Dr. Zaineb Akram

Assistant Professor

zaineb.akram@numspak.edu.pk

LinkedIn: https://www.linkedin.com/in/dr-humayoon-shafique-satti-786ba1bb/

Google Scholar: https://www.linkedin.com/in/zaineb-akram-93530250/details/publications/

Profile

Dr. Zaineb Akram is an accomplished biochemist and molecular biologist with expertise in genetics, molecular biology, hematology, immunogenetics, and stem cell research. She has standardized workflows for genetic testing and has evaluated numerous patients for diagnostic and prognostic purposes, alongside providing genetic counseling. This experience has strengthened her technical expertise and ability to integrate laboratory findings with clinical applications. Before joining NUMS, she gained over a decade of experience at the Armed Forces Bone Marrow Transplant Center and the Armed Forces Institute of Pathology, where she played a key role in establishing the lab and developing many tests. She also played a major role in clinical trials using mesenchymal stem cells. Dr. Akram has led and contributed to multiple nationally and internationally funded research projects and has an extensive publication record in high-impact journals. Her research integrates next-generation sequencing, Sanger sequencing, genetic counseling, stem cell culture, and functional genomics.

Research Interest

Molecular Diagnostics, Genetic Counseling, Translational Genomics, Regenerative Medicine

Selected Publications

Syeda Maheen Kazmi, **Zaineb Akram**, Nadia Sial, Shahzaib Yaseen and Humayoon Shafique Satti. Isolation, purification and quality control of exosomes derived from bone marrow mesenchymal stem cells. IJBNN. 2026; 5 (2). (doi/pdf/10.1504/IJBNN.2025.152488)

Mehreen Ali Khan, Suhaib Ahmed, Muhammad Arif Sadiq, Maryam Khan, Memoona Khan, **Zaineb Akram**. Landscape of somatic mutations in myeloproliferative neoplasm in Pakistani population. Pak J Med Sci. 2025;41(7):2003-2009 (doi: https://doi.org/10.12669/pjms.41.7.12129)

Wajahat Bin Naeem, Mehreen Ali Khan, **Zaineb Akram**, Tehseen Ullah Khan Afridi, Tariq Azam Khattak, Muhammad Asghar Khan, Muhammad Yousaf, Humayoon Shafique Satti. Identification of a homozygous variant in ABCG5 by panel sequencing in a Pakistani family with sitosterolemia: genotype-phenotype correlation and management considerations. Journal of Clinical Lipidology.30 Oct, 2024. (doi: 10.1016/j.jacl.2024.09.012)

Tehseen Ullah Khan Afridi, Ambrin Fatima, Humayoon Shafque Satti, **Zaineb Akram**, Imran Khan Yousafzai, Wajahat Bin Naeem, Nasreen Fatima, Asmat Ali, Zafar Iqbal, Ayaz Khan, Muhammad Shahzad, Chunyu Liu, Mathias Toft, Feng Zhang, Muhammad Tariq, Erica E. Davis, Tahir N. Khan. Exome sequencing in four families with neurodevelopmental disorders: genotype-phenotype correlation and identification of novel disease-causing variants in VPS13B and RELN. Molecular Genetics and Genomics. 30 April 2024. 299:55 (doi: 10.1007/s00438-024-02149-y)

Kamal Khan, Sarmad Mehmood, Chunyu Liu, Maimoona Siddiqui, Arsalan Ahmad, Belqees Yawar Faiz, Barry A. Chioza, Emma A. Baple, Muhammad I. Ullah, **Zaineb Akram**, Humayoon S. Satti, Raees Khan, Gaurav G.Harlalka, Muhammad Jameel, Talia Akram, Shahid M. Baig, Andrew H. Crosby, Muhammad J. Hassan, Feng Zhang, Erica E. Davis, Tahir N Khan. A recurrent rare intronic variant in CAPN3 alters mRNA splicing and causes autos om al recessive limb-girdle muscular dystrophy-1 in three Pakistani pedigrees. American Journal of Medical Genetics. 2022; 188(2):498-508. (doi: 10.1002/ajmg.a.62545)

Awards/Achievements/Grants

Received 1st Prize in the Poster Session at Practice Changing Updates (Pakistan Society of Haematology), November, 2025.

Received 1st Prize in Oral Presentation at Practice Changing Updates (Pakistan Society of Haematology), November, 2024.

Received 1st Prize in Oral Presentation at Haemcon 2021: 23rd Annual Haematology Conference (Pakistan Society of Haematology), February, 2021.

Received a Travel Grant for ICBMT 2018, Republic of Korea (Korean Society for Blood and Marrow Transplantation), August 2018.

Recipient of the International Research Support Initiative Program (IRSIP) Scholarship, Higher Education Commission (HEC), Pakistan, to National Heart, Lung, and Blood Institute, National Institute of Health, Maryland USA, in February 2016.