Sheikh Mokhlesur Rahman

Assistant Professor, Department of Civil Engineering
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
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EDUCATION:

PhD **Northeastern University**, Boston, MA — August 2018
Civil Engineering (Field: Environmental Engineering)
Dissertation: *Application of Data Mining and Machine Learning Approaches to Assess, Characterize, and Predict Chemical Toxicity from High-dimensional Time-series Toxicogenomic Data*
Supervisor: Prof. April Z. Gu

MSc **Bangladesh University of Engineering & Technology (BUET)**, Dhaka, Bangladesh — September 2010
Civil and Environmental Engineering
Thesis: *Air quality assessment and the health effects of air pollution in Dhaka city through impact-pathway model*
Supervisor: Prof. M. Ashraf Ali and Prof. Zia Wadud

BSc **Bangladesh University of Engineering & Technology (BUET)**, Dhaka, Bangladesh — June 2007
Civil Engineering
Thesis: *Enhancement of Seismic Performance of Soft Ground Storey RCC Structures*
Supervisor: Prof. Ishtiaque Ahmed

PROFESSIONAL EXPERIENCE:

Assistant Professor — June 2018 – Present
Department of Civil Engineering,
Bangladesh University of Engineering & Technology

Graduate Research Assistant — January 2012 – April 2018
Department of Civil and Environmental Engineering,
Northeastern University

Graduate Teaching Assistant — January 2012 – August 2015
Department of Civil and Environmental Engineering,
Northeastern University

Assistant Professor — May 2011 – January 2012
Department of Civil Engineering,
Bangladesh University of Engineering & Technology

Lecturer — June 2007 – May 2011
Department of Civil Engineering,
Bangladesh University of Engineering & Technology

RESEARCH INTERESTS:

i) *Data sciences in Environmental Engineering*: Employ data driven approaches to assess environmental data including weather and climate, air, water, and noise quality.

ii) *Life Cycle Assessment*: Life cycle assessment for sustainability assessment environmental remediation technologies.

iii) *Bioinformatics and data mining in toxicogenomics*: Bioinformatics application to assess, characterize, and predict toxicity from chemical for their risk and hazard identification.

iv) *Network science in risk assessment*: Application of network science theory in risk assessment from chemical hazard using "omics" data.

RESEARCH EXPERIENCE:

Bangladesh University of Engineering and Technology (June 2018 to Present)

- Advising undergraduate and graduate level students for Project and Thesis work (Currently advising 1 PhD students, 5 MSc students, and 5 Undergraduate students)
  - Association between air quality and meteorological parameters and respiratory health assessment
  - Monitoring water quality in water distribution network in Dhaka city by assessing microbial composition
  - Life cycle assessment of fecal sludge treatment technologies in developing countries and industrial wastewater generated from textile industries

Northeastern University (January 2012 – June 2018)

- Exploration of bioinformatics and machine learning approaches to characterize, assess, and predict toxicity from time-series toxicogenomic data.
  - Comparative performance evaluation of dimension reduction methods and distance metrics in clustering toxicants using the toxicogenomic data.
  - Clustering of chemicals based on autoregressive moving average (ARMA) model features of the time-series toxicogenomic data.
  - Exploration of the use of *in-vitro* biodescriptors from toxicogenomics in *in-silico* QSAR for phenotypic toxicity prediction improvements.
  - Mixture toxicity modeling using toxicogenomic data *via* parallel factor (PARAFAC) decomposition.
  - Identification of toxicogenomics based biomarkers for phenotypic genotoxicity prediction using feature selection methods.
  - Molecular effect quantification of toxicogenomics: dose-response modeling at biomarker level to pathway and network level.

Advisor: Prof. April Z. Gu

- Life cycle assessment of wastewater treatment plant to evaluate the environmental sustainability in nutrient and emerging contaminant removal.

Advisor: Prof. Matthew J. Eckelman, Prof. Annalisa Onnis-Hayden, and Prof. April Z. Gu

- Molecular dynamic simulation to investigate genotoxicity effect of mitomycinC and 4-nitroquinoline oxide.

Advisor: Prof. Steven C. Cranford and Prof. April Z. Gu

- Exploring the analysis of environmental and health monitoring data through multiple alternative clustering.

