Dr. Mohammad Zakwan

Assistant Professor, Civil Engineering, MANUU Polytechnic,
Hyderabad-500032, India
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PROFILE

- Dr. Mohammad Zakwan is presently working as an Assistant Professor in Maulana Azad National University, Hyderabad, India. He was awarded PhD from the Department of Civil Engineering, **Indian Institute of Technology, Roorkee**. He has five years of teaching and research experience.
- He has published several papers in **Science Citation Indexed** and **Scopus Journals** with a demonstrated history of working in Water Resource Engineering. He has over **300 citations** to his credit. He is the **editor of two Scopus indexed Research books of Elsevier**. He has been serving various **Science Citation Indexed** and **Scopus Journals** as editorial board member and reviewer. His research interest include soft computing for modelling of infiltration, modelling of pier scour, sediment rating curves, stage discharge curves, Computation of effective discharge and dominant discharge, climate change, trend analysis in water resources, river engineering, hydraulics and hydrology of rivers.
- Dr. Mohammad Zakwan was a recipient of Gold medals during his M.Tech and B.Tech. He was awarded MHRD GATE scholarship and CSIR NET JRF (All India Rank -089) scholarship for his M.Tech and PhD, respectively.

PUBLICATIONS

- **Journal Papers : 29**
- **Conference Papers :** 07
- **Book Chapters :** 05
- **Citations : 406**

Title	Year	Indexing	Publisher
Zakwan M, Pham Q. B., Bonnaci, O. and Durin, B. **(2022). Application of Revised Innovative Trend Analysis in Lower Drava River,** Arab J Geosci 15, 758 (2022). https://doi.org/10.1007/s12517-022-09591-5	2022	SCI	Springer
Zakwan, M., & Niazkar, M. (2021). **Discussion of "Reverse Flood Routing in Rivers Using Linear and Nonlinear Muskingum Models" by Badfar et al. (2022)** Journal of Hydrologic Engineering, 2021.	2022	SCI	ASCE

Umar, S., Lone, M. A., Goel, N. K., & **Zakwan, M.** (2022). **Trend analysis of hydro-meteorological parameters in the Jhelum River basin, North Western Himalayas.** *Theoretical and Applied Climatology*, 1-12.	2022	SCI	Springer
Zakwan, M. and Ahmad, Z. **Analysis of sediment and discharge ratings of Ganga River, India.** Arabian Journal of Geosciences.	2021	SCI	Springer
Zakwan, M., Pham, Q. B., & Zhu, S. (2021). **Effective Discharge Computation in the Lower Drava River.** Hydrological Science Journal. **626-637**	2021	SCI	Taylor and Francis
Niazkar, M., and **Zakwan, M. (2021). Assessment of Artificial Intelligence Models for Sediment Ratings,** Mathematical Problems in Engineering, Volume 2021,.	2021	SCI	Wiley
Shivashankar, M, Pandey, M., & **Zakwan, M.,(2021). Estimation of settling velocity using generalized reduced gradient (GRG) and hybrid generalized reduced gradient–genetic algorithm (hybrid GRG-GA)**, Acta Geophysica, 10.1007/s11600-021-00706-2	2021	SCI	Springer
Niazkar, M., and **Zakwan, M. (2021). Assessment of Artificial Intelligence Models for Developing Single-value and Loop Rating Curves,** Complexity, Volume 2021, Article ID 6627011, 121. DOI: 10.1155/2021/6627011	2021	SCI	Wiley
Zakwan, M., & Niazkar, M. (2021). **A Comparative Analysis of Data-Driven Empirical and Artificial Intelligence Models for Estimating Infiltration Rates.** Complexity, 2021.	2021	SCI	Wiley
Zakwan, M., Ahmad, Z., & Sharief, S. M. V. (2018). **Magnitude Frequency Analysis for Suspended Sediment Transport in the Ganga River.** Journal of Hydrologic Engineering, 23(7), 05018013.	2018	SCI	ASCE
Zakwan, M. (2018). **Comparative analysis of the novel infiltration model with other infiltration models.** Water and Environment Journal.	2018	SCI	Willey
Pandey, M., **Zakwan, M.**, Khan, M.A. & Bhawe. S. **(**2020**). Development of Scour Around a Circular Pier and its Modelling Using Genetic Algorithm.** Water Supply.	2020	SCI	Willey
Zakwan, M. and Ahmad, Z. **Trend Analysis of Hydrological Parameters of Ganga River** Arabian Journal of Geosciences.	2021	SCI	Springer
Zakwan, M. (2018) **Spreadsheet-based modelling of hysteresis affected curves.** Applied Water Science, 8(4), 101. Open Access to this article was sponsored by **King Abdul-Aziz City of Science and Technology (KACST)**	2018	SCI	Springer
Aiyelokun, O., Pham, Q. B., Aiyelokun, O., Malik, A. **--** and **Zakwan, M. Credibility of design rainfall estimates for drainage infrastructures: extent of disregard in Nigeria and proposed framework for practice.** Natural Hazards. Article DOI: 10.1007/s11069-021-04889-1	2021	SCI	Springer
Pandey, M., **Zakwan, M.**, Sharma, P. K., & Ahmad, Z. **Multiple linear regression and genetic algorithm approaches to predict temporal scour depth near circular pier in non-cohesive sediment**. ISH Journal of Hydraulic Engineering, 1-8.	2018	Scopus	Taylor and Francis
Zakwan, M., & Ara, Z. **(2019). Statistical analysis of rainfall in Bihar.** Sustainable Water Resources Management, **5(4), 1781-1789.**	2019	ESCI	Springer
Zakwan, M. (2020) Revisiting Maximum Observed Precipitation and Discharge Envelope Curves. International Journal of Hydrological science and Technology.	2020	Scopus	Inderscience
Sharief, S. M. V. & **Zakwan, M. (2021) "Comparative Analysis of Seepage Loss through Different Canal Linings".** International Journal of Hydrological science and Technology.	2021	Scopus	Inderscience
Zakwan, M. (2021) "Application of Excel Optimization Tool in Solving and Teaching Water Resource Problems" International Journal of	2020	Scopus	Inderscience

