Muhammad Aslam

Date of birth: 01/04/1994 | **Nationality:** Pakistani |

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RESEARCH EXPERIENCE

01/04/2025 – 30/09/2025 Würzburg, Germany
MASTER THESIS University ofWuerzburg

1.Thesis Project; Biofabrication of Vascularized Mini-bones through integration of Blood Vessel Organoids and Mineralized Osteogenic Spheroids
2.Supervision of students from Eye clinic for Spheroids fabrication, Cryosectioning, Histology, IF, Imaging etc
3.Supervision of Internship Student to develop Organoids and Spheroids

01/05/2024 – 30/03/2025 Würzburg, Germany
INTERNSHIP University of Würzburg

Biofabrication and Characaterization of mineralized ADSCs-derived spheroids

01/04/2023 – CURRENT Berlin, Germany
VOLUNTEER RESEARCHER FREIE UNIVERSITY, BERLIN

1. Molecular characterization of Fasciola samples collected from different areas of Pakistan
2. 18SrRNA basedspecies-specific markers are used in PCR to differentiate different species

01/10/2022 – 30/03/2023 Köthen, Germany
MASTER STUDENT PROJECTS ANHALTUNIVERSITY OF APPLIED SCIENCES

1.Impact of cultivation conditions on yield, nutritional composition and aroma compounds of pink oyster mushroom (*Pleurotus djamor*)
2.Effect of preparation methods of coffee on extraction of caffeine using High Performance Liquid Chromatography (HPLC)

20/08/2016 – 25/05/2018 Lahore, Pakistan
MASTER THESIS RESEARCH LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS)

1. Molecular cloning, expression and purification of antigenic regions of *Suppressor of Sable* and *Ballchen* of *Drosophila melanogaster*
2. Generation of antibodies against antigenic region of Ballchen in rabbits

EDUCATION AND TRAINING

01/04/2022 – 10/12/2025
M.SC.MOLECULARBIOTECHNOLOGY Anhalt University of Applied Sciences, Germany

1.Molecular Diagnostics
2.Enzyme Development
3.Genetics and Genetic Engineering
4.Pharma Biotechnology
5.Recombinant Protein Production
6.Cellular Signaling
7. Vaccines
8.Project Management

Final grade 1.50 German grade

Thesis: Biofabrication of Vascularized Mini Bones with Bone Marrow using hASCs-derived Osteogenic Spheroids and hiPSCs-derived Blood Vessel Organoids

24/08/2016 – 25/06/2018

MS BIOLOGY LahoreUniversity of Management Sciences (LUMS), Pakistan

1.Advanced Methods in Biology
2.Advanced Cell and Molecular Biology
3.Advanced Biochemistry
4.Genetics and Genomics
5. Computational Biology
6. Immunology
7.Eukaryotic Development
8.Biophysical Techniques

Final grade 3.02/4.0

Thesis: Molecular cloning, expression and purification of Drosophila suppressor of sable and Ballchan

01/10/2014– 08/08/2016

M.Sc. BIOLOGY Animal Sciences Quaid e Azam University (QAU), Pakistan

1.General Genetics
2.Cell Biology
3.Molecular Biology
4.Principles of Biochemistry
5.Introduction to Evolution
6.Animal Physiology
7.Developmental Biology
8.Medical Microbiology

Final grade 2336/3100

01/10/2012 – 08/08/2014

B.SC. University of Gujrat, Pakistan

1. Botany
2. Zoology
3. Chemistry

Final grade 573/800

PUBLICATIONS

1. Khan, A. A., Ali, M. S., Babar, F., Fatima, A., Shafqat, M. A., Asghar, B., ... & Gondal, M. A. (2021). Lack of CpG islands in human unitary pseudogenes and its implication. Mammalian Genome, 32(6), 443-447.

EMPLOYMENT HISTORY

01/09/2019 – 31/01/2022

Teaching Assistant

1. Supervision of practical classes of bachelor students of the department
2. Communication between students and professors
3. Assistance to professors in their teaching

DIGITAL SKILLS

Bioinformatics Skills

Image analysis using Imaris, ImageJ and ilastik, Primer 3 for primer designing, Ensemble genome browser KEGG, Regulon DB UCSC Microbial Genome Browser DAVID BLAST databases, Clustal W, SPSS software, oligocalcalculator, NEB Cutter v2.0, RNA-Seq, PyMol, GALAXY, Swiss Modeler

Programming Skills

Python Language - Basic knowledge

Research SKILLS

1.Cell culture of hIPSCs and primary human cells
2.Spheroids fabrication using hydrogel moulds
3.Development and Characterization of IPSCs-derived Blood Vessel Organoids
4.Viability Assay (Calcein AM and Propidium Iodide)
5. Pico Green Assay
6.Histology (H&E, von Kossa, Mason Trichrome, Geisma staining)
7. Immunofluorescence
8.Keyence, Calibri fluorescence and confocal microscopy
9.Imaging Analysis (ImageJ(Fiji), Ilastik, QuPath etc)
10.RNA extraction, cDNA synthesis and qRT-PCR and data analysis
11.Sample preparation for scanning electron microscopy (SEM) and Energy Dispersive X-ray Spectropscopy (EDX)
12.Inductivey Coupled Plasma Mass Spectroscopy (ICP-MS)
13.RT-PCR, Conventional PCR, gel electrophoresis,
14.Restriction fragment length Polymorphism
15.Western blotting, SDS-PAGE,
16.High Performance Liquid Chromatography (HPLC), Immobilized Metal Ion affnity Chromatography (IMAC)
17.Drosophila maintenance and handling,
18.Antibodies generation,
19. CRISPR-Cas9
20.Transfection into plants
21.Detailed dissection of different model organisms including fruit flies, frog
22. ELISA
23.Bacterial staining techniques including Gram-staining, acid-fast staining, endospore staining, capsule staining
24.Refining and analysis of expression data using GALAXY software
25.Protein structure modeling by using SWISS Modeler

ANALYTICAL SKILLS

1. Excellent verbal and written communication skills
2. Efficient as team member
3. High negotiation and presentation skills
4. Empathetic listener
5. Eloquent speaker

Conferences & Workshops

1.Attended Scientific Conference of the Society for Laboratory Animal Science GV-SOLAS in Würzburg, Germany, 2024
2.Attended Trieste Next Festival with theme of, "THE HORIZONS OF INTELLIGENCE. KNOWLEDGE AND THE HUMAN-TECHNOLOGY FRONTIER", Trieste, Italy, 2024
3.Attended 2-days Imaris workshop at Rudolph Virchow Center, Würzburg to visualize and analyze the images.

Poster Presentations

1.Research poster presentation titled, "Osteoinductive Mineral Particle-Mediated Differentiation in Stem Cell Spheroids for Scalable Fabrication of Bone-like Microtissues" at International Society for Biofabrication (ISBF), 2025

Languages

Mother tongue(s): ***PUNJABI*** | ***URDU***

Other language(s): ***ENGLISH - C1*** | ***GERMAN - A1***

Recommendations

Dr. Taufiq Ahmad (Master Thesis Supervisor)
Scientific co-worker, University of Wuerzburg

Phone; 0931-201-73590

Email; taufiq.ahmad@uni-wuerzburg.de

Dr. Christin Fischer (S1 project Supervisor)

Associate Professor, Anhalt University of Applied Sciences

Phone; (+49) 3496672588

Email; christin.fischer@hs-anhalt.de

Dr. rer. nat. Malik Salman Haider (I have supervised his students)

Phone; 01725129622

Head of Research Laboratories, Research Assistant,

University Hospital Würzburg

Email; haider_m@ukw.de