

## Muhammad Farhan Khan

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## Profile

I am keen to embark on a career where I can serve in a challenging and dynamic environment towards a successful career by making the best out of my professional abilities and interpersonal skills. I see myself as an active contributor to a team of ambitious people and thereby enhance my knowledge and personality.

## Experience

### **JUNE 2021 — Till Date | LECTURER**

Department of Forensic Medicine, University of Health Sciences. Lahore, Pakistan

### **DECEMBER 2021 — JUNE 2021 | Manager Labs**

Al Khidmah Foundation Central Punjab Head Office J block Johar Town Lahore, Pakistan

### **MARCH 2020 — DECEMBER 2020 | Technical Supervisor**

Molecular Virology Department. Chughtai Lab Head Office Lahore, Pakistan.

### **SEPTEMBER 2016 — MAY 2017| LECTURER**

Institute of Molecular Biology and Biotechnology. The University of Lahore, Pakistan.

### **DECEMBER 2013 — AUGUST 2014 | RESEARCHER**

Department of Trace Evidence, Punjab forensic Science Agency (PFSA), Lahore, Pakistan.

### **AUGUST 2013 - DECEMBER 2013 | INTERNSHIP**

Crime Scene Investigation Department, Punjab Police (PP), Lahore, Pakistan.

### **JULY 2010 - JULY 2011 | INTERNSHIP**

Proteomic Lab, School of Biological Science (SBS), PU, Lahore, Pakistan.

### **AUGUST 2009 - JULY 2010 | SUBJECT SPECIALIST**

Zoology, BSc. Allama Iqbal Colleges, Gazi Road Lahore, Pakistan.

## Education

### **PhD FORENSIC SCIENCES | 2025**

Department of Forensic Medicine, University of Health Sciences. Lahore, Pakistan

#### **RESEARCH TITLE**

Forensic Characterization of X Chromosomal STRs in Punjabi and Kashmiri Population.

### **M. PHIL FORENSIC SCIENCES (FORENSIC GENETICS) | 2014**

Institute of Biochemistry and Biotechnology, University of Veterinary and Animal Sciences, Lahore, Pakistan

#### **RESEARCH TITLE**

Microscopic Comparison of Human Hair among Three Male Generations of Five Caste in Punjab, Pakistan.

### **M.SC Molecular Biology & Biotechnology | 2011**

Institute of Molecular Biology and Biotechnology, University of Lahore, Lahore, Pakistan

#### **RESEARCH TITLE**

Expression analysis and molecular modeling studies of human leptin protein.

## BACHELOR OF SCIENCES | 2008

Majors Zoology, Applied Psychology and Chemistry

### Skills

#### LABORATORY TECHNIQUES

Experimental designs, Writing research grants, General Molecular Biology techniques (DNA/RNA extraction, Electrophoresis, Blotting techniques, Real time PCR, SNaPshot technology, Genotyping & Sequencing and NGS, Forensic DNA methodologies (processing of biological evidence, Quantification and amplification of DNA, Analysis and troubleshooting, calculation of forensic parameters), General Biochemistry techniques used in diagnostic laboratories, Cytogenetics (Karyotype analysis, FISH) Finger printing and development, Finger print identification, Crime Scene Investigation, Crime Scene photography, Fire Arms & Tools Marks, Serology Tests, Forensic DNA analysis, Handling of Trace evidence, GC/MS, HPLC, LC/MS-MS, Scanning Electron Microscopy (SEM)

#### COMPUTER LITERACY

Organization of computer system, windows & Mac OS X, Primer 3, PowerStat, SPSS, Arlequin, Phylip, MEGA 2, Sequence Navigator, Gene Mapper, Gene Marker, Genescan, Geneious Pro. End Note, Papers, Zotero reference manager and a number of apps on mac as well as windows platforms

