

CURRICULUM VITAE

DR. MUHAMMAD FAROOQ SABAR

Associate Professor of Applied Molecular Biology

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SALIENT ACADEMIC ACHIEVEMENTS

Total Publications:	52
W-Category Publications:	28
X-Category Publications:	09
Y-Category Publications:	13
Other Publications:	02
Total Impact Factor	>300
Citations	>725
Gene Sequence Submissions in the Database:	210
PhDs Produced	03
PhDs Under Supervision	06
MPhil/MS Produced	21
MPhil/MS Under Supervision	04

ACADEMIC QUALIFICATION

Postdoctoral Fellow (Cancer Genomics)

2012

King Fahad National Centre of Children's Cancer, King Faisal Specialist Hospital & Research Centre, Al-Riyadh, Kingdom of Saudi Arabia

Ph.D (Molecular Biology)

2010

Centre of Excellence in Molecular Biology, University of the Punjab, Lahore

Thesis Title: Studies on the Physiological Effects of Different Form of Therapeutic Alpha Interferons

PROFESSIONAL, RESEARCH & TEACHING EXPERIENCE:

Associate Professor/HoD DNA Core Facility

[January 2022 – Contd.]

Assistant Professor/ Incharge CAMB (Acting)

[March 2021 – July 2021]

Assistant Professor/HoD DNA Core Facility

[July 2015 – January 2022]

Centre for Applied Molecular Biology (CAMB), University of the Punjab, Lahore, Pakistan. Teaching of M. Phil and Ph.D courses. Research guidance to the students. Student Coordination, career counselling and International Scholarship recommendation, Member departmental doctoral program committee and Board of studies in CAMB. Head DNA Genomics and analysis department of CAMB.

Postdoctoral Fellowship

[2011 – 2012]

King Faisal Specialist Hospital and Research Centre, Al Riyadh, Saudi Arabia. Cancer genomics, Thyroid cancer genetics, extensive cancer gene sequencing and mutation analysis.

PhD Scholar

[2004 – 2010]

Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore. Biopharmaceutical and therapeutics research. Synthesis, purification and chemical modification of therapeutic proteins. FPLC and HPLC of proteins.

Senior Research Officer/Asstt. Professor/ HoD DNA Core Facility **[2007 – 2015]**

Centre for Applied Molecular Biology (CAMB), Ministry of Science & Technology, Govt of Pakistan. Postgraduate, M. Phil and Ph.D. coaching and research guidance to the students. Career counselling and International Scholarship recommendation. Head DNA Genomics and analysis department of CAMB.

Research Officer/HOD DNA Sequencing lab **[2000 – 2007]**

Centre for Applied Molecular Biology (CAMB), Ministry of Science & Technology, Govt of Pakistan. Postgraduate, M. Phil and Ph.D. coaching and research guidance to the students. Established DNA Sequencing lab in CAMB. Head DNA analysis department of CAMB.

Assistant Research Officer

[1996 – 2000]

Centre for Applied Molecular Biology (CAMB), Ministry of Science & Technology, Govt of Pakistan. Established DNA primer Synthesis lab, Assistance in DNA Sequencing, tissue culturing, and enzyme assays etc. Helped MPhil and PHD students and researcher in their experiments.

MoUs

1. King Edward Medical University, Lahore
2. Breed Improvement department of Livestock department of Punjab
3. University of Hazara, Mansehra

Awards/Appreciations

1. Research Incentive Award (PU) 2016, 2017, 2018, 2019,2020
2. Performance Evaluation Award (PU) 2018-19
3. Performance Evaluation Award (PU) 2016-17
4. Performance Evaluation Award (PU) 2015-16
5. Performance Evaluation Award (PU) 2014-15, 2015-16, 20116-17, 20117-18, 2018-19, 2019-20
6. Productive Scientist of Pakistan (PCST) 2017-18
7. Productive Scientist of Pakistan (PCST) 2016-17

Academics:

1. Coordinator PhD Molecular Biology and Forensic Sciences Studies (2022-Contd.)
2. Coordinator MPhil Molecular Biology and Forensic Sciences Studies
3. Member Board of Studies at CAMB
4. Prepared Applied Molecular Biology and Forensic Sciences curriculum for MPhil and PhD at CAMB
5. Member Departmental Doctoral Program Committee (DDPC) at CAMB
6. Member BS, MS, MPhil and PhD Biochemistry and Molecular Biology curriculum review committee, University of Central Punjab (2017-20)
7. Teaching MPhil and PhD courses on Genomics, Molecular Genetics and Forensic DNA analysis at CAMB
8. Identified genomic variants associations with asthma in Pakistani population.
9. Published research on Chronic Myeloid Leukemia (CML) in international journals
10. Published research on hereditary hearing loss and vision impairment
11. Published research on population genetics
12. Postdoc on cancer genetics from King Faisal Specialist Hospital and Research Centre (KFSH&RC), KSA
13. **Produced and Supervising PhD, MPhil and MS** scholars and trained many trainees
14. Heading Genetic Diseases Research Group of CAMB
15. Heading DNA sequencing group since 1999

Commercial

16. **Commercialization of DNA Sequencing and genotyping** services in Pakistan
17. **Commercialization of DNA primers/oligos synthesis facility** within the country as well as abroad
18. Generated more than **100 million rupees** revenue for the department by providing the **Analysis of millions of DNA samples and DNA synthesis services** to researchers
19. Focal Person for CAMB **Incubation/Display Centre** (Commercialization)- 2013-15

Services:

20. Letter of appreciation from **Commandant Armed Forces Institute of Pathology (AFIP), MH, Rawalpindi** for training and solving their long standing issues regarding analysis of their forensic samples in their institute
21. Appreciation Letter from **Professor Dr. S. Riazuddin**, National Distinguished Professor and a prominent scientist of Pakistan
22. Rectification of issues in Genetic Analyzer of Faculty of Life Sciences at **BUIITEMS, Quetta**
23. Helped **UVAS, Lahore** in their DNA Sequencing facility issues.

24. Contributed in more than **1000 MPhil/PhD theses** from different universities of Pakistan
25. Provided **Technical help in DNA Sequencing and Genotyping** to researchers throughout Pakistan
26. Trained researchers from Breed Improvement, Live Stock department of Punjab in genotyping and parentage analysis of cattle.
27. Trained internees from different universities of Pakistan

STUDENTS SUPERVISED

PHDs-COMPLETED

1. **Dr. Mariam Shahid (HEC Indigenous Scholar) (2015)**
Shahid, M., **Sabar, M. F.**, Rahman, Z. 2015. **Population based Case-Control Asthma Association Studies of Single Nucleotide Polymorphisms in Chromosome 17 Potential Genomic Regions.**
CEMB, University of the Punjab, Lahore, Pakistan
2. **Muhammad Umer Kahn (2015-19)**
Khan, M. U., **Sabar, M. F.** (2020). Mtdna Profiling of Yashkun and Shin Population of Gilgit- Pakistan. Centre for Applied Molecular Biology, University of the Punjab, Lahore
3. **Muhammad Usman Ghani (2015-2019)**
Ghani, M. U., **Sabar, M. F.** (2020). Evaluation of Single Nucleotide Polymorphisms in Cytokine Gene Cluster and Risk of Asthma in Pakistani Children. Centre for Applied Molecular Biology, University of the Punjab, Lahore

