

Dr. Liaqat Ali

Associate Professor (Tenured),
(DAAD & CWPT Fellow)

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Profile:

Dr. Liaqat Ali has been serving as an Associate Professor in the Department of Microbiology and Immunology at the National University of Medical Sciences (NUMS) since 2017. He earned his PhD in Molecular Infection Biology as a DAAD Research Fellow from the University of Freiburg, Germany in 2016, where he also completed his postdoctoral research on polysaccharide vaccine development in 2017. He subsequently completed a second postdoctoral fellowship at Queen Mary University of London (QMUL), UK, in the field of Immunotherapeutics and Diagnostics (recombinant monoclonal antibody development). He has over 10 years of research experience in human infectious diseases, biologics and vaccine development, and has secured several national and international competitive research grants as Principal Investigator (PI) and Co-Principal Investigator (Co-PI). His current research interests include immunotherapeutics, RNA interference (RNAi) technology and mRNA vaccine development. Within a short span of his career, he has published over 100 articles in leading peer-reviewed journals, including The Lancet and Nature. Dr. Liaqat leads an independent research group and supervises BS, MD, Master's, and PhD students. He has established strong international research collaborations with leading scientists and serves on editorial boards while reviewing for several high-impact journals. He has presented his research at numerous international conferences and has received multiple fellowships and awards for his academic and research contributions. He has also played a key role in developing undergraduate (Bachelor's) and postgraduate (Master's and PhD) academic degree programs, serving as Head of the Section. His teaching interests include Biotechnology, Molecular Biology, Immunology, Microbiology, Vaccinology and Virology. He actively contributes to academic committees and Boards of Studies at NUMS and other universities in Pakistan.

Research Interest

Molecular Infection Biology (Human Infectious Diseases), Immunotherapeutics and Biologics, and mRNA Vaccine Development.

Selected Publications

- ✓ Khan MB, Khan A,.... **Ali L** et al (2026). Multifunctional DES-based sulfur-doped graphene quantum dots as antibacterial, antioxidant and fluorescent nanosensors for ultra-sensitive and-selective detection of chromium (VI). *Microchemical Journal*. Volume 224, 117561.
- ✓ Yang J, Ren W, Yu T, **Ali L*** (2025). Biomarkers of Ageing with Potential Predicting Influenza Infection Severity and Vaccination Efficacy. *Nature npj Aging*. 11:56.
- ✓ **Ali L*** et al (2025). Molecular and structural insights into dengue virus non-structural proteins from pakistani clinical isolates for the identification of novel antiviral targets. *Virus Research* Vol 361, 199637.

- ✓ **Ali L*** et al (2024). *In silico* design of multi-epitope vaccines against the hantaviruses by integrated structural vaccinology and molecular modeling approaches. PLoS ONE 19(7): e0305417.
- ✓ Baker D, **Ali L**, Saxena G. et al., (2020). The irony of humanization: Alemtuzumab the first, but one of the most immunogenic, humanized monoclonal antibodies. *Frontier in Immunology*: 11:124.
- ✓ **For the complete list of publications, please refer to the link provided above (Google Scholar).**

Research Grants/Projects

- ✓ A new biomarker predicting haemorrhagic dengue disease (Joint collaborative project with The Pirbright Institute and the University of Surrey, UK).
- ✓ RNAi-mediated inhibition of dengue virus non-structural genes as a novel antiviral therapy (HEC).
- ✓ Integrated multimodal strategies for prevention and control of healthcare-associated multidrug-resistant pathogens in resource-limited settings (WHO).
- ✓ Innovative public health strategies for managing emerging and re-emerging zoonotic outbreaks in the Eastern Mediterranean Region (WHO).
- ✓ Cloning and engineering anti-dengue virus human monoclonal antibodies (GERIs Grant), QMUL, UK.
- ✓ Novel assay for anti-alemtuzumab neutralizing antibody detection (collaborative project with QMUL, UK).
- ✓ Sequence-Based Genetic Characterization of HCV in Pakistani Population (HEC).
- ✓ Nanocomposite-Based Antimicrobial and Osteoregenerative Bone Graft for Maxillofacial Bone Defects (NUMS, IRF).

Academic Awards and Fellowships

- ✓ Awarded as a Distinguished Pakistani Researcher and Scientist (Top 2%, 2026) by HEC, Pakistan.
- ✓ Awarded the 2025 Hands-On Training in mRNA Vaccine Manufacturing, organized by WHO and GTH-B, South Korea.
- ✓ Awarded the Charles Wallace Visiting Fellowship (2023–2024), by the British Council, UK.
- ✓ Honored with the Best Faculty Award for Research and Teaching Excellence (2024) by National University of Medical Sciences, Rawalpindi
- ✓ Awarded the 2023 Introductory Course in Biologics Development and Manufacturing, organized by GTH-B and IVI, South Korea.
- ✓ Granted the Global Engagement Research Initiation Scheme (GERIs) Award (2019–2020), Queen Mary University of London (QMUL), UK.
- ✓ Awarded the “Securing the Advanced Therapies Talent Pipeline through Apprenticeships” (2019) at Oxford BioMedica, UK.
- ✓ Awarded the NUMS Fellowship for a Research Visit to Queen Mary University of London, UK (2018–2019).
- ✓ Awarded the BartsMS Professional Preceptorship (2018) by Queen Mary University of London, UK.
- ✓ Awarded at the IV International Conference on Antimicrobial Research (ICAR 2016), Torremolinos-Málaga, Spain, by University of Freiburg, Germany,
- ✓ Granted participation in the 9th Global Summit and Expo on Vaccines & Vaccination (2015), USA, by University Medical Center Freiburg.
- ✓ Granted participation in the Fifth LERU Doctoral Summer School (2014), IGA, University of Freiburg, Germany.
- ✓ Recipient of the German Academic Exchange Service (DAAD) Fellowship for PhD studies in Germany.