



Md. Eram Hosen

Date of birth: 01/10/1998

Nationality: Bangladeshi

Phone: +880-1708580506

E-mail: eramhosen.geb.ru@gmail.com

Address: Department of Microbiology, Shaheed Shamsuzzoha Institute of Biosciences Affiliated by Rajshahi University, Bangladesh.

Google Scholar: https://scholar.google.co.uk/citations?hl=en&pli=1&user=LU_v89QAAAAJ

• CAREER OBJECTIVES

To work as a **microbiologist** with the accumulation of **molecular biology and computational biology** knowledge and contribute something valuable in the human welfare.

• PRESENT STATUS

Working as a **lecturer** at the Department of Microbiology, Shaheed Shamsuzzoha Institute of Biosciences Affiliated by Rajshahi University. November, 2023-present. <https://ssib.edu.bd/teachers-profile/md-eram-hosen/>

• PROFESSIONAL EXPERIENCE

University of Rajshahi Rajshahi, Bangladesh

Professor Joardar DNA and Chromosome Research Laboratory

Research Assistant (PI: Prof. Rashed Zaman)

January, 2021-July, 2023

- Led five undergraduate projects and four graduate thesis students
- Standardized new research protocol for laboratory purposes and conducted different experiments
- Design new projects for research grants, analyze data, scientific writing, etc.

• ACADEMIC QUALIFICATION

University of Rajshahi Rajshahi, Bangladesh

M.Sc. in Genetic Engineering and Biotechnology, (CGPA: 3.95/4.00)

Completed: 2023

- **Thesis:** Synthesis of silver nanoparticles using *Camellia sinensis* leaf extract and evaluation of its therapeutic applications. **PI: Prof. Rashed Zaman**

University of Rajshahi

Rajshahi, Bangladesh

B.Sc. in Genetic Engineering and Biotechnology, (CGPA: 3.90/4.00)

Completed: 2022

- **Project:** Mechanistic insight of *Staphylococcus aureus* associated skin cancer in humans by *Santalum album* derived phytochemicals: An extensive computational and experimental approaches. **PI: Prof. Rashed Zaman**

PUBLICATIONS

#Co-first author

1. **Hosen ME**, Rahman MA, Rahman MS, Akash S, Khalekuzzaman M, Bourhia M, Nafidi HA, Islam MA, and Zaman R (2024). Synthesis of Silver Nanoparticles Using *Camellia sinensis* Leaf Extract: Promising Particles for the Treatment of Cancer and Diabetes. **Chem. Biodiversity**. <https://doi.org/10.1002/cbdv.202301661> (**IF:2.9, Q2**).
2. **Hosen ME**, Supti SJ, Akash S, Rahman ME, Faruqe MO, Manirujjaman M, Acharjee UK, Gaafar AR, Lahcen O, Sitotaw B, Bourhia M, and Zaman R, (2023). Mechanistic insight of *Staphylococcus aureus* associated skin cancer in humans by *Santalum album* derived phytochemicals: An extensive computational and experimental approaches. **Front. Chem.** 10.3389/fchem.2023.1273408 (**IF: 5.5, Q1**).
3. Rahman MS[#], **Hosen ME**[#], Faruqe MO, Khalekuzzaman M, Islam MA, Acharjee UK, Gaafar AR, Nafidi HA, Mekonnen M, Bourhia M, and Zaman R, (2023). Evaluation of *Adenanthera pavonina*-derived compounds against diabetes mellitus: insight into the phytochemical analysis and in silico assays. **Front. Mol. Biosci.** 10.3389/fmolb.2023.1278701 (**IF: 5.0, Q1**).

