CURRICULUM VITAE (CV)

Name	Dr. Mohammad Moshiur Rahman
Date of	31 August
Country of Citizenship/Residence	Banglades

Education:

Ph. D.	Hydrogeology (Specialization in Field Experiments and Reactive Transport Modeling of Subsurface Arsenic Removal from Groundwater	Delft University of Technology	The Netherlands	2017
Masters	Applied Environmental Geosciences	Queens College, City University of New York	United States	2010
Masters	Hydrogeology & Env. Geology	University of Dhaka	Bangladesh	2003
Bachelor	Geology	University of	Bangladesh	2002

Professional Employment:

Period	Employing organization and title/position. Contact information for references	Country	Summary of activities performed
01-04-2022 onward	Associate Professor Department of Environmental Science and Management North South University Dr. Saiful Momen Chairman	Bangladesh	Teaching and research
01-05-2017 to 31-03-2022	Assistant Professor Department of Environmental Science and Management North South University Prof. Dr. Md. Jakariya Chairman	Bangladesh	Teaching and research
February 2011 to 2017	PhD researcher Delft University of Technology. Mark Bakker, PhD, Delft University of Technology.	the Netherlands	Development of a reactive transport model of the fate and transport of arsenic during subsurface
September 2010 to April 2017	Lecturer Department of Environmental Science and Management North South University	Bangladesh	Teaching and Research

	Prof. Dr. Md. Jakariya Chairman md.jakariya@northsout		
August 2008 to June 2010	Research Assistant Queens College, CUNY, New York and INSTAAR, Dept. of Ecology & Evolutionary Biology, University of Colorado Yan Zheng, Ph.D. Queens College, CUNY, New York Current Affiliation: Professor of Environmental Science and	United States	Field Experiments and Sample analysis
August, 2008 to June, 2010	Adjunct Lecturer School of earth and Environmental Sciences, Queens College, CUNY, New York. Yan Zheng, Ph.D. Queens College, CUNY, New York Current Affiliation: Professor of Environmental Science and Engineering, SUSTech, China	United States	teaching environment al science 111 lab
2007 to 2008	Assistant Director, Geological Survey of Bangladesh, and Government of the people's Republic of Bangladesh ATM Asaduzzaman	Bangladesh	Geotechnical investigation: Soil and sediment sampling. Subsurface

Experience in Reactive Transport and Groundwater Modeling

Period	Detail of Engagement	Summary of activities performed relevant to the Assignment
2011-2017	Ph.D. Research at the Delft University of Technology, the Netherlands	1. Reactive Transport Modeling of Subsurface Arsenic from Groundwater in Bangladesh 2. Nationwide Assessment of Subsurface Arsenic Removal potential in Bangladesh through Reactive Transport Modeling
2019	High Level Workshop on Groundwater Modeling offered by the Department of Geology, University of Dhaka in collaboration with IOM Dr. Kazi Matin Ahmed Professor	1. Conceptualization of groundwater flow system and construction of a 3-D groundwater model for water resources management

	Dept. of Geology University of Dhaka	
2006	Training on Groundwater Modeling offered by the Department of Geology, University of Dhaka in collaboration with USGS, USA Dr. Kazi Matin Ahmed Professor Dept. of Geology University of	1. Conceptualization of groundwater flow system and construction of a 3-D groundwater model for water resources management

Publications:

