TABINDA ISLAM, PhD

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Career Summary

I am an early-career researcher specialising in comparative neuroendocrinology with a rapidly advancing research trajectory, having completed a fully funded PhD at Queen Mary University of London (QMUL). My research has made original contributions to our understanding of the evolution and function of kisspeptin-type signalling by integrating molecular biology, *in vitro* pharmacology, cell-based receptor deorphanisation, bioinformatics, and *in vivo* physiology. This work has resulted in high-quality peer-reviewed publications, with additional manuscripts in preparation, and has gained international recognition through oral presentations at prominent UK and international scientific conferences. I contributed to the UK research environment through undergraduate co-supervision, laboratory teaching, public engagement, and service as a member of the Early Career Researcher Subcommittee of the British Society for Neuroendocrinology. My experiences in academia, pharmaceutical R&D and a UK doctoral degree provides a robust foundation for developing research independence and translational impact. My profile demonstrates clear potential to establish myself as an independent future leader in international research and innovation landscape.

Education

Doctor of Philosophy (PhD)
2022-2026

Queen Mary University of London, UK
Thesis Title: Functional characterization of kisspeptin-typesignalling in an echinoderm. **Obtained Result: Awarded**; PhD supervisor: Prof. Maurice R Elphick.
Thesis summary: Kisspeptins are evolutionarily ancient neuropeptides that regulate the onset of puberty and reproductive function in humans and other vertebrates. However, little is known about the physiological roles of kisspeptin-type signalling in invertebrates. The aim of this project was to functionally characterise kisspeptin-type signalling and discover ligands for orphan kisspeptin-type receptors in the starfish Asterias rubens using a wide range of techniques, including cell culture-based receptor deorphanisation assays.

Diploma of Researcher Development (2022-2026)
In recognition of completion of Researcher Development Programme.
Awarding Institute: **Queen Mary University of London, UK**

Master of Science (MSc)
2015-2016

Molecular Biology with Biotechnology, **Bangor University, Bangor, United Kingdom.** Obtained Result: **Distinction**
Project Title: Analysis of Sphagnum phenylalanine ammonia lyase (PAL) gene expression in response to various pH and exogenous cinnamic acids -a PCR directed molecular biology study.

Master of Pharmacy
2012-2013

Pharmaceutical Technology and Biopharmaceutics, North South University, Bangladesh. Obtained Result: **cGPA 4.00 (scale: 4.00)** Project Title: Dissolution enhancement of Aceclofenac bulk powders using various carriers by different solid dispersion techniques.

Bachelor of Pharmacy
2007-2011

North South University, Bangladesh
Obtained Result: **cGPA 3.58 (scale: 4.00)**
Project Title: Formulation development and *in vitro* characterisation of Aceclofenac and Baclofen mouth dissolving tablets.

Professional Experiences (Academic teaching and supervision)

Assistant Professor May 2026-Present	Department of Pharmaceutical Sciences, North South University (NSU), Dhaka-1229, Bangladesh. Responsibilities: Teaching undergraduate taught and practical modules, supervision of undergraduate project students, question setting and marking scripts.
Co-supervision and Training Sept 2022-Jan 2025 (QMUL)	As a PhD student in the School of Biological and Behavioural Sciences (SBBS) at QMUL, I have co-supervised biology and biomedical undergraduate project students to carry out their final-year research project in the Elphick lab.
Teaching Lab (Demonstration) 2022-2026 (QMUL)	I am experienced as a demonstrator in the School of Biological & Behavioural Sciences teaching lab at QMUL and in the QMUL-Nanchang University joint Summer School.
Lecturer 2018-2021 Senior Lecturer, 2022-present Administrative role: Faculty advisor, 2021	Department of Pharmaceutical Sciences, North South University (NSU), Dhaka-1229, Bangladesh. Responsibilities: Teaching undergraduate taught and practical modules, supervision of undergraduate project students, question setting and marking scripts. As a faculty advisor, I lead and represented the NSU Pharmaceutical Club to the wider university community.

