

**Md. Mazharul Islam**

Lecturer

Department of Chemistry

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***Short Biography***

Md. Mazharul Islam is a lecturer at the Department of Chemistry, University of Dhaka. He completed his Bachelor of Science in Chemistry in 2014 and Master of Science in 2015 in Organic Chemistry from the Department of Chemistry, University of Dhaka. He did his undergraduate project on "UV-Visible Spectrophotometric Studies for Assessment of Sodium Benzoate and Caffeine Content in Sprite Sample" and M.S. thesis on "Organochlorine compounds and Arsenic, Cadmium and Lead in marine fish samples of Bangladesh". His research interests are on environmental chemistry, analytical chemistry, natural products, medicinal chemistry, organic pollutants and contaminants in food and environment and their impact on human health. He is an expert user of some modern and high sensitive analytical instruments such as Double Beam UV-Visible Spectrophotometer (UV-Visible), Fourier-Transform Infrared Spectroscopy (FT-IR), Gas Chromatography with ECD (GC-ECD), Gas Chromatography with FID (GC-FID), High-Performance Liquid Chromatography (HPLC), Total Organic Carbon (TOC) Analyzer and Rotary Vacuum Evaporator. He has eleven research articles in different fields published in both national and international peer-reviewed journals. He obtained Dean's Award for Outstanding Accomplishment in B.S. Honours Examination in the Session 2013-2014 from the faculty of sciences, University of Dhaka.

***Academic Background***

Degree	Institution	Department/Group	Exam Year	Result
M.S	University of Dhaka	Department of Chemistry	2015	4.00/4.00
B.S	University of Dhaka	Department of Chemistry	2014	3.78/4.00
H.S.C	Rangpur Govt. College, Rangpur	Science	2009	5.00/5.00
S.S.C	Shalmarā B.L. High School, Rangpur	Science	2007	5.00/5.00

***Experience***

Company Name	University of Dhaka
Position	Lecturer
Department	Department of Chemistry
Duration	From 4 <sup>th</sup> October 2018 to Present

### *Research Work*

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<b>Undergraduate Project</b>	UV-Visible Spectrophotometric Studies for Assessment of Sodium Benzoate and Caffeine Content in Sprite Sample.
<b>M.S. Thesis</b>	Organochlorine compounds and Arsenic, Cadmium and Lead in marine fish samples of Bangladesh.

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### *Publications*

1. Mohammad Shoeb, Md. Mafizul Islam, Md. Shahed Reza, Nilufar Nahar, **Md. Mazharul Islam** (2022). HPLC analysis of artificial preservatives, stimulants and sweeteners in carbonated beverages in Bangladesh. *Current Research on Biosciences and Biotechnology*, e-ISSN 2686-1623, DOI: 10.5614/crbb.2022.3.2/2V2BWDB5, 3 (2), 215-221.
2. Sharmin Shahjahan, Fouzia Ahmed Anny, Mohammad Shoeb, Md. Mizanur Rhaman, **Md. Mazharul Islam**, Md. Iqbal Rouf Mamun (2021). Assessment of quality of paracetamol and ranitidine drugs by spectroscopic studies. *Asian Journal Of Pharmacognosy*, eISSN-0128-1119, 5(3), 72-79.
3. Fajilatun Nesa, Mohammad Shoeb, **Md. Mazharul Islam** and Md. Nazrul Islam (July 2021). Studies of Physico-chemical Properties and Cytotoxicity of Fruits of *Syzygium jambos* L. against HeLa and Vero Cell Lines. *Bangladesh Pharmaceutical Journal*, doi: <https://doi.org/10.3329/bpj.v24i2.54709>, 24(2), 111-116.
4. **Md. Mazharul Islam**, Md. Hossan Sohid Shoraoardy Bhuiyan, Rakibul Islam, Mohammad Shoeb, Md. Iqbal Rouf Mamun and Md Hafizur Rahman (January 2021). Physicochemical Properties and Metal Ions in Water and Sediment of the Dhaleshwari River. *The Dhaka University Journal of Science*; doi: <https://doi.org/10.3329/dujs.v69i1.54622>, ISSN 1022-2502 (Print) 2408-8528 (Online), 69(1), 37-42.
5. Mohammad Shoeb, Md. Farhanul Alam, **Md. Mazharul Islam**, Nargis Parvin, Md. Nazrul Islam and Md. Iqbal Rouf Mamun (January 2021). Assessment of Quality of Azithromycin, a Macrolide Antibiotic by NMR Spectroscopy. *Bangladesh Pharmaceutical Journal*; doi: <https://doi.org/10.3329/bpj.v24i1.51634>, 24(1), 37-44.
6. Polash Nandi, **Md. Mazharul Islam**, Abida Sultana, Mohammad Shoeb (July 2020). Physicochemical Properties and Pesticide Residues in Okra Fruits (*Abelmoschus esculentus* L.). *The Dhaka University Journal of Science*; ISSN 1022-2502 (Print) 2408-8528 (Online), 68 (2), 155-160.
7. Rifat Hasan Apurba, Khandaker Hasif Ahmed, Mohammad Shoeb and **Md. Mazharul Islam** (January-June, 2019). Fatty acid compositions in marine fish samples from kuakata sea beach. *Journal of Bangladesh Chemical Society*; ISSN: 1022-016X, 31(1), 40-45.