Advisor: Prof. Jennifer Dy, Prof. David Kaeli, and Prof. April Z. Gu

Bangladesh University of Engineering and Technology (October 2008 to September 2010)

- Air Quality Assessment and the Health Effects of Air Pollution in Dhaka City through Impact-Pathway Model.

Advisor: Prof. M. Ashraf Ali and Prof. Zia Wadud

- Enhancement of Seismic Performance of Soft Ground Storey RCC Structures.

Advisor: Prof. Prof. Ishtiaque Ahmed

RESEARCH GRANTS:

- Research grant from HVT Program of UKAID, "Modelling the links between transport, air quality and COVID-19 spread using naturalistic data from Dhaka, Bangladesh", 2020 – Ongoing
- Research grant from USDA, "Life Cycle Sustainability Assessment (LCSA) for Urban Farming Practices", 2020 - Ongoing
- Research grant from Mathworks for the project titled "Developing a Time-series Toxicogenomic Data Visualization and Analysis Toolbox (ToxVAT) using MATLAB", 2016 -2017

PUBLICATIONS:

Journal Papers

1. Onnis-Hayden A, Majed N, Li Y, **Rahman SM**, Drury D, Risso L, and Gu AZ, *"Impact of Solid Residence Time (SRT) on Functionally Relevant Microbial Populations and Performance in Full-scale Enhanced Biological Phosphorus Removal (EBPR) Systems"*. **Water Environment Research**, 2019, doi:10.1002/wer.1185.
2. Li Y, **Rahman SM**, Li G, Fowle W, Nielsen PH, and Gu AZ, "*The Composition and Role of Polyphosphate-Metal in Enhanced Biological Phosphorus Removal Systems*". **Environmental Science & Technology**, 2019, 53 (3), 1536-1544.
3. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu AZ, "*Comparative Life Cycle Assessment of Advanced Wastewater Treatment Processes for Removal of Chemicals of Emerging Concern*". **Environmental Science & Technology**, 2018, 52(19): 11346-11358.
4. Li Y, Cope HA, **Rahman SM**, Nielsen PH, Elfick A, and Gu AZ, "*Linking Raman-Based Phenotypic Profiling and Phylogenetic Diversity to Reveal EBPR Physiological Characteristics*". **Environmental Science & Technology**, 2018, 52(15): 8596-8606.
5. Lan J, **Rahman SM**, Gou N, Jiang T, Plewa MJ, Alshawabkeh A, and Gu AZ, "*Genotoxicity Assessment of Drinking Water Disinfection By-products (DBPs) by DNA Damage and Repair*

Pathway Profiling Analysis". **Environmental Science & Technology**, 2018, 52 (11), pp 6565-6575.

6. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu AZ, "*Life Cycle Assessment of Advanced Nutrient Removal Technologies for Wastewater Treatment*". **Environmental Science & Technology**, 2016, 50 (6), pp 3020-3030.
7. Lan J, Gou N, **Rahman SM**, Gao C, He M, and Gu AZ, "*A Quantitative Toxicogenomics Assay for High-throughput and Mechanistic Genotoxicity Assessment and Screening of Environmental Pollutants*". **Environmental Science & Technology**, 2016, 50 (6), pp 3202-3214.

Technical Reports

1. Gu AZ, **Rahman SM**, Eckelman MJ, and Onnis-Hayden A, "*Sustainability Evaluation of Nutrient Removal Technologies Using Comprehensive Life Cycle Assessment*". **Water Environmental Research Foundation (WERF) and International Water Association (IWA) Publishing**, Report no. NUTR5R14f, 2016.