Teaching Recognition in UK Higher Education (HE)

Completed QMUL Postgraduate Research Educator Programme (**PREP**) after successfully completed the following four modules.
Teach Your First Session (TYFS): A full-day introduction to active learning and inclusive practice at Queen Mary
How Students Learn: A two-hour session outlining the four main learning theories and the Queen Mary Active Curriculum for Excellence (ACE) education approach.
Effective Feedback for Summative Assessment: For PGR / early-career educators involved with marking taught student assignments.
Supervising Students' Academic Work: For PGRs supervising dissertations or coursework on taught programmes.

Professional Experiences (Industrial)

Officer, Quality control Jun 2015-Sept 2015	**Novartis (Sandoz Division) Bangladesh Limited, Dhaka-1700, Bangladesh** In this role, I was responsible for doing pharmaceutical raw material analytical investigation.
Senior Officer, R&D Nov 2014-Jun 2015	**Renata Limited, Dhaka-1216, Bangladesh** In this role, I was responsible for stability analysis of pharmaceutical formulations.
Officer, R&D Apr 2013-Oct 2014	**Incepta Pharmaceuticals Limited, Dhaka-1340, Bangladesh** In this role, I performed analytical method validation, method transfer including intermediate validation, comparative dissolution studies between generic and innovators, standardisation of working standards, preparation of standard testing protocol with GMP compliance.

List of Recent Publications

1. **Islam**, **T.**, Escudero Castelán, N., Elphick, M.R. Gene synteny reveals a novel kisspeptin-type signalling system (Submitted in PNAS).
2. **Islam, T.,** Yañez-Guerra, L.A., Semmens, D.C., Beskeen, R.T. Egertová, M., Elphick, M.R. (2026) Evolution of neurohormone function revealed by actions of kisspeptin-type peptides in an

echinoderm. *BMC Biology*; https://link.springer.com/article/10.1186/s12915-026-02555-1

3. **Islam, T.,** Escudero Castelán, N., Jones, K., Sun, Z., Elphick, M. R. (2025) Identification of peptide ligands for orphan GPCRs by measuring Ca^{2+}-induced luminescence in transfected cells, *BMG Labtech, The microplate reader company, application note* 403. https://www.bmglabtech.com/en/application-notes/identification-of-peptide-ligands-for-orphan-gpcrs-by-measuring-ca2-induced-luminescence-in-transfected-cells/
4. Lamia, S.S.; Emran, T.; Rikta, J.K.; Chowdhury, N.I.; Sarker, M.; Jain, P.; **Islam, T**.; Gias, Z.T.; Shill, M.C.; Reza, H.M. (2021) Coenzyme Q10 and Silymarin Reduce CCl4-Induced Oxidative Stress and Liver and Kidney Injury in Ovariectomized Rats Implications for Protective Therapy in Chronic Liver and Kidney Diseases. *Pathophysiology* 28, 50–63. DOI: 10.3390/pathophysiology28010005
5. **Tabinda Islam**, Nusrat Hossain, Mohsina Rahman, Sadia Shabnam, Eyasmin Chowdhury, Syeda Tahsin Nahar, Zarin Tasnim Gias and Hasan Mahmud Reza: 2020, Study of Release-Retardant Polymers in Formulation Development of Cinnarizine-HCl Sustained-release Oral Suspension using Raft Technology, Dhaka University Journal of Pharmaceutical Sciences 19(1): 1-10; 2020
6. **Tabinda Islam**, Samina Ferdous, Preeti Jain and Hasan Mahmud Reza: 2013, Method Development and Validation of Baclofen Mouth Dissolving Tablets by UV Spectroscopy. European Journal of Applied Sciences 5 (1): 07-11; 2013
7. Hasan Mahmud Reza, Tabinda Islam, Mohammad Sohel and Preeti Jain: 2012, Formulation Design and Evaluation of Baclofen Mouth Dissolving Tablets. European Journal of Applied Sciences 4 (3): 110-116; 2012
8. Hasan Mahmud Reza, **Tabinda Islam**, Mohammad Shohel and Preeti Jain: 2012, Formulation Development of Taste Masked Aceclofenac Orodispersible Tablets. American-Eurasian Journal of Scientific Research 7 (6): 257 -263; 2012

