

# Iqra Zulfiqar

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**Address:** 34000, Sheikhpura, Pakistan (Home)

## ● EDUCATION AND TRAINING

2016 – 2020 Lahore, Pakistan

**BACHELORS IN BIOTECHNOLOGY** University of veterinary and animal science

**Website** <https://uvas.edu.pk/> | **Final grade** 3.67/4.00

2020 – 2022 Lahore, Pakistan

**MASTER OF SCIENCE IN MOLECULAR BIOLOGY** University of punjab

**Website** <http://www.pu.edu.pk/> | **Final grade** 3.66/4.00 |

**Thesis** Optimization of PCR Conditions to amplify LEX3 microsatellite Locus for Equine DNA Profiling

## ● WORK EXPERIENCE

2021 – 2022 Lahore, Pakistan

**RESEARCHER** CENTRE FOR APPLIED MOLECULAR BIOLOGY (CAMB), UNIVERSITY OF THE PUNJAB

1. Here I developed protocols and SOPs for the lab, prepared tests and assessed results, and managed lab data. I worked on two projects that included the development of a multiplex assay for equine using STR microsatellite markers and the development of the sexual assault evidence kit.
2. Organized informational seminars and workshops.

08/09/2022 – 17/12/2022 Lahore, Pakistan

**INTERNSHIP** SOCIAL SECURITY HOSPITAL, LAHORE

Practiced and learned Biochemical techniques including extraction of nucleic acids from blood and tissues, Elisa, Cell culture, streaking, Serological Testing, Complete blood count (CBC), Histological and immunological staining, Prothrombin time (PT) Partial Thromboplastin Time (PTT) and real time PCR.

## ● ADDITIONAL INFORMATION

### LABORATORY SKILLS

#### Wet Lab Skills

- Polymerase Chain Reaction (qRT-PCR, Gradient PCR, Conventional PCR)
- Gel Electrophoresis
- DNA extraction from blood (ORGANIC METHOD/KIT METHOD) and RNA Extraction (KIT METHOD)
- Spectrometry and Nanodrop
- Cell streaking and culturing
- Elisa, Western Blotting and SDS- Page
- Complete blood count (CBC), Histological and immunological staining
- Prothrombin time (PT) and Partial Thromboplastin Time (PTT)
- CLIA technology
- Blood Group testing

#### Bioinformatics (Dry Lab)

- Saves Analysis, Galaxy Web, Itasser, vaxijen.
- Molecular docking, protparam, GOR4.
- Insilico PCR, Snap Gene, Insilico Cloning, and IEDB.
- Navigating NCBI databases such as PubMed, and EMBASE data banks NCBI and UniProt, Kegg.

- Other programs: Clustal Omega, SWISS-MODEL, Jmol, RASMOL, and Blast.
- Epitope-based vaccine design
- Structure analysis & prediction, restriction mapping by NEB Cutter v2.0, Toxinpred, Primer 3, Allertop.

## OTHER SKILLS

### Soft Skills

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- Written and Verbal skills
- Organizational skills
- Communication and Interpersonal Skills
- Team-oriented and Independent

### Digital Skills

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- Microsoft Excel
- Microsoft Powerpoint
- Microsoft Word
- Microsoft Office

## PUBLICATIONS

1. Zulfiqar, I. Wahab, A., Saeed, M. U., Hussain, N., Sabar, M. F., Bilal, M. (2022). Nanoarchitectonics: role of nanomaterials in vaccination strategies for curbing SARSs-CoV-19/COVID-19. Nanofabrication. <https://doi.org/10.37819/nanofab.007.193> 2.