#### LANGUAGE SKILLS

Throughout academic career with English as medium of instruction

### Activities & Awards

- 1<sup>st</sup> prize won the second All Punjab Universities Innovation Expo 2023 organized by the Punjab Higher Education Commission.
- Won Pakistan Science Foundation Travel Grant PFS/P&D/TG-ND (814)/2022 to attend (ICCR-2022) 20-12-2022
- Won Pakistan Science Foundation Travel Grant PFS/P&D/TG-ND (750)/2022 to attend (ICBATS2022)
- Several certificates of excellence during under-graduation as graduate degree program.
- Certificates of excellence on dynamic participation in academic and co-curricular activities.
- 1<sup>st</sup> position in debating competition BISE Lahore.
- 2<sup>nd</sup> position in Quaid-e-Azam quiz competition BISE Lahore .
- 2<sup>nd</sup> position in Basketball championship District schools competition .
- 1<sup>st</sup> position thrice in college debating competition .
- 1<sup>st</sup> position in University of Lahore debating competition .
- 1<sup>st</sup> position in university of Lahore drama competition .
- 4<sup>th</sup> position in Shah Givna International Debating Competition UCL .
- **Best anchor person of UOL.**
- **Organizer IBBT departmental annual festivals 2013 & 2014 Uvas**
- **Organizer annual spring festival 2014 at UVAS Lahore**
- Won best debater award in M.Sc. at University of Lahore, Pakistan.

### Conference & Workshops

- Short Course on Biostatistics and Data Analysis Methodologies Training.
- Workshop on Bioinformatics .
- 3 day workshop on PRIMER TO RECOMBINANT DNA TECHNOLOGY.
- IADSR International Conference 2012 Fundamentals of Conducting and Reporting Research One day Symposium on Forensics from ART to Science.
- Third National Symposium on Recent Trends in Endocrinology and Reproductive Sciences. Molecular Biology & Laboratory Medicine at King Edward Medical University Lahore. International .
- Symposium on Molecular Forensics Emerging Trends: 2014 at UHS Lahore.
- National awareness conference on “Tuberculosis a zoonosis” Held on 16<sup>th</sup> April. 2013 at UVAS, Lahore.
- Technical seminar on “MONTANDIDE” Held on 3<sup>RD</sup> Oct., 2013 at UVAS, Lahore
- National conference on “Forensic Toxicology” at Armed Forces Institute of Pathology, Pakistan.

- Workshop on disaster management by Red Crescent.
- I have completed the course of “Research Ethics” from university of Maryland, Baltimore, U.S.A
- 3 Months internship Crime Scene Investigation under the supervision of S.S.P investigation Punjab Police
- Pakistan Symposium on Forensic Sciences, PFSA Lahore Pakistan
- 1st international conference on Forensic Science and Justice at Government Collage University Lahore from October 21-24, 2014
- International Conference of Forensic Medicine and Toxicology at Punjab Medical College Faisalabad 25<sup>th</sup> to 26<sup>th</sup> Feb, 2017.
- Training of Crime Scene and Blast Scene organized by Punjab Police at The University of Lahore 7<sup>th</sup> to 8<sup>th</sup> Feb, 2017.
- International Conference on Cyber Resilience (ICCR) 2022 Dubai, UAE.
- International Conference on Business Analytics for Technology and Security (ICBATS), 2023, Dubai, UAE.

