

Dr. Mariam Shahid

Email: drmariamshahid@gmail.com ; mariam.shahid@cemb.edu.pk



PROFESSIONAL EXPERIENCE

ASSISTANT PROFESSOR (BPS 19)

Centre of excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan (Aug. 2019-Till Now)

RESEARCH OFFICER CUM LECTURER (BPS 18)

Centre of excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan (Jan. 2010-July 2019)

RESEARCH OFFICER (BPS 17)

Centre of excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan (Mar.2005 -Dec.2009)

ACADEMIC AND RESEARCH RESPONSIBILITIES

TEACHING COURSES

- CEMB-554: Medical Genetics; M.Phil Course
- CEMB-711: High throughput Techniques for Gene Expression; Ph.D course
- CEMB-509: Biotechnology; M.Phil Course
- CEMB-501: Molecular Biology; M.Phil Course

CURRENT RESEARCH PROJECTS

Supervising MPhil and PhD researchers in area of Complex diseases' Genetics. Following are the current projects undertaken;

- “Genotypic categorization of Chronic obstructive lung disease patients on basis of associated Vitamin D Receptor’s Single nucleotide polymorphic variants: A possible breakthrough to decide efficacy of supplementary therapy” (Ongoing project; **PI**; **Ref No. 20-15440/NRPU/R&D/HEC/2021-2020; 7.8Million PKR**)
- Study of association of potential candidate SNPs residing on chromosome 14 with inherited Emphysema in local population (Ongoing project; Co-PI; **HEC NRPU-8460**; 1.87Million PKR)
- Collaborating Partner in ongoing Project by Swiss National Science Foundation “Genetic variants associated with Congenital Hypogonadotrophic Hypogonadism in Pakistani population” (<https://data.snf.ch/grants/grant/202612>); [SNSF Data Portal \(snf.ch\)](https://www.snf.ch)
- Genetic characterization of COPD driven Lung Cancer in Collaboration with Pulmonology deptt. of Fatima memorial Hospital, Lahore (ongoing)
- Association of different genomic regions with asthma in Punjabi population of Pakistan (Ongoing Project)

- Population based Case-Control Asthma Association Studies of Single Nucleotide Polymorphisms in Chromosome 17 potential Genomic Regions (Ph.D. Project)
- “Synthesis and Characterization of Zinc (II) complexes of Pyrrolidine Dithiocarbamate” (Chemistry; M.Phil Thesis)
- Study of Goiter among Female Adolescents referred to Centre for Nuclear Medicine (CENUM), Lahore and Serum concentrations of Thyroid Hormones and Thyrotropin in Non-Goitrous Patients

ADMINISTRATIVE RESPONSIBILITIES

- Incharge, Genetic Screening Lab; CEMB Sequencing and Genotyping Facility
- Member, “Commercialization Unit” CEMB
- Co-Chairperson CEMB Purchase Committee
- Member, Board of Faculty of Life Sciences, University of the Punjab
- Member, Journal Club CEMB

EDUCATIONAL BACKGROUND

Ph.D Molecular Biology (1st div) from Centre of Excellence in Molecular Biology, University of the Punjab Lahore, Pakistan (2010-2015)

M.Phil Chemistry (1st div) from University of Engineering & Technology Lahore, Pakistan (2005-2007)

M.Sc. Chemistry(1stdiv) from Institute of Chemistry, University of the Punjab Lahore, Pakistan (2001-2003)

B.Sc. Zoology, Botany, Chemistry (1st div) from University of the Punjab Lahore, Pakistan (1999-2001)

F.Sc. Pre-Medical (1st div) Queen Mary College Lahore, Pakistan (1997-1999)

SKILLS

Software Skills:

- R Programming (R studio) (Certificate by John Hopkins University)
- Sequencing Analyses v5.5 (Training from ABI, Warrington,UK)
- GeneMapper ID Version
- Mutation Surveyor
- Peak scanner
- Sequence scanner
- GraphPad Prism 7
- PLINK v1.9
- Haploview
- SHEsis