Conference Proceedings

1. Shahriyar A, Tabassum N, and Rahman SM, "Changes in quality of supplied drinking water from sources to households in Dhaka City" **5th International Conference on Advances in Civil Engineering (ICACE-2020)**, Chattogram, Bangladesh, March 2021.
2. Basak RC, Ahammed T, and **Rahman SM**, "Correlation between Air Quality and Asthma, COPD patients in Dhaka Correlation between Air Quality and Asthma, COPD patients in Dhaka" **5th International Conference on Advances in Civil Engineering (ICACE-2020)**, Chattogram, Bangladesh, March 2021.
3. Dong S, Feric Z, Li X, **Rahman SM**, Li G, Wu C, Gu AZ, Dy J, Kaeli D, Meeker J, Padillak IY, Cordero J, Vegayy CV, Rosario Z, and Alshawabkeh A. "A Hybrid Approach to Identifying Key Factors in Environmental Health Studies" **2018 IEEE International Conference on Big Data (Big Data)**, Seattle, WA, USA, December 2018.
4. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu AZ, *"Environmental Sustainability Assessment of Technologies for Removal of Contaminants of Emerging Concern."* **Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC 2014)**, New Orleans, LA, USA, September, 2014.
5. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu AZ, *"Sustainability in Nutrient Removal- Co-cost and Co-benefits Associated with Advanced Nutrient Removal Processes and Technologies Revealed by Comprehensive Life Cycle Assessment"*, **Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC 2013)**, Chicago, IL, USA, October, 2013.
6. **Rahman SM**, Onnis-Hayden A, Eckelman MJ, and Gu AZ, *"Environmental Impact Assessment of Wastewater treatment plants to remove Nitrogen and Phosphorous from municipal wastewater: An application of Life Cycle Assessment Methodology"*, **WEF/IWA Nutrient Removal and Recovery 2013**, British Columbia, Canada, July, 2013.

7. Afrin T, Ashraf MA, **Rahman SM**, and Wadud Z, *"Development of a Grid Based Emission Inventory and a Source Receptor Model for Dhaka City"*, **The U.S. EPA's International Emissions Inventory Conference**, Florida, USA, August, 2012.
8. **Rahman SM**, Wadud Z, Ashraf, MA, and Guttikunda, S, *"Developing Source Receptor Model (SRM) to estimate the grid-based particulate matter concentration in Dhaka"*, **4th Annual Paper Meet and 1st Civil Engineer's Congress**, The Institution of Engineers, Bangladesh, Dhaka, Bangladesh, December, 2011.
9. **Rahman SM** and Ahmed, I, *"Enhancement of Seismic Performance of Soft Ground Storey RCC Structures"*, ***3rd ASIA Conference on Earthquake Engineering (ACEE-2010)***, Bangkok, Thailand, December, 2010.

Oral Presentations

1. **Rahman SM**, Lan J, Gou N, and Gu AZ, *"In-vitro Biodescriptors in in-silico QSAR Improve the Phenotypic Toxicity Prediction Accuracy"*, **AEESP Research and Education Conference - 2019**, June 14 - 16, 2019, Tempe, AZ, USA.
2. **Rahman SM**, Lan J, Gou N, and Gu AZ, *"In-vitro Biodescriptors in in-silico QSAR Improve the Phenotypic Toxicity Prediction Accuracy"*, **38th SETAC North America Annual Meeting 2017**, Minneapolis, MN, USA, November 12-16, 2017.
3. **Rahman SM**, Gao C, Gou N, and Gu AZ, *"Toxicity Modeling with Parallel Factor (PARAFAC) Decomposition from the Perspective of Mixture Toxicity Prediction with Time Series Toxicogenomic Data"*, **SETAC North America Focused Topic Meeting: Risk Assessment of Chemical Mixtures**, Denver, CO, USA, September 6-8, 2017.
4. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu, AZ, *"Comparative Life Cycle Assessment of Advanced Wastewater Treatment Processes for Removal of Chemicals of Emerging Concern"*, **AEESP Research and Education Conference - 2017**, June 20 - 22, 2017, Ann Arbor, MI, USA.
5. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu AZ, *"Sustainability Assessment of Advanced Nutrient Removal Processes and Technologies Via Comprehensive Life Cycle Assessment."* **NEWEA Joint Energy & Sustainability Conference,** Sturbridge, MA, USA, May 7-8, 2014.

