

## MD. MONARUL ISLAM

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Office: Synthesis Laboratory, Chemical Research Division, BCSIR Dhaka Laboratories  
Bangladesh Council of Scientific & Industrial Research (BCSIR)  
Dr. Qudrat-I-Khuda Road, Dhaka-1205, Bangladesh

### Education

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Ph. D. in Chemistry (Advanced Organic Materials) Saga University, Japan	2015
M. S. in Chemistry University of Dhaka, Bangladesh	2006
B. S. in Chemistry University of Dhaka, Bangladesh	2004

### Professional Experience

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#### Senior Scientific Officer

Chemical Research Division, BCSIR Dhaka Laboratories  
Bangladesh Council of Scientific & Industrial Research (BCSIR)

July 2017 to Present

#### Postdoctoral Research Associate

Guangdong University of Technology (GDUT)  
Guangzhou, Guangdong, China.

October 2018 to September 2019

#### Scientific Officer

Chemical Research Division, BCSIR Dhaka Laboratories  
Bangladesh Council of Scientific & Industrial Research (BCSIR)

December 2009 to July 2017

### Technical Skill and Competences

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Organic Synthesis, Advanced Organic Materials, Organometallic complex, Biological Active Materials, Analytical Chemistry, Chitin & Chitosan Polymer, Active Pharmaceutical Ingredient (API) synthesis, Theoretical Chemistry etc.

### Skills on Research Tools & Techniques

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- UV, FT-IR, PL, HPLC, GC, NMR, XRD, SEM, TGA/DSC, MASS, Chromatography, etc.

## Research Grants (Selected)

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Principal Investigator	Synthesis, Photophysical and Biological study of pyrimidine Schiff base derivatives (MOST SRG-226626, 2022-23).
Principal Investigator	Synthesis and biological studies of diamine based Schiff-base derivatives (MOST ID-460-1796, 2020-21)
Principal Investigator	Synthesis of chitin-based derivatives for pharmaceutical uses (MOST 50PHY'S/387, 2016-17)
Principal Investigator	Process development of active pharmaceutical ingredients for industrial uses (Special R&D, 2024-25)

## Publications (Selected, Last 3 years)

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- R. Islam, F. T. Zohora, **M. M. Islam**, F. Nesa, R. Akter, P. E. Georghiou, S. Rahman, A. N. Alodhayb, and M. S. Hossain, "Method Validation for Quantification of Anthracene and Pyrene by UV-Vis spectroscopy: experimental and theoretical Study" *Environ. Monit. Assess.* **2026**, 198, 38.
- S. Li, X. Chen, J. Li, T. Jiang, W. Liu, K. Yan, J. Chen, **M. M. Islam**, C. Redshaw, X. Feng "The effect of molecular flexibility on the optical properties of triphenylamine/benzocarbazole-decorated tetrakis-substituted pyrene-based blue emitters" *Tetrahedron*, **2026**, 190, 135042.
- R. Akter, **M. M. Islam**, M. W. Islam, T. Akter, M. H. Ali, F. Nesa, S. Rahman, A. N. Alodhayb and P. E. Georghiou, "Recent Developments in the Biological Consequences of Certain Chalcone Derivatives" *ChemistrySelect*, **2025**, 10, e03482.
- R. Akter, **M. M. Islam**, M. W. Islam, T. Akter, T. Paul, M. M. Rahman, M. T. Uddin, S. Rahman, A. N. Alodhayb and P. E. Georghiou, "Extraction procedure and theoretical studies of chitin from black soldier fly" *J. Polym. Res.*, **2025**, 32, 48.
- M. E. Hosen Pk., **M. M. Islam**, R. Akter, F. Nesa, M. M. Rahman, T. Paul, S. Mustafi, M. R. Karim, S. Rahman, A. N. Alodhayb, E. S. Vasquez-Guardado and H. Albrithen, "Carboxymethyl Chitosan-based Biodegradable Films Preparation and Prospects for Food Preservation" *ChemistrySelect*, **2025**, 10, e202404675.
- **M. M. Islam**, B. Sharma, C.-Z. Wang, S. Rahman, A. N. Alodhayb, P. E. Georghiou, M. R. J. Elsegood and T. Yamato, "Synthesis, Conformational Properties and DFT Computational Studies of [3] Metacyclo [3](1, 3) pyrenophanes" *ChemistrySelect*, **2024**, 9, e202401809.
- Z. Xie, S. Li, W. Liu, K. Yan, T. Jiang, Y. Liu, **M. M. Islam**, X. Feng, "An Efficient Approach to Narrow the Emission Band of Pyrene-based Emitters" *Chin. J. Org. Chem.* **2024**, 44, 2504–2512.
- M. W. Islam, **M. M. Islam**, R. Akter, T. R. Limon, E. S. Vasquez, M. A. A. Shaikh and A. Habib "A review on pyrimidine-based derivatives: Synthesis and their biological application" *J. Heterocycl. Chem.*, **2024**, 61, 1159–1179.
- M. W. Islam, R. Akter, **M. M. Islam**, R. Islam, A. H. M. S. I. M. Jamal, A. Chowdhury, F. T. Zohora, S. Rahman, A. Alodhayb, S. R. Rony, T. R. Limon, M. A. A. Shaikh, A. Habib and P. E. Georghiou "Synthesis, antibacterial, antioxidant and DFT computational studies of acetophenone-based chalcone derivatives" *ChemistryAfrica*, **2024**, 7, 1803–1806.
- S. Yu, S. Li, Z. Xie, W. Liu, **M. M. Islam**, C. Redshaw, M. J. Cao, Q. Chen and X. Feng "New pyrrolo[3,2 b]pyrroles with AIE characteristics with dichloromethane and chloroform molecules detection" *Luminescence*, **2024**, 39, e4594.

