H., Pham, Q. B., Nasir, A., Noor, R., Khedher, K. M., & Anh, D. T. (2022). A modified approach to quantify aquifer vulnerability to pollution towards sustainable groundwater management in Irrigated Indus Basin. *Environmental science and pollution research*, 10.1007/s11356-021-17882-9. Advance online publication. https://doi.org/10.1007/s11356-021-17882-9.

6. Ali, M.G.; Ali, S.; Arshad, R.H.; Nazeer, A.; Waqas, M.M.; Waseem, M.; **Aslam, R.A**.; Cheema, M.J.M.; Leta, M.K.; Shauket, I. Estimation of Potential Soil Erosion and Sediment Yield: A Case Study of the Transboundary Chenab River Catchment. *Water* **2021**, *13*, 3647. https://doi.org/10.3390/w13243647.

7. Tansar, H., Akbar, H. & **Aslam, R.A**. (2021). Flood inundation mapping and hazard assessment for mitigation analysis of local adaptation measures in Upper Ping River Basin, Thailand. *Arab J Geosci* **14,** 2531. https://doi.org/10.1007/s12517-021-08878-3.

8. Sarwar, A., Peters, T., Shafeeque, M., Mohamed, A., Arshad; A., Ullah, I., Saddique, N., Muzammil, M., **Aslam, R.A.** (2021). Accurate measurement of wind drift and evaporation losses could improve water application efficiency of sprinkler irrigation systems - A comparison of measuring techniques. Agricultural Water Management Volume (258). https://doi.org/10.1016/j.agwat.2021.107209.

9. **Aslam, R.A.**, Shrestha, S., Pal I., Ninsawat, S., Shanmugam, M.S., Anwar, S. (2020). Projections of Climatic Extremes in a Data Poor Transboundary River Basin of India and Pakistan. International Journal of Climatology (January): 1–19. DOI: https://10.1002/joc.6501.

10. **Aslam, R.A.,** Shrestha, S., Pandy, V.P. (2018). Groundwater vulnerability to climate change: A review of the assessment methodology. Sci. Total Environ. 612, 853–875. doi: 10.1016/j.scitotenv.2017.08.237.

11. **Aslam, RA**, Shrestha, S., Pal, I., Ninsawat, S. (2020). Assessment of Groundwater Vulnerability to Climate Change, Land use Change and Abstraction Scenarios in Lahore, Pakistan, PhD Dissertation, Submitted to Asian Institute of Technology.

Publications without Impact Factor

1. Maqsood, A., Rashid, H., Khan, S.N., Nasir, A., Aman, N., Ullah, A.S., Aslam, R.A., Khan, H.M.S. and Akbar, M.U. 2023. Wastewater Characterization of Chiniot Drain and Evaluation of Groundwater Contamination Using Water Quality Index (WQI) and GIS Techniques. *Pollutants*, *3*(1), pp.27-42. https://doi.org/10.3390/pollutants3010003.

2. Hassan, Y., Khan, S.N., Khan, H.M.S., **Aslam**, **R.A.,** Babar, T.A. and Nasir, A. (2021). Evaluation Of Treatment Of Domestic Wastewater Using Eicchornia Crassipes And Pista Stratiotes By Phytotechnologies. Environmental Contaminants Reviews (ECR) 4(2) (2021) 49-53. DOI: http://doi.org/10.26480/ecr.02.2021.49.53.

3. Asadullah, M., Khan, S.N., Safdar, H.M., **Aslam**, **R.A.** and Shaukat, I. (2020). Sustainability And Development of Aquaponics System: A Review. Earth Sciences Pakistan, 4(2): 78-80. 10.26480/esp.02.2020.78.80

Conference Publications

1. Abbas, Y.; Aslam, R.A. (2023). Potential of Untapped Renewable Energy Resources in Pakistan: Current Status and Future Prospects. Eng. Proc. 56, 108. https://doi.org/10.3390/ASEC2023-15274.

Book Chapters

1. Nasir, A., **Aslam, R.A.,** Ali, F. and Nasir, A. (2024). Air Pollution from Industrial Emissions and Its Control in Pakistan: Current Situation, Challenges, and Way Forward. In: Saleh, H.M., Hassan, A.I. and Aglan, R.F. (eds) Advances and Challenges in Hazardous Waste Management. IntechOpen. 10.5772/intechopen.1004052.