Poster Presentations

1. **Rahman SM**, Gao C, Gou N, Alshawabkeh A, and Gu AZ, *"Molecular Mixture Toxicity Modeling using Toxicogenomic Data via Parallel Factor (PARAFAC) Decomposition"*, **NIEHS SRP 2017 Annual Meeting**, Philadelphia, PA, USA, December 6-8, 2017.
2. **Rahman SM**, Lan J, Gou N, and Gu AZ, *"In-vitro Biodescriptors in in-silico QSAR Improve the Phenotypic Toxicity Prediction Accuracy"*, **AEESP Research and Education Conference - 2017**, Ann Arbor, MI, USA, June 20 - 22, 2017.
3. **Rahman SM**, Lan J, Gou N, and Gu AZ, *"In-vitro Biodescriptors in in-silico QSAR Improve the Phenotypic Toxicity Prediction Accuracy"*, **AEESP Research and Education Conference - 2017**, Ann Arbor, MI, USA, June 20 - 22, 2017.

4. **Rahman SM**, Gao C, Gou N, and Gu AZ, "*Evaluation of Chemical Mixture Toxicity Predictability with High Dimensional Toxicogenomic Data Using Parallel Factor (PARAFAC) Analysis."* **7th SETAC World Congress/ 37th SETAC North America Annual Meeting 2016**, Orlando, FL, USA, November 6-10, 2016.
5. **Rahman SM**, Gao C, Gou N, and Gu AZ, "*Evaluation of Chemical Mixture Toxicity Prediction from Toxicogenomic Data using Parallel Factor (PARAFAC) Analysis."* **2016 NEWIN – WPI Water Workshop**, Worcester, MA, USA, October 24, 2016.
6. **Rahman SM**, Gou N, Chang Y, Dy JG, and Gu, AZ, "*Auto Regressive Moving Average Model Represents Temporal Toxicogenomic Data and Improves Clustering Performance.*" **SETAC North America 36th Annual Meeting**, Salt Lake City, UT, USA, November 1-5, 2015.
7. **Rahman SM**, and Gu, AZ, "*Application of Principal Component Analysis and Stepwise Regression to Identify the Exposure Variables Associated with Health Outcome and to Determine Dose-Response Relationship.*" **NIEHS Statistical Approaches for Assessing Health Effects of Environmental Chemical Mixtures in Epidemiology Studies Workshop**, Research Tringle Park, NC, USA, July 13 – 14, 2015.
8. **Rahman SM**, Gou N, Chang Y, Dy JG, and Gu, AZ, "*Application of Auto Regressive Moving Average Model for High Dimensional Toxicogenomic Data Analysis.*" **AEESP Research and Education Conference - 2015**, New Haven, CT, US, June 13 - 16, 2015.
9. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu, AZ, "*Balancing Between Sustainability and Water Quality for Removal of Contaminants of Emerging Concern.*" **IWA leading Edge Technology Conference**, May 30 – June 3, 2015, Hong Kong, China.
10. **Rahman SM**, Gao C, and Gu, AZ, "*Performance evaluation of dimension reduction methods in improving the clustering of toxicants based on high dimensional toxicogenomic data.*" **SETAC Europe 25th Annual Meeting**, May 3 - 7, 2015, Barcelona, Catalonia, Spain.
11. **Rahman SM**, Eckelman MJ, Onnis-Hayden A, and Gu, AZ, *"Environmental Sustainability Assessment of Technologies for Removal of Contaminants of Emerging Concern."* **Research, Innovation and Scholarship Expo: RISE-2014**, Northeastern University, Boston, USA, April 10, 2014.
12. **Rahman SM**, Onnis-Hayden A, Eckelman MJ, and Gu, AZ, *"Environmental Impact Assessment of Wastewater treatment plants to remove Nitrogen and Phosphorous from municipal wastewater: An application of Life Cycle Assessment Methodology"*, **Research, Innovation and Scholarship Expo: RISE-2013**, Northeastern University, Boston, USA, March, 2013.
13. **Rahman SM**, Wadud Z, Ashraf MA, and Guttikunda S, *"Developing a Policy Analysis Tool to Analyze Air Pollution Mitigation Strategies in Dhaka City"*, **Better Air Quality Conference (BAQ-2010)**, Singapore, November, 2010

Webinars:

1. **Rahman SM**, Eckelman MJ, Onnis-hayden A, and Gu, AZ, "Life cycle assessment of advanced nutrient removal technologies for wastewater treatment". **US EPA agency-wide webinar**, March 23, 2016.

