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EDUCATION

Ph.D. in Biochemistry

Department of Biochemistry
Faculty of Life Sciences
Aligarh Muslim University, Aligarh
Thesis title: Binding and interaction of aflatoxin B₁ with albumins
Degree awarded: December 2022

M.Sc. in Biochemistry

Department of Biochemistry
Faculty of Life Sciences
Aligarh Muslim University, Aligarh
Degree awarded: 2016

B.Sc.(Hons.) in Biochemistry

Department of Biochemistry
Faculty of Life Sciences
Aligarh Muslim University, Aligarh
Degree awarded : 2014

POST-DOCTORAL EXPERIENCE

May, 2023 to May, 2024

Department of Radiation Oncology
J.N Medical College
Faculty of Medicine
Aligarh Muslim University, Aligarh

- Investigated the molecular mechanism and interplay between probiotics, gut dysbiosis and cancer induction.

- Involved in a ICMR-funded project “Randomized Placebo-Controlled Trial of Probiotics to Reduce the Severity of Mucositis Induced by Concurrent Chemoradiotherapy (CCRT) in Patients of Head & Neck and Pelvic Malignancies”.
- Hands-on-experience in working with cell lines (HEK-293T and Jurkat), and performing various molecular biology experiments.

TECHNICAL EXPERTISE

Molecular Biology techniques: Freezing & thawing of human cancer cell lines, Genomic DNA isolation and estimation from cancer cell lines, RNA, cDNA synthesis, PCR, Protein extraction from human cancer cell lines and estimation, SDS page, MTT and XTT assay, etc.

Microbiological techniques: Bacterial culture, characterization of oral microbiota from oral swab samples of cancer patients, metagenomics studies, sequencing, biofilm inhibition, anti-microbial assays, anti-biofilm assays etc.

Biophysical techniques: Fluorescence spectroscopy, UV-absorption spectroscopy, Isothermal titration calorimetry, Circular dichroism, Fourier transform infrared spectroscopy (FT-IR), Raman spectroscopy, X-ray diffraction (XRD), Scanning electron microscopy, Transmission electron microscopy,

Microscopic techniques: Fluorescence microscopy, confocal microscopy, Scanning electron microscopy, transmission electron microscopy.

Computational techniques: Molecular docking, MD simulation data analysis

Animal experiment: Rat/mice handling, dosage, sacrifice and performing various experiments with different organs.

PEER-REVIEWED PUBLICATIONS

POST-Ph.D. PUBLICATIONS

- **Qureshi, M.A.**, Akram, M., Afrose, R., Farooqi, A.K., & Javed, S. Interplay between Probiotics and Cancer: Mechanism, formulations and impact on treatment outcome. **(Communicated)**
- Akram, M., Afrose, R., Farooqi, A.K., **Qureshi, M.A.**, & Javed, S. Radiotherapy induced gut microbial dysbiosis and its impact on treatment outcome **(Under Review)**

Ph.D. PUBLICATIONS

- Amir, M., **Qureshi, M. A.**, Khan, A., Nayeem, S. M., Malik, W. A., & Javed, S. (2024). Exploring the interaction of tepotinib with calf thymus DNA using molecular dynamics simulation and multispectroscopic techniques. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 123678 (IF: 4.4).
- **Qureshi, M. A.**, Amir, M., Khan, R. H., Musarrat, J., & Javed, S. (2023). Glycation reduces the binding dynamics of aflatoxin B1 to human serum albumin: a comprehensive spectroscopic and computational investigation. *Journal of biomolecular structure & dynamics*, 1–15. <https://doi.org/10.1080/07391102.2023.2194000> (IF: 5.23)
- **Qureshi, M. A.**, Akbar, M., Amir, M., & Javed, S. (2023). Molecular interactions of esculin with bovine serum albumin and recognition of binding sites with spectroscopy and molecular docking. *Journal of biomolecular structure & dynamics*, 1–15. <https://doi.org/10.1080/07391102.2022.2036238> (IF: 5.23)
- Jameel, M., Alam, M. F., Fatma, H., Singh, D., Khan, **M. A.**, **Qureshi, M. A.**, Javed, S., Younus, H., Jamal, K., & Siddique, H. R. (2023). Flubendiamide induced genetic and cellular damages directly influence the life cycle of the oriental leaf worm, *Spodoptera litura*. *Pesticide biochemistry and physiology*, 193, 105448. <https://doi.org/10.1016/j.pestbp.2023.105448> (IF : 4.96)
- **Qureshi, M. A** & Javed, S. (2022). Investigating binding dynamics of trans resveratrol to HSA for an efficient displacement of aflatoxin B1 using spectroscopy and molecular simulation. *Scientific reports*, 12(1), 2400. <https://doi.org/10.1038/s41598-022-06375-5> (IF: 4.99)
- **Qureshi, M. A** & Javed, S. (2021). Aflatoxin B1 Induced Structural and Conformational Changes in Bovine Serum Albumin: A Multispectroscopic and Circular Dichroism- Based Study. *ACS omega*, 6(28), 18054–18064. <https://doi.org/10.1021/acsomega.1c01799> (IF: 4.13)
- **Qureshi, M.A** & Javed, S. (2020). Structural dynamics studies on the binding of aflatoxin B1 to chicken egg albumin using spectroscopic techniques and molecular docking. *Journal of biomolecular structure & dynamics*, 38(11), 3144–3155. <https://doi.org/10.1080/07391102.2019.1652690> (IF: 5.23)