## Publication

1. Comparative study to assess coagulation abnormalities in breast cancer Toraiz Ahmed<sup>1</sup>, Rana Shakil Ahmed<sup>2</sup>, Muhammad Usman Basharat<sup>1</sup>, Muhammad Hassan Mushtaq<sup>1</sup>, Shakira Sadiq Gill<sup>1</sup>, Abdur Rehman Khawaja<sup>3</sup>, Abdul Basit<sup>\*4</sup>, Arman Khan<sup>4</sup>, *Muhammad Farhan Khan*<sup>4</sup> **Adv. life sci.**, vol. 1, no. 2, pp. 96-103, November 2013
2. Prevalence of HCV in  $\beta$ -thalassemia major patients visiting tertiary care hospitals in Lahore — Pakistan Shahid Nazir<sup>1</sup>, Ahmad Faraz<sup>1</sup>, Naeem Shahzad<sup>2</sup>, Nasir Ali<sup>3</sup>, Muhammd Arman Khan<sup>4</sup>, Mazhar Iqbal<sup>2</sup>, *Muhammad Farhan Khan*<sup>4</sup>, Toraiz Ahmed<sup>5</sup>, *Khan*<sup>4</sup> **Adv. life sci.**, vol. 2, no. 1, November 2014
3. Adnan, A., Rakha, A., Nazir, S. *Muhammad Farhan Khan*, Sibte Hadi, Jinfeng Xuan. Evaluation of 13 rapidly mutating Y-STRs in endogamous Punjabi and Sindhi ethnic groups from Pakistan. *Int J Legal Med* **133**, 799–802 (2019). <https://doi.org/10.1007/s00414-018-01997-9>
4. Muhammad Adnan Khan, Sagheer Abbas, Ayesha Atta, Allah Ditta, Hani A., **Muhammad Farhan Khan**, Atta-ur-Rahman, and Rizwan Ali Naqvi, “Intelligent Cloud-Based Heart Disease Prediction System Empowered with Supervised Machine Learning”, Computers, Materials & Continua (CMC), ISSN: 1546-2218 (print), ISSN: 1546-2226 (online), vol: 65, no: 01, pp.139-151, [doi:10.32604/cmc.2020.011416](https://doi.org/10.32604/cmc.2020.011416), 2020.[**IF= 4.89, ISI Indexed, Q1, HEC= W Category**].
5. T.A. Khan, Sagheer Abbas, Allah Ditta, Muhammad Adnan Khan, A. Hani, Areej Fatima, and **Muhammad Farhan Khan**, “IoMT Based Smart Monitoring Hierarchical Fuzzy Inference System Used for Diagnosis of COVID-19 Disease”, Computers, Materials & Continua (CMC), ISSN: 1546-2218 (print), ISSN: 1546-2226 (online), Vol.65, No.3, pp. 2591-2605, DOI:[10.32604/cmc.2020.011892](https://doi.org/10.32604/cmc.2020.011892), 2020. [**IF= 4.89, ISI Indexed, Q1, HEC= W Category**].
6. Mubeen Khalid<sup>1</sup>, Rani Wafa Shear, Wadiat Rehman, Rahat Rehman, Babar Ali, Shahid Nazir, Muhammad Usman Basharat, **Muhammad Farhan Khan**. "Role of commercially available SARS-CoV-2 detection kits in pandemic of COVID-19 on the basis of N and E gene detection." *Advancements in Life Sciences*, Volume 8 Issue 4 December 2021.
7. Rachid Z., **Muhammad Adnan Khan**, [A. Rahman](#), M.A. Saleem, M.F. Mushtaq, A. Rehman and Muhammad Farhan Khan, “Modelling and Simulation of COVID-19 Outbreak Prediction Using Supervised Machine Learning”, in Computers, Materials & Continua (CMC), ISSN: 1546-2218 (print), ISSN: 1546-2226 (online), vol. 66, no. 03, pp. 2397-2407, DOI:[10.32604/cmc.2021.014042](https://doi.org/10.32604/cmc.2021.014042), 2021.[**IF= 4.89, ISI Indexed, Q1, HEC= W Category**].
8. Sahar Arooj, A.Rahman, M. Zubair, **Muhammad Farhan Khan**, Khalid, Muhammad Adnan Khan, Amir Mosavi, “Breast Cancer Detection and Classification Empowered With Transfer Learning”, *Frontiers in*

Public Health, ISSN: 2296-2565, Switzerland, DOI. <https://doi.org/10.3389/fpubh.2022.924432>, vol. 10, pp. 1-18, 2022. [IF=6.461, ISI Indexed, Q1 Top 10%, HEC= W Category].

