



MD. RIPAJ UDDIN

Scientific Officer

Institute of National Analytical Research and Services (INARS), Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhanmondi, Dhaka-1205, Bangladesh.

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Academic Qualifications

M.Sc (Thesis) in (Environmental Chemistry), Session: 2009-2010, Year of Passing: 2010 University: National University, Bangladesh. Result: First Class (71.00% Marks Obtained)

B.Sc (Honors) in Chemistry (4-Years Course), Session: 2005-2006, Year of Passing: 2009 University: National University, Bangladesh. Result: Second Class (59.60% Marks Obtained)

L.L.B (2-Years Course), Session: 2015-2016, Year of Passing: 2016 University: National University, Bangladesh. Result: Second Class (51.75% Marks Obtained)

Professional Experience

<u>Year</u>	<u>Position and Organization</u>
July 19, 2021- Till Now	Scientific Officer Bangladesh Council of Scientific and Industrial Research (BCSIR), Ministry of Science and Technology, Government of the People's Republic of Bangladesh.
March 15, 2016 – July 19, 2021	Research Chemist Bangladesh Council of Scientific and Industrial Research (BCSIR), Ministry of Science and Technology, Government of the People's Republic of Bangladesh.
July 01, 2015 – March 15, 2016	Asst. Research Officer Active Fine Chemicals Ltd.

Extra Curriculum Proficiency

- One year long course on Information communication Technology (ICT) and having Grade-A, Organized by Government of People's Republic of Bangladesh and JICA Project in 2010.

- Qualified for 9th non-government teacher's registration-2013 (Lecturer) with 61% Marks.

Research Activities

Research interest:	Inorganic, Analytical and Environmental Science
Ongoing Research and Development Projects Director	1. Easy process development of desalination from saline water in Bangladesh 2. Development of cost effective processes for jam, jelly and pickle production from <i>Sonneratia apetala</i> fruit
Ongoing Research and Development Projects Associates	4 (four)
MS Student Supervision	2 (two)
M.S. Thesis Title	Assessment of Degradation of the Karnafully River Water Estuarine water and its impact on the environment, Chittagong, Bangladesh
Total Publications	20
Google Scholar Link	scholar.google.com/citations?user=WqjBsPgAAAAJ&hl=en
Research Gate Link	https://www.researchgate.net/profile/Md_Uddin155
ORCID identifier ID	0000-0002-9200-8039
Web of science ID	AAC-6995-2022

Membership in Technical Society

- Bangladesh Chemical Society (BCS), Life Membership Number-1734.
- Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB), Life Membership Number-199.

Instrumental Expertise

Atomic Absorption Spectrometer (AAS), Ultra Violet (UV) Visible Spectrometer, Fourier Transform Infrared Spectrometer (FT-IR), Flame Photometer, Air Analyzer, Elemental Analyzer, Ion Chromatograph (IC), High Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), Gas Chromatography-Mass Spectrometry (GC-MS and GC- MS/MS), X-ray Diffraction (XRD), Wavelength Dispersive X-ray Fluorescence (WDXRF), TOC Analyzer, Auto Analyzer, Nuclear Magnetic Resonance (NMR), Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and Liquid Chromatography Mass Spectrometer (LCMS).

ISO/IEC 17025 Activities

1. Worked in the implementation of ISO/IEC 17025:2017 quality management system.
2. Participated in the proficiency testing (PT) program in the year of 2018 (for one parameter) from ERA, A Waters Company, and completed successfully.