2. Zahoor, A.R., Khan, S.N., Arshad, A., **Aslam, R.A** (2023). Remote Sensing and GIS Based Techniques for Monitoring and Conserving Water on Newly Developed Farmlands. In: Balaji, E., Veeraswamy, G., Mannala, P., Madhav, S. (eds) Emerging Technologies for Water Supply, Conservation and Management. Springer Water. Springer, Cham. https://doi.org/10.1007/978-3-031-35279-9_5.

Abstracts

1. Maryam, Arshad, M.J., Bilal, M. and **Aslam, R.A.** (2024). Green energy-powered AI systems for monitoring and managing deforestation. International Symposium on Green Energy Nanomaterials, Data Science and Artificial Intelligence 26-27 September 2024.
2. Faizan, M. and **Aslam, R.A.** (2024). Sustainable Water–Energy Nexus Solutions for Pakistan. Session 2. Hydrodynamics, Hydraulic Transients, Hydropower and Pumped Storage in Water-Energy Nexus, The 8th International Electronic Conference on Water Sciences 14-16 October 2024 (Online).
3. Fatima, L. and **Aslam, R.A.** (2024). Balancing Urban water challenges through integrated solutions. Session 4. Urban Water, Treatment Technologies, Systems Efficiency and Smart Water Grids, The 8th International Electronic Conference on Water Sciences 14-16 October 2024 (Online).
4. **Aslam, R.A.**, Nasir, A. and Saeed, H. (2024). Detection of Groundwater Level with Hydraulic Pressure Sensor. Session 4. Urban Water, Treatment Technologies, Systems Efficiency and Smart Water Grids, The 8th International Electronic Conference on Water Sciences 14-16 October 2024 (Online).
5. Naeem, A. and **Aslam, R.A.** (2024). Revolutionizing Urban Water Management for Sustainable City. Session 4. Urban Water, Treatment Technologies, Systems Efficiency and Smart Water Grids, The 8th International Electronic Conference on Water Sciences 14-16 October 2024 (Online).
6. **Aslam, R.A.** and Fatima, B. (2024). Social innovation in water engineering and its effect on providing drinking water services in rural and marginalized urban areas in Pakistan. Session 4. Urban Water, Treatment Technologies, Systems Efficiency and Smart Water Grids, The 8th International Electronic Conference on Water Sciences 14-16 October 2024 (Online).
7. Umar, M.A. and **Aslam, R.A.** (2024). Integrated Approaches to Water Resource Management and Climate Resilience. Session 6. Water Resources Management, Floods and Risk Mitigation, The 8th International Electronic Conference on Water Sciences 14-16 October 2024 (Online).
8. Khan, M.A.H, **Aslam, R.A.**, Basit, A., Iqbal, M., & Saddique, N. (2022). Mitigation of groundwater pollution from wastewater drains in Faisalabad using a modeling approach. 20th International & 32nd National Chemistry Conference on Chemical Sciences and Sustainable Development Goals on November 02-04, 2022, at Khwaja Fareed University of Engineering & Information Technology (KFUEIT) Rahim Yar Khan, Pakistan.

Verified Peer Reviews

1. 2022: Reviews for MDPI Journals Conservation (1), Sustainability (1) and Hydrology (1).
2. 2023: Reviews for MDPI Journals of Hydrology (1), Land (1) and Climate (1), and Science Direct Journal of Science of the Total Environment (1).
3. 2024: Reviews for MDPI Journal of Agri Engineering (1), Environmental Earth Sciences (1), Theoretical and Applied Climatology (1).

Conferences Attended/Organized/Participated

1. **Ammar, R.,** Shrestha, S., Pal, I., Ninsawat, S. (2019). International Soil & Water Assessment Tool (SWAT) Conference - Climate Change Applications July 17-19, 2019, Vienna, Austria.
2. **Ammar, R.** & Shrestha, S. (2017). 2nd Regional workshop on Adapting groundwater of Asian cities to climate change: bridging the science and policy interface. Asian Institute of Technology, Thailand, September 8-9, 2017, Bangkok, Thailand.

Invited Lectures/Sessions Organized

1. Invited lecture for undergraduate classes, Introduction to Environmental Engineering (SEE-303) and Fundamentals to Environmental Engineering (SEE-503) held at Room E-139 in Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on January 04, 2022, at 12:00 PM PST – 1:00 PM PST.

