

Nehreen Majed, PhD

Professor
Department of Civil & Environmental Engineering
North South University
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Date of Birth: April 23, 1978



EDUCATION

PhD, Environmental Engineering <i>Northeastern University, Boston, MA, USA</i>	August, 2011
Master of Science, Civil and Environmental Engineering <i>Bangladesh University of Engineering & Technology, Dhaka, Bangladesh</i>	August, 2005
Bachelor of Science, Civil Engineering <i>Bangladesh University of Engineering & Technology, Dhaka, Bangladesh</i>	February, 2003

EMPLOYMENT

Professor <i>Department of Civil & Environmental Engineering, North South University, Dhaka, Bangladesh</i>	June 2025 - Present
Professor and Chair <i>Department of Civil Engineering, University of Asia Pacific, Dhaka, Bangladesh</i>	April 2023 – March 2025
Associate Professor <i>Department of Civil Engineering, University of Asia Pacific, Dhaka, Bangladesh</i>	August 2017- March 2023
Assistant Professor <i>Department of Civil Engineering, University of Asia Pacific, Dhaka, Bangladesh</i> <ul style="list-style-type: none">Teaching courses on Water Supply Engineering, Solid Waste Management, Open Channel Flow, Environmental Pollution Control and Introduction to Civil and Environmental Engineering in BSc; Theory of Sewage Treatment in MSc.Supervising Bachelors and Masters students thesisActively taking part in the capacity development of the department	August 2014 – August 2017
Assistant Professor <i>Department of Environmental Science and Management, North South University, Dhaka, Bangladesh</i> <ul style="list-style-type: none">Taught courses on Introduction to Environmental Science, Environmental Microbiology, Research Methods, Engineering DrawingActively took part in developing materials for diploma course on Operations and Management of Effluent Treatment Plants	January 2012- November 2013

Graduate Teaching Assistant

Department of Civil and Environmental Engineering, Northeastern University,
Boston, MA, USA

January 2007 –
August 2011

Graduate Teaching Assistant

Department of Civil and Environmental Engineering, University of Cincinnati,
OH, USA

September 2005 –
December 2005

Research Officer

International Training Network Centre (ITN-BUET) for Water Supply and Waste
Management, Dhaka, Bangladesh

July 2003 –
July 2005

- Assisted in developing quality assurance system and in preparation of proposals for applied research and demonstration projects related to low-cost water supply and sanitation including in rural Bangladesh.
- Facilitated and monitoring various researchers under the research program of the center.
- Assessed existing training modules as well as developing new training materials on low-cost water treatment technology for rural Bangladesh

Research Assistant

Institute of Appropriate Technology, BUET, Dhaka, Bangladesh

May 2003 –
July 2003

Teaching Assistant

Department of Environmental Studies, North South University, Dhaka,
Bangladesh

January 2003 – April
2003

RESEARCH

**Department of Civil and Environmental Engineering, Northeastern
University, Boston, MA, USA**

September 2007 –
August 2011

*Project: Investigation on development and application of Raman Microscopy in
understanding Enhanced Biological Phosphorus Removal (EBPR) process*

**Department of Civil and Environmental Engineering, Northeastern
University, Boston, MA, USA**

September 2006 –
August 2009

*Project: Investigation on Laboratory scale Integrated fixed film Activated Sludge –
Enhanced Biological Phosphorus Removal – Membrane Bioreactor process
(IFAS-EBPR-MBR) for simultaneous removal of Nitrogen and Phosphorus*

**Department of Civil Engineering, Bangladesh University of Engineering
and Technology, Dhaka, Bangladesh**

January 2005 –
August 2005

Project: Contamination of Dug well water and its control

**Department of Civil and Environmental Engineering, University of
Cincinnati, OH, USA**

December 2005 – May
2006

*Project: Distribution and treatment of Norwalk virus in the drinking water
distribution system*

AWARDS

Graduate Scholarship in the Department of Civil Engineering at Bangladesh University of Engineering & Technology from 1998-2002.

Graduate Fellowship in the Department of Civil and Environmental Engineering at University of Cincinnati (Fall 2005)

Graduate Fellowship in the Department of Civil and Environmental Engineering at Northeastern University (Fall 2006)

Dean's Fellowship in the Department of Civil and Environmental Engineering at Northeastern University (Fall 2009)

Best Paper Award in the Water and Environmental Engineering Division for presentation on "Heavy Metal Contamination of Environmental Compartments of Buriganga River in Dhaka City", Global Civil Engineering Conference 2017, 25-28 July, Kuala Lumpur, Malaysia.

Outstanding paper of 2020 by Water Environment Federation on "Impact of Sludge Residence Time (SRT) on Functionally Relevant Microbial Populations and Performance in Full-scale in Enhanced Biological Phosphorus Removal (EBPR) Systems", *Water Environment Research*, 92(3), 389-402.

Best Parallel Sessions Presentation Award in IN4OBE Global Virtual Summit, 2022 (August 12 – 14) in track computing, engineering technology theme 3 transformational models of learning – moving from principles to practices titled "pursuit of agile transformation in the attainment of learning outcomes of civil engineering courses: a case study in Bangladesh"

GRANTS/FUNDS

Research grant on "*Food Contamination, Aquatic Pollution and Bio-magnification – Bangladesh Perspective (Phase-I)*" – Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific (July 2015 – June 2016).

Research grant on "*Heavy Metals in Staple Foods, Food Chain Bio-magnification and associated risks – Bangladesh Perspective (Phase – 2 of previous)*" Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific (July 2016-June 2017).

Research grant on "*Life Cycle Assessment of Municipal Solid Waste Management and Effluent Treatment plants for wastewater treatment in Dhaka city*" – Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific (January 2018 – June 2018).