Professional Training

1. Attended the Training Course on “**NMR Spectroscopy**” conducted by Institute of National Analytical Research and Service, BCSIR, Dhaka, Bangladesh during 25-27 October, 2016 at Ministry of Science and Technology.
2. Attended and successfully completed the “ **Understanding Training Course on ISO/IEC 17025:2005**” conducted by Bangladesh Accreditation Board (**BAB**), Dhaka, Bangladesh during 27-29 December, 2016 at Ministry of Industries, 91, Motijheel C/A, Dhaka-1000.
3. Attended the Training Course on “**Instruction to Origin Lab Software for data Analysis and Research Publication**” conducted by BCSIR Laboratories, Dhaka, Bangladesh during 25-26 May, 2017 at Ministry of Science and Technology.
4. Attended the Training Course on “**Concept of Method Validation**” conducted by BCSIR Laboratories, Dhaka, Bangladesh during 19 March, 2017 at Ministry of Science and Technology.
5. Attended the Training Course on “**Ion Chromatograph (IC)**” conducted by Institute of National Analytical Research and Service, BCSIR, Dhaka, Bangladesh during 26-28 December, 2017 at Ministry of Science and Technology.
6. Attended the Training Course on “**High Performance Liquid Chromatography**” conducted by BCSIR Laboratories, Dhaka, Bangladesh during 18-20 June, 2017 at Ministry of Science and Technology.
7. Attended the Training Course on “**Chemo Metrics and the Unscrambler in Industrial Research**” conducted by BCSIR Laboratories, Dhaka, Bangladesh during 24-27 October, 2018 at Ministry of Science and Technology.
8. Attended the Training Course on “**Basic Training on Triple Quadruples Inductively Coupled Plasma Mass Spectrometer (ICP-MS)**” conducted by Central Lab, Dhaka, Bangladesh during 04-12 April, 2018 at Ministry of Science and Technology.
9. Attended the Training Course on “**Structure Based Drug Design**” conducted by Chittagong BCSIR, Chittagong, Bangladesh during 18-20 February, 2018 at Ministry of Science and Technology.
10. Attended the Training Course on “**Biology Microbial Identification System**” conducted by IFST, BCSIR, Dhaka, Bangladesh during 07-11 October, 2018 at Ministry of Science and Technology.
11. Attended the Training Course on “**Atomic Absorption Spectroscopy**” conducted by Central Lab, Dhaka, Bangladesh during 10-14 March, 2019 at Ministry of Science and Technology
12. Attended the Training Course on Air Analysis by “**Air Analyzer**” conducted by INARS, Dhaka, Bangladesh during 20-24 March, 2019 at Ministry of Science and Technology
13. Attended the Training Course on **Element Analysis (%C, %H, %N, %O & %S)** by “**Elemental Analyzer**” conducted by INARS, Dhaka, Bangladesh during 06-07 May, 2019 at Ministry of Science and Technology
14. Attended the Training Course on “**Training on Gas Chromatography-Mass Spectrometry (GC-MS)**” conducted by Rajshahi BCSIR, Rajshahi, Bangladesh during 27-31 October, 2019 at Ministry of Science and Technology.
15. Attended the Training Course on “**Training on Liquid Chromatography with tandem mass spectrometry (LC-MS-MS)**” conducted by BCSIR, during 04-08 October, 2020 at Ministry of Science and Technology.
16. Attended the Training Course on **FT-IR & NMR** conducted by INARS, BCSIR, during 13-14 September, 2020 at Ministry of Science and Technology.

17. Attended the eMWRE webinar series on free and open-source software (**QGIS, Python, SWAT & MODFLOW**) for water Engineering conducted by eMWRE project authority, during 3, 10, 17 & 24 November, 2020

18. Attended and successfully completed the “ **Lead Assessor training on ISO/IEC 17025:2005**” conducted by Bangladesh Accreditation Board (**BAB**), Dhaka, Bangladesh during 07-11 March, 2021 at Ministry of Industries, 91, Motijheel C/A, Dhaka-1000.

19. Attended the Training Course on “**Wavelength Dispersive X-Ray Fluorescence Spectroscopy (WD-XRF)**” conducted by BCSIR, during 11-15 June, 2021 at Ministry of Science and Technology

Administrative Training

1. Attended and successfully completed the evening Training Course on “**Web Page Development and Deployment Course**” conducted by National Academy for Planning and Development (**NAPD**), Ministry of Planning of the People’s Republic of Bangladesh, Nilkhet, Dhaka, Bangladesh during 21 March, 2017 to 24 May, 2017.
2. Attended and successfully completed the evening Training Course on “**English Language Proficiency Course**” conducted by National Academy for Planning and Development (**NAPD**), Ministry of Planning of the People’s Republic of Bangladesh, Nilkhet, Dhaka, Bangladesh during 14 Feb, 2018 to 25 April, 2018.
3. Attended the Training Course on “**e-GP and PPR-2008**” conducted by BCSIR Laboratories, Dhaka, Bangladesh during 17 July, 2017 at Ministry of Science and Technology.
4. Attended the Training Course on “**Workshop training on website design for National portal included.**” conducted by BCSIR Secretariats, Dhaka, Bangladesh during 04 August, 2019 at Ministry of Science and Technology
5. Attended the Training Course on “**Office Management and Good Governance Integrated**” conducted by BCSIR, Dhaka, Bangladesh during 22-26 November, 2020 at Ministry of Science and Technology.
6. Attended the workshop on “**Innovation and Service Process Simplification**” conducted by BCSIR, Dhaka, Bangladesh during 14 October, 2020 at Ministry of Science and Technology.
7. Attended the workshop on “**Capacity Build up for Innovation**” conducted by a2i Project, ICT Division, Dhaka, Bangladesh during 31 December, 2020 - January 01, 2021 at Ministry of Post, Telecommunication and Information Technology.