- SPSS
- MS Office

Technical Skills:

Having good hands on

- ABI Genetic analyzers; 310, 3100,3130xl and 3730/ Sequencing, Genotyping, SNP Typing
- ABI DNA Synthesizer 3900/ Oligonucleotide Synthesis
- Gel electrophoresis; Western blot; Southern blot; PAGE
- PCR Thermal cyclers
- RT-PCR
- Spectrophotometer; ELISA

HONORS & ACHIEVEMENTS

- **Performance evaluation award** for Ph.D Teachers for the year 2020
- **Performance evaluation award** for Ph.D Teachers for the year 2019
- **Incentive Award on Research Publications** for the year 2019
- **HEC Approved Ph.D Supervisor** status updated on 8th Sep., 2022
- **Performance evaluation award** for Ph.D Teachers for the year 2018
- **Research Incentive Award** for the year 2016
- **Letter of appreciation** awarded in recognition as organizer of 2nd International Symposium on Advances in Molecular Biology of Plants and Health Sciences held on 21-23 November, 2017 at Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- **Letter of appreciation** awarded in recognition as SPEAKER of International conference on *Innovation in Healthcare* by Shalamar Medical and Dental College, Lahore, Pakistan held on 3-5 February, 2017
- **Letter of appreciation** awarded in recognition as organizer and speaker of International Symposium on Advances in Molecular Biology of Plants and Health Sciences held on 29-31 December, 2015 at Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- **Travel Grant Award** received by **European Academy of Allergy and Clinical Immunology** in 2015 on Abstract presented in **Allergy and Asthma School in Istanbul Turkey**.
- Secured **HEC (Higher Education Commission, Pakistan) merit based scholarship** during Ph.D programme
- Secured **Roll of Honor** in intermediate for outstanding performance

CONFERENCES/COURSES/TRAININGS/WORKSHOPS:

- Participated in **International Symposium on Climate Smart Sustainable Rice-Wheat Production System** organized by UPSIGN, COMSTECH, SAWiE, SACAN, in collaboration with Department of Soil Science, FAS, University of the Punjab, Lahore on August 11, 2022
- Participated **CEMB COTTON SEMINAR** held at CEMB on March 22, 2022

- Participated in Hands-on Training Workshop on **Structural Bioinformatics Tools** held at CEMB on February 23-25, 2022
- Successfully completed “**Cloud Teaching- Skillful live online teaching course**” of 1 month by NSOL, NIKU Solution PTE, Ltd (2021)
- Successfully completed **Editing and Proofreading course** on Udemy on August 17, 2021 (Certificate URL: ude.my/UC-529007a3-7f6f-46a5-bbe7-ed8b7918f83f).
- Organized **4th international symposium on advances in Molecular Biology of Plants and Health Sciences** held at CEMB on December 24-25, 2021
- Participated in online workshop “**Science Diplomacy in South Asia**” organized by Global Young Academy from 21st Nov.- 13th Dec.,2020
- Successfully passed online certificate course on **R Programming “The Data Scientist’s Toolbox”** by **Johns Hopkins University** on Dec., 3, 2020 (Coursera)
- Participated in online certificate course **Intellectual Property for Scientists** held on September 9, 2020 by COMSTECH Secretariate Islamabad.
- Attended one-day training on “**How to Manage Your References Using RefWorks**” by ProQuest Education and Higher Education Commission Pakistan on August 17, 2020
- Participated in International conference **Recent Innovations in Molecular Sciences** held on November 6-8, 2019 by University of the Punjab Lahore.
- Participated in Seminar on **Genomic Applications of PCR, qPCR and NGS** held on 12th December,2019 by Thermofisher Scientific at PC, Lahore.
- Participated in **8th Invention to Innovation Summit**, April 02-03,2019 at University of the Punjab Lahore
- Organizer of **3rd International Symposium on Advances in Molecular Biology of Plants and Health Sciences**, held on 19-21 December, 2018 at Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- Participated in two-day workshop entitled “**Protein Structure analysis & Computer aided Drug Designing**” on September 28, 2018 at The Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- Organized and participated in **2nd International Symposium on Advances in Molecular Biology of Plants and Health Sciences**, held on 21-23 November, 2017 at The Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- Participated/Speaker in **International conference on “Innovation in Healthcare”** by Shalamar Medical and Dental College, Lahore, Pakistan (3-5 Feb., 2017)
- Participated in seminar and hands on training on “**Advances in nucleic acid technology**”, 1st September, 2016 at CAMB, University of the Punjab Lahore.
- Organized and participated in **International Symposium on Advances in Molecular Biology of Plants and Health Sciences**, held on 29-31 December, 2015 at Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- Allergy School on “**Molecular and Lab Asthma**”, A course for practicing clinicians held at Istanbul, Turkey by **EAACI** (European Academy of Allergy and Clinical Immunology) (**16-18th April, 2015**)

