

FARHEENA IQBAL AWAN

<https://pu.edu.pk/faculty/description/1726/Dr-Farheena-Iqbal-Awan.html>

ORCID ID: 0000-0003-0185-5759

**Centre for Applied Molecular Biology
University of The Punjab, Lahore**

Phone:

E-mail: farheena.camb@pu.edu.pk

EDUCATION

Ph.D. in Molecular Biology and Genetics
School of Sciences (2017-2021)
Monash University Malaysia
Selangor Darul Ehsan, Malaysia
"Utilizing The House Crow (Corvidae: Corvus Splendens): Insights Into Evolutionary Genetics And The Environment"

M.Phil (Molecular Biology) cGPA 3.64
National Centre of Excellence in Molecular Biology (2011-2013)
University of the Punjab, Lahore
"Genetic polymorphism of miniST-TPOX, D18S1 and D2S1338 in Punjabi population of Pakistan"

M.Sc (Chemistry) cGPA 3.64
University of the Punjab, Lahore (2005-2007)
"Synthesis of Amino Cumerines"

M.S.Ed (Master in Science Education) Gold Medalist cGPA 3.77
University of the Punjab, Lahore (2002-2004)
Specialized in Teaching of Science Education at Higher Secondary Level.

RESEARCH & EMPLOYMENT

February 2022 – Present Assistant Professor,
Centre For Applied Molecular Biology,
University of The Punjab, Lahore

October 2025 – Present Coordinator BS Optometry & Vision Sciences
Department of Allied Health Sciences,
University of The Punjab, Lahore

Job Responsibilities

- Teaching and research in Centre for Applied Molecular Biology (CAMB).
- Supervision of BS Optometry & Vision Sciences Program in Department of Allied Health Sciences.
- Development of Optometry Lab.
- Supervisions of M.Phil. and Ph.D. students in CAMB.
- Organizing training workshops in DNA Sequencing, genomics and bioinformatics.
- Coordinator Creative Club, CAMB
- Coordinator Al-Razi Student Club, Allied Health Department.
- Member Purchase Committee of CAMB

- Coordinator for Extra-Curricular Committee CAMB

April 2008 - February 2022

Research Officer/ Lecturer
DNA Core Facilities,
Centre For Applied Molecular Biology,
University of The Punjab, Lahore, Pakistan

Job Responsibilities

- Sequencing and Genotyping Analysis and results troubleshooting of DNA Samples received in laboratory from overall the country.
- miniSTR analysis for CAMB Forensic Casework Laboratory.
- Parentage Analysis of Bovine for breed improvement project of Livestock Department Punjab

TECHNICAL SKILLS

- DNA extraction, Gene Cloning, Gene Amplification, DNA profiling using microsatellites, SNaPShot PCR, Sanger Sequencing, Next generation sequencing.
 - Working and Handling of Capillary based ABI Genetic Analyzers: 3100, 3730, and 3130xl., Data troubleshooting.
 - Bioinformatics Analysis for Genetic variant Analysis, Phylogenetic Analysis, Population Genetics.
-

RESEARCH PUBLICATIONS

	Impact Factor / HEC Category
Aqeel, H., M. U. Ghani, Z. Naeem, F. I. Awan, M. U. Khan, S. Tanveer, N. Chaudary and R. S. Shaikh (2025). "Potential modifier genes for cystic fibrosis disease." Human Gene 43: 201377.	0.5/W
Rafique, H., Safdar, A., Ghani, M. U., Akbar, A., Awan, F. I., Naeem, Z., Shaikh, R. S. (2024). Exploring the diversity of CFTR gene mutations in cystic fibrosis individuals of South Asia. Journal of Asthma, 61(6), 511-519.	1.9 / W
Sohail Ashraf M, Basheer A, Iqbal F, Zahoor I (2023). Unravelling of the genetic diversity, population structure, and phylogenetic relationships of the indigenous horse breeds of Pakistan. Gene. 2023;889:147736.	3.5 / X
Iqbal F, Wilson R, Ayub Q, Song BK, Krzeminska-Ahmedzai U, Talei A, et al (2023). Biomonitoring of heavy metals in the feathers of House crow (Corvus splendens) from some metropolitans of Asia and Africa. Environmental Science and Pollution Research. 30(13):35715-26.	5.19 / W
Sabar, M. F., Ghani, M. U., Farooq, A., Ashiq, S., Akram, M., & Iqbal Awan, F. (2023). A COMPREHENSIVE REVIEW ON ASTHMA: PATHOPHYSIOLOGY, TREATMENT AND ROLE OF GENETICS. International Journal of Pharmacy & Integrated Health Sciences, 4(2), 94-100.	- / Y
Iqbal, F., U. Krzeminska-Ahmadzai, Q. Ayub, R. Wilson, B. K. Song, M. Fahim and S. Rahman (2022). "The genetic drivers for the successful invasive potential of a generalist bird, the House crow." Biological Invasions 24(3): 861-878.	3.6 / W
Ghani, M. U., Sabar, M. F., & Awan, F. I. (2022). WS21.03 Low-cost chain termination DNA sequencing PCR reaction to diagnose CFTR gene mutations. Journal of Cystic Fibrosis, 21, S41.	5.5 / W
Iqbal, F., Q. Ayub, R. Wilson, B. K. Song, A. Talei, K. Y. Yeong, A. A. Hermawan, M. Fahim and S. Rahman (2021). "Monitoring of heavy metal pollution in urban and rural environments across Pakistan using House crows (Corvus splendens) as bioindicator." Environmental Monitoring and Assessment 193(4): 237.	3.3 / W