4. **Hosen ME**, Rahman MS, Faruqe MO, Khalekuzzaman M, Islam MA, Acharjee UK, and Zaman R. (2023). Molecular docking and dynamics simulation approach of *Camellia sinensis* leaf extract derived compounds as potential cholinesterase inhibitors. **In Silico Pharmacol.**, 11(1), 14. doi.org/10.1007/s40203-023-00151-7
5. Akash S, **Hosen ME**, Mahmood S, Supti SJ, Kumer A, Sultana S, Jannat S, Bayil I, Nafidi H-A, Jordan YAB, Mekonnen AB and Bourhia M (2023). Anti-parasitic drug discovery against *Babesia microti* by natural compounds: an extensive computational drug design approach. **Front. Cell. Infect. Microbiol.** 13:1222913. doi: 10.3389/fcimb.2023.1222913 (IF: 5.7, Q1).
6. Akash S, Abdelkrim G, Bayil I, **Hosen ME**, Mukerjee N, Shater AF, Saleh FM, Albadrani GM, Al-Ghadi MQ, Abdel-Daim MM, and Tok TT (2023). Anti-malarial drug discovery against malaria parasite by modification of Haplopine: An advanced computational approach. **J. Cell. Mol. Med.** doi.org/10.1111/jcmm.17940 (IF: 5.31, Q2).
7. Akash S, Bayil I, Hossain MS, Islam MR, **Hosen ME**, Mekonnen AB, Nafidi HA, Jordan YB, and Bourhia, M (2023). Novel Computational and Drug Design Strategies for Inhibition of human papillomavirus-associated cervical cancer and DNA polymerase theta receptor by Apigenin derivatives. **Sci. Rep.** 13, 16565 (2023). <https://doi.org/10.1038/s41598-023-43175-x> (IF: 4.6, Q1).
8. Tourabi M, Metouekel A, EL ghouizi A, Jeddi M, Nouioura G, **Hosen ME**, Laaroussi H, Benbrahim KF, Bourhia M, Derwich EH, and Wondmie GF, (2023). Efficacy of Various Extracting Solvents on Phytochemical Composition, and biological properties of *Mentha longifolia* L. Leaf Extracts. **Sci. Rep.** <https://doi.org/10.1038/s41598-023-45030-5> (IF: 4.6, Q1).
9. Zaina E, Mohamed R, Aziz D, Remok F, **Hosen ME**, Zibouh K, Brahim E, Amale B, Amine S, Hanane T, Salamatullah A, Bourhia M, Ibenmoussa S and Touriya Z (2024). Comparative study of the chemical composition, antioxidant, and antimicrobial activity of the essential oils extracted from *Lavandula abrialis* and *Lavandula stoechas*: in vitro and in silico analysis. **Front. Chem.** 10.3389/fchem.2024.1353385 (IF: 5.5, Q1).
10. Akash S, Mahmood S, Ahamed R, Bayil I, Bairagi RD, Islam MR, **Hosen ME**, Menezes GL, Almaary KS, Nafidi HA, Bourhia M, and Ouahmane L, (2023). Novel computational and drug design strategies for the inhibition of human T-cell leukemia virus 1-associated lymphoma by Astilbin derivatives. **J. Biomol. Struct. Dyn.**, 10.1080/07391102.2023.2294376 (Q1, IF: 4.4).
11. Akash S, Bibi S, Biswas P, Mukerjee N, Khan DA, Hasan MN, Sultana NA, **Hosen ME**, Jordan YAB, Nafidi H-A and Bourhia M (2023). Revolutionizing anti-cancer drug discovery against breast cancer and lung cancer by modification of natural genistein: an advanced computational and drug design approach. **Front. Oncol.**, 13:1228865. doi: 10.3389/fonc.2023.1228865 (IF: 4.7, Q2).
12. Bourhia M, **Hosen ME**, Faruqe MO, Tasnim F, Taibi M, Elbouzidi A, Jordan YAB, Ibenmoussa S, and Asehraou A, (2024). Unveiling Therapeutic Avenues for Crohn's Disease Management: Exploring Inhibitors for Adherent Invasive *Escherichia coli* Propanediol Dehydratase. <https://doi.org/10.2174/0115734064295521240227052730>. **Medicinal Chemistry.** (IF: 2.3, Q3).
13. Islam MR, Sovon MSI, Amena U, Rahman M, **Hosen ME**, Kumer A, Bourhia M, Jordan YAB, Ibenmoussa S, Wondmie GF, (2024). Ligand-based drug design against Herpes Simplex Virus-1 Capsid Protein by modification of Limonene by use of in silico approaches. <https://doi.org/10.1038/s41598-024-59577-4>. **Sci. Rep.** (IF: 4.6, Q1).
14. Hossain S, Rafi RH, Ripa FA, Khan MRI, **Hosen ME**, Molla MKS, Al-Bari MAA, Faruqe MO, (2024). Modulating the Antibacterial Effect of the Existing Antibiotics along with Repurposing Drugs. **Archives of Microbiology. Accepted article.** (IF: 2.8, Q2).
15. Ahamed F.M M, Kavimani M, Akash S, **Hosen ME**, Soumik D, Mowlana Y, Dharsan M, Oliveira JIN, (2024). Synthesis, characterization, In-vitro and In-silico antimicrobial and antidiabetic activities of a guanidine derivative. **Accepted article. J. Biomol. Struct. Dyn.**, (Q1, IF: 4.4).