PHDs -IN PROCESS

4. **Aqsa Arslan (HEC Indigenous Scholar)**
Centre for Applied Molecular Biology, University of the Punjab, Lahore. Synopsis approved from ASRB.
5. **Sana Ashiq**
Centre for Applied Molecular Biology, University of the Punjab, Lahore. Synopsis approved from ASRB.
6. **Mahmood Ghafoor**
Centre for Applied Molecular Biology, University of the Punjab, Lahore
7. **Rabia Khalid**
Centre for Applied Molecular Biology, University of the Punjab, Lahore
8. **Sameen Shahid**
Centre for Applied Molecular Biology, University of the Punjab, Lahore
9. **Fatima Hassan**
Centre for Applied Molecular Biology, University of the Punjab, Lahore

M.PHILs COMPLETED

10. **Miss Sadia Anjum**
Anjum, S., **Sabar, M. F.** (2022). Evaluation of Association of Single Nucleotide Polymorphism rs2495636 in IL-13R α Gene with Asthma. Centre for Applied Molecular Biology, University of the Punjab, Lahore
11. **Miss. Afifa**
Afifa., **Sabar, M. F.** (2022). Study of CYP1A1 Gene Polymorphism (rs1048943) in Chronic Myeloid Leukemia Pakistani Patients. Centre for Applied Molecular Biology, University of the Punjab, Lahore

12. Mr. Rehmatullah

Rehmatullah., **Sabar, M. F.** (2022). Analysis of Genetic Polymorphisms in Exon 7 of CYP1A1 Gene in Chronic Myeloid Leukemia and their Clinicopathological Correlations. Centre for Applied Molecular Biology, University of the Punjab, Lahore

13. Miss Faiza Naeem (2018-20)

Naeem, F., **Sabar, M. F.** (2020). Screening of IL-13 gene mutations in Pakistani asthmatic children. Centre for Applied Molecular Biology, University of the Punjab, Lahore

14. Miss Qurat-ul-Ain (2018-20)

Ain, Q. U., **Sabar, M. F.** (2020). Identification of single nucleotide variants in promoter region of RAD-50 gene in asthmatic Pakistani children. Centre for Applied Molecular Biology, University of the Punjab, Lahore

15. Miss Qurat-ul-ain Zafar (2018-20)

Zafar, Q. A., **Sabar, M. F.** (2020). Sequence analysis of IL-4 gene promoter region in pediatric asthma in Pakistan. Centre for Applied Molecular Biology, University of the Punjab, Lahore

16. Miss Sundus Aslam (2019)

Aslam, S., Ghani, M.U., **Sabar, M.F.** (2019). Thymic Stromal Lymphopoietin- A Candidate Gene to Study Asthma Associations. Centre for Applied Molecular Biology, University of the Punjab, Lahore

17. Miss Hafiza Sidra Bashir (2019)

Bashir, H.S., **Sabar, M.F.** (2019). Frequency Distribution and Association of Genomic Variant rs2289276 With Asthma in Pakistani Population. Centre for Applied Molecular Biology, University of the Punjab, Lahore

18. Miss Saba Tariq (2019)

Tariq, S., **Sabar, M.F.** (2019). Role of Thymic Stromal Lymphopoietin Gene Polymorphism in Asthma Pathogenesis. Centre for Applied Molecular Biology, University of the Punjab, Lahore

19. Ms. Suneela Raza (2019)

Raza, S., **Sabar, M.F.** (2019). Detection of SNPs in IL4R gene in local population of Sargodha. Department of Biotechnology, University of Sargodha, Sargodha.

20. Mr. Muhammad Akram (2018)

Akram, M., **Sabar, M.F.** (2018). Asthma susceptible variants in Vascular Endothelial Growth Factor-A and Transforming Growth Factor- β genes. Centre for Applied Molecular Biology, University of the Punjab, Lahore

21. Miss Ayesha Noor (2018)

Noor, A., **Sabar, M.F.** (2018). Analysis of association of Interleukin-33 genetic variants (rs2381416 and rs3939286) with pediatric asthma. Centre for Applied Molecular Biology, University of the Punjab, Lahore

22. Miss Iqra Noor (2018)

Noor, I., **Sabar, M.F.** (2018). Interleukin-1 Receptor-L1 polymorphism and asthma susceptibility in children of Punjab. Centre for Applied Molecular Biology, University of the Punjab, Lahore

23. Mr. Obaid Ullah (2018)

Ullah, O., **Sabar, M.F.** (2018). Detection of potential SNPs in coding region of ADRB2 gene in the local Punjabi Population and to find out the association of the detected SNPs with asthma. Department of Biotechnology, University of Sargodha, Sargodha.

24. Miss Saddiqa Riaz (2018)

Riaz, S., Hafeez, S., **Sabar, M.F.** (2018). The Detection of Potential SNPs in HLA-DRB1 gene related to asthma in local population of Pakistan. Department of Biotechnology, University of Sargodha, Sargodha.

25. Miss Ifrah Khalid (2017)

Khalid, I., **Sabar, M. F.** (2017). Study of TSLP, IL4R α and IL13R α gene polymorphisms in asthmatic patients. Centre for Applied Molecular Biology, University of the Punjab, Lahore

26. Miss Alishba Maryam (2017)

Maryam, A., **Sabar, M.F.** (2017). Significance of Vitamin D Receptor (VDR) gene polymorphisms as biomarkers for asthma. Centre for Applied Molecular Biology, University of the Punjab, Lahore

27. Miss Irsa Akhtar (2017)

Akhtar, I., **Sabar, M.F.** (2017). IL-10 Upstream Nucleotide Variants involvement in Predisposition of Asthma in Pakistan. Centre for Applied Molecular Biology, University of the Punjab, Lahore

28. Miss Annam Shafqat (2017)

Shafqat, A., **Sabar, M.F.** (2017). TH₂ Cytokine Single Nucleotide Polymorphisms and susceptibility of asthma. Centre for Applied Molecular Biology, University of the Punjab, Lahore

29. Mr. Muhammad Usman Ghani (2014).

Ghani, M.U., **Sabar, M. F.**, Ali, A. 2014. A Study on Association of Genetic Variants in gene ADAM33 with Asthma in Local Population of Lahore Region, Pakistan. University of Lahore, Lahore

30. Ms. Saadia Tabassum (2012)

Tabassum, S., Ahmad, H. and **Sabar. M. F.** (2012). Genetic elaborations of some ethnic groups of Hazara through X chromosome specific markers. M. Phil Thesis, Department of Genetics, Hazara University, Mansehra.

MS COMPLETED:

31. Ms. Sayeda Saadia Fatim Ali (2011)

Ali, S. S. F., **Sabar, M. F.** 2011. **Association Studies of Single Nucleotide Polymorphisms (SNPs) with Asthma in Pakistani Population.** University of Lahore, Lahore.