Research grant on "*Life Cycle Assessment of Municipal Solid Waste Management Practices (Phase -2): Analysis and Treatment of landfill leachate from municipal solid waste landfill*" Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific (July 2019 – June 2020)

Research grant on "*Evaluation of the effectiveness and sustainability of natural treatment of wastewater in rehabilitating the river ecosystem from toxic industrial discharge*" Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific (July 2021 – December 2022).

Research grant on "*Status of Implementation of Outcome Based Education (OBE) in Engineering Programs in Bangladesh*" Funded by Bangladesh Accreditation Council (BAC), Government of People's Republic of Bangladesh (July 2022 – June 2023).

Research grant on “*Microalgae mediated purification and Aquatic plant based Heavy metal treatment for industrial wastewater in Dhaka: A combined approach towards sustainability*” Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific (January 2024 – February 2025).

PUBLICATIONS

Book Chapters

1. “Chapter 7: Enhanced Biological Phosphorus Removal”, Operations of Nutrient Removal Facilities, Manual of Practice 37 (2013), Water Environment Federation, ISBN-13: 978-1572782761
2. Real, M. I. H., Redwan, A., Shourov, M. M. R., Azam, H., & **Majed, N.** (2019). Heavy Metal Contamination in Environmental Compartments of Buriganga River in Dhaka City. In *Global Civil Engineering Conference* (pp. 1455-1466). Springer, Singapore, DOI: 10.1007/978-981-10-8016-6
3. Islam M. A. S., Ashiquzzaman M., Utshab A.S., **Majed N.** (2022) Environmental Life Cycle Analysis of Residential Building Materials: A Case Study. In: Malik J.A., Marathe S. (eds) Ecological and Health Effects of Building Materials. Springer, Cham. DOI: 10.1007/978-3-030-76073-1_30
4. Alam, M., & **Majed, N.** (2022). Evaluating the Trend of Urban Heat Island Impacted by Land Use in Dhaka City: Toward Sustainable Urban Planning. In *Resilient and Responsible Smart Cities* (pp. 165-175). Springer, Cham.
5. **Majed, N.**, Khan, M., Chowdhury, M., Reza, A., & Saeed, T. F. (2022). Toward Environmental Sustainability: Waste Management and Leachate Treatment Through Natural Applications. In *Resilient and Responsible Smart Cities* (pp. 177-184). Springer, Cham.

News Paper Article

1. **Majed, N.**, Jamal, G. R. A. and Kabir M. R. (2020), Online Education: Bangladesh Perspective, Challenges and Way Forward, The Daily Star, 28 July 2020. <https://www.thedailystar.net/online/news/online-educationbangladesh-perspective-challenges-and-wayforward-1937625>
2. **Majed, N.** (2021), Can we predict the unpredictability of re-experiencing education facing post Covid-19 challenges?, The Daily Star, 27 April, 2021. <https://www.thedailystar.net/pr/news/can-we-predict-the-unpredictability-re-experiencing-education-facing-post-covid-19-challenges-2084729>
3. **Majed, N.** (2021), Perspectives on the Visions of Agami Education Foundation, The Daily Star, August 12, 2021. <https://www.thedailystar.net/youth/education/news/perspectives-the-visions-agami-education-foundation-2150861>
4. **Majed, N.** (2022), There is only one earth: Celebration of World Environment Day 2022 at Agami Education Foundation” The Daily Star, June 16, 2022. https://www.thedailystar.net/shout/news/there-only-one-earth-celebration-world-environment-day-2022-agami-education-foundation-3048896?fbclid=IwAR3IRK_lpol8dchoR5GpUAsteHuf0DPJOkEkZ-YBBSuTD0QTMheJXkkFbg

Peer-Reviewed Journals:

1. **Majed, N.**, Yan, Y., Onnis-Hayden, A., Li, G., & Gu, A. Z. (2025). Elucidating the factors that impact the abundance of aerobic and denitrifying polyphosphate-accumulating organisms in an integrated fixed film activated sludge-enhanced biological phosphorus removal process. *Water Environment Research*, 97(5), e70058.