TEACHING EXPERIENCE:

Bangladesh University of Engineering and Technology, *as Assistant Professor*

Activities include: Conducting both theory and laboratory based classes, preparing exam questions, grading exams, prepare final grades

Undergraduate Courses: (*June 2018 - Present*)

i) **Environmental Pollution Management**: Environmental pollution and its Control; water pollution: sources and types of pollutants; waste assimilation capacity of streams; dissolved oxygen modeling; ecological balance of streams; industrial pollution; heavy metal contamination; detergent pollution and eutrophication; groundwater pollution; marine pollution; pollution control measures: water quality monitoring and management. Air pollution: sources and types of pollutants; effects of various pollutants on human health, materials and plants; air pollution meteorology; global warming, climate change and ozone layer depletion; acid rain; air pollution monitoring and control measures; introduction to air quality models.

ii) **Surveying:** Reconnaissance survey; linear measurements; traverse survey; triangulation, leveling and contouring; calculation of areas and volumes; problems on heights and distances; curves and curve ranging, transition curve, vertical curves; tacheometry: introduction, principles and problems on tacheometry; astronomical surveying: definition, instruments, astronomical corrections, systems of time; photogrammetry: introduction of terrestrial photography, aerial photography, reading of photo mosaic, scale; project surveying; errors in surveying; remote sensing; introduction to geographic information system (GIS) and global positioning system (GPS).

iii) **Engineering Materials:** Properties and uses of aggregates (stones), brick, cement; sand, lime, mortars; concrete; concrete mix design; wood structures and properties; shrinkage and seasoning; treatment and durability; mechanical properties; wood products; advanced fiber reinforced polymer (FRP) composites and its application to civil engineering; reinforcement types, basic property of FRP composites and available FRP composite products; definition of stress and strain; plane stress and strain condition; identification of strain components of elastic, elasto-plastic and elasto-visco-plastic materials; time dependent strain response of these materials due to different types of loadings; mathematical and simple rheological modeling for prediction of creep behavior; ferrocement: advantages and uses; corrosion and prevention of steel in RC structures, offshore structures and ground applications.

iv) **Environmental Engineering Sessional I:** Water and wastewater sampling techniques, sample preservation, physical, chemical and biological tests of water and wastewater; breakpoint chlorinating, alum coagulation, sampling and laboratory analysis of air, sampling and laboratory analysis of solid waste.

v) **Computer Programming Sessional:** Programming concepts and algorithms; internal representation of data; elements of structured programming language: data types, operators, expressions, control structures, functions, pointers and arrays, input and output; concept of Object Oriented Programming (OOP): encapsulation, inheritance, polymorphism and abstraction.

vi) **Engineering Computation Sessional:** Introduction to hi-level computational programming tools; application to numerical analysis: basic matrix computation, solving systems of linear equations, non-linear equations, differential equations, interpolation and curve fitting, numerical differentiation, numerical integration; application to engineering problems: solving problems related to mechanics, numerical solution of equation of motion.

vii) **Structural Mechanics and Materials Sessional:** Tension, direct shear and impact tests of mild steel specimen; slender column test; static bending test; hardness test of metals; helical spring test; determination of shear centre; study of structural models: truss, beam frame.

Northeastern University, *as Teaching Assistant*

Activities include preparing homework solutions, grading home works, conducting laboratory classes.

Undergraduate Courses: (*January 2012 - December 2015*)

Fluid mechanics, Environmental Engineering I, Environmental Engineering II, Hydrologic Engineering, Concrete Canoe Competition.

Graduate Courses: (*January 2012 - December 2015*)

Environmental biological process, Hydrology.

Bangladesh University of Engineering and Technology, *as Lecturer & Assistant Professor*

Activities include: Conducting both theory and laboratory based classes, preparing exam questions, grading exams, prepare final grades.

