

Muhammad Usman Ghani

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Objective: My objective is a challenging position in a competitive environment of research in the field of basic Molecular Biology, Inherited Diseases, Clinical Molecular Diagnostics, Computational Biology or DNA Sequencing/Genotyping based medical genomics.

Qualification:

Ph.D Student Molecular Biology(2015-20) University of the Punjab, Lahore, Pakistan
M.Phil in Molecular Biology (2014) University of the Lahore, Lahore, Pakistan.
M.Sc in Chemistry (2007) University of the Punjab, Lahore, Pakistan.
B.Sc (Chem, Phy, Math) (2005) University of the Punjab, Lahore, Pakistan.

Current Status:

- **Research Officer (2008 to date)** in DNA Core Facility, CAMB, University of the Punjab, Lahore-Pakistan.
Teaching Molecular Biology and providing commercial services of DNA Sequencing, Genotyping and DNA Oligonucleotides synthesis. DNA Core facility is equipped with sanger/capillary based genetic analyzers.
- **Academic/HR Advisor (Jan-2019 to date) Suffa Islamic School System, Qila Kalarwala, Sialkot** Providing volunteer services for academic syllabus designing, teachers training and human resource management.
- **PhD Student (2015-20) CAMB, University of the Punjab, Lahore-Pakistan.**
As a PhD Research, I am working on to "Evaluate the Genomic Variants associated with Asthma disease in Pakistan".

Areas of Interest:

- Molecular Genetics, Genetic Association Studies.
- DNA Sequencing and Genotyping.
- Molecular and Genomic Medical Diagnostics.

Publications:

1. **Ghani MU**, Sabar MF, Bano I, Shahid M, Akram M, et al. 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, (2019); 40(8): 774-780 [**Impact factor 1.055**]
2. Sabar MF, Akram M, Awan FI, **Ghani MU**, Shahid M, et al. Awareness of Asthma Genetics in Pakistan: A Review with Some Recommendations. Advancements in Life Sciences, (2018); 6(1): 1-10. [**Pakistan-HEC "Y" Category**]
3. **Ghani MU**, Sabar MF, Shahid M, Awan FI, Akram M. A report on asthma genetics studies in Pakistani population. Advancements in Life Sciences, (2017); 4(2): 33-38. [**Pakistan-HEC "Y" Category**]
4. Sabar MF, Shahid M, Bano I, **Ghani MU**, Akram M, et al. rs12603332 is associated with male asthma patients specifically in urban areas of Lahore, Pakistan. J Asthma, (2017); 54(9): 887-892. [**Impact factor 2.014**]
5. Sabar MF, **Ghani MU**, Shahid M, Sumrin A, Ali A, et al. Genetic variants of ADAM33 are associated with asthma susceptibility in the Punjabi population of Pakistan. J Asthma, (2016); 53(4): 341-348. [**Impact factor 2.014**]
6. Shahid M, Sabar MF, Bano I, Rahman Z, Iqbal Z, Fatim Ali SS, **Ghani MU** et al. Sequence variants on 17q21 are associated with the susceptibility of asthma in the population of Lahore, Pakistan. J Asthma, (2015); 52(8): 777-784. [**Impact factor 2.014**]
7. Sabar MF, Awan FI, **Ghani MU**, Shahid M, Yaqub M. Synthesis and bioactivity study of 30KDa linear PEG-interferon and its comparison with tri-branched PEG-interferon. Journal of the Chemical Society of Pakistan, (2013); 35(1): 119-124. [**Impact factor 0.280**]
8. Sabar MF, Yaqub M, Khan MA, Ahmad N, **Ghani MU**, et al. Synthesis of a New Tri-Branched PEG-IFN α 2 and Its Impact on Anti Viral Bioactivity. International Journal of Peptide Research and Therapeutics, (2010); 16(4): 239-245. [**Impact factor 1.132**].

Abstract Publications:

9. **Ghani MU**, Sabar MF, Bano I, Shahid M, Akram M, et al. Inheritance Pattern of Rs2280089, Rs2280090, Rs2280091 Snp Variants in Punjabi Population and Association with Asthma Disease. Chest, (2019); 155(4): 168A. [**Impact factor 9.657**]
10. Shahid M, Tayyab U, Kousar S, **Ghani MU**, Sabar MF, et al. rs153109 as Possible Indicator of Effectiveness of Vitamin D Supplements for Suppressing Copd Symptoms. Chest, (2019); 155(4): 219A. [**Impact factor 9.657**]
11. Anjum GR, Hashmi AS, **Ghani MU**, Aslam S, Bashir S, et al. Microbial bioremediation of textile water effluents for safe and healthy aquatic environment. Proceedings of 3rd International Symposium on Advances in Molecular Biology of Plants and Health Sciences published by ALS journal, (2018); (Abstract book): 27. [**Pakistan-HEC "Y" Category**]
12. Sabar MF, **Ghani MU**, Awan FI, Shahid M, Akram M, et al. Role of Genomic Variants in the predisposition of Asthma in Pakistani Patients. Proceedings of 3rd International Conference on Biotechnology published by USA Journal of R&D, (2017); (Abstract book): 58. [**ISSN: 2412-6926**]
13. **Ghani MU**, Sabar MF, Bano I, Shahid M, Akram M, et al. ADAM33 gene variants rs2280089, rs2280090, rs2280091 are not associated with asthma in local Patients. 2nd International Biennial CardioRespiratory Conference-2017, (2017); (Abstract book): 54.

