

Curriculum Vitae

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Experience:

Lab Supervisor: July 2017 to May 23, Shifa College of Medicine, STMU, Islamabad.

Acting In-charge: April 2014 to June 2017, Shifa College of Medicine, STMU, Islamabad.

Technical Assistant: May 2008 to March 2014, Shifa College of Medicine, Islamabad.

Research Assistant: Nov 2007 to April 2008, COMSATS Institute of Information Technology, Islamabad

QUALIFICATIONS:

Ph. D in Biochemistry and Molecular Biology, COMSATS University Islamabad, Islamabad, Pakistan
(Ph.D. Thesis submitted, December 2022)

M.S Biological Sciences (majors in Bioinformatics) Capital University of Science and Technology (Mohammad Ali Jinnah University), Islamabad, Pakistan.

B.S (Bioinformatics) COMSATS Institute of Information Technology (COMSATS University Islamabad), Islamabad, Pakistan.

PUBLICATIONS:

Khan, MS, Long non-coding RNAs play a vital role in Diabetic Foot Ulcer wound healing, (2022), JPAD.

Khan, MS, Miniature Non-Coding RNA- A Key Player in the Chronic Wound Healing, 2022, NanoWorld Journal, 7 (4), 46-50.

Khan, MS, Infecting Microorganisms and Their pattern of Susceptibility to Antimicrobial Drugs in Patients with Diabetic Foot Infections in Tertiary Care Hospitals in Islamabad, Pakistan (Submitted)

Khan, MS, Small RNA Sequencing of Diabetic Foot Ulcer and Controls (In pipeline)

Khan, MS, Metagenomics 16s rRNA sequencing of Diabetic Foot Ulcer (In pipeline)

Tariq, K., Malik, S.B., Ali, S.H.B., **Khan, M.S.**, Azam, M., Waheed, N.K. and Qamar, R. Association of Pro12Ala polymorphism in PPAR γ with proliferative diabetic retinopathy. Molecular Vision, 19: 710-717 (2013)

Khan, M.S., Zahra, S., and Rashid H. Bioinformatic analysis to discover putative drug targets against diarrheal causative agents. African Journal of Biotechnology, 11(8): 2058- 2066 (2012).

Hashmi, T., **Khan M.S.**, Valeed, Z afar, S., Bokhari, H. In silico identification of vaccine candidates against enteric pathogens by a comparative genome sequence approach. Asia Pacific Journal of Molecular Biology and Biotechnology. 18(3):327- 331 (2010).

Shaiq, P. A., Stuart, P.E., Latif, A., Schmotzer, C., Kazmi, A.H., **Khan, M.S.**, Azam, M Genetic associations of psoriasis in a Pakistani population. British Journal of Dermatology, 169:406-411 (2013).

Azam, M., **Khan, M.S.**, Collin, R.W.J., Orth, U., van Genderen, M.M., den Hollander, A.I., Cremers, F.P.M. and Qamar, R. A homozygous p.G lu150Lys mutation in the opsin gene of two Pakistani families with autosomal recessive retinitis pigmentosa. Molecular Vision, 15:2526-2534 (2009).

Research travel grant awarded:

Higher Education Commission, Pakistan (Six months travel grant to **University of Copenhagen** at RTH (RNA Technology Hub) from March 2021 to September 2021).

Research grant awarded:

COMSATS University Islamabad, Pakistan (expression analysis (Role of miRNAs in Diabetic Foot Ulcer))

Teaching Experience:

Courses: Biosafety and Biosecurity (undergraduate course), Nutritional Biochemistry (Post graduate course), and supervise undergraduate practical of Biochemistry to MBBS students and research work of M. Phil and undergraduate students.

Technical Expertise:

Polymerase Chain Reaction (PCR), Real-Time PCR (RT-PCR), Homozygosity Mapping, Disease Gene Identification, Poly Acrylamide Gel Electrophoresis (PAGE), Agarose Gel Electrophoresis, Restriction Fragment Length Polymorphism (RFLP), ARMS PCR, DNA/RNA Extraction. High Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), Homogenization, Cell/Tissue culture.

Molecular Diagnostics:

Qualitative and quantitative PCR of HBV, HSV and CMV using real-time PCR (Rotor Gene). Qualitative and quantitative PCR of HCV using Roche Amplicor automated detection system and conventional PCR.

HCV genotyping using Roche linear array detection kit. Detection of *Mycobacterium tuberculosis* in different body fluids like human blood, cerebrospinal fluid, sputum and urine etc. HLA-B27 allele in humans.

Bioinformatics Skills:

RNA seq analysis, BioEdit, Homozygosity Mapper, Primer3, NEB Cutter, UCSC genome browser, Ensemble genome browser, etc. Cytoscape, DAVID, Pathway Analysis, Drug interaction Viena package, Python, C/C++, Visual Studio. R language and packages.

Computer Application:

MS Office, Corel Draw, End Note, Reference Manager, Adobe photoshop, Linux OS (Ubuntu), R-Packages

Administrative Skills:

Problem solving related to the diagnostics and research, Handling of critical issues, communication, staff management, organization, job prioritization, information handling etc.

Courses Studied in Ph.D.

Bioinformatics, Computer Aided Drug Designing, Molecular Genetics Protein chemistry, Report writing, and Research Techniques,

Courses Undertaken in Master of Science in Bioinformatics

Advanced Bioinformatics, Advanced Molecular Biology, Applied Biotechnology, Synthesis and Regulation, Eukaryotic Regulatory Mechanisms, Drug Design & Development, Advanced Analysis of Algorithms, and Theory of Computation

Courses Studied in Bachelor of Science in Bioinformatics

Bioinformatics I, II, and III, Introductory Protein Bioinformatics, Literature search in Bioinformatics, Fundamental of Biotechnology, Application of Biotechnology, Social, Ethical and Legal aspects of Biotechnology, Fundamental of Genetics, Cancer Genetics, Molecular Genetics, Protein Chemistry, Principle of Biochemistry, Clinical Biochemistry, Biochemistry of Gene Expression, Cell Communication, Introductory Molecular Biology, Introduction to Genomics, Developmental Biology, Fundamentals of Microbiology, Essential techniques in Biochemistry and Molecular Biology, Cell Biology, Medical Microbiology, Immunology, Statistical Methods in Biology, Advanced Statistics, Mathematics I, Calculus, Discrete Mathematics, Modeling and Simulation, Computing Fundamentals, Algorithms, Introduction to Data Structures, Object Oriente Programming, Computer Graphics, Neural Network, and Artificial Intelligence

REFERENCES

1. Dr. Muhammad Ajmal, Associate Professor, Department of Biosciences, COMSATS University Islamabad, Islamabad, Pakistan. Email: chmajmal@gmail.com, Phone: +92 9049 6107.
2. Dr. Abdul Aziz, Assistant Professor, Department of Computer Science & Bioinformatics, Khushal Khan Khattak University, Karak, KPK, Pakistan. Email: abdul.aziz@kkkuk.edu.pk, Phone: +92 927 291 021
3. Dr. Waqas Ahmed, Assistant Professor, Department of Microbiology, The University of Haripur, Haripur, KPK, Pakistan. Email: waqas.ahmed@uoh.edu.pk, Phone: +92 995 920 657.
4. Dr. Masood Zaka, Bioinformatics Scientist, Enara Bio, The Oxford Science Park, UK. Email: masood.zaka@enarabio.com, Phone: +44 1865 632769.
5. Dr. Liaqat Ali, Postdoctoral Researcher, Department of Pharmacy, University of Texas at Tyler, USA. Email: liaqatali@uttyler.edu, Phone: +1 785 7706594.