2. **Majed, N.**, Wang, Z., Baldwin, M. T., Uddin, S. M. F., Dash, P., & Gu, A. Z. (2025). Advancements in phosphorus species profiling and bioavailability assessment with implications for phosphorus sustainability. *Current Opinion in Biotechnology*, 93, 103295.
3. **Majed, N.**, Ara, A., & Chowdhury, S. R. (2024). Meeting the Challenges of Online Education during Covid-19 Pandemic: Implications for Blended Learning. *Shanlax International Journal of Education*, 12(2), 20–31.
4. Rashid, E and **Majed, N.** (2023). Integrated life cycle sustainability assessment of the electricity generation sector in Bangladesh: Towards sustainable electricity generation. *Energy Reports*, 10, 3993 – 4012
5. **Majed, N.**, Ara, A. & Chowdhury, S. R. (2023). Student Perception of Virtual Mode of Education at the Tertiary Level: A Case Study from Bangladesh. *Journal of Bangladesh Studies*, Vol 25, No. 1 [ISSN 1529-0905](#)
6. Halder, A., & **Majed, N.** (2023). The effects of unplanned land use and heavy seasonal rainfall on the storm-water drainage in Dhaka metropolitan city of Bangladesh. *Urban Water Journal*, 1-16.
7. Alam, M. K., Islam, M. A. S., Saeed, T., Rahman, S. M., & **Majed, N.** (2023). Life Cycle Analysis of Lab-Scale Constructed Wetlands for the Treatment of Industrial Wastewater and Landfill Leachate from Municipal Solid Waste: A Comparative Assessment. *Water*, 15(5), 909.
8. Islam, M. A. S., Hossain, M. E., Nahar, K., & **Majed, N.** (2023). Assessment of Environmental Hazard and Heavy Metal Contamination in Dhaleshwari River Sediment: A Toxicity based Study on Pollution. *Pollution*, 9(1), 67-83.
9. Saeed, T., Zaman, T., Miah, M. J., Yadav, A. K., & **Majed, N.** (2023). Organic media-based two-stage traditional and electrode-integrated tidal flow wetlands to treat landfill leachate: Influence of aeration strategy and plants. *Journal of Environmental Management*, 330, 117253.
10. Islam, M., Sadikul, A., Saeed, T., & **Majed, N.** (2022). Role of constructed wetlands in mitigating the challenges of industrial growth and climate change impacts in the context of developing countries. *Frontiers in Environmental Science*, 10, 2328.
11. **Majed, N.**, Islam, M. A. S. (2022). Contaminant Discharge from Outfalls and Subsequent Aquatic Ecological Risks in The River Systems in Dhaka City: Extent of Waste Load Contribution in Pollution. *Frontiers in Public Health*, 1094.
12. Saeed, T., **Majed, N.**, Miah, M. J., & Yadav, A. K. (2022). A comparative landfill leachate treatment performance in normal and electrodes integrated hybrid constructed wetlands under unstable pollutant loadings. *Science of The Total Environment*, 155942.
13. Saeed, T., **Majed, N.**, Yadav, A. K., Hasan, A., & Miah, M. J. (2022). Constructed wetlands for drained wastewater treatment and sludge stabilization: Role of plants, microbial fuel cell and earthworm assistance. *Chemical Engineering Journal*, 430, 132907.
14. Islam, M. A. S, Hossain, M. E., & **Majed, N.** (2021). Assessment of Physicochemical Properties and Comparative Pollution Status of the Dhaleshwari River in Bangladesh. *Earth (MDPI)*, 2(4), 696-714.
15. Saeed, T., Alam, M. K., Miah, M. J., & Majed, N. (2021). Removal of heavy metals in subsurface flow constructed wetlands: Application of effluent recirculation. *Environmental and Sustainability Indicators*, 100146.
16. Majed, N, Real, M. I. H., Redwan, A. and Azam, H. M. (2021). How dynamic is the heavy metals pollution in the Buriganga River of Bangladesh? A spatiotemporal assessment based on environmental indices.

17. Saeed, T., Miah, M. J., **Majed, N.**, Alam, M. K., & Khan, T. (2021). Effect of effluent recirculation on nutrients and organics removal performance of hybrid constructed wetlands: landfill leachate treatment. *Journal of Cleaner Production*, 282, 125427.
18. **Majed, N.**, & Gu, A. Z. (2020). Phenotypic dynamics in polyphosphate and glycogen accumulating organisms in response to varying influent C/P ratios in EBPR systems. *Science of The Total Environment*, 743, 14063.
19. Wang, D., He, P., Wang, Z., Li, G., **Majed, N.**, & Gu, A. Z. (2020). Advances in single cell Raman spectroscopy technologies for biological and environmental applications. *Current Opinion in Biotechnology*, 64, 218-229.
20. Alam, M. K., Uddin, M. A., Satter, M. F., & **Majed, N.** (2020), "Seasonal variation of water quality and waste loads in Buriganga river with GIS visualization", *Bangladesh Journal of Industrial and Scientific Research*, 55(2), 113-130.
21. Saeed, T., Miah, M. J., **Majed, N.**, Hasan, M., & Khan, T. (2020). Pollutant removal from landfill leachate employing two-stage constructed wetland mesocosms: co-treatment with municipal sewage. *Environmental Science and Pollution Research*, 27, 28316-28332.
22. **Majed, N.**, Alam, M. K., Real, M. I. H. and Khan, M. S. (2019), "Accumulation of Copper and Zinc Metals from Water in Anabus Testudeneous Fish Species in Bangladesh", *Aquaculture Studies*, 19(2), 92-102.
23. Onnis-Hayden, A., **Majed, N.**, Li, Y., Rahman, S. M., Drury, D., Risso, L., and Gu, A. Z. (2019) "Impact of Sludge Residence Time (SRT) on Functionally Relevant Microbial Populations and Performance in Full-scale in Enhanced Biological Phosphorus Removal (EBPR) Systems", *Water Environment Research*, 92(3), 389-402. [Outstanding paper of 2020 by WEF]
24. Saeed, T., **Majed, N.**, Khan, T., & Mallika, H. (2019). Two-stage constructed wetland systems for polluted surface water treatment. *Journal of environmental management*, 249, 109379.
25. Real, M. I. H., Azam, H. M. and **Majed, N.** (2017), "Consumption of Heavy Metal Contaminated Foods and Associated Risks in Bangladesh", *Environmental Monitoring and Assessment* 189:651. doi: 10.1007/s10661-017-6362-z
26. **Majed, N.**, Real, M. I. H., Akter, M. and Azam, H. M. (2016), "Food Adulteration and Bio-Magnification of Environmental Contaminants: A Comprehensive Risk Framework for Bangladesh", *Front. Environ. Sci.* 4:34. doi: 10.3389/fenvs.2016.00034
27. **Majed, N.**, Li, Y. and Gu, A.Z. (2012), "Advances in Techniques for Phosphorus Analysis in Biological Sources", *Current Opinion in Biotechnology*, 23: 852-859.
28. **Majed, N.**, Chernenko, T., Diem, M. and Gu, A.Z. (2012), "Identification of functionally Relevant Populations in Enhanced Biological Phosphorus Removal Processes Based on Intracellular Polymers Profiles and Insights into Metabolic Diversity and Heterogeneity", *Environmental Science and Technology*, 46(9), 5010-5017.
29. **Majed, N.** and Gu, A. Z. (2010), "Application of Raman Microscopy for Simultaneous and Quantitative Evaluation of Multiple Intracellular Polymers Dynamics Functionally Relevant to Enhanced Biological Phosphorus Removal Processes", *Environmental Science and Technology*, 44, 8601-8608.

