

Isra Aman Aziz

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Experience

BioinfoCore Solutions, Lucknow, India

FEB 2025 – MAY 2025

- Research Intern

- **Led** end-to-end 16S rRNA microbiome analysis, investigating gut dysbiosis in Alzheimer's and COVID-19 cohorts using QIIME2 and Galaxy, contributing to insights into disease-associated microbial shifts.
- **Executed** comprehensive data preprocessing, DADA2-based filtering, and taxonomy assignment for large datasets.
- **Generated detailed** diversity visualizations, including PCoA, heatmaps, volcano plots, and barplots, to effectively communicate complex findings.

Indian Institute of Science Education and Research (IISER), Pune, India

DEC 2024

- Research Intern

- **Mastered** advanced molecular biology techniques through intensive training, including restriction-based gene cloning, in silico plasmid editing (ApE), precise primer design, and quantitative gene expression analysis (qPCR).
- **Applied** learned methodologies to practical research scenarios, enhancing foundational understanding and laboratory proficiency.

Amity Institute of Biotechnology, AUUP, Lucknow, India

JAN 2024 – MAR 2024

- Research Intern

- **Conducted** extensive molecular docking studies and virtual screening campaigns, identifying potential novel ligands targeting breast cancer.
- Utilized a suite of bioinformatics tools (PDB, PubChem, IMPPAT, SwissDock, SwissADME, CBDOCK) to analyze and prioritize bioactive compounds.
- **Contributed** to the computational pipeline for early-stage drug discovery, identifying promising therapeutic candidates.

CSIR-National Botanical Research Institute, Lucknow, India

MAY 2023 – JUN 2023

- Research Intern

- **Investigated and developed** bioinoculant producer (*Azospirillum*) for sustainable agricultural applications.
- Performed a range of laboratory techniques including sterile sampling, culture media preparation, microbial isolation and screening, PCR, AGE, MIC determination, spectrophotometry, and standard curve generation.
- **Optimized experimental protocols** for microbial growth and characterization, contributing to research efficiency.

Education

MS in Bioinformatics, Babasaheb Bhimrao Ambedkar University, Lucknow | AUG 2024 – MAY 2026

- CGPA: 8.00

BS in Microbiology (Honours), Amity University, Lucknow | AUG 2021 – MAY 2024

- CGPA: 9.74
- 50% Amity Merit Scholarship (2021-2024)

- Percentage: 96.75

Skills

- **Languages:** Python, R, Bash
- **Bioinformatics & Molecular Biology:** QIIME2, DADA2, RNA-Seq, DESeq2, PCoA, ApE, qPCR, Gene Cloning, PCR, AGE, MIC, Spectrophotometry, PDB, PubChem, IMPPAT, SwissDock, SwissADME, CBDOCK.
- **Tools & Software:** Galaxy, GitHub, Google Colab, conda/mamba, Fastp, Fastqc, Star, salmon, samtools, MS Word, Excel.
- **Research:** Scientific Writing, Research Design, Data Analysis, Virtual Screening, Molecular Docking.
- **Communication:** Excellent Written and Verbal Communication.

Publications

1. **Isra Aman Aziz**, Jyoti Prakash, Rachna Chaturvedi, Ruchi Yadav. Computational Exploration of Natural Compounds as Potential Ligands Targeting Breast Cancer. Asian Journal of Pharmaceutical Research and Health Care 16(4):p 410-418, Oct-Dec 2024. | DOI: 10.4103/ajprhc.ajprhc_173_24
2. Pallabi Chatterjee, **Isra Aman Aziz**, Amarjit Singh, and Aditi Singh. “Microbiome in Teenagers – Acquisition and Development.” In *BENTHAM SCIENCE PUBLISHERS eBooks*, 1–13, 2024. <https://doi.org/10.2174/9789815274431124010003>.
3. Shreetama Bhattacharjee, **Isra Aman Aziz**, and Aditi Singh. “Frangipani: A Common Plant With Antimicrobial Potential Against Common Bacterial Pathogens.” *International Journal of Pharmacy and Pharmaceutical Research* 30, no. 4 (January 1, 2024): 313–21. <https://doi.org/10.25166/ijppr.2024.30.4.21>.
4. **Isra Aman Aziz**, Amaan Arif, Saba Hasan. Types of Carcinogens: Physical and Chemical Carcinogens, Introduction to cancer biology and genetics: Cancer Genetics Unlocked (2024). Notion Press.
5. Jyoti Prakash, **Isra Aman Aziz**, Hridaya Singh. Toxicity of Greenhouse gases on human health: An extensive review. European Journal of Biotechnology and Bioscience, Volume 11, Issue 1, 2023, Pages 29-33.

Conferences

1. **BEST POSTER AWARD for Poster Presentation in the National Symposium organized by Translational Biomedical Research Society (TBRS-2023), India.**
Poster topic “Antioxidant potential assessment study of selected Indian plants and spice.” Authors: Isra Aman Aziz and Aditi Singh.
2. **BEST POSTER AWARD for Poster Presentation at the International Conference on Sustainable Development and Disaster Resilience through Innovation (ICSDDRTI-2023) organized by AUUP.**

Poster topic “Frangipani: A common plant with antimicrobial potential against common bacterial pathogens.”

Authors: Shreetama Bhattacharjee, Isra Aman Aziz, Aditi Singh.

3. Oral Presentation at the International Seminar on Current Trends in Life Sciences(Int-SCTLS-2023) organized by AUUP.

Topic “Sustainable Energy Production: A Green Approach.” Authors: Isra Aman Aziz, Jyoti Prakash, Riya Shrivastava.

4. Oral Presentation at the International Conference on Recent Trends in Inter-Disciplinary Innovations Bridging Computer Science and Life Science (RTHICSM-2024) organized by Rathinam College of Arts and Science, Coimbatore.

Topic “Computational Exploration of Natural Compounds as potential ligands targeting Breast Cancer: Virtual screening and Molecular Docking studies.” Authors: Isra Aman Aziz, Ruchi Yadav, Rachana Chaturvedi.

5. Oral Presentation at the 3rd International Conference on Recent Advances in Biotechnology and Nanobiotechnology (Int-BIONANO-2024) organized by AUUP.

Topic “Furanocoumarins as Promising Anti-Breast cancer agents using structure-based docking studies.” Authors: Isra Aman Aziz & Ruchi Yadav.

Leadership & Volunteering

- **Student Co-ordinator, Entrepreneurship Cell**, AUUP (June 2023- March 2024) – Promoted E-cell incubation and anchored for Events at Incubation cell.
 - **Student Group Leader**, Navreeta Foundation (Aug 2022 - Jan 2023) – Advocated for Women’s Rights and Menstrual hygiene.
 - **Volunteer**, Hamari Pahchan NGO (Mar 2023 - May 2023) – Supported education for underprivileged children.
 - **Speaker**, Centre for Civil Society (June 2018) – Promoted education for all.
 - **Delegate**, International Conference of Chief Justices of the World (June 2017 - Jan 2018) – Focused on international peace and security.
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