Conferences proceedings and Travel grants

1. **British Society for Neuroendocrinology (BSN)**, August 30-September 3, 2025, Bradford, UK. Oral presentation: New perspectives on the evolution of kisspeptin signalling revealed by opposing actions of kisspeptin-type neuropeptides derived from different precursors in an echinoderm. Funding: ECR travel grant for UK members; **£200**.
2. **International conference: 19th International Congress of Comparative Endocrinology (ICCE19)**, July 8– July 13, Sendai, Japan. Oral presentation: Functional characterisation of kisspeptin-type signalling in an echinoderm; Poster presentation- Novel cyclic neuropeptide is the ligand for a kisspeptin-type receptor in an echinoderm. Funding: **Queen Mary University of London Postgraduate Research Fund (PGRF)**, **£1500** and **ICCE19 travel grant**,**150,000 JPY**.
3. **International conference: EMBO Workshop** on Neuropeptides and behavioural flexibility, 5 – 8 December 2024, NISER-Bhubaneswar, India. Oral presentation: Functional characterisation of kisspeptin-type signalling in an echinoderm (attended virtually).
4. **British Society for Neuroendocrinology (BSN),** June 30-July 3, 2024, Aberdeen, Scotland. Poster presentation: Novel cyclic neuropeptide is the ligand for a kisspeptin-type receptor in an echinoderm. Funding: ECR travel grant for UK members; **£150**.
5. **British Society for Neuroendocrinology (BSN),** September 4 - September 6, 2023, Exeter, England Poster presentation: Functional characterisation of kisspeptin-type signalling in an echinoderm. . Funding: QMUL SBBS travel grant fpr PGR students; **£340**.

International Presentations

1. Oral presentation in **EED seminar series** (**2024**), a 30-minute talk titled- "Functional characterisation of kisspeptin-type signalling in an echinoderm", department of Biology at QMUL.
2. Oral presentation-Functional characterisation of kisspeptin-type signalling in an echinoderm-presented at the School of Biological and Behavioural Sciences **third-year postgraduate research symposium**, Queen Mary University of London, **March 2024**, London, United Kingdom
3. Poster presentation-Functional characterisation of kisspeptin-type signalling in an echinoderm-

presented at the School of Biological and Behavioural Sciences **second-year postgraduate research symposium,** Queen Mary University of London, **March 2023**, London, United Kingdom

4. Oral presentation- Analysis of *Sphagnum* phenylalanine ammonia lyase (PAL) gene expression in response to various pH and exogenous cinnamic acid concentrations-presented at the **Nara Institute of Science and Technology** during the internship programme. **January 2019, Nara, Japan.**
5. Oral presentation in "Role of DNA Methylation in human cancer" at the North West Cancer Research Fund Institute and School of Medical Sciences, Bangor University, January 2016, Bangor, North Wales, United Kingdom.

Current International Affiliation

ECR Subcommittee member, British Society for Neuroendocrinology (BSN), September 2025-Present. Serving as a local conference (**ECR Annual meeting, 2026, Manchester, United Kingdom**) organiser (Duty: Abstract review, preparation of annual video methodology article, conducting routine ECR committee activities).

Research/Technical Skills

Behavioural & In-vivo Research

- Designed and conducted in-vivo behavioural assays (locomotion, feeding, reproductive and righting behaviour)
- Handling and experimental use of animal models, starfish and mammalian disease models (e.g., Collagen-induced arthritis rat models)

Cellular & Molecular Neuroscience

- Cell culture: transformation, transfection, and receptor cloning (including GPCRs and chimeric G-proteins)
- Functional receptor characterisation using Ca^{2+}-dependent luminescence assays (FLUOstar Omega, VANTAstar®)
- RT-PCR, cDNA synthesis, and gene expression analysis; DNA/RNA extraction, cloning, and plasmid preparation (mini–maxi prep)