8. **Md. Mazharul Islam**, Mohammad Shoeb, Robiul Islam and Nilufar Nahar (2018). Heavy Metals Contamination in Marine Fish Samples of Bangladesh. *Journal of Food & Nutritional Sciences*; doi: <https://doi.org/10.1057/jfns000002>, 1(1), 4-11.
9. **Md. Mazharul Islam**, Robiul Islam, Mohammad Shoeb and Nilufar Nahar (2018). Organochlorine Compounds in Marine Fish Samples of Bangladesh. *Journal of Food Science and Engineering*; doi: 10.17265/2159-5828/2018.01.004, 8, 83-90.
10. Robiul Islam, **Md. Mazharul Islam**, Mohammad Shoeb and Nilufar Nahar (2018). Fatty Acid Compositions in Marine Fish Samples of Bangladesh. *Journal of Nutrition & Food Sciences*; doi: 10.4172/2155-9600.1000723, ISSN: 2155-9600, 8 (4).
11. Abida Sultana, Robiul Islam, **Md. Mazharul Islam**, Mohammad Shoeb and Nilufar Nahar (2016). Study of Preservatives and Stimulants in Commercial Soft Drinks. *Bangladesh Pharmaceutical Journal*; doi: 10.3329/bpj.v19i1.29241, 19(1), 68-74.

### *Students Supervision (Direct)*

1. **Anika Haidar**, B.S, Roll-35609 (2016-2017), Quality Assessment of Commercial Bottled Drinking Water by Using Physicochemical Parameters, Heavy Metals and Microbial Analysis (Contribution: Supervisor).
2. **Habiba Khatun**, B.S, Roll-35651 (2016-2017), Quality Assessment of Bottled Drinking Water by Physicochemical Properties, Metal Ions and Microbial Analysis (Contribution: Supervisor).
3. **Tasnum Rahman**, B.S, Roll-35684 (2016-2017), Analysis of Water Pollution by Physicochemical and Microbiological Parameters: A Study of Dhaleshwari River (Contribution: Supervisor).
4. **Fajilatun Nesa**, B.S, Roll-2250 (2015-2016), Chemical and Biological Activity Studies of *Syzygium jambos* L. (Contribution: Supervisor).
5. **Raju Ahammad**, B.S, Roll-2216 (2015-2016), Investigation of DDTs in Poultry Feed Samples (Contribution: Co-Supervisor).
6. **Mithila Farzana Mumu**, B.S, Roll-2248 (2015-2016), Analysis of Water Quality Parameters in Samples Collected from Rohhingya Camp (Contribution: Co-Supervisor).
7. **Md. Sefiatulla Ridoy**, M.S, Roll-907 (2018-2019), Chemical and Biological Activity Studies of *Annona squamosa* (Contribution: Co-Supervisor).
8. **Khandoker Tahmina Tasnim**, M.S, Roll-5120 (2017-2018), Study of Microplastics, Organochlorine Pesticides, Heavy Metals and Fatty Acid Compositions in Freshwater Fish Samples (Contribution: Co-Supervisor).
9. **Sunjida Akter**, M.S, Roll-5119 (2017-2018), Study of Organochlorine Pesticides, Microplastics, Heavy Metals and Fatty Acid Compositions in Marine Fish Samples (Contribution: Co-Supervisor).

