

# Md Shafayat Hossain, Ph.D.

Assistant Professor | Researcher | Ph.D. in Neurobiology | M.Sc. & B.Sc. in Pharmacy

## Career Summary:

Talented and resourceful academician and researcher, offering 10 years' research and teaching experience bearing field of Neurobiology, Molecular Biology, Pharmacology, Physiology, Microbiology, Biotechnology, and Genetics. Successfully awarded a doctorate from world-leading research organization, Chinese Academy of Sciences (CAS) with most prestigious CAS-TWAS (Italy) President fellowship of China. Excellent collaborative capabilities with top-ranking research laboratories/ organizations (University of Cambridge, University of York, and CAS) for solving unanswered biological questions. Dedicated biological researchers for more than 7 years of research experiences in the state key laboratory of molecular developmental biology and published 7 SCI/Scopus indexed peer-review articles. Self-motivated and goal-oriented individual with multiple oversee projects handing capabilities. Having proven leadership, excellent communication skills, and strong student management skills to achieve high productivity and improve the institute.

## Professional History; total 9 years (3 years teaching & 3 years industrial):

🌟 **Assistant Professor** (2021 – Present)  
Department of Pharmacy, Manarat International University, Bangladesh

### Course Conducted:

- Pathology (BPM-229): Winter 2021, Spring 2022
- Physiology-I (BPM-125): Winter 2021
- Physiology-II (BPM-215): Spring 2021, Spring 2022
- Pharmaceutical Engineering (BPM-327): Winter 2021; Spring 2022
- Pharmaceutical Regulatory Affairs (BPM-425): Spring 2021

### Research Projects (in progress):

- Synaptic overgrowth in *GstO1* mutants may result from Trans-Synaptic BMP/WNT signaling (Target: **Neuroscience**; IF: 3.590)
- The evolution of hematopoietic stem cell transplantation over time in relation with incidence of donor cell leukemia (Target: **Stem Cells International**; IF: 5.44)
- Co-relation between organic acid disorder and chromosome 7 duplication-a case study (Target: **Neonatology**; IF: 4.035)
- Behavioral consequences ensue from time spending on screen -a year round study on MIU students (Target: **Frontiers in Public Health**; IF: 3.709)

🌟 **Research associate (academic + research)** (2018 – 2020)  
Institute of Genetics and Developmental Biology, CAS, Beijing, China

### Core Functions:

- Conduct routing research work
- Guide Ph.D./M.Sc./B.Sc. project students
- collaborate research activities and so on.

🌟 **Senior Executive, Product Development** (2013-2014)  
Veritas Pharmaceuticals Ltd., Bangladesh

🌟 **Senior Officer, Research & Development** (2011-2013)  
Veritas Pharmaceuticals Ltd., Bangladesh

### Core Activities both of the positions:

- Prepare product formulation according to quality by design (QBD)
- Laboratory trial/pilot/validation batch/process validation/analytical method validation

## Mailing Address

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📍 Dhaka, Bangladesh

## Education

### Ph.D. in Neurobiology

Chinese Academy of Science (CAS)  
Beijing, China Passing Year: 2020

### M. Pharm (Masters') in Pharmacy

Khulna University  
CGPA: 3.25 Passing Year: 2014

### B. Pharm (Hons') in Pharmacy

Khulna University  
CGPA: 3.61 (1<sup>st</sup> class 3<sup>rd</sup>) Passing Year: 2010

## Fellowship

CAS-TWAS President Fellowship (2014–2018)  
**Amount:** \$54,326.

## Research Training

As a coordinator and trainer, I have conducted, 'A month-long training & semi-supervised research program' from Dec. 16, 2021 to Jan. 15, 2022, organized by Depart. of Pharmacy, Manarat International University.

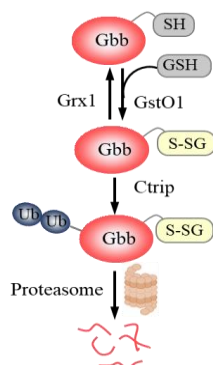
## Honors & Grants

- PhD project grant, [www.nsf.gov.cn](http://www.nsf.gov.cn), Amount: \$38,000
- Best presenter, Young Scientist forum, Chinese Academy of Sciences, China, 2019.
- Travel award, 9<sup>th</sup> national forum of pharmacy students, CPU, China Amount: \$1000.

## On-going research

(2014 – present)

**Title:** Glutathionylation of the BMP homolog Gbb promotes its proteasome-mediated degradation to inhibit synapse growth in *Drosophila*.