PUBLICATIONS

1. **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*, 16(1), 41-45.
1. Ashiq S, Ashiq K, **Sabar MF.** (2022). The role of genetics in the understanding of complex congenital heart diseases (CHDS). *Pakistan Heart Journal*, 54(4), 383-84.
2. Ashiq, S., Ashiq, K. and **Sabar, M.F.** (2021). The association of rs2277923 polymorphism in NKX2-5 gene with congenital heart diseases (CHDs): A systematic review and meta-analysis. *ECCM (2021) MDPI Pharmaceuticals*
3. Ghani, M.U., **Sabar, M.F.**, Shahid, M., Akram, M., Anwar, B. and Anwar, M.B. (2021). Snp Variants of IL-27 Gene as Genomic Predictors against Effectiveness of Vitamin-D Therapy in Copd Patients. *Chest*, 160(4), p.A1453.
4. Iqbal, Z.; Absar, M.; Akhtar, T.; Aleem, A.; Jameel, A.; Basit, S.; Ullah, A.; Afzal, S.; Ramzan, K.; Rasool, M.; Karim, S.; Mirza, Z.; Iqbal, M.; AlMajed, M.; AlShehab, B.;

AlMukhaylid, S.; AlMutairi, N.; Al-anazi, N.; **Sabar, M.F.**; Arshad, M.; Asif, M.; **Shammas, M.**; Mahmood, A. Integrated Genomic Analysis Identifies ANKRD36 Gene as a Novel and Common Biomarker of Disease Progression in Chronic Myeloid Leukemia. *Biology* **2021**, *10*, 1182

5. Ashiq, S., Ashiq, K. and **Sabar, M.F.** (2021). The role of NKX2-5 gene polymorphisms in congenital heart disease (CHD): a systematic review and meta-analysis. *The Egyptian Heart Journal*, 73(1), pp.1-9.
6. Ashiq, S., Ashiq, K., **Sabar, M. F.** (2021). The association of Paraoxonase 1 (PON1) gene polymorphisms with the coronary artery disease. *Interventional Cardiology*, 13(3): 312-315.
7. Ghani, M.U., **Sabar, M.F.**, Akram, M. (2021). Smart Approach for Cost-Effective Genotyping of Single Nucleotide Polymorphisms. *Kuwait Journal of Science*, 48(2): 1-11.
8. Mateen, R. M., **Sabar, M. F.**, Hussain, S., Parveen, R. and Hussain, M. (2021). Familial DNA analysis and criminal investigation: Usage, Downsides and Privacy concerns. *Forensic Science International*, 318: 110576.
9. Ghafoor, M., **Sabar, M. F.** and Sabir, F. (2021). Prevention programs and prenatal diagnosis for beta thalassemia in Pakistan: a narrative review. *Journal of the Pakistan Medical Association*, 71 (1-B): 26-31.
10. Aslam, R., Shahid, M., Bano, I., Ayoub, M., Sabar, M.F., Altaf, S., Kousar, S., Ghani, M.U., Husnain, T. and Shahid, A.A., 2021. Major histocompatibility complex class II polymorphic variants are associated with asthma predisposition in the Punjabi population of Lahore, Pakistan. *The Clinical Respiratory Journal*, 15(4), pp.374-381.
11. Iqbal, Z. Absar, M., Jamil, A., Akhtar, T., Basit, S., Afzal, S., Ramzan, K., Qureshi, K., **Sabar, M. F.**, Arshad, M., Aleem, A., Anhar, U., Mirza, Z., Karim, S., Khalid, N. B., Rasool, M., Asif, M., Ullah, M., Khalid, A. M., Mahmood, A., Alanazi, N. (2021). Next-Generation Sequencing Identifies a Previously Uncharacterized Gene ANKRD36 As a Common Biomarker for Blast Crisis Chronic Myeloid Leukemia: Molecular and Protein Bio-Modeling Studies. *Blood* 136 (Supplement 1): 32–33
12. Khan, M.U., **Sabar, M.F.**, Baig, A.A., Naqvi, A.N., Ghani, M.U. (2021). Forensic and genetic characterization of mtDNA lineages of Shin; a unique ethnic group in Pakistan. *Pakistan Journal of Zoology*, 53(1), 133-141.
13. Iqbal, Z., Absar, M., Mahmood, A., Aleem, A., Iqbal, M., Jameel, A., Akhtar, T., Karim, S., Rasool, M., Zeenat, M., Khalid, M., Akram, A., **Sabar, M. F.**, Khalid, A. M., Aljarrah, K., Iqbal, J., Khalid, M., Shah, I. H, Alanazi, N. (2020). Discovery and Protein Modeling Studies of Novel Compound Mutations Causing Resistance to Multiple Tyrosine Kinase Inhibitors in Chronic Myeloid Leukemia. *Asian Pacific Journal of Cancer Prevention*. 21(12): 3517-3526

14. **Sabar, M. F.**, Ghani, M. U., Ramzan, K., & Hussain, M. (2020). Whole exome sequencing identifies the asthma susceptible variants in the Punjab province of Pakistan. *Chest*, 157(6), A17.
15. Naeem, F., **Sabar, M. F.**, Ghani, M. U., Ain, Q., & Zafar, Q. U. A. (2020). Identification of diagnostic and therapeutic target genes to address asthma disease in Pakistan. *Chest*, 157(6), A213.
16. Khan, K., Siddiqi, M. H., Ali, S., Ali, S., & **Sabar, M. F.** (2020). Mitochondrial DNA control region variants analysis in Balti population of Gilgit-Baltistan, Pakistan. *Meta Gene* 23: 100630.
17. Iqbal, Z., Absar, M., Jameel, A., Akhtar, T., Basit, S., Mahmood, A., Aleem, A., Alanazi, N., Anhar, U., Khalid, N. B., Afzal, S., Hashmi, J. A., Akram, A. M., Ramzan, K., Rasool, M., Aziz, M. H., **Sabar, M. F.**, Iqbal, M., Khalid, A. M. (2019). Investigations on Novel Gene Variants Associated with Longterm Response to Tyrosine Kinase Inhibitors (TKIs) in Chronic Myeloid Leukemia: Implication in TKI-Cessation Clinical Trails. *Blood* 134 (Suppl. 1): 2939-2939.
18. Ghani, M.U., **Sabar, M.F.**, Bano, I., Shahid, M., Akram, M., Khalid, I., Maryam, A. and Khan, M.U. (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 medical journal*, 40(8): 774-780.
19. Ghani, M.U., **Sabar, M.F.**, Bano, I., Shahid, M., Akram, M., Khalid, I., Maryam, A., Khan, M.U. (2019). Inheritance Pattern of rs2280089, rs2280090, rs2280091 SNP Variants in Punjabi Population and Association with Asthma Disease. *Chest*. 155(4): 168A.
20. Shahid, M., Tayyab, U., Kousar, S., Ghani, M.U., **Sabar, M.F.**, et al. rs153109 as Possible Indicator of Effectiveness of Vitamin D Supplements for Suppressing Copd Symptoms. *Chest*, (2019); 155(4): 219A.
21. **Sabar, M.F.**, Khan, A.A. (2019). An Overview of Asthma COPD Overlapping Syndrome (Acos). *Haya Saudi J Life Sci*, 4(8): 271-277
22. **Sabar, M.F.**, Arshad, F. (2019). Genetic Mutations in CFTR Protein Gene Cause Cystic Fibrosis- Its Symptoms, Treatment, and Incidence in Pakistan. *Haya Saudi J Life Sci*, 4(8): 278-282
23. Akram, A.M., Akhtar, T., Chaudhary, A., Shahzad, M.M., Khalid, A.M., Sajid, N., **Sabar, M.F.** and Iqbal, Z. (2018) BCR-ABL Kinase Domain Mutations Exist in Few Imatinib Treated Chronic Myeloid Leukemia (CML) Patients Exhibiting Stable Cytogenetic and Hematologic Responses. *Blood*, 132(Suppl. 1): 5427-5427.
24. Akram, A. M., Kausar, H., Chaudhary, A., Khalid, A. M., Shahzad, M., Akhtar, M. W., **Sabar, M. F.**, Sajid, N., Al Anazi, N., Aleem, A., Iqbal, Z. (2018) Detection of Exon 12 and 14 Mutations in Janus Kinase 2 Gene Including a Novel Mutant in V617F Negative Polycythemia Vera Patients from Pakistan. *Journal of Cancer*, 9(23):4341-4345.