9. Taher M. Ghazal, Sajid Hussain, **Muhammad Farhan Khan**, Muhammad Adnan Khan, Raed AT Said, and Munir Ahmad. "Detection of Benign and Malignant Tumors in Skin Empowered with Transfer Learning." *Computational Intelligence and Neuroscience*, Volume 2022, Article ID 4826892, Pages 1-9, <https://doi.org/10.1155/2022/4826892>, 2022. [IF= 3.633, ISI Indexed, Q1, HEC= W Category].
10. Usama Ahmed, Ghassan F. Issa, Shabib Aftab, **Muhammad Farhan Khan**, Raed AT Said, Taher M. Ghazal, Munir Ahmad, and Muhammad Adnan Khan. "Prediction Of Diabetes Empowered with Fused Machine Learning," *IEEE Access*, vol.10, pp. 8529- 8538, DOI: [10.1109/ACCESS.2022.3142097](https://doi.org/10.1109/ACCESS.2022.3142097), 2022. [IF= 3.25, ISI Indexed, Q1, HEC= W Category].
11. Atta-ur-Rahman, Nahier Aldhafferi, Abdullah Alqahtani, Iftikhar Naseer, S. Y. Siddiqui, **Muhammad Farhan Khan**, Muhammad Adnan Khan and Amir Mosavi, "Fused Computational Intelligence Empowered Intelligent COVID-19 Prediction Model", submitted in *Computational Intelligence and Neuroscience*, 2022. [IF= 3.633, ISI Indexed, Q1, HEC= W Category].
12. Atta-ur-Rahman, Abdullah Alqahtani, Nahier Aldhafferi, Muhammad Umar Nasir, **Muhammad Farhan Khan**, Muhammad Adnan Khan and Amir Mosavi, "Histopathologic Oral Cancer Prediction using Oral Squamous Cell Carcinoma Biopsy Empowered with Transfer Learning", under review in *Sensors*, ISSN: 1424-8220, 2022.[IF= 3.576, ISI Indexed, Q1, HEC= W Category].
13. Sahar Arooj, Muhammad Umar Nasir, M.A.Khan, Muhammad Zubair, **Muhammad Farhan Khan**, Muhammad Adnan Khan and Amir Mosavi, "Data Fusion Architecture Empowered with Deep Learning for Breast Cancer Identification", under review in *Journal of Healthcare Engineering*, 2022. [IF= 3.822, ISI Indexed, Q2, HEC= W Category].
14. Muhammad Zahid Hussain, **Muhammad Farhan Khan**, Muhammad Zubair, Muhammad Umar Nasir, Muhammad Adnan Khan, Atta-Ur Rahman and Amir Mosavi, "Ocular Disease Classification Empowered with Transfer Learning", under review in *Journal of Healthcare Engineering*, 2022. [IF= 3.822, ISI Indexed, Q2, HEC= W Category].
15. Muhammad Zahid Hussain, Shahid Mehmood, Muhammad Zubair, **Muhammad Farhan Khan**, Taher M. Ghaza, Muhammad Adnan Khan and Amir Mosavi, "Blockchain Secured IoMT Based Alzheimer's Disease Detection Empowered with Transfer Learning", under review in *Applied Sciences*, ISSN: 2076-3417, 2022. [IF= 3.838, ISI Indexed, Q2, HEC= W Category].
16. Sahar Arooj, **Muhammad Farhan Khan**, Muhammad Adnan Khan, Muhammad Saleem Khan, and Nasser Taleb, "Machine Learning Models for the Classification of Skin Cancer." In 2022 IEEE International Conference on Business Analytics for Technology and Security (ICBATS), pp. 1-8, 2022.
17. **Muhammad Farhan Khan**, Saira Kanwal, Muhammad Adnan Khan, Mahmoud M. Al-Sakhnini, Omar Sattar and Hamza Alrababah, "IA2SKAbs: Intelligent Automated and Accurate System for Classification of Kidney Abnormalities", under review in IEEE International Conference on Cyber Resilience (ICCR) 2022 Dubai, UAE.
18. Tayba Asgher, **Muhammad Farhan Khan**, Atta-ur-Rahman, Muhammad Adnan Khan, Munir Ahmad and Amir Mosavi, "Detection of Dengue Disease Empowered with Fused Machine Learning", under review in IEEE International Conference on Cyber Resilience (ICCR) 2022 Dubai, UAE.
19. Muhammad Umar Nasir, **Muhammad Farhan Khan**, Muhammad Adnan Khan, Muhammad Zubair, Sagheer Abbas, Meshal Alharbi, Md Akhtaruzzaman, "Hematologic Cancer Detection Using White Blood Cancerous Cells Empowered with Transfer Learning and Image Processing", *Journal of Healthcare Engineering*, vol. 2023, Article ID 1406545, 20 pages, 2023. <https://doi.org/10.1155/2023/1406545>

