

Shoaib Ahmed

Urban Engineer – M.Engg. Water Resources Engineering
Ph.D. Student, Agricultural and Biosystems Engineering, Iowa State University

Contact

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About Me

With a background in civil engineering and expertise in water resources, I have skills for interdisciplinary studies integrating water, computing and remote sensing technology. Equipped with field and desk experience

Education

Ph.D. Student

Agricultural and Biosystems Engineering, Iowa State University, IA, USA
Research: AMR Fate and Transport

Currently Enrolled

Master's in Engineering (M.Engg.)

NED University of Engineering & Technology, Pakistan
Research: Regional Flood Forecasting Model for Sindh

2014-2017

Bachelors of Engineering (BE)

Urban & Infrastructure Engineering
Research: GIS Based Flood Impact Assessment

2009-2012

Work Experience

Assistant Professor

Department of Civil Engineering,
NED University of Engineering & Technology, Karachi - Pakistan

March 2018 - Present

Lecturer

Department of Civil Engineering,
NED University of Engineering & Technology, Karachi, Pakistan.

Feb 2014 – Mar 2018

Research Assistant

Department of Earthquake Engineering,
NED University of Engineering & Technology, Karachi, Pakistan.

Oct 2013 – Dec 2013

Research Associate

Water Modeling Center,
Department of Civil Engineering
NED University & Technology, Karachi, Pakistan

Jan 2013 – Oct 2013

Skills

Spatial Information Systems

ArcGIS, QGIS, Global Mapper, Surfer

Engineering & Science Applications

HSPF, HEC-RAS & HEC Geo-RAS, HEC-HMS, Visual
Modflow, WMS, Eagle Point, Autodesk Simulation
CFD, PCSWMM

Remote Sensing

Agisoft, Pix4D, ERDAS

Computer Aided Drafting

AutoCAD 201x
Google Sketch Up Pro

Graphic Development

Adobe Photoshop
Core Draw
Sony Vegas Pro

UAV Experience

Mavic Enterprise Zoom and Phantom (500+ flying hours)
Orthoimaging & 3D Mapping

Computer Languages

Visual Basic, Python

Web Development

MS Frontpage

Scholarships and Grants

- Harold & Katherine Guy Graduate Fellowship – Dec 2023
- CHI University Grant – Apr 2017

Publications

International Journal Papers

Hussain E., **S. Ahmed**, H. Maqsood, S.I. Ahmed/ 2016. Analyzing performance of sewage treatment plant through computational fluid dynamics. International Journal of Sciences and Applied Research (IJSAR), 3(4), 2016; 18-2

Maqsood H., S.I Ahmed, **S. Ahmed**. 2013. Assessment of Weather Indicators for Possible Climate Change. Science Vision, 20: 1 - 10.

Hasan H, B. Atwater, and **S. Ahmed**. A digital elevation model for simulating the 1945 Makran tsunami in Karachi Harbour. Geoscience Letters 5, no. 1 (2018): 1-11.

Oad, S. Jai, H. Maqsood, A. L. Qureshi, **S. Ahmed**, I. A. Channa, and M. I. Ali. "Farm-based Evaluation of Sustainable Alternative Irrigation Practices." *Engineering, Technology & Applied Science Research* 9, no. 3 (2019): 4310-4314.

Lodhi, H. A., **S. Ahmed**, and H. Hasan. Tsunami heights and limits in 1945 along the Makran coast estimated from testimony gathered seven decades later in Gwadar, Pasni and Ormara. *Natural Hazards and Earth System Sciences Discussions* (2021): 1-17.

Rafi, M. M., S. Khan, **S. Ahmed** and A. Ahmed. Study of experimental behavior of seismically retrofitted earthen structures (2021)

Rafi, M. M., S. Khan, A. Rais, and **S. Ahmed**. "Experimental assessment of proposed seismic strengthening scheme for adobe structures." *Advances in Structural Engineering* 25, no. 15 (2022): 3044-3058.

Rafi, M. M., **S. Ahmed**, R. Lovreglio, and C. Dias. "Investigating a university library building evacuation in Pakistan during a semi-announced fire drill." *Fire and Materials* (2022).