2. Invited lecture for undergraduate class, Engineering Drawing Graphics and CAD (SEE-311) held at LTR-2 in University of Agriculture Faisalabad on December 28, 2021, at 12:00 PM PST – 1:00 PM PST.

3. Invited lecture for undergraduate class, Water Pollution Control (SEE-508) held Online in Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on December 27, 2021, at 2:00 PM PST – 3:00 PM PST.

4. Invited lecture for undergraduate and postgraduate classes, Engineering Technologies of Precision Agriculture (ID-601) and Advanced Groundwater Hydrology (ID-704) held at Room E-139 in Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on December 27, 2021, at 11:00 AM PST – 12:00 PM PST.

Seminars/Organized/Participated/Attended

1. Organized one day Seminar on "Transforming Agricultural Waste into Renewable Energy in Pakistan" held at E-137, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on 16 December 2024.
2. Organized one day Seminar on "Air Pollution Monitoring, Concepts, Methodologies, and Case Studies" held at E-139, Faculty of Agricultural Engineering and Technology, University of Agriculture Faisalabad on 18 September 2023.
3. Organized one day Seminar on "Monsoon Dynamics and Cloud Measurement" held at Nestle Hall, Faculty of Food, Nutrition and Home Sciences, University of Agriculture Faisalabad on 19 May 2022.

Workshops/Trainings Attended/Organized/Participated

1. Capacity building workshop for early carrier researchers (Assistant Professors and Lecturers), organized by Office of Research Innovation and Commercialization, University of Agriculture Faisalabad. Dated: Thursday 01 August 2024. Role: **Participant**.
2. Business workshop on "Emerging Trends in Organizational Psychology: Opportunities and Prospects in Construction Industry", organized by Institute of Business Management Sciences, University of Agriculture Faisalabad. Dated: Thursday 11 July 2024. Role: **Participant**.
3. International Training Course on "Water Law, a comprehensive course for professionals in water" organized by Panjwani-Hisaar Water Institute, HED University of Engineering and Technology. Dated: June 9th to 13th, 2024. Role: **Participant**.
4. One day Workshop on "Hands-on experience on developing CubeSats: From satellite to classroom based educational tool" organized by Department of Irrigation and Drainage, UAF. Dated: 09 February 2023. Role: **Participant**.
5. Training on "Features utilization of Smart interactive boards" organized by ICT, UAF. Dated: Thursday 31 August 2023. Role: **Participant**.
6. Two days CPD-Training Workshop on "Conceptual Hydrological Modeling", 23 – 24 January 2023, DLC-2, University of Agriculture Faisalabad. Role: **Organizer**.
7. Participated in the capacity of *Expert member/Panelist* in Closure Workshop titled "Mapping groundwater resilience to climate change and human development in Asian cities" funded by Asia-Pacific Network for Global Change Research (APN) (https://www.groundwaterasia.org/) on 20 December 2022. Role: **Expert member/Panelist**.
8. One day workshop on "Learning Methods, Assessment and Grading" for young faculty members being held on 08 September 2022 at New Senate Hall, University of Agriculture Faisalabad. Role: **Participant**.
9. Participated in the capacity of *collaborator* as well as *expert member* in Second Regional Workshop titled "Mapping groundwater resilience to climate change and human development in Asian cities" funded by Asia-Pacific Network for Global Change Research (APN) (https://www.groundwaterasia.org/) on 29 September 2021. Role: **Collaborator/Expert member**.
10. Regional Workshop on Managing Water Extremes in South Asia, 10 – 11 December 2018, Shangri-la Hotel, Bangkok, Thailand. Role: **Participant**.
11. Training on Hydrological Modeling for Water Accounting, 18 – 24 December 2017, Asian Institute of Technology, Pathum Thani, Thailand. Role: **Participant**.
12. Training Course on Climate Change Impacts on Water and Agriculture, 13 – 15 August 2016, Asian Institute of Technology, Pathum Thani, Thailand. Role: Participant.

Webinars Attended/Organized

1. Webinar on "Introduction to Occupational health and safety in working environments" organized by the Department of Structures and Environmental Engineering, UAF. Dated: 24 December 2023. Role: Organizer.
2. Webinar on "Climate change impacts on urban streamflow: Implications for stormwater management" organized by the Department of Structures and Environmental Engineering, UAF. Dated: 24 October 2022. Role: Organizer.