Selected Undergraduate Courses: (*June 2007 - Jan 2012*)

i) **Environmental Engineering VI**: Introduction to environmental engineering. Water supply: water requirement, water sources, water quality; treatment and distribution systems, design concepts of water treatment plants. Wastewater engineering: wastewater characteristics, treatment and disposal, on site sanitation systems. Solid waste management. Introduction to environmental pollution; water, air, soil and noise pollution; effects of pollution. Introduction to environmental management: environmental policy, legislation and environmental quality standards; introduction to environmental impact assessment.

ii) **Environmental Engineering Sessional I:** Water and wastewater sampling techniques, sample preservation, physical, chemical and biological tests of water and wastewater; breakpoint chlorinating, alum coagulation, sampling and laboratory analysis of air, sampling and laboratory analysis of solid waste.

iii) **Engineering Materials Sessional**: General discussion on preparation and properties of concrete. Test for specific gravity. Unit weight, voids and bulking of aggregates; moisture

content and absorption of coarse and fine aggregates; normal consistency and initial setting time of cement; direct tensile and compressive strengths of cement mortar; gradation of coarse and fine aggregates; design and testing of a concrete mix.

iv) **Details of Construction***:* Foundations; different types of foundations; brick masonry; framed structures and bearing walls; arches and lintels; details of floors and roofs; pointing; plastering and interior finishing; scaffolding, staging; shoring and underpinning; thermal insulation and acoustics; House plumbing.

CONSULTANCY EXPERIENCE

i) Feasibility Study and Detailed Design for the Construction of an Elevated Expressway/Road from Mithamain Sadar Upazila to Karimganj Upazila via Mithmain Cantonment of Kishoreganj District, 2020 – Ongoing, Bangladesh (Team Member)

ii) Feasibility study for establishment of digital security agency and creation of necessary infrastructure in Bangabandhu Hi-Tech City, Gazipur, 2020 – Ongoing, Bangladesh (Team Member)

iii) Feasibility study of Construction of Lighterage Jetty and Service Jetty on the bank of Karnaphuli River near Hamid Char and Adjoining Areas at Chattogram Port, 2019 – Ongoing, Bangladesh (Team Member)

iv) PPP Transaction advisory services for "Improvement of Chittagong-Cox's Bazar Highway through PPP", 2019 – Ongoing, Bangladesh (Team Member)

v) Dhaka BRT and city bus services service – planning and demand assessment, 2019 – 2020, Bangladesh (Team Coordinator)

vi) Consultancy service for updating Operational Design and Business Model (ODBM) Under Greater Dhaka Sustainable Urban Transport project (BRT, Gazipur-Airport), 2019 – Ongoing, Bangladesh (Team Coordinator)

vii) Drainage design for a 2-lane at grade road with service lane and 2-lane elevated bridge, and an at-grade four lane road in Naryanganj, 2018 – Ongoing, Bangladesh (Team Member)

viii) Urban runoff estimation and drainage design for Fatullah Cricket Stadium and Outer Stadium, 2019 – Ongoing, Bangladesh (Team Member)

ix) Environmental impact assessment of Meghna Industrial Economic Zone as per World Bank OP-4.03 guidelines, 2019 – 2020, Bangladesh (Team Member)

x) Assessment of raw water quality, identification of scaling problem, propose modification of treatment processes and preliminary design of treatment processes at Meherpur Pourashava, 2018 – 2019, Bangladesh (Team Member)

xi) Study on pollution remediation of Dhaka Hazaribagh tannery area, 2018 – 2019, Bangladesh (Team Member)

xii) Selection of water treatment processes for water treatment plant at Mirsarai Industrial City, 2018 – 2019, Bangladesh (Team Member)

HONORS AND AWARDS:

Travel Grant for attending Conferences, Northeastern University	2014-2017
Opportunity Fund 2010, The American Center.	2010
Dean's Award, BUET, in each academic year of study.	2003-2007
BUET Academic Merit Scholarship in each term.	2003-2007
Dhaka Education Board Scholarship for result in the H.S.C. Examination.	2003-2007

SYNERGIC ACTIVITIES:

- *Member*, Association of Environmental Engineering and Science Professors (AEESP) (2019 - Present)
- *Student Member*, Society of Environmental Toxicology and Chemistry (SETAC) North America (2015 - 2018)
- *Student Member*, Water Environment Federation (WEF) (2014 - 2018)
- *Student Member*, New England Water Environment Association (NEWEA) (2014 - 2018)
- *Member*, Bureau of Research, Testing and Consultants (BRTC), BUET: Providing consultancy and laboratory test services for quality control of civil engineering construction. (2007 - Present)
- *Award Leader,* The Duke of Edinburgh's Award, BUET unit, Bangladesh (2007 - 2012)