Abdullah, Syed & Ahmed, Syed & Hussain, Etikaf & Hasan, Farah & **Ahmed, Shoaib**. (2023). Drought Assessment of a Data-scarced Watershed—Quetta Valley, Pakistan. *Jordan Journal of Civil Engineering*. 17. 310-321. 10.14525/JJCE.v17i2.11.

Kazmi, Syed Qasim Abbas, Syed Ahsan Ali Naqvi, Etikaf Hussain, and **Shoaib Ahmed**. "Resilience Assessment Framework for an Urban Road Network Subjected to Disruptions." *KSCE Journal of Civil Engineering* (2023): 1-12.

Conference Papers

Siddiqui, R., H. Maqsood, **S. Ahmed**, M. H. Abbasi, A. Nazeer, and S. I. Ahmed. "Modeling flood assessment for a northern watershed in Pakistan." In 45th IEP Convention, pp. 1-24. 2012.

Ahmed S., H. Maqsood, S.I.Ahmed. 2013, Mapping flood inundation in Sindh for future scenarios. International Conference on Water, Mineral and Energy Resources. October 4-7, Karachi, Pakistan

Hasan, H, H.A. Lodhi, R.J. LeVeque, S.H. Lodi and **S. Ahmed**, Assessing Tsunami Risk to Karachi Port through Simulation of Currents that were Reportedly Produced there by the 1945 Makran Tsunami, 16th World Conference on Earthquake Engineering, Santiago, Chile, January 9th - 13th 2017

Ahmed S., A. Azzam, and M. Soupir. 2023. Comparison between SWAT and SWAT+ for simulating streamflow in a small, tile-drained agricultural watershed. ASABE 2023 Annual International Meeting. July 9-12, 2023 - Omaha, Nebraska

Damalka Balasuriya, Liezel Abaya, **Shoaib Ahmed**, Leigh A. Long, Judith Cristobal, Alyssa Warrior, Shannon Seneca, Joshua S. Wallace, Adina Howe, Michelle Soupir, Diana S. Aga. 2024. Determination of Chemical Pollutants in the Environment as Potential Drivers of Antimicrobial Resistance. Presented at: University at Buffalo CAS Spotlight Symposium

Damalka Balasuriya, **Shoaib Ahmed**, Timothy Neher, Leigh A. Long, Mindula Wijayahena, Joshua S. Wallace, Adina Howe, Michelle Soupir, Diana S. Aga. 2024. Determination of Chemical Pollutants as Drivers for Antimicrobial Resistance in an Agricultural Watershed. Presented at: 7th Environmental Dimension of Antimicrobial Resistance Conference (EDAR7)

Other Publications

Co-Authored folio published by UNESCO - Karachi effects of the Makran earthquake and tsunami of November 1945: Mercury spilled, tide gauge impaired, seawalls overrun, boats displaced, mosque flooded.
<https://unesdoc.unesco.org/ark:/48223/pf0000376067>

Conferences & Workshops

<i>Attended-</i> ASABE AGM 2023 ASABE, Held in Omaha	Jul 9-12, 2023
<i>Attended-</i> Spring 2023 Workshop— Graduates for Advancing Professional Skills Iowa State University, IA	Jan 9, 2023
<i>Attended-</i> 6th annual OhioView: Multi-University Geospatial Workshop Youngstown State University, OH [attended online]	Feb 9, 2024
<i>Organized-</i> ABE Symposium Iowa State University, IA	Feb 16, 2024
<i>Attended -</i> 6th annual OhioView Presents: Multi-University Geospatial Workshops Youngstown State University	Feb 9, 2024
<i>Presented on the topic “AMR in Watersheds”</i> National Institute of AMR Research and Education (NIAMRRE)	Oct 1, 2024
<i>Poster Presentation at AGU Annual General Meeting 2024</i> American Geophysical Union (AGU)	Dec 9-13, 2024
<i>Attending NIAMRRE Inter-Professional Cohort 2025</i>	Jan-Apr 2025