Published Abstract in Conference: 10

1. Md. Ripaj Uddin, M A Ahsan, S Yeasmin, M E Ali “Assessment of some physicochemical parameter and biological status of karnafully river water, Chittagong, Bangladesh”, International Conference on chemical Science and Technology, P-59, 24-25 February 2018
2. Md. Ripaj Uddin, M A Ahsan, Shamim ahmed, Md. Ahedul Akbor, Shakila Akter, Md. Abu Bakar Sidque, AHM Shofiu Islam Molla Jamal, “Multi-parameter analysis of bottled water and health risk consideration from locally available in Bangladesh” Bangladesh Chemical Congress, PP-115, 17-19 October 2018
3. AHM Shofiu Islam Molla Jamal, M A Ahsan, Shamim ahmed, Md. Ahedul Akbor, Shakila Akter, Md. Abu Bakar Sidque, Md. Ripaj Uddin , “ Assessment of physicochemical properties of rainwater in Bangladesh” Bangladesh

Chemical Congress, PP-105, 17-19 October 2018.

- AHM Shofiul Islam Molla Jamal, M A Ahsan, Shamim ahmed, Md. Ahedul Akbor, Shakila Akter, Md. Abu Bakar Sidque, Md. Ripaj Uddin , “ Assessment of physicochemical properties of rainwater in Bangladesh” BCSIR Congress, BCSIR Congress, Bangladesh J. Sci. Ind. Res. 54 (Special Issue), 51, 12-14 December 2019.
- M. R. Uddin, M. A. Ahsan, S. Ahmed, R. Sultana, S. Akter, M. A. B. Sidque, AHM.S.I.M. Jamal, “A Comparative study on water quality parameters both of Imported and local bottled drinking water in Bangladesh” BCSIR Congress, Bangladesh J. Sci. Ind. Res. 54 (Special Issue), 52, 12-14 December 2019
- Pollution and ecological risk evaluate for the environmentally impacted Karnaphuli river, Bangladesh. M. R Uddin *, R. H Bhuyain, M. A Ahsan, M. E Ali , International Water Conference 2019, PP-15 January 29-30, 2019, Kuakata, Potuakhali, Bangladesh.
- Md. Ripaj Uddin**, Nahida Akter, AHM Shofiul Islam Jamal, Shamim Ahmed, Md. Aminul Ahsan, **Assessment of drinking arsenic Contaminated tube-well water in coastal areas of Bangladesh**, the 8th International Congress on Arsenic in the Environment (As2021), OP-45640, 7-9 june, 2021.
- Rokaia Sultana, Sumon Chandra Debnath Samia Tabassum, Shamim Ahmed, Md. Ahedul Akbor, Muhammad Abdullah al Mansor¹, Md. Abu Bakar Siddique, **Md. Ripaj Uddin**, Shahnaz Sultana, A. H. M. Shofiul Islam Molla Jamal **Developing a purification technology of harvested rainwater using solar energy**, International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB-2021), OP-E05, p-119, 11-13 March, 2021.
- Md. Ripaj Uddin***, Shamim Ahmed, Muhammad Abdullah al Mansor, AHM Shofiul Islam Molla Jamal, Aynun Nahar, Tajnin Jahan; **Salinity intrusion due to climate change on coastal belt in Bangladesh**, International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB-2021), PP-152, p-469, 11-13 March, 2021 .
- A.H.M. Shafiul Islam Molla Jamal Yeasin Arafat Tarek, Sumon Chandra Debnath, Md. Ripaj Uddin, Shamim Ahmed, Mohammad Moniruzzaman, Tajnin Jahan, Shahnaz Sultana, Mehedi Hasan, **Harvested Rainwater Quality of Dhaka and Its Importance as the Alternative to Surface and Groundwater**, SPAST, 2021.

