

Syeda Hafiza Benish Ali

Assistant Professor, Department of Biosciences, COMSATS University Islamabad, Islamabad, Pakistan

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Education

PhD Biosciences 2013

Thesis: Single Nucleotide Polymorphism-based Association Studies of Bladder Cancer Patients
COMSATS Institute of Information Technology (now COMSATS University Islamabad), Islamabad, Pakistan

MPhil Zoology 2004

Thesis: Studies on Fecundity and Early Life History Patterns of some Freshwater Fishes of Pakistan

Bahauddin Zakariya University, Multan, Pakistan

MSc Zoology 2002

Thesis: Effects of Climate Change and Water Pollution on Freshwater Ecosystems of Indus River

Bahauddin Zakariya University, Multan, Pakistan

Major Field of Research

Biological Sciences

Specialized Field of Research

Molecular Genetics

Distinctions/Awards

- **Fulbright Scholar**, University of Miami, Florida, United States (2018-2019)
- **Gold Medal** and first position in order of merit in MPhil Zoology
- **Gold Medal** and first position in order of merit in MSc Zoology
- Scored **81 percentile** in International Subject GRE (Biology) conducted by ETS, USA, April 4, 2010
- **Presidential Merit Award of Scholarship (1999-2001)** from UGC (now HEC), Pakistan
- **Merit Scholarship** from BISE, Multan on the basis of HSSC results
- **PhD Merit Scholarship (2008-2011)** from CIIT (now CUI), Pakistan
- Prizes and certificates in **Declamation Contests**
- **CUI Research Productivity Awards** for years 2011, 2012, 2013, 2014, 2015, 2016 & 2019

Experience

- August 2015 – Present **Assistant Professor**
Department of Biosciences, COMSATS University Islamabad, Islamabad, Pakistan
- January 2019 – January 2020 **Fulbright Scholar**
Department of Dermatology & Cutaneous Surgery, Miller School of Medicine, University of Miami, Florida, United States of America
- September 2003 – August 2015 **Lecturer in Zoology**
Institute of Pure and Applied Biology, Bahauddin Zakariya University, Multan, Pakistan
- October 2002 – June 2003 **Visiting Lecturer in Zoology**
Institute of Pure and Applied Biology, Bahauddin Zakariya University, Multan Pakistan

Academic Services

- Member (Subject Expert), Selection Board, University of Sargodha, Sargodha, Pakistan
- Reviewer, Fulbright Scholar Program of The United States Educational Foundation in Pakistan
- Examiner PhD thesis, NUST, Islamabad, Pakistan
- Examiner MS thesis, University of Sargodha, Sargodha, Pakistan
- Examiner MSc and BSc programs, Bahauddin Zakariya University, Multan, Pakistan

Administrative Assignments

- Member, Examination Supporting Team, COMSATS University Islamabad, Islamabad, Pakistan
- Member, Departmental Undergraduate Programme Committee, Department of Biosciences, COMSATS University Islamabad, Islamabad, Pakistan
- In-charge, Translational Genomics Lab, Department of Biosciences, COMSATS University Islamabad, Islamabad, Pakistan
- In-charge examination, Department of Zoology, Bahauddin Zakariya University, Multan, Pakistan
- Departmental Students' Advisor, Zoology Division, Institute of Pure and Applied Biology, Bahauddin Zakariya University, Multan, Pakistan
- Organizer academic field trips aimed to explore different ecosystems of Pakistan
- Assistant Superintendent Girls Hostel, Bahauddin Zakariya University, Multan, Pakistan

International Research Collaborations

- University of Miami, Miami, USA; Genetics of Dermatological Disorders
- Radboud Medical University, Nijmegen, The Netherlands; Urinary Bladder Cancer Genetics

Professional Training

- “Staff Development” under the Scheme of National Academy of Higher Sciences (HEC); Bahauddin Zakariya University, Multan, Pakistan; May 09 to Jun. 04, 2005
- “International NCEMB-COMSTECH-PTCL Training Workshop on Stem Cells”; University of the Punjab, Lahore, Pakistan; Dec. 01-13, 2003

Funded Research Projects

Project Title	PI/Co-PI	Amount	Agency	Duration	Status
Genetic analysis of autoimmune diseases in Pakistani population	PI	PKR 0.198M	CIIT	01 year	Completed

Invited Lectures / Talks

- Delivered a spotlight talk in “ICTP-ICTS Winter School on Quantitative Systems Biology” at ICTP, Trieste, Italy; Dec. 05-16, 2022
- Invited online lecture “COVID19 Pandemic in Pakistan” at Jafferson State Community College, Birmingham, Alabama, USA; Oct. 08, 2020
- Invited lecture “The Ecological Diversity of Pakistan and the Impacts of Climate Change” at Samford University, Birmingham, Alabama, USA; Nov. 14, 2019
- Invited lecture “The Ecological Diversity of Pakistan and the Impacts of Climate Change” at Jafferson State Community College, Pell City, Alabama, USA; Nov. 13, 2019
- Invited lecture “Emergence of Genetics as a Central Theme in Biology” at Jafferson State Community College, Birmingham, Alabama, USA; Nov. 12, 2019
- Invited lecture “The Dynamic Role of Women in Pakistani Society” at Jafferson State Community College, Birmingham, Alabama, USA; Nov. 12, 2019

