

**NOURIN TARANNUM**  
Scientific Officer  
Leather Research Institute (LRI)  
Bangladesh Council of Scientific and Industrial Research (BCSIR)

**Mailing Address**

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**Academic Qualifications**

**Master of Science in Microbiology**

**January 2016 – January 2017**

University of Dhaka

**Thesis:** Optimization of Phytase Production and Detection of Gene Encoding Phytase from Newly Isolated *Bacillus subtilis* Phs12.

**Bachelor of Science in Microbiology**

**January 2012 - November 2015**

University of Dhaka

**Higher Secondary Certificate (H.S.C) in science**

**Year of Exam: 2010**

Holy Cross College, Dhaka.

**Secondary School Certificate (S.S.C) in science**

**Year of Exam: 2008**

Holy Cross School, Dhaka.

**Professional Experiences**

**Scientific Officer**

**October 2018 – Present**

Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh.

**Responsibilities:**

- Conducting R & D works on various projects having socio-economic importance.
- Cultivation, characterization and classification of protozoa, bacteria, fungus and algae.
- Determining prevalence & antimicrobial resistance of human pathogenic bacteria from food, water and environmental samples and their serotyping.
- Testing and analyzing of various pharmaceutical products, beverages, food, food grains and feed products of both private and public organizations.
- Conducting in-house training about sophisticated scientific instruments.
- Guiding and supervising M.Sc. research students from different universities.
- Promoting health and safety awareness to new scientists.

## Lecturer

July 2018- September 2018

Department of Microbiology, Prime Asia University, Dhaka, Bangladesh.

## Research Assistant

November 2017 – June 2018

Enzyme and Fermentation Biotechnology Laboratory, Department of Microbiology, University of Dhaka.

**Research Projects:** 1) Mutation and gene cloning of phytase enzyme by *Bacillus subtilis*.  
2) Molecular characterization and industrial application of amylase enzyme.

## Research Interests

- Molecular Biology & Genetics
- Food Microbiology
- Environmental Microbiology
- Enzyme Biotechnology
- Immunology

## Research Grants

Session: 2016-2017 (Research Assistant)	<b>Theme:</b> Optimization of Phytase Production and Detection of Gene Encoding Phytase from Newly Isolated <i>Bacillus subtilis</i> Phs12 <b>Ministry of Science and Technology, Government of the People's Republic of Bangladesh.</b>
Session: 2018-2019 (Project Associate)	<b>Theme:</b> validation of food borne pathogen both aerobic and anaerobic bacteria detection method from food samples through Polymerase Chain reaction (PCR) compared with gold standard cultural method and development of safe and effective preservation method for chilled foods and food products <b>Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh</b>
Session: ongoing (Project Associate)	<b>Theme:</b> Establishment of new foodborne pathogens from fast-food and beverages <b>Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh</b>
Session: ongoing (Project Associate)	<b>Theme:</b> Establishing molecular identification and characterization of <i>Cronobacter</i> spp. from Powdered Infant milk Formula (PIF) <b>Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh</b>
Session: ongoing (Project Associate)	<b>Theme:</b> Isolation of microbial enzymes (lipase, amylase, protease etc.) from environmental microbes and their Industrial Applications <b>Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh</b>
Session: ongoing (Project Associate)	<b>Theme:</b> Prevalence and molecular characterization of foodborne <i>Escherichia coli</i> O157:H7 from Bangladeshi food products <b>Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh</b>

## **Laboratory Skills**

- **Wet-lab Microbiology:** Isolation, cultivation and characterization of microorganisms (Protozoa, Bacteria, fungus); Microscopic analysis of fluorescent proteins and microorganisms (using Light microscope, Phase contrast microscope, Confocal microscope and Fluorescence microscope); Classification of parasites on the basis of morphology (Giemsa staining, Jaswant Singh Battacharya (JSB) Stain, Protargol staining, Silver staining).
- **Molecular Biology:** Plasmid and Genomic DNA extraction, Purification of PCR product, Polymerase Chain Reaction (PCR), Real-time PCR, Plasmid profiling.
- **Immunology:** Detection of aflatoxins from food and food grains using Enzyme-linked immune sorbent assay (ELISA).
- **Analytical Microbiology:** Agarose gel electrophoresis, SDS PAGE, UV spectrophotometry.
- **Biotechnology:** Characterization and production of useful products (enzymes, alcohols) by exploitation of microorganisms (using lab scale fermenter/bioreactor).
- **Bioinformatics:** Alignment tools including BLAST, BioEdit, ClustalW/X; Phylogenetic inference software including SeqMan, MEGA; PCR Primer designing tools including Primer-BLAST, Global and local alignment tools; phylogenetic analysis; protein motif, structural analysis, homology modeling.