10. **Md. Farhanul Alam**, M.S, Roll-5106 (2017-2018), Assessment of Quality of Azithromycin, a Pharmaceutical Drug (Contribution: Co-Supervisor).

### *Students Supervision (Indirect)*

1. **Aporupa Abeazom Zom Urmi**, B.S, Roll-35612 (2016-2017), Analysis of Water Quality Parameters of the Dhaleshwari River.
2. **Sharmin shahjahan**, B.S, Roll-2244 (2015-2016), Assessment of Quality of Ranitidine, a Pharmaceutical Drug by Spectroscopic Studies.
3. **Fouzia Ahmed Anny**, B.S, Roll-2256 (2015-2016), Assessment of Quality of Paracetamol, an Analgesic Drug by Spectroscopic Studies.
4. **Nowshen Shiyara**, M.S, Roll-909 (2018-2019), Assessment of Fatty Acid Compositions, Organochlorine Pesticides, Microplastics and Heavy Metals in Fish Samples from Meghna River.
5. **Tajnin Jahan**, M.S, Roll-913 (2018-2019), Investigation of Fatty Acid Compositions, Organochlorine Pesticides, Heavy Metals and Microplastics in Freshwater Fish Samples.
6. **Tasfia Tahsin Mim**, M.S, Roll: 914 (2018-2019), Assessment of Quality of Omeprazole and Ciprofloxacin drugs by Spectroscopic methods.
7. **Munmun Naz**, M.S, Roll: 908 (2018-2019), Assessment of quality of Metronidazole and Amoxicillin drugs by spectroscopic studies.

### *Courses (Teaches on)*

CMG	100	Fundamentals of Chemistry
CMGL	101	General Chemistry Laboratory
CHL	324	Organic Chemistry Laboratory II (4 Credits)
CH	461	Organic Process Industries (3 Credits)
CH	483	Synthetic Organic Polymer (2 Credits)
ORG	522	Advanced Stereochemistry (3 Credits)

### *Research Skill*

- ▶ Method development in GC-ECD for the analysis of organochlorine and organophosphorous pesticides in food and environmental samples.
- ▶ Method development in GC-FID for the analysis of poly-aromatic hydrocarbons (PAH) and fatty acids in food and environmental samples.
- ▶ Quantitative analysis of artificial preservatives and stimulants in processed foods using UV-Visible spectrophotometer.
- ▶ Analysis of natural products, drugs and other target compounds using FT-IR spectrophotometer.
- ▶ Analysis of drugs quality using HPLC.