1. 1. N. R. Khandaker, M. M. Rahman, and S. Rafiq, "Needed Strategies to Negate a Poisoned Challis: Arsenic Mitigation in Bangladesh," Journey Sustain. Dev. Peace J., vol. 3, no. 1, pp. 22–35, 2025.
2. M. M. R. Haniyum Maria Khan, "Harnessing Bangladesh's Undeveloped Geothermal Potential: A Case Study of the Barapukuria Coal Basin," Journey Sustain. Dev. Peace J., vol. 2, no. Issue 1, pp. 68–81, 2024.
3. I. S. Haque, M. M. Rahman, M. S. Rafiq, M. S. H. Apurba, and N. R. Khandaker, "Energy recovery potential in Bangladesh from elevated temperature textile processing wastewater: an analysis of energy recovery, energy economics and reduction in carbon dioxide emission," Model. Earth Syst. Environ., vol. 10, no. 2, pp. 2661–2673, 2024
4. M. Jakariya et al., "Developing a safe water atlas for sustainable drinking water supply in Sonargaon Upazila, Bangladesh," Groundw. Sustain. Dev., vol. 25, p. 101126, 2024.
5. M. Jakariya et al., "Changing water sources and extraction methods in Bangladesh: Challenges, consequences, and sustainable solutions," Groundw. Sustain. Dev., vol. 25, p. 101129, 2024.
6. A. Rahman et al., "Whole genome sequence of denitrifying bacterium Stutzerimonas stutzeri strain NGHE31, collected from an eutrophic wetland in Sunamganj, Bangladesh, following the 2017 flash floods," Microbiol. Resour. Announc., vol. 13, no. 4, pp. e00001-24, 2024.
7. M. S. Sohel, A. Tithi, M. Rahman, and H. Khan, "Assessing the Impact of Native and Plantation Forests on Catchment Water Yield in Tropical Regions: A meta-analysis," 2024.
8. H. M. Khan, M. M. Rahman, and N. R. Khandaker, "To drill or, not to drill for natural gas in Bangladesh: A comparative economic and reservoir analysis," Journey Sustain. Dev. Peace J., vol. 1, no. 02, pp. 76–94, 2023.
9. S. S. Tasnim, R. M. S. Hoque, M. Y. Tarana, and M. M. Rahman, "Agricultural damage assessment for paddy fields from land use land cover and flood extent maps of five unions of Sunamganj using remote sensing–based analysis," J. Bangladesh Inst. Plan., pp. 1–18, 2023.
10. M. A. Hoque, M. S. I. Sohel, M. M. Rahman, and N. Ahmed, "Site suitability analysis for the construction of water reservoirs in drought-prone areas of Bangladesh using geospatial techniques," World Water Policy, vol. 8, no. 1, pp. 65–85, 2022.

11. M. Jakariya et al., “Wastewater-based epidemiological surveillance to monitor the prevalence of SARS-CoV-2 in developing countries with onsite sanitation facilities,” Environ. Pollut., vol. 311, p. 119679, 2022.
12. M. S. I. Sohel et al., “Analysis of erosion–accretion dynamics of major rivers of world’s largest mangrove forest using geospatial techniques,” Reg. Stud. Mar. Sci., vol. 46, p. 101901, 2021.
13. N. R. Khandaker and M. M. Rahman, “Energy Efficient Method for Treatment of Textile Processing,” Anaerob. Dig. Built Environ., p. 3, 2021.
14. M. M. Rahman and D. S. Diba, “Acetogenic Pretreatment as an Energy Efficient Method for Treatment of Textile Processing Wastewater,” Chapters, 2021.
15. A. Sharmin et al., “Natural attenuation of chromium and manganese from a Bangladesh tannery effluent via humic substance complexation: field, laboratory and modeling studies,” 2021.
16. A. B. Iqbal et al., “Assessment of Bangladesh groundwater for drinking and irrigation using weighted overlay analysis,” Groundw. Sustain. Dev., vol. 10, p. 100312, 2020
17. A. Sharmin et al., “Reducing excess phosphorus in agricultural runoff with low-cost, locally available materials to prevent toxic eutrophication in hoar areas of Bangladesh,” Groundw. Sustain. Dev., vol. 10, p. 100348, 2020.
18. M. A. Amin et al., “Trace metals in vegetables and associated health risks in industrial areas of Savar, Bangladesh,” J. Health Pollut., vol. 10, no. 27, p. 200905, 2020.
19. D. K. Kundu, A. Gupta, A. P. Mol, M. M. Rahman, and D. van Halem, “Experimenting with a novel technology for provision of safe drinking water in rural Bangladesh: The case of sub-surface arsenic removal (SAR),” Technol. Soc., vol. 53, pp. 161–172, 2018.
20. M. S. R. Sarker, M. M. Rahman, and N. Khandaker, “Defining the kinetics of the novel application of anaerobic acetogenics for treating textile dyeing wastewater,” Model. Earth Syst. Environ., vol. 4, pp. 1259–1270, 2018.
21. K. A. Radloff et al., “Reversible adsorption and flushing of arsenic in a shallow, Holocene aquifer of Bangladesh,” Appl. Geochem., vol. 77, pp. 142–157, 2017.