## **Professional Trainings**

- Applied Biosystems 3500 Series Genetic Analyzers for DNA Sequencing and Fragment Sizing: Thermo Fisher Scientific.
- Ion S5 Next Generation Sequencing System for Targeted Sequencing: Thermo Fisher Scientific.
- Biolog Microbial Identification System for Bacteria, Yeasts, and Fungi: BCSIR, Dhaka.
- ‘Understanding Training Course on ISO/IEC 17025:2017’: Bangladesh Accreditation Board (BAB).
- 75th Training Programme of NITUB on the “use, maintenance and trouble-shooting of Ultra-Violet, Visible and Infrared Spectrophotometer (UV-VIS & IR).
- Operating and maintenance of Polymerase Chain Reaction (PCR) machine: Bangladesh Council of Industrial Research

## **Publications**

- **Tarannum, N.**, Nipa, M. N., Das, S., & Parveen, S. (2020). Aflatoxin M1 detection by ELISA in raw and processed milk in Bangladesh, *Toxicology Reports*, 7, 1339-1343. <https://doi.org/10.1016/j.toxrep.2020.09.012>.
- Wahid H. K.; **Tarannum, N.**; Parveen, S. (2021). Antimicrobial drug resistance of *Escherichia coli* and *staphylococcus aureus* isolated from milk and milk based beverages of Dhaka city, Bangladesh, *J Pure Appl Microbiol*, 15(3), 1472-1479. <https://doi.org/10.22207/JPAM.15.3.41>.
- Manuscript on ‘Occurrence of multidrug resistant *Pseudomonas aeruginosa* isolated from waste water samples of Dhaka city in Bangladesh’ has been submitted in a peer reviewed journal.

- Manuscript on ‘Multidrug resistance pattern of vancomycin-resistant *Staphylococcus aureus* (VRSA) from processed meat samples in Dhaka, Bangladesh’ has been submitted in a peer reviewed journal.

### **Conference Proceedings**

1. **Nourin Tarannum**, Meher Nigad Nipa, Suvra Das, Sahana Parveen, Detection of aflatoxin M1 contamination in raw milk and processed milk samples by ELISA. Proceedings of the International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB), **11-13 March 2021**, Dhaka, Bangladesh.
2. **Nourin Tarannum**, Md. Mahmuduzzaman Mian, Dilruba Akter, Prof. Dr. Mozammel Hoq, Dr, Shakila Nargis Khan, Production of Phytase by Newly Isolated *Bacillus subtilis* NSM12 and Its Efficacy on Broiler Growth. Proceedings of the 32<sup>nd</sup> BSM Annual Conference, **6<sup>th</sup> April 2019**, Jessore University of Science and Technology, Bangladesh.
3. **Nourin Tarannum**, Md. Mahmuduzzaman Mian, Dilruba Akter, Prof. Dr. Mozammel Hoq, Dr, Shakila Nargis Khan, Isolation, Identification and Optimization of Phytase Production from *Bacillus subtilis* Phs12. Proceedings of the 3<sup>rd</sup> *SQUARE International Conference on Biotechnology in Health and Agriculture*, **29-31 December 2017**, Nabab Nawab Ali Chowdhury Senate Bhaban, University of Dhaka, Bangladesh.

### **Awards and Scholarships**

- “Dean’s award” for the outstanding academic performance in B.Sc in 2014-15 session from the Biological Sciences Faculty, University of Dhaka.
- Winner of “Best Poster Presentation Award” in 16th International Scientific Conference 2019, Bangladesh.
- Winner of “Best Poster Presentation Award” in Applied Microbiology and Biotechnology at 10th Asian Federation of Biotechnology (AFOB) Regional Symposium 2018.
- National Science and Technology (NST) Fellowship for M.Sc. thesis by Ministry of Science and Technology, Government of Peoples Republic of Bangladesh.