Journal Paper: 11

- M. R. Uddin, R. H. Bhuyain, S. Yeasmin, M. A. Ahsan, M. E. Ali “Characterization of some physicochemical parameters and status of Escherichia coli of Karnaphuli River in Bangladesh” Journal of Environmental Science, Computer Science and Engineering & Technology, Sec. A; 8(4):343-357, 2019.
- Md. Ripaj Uddin, Riyadh Hossen Bhuyain, Muhammad Edris Ali, Aminul Ahsan “Pollution and ecological risk evaluate for the environmentally impact on Karnaphuli river, Bangladesh” International Journal of Fisheries and Aquatic Research, 4(3):28-48, 2019.
- Ahmed Shamim, Akter Tania, Ahsan Md. Aminul, Yasmin Sabina, Jamal AHM Shafiul Islam Molla, Uddin Md. Ripaj and Shajahan Md, “Textile dyeing and tannery industries effluent physico-chemicals conditions before discharge to river around Dhaka, Bangladesh” International Journal of Scientific & Engineering Research, 10(7): 1029-1045, 2019.
- A. H. M. Shofiul Islam Molla Jamal*, Md. Aminul Ahsan, Shamim Ahmed, Shakila Akter, Rokaia Sultana, Aynun Nahar, Md. Ripaj Uddin, Physicochemical and Microbiological Quality of Potable Water Supplied by DWASA in Dhaka City of Bangladesh, American Journal of Biological and Environmental Statistics 6(1): 1-6, 2020.
- A. H. M. Shofiul Islam Molla Jamal*, Shamim Ahmed, Shakila Akter, Aynun Nahar, Rokaia Sultana, Md. Ripaj Uddin, Tajnin jahan, Shahnaz Sultana, Mehedi Hasan, Spatial Variation of Rainwater Quality Parameters at Khulna City of Bangladesh, Journal of Environment Pollution and Human Health, 2020, 8(2): 49-54.
- A. H. M. Shofiul Islam Molla Jamal*, Shamim Ahmed, Shakila Akter, Aynun Nahar, Rokaia Sultana, Md. Ripaj Uddin, Mehedi Hasan, Tajnin jahan, Shahnaz Sultana, "Chemistry of Pre-Monsoon and Monsoon Rain Water in Rajshahi City of Bangladesh", International Journal of Academic Scientific Research, 2(8), 2272-6446, 2020.
- Md. Ripaj Uddin, Md. Moazzem Hossain , Shakila Akter, Muhammad Edris Ali, Md. Aminul Ahsan, Assessment of some physicochemical parameters and determining the corrosive characteristics of the Karnaphuli estuarine water, Chittagong, Bangladesh, Water Science, 34(1), 164-180, 2020.
- MR Uddin, MA Ahsan, S Akter, MA Akbor, N Akter, S Ahmed, RH Bhuiyan, ME Ali, ASSESSMENT OF

SEASONAL VARIATION IN WATER QUALITY OF VARIOUS KHAL IN CHITTAGONG PORT CITY, BANGLADESH, International Journal of Technical Research & Science, V (IX): 2454- 2024, 2020.

9. Md. Ripaj Uddin, Mayeen U Khandaker*, Jainal Abedin, Nahida Akter, AHM Shofiul Islam Molla Jamal, Rokaia Sultana, Shahnaz Sultana, Mehedi Hasan, Hamid Osman, Ahmad El Askary, M. I. Sayyed, Quality assessment of the bottled and unbottled drinking water in Bangladesh, MDPI Water journal, 13(15), 2026, 2021.
10. Md. Jainal Abedin, Mayeen Uddin Khandaker, Md. Ripaj Uddin, Md. Rezaul Karim, Md. Shahab Uddin Ahamad, Md. Ariful Islam, Abu Mohammad Arif, Abdelmoneim Sulieman, Abubakr Md. Idris, PPE pollution in the terrestrial and aquatic environment of the Chittagong city area associated with the COVID-19 pandemic and concomitant health implications, Environmental Science and Pollution Research, 17859(13), 17859, 2021. <https://doi.org/10.1007/s11356-021-17859-8>
11. Md. Jainal Abedin, Mayeen Uddin Khandaker, Md. Ripaj Uddin, Md. Rezaul Karim, Md. Shahab Uddin Ahamad, Md. Ariful Islam, Abu Mohammad Arif, Abdelmoneim Sulieman, Abubakr Md. Idris; Amassing the Covid-19 driven PPE wastes in the dwelling environment of Chittagong Metropolis and associated implications, Chemosphere, 134022 (297), 2022.