Projects

Sr. No.	Project Title	Role	Funding Agency/Amount	Duration
1	Risk-based assessments of aquifer vulnerability for D.G. Khan study areas - Transforming the Indus Basin with Climate Resilient Agriculture and Water Management (GCP/PAK/146/GCF)	Key Person	FAO (6.864 million)	2024-25
2	Risk-based assessments of aquifer vulnerability for Sangar-Umarkot study areas - *Transforming the Indus Basin with Climate Resilient Agriculture and Water Management (GCP/PAK/146/GCF)*	Team Member	FAO (6.867 million)	2024-25
3	Adapting groundwater of Asian cities to climate change: bridging the science and policy interface.	Graduate Research Assistant	Asia Pacific Network (APN)	2016-18

Collaborations

1. Participated in Closure Workshop titled "Mapping groundwater resilience to climate change and human development in Asian cities" funded by Asia-Pacific Network for Global Change Research (APN) (https://www.groundwaterasia.org/) on 20 December 2022, in the capacity of Expert member/Panelist.

2. Participated in Second Regional Workshop titled "Mapping groundwater resilience to climate change and human development in Asian cities" funded by Asia-Pacific Network for Global Change Research (APN) (https://www.groundwaterasia.org/) on 29 September 2021, in the capacity of collaborator as well as expert member.

Administrative Assignments

1. Convener Departmental Scrutiny Committee for evaluation of postgraduate synopses, theses and dissertations.
2. Assistant Superintendent Fateh Hall, University of Agriculture Faisalabad (September 2023 - present)
3. Advisor for postgraduate students of M.Sc. (Hons) Environmental engineering degree program (Batch: 2021-2025), (From September 2022 - present).
4. Assistant Superintendent Qazzafi Hall, University of Agriculture Faisalabad (June 2022 – September 2023)
5. Convener Industrial Advisory Board Committee for B.Sc. Environmental Engineering Degree Program (From December 23, 2021).
6. Member Industrial Advisory Board Committee for B.Sc. Agricultural Engineering Degree Program (From March 21, 2021).
7. Advisor for undergraduate students of 1st semester B.Sc. Agricultural engineering degree program (Batch: 2021-2025), (From November 2021 – September 2022).
8. Tutor for TGM group, RAHMAT ALI-1(A)/TGM-230

9. Assistant Superintendent Tipu Hall, University of Agriculture Faisalabad (September 2021 – June 2022)
10. Supervisor to all laboratories in Engineering Workshop of the Department of Structures and Environmental Engineering.
11. Convener Departmental Quality Enhancement Committee (DQEC) for planning, implementing, monitoring and evaluation of various aspects of OBE system (Formerly).

Honors and Awards

1. PhD engineering overseas scholarship award under Faculty Development Program, University of Agriculture Faisalabad, Pakistan, 2016 – 2020.

2. Bronze medal for securing third position in B.Sc. agriculture engineering, 2007 – 2011.

3. University merit scholarship for undergraduate studies, University of Agriculture Faisalabad, Pakistan, 2007 – 2011.

Memberships

Lifetime member as registered engineer (Agri/3313), Pakistan Engineering Council (PEC).

Courses Taught

Water supply and wastewater collection, Wastewater engineering, Introduction to Environmental Engineering, Engineering Mechanics, Mechanics of Materials, Surveying and Leveling, Water supply and Sewage, Design of Water Supply and Wastewater Collection Systems, Air and Noise Pollution Control, Advanced Air and Noise Pollution Control, Meteorology and Climate Change, Fundamentals of Environmental Engineering, Farm Waste Management, Farm Structures and Control Sheds, Engineering Materials.

References

1. Sangam Shrestha (PhD)
   Professor & Dean
   School of Engineering and Technology, Asian Institute of Technology,
   Moo 9 58 Phahonyothin Rd, Khlong Nueng, Khlong Luang District,
   Pathum Thani 12120, Thailand.
   E-mail: sangam@ait.ac.th

2. Abdul Nasir (PhD)
   Professor & Chairman
   Department of Structures & Environmental Engineering,
   Faculty of Agricultural Engineering & Technology,
   University of Agriculture Faisalabad, Pakistan.
   E-mail: anawan@uaf.edu.pk

3. Indrajit Pal (PhD)
   Associate Professor & Chair
   Disaster Preparedness Mitigation and Management,

Moo 9 58 Phahonyothin Rd, Khlong Nueng, Khlong Luang District,
Pathum Thani 12120, Thailand.
E-mail: indrajit-pal@ait.ac.th