- Participated in one- day hands-on workshop, “**Citation and Referencing in Research**”, held by Institute of Research Promotion (IRP) at The University of Lahore on 7th January, 2011
- Participated in one- day workshop, “**Young Researchers Skill development**”, held by National Academy of Young Scientist (NAYS) at The University of Punjab in January, 2011
- **International Workshop on “Bioinformatics: Database Mining and High Throughput Genomic Analyses**”, COMSTECH, Islamabad, Pakistan (Mar.19-21, 2012)
- **Training on “Basic Sequencing and Fragment Analysis**”, Applied Biosystems, Warrington, United Kingdom (Sep., 2006).
- Staff Training Programme on “**Computer Basics, Office Automation, Web, Networking and Computer maintenance**”, I.T. Centre, University of the Punjab, Lahore, Pakistan (July – Sep. 2005; 3rd Position).

COLLABORATIONS

- Collaboration with **Department of Endocrinology, Diabetes and Metabolism, university hospital CHUV, Lausanne, Switzerland** for joint research project on Genetics of Male infertility disorders.
- Collaboration for genome profiling of COPD with **Pulmonology Department, Fatima Memorial Hospital, Lahore, Pakistan**
- Collaborating partner in a Swiss Science Foundation Project “**Genetic variants associated with Congenital Hypogonadotrophic Hypogonadism in Pakistani population**”
- Collaboration for Genetic Characterization of Asthma with **Pulmonology Department, Fatima Memorial Hospital, Lahore, Pakistan**

MEMBERSHIP OF SOCIETIES

- Member of **Organization for Women in Science for the Developing World (OWSD)** (<https://owsd.net/node/59318>)
- Junior member of **World Allergy Organization (WAO)**
- Member of **European Academy of Allergy and Clinical Immunology (EAACI15869)**
- Member of **Asthma Society of Ireland**
- Active member of **MEMBS-Middle East Molecular Biology Sources** (Membership Number A006461)

JOURNAL EDITORIAL BOARD MEMBERSHIP/ JOURNAL REVIEWER

- Invited **Reviewer** in the “Journal of Asthma and Allergy” (journal Impact Factor: 4.258)
- **Editorial board member** in UMT journal “BioScientific Review” (HEC y category)