Iqbal, F., Q. Ayub, B. K. Song, R. Wilson, M. Fahim and S. Rahman (2020). "Sequence and phylogeny of the complete mitochondrial genome of the Himalayan jungle crow (Corvidae: Corvus macrorhynchos intermedius) from Pakistan." Mitochondrial DNA Part B 5(1): 348-350.	0.61 / Y
Sabar, M. F., M. Akram, F. I. Awan, M. U. Ghani, M. Shahid, Z. Iqbal, S. Kousar and M. Idrees (2018). "Awareness of Asthma Genetics in Pakistan: A review with some recommendations." Advancements in Life Sciences 6(1): 1-10.	1.6/ Y
Ghani, M. U., M. F. Sabar, M. Shahid, F. I. Awan and M. Akram (2017). "A report on asthma genetics studies in Pakistani population." Advancements in Life Sciences 4(2): 33-38.	1.6/ Y
Sabar, M. F., M. Shahid, I. Bano, M. U. Ghani, M. Akram, F. Iqbal, S. Kousar, Z. Iqbal, S. Altaf and T. Husnain (2017). "rs12603332 is associated with male asthma patients specifically in urban areas of Lahore, Pakistan." Journal of Asthma 54(9): 887-892.	2.09 / W
Ahmed, Z., M. E. Babar, T. Hussain, A. Nadeem, F. I. Awan, A. Wajid, S. A. Shah and M. M. Ali (2014). "Genetic diversity analysis of kail sheep by using microsatellite markers." Journal of Animal and Plant Sciences 24(5): 1329-1333.	0.7 / -
Zil, E. H. B., L. Noreen, A. B. Inna, I. Farheena, R. Sheikh Amer, N. K. Shaheen, B. F. Thomas, R. Sheikh and R. Saima (2012). "Phenotypic variability of CLDN14 mutations causing DFNB29 hearing loss in the Pakistani population." Journal of Human Genetics 58(2): 102.	3.6 / Y
Sabar, M. F., F. I. Awan, M. Shahid, M. U. Ghani and M. Yaqub (2012). "Synthesis and Bioactivity Study of 30KDa Linear PEG-Interferon and its Comparison with Tri-Branched PEG-Interferon." Journal- Chemical Society of Pakistan 35(1): 119-124.	0.69 / Y
Sabir, N., S. A. Riazuddin, T. Butt, F. Iqbal, I. A. Nasir, A. U. Zafar, Z. A. Qazi, N. H. Butt, S. N. Khan, T. Husnain, J. F. Hejtmancik and S. Riazuddin (2010). "Mapping of a new locus associated with autosomal recessive congenital cataract to chromosome 3q." Molecular vision 16: 2634.	2.4 / W
Sabir, N., S. A. Riazuddin, H. Kaul, F. Iqbal, I. A. Nasir, A. U. Zafar, Z. A. Qazi, N. H. Butt, S. N. Khan, T. Husnain, J. F. Hejtmancik and S. Riazuddin (2010). "Mapping of a novel locus associated with autosomal recessive congenital cataract to chromosome 8p." Molecular vision 16: 2911.	2.4 / W

RESEARCH PROJECTS

- Assessment of genetic diversity, population structure and demographic history of the endanger fish species, Golden Mahseer (*Tor putitora*), the national fish of Pakistan, to help in its conservation efforts. (year 2025-2026) Rs: 300,000/
- Evaluation of Genetic Mutations in the development of hyperthyroidism and hypothyroidism in Pakistani patients (year 2023-2024) Rs: 200,000/
- The association of MTHFR, MTR and TSHR gene polymorphism with thyroid disorder among pakistani population for establishing a genetic screening test. (year 2022-2023) Rs: 200,000/
- Phylogenetic study of a protected population of endangered Orient White backed Vultures (year 2021-2022) Rs: 200,000/
- Genetic characterization of famous farming cattle breeds in Punjab (ORIC Punjab University) 0.125 Million Ruppes

SEMINARS, TRAININGS WORKSHOPS ORGANIZED

- 3 days workshop, Next Generation Sequencing- Data Analysis at Centre for Applied Molecular Biology, University of the Punjab (28-30 August 2024).

