

SHOWTI RAHEEL NASER

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Scientific Officer, Biological Research Division, Genomic Research Laboratory, Tissue Culture Section
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Education

Master of Science in Genetic Engineering and Biotechnology **2018**
University of Dhaka, Dhaka, Bangladesh

Bachelor of Science in Genetic Engineering and Biotechnology **2017**
University of Dhaka, Dhaka, Bangladesh

Professional Experience

Scientific Officer **November 15, 2021 – Present**
Biological Research Division, Genomic Research Laboratory, Tissue Culture Section, BCSIR Dhaka Laboratories Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, Bangladesh

Technical Skills and Competences

- Kit-based DNA extraction from blood, tissue, bacterial culture
- Kit-based RNA extraction from tissue, blood and virus infected human samples
- Plasmid extraction, gel electrophoresis, PCR, RT-PCR, SDS-PAGE
- Genome Sequencing (MiniSeq, NextSeq550), Sanger Sequencing, RNA sequencing
- Primer synthesis
- Bacterial cell culture, human and mouse cell culture
- Antibigram, biofilm assay, cytotoxicity test

Computational Skills

- **Bioinformatics tools:** Web-based workflow platform, Nucleotide BLAST, antiSMASH, Prism4, Bagel4
- **Programming:** R (RStudio)
- **Operating Systems:** Windows

Research Grants (Selected)

Principal Investigator

- Isolation and characterization of biopolymer producing bacteria from soil (2024–2026) BDT 4,50,000
- Genomic and Transcriptomic Analysis of the Pelvi-Ureteric Junction Obstruction (PUJO) in Children with Hydronephrosis (2022–2024) BDT 4,50,000

Associate Investigator

- Pan Genome Analysis and Horizontal Gene Transfer Mediated Antimicrobial Resistance Investigation in Clinical Isolates (2023–2025) BDT 5,00,000
- Extraction and characterization of exo-polysaccharides (EPS) from plant pathogenic bacteria (2025–2027) BDT 7,00,000
- Human Endogenous Retrovirus K111 Internal Control for qRT-PCR based Detection of Viral Infection (2023–2025) BDT 3,00,000
- Genome analysis of PGPRs to evaluate their role as growth promoter, abiotic stress tolerance in plants (2023–2025) BDT 6,00,000

Publications (Selected)

1. **Naser SR**, Chowdhury SF, Sarkar MM, Habib MA, Akter S, Banu TA, Goswami B, Khan MS. Exploring the potential of *Bacillus* spp. for secondary metabolite production through genome mining approaches. *Journal of Genetic Engineering and Biotechnology*, **2025**, 23(4), 100595.
2. Afrin S, Orr CH, Kuba S, **Naser SR**, Farooq R, Khan S, Menon M, Domingues LZ, Sarker MH. Microbiome profile and nutritional benefits of traditional overnight soaked cooked rice. *Food and Humanity*, **2024**, 3, 100410.
3. Sarkar MM, **Naser SR**, Chowdhury SF, Khan MS, Habib MA, Akter S, Banu TA, Goswami B, Jahan I, Nayem MR, Hassan MA. M gene targeted qRT-PCR approach for SARS-CoV-2 virus detection. *Scientific Reports*, **2023**, 13(1), 16659.
4. Al Sium SM, Goswami B, Chowdhury SF, **Naser SR**, Sarkar MK, Faruq MJ, Habib MA, Akter S, Banu TA, Sarkar MM, Khan MS. An insight into the genome-wide analysis of bacterial defense mechanisms in a uropathogenic *Morganella morganii* isolate from Bangladesh. *PLoS One*, **2025**, 20(1), e0313141.
5. Akter T, Sarkar MH, Sarker SS, Tarannum N, **Naser SR**, Chowdhury SF, Parveen S. Screening and genomic evaluation of keratinolytic protease producing *Chryseobacterium* sp. from tannery waste and its potential application in dehairing of goat skin. *Journal of Genetic Engineering and Biotechnology*, **2025**, 23(1), 100458.
6. Sarkar MM, Hasan GA, Das AK, Chowdhury SF, **Naser SR**, Habib MA. Comprehensive Genomic and Phenotypic Analysis of *Enterobacter kobei* Isolates from milk. *The Microbe*, **2025**, 100422.

Conference Presentations

- Delivered both oral and poster presentation at STFC Food Network+ 5th Annual Conference 2023, Principal York Hotel, York, UK 3–4 July 2023
- Participated and delivered oral presentation at BCSIR Congress-2023, BCSIR, Dhaka 8–10 March 2024
- Participated and delivered oral presentation at BCSIR Congress-2022, BCSIR, Dhaka December 2022
- Participated and delivered oral presentation at International Conference on Environmental Protection for Sustainable Development (ICEPSD-2022) September 2022
- Participated in the Annual Plant Tissue Culture and Biotechnology Conference 2021 May 2022

Thesis Supervision

- Supervised one M.S. thesis on the topic of biopolymer-producing bacteria (2025–2026)

Professional Memberships

- Scientist Forum of Bangladesh Council of Scientific and Industrial Research
- Young Biotechnologists of Bangladesh (YoungBB)
- Genetic Engineering and Biotechnology Club, University of Dhaka

Professional Trainings

- Biosafety and Animal Cell Culture for Advanced Research, Cell and Tissue Culture Laboratory, CARS, University of Dhaka 8–12 January 2017
- R for Data Analytics, Institute of Statistical Research and Training (ISRT), University of Dhaka 2–27 August 2022
- Introduction To Next Generation Sequencing, Microbial Genomics & SARS-CoV-2 Bioinformatics, The BioScience Factory 14, 21 & 28 October 2022
- Oligosynthesizer MerMade 6, LGC (Genomics), Genomic Research Laboratory, BCSIR 26–28 February 2023
- Operation and Maintenance of Dumas Protein Analyzer & Fat Extractor, ITTI, BCSIR 5–9 November 2023
- Omics Data Analysis: Concepts, Methods and Application, BCSIR Dhaka Laboratories 6 December 2023
- Operation and maintenance of HPLC, P&D, BCSIR, IFST 16–21 March 2025

Awards

- Directorate General (DG) Award for securing 1st position at the 22nd Special Foundation Training Course, National Academy for Planning and Development (NAPD) 10 December 2023 – 07 February 2024
- ECR Secondment and Internships grant from The Science and Technology Facilities Council (STFC) Food Network+ (SFN) for 3 months at Teesside University, UK June–August 2023
- National Science and Technology (NST) Fellowship from the Ministry of Science and Technology (MoST) 2018–2019

References

- Available upon request.

Last Updated: Friday 27th February, 2026