

# Hajara Akhter

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<https://research.most.gov.bd/research/profile/1729056305>

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## EDUCATION

### *University of Chittagong, Chittagong-4331, Bangladesh.*

- Bachelor of Science: Genetic Engineering and Biotechnology January 2014-December 2017  
CGPA: 3.75 on a scale of 4.00 (5<sup>th</sup> among 44 students)
- Master of Science (Thesis Based): Genetic Engineering and Biotechnology January 2018-December 2018  
CGPA: 3.92 on a scale of 4.00 (2<sup>nd</sup> among 18 students)

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## RESEARCH INTEREST

- Cancer Biology
- Nanotechnology
- Toxicology
- Metabolic Syndrome
- Immunology
- Bioinformatics

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## RESEARCH EXPERIENCE

### *Department of Medical Biotechnology, Bangladesh University of Health Sciences (BUHS), Dhaka, Bangladesh*

#### **Research Assistant**

February 2019 – May 2019

- Worked on the Underlying mechanism of insulin-treated diabetic breast cancer in the Bangladeshi population.

#### **Research Fellow**

June 2019 – October 2020

- Worked on the Effects of insulin on breast cancer growth and proliferation among diabetic patients in Bangladesh.

*Master's thesis on "Relation of DKK-1 Gene Polymorphism with Breast Cancer in Bangladesh", DKK1 gene rs11001560 allele polymorphism is associated breast cancer risk and poor prognosis in Bangladeshi women, and the gene variation is related to socio-demographic and reproductive status of the breast cancer patients.*

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## PROFESSIONAL EXPERIENCE

### *Biomedical and Toxicological Research Institute (BTRI), Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka-1205, Bangladesh.*

#### **Scientific Officer**

March 2021 – Present

#### *Key responsibilities:*

- Conducting R&D Projects
- Industrial Problem Solving
- Data Curation and Management
- Providing Analytical Services
- Collaboration and Student Supervision
- Process Development and Optimization
- Paper Writing and Documentation
- Innovation and Technological Development

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## PUBLICATIONS

- Akhter, H\*, Ritu, S.S., Siddique, S., Chowdhury F, Chowdhury, T. R, Akhter, S., Hakim. M., 2024. In silico molecular docking and ADMET prediction of biogenic zinc oxide nanoparticles: Characterization, in vitro antimicrobial and photocatalytic activity, RSC Advances, 14, p.36209. DOI: 10.1039/d4ra06890d (IF= 3.9)
- Nguyen, M.N., Akter, S., Akhter, H., Ansary, S., Han, S., Shin, Y., Ha, J., Kang, I., Kim, S.S. and Choi, T.G., 2023. TOR1B: a predictor of bone metastasis in breast cancer patients. Scientific Reports, 13(1), p.1495. doi: 10.1038/s41598-023-28140-y. (IF=4.6)
- Akter, S., Akhter, H., Chaudhury, H.S., Rahman, M.H., Gorski, A., Hasan, M.N., Shin, Y., Rahman, M.A., Nguyen, M.N., Choi, T.G. and Kim, S.S., 2022. Dietary carbohydrates: Pathogenesis and potential therapeutic targets to obesity-associated metabolic syndrome. BioFactors, 48(5), pp.1036-1059. doi: 10.1002/biof.1886. Epub 2022 Sep 14. (IF= 6.438)
- Akter, S., Rahman, M.A., Hasan, M.N., Akhter, H., Noor, P., Islam, R., Shin, Y., Rahman, M.H., Gazi, M.S., Huda, M.N. and Nam, N.M., 2022. Recent advances in ovarian cancer: therapeutic strategies, potential biomarkers, and technological improvements. Cells, 11(4), p.650. (<https://doi.org/10.3390/cells11040650>) (IF= 6.0)
- Akter, S., Hasan, M.N., Rokeya, B., Akhter, H., Gazi, M.S., Sabrin, F. and Kim, S.S., 2021. Alternative medicine: A recent overview. *Alternative Medicine-Update*. DOI:10.5772/intechopen.97039 (Book Chapter)