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- ▶ Quantitative analysis of artificial sweeteners and preservatives using HPLC.
  - ▶ Chemical and biological activity studies of natural products.
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### ***Research Project Direction***

- 1. Name of the Project:** Providing special research grants from the "Science and Technology Program" sector of the Ministry of Science and Technology in the fiscal year 2021-2022.  
**Project Title:** Assessment of Emerging Chemical Contaminants in Surface Water of the Meghna, Shitalakshya and Turag Rivers  
**Contribution:** Associate Investigator  
**Amount:** BDT 3,00,000/=
- 2. Name of the Project:** Research project supported by Bangladesh University Grants Commission (UGC) in the financial year of 2019-2020.  
**Project Title:** Chemical and Biological Activity Studies of *Syzygium jambos* (Rose Apple)  
**Contribution:** Director  
**Amount:** BDT 88,000/=

### ***Seminar Attended (Selected)***

- 1. Seminar on Food, Health and Environment for Sustainable Development**, 9<sup>th</sup> February 2022. Organized by BAN:04, a research group in the Department of Chemistry, University of Dhaka supported by International Science Programme (ISP), Uppsala University, Sweden.
- 2. Webinar on Two fluids Plasma Models for the Generation of Seed Magnetic Field and Astrophysical Jets by Prof. Dr. Hamid Saleem**, 24<sup>th</sup> March 2021. COMSTECH the Ministerial Standing Committee on Scientific and Technological Cooperation of the OIC. Islamabad, Pakistan.
- 3. International Webinar on Covid-19 Vaccines**, on February 12, 2021. Lorestan University of Medical Sciences, Iran and BAN:04 Research Group Department of Chemistry University of Dhaka, Bangladesh.
- 4. International Conference on Recent Advances in Chemistry (ICRAC)**, 07-08 February 2020, Department of Chemistry, Jagannath University, Dhaka-1100, Bangladesh. Oral Presentation: Quantitative Analysis of Preservatives and Artificial Sweeteners by HPLC in Commercial Fruit Juice.
- 5. International Seminar on Food, Health and Environment**, 6<sup>th</sup> February 2020, Department of Chemistry, University of Dhaka, Dhaka-1000, Bangladesh. Oral Presentation: Analysis of Preservatives and Artificial Sweeteners by HPLC.
- 6. Plastic free week challenge and Plogging**, 15-21 July 2019, Department of Chemistry and department of Botany, University of Dhaka, Dhaka-1000, Bangladesh.

7. **Bangladesh Chemical Congress 2018 (BCC2018)**, 17-19 October 2018, Department of Chemistry, University of Dhaka and Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, Dhaka-1000, Bangladesh. Poster Presentation: Bioaccumulation and Potential Human Health Risk of Heavy Metals in Marine Fish Samples of Bangladesh.
8. **Bangladesh Chemical Congress 2018 (BCC2018)**, 17-19 October 2018, Department of Chemistry, University of Dhaka and Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, Dhaka-1000, Bangladesh. Poster Presentation: Organochlorine Compounds in Marine Fish Samples of Bangladesh.
9. **16th Asian Chemical Congress**, 16-19 March 2016, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh. Poster Presentation: UV-Visible Spectrophotometric Studies for Assessment of Sodium Benzoate and Caffeine Content in Sprite Sample.
10. **One Day Symposium on Food Safety and Quality for Better Health**, 07 August 2017, MHK Biggan Bhaban (Room No. 300), University of Dhaka, Dhaka-1000, Bangladesh. Oral Presentation: Toxic Metals in Marine Fish samples Of Bangladesh.
11. **Symposium On Environmental Chemistry for Securing Water Quality**, 30 July 2017, Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhanmondi, Dhaka-1205, Bangladesh. Poster Presentation: Organochlorine Compounds and Toxic Metals in Marine Fish Samples of Bangladesh.
12. **Regional Seminar on Chemical Safety and Security Management**, 18-20 October 2016, Radisson Hotel, Dhaka, Bangladesh. Organized by OPCW & BNACWC.
13. **12<sup>th</sup> ANRAP National Seminar on “Antidiabetic Plant Materials: Separation Techniques and Biological Testing”**, 22 July 2017, Bangladesh University of Health Sciences (BUHS), Dhaka, Bangladesh.
14. **International seminar on chemical contaminants in food**, 20 March 2016 (Sunday), MHK Biggan Bhaban (Room No. 300), University of Dhaka, Dhaka-1000, Bangladesh.
15. **International Seminar on Computational Chemistry and Sustainable Development in Bangladesh**, 09 April 2016, Dean Office (Faculty of Science), University of Dhaka, Dhaka-1000, Bangladesh.
16. **Cancer Nanomedicine**, 09 October 2016, MHK Biggan Bhaban (Room No. 164), University of Dhaka, Dhaka-1000, Bangladesh.
17. **1st Symposium on Chemistry for Global Solidarity**, 14 October 2016, Central Auditorium, Jagannath University, Dhaka-1100, Bangladesh.