- Workshop, Use of AI tools in academic writing- A Hands-On workshop, at Centre for Applied Molecular Biology, University of The Punjab (15 February, 2024).
- Five day workshop, DNA Sequencing A hands-On training Workshop at Centre for applied Molecular Biology, University of The Punjab (29 Jan - 2 Feb, 2024)
- One day workshop, "A hands-on workshop to analyze case-control genomic studies data" (7 May, 2023).
- One day awareness Seminar, Lungs and Bronchial Disease at Centre for applied Molecular Biology, University of The Punjab. (November 17, 2016)

TRAININGS AND WORKSHOPS ATTENDED

- 2- Seminar, DNA Sequencing at The University of the Lahore (4th March, 2024).
- 2 days training, Use of Generative Artificial Intelligence in Higher Education at Punjab Higher Education Commission (28-29 February 2024)
- Seminar, Technology Development Fund (TDF) Awareness Seminar at Kinnaird College for Women Lahore organized by Higher Education Commission Pakistan (2023).
- Conference, "International Conference on Trends and Challenges in Health Sciences, at Centre of Excellence in Molecular Biology, University of the Punjab. (1st-2nd March, 2023)
- 5 Days' Training, Research Methodologies and Techniques for Development (25-05-2023).
- Conference, Trends and Challenges in Health Sciences at Centre of Excellence in Molecular Biology, University of the Punjab, Lahore (1st-2nd April, 2023).
- 4th International Symposium on Advances in Molecular Biology of Plants & Health Sciences, at Centre of Excellence in Molecular Biology, University of the Punjab, Lahore (23-24 December, 2021).
- 5 days Workshop, Wellcome Genome Campus Advanced Course Next Generation Sequencing Bioinformatic, virtually from United Kingdom (1st-5 Feb, 2021).
- 2 days workshop, Sydney Phylogenetics Workshop at University of Sydney, Australia (15-16 July, 2019).
- Symposium, Monash Science Symposium 2018, at Monash University, Malaysia (21-23rd Nov 2018).
- Workshop, The UCSC Genome Browser, at Monash University, Malaysia (19 April 2018).
- Workshop, Introduction to Ensemble, at Monash University, Malaysia (26 Feb 2018).
- Workshop, Introduction to Bi-Linux & High-Throughput Genomics, at Monash University, Malaysia (20-21, Nov 2017).
- Conference, 12th Malaysia International Genetics Congress, at Monash University Malaysia (25-27, October 2017).
- Two days International Conference on Latest Trends in Domestic and Wild Animal Genomics and Biotechnology at Virtual University (November 21-22, 2016).
- One day hand-on training workshop on Advancement in Nucleic Acid Technology at Centre for Applied Molecular Biology (September 1st, 2016).
- Three days International Symposium on Advances in Molecular Biology of Plants and health Sciences at National Centre of Excellence in Molecular biology, University of The Punjab (December 29-31, 2015).
- One day training workshop on Real Time PCR results for Real Time Patient Management at Centre for Applied Molecular Biology (October 28, 2015).
- Three days Hands on Training Workshop on Next Generation Sequencing Data Analysis at National Centre of Excellence in Molecular biology, University of The Punjab (October 14-16, 2015).
- Three days conference titled 4th International Molecular Biology and Biotechnology Congress & Conference on Life sciences Research 2015 at Al-Nafees Medical College & Hospital, Isra University, Islamabad (September 4-6, 2015).
- One day training workshop on An Introduction to Next Generation Sequencing and its Application in Agriculture Sciences at Institute of agriculture Sciences, University of The Punjab, Lahore (April 14, 2015).

- Three days International Conference on Family Medicine, at Pearl Continental Lahore (January 3-5, 2014).
- Five days training workshop 2nd International Training Workshop on DNA Microarray for Gene Expression & Training Workshop on Biosafety in Biomedical Research at National Centre of Excellence in Molecular biology, University of The Punjab (March 7-11, 2011).

MPhil STUDENTS SUPERVISED

Shameen Fatima (2025). *Bioinformatics and Genetic analysis of TSHR Gene polymorphisms in thyroid patients*

Javeria Nawaz (2025). *In-silico and molecular characterization on TSHR gene variants in thyroid disorder.*

Shagufta Rasool (2025). *In-silico and Molecular analysis of TPO gene polymorphisms in congenital hypothyroidism.*

Areej Fatima (2025). *Bioinformatics and Molecular analysis of deleterious DUOX2 variants on congenital hypothyroidism*

Syed Wajahat Ullah (2024). *Association of MTHFR gene Polymorphism with Hyper/Hypothyroidism in the Pakistani population.*

Rana Hissan Ullah (2024). *Association of MTRR and MTR gene polymorphisms with Hypo/Hyperthyroidism: A Case-Control Study.*

Mariam Aman (2024). *Association Of TSHR Gene Polymorphisms with Hypo/Hyperthyroidism -A Case-Control Study*

Muddasar Wahab (2024). *Genetic Characterization of Endangered Golden Mahseer Fish (Tor Putitora) In Poonch River - Mahseer National Park, AJK*

Ms. Hafiza Noor Afshan Tauqir Malik (2023). *Association of MTHFR & MTR Gene Polymorphisms in Development of Hyper/Hypo Thyroidism: A Case-Control Study.*

Sana Fatima (2023). *Screening of SNPs in the thyrotropin receptor (TSHR) gene for association with hyperthyroidism: a case control study.*

Mr. Ghulam Fareed (2022). *Genetic Characterization and Population Structure of Critically Endangered, White-backed Vulture (Gyps bengalensis) in an In-situ Conservation Center.*