30. **Majed, N.**, Matthaus, C., Diem, M. and Gu, A. Z. (2009) "Evaluation of Intracellular Polyphosphate Dynamics in Enhanced Biological Phosphorus Process Using Raman Microscopy", *Environmental Science and Technology*, 43, 4436-5442.
31. Bucci, V., **Majed, N.**, Hellweger, F. and Gu, A. Z. (2012), "Heterogeneity of Intracellular Polymer Storage States in Microbial Populations Relevant to Enhanced Biological Phosphorus Removal Processes: Observation and Modeling", *Environmental Science and Technology*, 46(6), 3244-3252.
32. Schuler, A., **Majed, N.**, Bucci, V., Hellweger, F. L., Tu, Y. and Gu, A. Z. (2010), "Is the Whole Sum of its Parts? Agent based Modeling of Wastewater Treatment Systems", *Water Science & Technology* 63(8), 1590-1598.
33. Onnis-Hayden, A., **Majed, N.** and Gu, A.Z. (2011), "Process Optimization by Decoupled Control of Key Microbial Populations: Distributions of Activities and Abundance of Functionally Relevant Populations in a full-scale IFAS-EBPR Process" *Water Research* 45(13), 3845-3854.

Conference Proceedings/ Posters/Presentations:

1. Niaz, A. H., Sarmin, S. and **Majed, N.** (2025), "An Evaluation Study on the Treatment Performance of Dasherbandi Sewage Treatment Plant in Dhaka City", 9th International Conference on Sustainable Solutions for Waste Management in Developing Countries (WasteSafe 2025), 22-23 February, Dhaka, Bangladesh.
2. **Majed, N.** and Siddiquee, H. (2024), "Application in Agile Scrum Method in Strengthening the Implementation of Blended Learning Across Borders: Optimization to Homogenization" Internationalization in Higher Education Conference, 25-27 October, Ondokuz Mayes University, Samsun, Turkey.
3. Tabassum, K, Tabassum, F and **Majed, N.** (2024), "Sustainable Practices of Solid Waste Management of Dhaka North City Corporation", 7th International Conference on Civil Engineering for Sustainable Development, 7-9 February, KUET, Bangladesh.
4. Uddin, S. M. F., Raiyan, M. R and **Majed, N.** (2024), "From Waste to Wealth: How Bangladesh Can Transform its By Products into Valuation Resources for a Circular Bioeconomy" 7th International Conference on Civil Engineering for Sustainable Development, 7-9 February, KUET, Bangladesh.
5. **Majed, N.** and Siddiquee, H. I. (2023), "Launching of Agile in Education in Bangladesh Context: A Quest to Make Teaching/Learning Relevant", Asia Pacific Quality Network Academic Conference 2023, Nov 02 – 04, Dhaka, Bangladesh.
6. **Majed, N.**, Islam, M. A. S. and Halder, A. (2023), "Heavy Metal Contamination and Pollution Status in Dhaleshwari River in Bangladesh: A Risk based Evaluation" Proceedings of the 5th Euro-Mediterranean Conference for Environmental Integration, 2-5 October, Rende, Cosanza, Italy (Hybrid mode).
7. **Majed, N.** (2023), "Towards Multifaceted Mitigation of Climate Change Impacts: Ensuring Sustainable Treatment Solutions with Constructed Wetlands", Invited session in a workshop organized by Asia-Japan Research Institute (AJI), Ritsumeikan University, Japan in July, 2023.
8. Islam, M. A. S., **Majed, N.**, and Saeed T. (2023), "Application of Constructed Wetlands for Wastewater Treatment in a Developing Country: Roles and Impacts" Proceedings of the 11th International Perspective on Water Resources and the Environment (IPWE 2023), Dhaka, Bangladesh and Reston, VA, USA, January 4-6, 2023.
9. Sadi, S. A., and **Majed, N.** (2023), "Addressing Water Energy Nexus in Barapukuria Thermal Power Plant" Proceedings of the 11th International Perspective on Water Resources and the Environment (IPWE 2023), Dhaka, Bangladesh and Reston, VA, USA, January 4-6, 2023.