14. Maryam A, Sabar MF, **Ghani MU**, Akram M, Shahid M, et al. Significance of Vitamin-D Receptor Gene Polymorphism as a Biomarker for Asthma in Punjabi Population of Pakistan. ICAFS2017&7th ICBB Lahore, (2017); (Abstract book): 21-22.
15. Aziz K, Arzoo k, Rustam MN, **Ghani MU**, Malik A, et al. Assessment of Antioxidative Status and Circulating Biochemical Markers to unshedow the causative and risk factors associated with Ethambutol Induced Toxic Neuropathy (TON). Proceedings of 2nd International Symposium on Advances in Molecular Biology of Plants and Health Sciences published by ALS journal, (2017); (Abstract book): 7. [**Pakistan-HEC “Y” Category**]
16. Khalid I, **Ghani MU**, Bano I, Rathore AW, Shahid M, et al. rs1837253, rs1805010 and rs2495636 SNPs as asthma risk factors in Pakistan. Proceedings of 2nd International Symposium on Advances in Molecular Biology of Plants and Health Sciences published by ALS journal, (2017); (Abstract book): 8. [**Pakistan-HEC “Y” Category**]
17. Altaf S, Shahid M, Bano I, Kousar S, Ayoub M,..., **Ghani MU**,...et al. Association between genetic variant (rs11650680) of TOP2A and early onset asthma in population of Lahore, Pakistan. Proceedings of 2nd International Symposium on Advances in Molecular Biology of Plants and Health Sciences published by ALS journal, (2017); (Abstract book): 48. [**Pakistan-HEC “Y” Category**]
18. Ayoub M, Shahid M, Altaf S, Bano I, Kousar S,..., **Ghani MU**,... et al. Case-control Association Study of HLA-B variant (rs866916063) with asthma in local population of Lahore, Pakistan. Proceedings of 2nd International Symposium on Advances in Molecular Biology of Plants and Health Sciences published by ALS journal, (2017); (Abstract book): 50. [**Pakistan-HEC “Y” Category**]
19. Sabar MF, **Ghani MU**, Shahid M, Sumrin A, Ali A, et al. Genetic association of ADAM33’s SNP variants with asthma in the population of lahore region, Pakistan. Asian Journal of Agriculture and Biology, (2015); 3(Special Issue): 57. [**Pakistan-HEC “Y” Category**]
20. Shahid M, Sabar MF, Rahman Z, **Ghani MU**, Kousar S, et al. Urbanization triggers asthma in 'C' allele carriers of rs12603332. A course on Molecular Asthma, European Academy of Allergy and Clinical Immunology-2015, Istanbul, Turkey, (2015); (Molecular and Laboratory Asthma): P04.
21. Shahid M, Sabar MF, Rahman Z, Iqbal Z, Fatim Ali SS, **Ghani MU**, et al. Chromosome 17q21 is associated with Asthma in the Population of Lahore, Pakistan. International Conference on Emerging Trends in Life Sciences for Sustainable Development, (2014); (Abstract Book): 40.

Research Work Completed as (Team Scientist)

- Worked on “Preparation and Evaluation of Peach Based Fruit Yogurt” in PCSIR Complex, laboratories, Lahore, Pakistan as my M.Sc thesis research work (2007).
- Along the devoted services duties in DNA Core Facility-CAMB worked on “Synthesis of recombinant Therapeutic Proteins” (2009-2011).
- Worked with Asthma Genetics Research Group-CAMB to “Evaluate the genetic association of SNP variants with asthma patients of Pakistan”.

Research Work Presently in Progress

- Working on the “**Screening of genomic variants associated with asthma susceptibility in Paksitan**”.
- Conducting different survey based studies to “**Estimate asthma prevalence and risk factors associated with asthma phenotypes in Pakistan**”.