● SUBMITTED ARTICLES

1. Islam MS, Mohamed G, Hassan MF, Sultana R, Shimu MSS, **Hosen ME**, Akash S, Al-Anazi MKM, and Farah MA (2024). **Unveiling two cationic alpha-helix antimicrobial peptides for plant pathogen suppression.** *Frontiers in Microbiology* (Q1, IF: 5.2). Manuscript ID: 1423347. Status: Independent Review.

2. **Hosen ME**, Tasnim F, Islam A, Islam MM, Nuryay MN, Hasan MZ, Priota MF, Tayyeb JZ, Akash S, Alqahtani T, Faruqe MO, Zaman R (2024). **Findings of potential inhibitors for *Salmonella typhi* associated gallbladder cancer from *Brassica oleracea* L.: An *in silico* and *in vitro* studies.** Computational Biology and Chemistry (Q2, IF: 3.37). Manuscript ID: CBAC-D-24-00574. Status: Under review.

● REVIEW CONTRIBUTION

Reviewing manuscript # HSR-2023-09-1739 entitled "Re-emergence of Polio in Pakistan: Can the nation achieve the WPV1 eradication goal? Health Science Reports.

● SKILLS AND EXPERTISE

- **Molecular biology:** PCR, Gel Electrophoresis, SDS PAGE, DNA Sequencing, Blotting, DNA, RNA and Plasmid Extraction.
- **Microbiology:** Identification of antibiotic resistant genes, Antibiotic biosynthesis, Bacteria and Fungi isolation, culture and characterization, different biochemical and enzymatic tests.
- **Computational biology:** NGS analysis, Primer designing, Drug design, DFT, Docking, Dynamics simulation, ADMET prediction, Pharmacophore mapping, Pathway analysis, Sequence analysis, and PCA analysis.
- **Animal biology:** Cell culture (e.g. EAC cell line), Toxicity bioassay, Trial of drugs on mice model.
- **Analytical chemistry:** UV-visible spectroscopy, FTIR, XRD, TGA, GC-MS analysis and synthesis of nanoparticles.

● COMPUTER SKILLS

- **Programming language:** Python (beginning level)
- **Documentation and Presentation Software:** Microsoft Word, Microsoft Excel, PowerPoint slide preparation.
- **Statistical analysis:** SAS.
- **Bioinformatics Tools:** BIOVIA, PyRx, Patchdock, SPDBV, PyMoL, AutoDock Vina, Avogadro, YASARA, NCBI blast, Primer 5, MEGA 5-7, CLUSTALW, SwissADME and Chimera.

● ACHIEVEMENT AND AWARDS

National Science and Technology (NST) Fellowship 2022 for Masters' (MS) Thesis from the Ministry of Science and Technology, Government of the People's Republic of Bangladesh.

● TRAINING, WORKSHOP AND CONFERENCES

- **Training on "Bioinformatics for Biotechnology Research"**. Duration: Five days (7th-11th March 2021), Learning: Sequence Analysis, Homology Modeling, Computer Aided Drug Design, Large Sequence Data Manipulation, R Analysis, and Python.
- **Workshop on "GM Crops: Food security and biosafety in Bangladesh Prospective"** organized by the South Asia Biosafety Program (SABP). Duration: 8 Hours (2021), Learning: GM Crops, Food security, biosafety.
- **Conference on "Annual Botanical Conferences"**, Duration: Two days (30th-31st March 2022). Participation: Oral Presentation.

● LANGUAGE PROFICIENCY

- **Bangla:** Native Language
- **English:** Overall IELTS score 6.5

● REFERENCES

- Professor **Dr. Rashed Zaman**, Department of Genetic Engineering and Biotechnology, University of Rajshahi, Rajshahi-6205, Bangladesh. E-mail: rashedzaman@ru.ac.bd
- Professor **Dr. Md. Asadul Islam**, Department of Genetic Engineering and Biotechnology, University of Rajshahi, Rajshahi-6205, Bangladesh. E-mail: asadgen@ru.ac.bd