### Highlights

- ✓ GstO1 negatively regulates synapse development in the postsynaptic muscles.
- ✓ GstO1 glutathionylates Gbb cysteines 354 and 420, facilitating its proteasomal degradation
- ✓ The HECT-domain E3 ligase Ctrip negatively regulates Gbb at the protein level
- ✓ Ctrip binds more efficiently and thus facilitates degradation of glutathionylated Gbb

## Publication:

### Publication in progress

- **Md Shafayat Hossain**, Aiyu Yao, Xinhua Qiao, Wenwen Shi, Ting Xie, Chang Chen, Yong Q. Zhang. Glutathionylation of Gbb promotes its proteasome-mediated degradation to inhibit synapse growth. (*J. Cell Biol.* IF: 10.539; **under review**); **Role:** idea & data generation, writing, & submission.
- Mubasshir Hasan, Md. Roknuzzaman, Suman Sarkar, Ubah Ali, Nargis Sultana Chowdhurya, **Md Shafayat Hossain**#. The revolution of haematopoietic stem cell transplantation (HSCT) techniques over time in relation with incidence of donor cell leukaemia (DCL). (*Stem Cells International*; IF: 5.44; will submit soon); **Role:** project supervision.
- **Md Shafayat Hossain**, Aiyu Yao, Yong Q. Zhang Unbiased postsynaptic screen for identifying novel candidates for NMJ growth (target journal: *Neuroscience*; IF: 3.056; writing in progress); **Role:** idea & data generation & writing.

### Published in peer-reviewed journals (SCI/Scopus indexed)

- Formulation and development of a topical combination cream for arthritis management. *Trop. J. Pharm. Res.* 2020, 19(6): 1125–1130.
- Formulation, *in vitro* evaluation and characterization of atorvastatin solid dispersion. *Trop. J. Pharm. Res.* 2020, 19(6): 1131–1138.
- Expression of glial cells molecules in the optic nerve of adult dromedary camel (*Camelus Dromedarius*): a histological and immuno-histochemical analysis. *Anat. Histol. Embryol.* 2019; 48(1): 74–86.
- Formulation development and evaluation of Ticagrelor tablet for regulatory market. *J. App. Pharm. Sci.* 2013; 3(10): 114–118.
- Antioxidant, antimicrobial and antidiarrhoeal activity of methanolic extract of *Rumex maritimus* L. (Polygon.). *J. App. Pharm. Sci.* 2015; 5: 056–060.
- Genetic polymorphisms of CYP3A4\*1B of cervical cancer patients in Bangladeshi population, Bangladesh. *Int. J. Adv. Med.* 2016; 3(3): 455–459.

## Presentation (Oral and poster only):

- Poster Presentation, Asia-pacific *Drosophila* neuroscience conference, Academia Sinica, Taipei, **Taiwan**. January 16–20, **2019**.
- Invited Speaker, Scientific Seminar, Jashore University of Science and Technology, **Bangladesh**. August 13, **2018**.
- Inaugural Asia-pacific *Drosophila* neurobiology conference, Huazhong University of Science & Technology, Wuhan, **China**. October 25–28, **2017**.
- Key Speaker, Scientific meeting, Presented by Pharmacy Discipline, Khulna University, **Bangladesh**. July 17, **2017**.

## Soft Skill

- Persuasion
- Negotiation
- Organizing
- Adaptability
- Team Leader
- Communication
- Decision Making
- Time Management

## Training & Workshop

- In Plant Training by Beximco Pharmaceuticals Ltd., Bangladesh
- Clinical Pharmacy by Square Hospital
- Pharmaceutical Plant Observation by Incepta Pharmaceuticals Ltd., Bangladesh.

## Technical Skill

- Confocal Microscopy (Olympus Fluoview FV1000)
- Western Blot Analysis
- Immunoassay
- Gel Electrophoresis
- RT-PCR
- Bacterial cloning
- Cell culture
- Cell transfection
- DNA/RNA/protein/plasmid extraction
- UPLC
- HPLC
- FTIR
- UV
- PCR

## Computer

- MS Office 2016
- Python 3.0
- SPSS
- Photoshop CS
- Troubleshooting
- Olympus FV1000
- GraphPad Prism
- DNA Star
- ImageJ
- Illustrator 2020

## External Service

- Biomedical Research Foundation (BRF) (<https://www.brfd.org/>) (2020–now)

## Language

- English – Fluent, IELTS (Listening 7, Speaking 6.5)
- Bengali – Proficient
- Arabic- Reading
- Chinese – General understanding