25. **Sabar, M. F.**, Akram, M., Awan, F. I., Ghani, M. U., Shahid, M., Iqbal, Z., Kousar, S., Idrees, M. (2018) Awareness of Asthma Genetics in Pakistan: A Review with Some Recommendations. *Advancements in Life Sciences*. 6(1): 1-10
26. Imran, A., Qamar, H. Y., *Ali, Q., Naeem, H., Riaz, M., Amin, S., Kanwal, N., Ali, F., ***Sabar, M. F.**, Nasir, I. A. (2017). Role of Molecular Biology in Cancer Treatment. *Iranian Journal of Public Health*. 46(11):1475-85
27. Akram, A. M., Iqbal, Z., Akhtar, T., Khalid, A. M., **Sabar, M. F.**, Qazi, M. H., Aziz, Z., Sajid, N., Aleem, A., Rasool, M., Asif, M. (2017) Presence of novel compound BCR-ABL mutations in late chronic and advanced phase imatinib sensitive CML patients indicates their possible role in CML progression. *Cancer Biology & Therapy*. 18(4):214-21
28. **Sabar, M. F.**, Shahid, M., Bano, I., Ghani, M. U., Akram, M., Iqbal, F., 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
29. Ghani, M. U., **Sabar, M. F.**, Shahid, M., Awan, F. I., Akram, M. (2017) A report on Asthma Genetics Studies in Pakistan. *Advancements in Life Sciences*. 4(2): 33-38.
30. Nagi, A.H., Khadim, M.T., Naveed, A.K., **Sabar, M.F.** (2016). Absence of KRAS mutations in codons 12, 13 in colorectal adenocarcinoma from northern Pakistan. *Biomedica* 32(3): 155-159.
31. Iqbal, Z., Akram, A. M., Akhtar, T., Aleem, A., **Sabar, M. F.**, Aziz, Z., Sajid, N., Rasool, M., Asif, M., Qazi, M. H., Oraibi, S., Gill, A. T., Al Jamaan, K., Iqbal, M., & Khalid, A. M. (2016). Brief Research Report: Novel Compound BCR-ABL Mutations in Late Chronic Phase Imatinib Sensitive CML Patients Are Associated with Progression to Advance Disease Phase. *Blood*, 128(22), 3089
32. **Sabar, M. F.**, Ghani, M. U., Shahid, M., Sumrin, A., Ali, A., Akram, M., Tariq, M. A., & Bano, I. (2016). Genetic variants of ADAM33 are associated with asthma susceptibility in the Punjabi population of Pakistan. *Journal of Asthma*, 53(4), 341-348
33. Iqbal, Z., Akram, A. M., Akhtar, T., Khalid, M., Aziz, Z., Aleem, A., Gill, A. T., Khalid, A. M., Alanazi, A., Shah, I. H., **Sabar, M. F.** (2015) High Frequencies of Compound BCR-ABL Mutations and Their Association with Imatinib Resistant, Disease Progression and Late Chronic Phase Disease in Pakistani Chronic Myeloid Leukemia Patients Necessitate the Inclusion of Molecular Testing in Routine Clinical Settings. *Blood* 126(23):5167-5167
34. Iqbal, Z., Akhtar, T., Awan, T., Aleem, A., Sabir, N., Absar, M., Shammam, M.A., Shah, I. H., Khalid, M., Taj, A. S., Jameel, A., Alanazi, A., Gill, A. T., Hashmi, J. A., Hussain, A., **Sabar, M. F.**, Khalid, A. M., Qazi, M. H., Karim, S., Siddiqi, M. H., Mahmood, A., Iqbal, M., Saeed, A., Irfan, M. I., Rasool, M. (2015) High frequency and poor prognosis of late childhood BCR-ABL positive and MLL-AF4 positive ALL

define the need for advanced molecular diagnostics and improved therapeutic strategies in pediatric B-ALL in Pakistan. *Molecular Diagnosis and Therapy* 19(5): 277-287.