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2. Saeed, M. U., Hussain, N., Zulfiqar, I., Raza, A., Bilal, M. (2022). Tumor cell dormancy; mechanisms, and pharmacological approaches to target dormant cells for countering tumor. Journal of Drug Delivery Science and Technology. <https://doi.org/10.1016/j.jddst.2022.103645>

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3. Ayub, J., Saeed, M. U., Hussain, N., Zulfiqar, I., Mehmood, T., Iqbal, H. M. N. (2022). Designing robust nano-biocatalysis using nanomaterials as multifunctional carriers – Expanding the application scope of bio-enzymes. Topics in Catalysis. <https://link.springer.com/article/10.1007/s11244-022-01657-8>

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4. Ali, A. (2022). Nanotechnology for Oil-Water Separation: From Fundamentals to Industrial Application. Elsevier. <https://shop.elsevier.com/books/nanotechnology-for-oil-water-separation/ali/978-0-323-95517-1>

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5. Fatima, M., Hussain, S., Zulfiqar, I., Shehzadi, I., Babar, M., Fatima, T. (2023). Lifestyle Modifications Needed Post COVID-19 Infection. In Clinical Practice and Post-Infection Care for COVID-19 Patients (ch.004). <https://doi.org/10.4018/978-1-6684-6855-5.ch004>

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## CONFERENCES AND SEMINARS

### Conferences, Seminars and Webinars

- Genome engineering Symposium by Havard medical school (November 2023)
- APSN webinar: understanding the molecular mechanisms of lysosomal homeostasis and implication in diseases (September 2023).
- Virtual Hertie Data Science Summer School. (August 2023)
- Online international conference on biological and medical sciences (ICBMS-2023)
- Completed a 4-month webinar series on genomics and bioinformatics. (May 2023)
- One-day training workshop on Endnote X9 Basic organized by CAMB, PU (March 2022)
- Hands-on training workshop on structural Bioinformatics at CEMB PU LHR from 23/02/22 to 25/0/22
- Seminar “Next-generation Sequencing Technology (Illumina) and its applications” organized by CAMB (October 2021)
- Workshop on PCR and Real-time PCR in CAMB, Lahore.
- 4th International Symposium on Advances in Molecular Biology of Plants and Health Sciences at CEMB PU LHR on 23/12/2021 and 24/12/2021
- Cancer conference at Cancer Research Center, Punjab University, Lahore, from 13/02/2020 to 15/02/2020.

## ONLINE COURSES

### INTRODUCTION TO THE BIOLOGY OF CANCER

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JOHN HOPKINS UNIVERSITY (COURSERA)

INTRODUCTION TO BREAST CANCER

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YALE UNIVERSITY (COURSERA)

UNDERSTANDING CANCER METASTASIS

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JOHN HOPKINS UNIVERSITY (COURSERA)

Immunology: Immune Failures and Cancer Immunology

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IMPERIAL COLLEGE LONDON (COURSERA)

BIOINFORMATICS FOR BIOLOGISTS: ANALYSING AND INTERPRETING GENOMICS DATASETS

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WELLCOME CONNECTING SCIENCE (FUTURE LEARNER)

The Science Of Stem Cells

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AMERICAN MUSEUM OF NATURAL HISTORY

Bioinformatics Course 201

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Genomac Hub

## HONOURS AND AWARDS

12/02/2024

**TAGC Registration Support for Global Scientist Award – Genetics Society of America** TAGC, or The Allied Genetics Conference, is GSA's flagship conference that brings together scientists from multiple international biological research communities to share cutting-edge science, foster new collaborations, and strengthen existing relationships. With an exciting mix of sessions that focus on advances in genetics and genomics in a variety of research organisms, TAGC 2024 is a unique conference designed to shape the big picture, include diverse voices, and showcase the fundamental unity of biology.

## NETWORKS AND MEMBERSHIPS

08/2023 London, England, United Kingdom (remote)

**Microbiology Society** Executive Member

08/2023 9 Appold Street, London, EC2A 2AP

**British Society For Immunology Member** Student member

20/11/2023 – 31/12/2025 120 Executive Boulevard Suite 550 Rockville, MD 20852 USA

**Genetics Society of America** Member

01/2024 Alexandria, Virginia, United States

**American Society of Clinical Oncology** Member