Histology, Imaging & Functional Analysis

- Tissue processing: fixation, sectioning, and probe synthesis for in-situ hybridisation
- Immunohistochemistry and whole-mount staining for spatial expression analysis
- Microscopy and image analysis (ImageJ/Fiji) for assessment of expression patterns
- Protein-level validation using ELISA, Western blot, and dot blot

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Evolutionary Biology & Bioinformatics

- Sequence analysis using NCBI tools (BLAST, GenBank, RefSeq, Primer-BLAST)
- Multiple sequence alignment (MEGA, MAFFT, Jalview, HMMER, CD-HIT) for comparative studies
- Phylogenetic analysis (IQ-TREE, FigTree) using maximum likelihood methods
- Comparative analysis of genomic, transcriptomic, and proteomic datasets (Local BLAST, TBtools); gene structure and annotation analysis (Ensembl, ExPASy, IBS tools)

Analytical & Quantitative Techniques

- Spectrophotometry (UV), FTIR, and chromatography (TLC, HPLC)
- Quantitative assay development and data analysis (GraphPad Prism, SPSS, R – beginner)

Scientific Computing, Visualisation & Documentation

- Data analysis and visualisation: GraphPad Prism, R (basic), Microsoft Office
- Scientific illustration and figure preparation: Adobe Illustrator, BioRender
- Image processing: ImageJ (Fiji), Adobe Photoshop
- Reference management: EndNote, Mendeley, Zotero

- Research documentation: SOPs, experimental protocols, COSHH risk assessments, biosafety documentation

Professional memberships

1. **Early career researcher** (ECR member), British Society for Neuroendocrinology (BSN), **2023-Present**
2. **Industrial Pharmacist** (Registration Number: **A-10259**); Bangladesh Pharmacy Council (renewal due)

Research grants (Received in Bangladesh)

1. **Institutional Research Grant:** North South University Internal Research Grant; Project: Evaluation of the effects of aceclofenac solid dispersion granules in bovine-II collagen induced arthritis (CIA) rat models, Fiscal year: 2020-2021 (**BDT 500,000**)
2. **External Research Grant:** Ministry of Science and Technology, Bangladesh (R&D Biology, Medical and Nutrition group); Project: Formulation development of candesartan cilexetil orodispersible tablets for improved drug release, Fiscal year: 2019-2020 (**BDT 100,000**)
3. **Institutional Research Grant:** CTRG Research Grant, North South University, Office of Research (Project: Formulation development of candesartan cilexetil ODT for improved response in hypertensive patients), Fiscal year: 2019-2020 (**BDT 350,000**)
4. **External Research Grant:** Ministry of Science and Technology, Bangladesh (R&D Biology, Medical and Nutrition group) (Project: Formulation development of Aceclofenac solid dispersion for rapid drug action), Fiscal year: 2018-2019 (**BDT 70000**)

Scholarships and awards

1. **Queen Mary University of London Postgraduate Research Fund** (QMUL PGRF), April 2025.
2. Scholarship name- **"Islamic Development Bank (IsDB)-Queen Mary University of London Joint PhD Scholarship"**; Program: Doctor of Philosophy (PhD), 2021/22 academic year, Awarding body: Islamic Development Bank (IsDB)-Queen Mary University of London
3. Scholarship name- **"Bangor University Full Tuition Fee Scholarship"**; Program: MSc in Molecular Biology with Biotechnology, 2015/16 academic year, Awarding body: Bangor University, United Kingdom
4. Award name- **"Chancellor's Gold Medal"**; Program: "Master of Pharmacy" (M. Pharm) –17th Convocation, March 6, 2014. Awarding Body- North South University, Bangladesh
5. Award name- "**Cum Laude**"; Program: "Bachelor of Pharmacy" –15th Convocation, January 3, 2011, Awarding Body- North South University, Bangladesh

Community engagement

1. Research showcase in public science event- "***Tomorrow's world: A Night of Science and Engineering***", February 2025 at Queen Mary University of London.
2. PhD topic is featured as a short talk at "***Pint of Science***"- an annual international public engagement festival commencing in 2026 in a local pub in London.

References

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