35. Shahid, M., **Sabar, M. F.***, Bano, I., Rahman, Z., Iqbal, Z., Fatim Ali, S. S., Ghani, M. U., 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* 52(08):777-84.
36. Rehman K.U., Akhtar T., **Sabar M.F.**, Tariq M.A. (2015) Allele frequency distribution of CYP2C19* 2 allelic variants associated with clopidogrel resistance in cardiac patients. *Experimental and therapeutic medicine*. 10(1):309-15.
37. **Sabar, M. F.**, Ghani, M. U., Shahid, M., Sumrin, A., Ali, A., Akram, M., Awan, F. I., Tariq, M. A. (2015) Genetic association of ADAM33'S SNP variants with asthma in the population of Lahore region, Pakistan. *Asian J Agri Biol.*, 03(Special Issue): p. 57
38. Iqbal Z., Akhtar T., Akram A.M., Khalid M., Shah I.H., Aleem A., Khalid M., Iqbal J., Aziz. Z., Absar M., Hashmi J.A., Qazi M.H., Khalid A.M., **Sabar M.F.**, Karim S., Rasool M., Mahmood A., Gill A.T., Saglio G., Iqbal M. (2014). Detection of Compound BCR-ABL Mutations in TKI Resistant CML Patients Including a Novel K245N Mutation Associated with Primary Nilotinib Resistance By Employing a Newly Developed Cost Effective BCR-ABL Sequencing Protocol. *Blood* 124(21): 1810.
39. **Sabar, M. F.**, Kousar, S., Zafar, A. U., Shahid, M. (2013) PEG-Interferon Conjugates: Effects of Length and Structure of Linker. *Pakistan Journal of Pharmaceutical Sciences* 26(2): 425-430
40. **Sabar, M. F.**, Awan, F.I., Shahid, M Ghani, M. U. and Yaqub, M. (2013). Synthesis and Bioactivity Study of 30KDa Linear PEG-Interferon and its Comparison with Tri-Branched PEG-Interferon. *Journal of the Chemical Society Pakistan* 35(1): 119-24.
41. Iqbal, Z., Noreen, S., Aamer, A., Tashfeen, A., Naeem, T., Sultan, A., Tahir, A. H, Absar, M., Chishti, M.A., Faiyaz -ul-Haque, M., Khalid, A. M., **Sabar, M.F.**, Rasool, M., Ali, A.S., Mahmood, A., Akram, M., Saeed, T., Arsalan, S., Mohsin, D., Shah, I.H., Khalid, M., Asif, M., Iqbal, M., Akhtar, T. (2012) Characterization of Common Fusion Oncogenes As Prognostic Molecular Identities in Adult Acute Lymphoblastic Leukemia Identifies the Need for Genetic Testing At Presentation, Molecular Prognostication and Differential Treatment. *Blood* 120: 5115.
42. Iqbal, Z., Noreen, S., Aamer, A., Tashfeen, A., Naeem, T., Sultan, A., Tahir, A. H, Absar, M., Chishti, M.A., Faiyaz -ul-Haque, M., Khalid, A. M., **Sabar, M.F.**, Rasool, M., Ali, A.S., Mahmood, A., Akram, M., Saeed, T., Arsalan, S., Mohsin, D., Shah, I.H., Khalid, M., Asif, M., Iqbal, M., Akhtar, T. (2012) Detection of Five Common Fusion Oncogenes in Pakistani Children with Acute Lymphoblastic Leukemia and Their Association with Clinical Pattern and Treatment Outcome. *Blood* 120: 5124.
43. Awan, T, Iqbal, Z , Aleem, A., Sabir, S., Absar, M., Rasool, M., Tahir, A.H., Basit, S., Khalid, A.M., **Sabar, M.F.**, Asad, S, Ali, A.S., Mahmood, A., Akram, M., Saeed, T., Saleem, A., Mohsin, D., Shah, I.H., Khalid, M., Asif, M., Haq, R., Iqbal, M., Akhtar, T. (2012). Five Most Common Prognostically Important Fusion Oncogenes are

detected in majority of Pakistani Pediatric Acute Lymphoblastic Leukemia Patients and are strongly associated with disease biology and treatment outcome. *Asian Pacific Journal Of Cancer Prevention* 13(11):5469-5475.

44. Sabir, N., Iqbal, Z., Aleem, A., Awan, T., Naeem, T., Asad, S., Tahir, A.H., Absar, M., Hasanato, R.M.W., Basit, S., Chishti, M.A., Ul-Haque, M.F., Khalid, A.M., **Sabar, M.F.**, Rasool, M., Karim, S., Khan, M., Samreen, B., Akram, A.M., Siddiqi, M.H., Shahzadi, S., Shahbaz, S., Ali, A.S., Mahmood, A., Akram, M., Saeed, T., Saleem, A., Mohsin, D., Shah, I.H., Khalid, M., Asif, M., Iqbal, M., Akhtar, T. (2012) Prognostically Significant Fusion Oncogenes in Pakistani Patients with Adult Acute Lymphoblastic Leukemia and their Association with Disease Biology and Outcome. *Asian Pacific Journal Of Cancer Prevention* 13(7):3349-55.
45. Akbar, H., Idrees, M., Butt, S., **Sabar, M.F.**, Rehaman, I.U., Hussain, A., and Saleem, S. (2011) High base line interleukine-8 level is an independent risk factor for the achievement of sustained Virological response in chronic HCV patients. *Infection, genetics and evolution.* 11(6):1301-5
46. Iqbal, T., Idrees, M., Ali, L., Hussain, A., Ali, M., Butt, B., Yousaf, M.Z. and Sabar, M.F. (2011) Isolation and characterization of two new Hepatitis E Virus Genotype 1 strains from two Mini-outbreaks in Lahore, Pakistan. *Virology Journal.* 8(1):94
47. **Sabar, M. F.**, Yaqub, M., Khan, M. A., Ahmad, N., Ghani, M. U., Shahid, M. (2010) Synthesis of a new tri-branched PEG-IFN α 2 and its impact on anti viral bioactivity. *International Journal of Peptide Research and Therapeutics* 16(4):239–245.
48. Tariq, M. A., **Sabir, M. F.**, Riazuddin, S. A., Riazuddin, S. (2009) Haplotype analysis of two X-chromosome STR clusters in the Pakistani population. *International Journal Of Legal Medicine* 123(1):85-7.
49. Riazuddin, S., Nazli, S., Ahmed, Z. M., Yang, Y., Zulfiqar, F., Shaikh, R. S., Zafar, A. U., Khan, S. N., **Sabar, F.**, Javid, F. T., Wilcox, E. R., Tsilou, E., Boger, E. T., Sellers, J. R., Belyantseva, I. A., Riazuddin, S., Friedman, T. B. (2008) Mutation spectrum of MYO7A and evaluation of a novel nonsyndromic deafness DFNB2 allele with residual function. *Human Mutation* 29(4):502-11.
50. Zhang, Q., Zulfiqar, F., Xiao, X., Riazuddin, S. A., Ayyagari, R., **Sabar, F.**, Caruso, R., Sieving, P. A., Riazuddin, S., Hejtmancik, J. F. (2005) Severe Autosomal Recessive Retinitis Pigmentosa Maps to Chromosome 1p13.3-p21.2 between D1S2896 and D1S457 but Outside ABCA4. *Human Genetics* 118(3-4):356-65
51. Riazuddin, S.A., Yasmeen, A., Zhang, Q., Yao, W., **Sabar, M. F.**, Ahmad, Z., Riazuddin, S. and Hejtmancik, J. F. (2005). A New Locus for autosomal recessive nuclear cataract mapped to chromosome 19q13 in a Pakistani Family. *Investigative Ophthalmology and Visual Science* 46, 623-626.
52. Zhang, Q., Zulfiqar, F., Xiao, X., Riazuddin, S. A., **Sabar, F.**, Caruso, R., Sieving, P. A., Riazuddin, S. and Hejtmancik, J. F. (2005) Locus (RP30) for Severe Recessive Retinitis Pigmentosa Maps to Chromosome 1p13. 3–p21. 2 Between D1S2896 and

D1S457 but Outside ABCA4. Investigative Ophthalmology & Visual Science, 46(13):2291-2291.

53. Ahmed, Z. M., Riazuddin, S., Ahmad, J., Bernstein, S. L., Guo, Y., **Sabar, M. F.**, Sieving, P., Riazuddin, S., Griffith, A. J., Friedman, T. B., Belyantseva, I. A., Wilcox, E. R. (2003) PCDH15 is expressed in the neurosensory epithelium of the eye and ear and mutant alleles are responsible for both USH1F and DFNB23. Human Molecular Genetics 15; 12(24):3215-23.

