



# Mamuna Mukhtar

Microbiology and Industrial Biotechnology

Atta ur Rahman School of Applied Biosciences (ASAB)

National University of Sciences and Technology (NUST), H-12,  
Islamabad, Pakistan.



House no. F-50, Street 5,  
Phase-II, Officer's Colony,  
Wah Cantt.



+92 342 5362545



[Mamunakhan26@gmail.com](mailto:Mamunakhan26@gmail.com)

[Mamunamukhtar@yahoo.com](mailto:Mamunamukhtar@yahoo.com)

## Skills

- ❖ Computer skills (MS Office,
- ❖ Bioinformatics skills (Homology Modelling, Sequence Analysis, Secondary and Tertiary Prediction, Molecular docking, Molecular dynamic simulations)
- ❖ Molecular Biology (ELISA, qRT-PCR, Flow cytometry, FFA, Gel electrophoresis)
- ❖ mRNA vaccine design and production
- ❖ Mouse model experiments (Balb/c and C57BL6)
- ❖ DNA/RNA and protein extraction
- ❖ Microbial Isolation and Identification.
- ❖ Communication skills
- ❖ Urdu (Native), English (Fluent), Hindi

## Education

### **PhD Applied Biosciences (CGPA 3.50/4.0)**

National University of Sciences and Technology (NUST), Islamabad (2019–  
In progress)

### **MS Biosciences (CGPA 3.44/4.0)**

University of Wah (2014 – 2016)

### **BS Biosciences (CGPA 3.72/4.00)**

University of Wah (2010 – 2014)

### **HSSC (Pre-Medical)**

Garrison Academy Kharian Cantt (2009 – 2011)

### **SSC (Science)**

Garrison Academy Kharian Cantt (2007 – 2009)

## Experience

### • Visiting Lecturer

University of Kotli AJ & K, Pakistan (Oct. 2018- Sep 2019).

### • IRSIP Award by HEC Pakistan.

6 months fellowship at la Jolla institute for immunology, San Deigo, California, USA.

## Publications

1. **Mukhtar, M.**, Wajeeha, A. W., & Bibi, N. (2022). Engineering Modified mRNA-Based Vaccine against Dengue Virus Using Computational and Reverse Vaccinology Approaches. *International Journal of Molecular Sciences*, 23(22), 13911.
2. **Mukhtar, M.**, & Khan, H. A. (2023). Exploring the inhibitory potential of Nigella sativa against dengue virus NS2B/NS3 protease and NS5 polymerase using computational approaches. *RSC advances*, 13(27), 18306-18322.
3. Khan, H. A., **Mukhtar, M.**, & Bhatti, M. F. (2023). Mycovirus-induced hypovirulence in notorious fungi Sclerotinia: a comprehensive review. *Brazilian Journal of Microbiology*, 1-20.