Hydrological science and Technology.			
Zakwan, M., & Khan, I. **(2020). Estimation of Discharge coefficient for side weirs.** Water and Energy International, 62(11), 71-74.	2020	Scopus	CBIP
Ara, Z. and **Zakwan, M. "Rainfall Runoff Modelling for Eastern Canal Basin",** Water and Energy International**,** 61 (6), 63-67	2018	Scopus	CBIP
Zakwan, M. "**Assessment of Dimensionless Form of Kostiakov Model".** Aquademia: Water, Environment and Technology, 1(1).	2017	Index Copernicus	Lectito
Zakwan, M., Muzzammil, M., & Alam, J. "**Application of data driven techniques in discharge rating curve—an overview." A**quademia Water Environ Technol, 1(1), 02.	2017	Index Copernicus	Lectito
Zakwan, M., Muzzammil, M., & Alam, J. "**Developing stage–discharge relations using optimization techniques".** Aquademia Water Environ Technol, 1(2), 05.	2017	Index Copernicus	Lectito
Zakwan, M., Muzzammil, M. and Alam, J. **"Application of spreadsheet to estimate infiltration parameters"**. Perspective in Sciences, 2016 (8), pp 702-704, doi: 10.1016/j.pisc.2016.06.064	2016	DOAJ	Elsevier
Zakwan, M. and Muzzammil, M. (2016). **"Optimization Approach for Hydrologic Channel Routing."** Water and Energy International, 59(3), 66-69.,	2016	Scopus	CBIP
Zakwan, M. "Application of optimization technique to estimate IDF parameters" Water and Energy International, 59(5), pp 69-71,	2016	Scopus	CBIP
Zakwan, M. "**Estimation of runoff using optimization technique"** Water and Energy International, 59(8), 42-44.	2016	Scopus	CBIP

Conference Papers

- **Zakwan, M.,** Khan, I., Ara, Z., Rahim, Z. A., & Sharief, S. M. V. (2019). Trend Analysis of Rainfall in Bihar. Proceedings of Water Resources Management (WRM2019) pp.79-85.
- Ara, Z., and **Zakwan, M.** "**Reservoir Sedimentation Analysis: A Case Study"**. Proceedings of National Conference on Water, Environment & Society (NCWES-2018) pp.286-292.
- **Zakwan, M.** (2016). **"Equation Solvers as an Alternative to Conventional Regression."** 3rd National Conference on Sustainable Water Resource Development and Management, Aurangabad.
- **Zakwan, M.**, Muzzammil, M. and Alam, J. (2016). **"Estimation of Soil Properties using Infiltration Data"**. National Conference on Advances in Geotechnical Engineering, Aligarh.
- Azmi, S. and **Zakwan, M.** (2016). **"Data specific scour predictors",** 3rd National Conference on Sustainable Water Resource Development and Management, Aurangabad.
- Muzzammil, M. Alam, J. and **Zakwan, M. "An optimization technique for estimation of rating curve parameters."** Symposium of Hydrology, Delhi, December 2015.

Book Chapters

- Muzzammil, M., Alam, J., and **Zakwan, M. (2018). A Spreadsheet Approach for Prediction of Rating Curve Parameters.** In Hydrologic Modeling (pp. 525-533). Springer, Singapore.