Research Techniques Practical/ Hand-on Trainings

- Sequencing on Capillary based ABI sequencers including ABI-3100, ABI-310XL, ABI-3730 and ABI-3730XL.
- Technical troubleshooting of the capillary based Genetic Analyzers.
- DNA/RNA extraction using commercial Kits and manual methods (Phenol-Chloroform Extraction methods).
- Multiplex microsatellite PCR, Sequencing PCR.
- SNP data and haplotyping analysis.
- SNaPshot PCR for mini-sequencing and SNP fragment analysis.
- Intensive use of Biological softwares, Biostatistics and Biological Databases for analysis of DNA/RNA/Protein e.g. designing primers/probes, DNA sequencing & genotyping data analysis using the software like Sequencing Analysis, GeneScan, GeneMapper, Mutation Surveyor, SeqScap, Chromas etc.
- Genotyping and DNA fragment analysis using microsatellites and ABI analyzers.
- DNA primer synthesis using ABI- 3900 synthesizer and post synthesis processing.
- Gel electrophoresis analysis (Agarose and PAGE) for DNA and proteins.
- PEGylation (chemical modification) of therapeutic proteins
- Adequate experience in bioinformatics.

Workshops & Trainings Organized

- Organized one day seminar on “**Biosafety Training for Young Researchers**” by joint collaboration of CAMB & American Society of Microbiology on November 29, 2018.
- Organized one day awareness seminar on “**Advances in PCR Technology, Power to detect single copy without standard curve**” by joint collaboration of CAMB & Chemical House Lahore-Pakistan on April 05, 2017.
- Organized one day awareness seminar on “**Lungs and Bronchial Diseases**” on November 17, 2016 in CAMB-University of the Punjab Lahore.

Workshops & Trainings Attended Abroad.

- Three day “CHEST Congress-2019”, organized by American College of Chest Physicians in Bangkok-Thailand on April 10-12, 2019.

Workshops & Trainings Attended in Pakistan.

- Participated in one day training workshop on “**Plagiarism: How do I avoid it? Use of Turnitin**” organized by PITAC on December 18, 2018.
- Participated in one day symposium on “**Industrial Biotech & Biorefining**” organized by CAMB, University of the Punjab on January 01, 2018.
- Participated in first national conference on “**Emerging Trends in Bioinformatics & Biosciences**” organized by Hazara University on July 20-22, 2017.

- Participated in “**2nd Invention to Innovation Summit**” organized by University of Balochistan, Quetta on April 25-26, 2017 to present scientific outputs of CAMB-Punjab University.
- Participated in “**6th Invention to Innovation Summit-2017**” organized by University of the Punjab on March 08-09, 2017 to present scientific outputs of CAMB-Punjab University.
- Participated in “**2nd International Biennial Cardiorespiratory Conference-2017**” organized by Gulab Davi Chest Hospital-Lahore on March 03-05, 2017.
- Participated in three day hands on workshop “**Next Generation Sequencing Data Analysis**” organized by COMSATS Institute of Information Technology-Islamabad on February 01-03, 2017.
- Attended on day seminar and hand-on training on “**Advances in Nucleic Acid Technology**” organized Scientific Supplies (PVT) LTD in collaboration with CAMB. September 01, 2016.
- Participated in one day “**National Workshop on CRISPR/Cas9 Genome Editing Technology**” jointly organized by NAYS and Congress of Molecular Biology on June 02, 2016.
- Attended one day seminar and hand-on training on “**Real time PCR results for Real time patient management**” **28 October 2015** at CAMB, University of the Punjab, Lahore.
- Attended “**4th International Molecular Biology and Biotechnology Congress & Conference on Life Science Research-2015; 04-06 Sept 2015**” arranged by Life Science Society of Pakistan at Al-Nafees Medical College & Hospital, Islamabad, Pakistan.
- Participated in pre-conference workshop on “**How to write an Effective Research Grant**” 04 Sept 2015 at Al-Nafees Medical College & Hospital, Islamabad, Pakistan.
- Workshop on young Researcher’s Skill Development and NAYS Emerging Ideas conference (NAYS-EIC) on 7th January, 2012.
- Attended five day training course entitled “**Advances in Application of Molecular Biology**” organized by Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan from 19-23 December 2011.
- Workshop entitled “**Fluorescent Microscopy: introduction and Application**” organized by Department of Microbiology and Molecular Genetics(MMG), University of the Punjab, Lahore on 24th September 2011.

Memberships:

- Asthma Ambassador of “**The Asthma Society of Canada**”
- Member of “**Asthma Society of Ireland**”.
- Member as an advocate for the action center of “**Asthma and Allergy Foundation of America (AAFA)**”.
- Member of the “**National Asthma Patient Alliance- Canada**”.
- Junior Member of “**European Academy of Allergy and Clinical Immunology**” EAACI16338.

Administrative Experience:

Served or serving as

- Member CAMB Purchase Evaluation Committee from 2013 to 2015.
- Curriculum & Management advisor “Suffa Islamic School System, Qila Kalar Wala” from 2012 to date.

- Served as President of “Wahdat Blood Donars Society” Govt. College of Science, Lahore (2007).
- Served as Information Secretary of “GCS Chemical Society” Govt. College of Science, Lahore (2007).

Interests: Social work, gatherings for human development, Internet browsing and acquiring knowledge

Language: English, Urdu and Panjabi