20. **Muhammad Farhan Khan**, Muhammad Sajid Farooq, and Shanmugan Joghee. "Increase the Degree of Accuracy by Employing A More Accurate Classification Approach." In 2023 International Conference on Business Analytics for Technology and Security (ICBATS), pp. 1-7. IEEE, 2023.
21. Muhammad Sajid Farooq and **Muhammad Farhan Khan**. "Real-Time Human Body Sensors Data Classification using Supervised Machine Learning." In 2023 International Conference on Business Analytics for Technology and Security (ICBATS), pp. 1-7. IEEE, 2023.
22. Ghulam Sajjad, Muhammad Bilal Shoaib Khan, Taher M. Ghazal, Muhammad Saleem, **Muhammad Farhan Khan**, and Muhammad Wannous. "An Early Diagnosis of Brain Tumor Using Fused Transfer Learning." In 2023 International Conference on Business Analytics for Technology and Security (ICBATS), pp. 1-5. IEEE, 2023.
23. Shahid, Bisma, AbdUr Rehman, **Muhammad Farhan Khan**, Farheen Afzal, and Nauman Aziz. "Improved and Automatic Classification of Polyp for Colorectal Cancer." In 2023 International Conference on Business Analytics for Technology and Security (ICBATS), pp. 1-10. IEEE, 2023.
24. Fahad Ahmed, Wasim Ahmad Khan, Muhammad Iqbal, Ashraf Riad Ahmad Abazeed, Hamza Alrababah, and **Muhammad Farhan Khan**. "Rock-Paper-Scissors Image Classification Using Transfer Learning." In 2023 International Conference on Business Analytics for Technology and Security (ICBATS), pp. 1-6. IEEE, 2023.
25. Ahsan Riaz, Iqra Zareef, Anam Munawar, Allah Rakha, Muhammad Farhan Khan, Sareen Akhtar, Amna Anwar, Shahid Nazir, Salah ud Din & Ahtisham Shuja Abbasi. Microfluidic paper-based analytical device integrated with Fe@ZnS:MIP for colorimetric detection of antibiotics. *Appl Nanosci* (2023). <https://doi.org/10.1007/s13204-023-02920-4>
26. Naveed Akhtar Shad, Anam Munawar, Yasir Javed, Allah Rakha, Ahsan Riaz, Salah Ud Din, Iqra Zareef, Muhammad Munir Sajid, **Muhammad Farhan Khan**, Sareen Akhtar, Midhat Salman, In-field deployable and facile nanosensor for the detection of pesticides residues, *Analytica Chimica Acta*, Volume 1259, 2023, 341204, ISSN00032670, <https://doi.org/10.1016/j.aca.2023.341204>.
27. Zargham, Marriam, and **Muhammad Farhan Khan**. Modeling and Simulation of Functional Nanomaterials for Forensic Investigation. Chapter 4 Nano-Level Modeling. Page 52-80, DOI: 10.4018/978-1-6684-8325-1.ch004 2023.
28. Mubeen Khalid, **Muhammad Farhan Khan**, Shahid Nazir. Modeling and Simulation of Functional Nanomaterials for Forensic Investigation. Chapter 8 Employing Nano-Sensors for Explosives Detection. Page 142-163, DOI: 10.4018/978-1-6684-8325-1.ch008 2023.
29. Sahar Arooj, **Muhammad Farhan Khan**, Tariq Shahzad, Muhammad Adnan Khan, Muhammad Umar Nasir, Muhammad Zubair, Atta-ur-Rahman, Khmaies Ouahada. Data Fusion Architecture Empowered with Deep Learning for Breast Cancer Classification, *Computers, Materials & Continua*. ISSN1546-2226 Doi:10.32604/cmc.2023.043013, <http://www.techscience.com/cmc/online/detail/19523>
30. Naveed A. Shad, Allah Rakha, Muhammad Abdul Qayyum, Muhammad Hassan Siddiqi, Zeeshan Mahmood, Shahid Nazir, Muhammad Farhan Khan, Muhammad Munir Sajid, Rahat Abdul Rehman, Ahsan Riaz, Salah Ud Din, Anam Munawar, Yasir Javed, Zn<sub>3</sub>(VO<sub>4</sub>)<sub>2</sub>/Bi<sub>2</sub>WO<sub>6</sub> composite based versatile platform for cotinine sensing and latent fingerprints development by using multiple modalities, *Materials Science and Engineering B*, Volume 301, Volume 301, 2024 117203 ISSN 0921-5107. <https://doi.org/10.1016/j.mseb.2024.117203>.
31. Marriam Zargham, Muhammad Farhan Khan, Rahat Abdul Rehman, Allah Rakha, Rabia Nazir, Midhat Salman, Sareen Akhtar, Shahid Nazir, Iqra Zareef, Anam Munawar, Role of doped ZnO variants for the