- **Zakwan, M. (2021). Trend Analysis of Groundwater Level Using Innovative Trend Analysis.** In Springer-Nature Book: Groundwater Resources Development and Planning in the Semi-Arid Region, Springer, Cham.
- S Sharief, S. M. V., & **Zakwan, M.** (2021). **Groundwater Remediation Design Strategies Using Finite Element Model.** In Groundwater Resources Development and Planning in the SemiArid Region (pp. 107-127). Springer, Cham.
- Ahmad, Z., **Zakwan, M**., & Garg, P. K. (2022). **Braiding and Planform Pattern of Ganga**. In Anthropogeomorphology (pp. 25-54). Springer, Cham.
- Niazkar, M., & **Zakwan, M. (2022). Parameter estimation of a new four-parameter Muskingum flood routing model.** In Computers in Earth and Environmental Sciences (pp. 337-349). Elsevier.

Web Links

Google Scholar: https://scholar.google.co.in/citations?user=XwH5d5wAAAAJ&hl=en#

ResearchGate: https://www.researchgate.net/profile/Mohammad-Zakwan

EDITOR

- Water Resource Modeling and Computational Technologies, **Elsevier**.
- Water, Land and Forest Susceptibility and Sustainability: Geospatial Approaches & Modeling, **Elsevier.**

REVIEWER

- Journal of Hydrologic Engineering, **ASCE (3)**
- Ain Shams Engineering Journal, **Elsevier (2)**
- Process Safety and Environmental Protection, **Elsevier (1)**
- Journal of South American Earth Sciences, **Elsevier (1)**
- Sustainable Water Resources Management, **Springer (8)**
- Water Science and Technology, **Springer (1)**
- Water Resources Management, **Springer (1)**
- International Journal of Hydrology Science and Technology, **Inderscience (3)**

Invited Lectures

- Technical Expert Talk at "Two-Day National Conference On Computational Methods, Data Science and Applications, May 2021.

- Technical Expert Talk at Faculty Development Program "Data Science Applications in Sciences and Technologies" March 2022.
- Technical Expert Talk at Faculty Development Program **"Applications of AI in Water Resource Management (AAWRM-2022)",** March 2022.
- Invited Lecture at one day webinar on "Mountain Rivers and Hazard Assessment: Mechanics, Prediction and Countermeasures" February 2022.
- Technical Expert Talk in workshop on "Mountain Rivers and Hazard Assessment: Mechanics, Prediction and Countermeasures" February 2022.

EXPERIENCE

Assistant Professor MANUU, Hyderabad, India

April 2017 – Cont.

- Taught various courses of Civil Engineering.
- Designed syllabus for various courses.
- Developed resources for online teaching and learning.
- Member of NAAC (National Assessment and Accreditation Council) committee of University.
- In-charge of Fluid Mechanics Laboratories.
- Worked as an Examination In-charge.
- Worked as an Attendance Coordinator.

EDUCATION

Year	Degree	Institute	CGPA
2020	PhD	IIT Roorkee, India	9.3 (Course work)
2016	M. Tech (Hydraulic Structures, Civil)	Aligarh Muslim University, India	10
2014	B. Tech (Civil Engineering)	Aligarh Muslim University, India	9.64

- PhD Thesis Topic "**Investigation on Flow and Sediment Transport in Ganga River**".
- M. Tech Dissertation Topic "**Parameter Estimation of Discharge Rating and Infiltration Models Using Optimization Technique**".

INTERNATIONAL COLLABORATIONS

International Collaboration on various research articles with

- Dr. Quoc Bao Pham (National Cheng Kung University, **Taiwan**)
- Dr. Senlin Zhu (Hydraulic Research Institute, **China**),
- Dr. Ahmed Elbeltagi (Mansoura University, **Egypt**)
- Dr. Majid Niazkar (Shiraz University, **Iran**),
- Dr. Biswajeet Pradhan (University of Technology, Sydney, **Australia**),
- Dr. Ognjen Bonacci (University of Split, **Crotia**)
- Dr. Babak Mohammadi (Lund University, **Sweden**),
- Dr. Oluwatobi Aiyelokun (University of Ibadan, **Nigeria**)
- Dr. Sourav Saha (University of California, **USA**).

NATIONAL COLLABORATIONS

Collaborating with Prof. A. R. Dar (NIT Srinagar, **India**), Prof. Abdul Wahid (Dean, School of Technology, MANUU, **India**), Dr. Manish Pandey (NIT Warangal, **India**), Dr. Mohd. Yousuf Khan (Principal Polytechnic, MANUU, **India)** and Dr. N L Kushwaha (Indian Agricultural Research Institute, **India**) on various research articles.

AWARDS

- **DOUBLE Gold Medalist** at M. Tech (M. Tech all Branches and M. Tech Civil Engineering).
- **Gold Medalist** at B. Tech.
- Qualified **CSIR-NET-JRF** Engineering Science (**All India Rank-089**).

(Dr. Mohammad Zakwan)