4. **Mukhtar, M.**, Khan, H. A., & Naz, S. (2024). Antibacterial Profiling of *Zanthoxylum armatum* Extracts: A Comprehensive Computational and Experimental Study. *Natural Product Communications*, 19(3), 1934578X241237911.
5. Bibi, N., Wajeeha, A. W., **Mukhtar, M.**, Tahir, M., & Zaidi, N. U. S. S. (2023). In Vivo Validation of Novel Synthetic tbp1 Peptide-Based Vaccine Candidates against *Haemophilus influenzae* Strains in BALB/c Mice. *Vaccines*, 11(11), 1651.
6. **Mukhtar, M.**, Khan, H. A., Ibisanmi, T. A., Faleti, A. I., & Zaidi, N. U. S. S. (2024). Computational Exploration of *Berberis lycium* Royle: A Hidden Treasure Trove for Antiviral Development. *Bioinformatics and Biology Insights*, 18, 11779322241264144.
7. Garrido-Palazuelos, L. I., Almanza-Orduño, A. A., Waseem, M., Basheer, A., Medrano-Félix, J. A., **Mukhtar, M.**, ... & Aguirre-Sánchez, J. R. Immunoinformatic approach for multi-epitope vaccine design against *Staphylococcus aureus* based on hemolysin proteins. *Journal of molecular graphics & modelling*, 132, 108848.
8. Garrido-Palazuelos, L. I., Aguirre-Sánchez, J. R., Sandoval-González, M. F., **Mukhtar, M.**, Guerra-Meza, O., & Ahmed-Khan, H. (2024). Computational Evaluation of *Fusarium nygamai* Compounds as AcrD Efflux Pump Protein Inhibitors of *Salmonella Typhimurium*. *Molecular Biotechnology*, 1-21.
9. Wajeeha, A. W., **Mukhtar, M.**, & Zaidi, N. U. S. S. (2024). Unlocking Hope: Paving the Way for a Cutting-Edge Multi-Epitope Dengue Virus Vaccine. *Molecular Biotechnology*, 1-24.
10. Mukhtar, M., Khan, H. A., Khan, H., & Bibi, A. (2024). Unlocking Nature's Arsenal: Drug design with *Zanthoxylum armatum* against Malaria.
11. Garrido-Palazuelos, L. I., **Mukhtar, M.**, Khan, S. A., Medrano-Félix, J. A., Ahmed-Khan, H., M. Alshabrmi, F., ... & Almohaimeed, H. M. (2025). Immunoinformatic approach for designing a multi-epitope vaccine against non-typhoidal salmonellosis using starvation-stress response proteins from *Salmonella Oranienburg*. *Journal of Biomolecular Structure and Dynamics*, 1-19.

## **Seminars/Conferences**

1. Poster Presentation in One Day Conference On 'Contemporary Issues in Biosciences at University of Wah, Wah Cantt.
2. Oral Presentation In "4th Multidisciplinary Students Research International Conference at University of Wah", Wah Cantt.
3. Oral Presentation In "International Conference On "Natural Sciences at The Interface of Climate Change, Food Security and Sustainability (NSICFSS)", 24-26<sup>th</sup> October 2018 in University of Kotli, Azad Jammu & Kashmir, Pakistan.
4. Poster Presentation in Three days LJI Scientific Retreat at UCLA Lake Arrowhead on 'Designing a multiepitope RNA vaccine against Dengue virus', 15-17<sup>th</sup> November 2023 in Los Angeles, CA, USA.
5. Poster Presentation in International Conference on Integrative Life Sciences (ICiLS) on 'Berberis lycium Royle: A Hidden Treasure Trove for Antiviral Development', 25-27<sup>th</sup> September 2024.
6. Poster Presentation in 1<sup>st</sup> National Health Preparedness and Resilience Conference on "Exploring *Elaeagnus umbellata* as a source of Bioactive compounds against Diarrheagenic Staphylococcus aureus", 23-24<sup>th</sup> June 2025 (Won The Best Poster Award).

## **Trainings and Certifications**

- Department of Laboratory Animal Care (DLAC) Orientation LJI, San Diego, USA.
- Infectious Diseases Fact Sheets (Flaviviruses, Covid-19, Chickunguniya) LJI, San Diego, USA.
- DLAC Sterile Room Training LJI, San Diego, USA.
- DLAC ABSL-2 Training LJI, San Diego, USA.
- Isoflurane Safety & Use LJI, San Diego, USA.

## **Achievements**

**Merit Certificate on obtaining first position.**

✓ GOLD MEDAL in BS. (Hons) Biosciences 2012-2016.

**Merit Scholarships In**

- Matriculation
- B.S (Hons)
- Talented Student's Scholarship Award

## **Referees**

**1. PROF. DR. NAJAM US SAHAR SADAF ZAIDI**

**Professor of Practice and Chairperson**

Pak-Austria Fachhochschule: Institute of Applied Sciences and Technology, Khanpur Road,

Mang Haripur, Khyber Pakhtunkhwa, Pakistan. [sadaf.zaidi@paf-iast.edu.pk](mailto:sadaf.zaidi@paf-iast.edu.pk)

## **2. PROF. DR. SUJAN SHRESTA**

### **Professor**

Division of Vaccine Discovery, La Jolla Institute for Immunology (LJI), La Jolla, San Diego, California, USA. [Sujan@lji.org](mailto:Sujan@lji.org)