Patent

Md. Ahedul Akbor, Md. Ripaj Uddin, Shamim Ahmed, Rokaia Sultana, Shahanaz Sultana, Shakila Akter, Md. Abu Bakar Siddique, Muhammad Abdullah Al Mansur and Md. Aminul Ahsan, PRODUCTION OF SAFE AND COST EFFECTIVE MINERAL WATER (Under Review).

Process

1. INARS achieved ISO/IEC 17025/IEC 17025:2017 accreditation from Bangladesh Accreditation Board (BAB) on 88 parameters of drinking water and waste water.
2. *Md. Ahedul Akbor, Md. Ripaj Uddin, Shamim Ahmed, Rokaia Sultana, Shahanaz Sultana, Shakila Akter, Md. Abu Bakar Siddique, Muhammad Abdullah Al Mansur and Md. Aminul Ahsan, PRODUCTION OF SAFE AND COST EFFECTIVE MINERAL WATER (Under Review)..*

Technology Development

Sustainable Rainwater Harvesting by UV light

Participation in Seminar/Symposium/Workshop

- **Biochemistry and Molecular Biology for Better Health, Congenial Environmental & Food Security**, 12-13 January 2013, University of Chittagong, Bangladesh
- Attended in the symposium on **“Environmental Chemistry for Securing Water Quality”** organized by Bangladesh Journal of Scientific and Industrial Research (BJSIR) on 30 July 2017 at BCSIR, Dhaka, Bangladesh.
- Day-long workshop on **“Revised ISO/IEC 17011:2017 and ISO/IEC 17025:2017 standards”** conducted by Bangladesh Accreditation Board (BAB), Dhaka, Bangladesh on 04 January, 2018 at Ministry of Industries, 91, Motijheel C/A, Dhaka-1000
- **1st International Conference on Engineering Materials and Metallurgical Engineering**, 2-24 December, 2016, BCSIR, Dhaka
- **Bangladesh Chemical Congress**, 17-19 October, 2018, University of Dhaka, Bangladesh.
- **BCSIR Congress**, 12-14 December, 2019, BCSIR, Dhaka, Bangladesh.
- International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB-2021), 11-13 March, 2021
- **Md. Ripaj Uddin** Attended and successfully completed workshop on Strengthening the Secure Management and Transport of Hazardous Chemical Wastes in Bangladesh, US Embassy, November 25-26, 2021

- **Md. Ripaj Uddin**, phenomenal and worthy oral presentation on “Drinking water’s mineral nutrients preserved the health security” at the International Congress on Healthcare and Medical Informatics held during December 13-14, 2021 in Webinar.

Job Responsibilities

- Research and Development in Inorganic, Analytical and Environmental Science
- To publish the scientific articles in peer reviewed journals.
- To supervise laboratory technical staffs to conduct commercial sample analysis.
- Maintaining ISO/IEC 17025:2017 accreditation on water quality testing parameters.
- Continual improvement of the laboratory to obtain accreditation for more testing parameters.
- Purity test of commercial sample analysis in laboratory.
- Anion, Cation and Radical Analysis by Auto Analyzer.
- Total Hardness, Negative hardness, Carbonate Hardness, Non-carbonate Hardness Total Alkalinity, Acidity, Free Carbon di oxide, Chloride determination Test of water by Titrimetric Method.
- Analyzed total element (N, C, H, O & S) by elementary analyzer
- TOC Test of water by TOC Analyzer.
- Phenolic Compound by Test of water by UV-Visible Spectrophotometer.
- NMR Testing service
- Purchasing traceable standards, chemicals, reagents and consumables
- Analyzed Heavy Metal (As, Cr, Cd, Ca, Mg, Na, K, Zn, Ni, Co, Pb, & Hg etc.) by AAS.

Industrial Visit (Home & Abroad)

Visited and experienced with the production system of:

- Paper Mill, Kalur Ghat, Chittagong.
- PHP glass industries limited, Chittagong.
- PHP steel industries limited, Chittagong.
- Royal cement industries limited, Chittagong.
- Osmania glass industries, Chittagong.
- BSRM, Chittagong.
- KAFCO, Chittagong
- Intertek bd Laboratory, Chittagong
- Panchagarh Sugar Mills Ltd.
- Kazi & Kazi Tea Estate Limited, Panchagarh.
- Saidabad Water Treatment Plant, Dhaka, Bangladesh.
- Dhaka WASA Bottled Water Production Plant “Shanti
- GPH Steel, Limited

Book Writer:

1. Perspective Hatia is the Singapore of Bangla
2. The History of Hatia

Reference:

Mayeen Uddin Khandaker, PhD

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