PUBLICATIONS

RESEARCH ARTICLES

<https://scholar.google.com/citations?hl=en&authuser=1&user=1a64lzoAAAAJ>

- Peerzada Fawad Ullah Jan, Samra Kousar, Atif Mahmood, Sarooj Nadeem, Kausar Malik, Waqas Safir, Nodia Shujaat, Fahim Ullah Khan, Mariam Shahid (accepted in dec.,2022) Risk loci for Chronic Obstructive Disease reside on Chromosome 14: a Case-Control study on the Pakistani population. Journal of Ayub Medical College Abbottabad,
- Kousar S. & **Shahid M.** (2022) Single nucleotide polymorphism on chromosome 14 associated with emphysema in local Pakistani population. *Clinical and Experimental Allergy*, 52 (8), 1039
- Akram M, Sabar MF, Bano I, Ghani MU, **Shahid M.** (2022) Single nucleotide polymorphisms of transforming growth factor- β 1 gene as potential asthma susceptible variants in Punjabi population of Pakistan. *J Ayub Med Coll Abbottabad*, 34(4 Suppl 1):944–948. DOI: 10.55519/JAMC-04-S4-10495
- Sabar, M. F., Ashiq, S., & **Shahid, M.** (2022). The Impact of COVID-19 on Asthma Patients: Current Knowledge and Future Perspective. *Journal of the Dow University of Health Sciences (JDUHS)*, 16(1), 41–45.
- Aslam R, **Shahid M**, Bano I, Ayoub M, Sabar MF, Altaf S, Kousar S, Ghani MU, Husnain T, Shahid AA, “Major Histocompatibility Complex class II Polymorphic variants are associated with Asthma predisposition in the Punjabi population of Lahore, Pakistan”, *Clinical Respiratory Journal* 2021;15:374–381.
- Ghani MU, Sabar MF, Bano I, **Shahid M**, Akram M, Khalid I, Maryam A, Khan MU (2019). Evaluation of ADAM33 gene’s single nucleotide polymorphism variants against asthma and the unique pattern of inheritance in Northern and Central Punjab, Pakistan, *Saudi Med J*, Vol. 40 (8) page 774-780
- **Shahid M**, Tayyab U, Kousar S, Ghani MU, Sabar MF, Husnain T (2019). rs153109 as possible indicator of effectiveness of Vitamin D supplements for suppressing COPD symptoms, *CHEST*, Vol. 155, Issue 4, p219A
- Ghani MU, Sabar MF, Bano I, **Shahid M**, Akram M, Khalid I, Maryam A, Khan MU (2019). Inheritance pattern of rs2280089, rs2280090, rs2280091 SNP variants in Punjabi population and association with Asthma disease, *CHEST*, Vol. 155, Issue 4,
- Sabar MF, Akram M, Awan FI, Ghani MU, **Shahid M**, Iqbal Z, Kousar S, Idrees M (2018). Awareness of Asthma Genetics in Pakistan: A Review with Some Recommendations, *Adv. Life Sci.* 6(1): 1-10
- Ghani MU, Sabar MF, **Shahid M**, Awan FI, Akram M (2017). A report on asthma genetics studies in Pakistani population, *Adv. Life Sci.* 4(2): 33-38
- Sabar MF, **Shahid M**, Bano I, Ghani MU, Akram M, Awan FI, Kousar S, Iqbal Z, Altaf S, Husnain T (2017). “rs12603332 is associated with male asthma patients specifically in urban areas of Lahore, Pakistan”; *Journal of Asthma* ;54(9):887-892
- Sabar MF, Ghani MU, **Shahid M**, Sumrin A, Ali A, Akram M, Tariq MA, Bano I (2016). “Genetic variants of ADAM33 are associated with asthma susceptibility in the Punjabi population of Pakistan”; *Journal of Asthma*, 53(4):341-8
- **Shahid M**, Sabar MF, Bano I., Rahman Z., Iqbal Z., Ali SF., Ghani MU, Iqbal M., Husnain T. (2015) “Sequence variants on 17q21 are associated with the susceptibility of Asthma in the population of Lahore, Pakistan”, *Journal of Asthma*, Volume 52, Issue 8, page 777-784
- Sabar MF, Ghani MU, **Shahid M**, Sumrin A, Ali A, Akram M, Tariq MA, Iqbal M (September 2015). “Genetic association of ADAM 33’s SNP variants with asthma in the population of Lahore region, Pakistan”, *Asian Journal of Agriculture & Biology* (ISSN:2307-8553), p57