INTERNATIONAL CONFERENCE, PAPER PRESENTATIONS AND ABSTRACTS:

1. **Muhammad Farooq Sabar** (2018), Study On Vitamin D Receptor Gene Polymorphism And Risk Of Asthma In Punjabi Population Of Pakistan. 2nd International Conference on "New Trends in Natural Sciences and Public Health, Food, Nutrition & Safety" Lahore College for Women University, Lahore.
2. **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Mariam Shahid, Muhammad Akram and Iqbal Bano (2017). Asthma in Pakistan: Role of Genetics and Environmental Factors. International Conference on Solid State Physics, ICSSP'17 at University of the Punjab, Lahore
3. Saba Altaf, Mariam Shahid, Iqbal Bano, Samra Kausar, Muhammad Ayuob, Raheela Aslam, **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Ujala Tayyab, Sarooj Nadeem, and Tayyab Hasnain (2017). Association between genetic variant (rs11650680) of TOP2A and early onset asthma in population of Lahore, Pakistan. 2nd International Conference on Advanced Molecular Biology of Plant and Health Sciences. ALS-Abstract Book, p48
4. **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Farheena Iqbal Awan, Mariam Shahid, Muhammad Akram and Iqbal Bano (2017). Role of Genomic Variants in the predisposition of Asthma in Pakistani Patients. Proceedings of 3rd International Conference on Biotechnology, USA journal of R&D, Page 58
5. **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Farheena Iqbal Awan, Mariam Shahid, Muhammad Akram and Iqbal Bano (2017). Significance of Vitamin-D Receptor Gene Polymorphism as a Biomarker for Asthma in Punjabi Population of Pakistan. International Conference on Agricultural and Food Science (ICAFS2017) & the 7th International Conference on Biotechnology and Bioengineering (7th ICBB2017) at Virtual University, Lahore
6. **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Mariam Shahid, Muhammad Akram and Iqbal Bano (2017). Both Genetic and Environmental Factor are Involved in the Development of Asthma in Pakistan. International Conference on New Trends in Natural Sciences: From Basic to Applied at Lahore College for Women University, Lahore. Abstract book
7. **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Farheena Iqbal Awan, Mariam Shahid, Muhammad Akram and Iqbal Bano (2017). Significance of Vitamin-D Receptor Gene Polymorphism as a Biomarker for Asthma in Punjabi Population of Pakistan. International Conference on Agricultural and Food Science (ICAFS2017) & the 7th International Conference on Biotechnology and Bioengineering (7th ICBB2017) at Virtual University, Lahore. Abstract book
8. Muhammad Usman Ghani, **Muhammad Farooq Sabar**, Iqbal Bano, Mariam Shahid, Muhammad Akram, Nadeem Sheikh (2017). ADAM33 gene variants rs2280089, rs2280090, rs2280091 are not associated with asthma in local Patients. 2nd

- International Biennial CardioRespiratory Conference-2017” 03-05 March, 2017. Abstract Book
9. Ifrah Khalid, Muhammad Usman Ghani, Iqbal Bano, Ahsan Waheed Rathore, Mariam Shahid, Alishba Maryam, Muhammad Akram, **Muhammad Farooq Sabar*** (2017). rs1837253, rs1805010 and rs2495636 SNPs as asthma risk factors in Pakistan. Poster presentation in an International Symposium on Advances in Molecular Biology of Plants and Health Sciences at CEMB, PU, Lahore. Advancements in Life Sciences. Abstract Book
 10. Muhammad Ayoub, Mariam Shahid, Saba Altaf, Iqbal Bano, Samra Kousar, Raheela Aslam, **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Ujala Tayyab, Sarooj Nadeem, Tayyab Husnain. (2017). Case-control Association Study of HLA-B variant (rs866916063) with asthma in local population of Lahore, Pakistan. Poster presentation in an International Symposium on Advances in Molecular Biology of Plants and Health Sciences at CEMB, PU, Lahore. Advancements in Life Sciences. Abstract Book
 11. **Muhammad Farooq Sabar** (2015). Genomics Associated with Asthma in Pakistan. International Symposium on Advances in Molecular Biology of Plant and Health Sciences, CEMB, PU, Lahore. ALS Abstract Book, Page 42.
 12. **Muhammad Farooq Sabar**, Muhammad Usman Ghani, Mariam Shahid, Aleena Sumrin, Amjad Ali, Muhammad Akram, Muhammad Akram Tariq (2015). Genetic Association of ADAM33’s SNP variants with Asthma in the Population of Lahore Region, Pakistan. 4th international molecular biology and biotechnology congress & conference on life sciences research 2015. Isra University, Islamabad. MBB06.
 13. Shahid M., **Sabar M.F.**, Rahman Z., Bano I., Ghani M.U., Kousar S., Akram M., Husnain T. (2015). Urbanization triggers asthma in ‘C’ allele carriers for rs12603332 European Academy of Allergy and Clinical Immunology (EAACI), P04, Istanbul, Turkey
(https://www5.shocklogic.com/scripts/jmevent/programme.php?client_Id=EAACI&project_Id=ASIST15). The poster won the travel grant.
 14. Shahid, M., **Sabar, M. F.**, Bano, I., Rahman, Z., Iqbal, Z., Ali, S. S., Ghani, M. U., Iqbal, M., Husnain, T. (2014). Chromosome 17q21 is Associated with Asthma in the Population of Lahore, Pakistan. International Conference "Emerging Trends in Life Sciences for Sustainable Development" held at FC College University, Lahore

GENEBANK (NCBI) SUBMISSIONS OF DNA SEQUENCES:

Following are some of the sequences submitted to GenBank database (**Total >210 sequences**)

1. Homo sapiens isolate SHN-009-F D-loop, partial sequence; mitochondrial.
GenBank: MH998117.1
2. Homo sapiens protocadherin 15 isoform B (PCDH15) mRNA, complete cds, alternatively spliced
GenBank: AY388963.1
3. Hepatitis C virus subtype 1a isolate Pk-1a polyprotein gene, partial cds
GenBank: GU736411.1
4. Hepatitis C virus subtype 3a isolate Pk-E2 polyprotein gene, partial cds
GenBank: GU736410.1
5. Hepatitis C virus polyprotein gene, partial cds
GenBank: GQ898898.1