10. Saikat. M.H.R., Islam, M. A. S., and **Majed, N.** (2022), "Characterization of Pollutant Discharge from Outfalls in The Buriganga River and Subsequent Aquatic Ecological Risks" Proceedings of the 6th International Conference on Advances in Civil Engineering (ICACE-2022), 21-23 December 2022, Hybrid Mode
11. **Majed, N.** (2022), "Pursuit of Agile Transformation in the Attainment of Learning Outcomes in Civil Engineering Courses: A Case Study in Bangladesh" IN4OBE Global Virtual Summit 2022 (August 12 – 14), Track 2: Computing, Engineering and Technology, Theme 1: Models of Learning – Moving from Principles to Practices, Topic 3: Implementing Effective Instructional Strategies (**Best Parallel Session Presentation Award of recognition**)
12. **Majed, N.** (2022), "Making Higher Education Relevant: Agile Teaching Learning Practices and Engineering Attributes in Graduates" Proceedings of the 5th Annual Paper Meet and 2nd Civil Engineering Congress (IEB Conference), July 2022, BUET, Dhaka, Bangladesh.
13. Sadi, S. and **Majed, N.** (2022), "Addressing Water Energy Nexus in Kaptai Hydropower Plant, Bangladesh" Proceedings of the 5th Annual Paper Meet and 2nd Civil Engineering Congress (IEB Conference), July 2022, BUET, Dhaka, Bangladesh.
14. Sattar, S., Rahman, F. and **Majed, N.** (2022), "Evaluating the Carbon Footprint in the Residential Sector of Bangladesh" Proceedings of the 5th Annual Paper Meet and 2nd Civil Engineering Congress (IEB Conference), July 2022, BUET, Dhaka, Bangladesh.
15. Rahman, T., Islam, M. A. S, Anim, M. S. T. and **Majed, N.** (2022), "Seasonal Variation of Physicochemical Water Quality Parameters of Turag River and Tongi Canal" Proceedings of the 5th Annual Paper Meet and 2nd Civil Engineering Congress (IEB Conference), July 2022, BUET, Dhaka, Bangladesh.
16. Islam, M. A. S., Hossain, M. E. and **Majed, N.** (2022), "Performance Evaluation of Common Effluent Treatment Plant (CETP) at Savar Tannery Area" Proceedings of the 5th Annual Paper Meet and 2nd Civil Engineering Congress (IEB Conference), July 2022, BUET, Dhaka, Bangladesh.
17. **Majed, N.** (2021), "Wastewater Disposal and Management in City Environment: How to Contribute Towards Sustainable Bio economy?" Berlin Science Week 2021, Global Food Summit: Foodtropolis - urban, circular, food, climate change and innovation, November 5, 2021 [Virtual presentation].
18. **Majed, N.** (2021), "Agile Teaching and Learning Method in Undertaking the Challenges in Engineering Course Feedback", INSTEAD VII Workshop on Innovative Teaching Methodologies for Math Courses on Engineering Degrees, Organized by Instituto Superior de Engenharia do Porto (ISEP), 5 July, 2021 [Virtual presentation].
19. **Majed, N.**, Rahman, M. H., Islam, M. A. S. (2021), "Seasonal variation of water quality parameters with analytical study on water quality index of Buriganga river", 8th International Conference on Water and Flood Management (ICWFM 2021), March 29-31, 2021, Dhaka, Bangladesh [Virtual presentation].
20. Islam, M. A. S., Hossain, M. E., Musaddik, T., Das, S. and **Majed, N.** (2021), "Study of the hydrochemistry and pollution status of Dhaleshwari river", 8th International Conference on Water and Flood Management (ICWFM 2021), March 29-31, 2021, Dhaka, Bangladesh [Virtual presentation].
21. **Majed, N.** (2021), "Agile Teaching and Learning Method in Engineering Course Feedback: How holistic is the experience?", 2nd Agile in Education Global Virtual Conference: Transforming Education through Innovative Solutions", Organized by Agile in Education in USA (AiEUSA), 18-21 March, 2021 [Virtual presentation].

22. **Majed, N.** and Alam, M. K. (2019), "Industrial expansion versus environmental sustenance in Dhaka city: Assessing the impacts and challenges towards reaching a break-even point" 9th IIMS International Conference, 1-3 December, 2019, Hanoi, Vietnam.
23. Alam, M. K. and **Majed, N.** (2019), "Evaluating the trend of urban heat island impacted by land use in Dhaka city: towards sustainable urban planning", Future Smart Cities 2nd Edition, IEREK conference, 5-7 November, 2019, Kuala Lumpur, Malaysia.
24. **Majed, N.**, Khan, M. T., Chowdhury, M. A. R. and Saeed, T. (2019), "Towards Environmental Sustainability: Waste management and leachate treatment through natural application", Future Smart Cities 2nd Edition, IEREK conference, 5-7 November, 2019, Kuala Lumpur, Malaysia.
25. Alam, M. K., Hossain, S. and **Majed, N.** (2019), "Exploring the variability pattern of temperature and rainfall in different regions of Bangladesh: A study ranging 20 years' span", International Conference on Disaster Risk Management, ICDRM 2019, BUET-JIDPUS, January, 2019, Dhaka, Bangladesh.
26. Mia, M. R. and **Majed, N.** (2018), "Municipal Solid Waste Management Practices in Dhaka City: An Evaluation based on Life Cycle Assessment", 4^d International Conference on Advances in Civil Engineering, December, 2018, Chittagong University of Engineering and Technology, Chittagong, Bangladesh.
27. **Majed, N.** and Kapadia, A. (2018), "Evaluating the Coagulation Potential of Different River Water Samples of Dhaka City", ASCE World Environmental and Water Resources Congress 2018, 3-7 June, 2018, Minneapolis, Minnesota, USA.
28. **Majed, N.** and Chawdhury, M. R. I. (2018), "The Story of Turag River: How Severe is the Pollution?", ASCE World Environmental and Water Resources Congress 2018, 3-7 June, 2018, Minneapolis, Minnesota, USA.
29. Real, M. I. H., Redwan, A., Shourov, M. R., Azam, H. M. and **Majed, N.** (2017), "Heavy Metal Contamination of Environmental Compartments of Buriganga River in Dhaka City", Global Civil Engineering Conference 2017, 25-28 July, Kuala Lumpur, Malaysia. (**Best Paper Award in the division of Water and Environmental Engineering Division**)
30. **Majed, N.**, Isreq, M. I. H., Shourov, M. and Rabbi, M. F. (2016), "Assessment of Water Quality in the Peripheral Rivers along Dhaka City: Spatial and Temporal Variation", 8th International Civil Engineering Congress, 23-24 December, 2016, Karachi, Pakistan.
31. Rabbi, M. F., Uddin, Z., Ahmed, M and **Majed, N.** (2016), "Pollution Status of Turag River: Spatial and Temporal Variation of Water Quality", 3rd International Conference on Advances in Civil Engineering, 21-23 December, 2016, Chittagong University of Engineering and Technology, Chittagong, Bangladesh.
32. Rabbi, M. F., Uddin, F. Z. and **Majed, N.** (2016), "Pollution Status of Peripheral Rivers along Dhaka City: Spatial and Temporal Characterization", 1st Bangladesh Civil Engineering Summit, Bangladesh University of Engineering and Technology. [poster]
33. Sagar, S. M., Hoque, K. A. and **Majed, N.** (2016), "Waste to Resource: A visionary Approach for Pagla Sewage Treatment Plant", 1st Bangladesh Civil Engineering Summit, Bangladesh University of Engineering and Technology. [poster]
34. **Majed, N.**, Saqueeb, M. N. and Islam, M. T. (2015), "Ranking of Slum Areas in Dhaka City based on Water, Sanitation and Hygiene Practices", Sanitation Conference: "Journey to Zero", Dhaka, Bangladesh, 3-4 October, 2015.
35. Onnis-Hayden, A., **Majed, N.**, Drury, D., Risso, L., McMahon, K. D. and Gu, A. Z. (2013) "Effect of Sludge Residence Time on Phosphorus Removal Activities and Populations in Enhanced Biological

Phosphorus Removal (EBPR) Systems” *86th Annual Water Environment Federation Technical Exhibition and Conference*, Chicago, Illinois, October 2013.