development of latent fingerprint, *Inorganic Chemistry Communications*, Volume 162, 2024, 112269, ISSN 1387-7003, <https://doi.org/10.1016/j.inoche.2024.112269>.

32. Shehla Noor, Sareen Akhtar, **Muhammad Farhan Khan**, Rahat Abdul Rehman, Midhat Salman, Shahid Nazir, Allah Rakha, Inam Ullah, Anam Munawar, Preliminary Study on Mitochondrial DNA Analysis from Different Sports Items, **Forensic Science International (FSI)**, 2024, 112077, ISSN0379-0738. <https://doi.org/10.1016/j.forsciint.2024.112077>.
33. Noaman, A., Ahmad, R., Khan, M.F. *et al.* Beyond binary: multi-class skin lesion classification with AlexNet transfer learning-towards enhanced dermatological diagnosis. *Discov Appl Sci* **7**, 35 (2025). <https://doi.org/10.1007/s42452-024-06448-2>.
34. Khan, Muhammad Farhan, Allah Rakha, Anam Munawar, Shahid Nazir, Arman Khan, Muhammad Adnan Khan, Munir Ahmad, Chuan-Chao Wang, and Atif Adnan. "Genetic Diversity and Forensic Utility of X-STR Loci in Punjabi and Kashmiri Populations: Insights into Population Structure and Ancestry." *Genes* **15**, no. 11 (2024): 1384.
35. Salah ud din, Naveed Akhtar Shad, Habiba Khadim, Muhammad Ali Tahir, Muhammad Farhan Khan, Shahid Nazir, Allah Rakha, Anam Munawar. "Electrochemical Differentiation of Inks Using Au@Pt Nanocomposite Based Sensing Platform." *Materials Chemistry and Physics*, 2025,130654, ISSN 0254-0584, <https://doi.org/10.1016/j.matchemphys.2025.130654>.

## Referrals

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