- Sabar MF, Kousar S, Zafar AU, Shahid M (2013). "PEG-interferon conjugates: Effects of length and structure of linker", Pak. J. Pharm. Sci., Vol.26, No.2, pp.425-430
- Sabar MF, Awan FI, Shahid M, Ghani MU, Yaqub M (2013). "Synthesis and Bioactivity Study of 30KDa Linear PEG-Interferon and its Comparison with Tri-Branched PEG-Interferon", J. Chem. Soc. Pak., 35(1), 119-124
- Naz S, Li L, Riazuddin SA, **Shahid M**, Kousar S, Sieving PA, Hejtmancik JF, Riazuddin S (2010). "A novel locus for autosomal recessive Retinitis Pigmentosa in consanguineous Pakistani family maps to chromosome 2p", Am.J.Ophthalmol., 149(5): 861-6
- Kaul H, Riazuddin SA, **Shahid M**, Kousar S, Butt NH, Zafar AU, Khan SN, Husnain T, Akram J, Hejtmancik JF, Riazuddin S (2010). "Autosomal recessive congenital cataract linked to EPHA2 in a consanguineous Pakistani family." Mol.Vis. Mar.24; 16:511-7
- Sabar MF, Yaqub M, Khan MA, Ahmad N, Ghani MU, **Shahid M** (2010). "Synthesis of a New Tri-Branched PEG-IFNa2 and Its Impact on Anti-Viral Bioactivity." International Journal of Peptide Research and Therapeutics; 16(4):239-245
- **Shahid M**, Ruffer T., Lang H., Awan SA, Ahmad S (2009). "Synthesis and Crystal structure of a dinuclear Zinc(II) –dithiocarbamate complex, bis{[μ^2 - pyrrolidinedithiocarbamate-S,S']Zinc(II)]}", Journal of Coordination Chemistry, Vol.62, Issue 3, Page 440-445
- Rasheed H, Elahi S, Naeem M, **Shahid M**, Rizvi NB (2008). "Serum Concentration of Thyroid Hormones and Thyrotropin in Non-Goitrous Patients", Journal of Scientific Research, Vol.38, No. 1, Page29-33

ABSTRACTS

- **"Association of EGFR Variants with Chronic Obstructive Pulmonary Disease in Pathan Sub-Population"** (2021), Abstract book, Advancements in Life Sciences, page 30
- **"Genetic Variants Associated with Emphysema in Local Pakistani Population"** (2021), Abstract book, Advancements in Life Sciences, page 100
- **"Association of rs11558261, rs1057516555, rs199422212 and rs877081 with Chronic Obstructive Pulmonary Disease in Population of Lahore, Pakistan"** (2021), Abstract book, Advancements in Life Sciences, page 115
- **"Study of TSLP, IL-4R α and IL-13R α gene polymorphisms in asthmatic patients of Lahore region, Pakistan"** (2018), Abstract book, Advancements in Life Sciences, page
- **"Case-control Association Study of HLA-B variant (rs866916063) with Asthma in local population of Lahore, Pakistan"** (2018), Abstract book, Advancements in Life Sciences, page 50
- **"Association between genetic variant (rs11650680) of TOP2A and early onset asthma in population of Lahore, Pakistan"** (2018), Abstract book, Advancements in Life Sciences, page 48
- **"rs1837253, rs1805010 and rs2495636 SNPs as asthma risk factors in Pakistan"**(2018), Abstract book, Advancements in Life Sciences, page 8
- **"Role of Genomic Variants in the Predisposition of Asthma in Pakistani Patients"** Proceedings of USA 2017-3rd International conference on Biotechnology (8-9 Feb., 2017)

- Oral Presentation on **“Genetic association of ADAM 33’s SNP variants with asthma in the population of Lahore region, Pakistan”**, *Asian Journal of Agriculture & Biology* (ISSN:2307-8553), Special issue 2015, p57; impact factor: 0.676
- Poster Presentation on **“Urbanization Triggers Asthma In 'C' Allele Carriers For rs12603332”**, Course on *“Molecular and Lab Asthma”* (p#04) by European Academy of Allergy and Clinical Immunology (EAACI), Istanbul, Turkey (16-18th April, 2015)
- Oral Presentation on **“Chromosome 17q21 is associated with susceptibility of asthma in the population of Lahore, Pakistan”** International conference on *Emerging Trends in Life Sciences for Sustainable Development* (Page 40) by Forman Christian University, Lahore, Pakistan (9-11th October, 2014)

STUDENTS SUPERVISED

M.Phil: 15;
Ph.D: 2;
Internships: 5