6. Hepatitis C virus isolate PK-1a polyprotein gene, partial cds
GenBank: GQ451336.1
7. Hepatitis C virus subtype 3a isolate PK1 non-structural protein NS5a gene, partial cds
GenBank: GQ300882.1
8. Hepatitis C virus isolate PK1 non-structural protein NS4b gene, partial cds
GenBank: GQ325251.1
9. Hepatitis B virus isolate HBVpk44 polymerase (P) gene, partial cds
GenBank: FJ966118.1
10. Hepatitis B virus isolate HBVpk23 polymerase (P) gene, partial cds
GenBank: FJ966117.1
11. Hepatitis B virus isolate HBVpk32 polymerase (P) gene, partial cds
GenBank: FJ966116.1
12. Hepatitis B virus isolate HBVpk25 polymerase (P) gene, partial cds
GenBank: FJ966115.1
13. Hepatitis B virus isolate HBVpk34 polymerase (P) gene, partial cds
GenBank: FJ966114.1
14. Hepatitis B virus isolate HBVpk26 polymerase (P) gene, partial cds
GenBank: FJ966113.1
15. Hepatitis B virus isolate HBVpk22 polymerase (P) gene, partial cds
GenBank: FJ966112.1
16. Bubalus bubalis haplotype NR-6 cytochrome b gene, partial cds; mitochondrial
GenBank: JF946524.1
17. Bubalus bubalis haplotype NR-5 cytochrome b gene, partial cds; mitochondrial
GenBank: JF946523.1
18. Bubalus bubalis haplotype NR-4 cytochrome b gene, partial cds; mitochondrial
GenBank: JF946522.1
19. Bubalus bubalis haplotype NR-3 cytochrome b gene, partial cds; mitochondrial
GenBank: JF946521.1
20. Bubalus bubalis haplotype NR-2 cytochrome b gene, partial cds; mitochondrial
GenBank: JF946520.1
21. Bubalus bubalis haplotype NR-1 cytochrome b gene, partial cds; mitochondrial
GenBank: JF946519.1
22. Psittacula krameri isolate PKPr24 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823255.1
23. Psittacula krameri isolate PKPr23 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823256.1
24. Psittacula krameri isolate PKPr22 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823254.1
25. Psittacula krameri isolate PKPr21 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823253.1

26. *Psittacula krameri* isolate PKPr20 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823252.1
27. *Psittacula krameri* isolate PKPr19 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823251.1
28. *Psittacula krameri* isolate PKPr18 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823250.1
29. *Psittacula krameri* isolate PKPr17 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823249.1
30. *Psittacula krameri* isolate PKPr16 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823248.1
31. *Psittacula krameri* isolate PKPr15 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823247.1
32. *Psittacula krameri* isolate PKPr14 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823246.1
33. *Psittacula krameri* isolate PKPr13 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823245.1
34. *Psittacula krameri* isolate PKPr12 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823244.1
35. *Psittacula krameri* isolate PKPr11 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823243.1
36. *Psittacula krameri* isolate PKPr10 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823242.1
37. *Psittacula krameri* isolate PKPr9 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823241.1
38. *Psittacula krameri* isolate PKPr8 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823240.1
39. *Psittacula krameri* isolate PKPr7 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823239.1
40. *Psittacula krameri* isolate PKPr6 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823238.1

41. *Psittacula krameri* isolate PKPr5 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823237.1
42. *Psittacula krameri* isolate PKPr4 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823236.1
43. *Psittacula krameri* isolate PKPr3 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823235.1
44. *Psittacula krameri* isolate PKPr2 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823234.1
45. *Psittacula krameri* isolate PKPr1 NADH dehydrogenase subunit 2 (ND2) gene, complete cds; mitochondrial
GenBank: KC823233.1

PHD THESES REVIEWER/EXTERNAL EXAMINAR:

1. Liaquat University of Health and Medical Sciences, Jamshoro, Sindh, Pakistan
2. University of Veterinary and Animal Sciences, Lahore, Pakistan

FOREIGN TRAININGS:

1. (2002) DNA sequencing and genotyping on ABI-310 and 3100 machines (Switzerland)
2. (2002) Human Identification analysis using DNA forensic techniques (Identifiler kit) on ABI-machines (Switzerland)
3. (2005) Synthesis of recombinant interferon and its PEGylation (ICGEB-Italy)
4. (2006) DNA sequencing and gene mapping on ABI-3730 machine (UK)
5. (2007) Real Time PCR of ABI (Dubai)
6. (2010) Training workshop on ABI Next Generation DNA Sequencer “SOLiD” (Germany)
7. (2011-2012) Postdoctoral Fellowship training on cancer genetics and mutation screening (King Faisal Specialist Hospital and Research Centre, Al-Riyadh, Saudi Arabia)

SOME SIGNIFICANT WORKSHOPS AND SYMPOSIA ATTENDED:

International:

1. (2006) Bioforums at CAMB/CEMB campus
2. (2008) Delivered a lecture on DNA sequencing at CAMB/CEMB in a Bioforum at CAMB/CEMB campus
3. (2009) Research tools in proteomics, organized by National Centre for Proteomics, University of Karachi
4. (2014) International conference on “Emerging Trends in Life Sciences for Sustainable Development” at FC College University, Lahore
5. (2015) 4th international molecular biology and biotechnology congress & conference on life sciences research 2015 held at Isra University, Islamabad.

6. (2015) International Symposium on Advances in Molecular Biology of Plant and Health Sciences, CEMB, PU, Lahore
7. (2017) 3rd International Conference on Biotechnology at University of South Asia, Lahore
8. (2017) Two days Workshop on “Patent Filing & Introduction to Intellectual Property System of Pakistan” at Punjab University, Lahore
9. (2017) International Conference on “New Trends in Natural Sciences: From Basic to Applied” at Lahore College for Women University, Lahore
10. (2017) One week “42nd International Nathiagali Summer College on Physics and Contemporary Needs”
11. (2017) International Conference on Solid State Physics, ICSSP’17 at University of the Punjab, Lahore
12. (2018) 2nd International Conference on "New Trends in Natural Sciences and Public Health, Food, Nutrition & Safety" at Lahore College for Women University, Lahore

National:

1. (2007) Seminar on “New Possibilities in LC/MS” at Lahore
2. (2007) Workshop on proteomics at MMG, PU, Lahore
3. (2013) **Planning, Establishing and Managing Technology Incubators.** A two days training workshop at NUST, Islamabad; organized by Ministry of Science and Technology
4. (2016) National workshop “Organic Food And Health: Avenues of Innovation and Entrepreneurship”
5. (2016) One day awareness seminar on “Lungs and Bronchial Diseases” at CAMB, PU, Lahore
6. (2016) Hands on Training on Advances in Nucleic Acid Technology at CAMB, PU, Lahore.
7. (2016) “Four Days National Hands on Training Workshop on Clinical Diagnostics by Real Time PCR, Western Blot and Cell Culturing” jointly organized at Institute Biochemistry and Biotechnology, PU, Lahore.
8. (2017) one day seminar on “Advances in PCR Technology; Power to Detect Single Copy Without Standard Curves”
9. (2016) A 3 days Workshop on “Drug Discovery and Development” held at COMSATS Institute of Information Technology, Islamabad.
10. (2017) Two days training workshop on “Writing Winning Research Proposals” held at COMSATS Institute of Information Technology, Islamabad.
11. (2017) 6th Invention to Innovation Summit 2017 at Punjab University, Lahore
12. (2018) One day symposium on “Industrial Biotech & Biorefining” at CAMB, PU, Lahore
13. One day symposium on “DNA in Crime Investigations” at PU, Lahore.
14. (2018) One day seminar on “Biosafety Training for Young Researchers” at CAMB, PU, Lahore

REVIEWER OF INTERNATIONAL SCIENTIFIC JOURNALS:

1. Journal of Asthma
2. International Journal of Peptide Research and Therapeutics
3. Journal of Chemical Society of Pakistan
4. Pakistan Journal of Pharmaceutical Sciences
5. Molecular and Cellular Biochemistry
6. Expert Review of Respiratory Medicine

7. Molecular Biosystems etc.

ADMINISTRATIVE/MANAGEMENT EXPERIENCE:

Served or serving

1. (2010-2015) Member CAMB Executive Committee, headed by Secretary, Ministry of Sc.&Tech. (The committee was supreme governing body of CAMB)
2. (2000-continued) Head of CAMB DNA Core Facility
3. (2010-2011 & 2013-2015) Chairman CAMB Purchase Evaluation Committee
4. (2015-continued) Member departmental Purchase Evaluation Committee
5. (2010-2011) Chairman CAMB Management Committee
6. (2010-2011) Chairman CAMB Maintenance Committee
7. (2012-2015) Chairman Technical Evaluation Committee
8. (2015- continued) Member Technical Evaluation Committee
9. (2010-2015) Chairman CAMB Departmental Inquiry Committees
10. (2015-continued) Member Board of studies CAMB, PU, Lahore
11. (2016-continued) Member Departmental Doctoral Program Committee (DDPC), CAMB, PU, Lahore
12. (2016-continued) Focal Person Laptop Scheme
13. (2017-2022) Coordinator MPhil studies program “Molecular Biology and Forensic Sciences” at CAMB, PU
14. (2022-Continued) Coordinator PhD studies program “Molecular Biology and Forensic Sciences” at CAMB, PU
- 15.
16. (2018-continued) Member Scholarship and Financial Assistance Committee of the CAMB
17. (2015-continued) Member Admission Committee for MPhil and PhD admissions
18. 2018-continued) Member Student Disciplinary and Advisory Committee

TEACHING:

- Molecular Biology and Forensic Sciences courses to MPhil and PhD scholar
 1. Advance Molecular Biology & Biotechnology (MPhil 3+1)
 2. Advances in Practical Approaches to Nucleic Acid Sequencing (PhD 3+1)
 3. Recent Advances in Forensic Molecular Biology (PhD 3+1)
 4. Paper Writing Skills (MPhil 1+0)

PROJECTS/ MOUS/TASKS:

1. HEC has funded more than **>4.0 M** in year 2018 for DNA Analysis service to researchers.
2. Provision of DNA analysis services to Pakistani researcher (**HEC Sponsorship- >4.5 M-2017**) *Continuous activity since 2005*
3. DNA Genotyping and Fragment analysis for samples from Animal Husbandry Department of Directorate of Breed Improvement, Government of the Punjab (Services). Funded by Punjab Government (**1.81343 M-2018**)
4. MoU with King Edward Medical University, Lahore for research collaboration providing DNA analytical services (**2018**)

5. DNA Genotyping and Fragment analysis for samples from Directorate of Breed Improvement, L&DD Department of Punjab (Services). Funded by Punjab Live Stock Department (**1.5 M-2017**) *Completed*
6. Association of *NKX2-5* polymorphisms with the ventricular septal defects in Pakistan (Punjab University Project-**0.30-2021**) *Completing in June 2022*
7. TSLP association with asthma can be important biomarker in diagnosis and therapeutics. population (Punjab University Project-**0.15M-2019**) *Completed*
8. Investigation of association of *CHI3L1* gene variants with the manifestation of asthma in Pakistani population (Punjab University Project-**0.15M-2016**) *Completed*
9. MOU of training of scientist from Department of Breed Improvement Livestock and Dairy Development, Punjab and Molecular Evaluation (Genotyping) of Breeding Bulls (**8.43M-2012**) *Completed*
10. Establishment of DNA sequencing lab (1999) CAMB/CEMB, Lahore.
11. Establishment of DNA synthesis lab (2006) CAMB/CEMB, Lahore.
12. Developed PEGylation of recombinant proteins Technology at CAMB
13. Completed a project of DNA analysis for breed improvement from the department of Breed Improvement and Live Stock, Punjab.
14. Studies on the Associations of Single Nucleotide Polymorphisms (SNPs) with Asthma Disease in Pakistani Population. (PhD, MPhil and MSc students have completed theses on this project)

POINEER IN AUTOMATED DNA SEQUENCING IN PAKISTAN:

1. Started Sanger technology based automated DNA sequencing and DNA primer/oligos synthesis first time in Pakistan
 2. Managing and maintaining DNA Core facility of CAMB since 1999.
-

PROCESS & TECHNOLOGY DEVELOPMENT:

1. Established first state of the art lab for DNA Sequencing and Genotyping in Pakistan. This setup later made the basis of DNA Forensic Labs, first time in Pakistan
 2. Established DNA primer synthesis setup first time in Pakistan
 3. Process for the modification (PEGylation) of interferon alpha with a novel PEG molecule, its purification and bioactivity testing was developed.
 4. Establishment of Single Base Extension (SBE) sequencing setup
-

TECHNICAL AND ANALYTICAL SERVICES PROVIDED:

1. Providing DNA sequencing, genotyping and synthesis services to the researchers and academia of almost all universities and R&D organizations of the country. Technical services in these fields are also being rendered. (1999-to date)
2. Letter of appreciation from **Commandant Armed Forces Institute of Pathology (AFIP), MH, Rawalpindi** for identifying and solving their long standing problem in the analysis of their forensic samples in their institute.
3. Trained researchers from different organizations of the country including Punjab Live Stock department on DNA sequencing and genotyping
4. Helped approximately 1000 students in their PhD/MPhil theses.
5. Analyzed more than 10,00,000 DNA samples in the lab and synthesized approximately 400,000 nucleotides as DNA primers locally in the lab

6. Spirometry (Lungs Function Test)

WORKSHOPS, SEMINARS CONFERENCES ORGANIZED

1. (2016) One day awareness seminar on “Lungs and Bronchial Diseases” at CAMB, PU, Lahore
2. (2016) Hands on Training on Advances in Nucleic Acid Technology at CAMB, PU, Lahore.
3. (2016) “Four Days National Hand on Training Workshop on Clinical Diagnostics by Real Time PCR, Western Blot and Cell Culturing” jointly organized at Institute Biochemistry and Biotechnology, PU, Lahore.
4. (2017) One day seminar on “Advances in PCR Technology; Power to Detect Single Copy Without Standard Curves”

ADDITIONAL SPECIALIZATION AND EXPERTISE

- Over 26 years of extensive experience of research and teaching in Research Centre and University to postgraduate, MPhil and Ph.D. scholars
- Molecular biological research/supervision experience, proficient in variety of molecular, genomic and analytical techniques, including but not limited to performing DNA sequencing analysis, genotyping, DNA forensic analysis, therapeutic protein production purification and modification and experiments on animals.
- Experienced in advanced molecular biology techniques including DNA & RNA extraction, sequencing & genotyping, mutation analysis, population genetics studies, disease associations with genomic variants, human identification analysis, protein production & isolation, chemical modifications, electrophoresis and western blotting, Immuno-histochemistry and Real Time polymerase chain reaction (PCR), Virology etc.
- Extensive experience on Snager sequencing based DNA Sequencers and Genetic Analyzers
- Experienced in using molecular biology research tools, GeneMapper, DNA Sequencing Analysis software, Mutation Surveyor and SeqScap mutation analysis software MS office, Reference Manager, EndNote etc.
- Active research supervision, publication and conference participation with oral and poster presentations.