## Conference Presentations (Selected)

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- Invited Lecture on "Synthesis of Pyrimidine Derivatives: Biological Study and Molecular Docking" 1st International Conference on Science and Humanities for Sustainable Development (ICSHSD- 2025). Organized by faculty of science, DUET, Bangladesh, 23-24th October, 2025.
- Invited talk on "Chitosan–A Promising Biomaterial for Biological Application" in a BCSIR, Bangladesh–CSIR, India joint symposium organized by organized by BCSIR at Dhaka, Bangladesh, 30-31 May, 2023.
- Invited Lecture on "Schiff-base Derivatives: Synthesis and Application" at BCSIR Congress-2022 organized by BCSIR, Bangladesh, 01-03 December, 2022.
- Invited Lecture on "Pyrene-based Aggregation-induced Emission (AIE) Luminogens" organized by Institute of Biomedical and Health Engineering and IEEE Engineering in Medicine and Biology Society Shenzhen Chapter 16 July, 2019, SIAT-CAS, Shenzhen.
- ACS Materials Letters Summit Series, 16 May, 2019 South China University of Technology (SCUT), Guangzhou, China.

## Thesis Supervision

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- Supervised about 20 M.S theses students from different universities of Bangladesh.

## Professional Memberships (Selected)

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- Life Member, Bangladesh Chemical Society (BCS, LM-1494).
- Founding Member, National Young Academy of Bangladesh (NYAB).
- Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB, LM-79).
- Japanese Universities Alumni Association In Bangladesh (JUAAB, LM-1423)
- Founding Convener, Young Scientist Committee, BCSIR (2018).
- Bangladesh Association for the Advancement of Science (BAAS, LM-267).
- BCSIR Scientist Association.
- Dhaka University Chemistry Alumni Association (DUCAA, LM-144).

## Professional Trainings (Selected)

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- “Training on Research Methodology and Publication” organized by BCSIR Dhaka Laboratories, May 21, 2025.
- Workshop on “Creating an ironic innovation ecosystem in the context of intellectual property policies and determining potential strategies to encourage innovation” organized by Department of Patents, Designs & Trademarks (DPDT), Bangladesh held on 07 June 2023.
- “Basic Application and Maintenance of XRD” organized by BCSIR Dhaka Laboratories held on 15 December, 2022.
- “Basic Principle, Application and Maintenance of Raman Spectroscopy” organized by BCSIR Dhaka Laboratories held on 14 December, 2022.
- Training on “Dilute Solution Viscometry Using Automated Micro-Viscometer” organized by BCSIR

Dhaka Laboratories held on 08 March, 2022.

- 77th Training programme of NITUB on the “use, maintenance and trouble-shooting of nuclear magnetic resonance (NMR) spectroscopy” organized by Network of Instrument Technical personnel and User scientists of Bangladesh (NITUB) at Institute of National Analytical Research and Service (INARS), BCSIR, Dhaka, December 19-23, 2021.
- Bangladesh-US Training Program (Virtual) on Strengthening Chemical Security and Secure Chemical Management at Different Public and Private Sectors in Bangladesh, November 25-26, 2021.
- Gas Chromatography-MASS Spectrometry (GC-MS) organized by Central Analytical and Research Facilities (CARF), Dhaka held from 14 to 18 November, 2021.
- Training on “ISO 17025 and method validation” organized by BCSIR Laboratories Dhaka held on 31 August, 2021.
- Training on “Project Appraisal, EIA and Formulation of DPP” organized by National Academy for Planning and Development (NAPD) at Dhaka held from 25 July to 12 August, 2021.

## Awards

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Junior High School Scholarship, University Provost Award, Japanese Government Scholarship (Monbukagakushu: MEXT), Talented Young Scientists Program (TYSP) Fellow, PR China.

## Author

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A book “Fundamentals of Acyclic Organic Chemistry” **2026** (ISBN: 978-984-35-8680-3) for undergraduate students.

## References

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Available up on request

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