

Usama Sardar

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EDUCATION

UNIVERSITY OF PESHAWAR, PAKISTAN

2018-2022

BS IN ZOOLOGY

SPECIALIZATION: **PARASITOLOGY**

MAJOR COURSES: CELL AND MOLECULAR BIOLOGY, PARASITOLOGY, MICROBIOLOGY, GENETICS, BIOCHEMISTRY, DEVELOPMENTAL BIOLOGY, BIOTECHNOLOGY, PHYSIOLOGY, ECOLOGY, EVOLUTION, BIOINFORMATICS

EXPERTIES: CANCER BIOLOGY, COMPUTATIONAL BIOLOGY AND IMMUNOLOGY

BS RESEARCH PROJECT: RESEARCH ON HELMINTH PARASITES, INVESTIGATING THEIR LIFE CYCLES AND INTERACTIONS WITH HOSTS AND STUDYING THE POLIO VIRUS PREVALENCE AND ITS IMPACT ON PUBLIC HEALTH

PROFESSIONAL EXPERIENCE

RESEARCH ASSOCIATE

July-2023 to Present

DEPARTMENT OF LIFE SCIENCE

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS), LAHORE, PAKISTAN

MAJOR PROJECTS:

1. Computational Antibody/Nanobody Design for Target Antigen
2. Understanding the mechanism of cancer drug resistance and to devise strategies to overcome such resistance .

RESEARCH ASSISTANT

Sep-2022 to June 2023

DEPARTMENT OF COMPUTER SCIENCE

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS), LAHORE, PAKISTAN

MAJOR PROJECTS:

1. Antibody/Nanobody and Antigen Binding Prediction
2. Neuroimaging (Brain Age Estimation Using MRI Features)
3. Detection of Alzheimer's Disease in Early Stage (MCI) using MRI, CSF and Genetic Markers .

TEACHING ASSISTANT

Fall 2022, Fall 2023

BIO313: CELL AND MOLECULAR BIOLOGY

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS), LAHORE, PAKISTAN

PUBLICATIONS LINK

1. **Usama Sardar**, Sarwan Ali, Muhammad Sohaib Ayub, Muhammad Shoaib, Khurram Bashir, Imdad Ullah Khan, and Murray Patterson. "Sequence-Based Nanobody-Antigen Binding Prediction ".International Symposium on Bioinformatics Research and Applications (ISBRA 2023)
2. Sarwan Ali, **Usama Sardar**, Murray Patterson, and Imdad Ullah Khan. "Efficient Sequence Embedding For SARS-CoV-2 Variants Classification ". International Symposium on Bioinformatics Research and Applications (ISBRA 2023)
3. Sarwan Ali, **Usama Sardar**, Murray Patterson, and Imdad Ullah Khan. " BioSequence2Vec: Efficient Embedding Generation for Biological Sequences " In Pacific-Asia Conference on Knowledge Discovery and Data Mining, pp. 173-185. Springer Nature Switzerland, 2023.
4. Mansoor Ahmed, **Usama Sardar**, Sarwan Ali, Shafiq Alam, Murray Patterson, and Imdad Ullah Khan. " Robust Brain Age Estimation via Regression Models and MRI-derived Features " In International Conference on Computational Collective Intelligence, pp. 1-12. Springer International Publishing, 2023.
5. Taslim Murad, Sarwan Ali, **Usama Sardar**, Imdadullah Khan, Murray Patterson, ." Scalable And Efficient Embedding Method For Biological Sequence Analysis" Under Review at Transactions on Big Data

WORKSHOPS AND TRAININGS

1. Biosymposium 2023 - Structural Biology Approaches in Drug Discovery and Vaccine Research
2. International Biophysics Workshops
3. Generation of Ideas

CERTIFICATIONS(COURSERA)

1. Introduction to Breast Cancer , Yale University, USA [\[link\]](#)
2. Thoracic Oncology , University of Michigan, USA [\[link\]](#)
3. Health After Cancer: Cancer Survivorship for Primary Care , Stanford University, USA [\[link\]](#)
4. Bacteria and Chronic Infections , University of Copenhagen, Denmark. [\[link\]](#)
5. Tropical Parasitology: Protozoans, Worms, Vectors and Human Diseases, Duke University, USA [\[link\]](#)
6. Understanding the Brain: The Neurobiology of Everyday Life, The University of Chicago, USA [\[link\]](#)
7. Bioinformatics: Introduction and Methods , Peking University, China [\[link\]](#)
8. Biology Meets Programming: Bioinformatics for Beginners, University of California, USA [\[link\]](#)
9. Introduction to Food and Health ,Stanford University , USA [\[link\]](#)
10. Chemicals and Health , Johns Hopkins University, USA [\[link\]](#)

SKILLS

MOLECULAR BIOLOGY TECHNIQUES	PCR Gel Electrophoresis DNA/RNA extraction quantification Cell Culture Centrifugation Western Blot ELISA Screening
COMPUTATIONAL BIOLOGY TECHNIQUES	Prediction of Protein Structure and Function Data Analysis of Biological Data Biomedical Image Analysis Phylogenetic Tree Construction Computer Simulation Biopython Protein Sequence and Structural Alignment
TECHNICAL SKILLS	C++ \LaTeX MS Office
OTHER SKILLS	Technical Writing Leadership Management

REFERENCES

DR. MUHAMMAD SHOAIB

ASSOCIATE PROFESSOR | RESEARCH ADVISOR

DEPARTMENT OF *LIFE SCIENCES*, LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS), PAKISTAN

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DR. KHURRAM BASHIR

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DR. MURRAY PATTERSON

ASSISTANT PROFESSOR | RESEARCH SUPERVISOR

DEPARTMENT OF *COMPUTER SCIENCE*, GEORGIA STATE UNIVERSITY, USA

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