36. **Majed, N.** and Gu, A.Z. (2011), “Insights into the Metabolic Pathways and Diversity of Functionally Relevant Populations in Enhanced Biological Phosphorus Removal Process using Raman Microscopy”, *84th Annual Water Environment Federation Technical Exhibition and Conference*, Los Angeles , California, October 2011.
37. **Majed, N.**, and Gu, A. Z. (2011), “Evaluation of Enhanced Biological Phosphorus Removal Process Involving Intracellular Storage Polymers using Raman Microscopy”, *New England Water Environment Association Annual Conference and Exhibition 2011*, Boston, MA, January 2011.
38. **Majed, N.**, Matthaus, C., Diem, M. and Gu, A. Z. (2010), “ Raman Microscopic Evaluation of Intracellular Polymers Reveals Metabolic States of Microbes Involved in Enhanced Biological Phosphorus Removal Process”, *IWA/World Water Congress and Exhibition*, Montreal, Canada, September 19-24, 2010.
39. **Majed, N.**, Du, Y. and Gu, A.Z. (2010), “Analysis of Phosphorus Fractions in EBPR process and Metabolic Link with Polyphosphate”, *83rd Annual Water Environment Federation Technical Exhibition and Conference*, New Orleans , Louisiana, October 2010.
40. Schuler, A., **Majed, N.**, Bucci, V., Hellweger, F. L., Tu, Y. and Gu, A. Z. (2010), “Is the Whole Sum of its Parts? Agent based Modelling of Wastewater Treatment Systems”, *2nd IWA/WEF Wastewater Treatment Modeling Seminar*, Mont-Sainte-Anne, QC, Canada, March 28-30, 2010.
41. **Majed, N.**, Onnis-Hayden, A., and Gu, A. Z. (2010), “Abundance and Distribution of Activities of Different Populations in an Advanced IFAS-EBPR-MBR system”, *IWA Leading Edge Technologies Conference*, Arizona, 2010. [poster]
42. **Majed, N.**, Matthaus, C., Diem, M. and Gu, A. Z. (2009) “Evaluation of Intracellular Polyphosphate Distribution in the PAOs using Raman Microscopy”, *82nd Annual Water Environment Federation Technical Exhibition and Conference*, Orlando, Florida, October 2009.
43. Gu, A. Z., **Majed, N.**, Benisch, M. and Neethling, J. B (2009). “Fractionation and Treatability Assessment of Phosphorus in Wastewater Effluents - Implications on Meeting Stringent Limits”, *82nd Annual Water Environment Federation Technical Exhibition and Conference*, Orlando, Florida, October 2009.
44. **Majed, N.**, Onnis-Hayden, A., Welander, T. and Gu, A. Z. (2009), “Decoupling and Optimization of both P and N Removal in an Advanced IFAS-EBPR-MBR System”, *Nutrient Removal 09 Conference*, Washington DC, June 2009.
45. **Majed, N.**, Onnis-Hayden, A., Christensson, M., Welander, T. and Gu, A. Z. (2009), “Experience with Lab-scale IFAS-EBPR-MBR system for Nitrogen and Phosphorus Removal”, *New England Water Environment Association Annual Conference and Exhibition, 2009*, Boston, MA, January 2009. [poster]
46. **Majed, N.**, Matthäus, C., Diem, M. and Gu, A. Z., Application of Raman Microscopy in the Evaluation of Poly-phosphate Granules in PAOs, *IWA- Specialized conference on microbial population dynamics in biological wastewater treatment ASPD 5*, 2009 Aalborg, Denmark, May 24-27, 2009.
47. **Majed, N.**, Onnis-Hayden, A., Christensson, M., Welander, T. and Gu, A. Z. (2008), “Simultaneous Nitrogen and Phosphorus Removal in an Advanced IFAS-EBPR-MBR system”, *New England Water Works Association Spring Joint Regional Conference and Exhibition 2008*, Worcester, MA, April 2008. [poster]
48. **Majed, N.**, Onnis-Hayden, A., Christensson, M., Welander, T. and Gu, A. Z. (2008), “Phosphorous Removal Kinetics and Operational Issues with a Lab Scale Advanced IFAS-EBPR-MBR Process”, *81st*

Annual Water Environment Federation Technical Exhibition and Conference, Chicago, Illinois, October 2008. [poster]

49. Onnis-Hayden, A., **Majed, N.**, McMahon, K. D. and Gu, A. Z. (2008) "Phosphorus Removal and PAOs Populations at a Full-Scale Integrated Fixed-Film Activated Sludge (IFAS) Plant." *81st Annual Water Environment Federation Technical Exhibition and Conference*, Chicago, Illinois, October 2008.
50. Litman, M. R., **Majed, N.** and Gu, A. Z. (2008) "Specific Availability of Wastewater-Derived Refractory Dissolved Organic Nitrogen (rDON) to Eutrophying Algae *Selenastrumcapricornutum* and *Anabaena variabilis* ATCC 29413", *81st Annual Water Environment Federation Technical Exhibition and Conference*, Chicago, Illinois, October 2008.
51. **Majed, N.** and Rahman, M. M. (2003), "Observation of lake water condition in Dhaka city", [Published in the proceeding of 2nd annual paper meet and International Conference on Civil Engineering (2003)]
52. **Majed, N.** and Rahman, M. M. (2003), "Noise Pollution in Dhaka City", [Published in the proceeding of 2nd annual paper meet and International Conference on Civil Engineering (2003)]
53. **Majed, N.** and Rahman, M. M. (2002), "Observation and analysis of lake water condition in Dhaka city", [Published in the proceeding of 2nd International Conference on Bangladesh Environment (2002)].
54. **Majed, N.** and Rahman, M. M. (2002), "Urban environment health hazard: Dengue", [Published in the proceeding of 2nd International Conference on Bangladesh Environment (2002)].