### ***Workshop/Training (Attended)***

1. 78<sup>th</sup> training programme of NITUB on the “**use, maintenance and trouble shooting of Gas Chromatography (GC)**”. 27-31 March 2022. Participated as a resource person. Conducted by Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB), Venue:

Department of Chemistry and Centre for Advanced Research in Sciences, University of Dhaka, Dhaka-1000, Bangladesh.

2. Remote training on “**Chemical Security best practices for personnel working in Chemical & Pharmaceutical Industries and Chemical Laboratories of Bangladesh**”. March 15 - 17, 2022. Dhaka-1000, Bangladesh.
3. Bangladesh-US Training Program (Virtual) on “**Strengthening Chemical Security and Secured Chemical Management at Different Public and Private Sectors in Bangladesh**”. November 25-26, 2021. Dhaka-1000, Bangladesh.
4. 72<sup>nd</sup> training programme of NITUB on the “**use, maintenance and trouble shooting of Gas Chromatography (GC)**”. 24-29 January 2019. Conducted by Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB), Venue: Department of Chemistry and Centre for Advanced Research in Sciences, University of Dhaka, Dhaka-1000, Bangladesh.
5. **Industrial Process Unit Operation & Process Control**. 23 November -19 December 2013. Conducted by Operation and Process control Technology Department (OPTD), TICI (Training Institute for Chemical Industries), Polash, Narshingdi-1611, Bangladesh.

### *Professional Membership*

1. Network of Instrument Technical Personnel and User Scientists of Bangladesh (NITUB); A Network Supported by International Science Programme (ISP), Uppsala University, Sweden (LM-226).
2. Dhaka University Chemistry Alumni Association (DUCAA) (Life Member).

### *Instrumental Skill*

- Double Beam UV-Visible Spectrophotometer (Model: UV-1800, Shimadzu)
- Fourier-Transform Infrared Spectroscopy (FT-IR; Model: IRPrestige-21, Shimadzu)
- Gas Chromatography with ECD (Model GC-2010, Shimadzu)
- Gas Chromatography with ECD (Model GC-2030, Shimadzu)
- Gas Chromatography with FID (Model: GC- 2025, Shimadzu)
- High-Performance Liquid Chromatography (HPLC-PDA; Shimadzu, Model: LC-2030C 3D Plus)
- High-Performance Liquid Chromatography (HPLC-PDA; Shimadzu CTO 10 ASVP)
- Liquid Chromatography Mass Spectrometry (LC-MS/MS, Shimadzu LCMS-8050)
- Total Organic Carbon (TOC) Analyzer (Model: TOC-L CPH, Shimadzu)
- Rotary Vacuum Evaporator, Heidolph, Germany



## *Computer Literacy*

General Software	Microsoft office (2007 & 2010) Microsoft Office Excel (2007) Microsoft Office Powerpoint (2007)
Application Software	Sigmaplot 10 Chemdraw

## *Award*

1. Dean's Award for Outstanding Accomplishment in B.S. Honours Examination in the Session 2013-2014.
2. Award from "Daily Prothom Alo" for getting GPA 5.00 in Secondary School Certificate (S.S.C.) examination.
3. Award from "Daily Prothom Alo" for getting GPA 5.00 in Higher Secondary Certificate (H.S.C.) examination.

## *References*

**Dr. Md. Iqbal Rouf Mamun**  
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*Mazharul*

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