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## CONFERENCE PAPER

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- **Akhter, H\***, Bhowmik, M., Sultana, L., Mia, M., Rahman, S.H.Z., Akhtar, M.W., Tahmid, T., Faruque, M. and Akter, S., 2020. 62P IGF axis in breast cancer recurrence and metastasis. *Annals of Oncology*, 31, p.S1266. DOI: <https://doi.org/10.1016/j.annonc.2020.10.082> (IF= 51.769)
- **Akhter, H\***, Akter S., 2024 Oleic/stearic fatty acid desaturation index, plasma ffa and leptin: underlying the mechanism of obesity-associated diabetes mellitus, *Obesity Reviews*, 25(S1): e13788. <https://doi.org/10.1111/obr.13788> (IF= 10.867)
- S. Akhter., **H. Akhter\***, H. S. Chaudhury., L. Ali., 2022. Association of serum leptin with obesity-associated type 2 diabetes, *Obesity Reviews*, 23(S2):e13503. <https://doi.org/10.1111/obr.13503> (IF= 10.867)
- Akter, S., Saiedullah, M., Bhowmik, M., **Akhter, H.**, Ansary, S., Akhtar, W., Rahman, S.H.Z., Choi, T.G. and Kim, S.S., 2023. Predicting the metastatic potential in breast cancer patients in Bangladesh. *Cancer Research*, 83(7\_Supplement), pp.2099-2099. (<https://doi.org/10.1158/1538-7445.AM2023-2099>) (IF= 13.312)
- Akter, S., Faruque, M., **Akhter, H.**, Bhowmik, M., Hasan, M.N., Sultana, L., Khan, I., Mia, M., Rahman, M.M., Chaudhury, H.S. and Rafiqul, I.S., 2022. Circulatory insulin-like growth factor 1 predicts metastasis in triple-negative breast cancer. *Cancer Research*, 82(12\_Supplement), pp.1526-1526. <https://doi.org/10.1158/1538-7445.AM2022-1526> (IF= 13.312)

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## PROJECT EXPERIENCE

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### Project Leader

- Ameliorative effects of antioxidants against heavy metal-induced toxicity in rat models: Targeting Nrf2 pathway, BTRI, BCSIR, 2023-2024
- Assessment of toxic substances present in animal feed with specific health implications, BTRI, BCSIR, 2021-2022

### Research Associates

- Green synthesis of metal oxide nanoparticles to assess their potential antimicrobial activity, BTRI, BCSIR, 2022-2023
- Effect of *Adhatoda vasica* extract on gouty arthritis and hyperuricemia, BTRI, BCSIR, 2022-2023
- Chewing gum formulation from nut, clove, cinnamon, green tea, nutmeg and licorice root to inhibit dental carries causing microbes, BTRI, BCSIR, 2021-2022

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## TEACHING EXPERIENCE

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*Department of Medical Biotechnology, Bangladesh University of Health Sciences (BUHS), 125/1, Darus Salam, Mirpur-1, Dhaka-1216, Bangladesh.*

**Lecturer**

October 2020 – March 2021

**Adjunct Faculty**

March 2019 – October 2021

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## REVIEWER

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### *Heliyon*

1. HELIYON-D-24-45792 Lactate and Lysine Lactylation of Histone Regulate Transcription
2. HELIYON-D-24-44811 Cultivating and Unraveling the Secrets of Polysaccharide-Rich Microalgae: A Promising Indigenous Resource for Next-Generation Bioethanol
3. HELIYON-D-24-61780 Influence of season on the occurrence of Aflatoxin B1 in certain feed ingredients in India

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## ACHIEVEMENTS

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- Awarded full funded Scholarship (registration, travel, accommodation) for attending “SCOPE School Melbourne & ICO I 17-22 October 2022” from World Obesity Federation (WOF), Batman Hills on Collins, Australia
- National Science and Technology (NST) Fellowship-2018-2019, Provided by the Ministry of Science and Technology, Government of Bangladesh, Bangladesh

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## ORGANIZATIONAL MEMBER

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- Member of the “European Society for Medical Oncology”, ESMO ID: 487100, Ginevra 4 6900 Lugano, Switzerland
- Member of the “Royal Society of Chemistry”, RSC ID: 782198, Burlington House, Piccadilly, London, W1J 0BA

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**SKILLS**

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DNA and RNA isolation	Primer designing	PCR and RT-PCR	Restriction Fragment Length Polymorphism	Agarose Gel electrophoresis
Histopathological Techniques	UV-Vis Spectroscopy	Atomic Absorption Spectroscopy	High-Performance Liquid Chromatography	Liquid Chromatography-Tandem Mass Spectrometry
Molecular Docking	SPSS	MS-Word	MS-Excel	MS-PowerPoint

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**REFERENCES**

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Professor, Dept. of Genetic Engineering and  
Biotechnology, University of Chittagong,  
Chittagong-4331, Bangladesh.  
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Dr. Salima Akter  
Assistant Professor and Head,  
Dept. of Medical Biotechnology, Bangladesh  
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