- Amir, M., **Qureshi, M. A.**, & Javed, S. (2021). Biomolecular interactions and binding dynamics of tyrosine kinase inhibitor erdafitinib, with human serum albumin. Journal of biomolecular structure & dynamics, 39(11), 3934–3947. <https://doi.org/10.1080/07391102.2020.1772880> (IF: 5.23)
- Khan, K., **Qureshi, M. A.**, Azam, A., Moinuddin, Musarrat, J., & Javed, S. (2021). Ampicillin-augmented Silver Nanoparticles for Synergistic Antimicrobial Response: A Promising Therapeutic Approach. Current pharmaceutical biotechnology, 22(15), 2019– 2030. <https://doi.org/10.2174/1389201022666210119101522> (IF: 2.82)

FELLOWSHIPS AND AWARDS

- Qualified CSIR-NET (Life Sciences) for lecturership in 2017.
- Qualified ICAR-NET (Plant Biochemistry) in 2017
- Recipient of Senior Research Fellowship (SRF-ICMR) from the Indian Council of Medical Research (2019-2022).
- Awarded with National Child Scientist by National Children's Science Congress (NCSC) (High School Achievement)

RESEARCH GRANTS ACCEPTED

I wrote following grants that has been successfully accepted and sanctioned

- Characterization of gut dysbiosis in Gastrointestinal Malignancies and exploration of probiotics supplementation on therapeutic outcome in patients receiving chemoradiation in these malignancies:
Funding Agency: ICMR-NEW DELHI
Funding Amount (INR): 2.25 Crores
- Studies on interaction and aggregate formation of Human serum albumin with aflatoxin B1 using biophysical approaches:
Funding Agency: ICMR-NEW DELHI
Funding Amount (INR): 13 lakhs

CONFERENCE PARTICIPATION

- Delivered a lecture entitled "Biophysical interaction of aflatoxin B1, a hepatocarcinogen with Bovine serum albumin: a multi-spectroscopic approach" in the international conference on "Emerging Trends in Chemical Sciences (ETCS-2020) organized by the Department of Chemistry, Aligarh Muslim University, Aligarh, India.

- Presented a poster entitled "Investigations on the biophysical interactions of albumin with aflatoxin B1: a common food and feed contaminant" in the national conference on "Impact of Climate Change on Food, Water and Health: Issues and Challenges" organized by the Department of Geography (2019), AMU, Aligarh, India.
- Presented a poster entitled "Interaction of chemically synthesized zinc oxide nanoparticles with bovine serum albumin: a multi spectroscopic study" at the national conference "Trends in Biochemical and Biomedical Sciences" held at the Department of Biochemistry (2019), Faculty of Life Sciences, AMU, Aligarh, India.

WORKSHOP PARTICIPATION

- Participated in an ICMR Workshop on "Proposal Writing and Processing for Research Grant" organized by Multidisciplinary Research Unit, UCMS and GTB, New Delhi on 24 April -2024.
- Participated in One Week hands on training session on "Cell culture techniques" organized by the International Centre for Stem cell, Cancer and Biotechnology, New Delhi. January-2024
- Participated in conference-cum-workshop on "Flow Cytometry Cell Sorting Using CytoFLEX SRT" on 2-3 November 2023, organized by special centre for molecular medicine, JNU, New Delhi, India.
- Attended QIP-funded short-term course on "Applications of Fluorescence spectroscopy" conducted by the Department of Chemistry, IIT-Kanpur, India.
- Participated in One Week Workshop on Statistics & Optimization Techniques Using Software Packages (May 22-27, 2023), conducted by Department of Statistics and Operation Research, Aligarh Muslim University, Aligarh, India.
- Participated in the "Mendeley" workshop organized by Prof. M.N Farooqui Computer Centre, Aligarh Muslim University, Aligarh, India.
- Attended workshop on "Drug Discovery & Design in 21st century", organized by Netaji Subhas University of Technology, Delhi, India
- Attended workshop on "Research Confront and Document Preparation Using Latex", organized by National Institute of Technolgy, Kurukshetra. India
- Attended workshop on "Scientific Publications - Preparation of Manuscript" organized by the Department of Biochemistry, Annai Veilankanni's College for Women, University of Madras, Chennai, India

TEACHING EXPERIENCE

TEACHING ASSISTANT

2019-2020

- Taught Environmental Studies to undergraduate students at the Aligarh Muslim University for the session 2019-2020
- Experienced in Molecular Biology, Microbiology and Biochemistry teaching and laboratory skills

Declaration

I hereby declare that all the particulars are true to the best of my knowledge and belief

Dr. Mohd Aamir Qureshi