

## RUHI ANJUM

### RESEARCH INTERESTS

Biochemistry, Cell Biology, Molecular Cell Biology, Biotechnology, Protein Chemistry, Bioinformatics, Data analysis.

### CURRENT ENGAGEMENT

Attending “**Molecular Cell Biology techniques certification course**” organized by Biotecnika, India.

### RESEARCH EXPERIENCES

June 2020 - March 2021

#### 1. “**Dynamic Profiling of $\beta$ -Coronavirus 3CL Mpro protease ligand binding sites**”

Under supervision of Prof. Shozeb Haider (Professor of Computational Biophysics, UCL School of Pharmacy, **London, UK**).

- Collaborated with the team working on “Dynamic Profiling of  $\beta$ -Coronavirus 3CL Mpro Protease Ligand Binding Sites”.
- Studied and identified ligand binding sites in main protease of SARS COV, SARS COV2, and MERS COV.
- Performed Structural Analysis and Data mining (computational approach) to improve the designing of the inhibitors to develop therapeutics for covid crisis.
- Explored knowledge of literature searching, gained experience of protein visualization tools/software’s like Pymol, Ezcadd, and MEGA (computer software for conducting statistical analysis of molecular evolution and for constructing phylogenetic trees).

June 2018 - May 2019

#### 2. “**Protective Effect of 3,4-dihydroxybenzaldehyde on NaF Induced oxidative damage in human erythrocytes,**” **M.Sc. Thesis.**

Under supervision of Prof. Riaz Mahmood (Department of Biochemistry, Aligarh Muslim University, **Aligarh, India**).

- Determined antioxidant potential of a plant polyphenol 3,4-dihydroxybenzaldehyde against NaF induced toxicity in human RBCs.
- Developed in-depth knowledge of literature searching, practical skills in technical equipment’s, and in vitro analysis, gained independent laboratory experience.
- Studied and measured various types of oxidative stress markers in human blood cells such as GSH, LPO, PO, AOPP.
- Gained experience of various Biochemical assays such as DCFH-DA assay (ROS), DNPH assay, FRAP, DPPH, and CUPRAC (to determine the antioxidant activity), and many more.
- Presented research at academic conference through poster.

## EDUCATION

2017-2019

### Master of Science- First Division

Department of Biochemistry, Aligarh Muslim University, Aligarh, India.  
CGPA-7.75/10

- **Project Title:** Protective Effect of 3, 4-dihydroxybenzaldehyde (DHB) on NaF induced oxidative damage in human erythrocytes.
- **Supervisor:** Prof. Riaz Mahmood, Department of Biochemistry, A.M.U., India.

2014-2017

### Bachelor of Science- First Division

Department of Biochemistry, Aligarh Muslim University, Aligarh, India.  
CGPA-7.75/10

## RELAVENT SKILLS

### Technical skills

Spectrophotometry, Fluorometry, Centrifugation, Gel-Electrophoresis, Chromatography, TEM, SEM, CD-spectroscopy. Deep understanding of other techniques such as PCR, Mass spectrometry, Blotting techniques, Immunotechniques etc.

### Computational skills

Protein visualization softwares (Pymol, Ezcadd), Clustal omega, Clustal W, Protein Data Bank, Blast, Uniprot, MEGA X.

### Laboratory skills/Experience

separation of RBCs from Blood, preparation of samples, expertise in pipetting, handling water bath, PH meters, incubation, washing lab equipment's, proper maintenance of laboratory reagents.

### Hard skills

Cleaning, maintaining, and calibrating equipment • Analyzing and recording data • Sample collection, prep, and analysis • Technical support • Equipment knowledge • Presentation skills • Cleaning • Experiment preparation

### Soft skills

Organizational skills • Interpersonal skills • Independence • Problem-solving skills • Time management • Attention to detail • Analytical skills • Written and spoken communication skills • Teamwork • Efficiency • Following procedures • Safety

### Computer skills:

Microsoft word, Excel, Power point, capable of working on linux operating system.