22. Z. Aziz et al., “Evidence of decoupling between arsenic and phosphate in shallow groundwater of Bangladesh and potential implications,” Appl. Geochem., vol. 77, pp. 167–177, 2017.
23. H. B. Jung, Y. Zheng, M. W. Rahman, M. M. Rahman, and K. M. Ahmed, “Redox zonation and oscillation in the hyporheic zone of the Ganges-Brahmaputra-Meghna Delta: Implications for the fate of groundwater arsenic during discharge,” Appl. Geochem., vol. 63, pp. 647–660, 2015.
24. M. M. Rahman et al., “Exploratory experiments to determine the effect of alternative operations on the efficiency of subsurface arsenic removal in rural Bangladesh,” Hydrogeol. J., vol. 23, no. 1, p. 19, 2015.
25. M. M. Rahman et al., “Reactive transport modeling of subsurface arsenic removal systems in rural Bangladesh,” Sci. Total Environ., vol. 537, pp. 277–293, 2015.

26. N. Mladenov et al., “Dissolved organic matter quality in a shallow aquifer of Bangladesh: implications for arsenic mobility,” Environ. Sci. Technol., vol. 49, no. 18, pp. 10815–10824, 2015.
27. S. C. Borges Freitas, D. Van Halem, M. M. Rahman, J. Verberk, A. B. M. Badruzzaman, and W. G. J. Van der Meer, “Hand-pump subsurface arsenic removal:

the effect of groundwater conditions and intermittent operation," Water Sci. Technol. Water Supply, vol. 14, no. 1, pp. 119–126, 2014.
28. T. M. Legg et al., "Carbon, metals, and grain size correlate with bacterial community structure in sediments of a high arsenic aquifer," Front. Microbiol., vol. 3, p. 82, 2012
29. J. Leber, M. M. Rahman, K. M. Ahmed, B. Mailloux, and A. van Geen, "Contrasting influence of geology on E. coli and arsenic in aquifers of Bangladesh," Groundwater, vol. 49, no. 1, pp. 111–123, 2011.
30. N. Mladenov et al., "Dissolved organic matter sources and consequences for iron and arsenic mobilization in Bangladesh aquifers," Environ. Sci. Technol., vol. 44, no. 1, pp. 123–128, 2010.
31. H. B. Jung et al., "Fate of Arsenic during Groundwater Discharge to Meghna River Part I: Sediment Geochemistry," Fate React. Transp. Groundw. Arsen. Disch. Waquoit Bay USA Meghna River Bangladesh, vol. 1001, p. 76, 2009.
32. K. A. Radloff et al., "Considerations for conducting incubations to study the mechanisms of As release in reducing groundwater aquifers," Appl. Geochem., vol. 23, no. 11, pp. 3224–3235, 2008.
33. A. Van Geen et al., "Monitoring 51 community wells in Araihazar, Bangladesh, for up to 5 years: implications for arsenic mitigation," J. Environ. Sci. Health Part A, vol. 42, no. 12, pp. 1729–1740, 2007.

Book Chapter:

1. M. S. Rafiq, M. S. H. Apurba, M. M. Rahman, Z. Mirdha, and N. R. Khandaker, "Application of Anaerobic Process and Energy, Materials Recovery for Textile Processing Wastewater," in Emerging Technologies in Biological and Hybrid Wastewater Treatment: Lessons from Developed to Enhancing Practices in Developing Countries, Springer Nature Switzerland Cham, 2024, pp. 233–261.
2. M. Sahil Rafiq, M. S. H. Apurba, M. M. Rahman, and N. R. Khandaker, "Sustainable Operation of Textile Wastewater Using Calcium Hypochlorite Oxidation Followed by Waste Iron Slag-Aided Micro-filtration," in Emerging Technologies in Biological and Hybrid Wastewater Treatment: Lessons from Developed to Enhancing Practices in Developing Countries, Springer Nature Switzerland Cham, 2024, pp. 211–231.
3. H. M. Khan and M. M. Rahman, "Transboundary river management of the Ganges–Brahmaputra–Meghna (GBM) Delta: Environmental challenges and strategies," *Environ. Degrad. Chall. Strateg. Mitig.*, pp. 495–530, 2022.

N. R. Khandaker and M. M. Rahman, "Understanding Sustainable Arsenic Mitigation Technology Application in the Indian Subcontinent," in *Wastewater Assessment, Treatment, Reuse and Development in India*, Springer, 2022, pp. 87–105.

Software Skills

1. Groundwater Modeling
   Code a) PMWIN Pro

2) Model/Data Processing

Software a) ArcGIS
b) Rockworks
c) Python

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Referees

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