TECHNICAL REPORTS

"Investigation on Laboratory scale Integrated fixed film Activated Sludge – Enhanced Biological Phosphorus Removal – Membrane Bioreactor process (IFAS-EBPR-MBR) for simultaneous removal of Nitrogen and Phosphorus". Submitted to AnoxKaldnes Inc. (Now Veolia Water Solutions and Technology), Sweden. (Submitted in 2008)

"Food Contamination, Aquatic Pollution and Bio-magnification – Bangladesh Perspective (Phase-I)" – Submitted to Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific, Dhaka, Bangladesh. (Submitted in 2016)

"Heavy Metals in Staple Foods, Food Chain Bio-magnification and associated risks – Bangladesh Perspective (Phase – 2 of previous)" Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific. (Submitted in 2017)

"Life Cycle Assessment of Municipal Solid Waste Management Practices and Effluent Treatment Plants of Textile Industries in Dhaka City" (Phase – 1)" Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific. (Submitted in 2018)

"Life Cycle Assessment of Municipal Solid Waste Management Practices (Phase -2): Analysis and Treatment of landfill leachate from municipal solid waste landfill" Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific. (Submitted in 2020)

"Documentation of Online Teaching Learning Experience at University of Asia Pacific", Authored as the convener of the subcommittee at University of Asia Pacific. (Submitted in 2022)

“Evaluation of the effectiveness and sustainability of natural treatment of wastewater in rehabilitating the river ecosystem from toxic industrial discharge” Funded by Institute of Energy, Environment, Research and Development (IEERD) at University of Asia Pacific. (Submitted in 2023)

Status of Implementation of Outcome Based Education (OBE) in Engineering Programs in Bangladesh Funded by Bangladesh Accreditation Council, Government of People’s Republic of Bangladesh (Submitted in 2023).

WORKSHOPS/TRAININGS PARTICIPATED

Engineering and Application

- Workshop on “Reverse Engineering” organized by Institute of Appropriate Technology (IAT), BUET (29 May, 2003 – 1 June, 2003)
- Specialized course on “Arsenic Contamination in Bangladesh” organized by ITN-Bangladesh (2 – 7 August, 2003)
- Training workshop on “Water Supply and Solid Waste Management” at BUET (11 January, 2004)
- Training programme on “Environment and Environmental Law” organized by Bangladesh Environmental Lawyers Association (BELA) (17-22 January, 2004)
- Short course on “Sustainable Wastewater Treatment and Reuse” in UNESCO-IHE, Delft, the Netherlands (26 April – 13 May, 2005)
- Training of Trainer’s Course at GIZ Bangladesh (24 – 26 July, 2012)
- Training on “Ecology and Effluent Treatment in Textile Production, Dyeing & Finishing of Knitwear” by National Institute of Textile Training Research and Design (NITTRAD), Savar, Dhaka (2 – 9 September, 2012)
- Online Course on “Winning Bids for City-Wide Inclusive Sanitation: Principles and Application” organized by ITN-BUET (Bangladesh), ENPHO (Nepal) and EAWAG (Switzerland) (Jan 13 – Feb 03, 2021)

Accreditation, Teaching Learning and Outcome Based Education

- Workshop on “Outcome Based Education” (Co-ordinated by Mentors from BEM, Malaysia) organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, Institution of Engineers, Dhaka (31 October, 2016)
- Training on “Implementation of Outcome Based Education” (Co-ordinated by Mentors from BEM, Malaysia) by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, BRAC-CDM Rajendrapur, Dhaka (9-11 December, 2016)
- Workshop on “Outcome Based Education” (Co-ordinated by Evaluators) organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, Institution of Engineers, Dhaka (19-20 December, 2016 and 4 January, 2017)
- Workshop on “Outcome Based Accreditation and Evidence based On-site Assessment during Accreditation Visits” organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, Institution of Engineers, Dhaka (17 and 19 October, 2017)
- Workshop on “Are your online students engaged?” organized by Institute of Development of Online Learning, Dhaka (August 8, 10, 12, 2020)
- Online workshop on “Program Evaluators’ Training on OBE based accreditation of Engineering curriculum” organized by Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh, Institution of Engineers, Dhaka (8 – 11 Feb, 2021)
- Workshop on “How can we Assess our Online Students?” organized by Institute of Development of Online Learning, Dhaka (August 29, 2021)
- Training on BAETE Accreditation Manual for Undergraduate Engineering Programs Version 2.1” on Saturday, December 3, 2022
- Training at Bangladesh Accreditation Council on “Professional Training Workshop for Strengthening IQAC Capacity” from 5 – 16 May, 2024

CONSULTING SERVICES

- Project Title: **Faecal Sludge Management Operations Study in Selected Rohingya Camp Areas** [With NewVision Solutions Ltd, funded by NGO Forum, Project Duration: March 2019 – July 2019]
- Project Title: **Water Quality Improvement in Dhaka Watershed** [Funded by ADB, Project Duration: Nov 2019 – Jan 2020]
- Project Title: **Behavioral insights for Plastic Waste Management in Bangladesh, Formative Research** [With Development Research Initiative, funded by World Bank, Project Duration: July 2022 – Jan 2023]