### Languages:

Urdu/Hindi, English (Fluent)

## PUBLICATIONS

1. Cho, E., Rosa, M., **Anjum, R.**, Mehmood, S., Soban, M., Mujtaba, M., Bux, K., Moin, S. T., Tanweer, M., Dantu, S., Pandini, A., Yin, J., Ma, H., Ramanathan, A., Islam, B., Mey, A., Bhowmik, D., & Haider, S. (2021). Dynamic Profiling of  $\beta$ -Coronavirus 3CL Mpro Protease Ligand-Binding Sites. Journal of chemical information and modeling, 10.1021/acs.jcim.1c00449. Advance online publication. <https://doi.org/10.1021/acs.jcim.1c00449>

2. Maheshwari N, Qasim N, **Anjum R**, Mahmood R. 2021. Fluoride enhances generation of reactive oxygen and nitrogen species, oxidizes hemoglobin, lowers antioxidant power and inhibits transmembrane electron transport in isolated human red blood cells. *Ecotoxicology and Environmental Safety*. <https://doi.org/10.1016/j.ecoenv.2020.111611>
3. **Anjum R**, Maheshwari N, and Mahmood R. 3,4-Dihydroxybenzaldehyde mitigates fluoride-induced generation of reactive species, hemoglobin oxidation and redox imbalance in isolated human RBC. (**Manuscript submitted for publication which is under review**).

## PRESENTATIONS

---

- **Presented poster entitled** “Protective Effect of 3,4-dihydroxybenzaldehyde on NaF induced oxidative damage in human erythrocytes”, at **National Conference** on “Trends in Biochemical and Biomedical Sciences” Department of Biochemistry, Aligarh Muslim University, India.
- Delivered a presentation on “Menkes Syndrome” as a part of course- work during M.Sc.

## CONFERENCES

---

- **National Conference** on “Trends in Biochemical and Biomedical Sciences” Department of Biochemistry, Aligarh Muslim University, India, **March 2-3, 2019**.
- **International Conference** on “Future Diagnostic, Therapeutic and Theranostic Modalities” Interdisciplinary Biotechnology Unit, Aligarh Muslim University, India, **December 29-31, 2018**.
- **International science talk** on “Enabling Biomedical research in India” organized by Department of Biotechnology, Government of India and wellcome trust (UK), New Delhi (Chief guest-Honorable **President of India, Shri Ram Nath Kovind**). **November 13-14, 2018**.
- **International Conference** on “Emerging Trends in Biomedical Sciences”, Department of Biochemistry, Aligarh Muslim University, India, **March 6-8, 2016**.

## EXTRA-CURRICULAR ACTIVITIES

---

- One day workshop on “**Artificial Intelligence in Drug Discovery**” organized by CSIR North East Institute of Science and Technology, Jorhat on September 1, 2020.
- One day **Skill building workshop for early career researchers**, February 14, 2020, organized by ACS DST, Government of India, Aligarh Muslim University, India
- Online webinar on “**Computer Aided Drug Design**” (December 23, 2020, organized by Biotecnika Info Labs Pvt Ltd.
- Online webinar on “**Mass Spectrometry**” October 7, 2020, organized by Biotecnika Info Labs Pvt Ltd.
- Online webinar on “**PCR Technique**” September 16, 2020, organized by Biotecnika Info Labs Pvt Ltd.
- Online webinar on “**Microbiome Perceptions and Perspectives**” June 27, 2020, Biotecnika Info Labs Pvt Ltd.

## EXTRA/CULTURAL ACTIVITIES

---

- **2020**-Received **Government of India (GOI)-National Hospitality Skill Certificate** for completing "Skill Testing Certificate Program" course in Bakery and Patisserie at food craft Institute, Aligarh.
- **2014-2019**-Participated in various cultural and literary fests, won 1<sup>st</sup>/2<sup>nd</sup>/3<sup>rd</sup> prizes in Naat Recitation, singing competitions, Dam charades competitions, Skit competition, Essay writing competitions etc, at university level.
- **2014-2015**-Held the post of Class Representative of Music Society in college, Aligarh Muslim University.

## SCHOLARSHIPS AWARDED

---

- Merit scholarship by AMU Alumni Association Washington dc in the final year of Master of Science, **2019**.
- Selected for Prof. Abdul Majid Siddiqi Scholarship in a class of 20 M.Sc. Students, Department of Biochemistry, Aligarh Muslim University, **2017-2019**.
- Merit Scholarship by Government of India for a period of two years for pursuing a master's degree, **2017-2019**.
- Merit Scholarship by Government of India for a period of three years for pursuing a bachelor's degree, **2014-2017**

**Declaration:** Hereby I declare that what reported above corresponds to the truth.