ACCREDITATION SERVICES

- Serving as a member in the Quality Assurance Committee (QAC) at Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Serving as a resource person for OBE training at Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as a member of the Accreditation team for reviewing the Bachelors program of Civil Engineering Program at International University of Business, Agriculture and Technology (IUBAT) during January, 2023 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as a member of the Accreditation team for reviewing the Bachelors program of Civil Engineering Program at Bangladesh Army University of Engineering and Technology (BAUET), 2022 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as a member of the Accreditation team for reviewing the Bachelors program of Civil Engineering Program at Khulna University of Engineering and Technology (KUET), 2022 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as an observer of the Accreditation team for reviewing the Bachelors program of Electrical and Telecommunications Engineering at Independent University Bangladesh (IUB), 2021 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as a member in the coordination/steering committee in the *Second International Symposium on "Quality Assurance in Engineering Education through Accreditation"* by organized by BAETE, Bangladesh from August 2020 (Virtual).
- Served as a member of the Accreditation team for reviewing the Bachelors program of Civil Engineering Program at International University of Business, Agriculture and Technology (IUBAT) during September, 2019 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as a member in the coordination/steering committee in the *First International Symposium on "Quality Assurance in Engineering Education through Accreditation"* by organized by BAETE, Bangladesh from January 2019 at Radisson Hotel, Dhaka, Bangladesh.
- Served as an observer of the Accreditation team for reviewing the Bachelors program of Civil and Environmental Engineering Program at North South University (NSU) during November, 2018 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as a member of the Accreditation team for reviewing the Bachelors of Civil Engineering Program at Military Institute of Science & Technology (MIST) during April 2018 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.
- Served as an observer of the Accreditation team for reviewing the Bachelors program of Chemical Engineering and Polymer Science Program at Shahjalal University of Science & Technology (SUST) during May 2018 under the Board of Accreditation of Engineering and Technical Education (BAETE), Bangladesh.

OTHER SERVICES

External Services

- Serve as Committee member and examiner in PhD and MSc thesis with invitations from the Department of Civil Engineering, BUET.
- Resource person of City-Wide Inclusive Sanitation, Fecal Sludge Management and Fecal Sludge Treatment sessions at ITN-BUET, Dhaka.
- Co-chaired the *2nd Agile in Education Global Virtual Conference on Transforming Education through Innovative Solutions* organized by Agile in Education USA from 18-20 March, 2021.
- Serving as an editorial member and peer reviewer of multiple journals published by *MDPI* such as *Sustainability, Resources, Energy, Agronomy, Earth, International Journal of Environmental Research and Public Health* and by *Elsevier* such as *Chemosphere, Journal of Environmental Management*, and by *Science Direct* such as *Water Research* etc.

University of Asia Pacific, Dhaka, Bangladesh

- Founding Director, Office of International Affairs, University of Asia Pacific (October 2018 – June 2021)
- Member of Program Self Evaluation Committee at the Department of Civil Engineering, University of Asia Pacific (2017 – present).
- Convener and coordinator of the 1st Civil Engineering Career Festival at Department of Civil Engineering on August 5, 2017
- Faculty advisor of Civil Engineering Student Forum from April 2017 to April 2020.
- Conducted seminars on “Outcome based Education” for the faculty members in the department of Civil Engineering in 2016, 2017, 2021 and 2022
- Faculty in-charge of Environmental Engineering Laboratory since May 2015 – January 2017.
- Faculty advisor of the Environment and Disaster Management Club (EDMC) since 2015 - 2017
- Initiated and led a student team to carry out Shitalakhya riverside cleaning and awareness program on January 2, 2016 (published in The Daily Star, May 19, 2016: <http://www.thedailystar.net/shout/bulletin-board/bulletin-board-1225966>)

North South University, Dhaka, Bangladesh

- Actively took part and headed several committees in the Inaugural Environment Olympiad 2012 jointly organized by North South University and Bangladesh Poribesh Andolon (BAPA).

Northeastern University, Boston, MA, USA

- President of the NUGEGES: Northeastern University Graduate Environmental and Geo-Environmental Society (September 2008 – September 2009).
- Supervision of REU (Research Experiences for Undergraduates: Summer program at Northeastern University) and Young Scholar program (for high school kids) during lab work activities (Summer 2008, Summer 2009, Summer 2010, Summer 2011)

MEMBERSHIP

- Life Member of Institution of Engineers (IEB), Bangladesh
- Life Member of American Alumni Association (AAA), Bangladesh
- Life Member of Women Architects, Engineers, Planners Association (WAEPA), Bangladesh
- Life Member, Agami Education Foundation (Sister concern, Agami Inc., USA), Bangladesh
- Founder Member and Life Fellow, Bangladesh Society for Private University Academics (BSPUA), Bangladesh
- Board Member, Agile in Education USA, USA

AFFILIATIONS AND CERTIFICATIONS

- Certified **Evaluator** for accreditation of OBE based Programs, Board of Accreditation for Engineering and Technical Education (BAETE), Bangladesh
- **Member**, Quality Assurance Committee (QAC) and Evaluator Assessment Committee (EAC), BAETE, Bangladesh.
- **Research Partner**, Agile in Education USA (Non-profit education platform)
- **Registered Scrum Master** (RSM) by Scrum Inc, (USA), Valid until Lifetime.
- **Lead Coordinator**, Life if Fun, Science Education Program and **President**, Agami Education Foundation (Certified NGO and a sister concern of Agami Inc. USA)
- Member (Engineer) of 7th Executive Committee (March 2025 – present), **Joint Secretary** (Engineer) of 5th Executive Committee (September 2020 – December 2022), and Life Member, Women Architects, Engineers, Planners Association (WAEPA), Bangladesh (Government Registered)