Conference Presentations

- Poster presentation at the “26 Annual International Conference 2023” of Pakistan Society for Rheumatology, Karachi, Pakistan; Oct 12-15, 2023
- Abstract accepted for poster presentation at the Annual Meeting of the “American Society of Human Genetics” Los Angeles, California, USA; Oct. 25-29, 2022
- Paper presentation at the Annual Meeting of the “American Society of Human Genetics” Houston, Texas, USA; Oct. 15-19, 2019
- Paper presentation at the “3rd Annual Celia and Samuel Resnik Research Day” of Department of Dermatology & Cutaneous Surgery, Miller School of Medicine, University of Miami, Florida, USA; Jun. 01, 2019
- Abstract accepted for poster presentation in European Molecular Biology Organization (EMBO) Workshop “Integrating Genomics and Biophysics to Comprehend Functional Genetic Variations” University of Turin, Turin, Italy; Sep. 08-10, 2017
- Paper presentation at the 11th Biennial Conference “Molecular Biosciences – Challenges and Opportunities” University of the Punjab, Lahore, Pakistan; Nov. 25-28, 2013
- Paper presentation at the “22nd Pakistan Congress of Zoology” University of Azad Jammu and Kashmir, Muzaffarabad, Pakistan; Apr. 16-18, 2002

Conferences Organized

- First CIIT-SIS (CIIT – Society for Interdisciplinary Sciences) Seminar on “Diabetes Awareness” COMSATS University Islamabad, Islamabad, Pakistan; Dec. 05, 2017
- Member Organizing Committee, 27th “Pakistan Congress of Zoology” Bahauddin Zakariya University, Multan, Pakistan; Feb. 28, 2007 to Mar. 01, 2007

Training Workshops / Symposia Participated

- A “Course on Science Diplomacy and Sustainability” by COMSTECH, Islamabad, Pakistan; Mar. 06, 2023
- COMSTECH - International Conference / Workshop on “Science Communication and Community Engagement” by COMSTECH, Islamabad, Pakistan; Feb. 01-03, 2023
- “ICTP-ICTS Winter School on Quantitative Systems Biology” at ICTP, Trieste, Italy; Dec. 05-16, 2022

- 2019 Fulbright Visiting Scholar Enrichment Seminar on “Combating Addiction” University of Kentucky, Lexington, Kentucky, USA; Mar. 20-23, 2019
- FCC-COMSTECH-COSF International Workshop “Genomics and Genome Editing” Forman Christian College, Lahore, Pakistan; May 24-27, 2016
- 2nd Conference on “Systems Biology and New Sequencing Techniques” ICTP, Trieste, Italy; Nov. 02-04, 2011
- Lectures on "Quantitative Approaches to Biological Problems" ICTP, Trieste, Italy; Oct. 31, 2011 to Nov. 1, 2011
- “International NCEMB-COMSTECH-PTCL Training Workshop on Stem Cells” University of the Punjab, Lahore, Pakistan; Dec. 01-13, 2003
- “International Symposium on Stem Cells” University of the Punjab, Lahore, Pakistan; Dec. 08-10, 2003
- “Gender Training Workshop of Faculty Members” Bahauddin Zakariya University, Multan, Pakistan; Nov. 2003

Conferences / Symposia Attended

- “The Sino-COMSTECH Collaboration Initiative; Strengthening Cooperation in Traditional Medicine and Allied Biomedical Sciences in OIC Member States” by COMSTECH, Islamabad, Pakistan; Apr. 27, 2023
- Public lecture on “Development of Novel Anticancer Compounds Targeting Mitochondrial Protein Homeostasis” Delivered by Prof. Dr. Walid Houry (University of Toronto, Canada) virtually by COMSTECH, Islamabad, Pakistan; Nov. 30, 2022
- Seminar “World Environment Day: COMSTECH International Seminar on Land Degradation” at COMSTECH Secretariat, Islamabad, Pakistan; Jun. 06, 2022
- International Conference on “Trends and Prospects in Molecular Biosciences” University of Punjab, Lahore, Pakistan; Oct. 23-24, 2017
- 4th Conference on “Computational Biology and Genomics” Hazara University, Mansehra, Pakistan; Sep. 27-29, 2017
- 26th “Pakistan Congress of Zoology” University of the Punjab, Lahore, Pakistan; Apr. 04-06, 2006

Theses Supervised

Status	PhD	MS/MPhil	MSc	BS	BSc (Hons)
Completed	-	16	7	15	2
In Process	2	6	-	-	-

Research Publications (Cumulative Impact Factor Score = 48.872)

1. Khan MS, Azam M, Khan MN, Syed F, **Ali SHB**, Malik TA, Alnasser SMA, Ahmad A, Karimulla S, Qamar R (2023). Identification of contributing factors, microorganisms and antimicrobial resistance involved in the complication of diabetic foot ulcer treatment. *Microbial Pathogenesis* 184: 106363
2. Anwar M, Ejaz M, Ijaz M, Ahmad G, Ayub H, **Ali SHB** (2023). Association of IL-17A promoter region SNP-rs2275913 with urinary bladder cancer. *International Journal of Health Sciences* 17(3): 33
3. Bashir M, Mateen W, Khurshid S, Malik JM, Agha Z, Khan F, Ajmal M and **Ali SHB**[✉] (2023). A common missense variant rs874881 of *PADI4* gene and rheumatoid arthritis: genetic association study and *in-silico* analysis. *Gene* 854: 147123
4. Shafqat O, Rehman Z, Shah MM, **Ali SHB**, Jabeen Z and Rehman S (2023). Synthesis, structural characterization and in vitro pharmacological properties of betanin-encapsulated chitosan nanoparticles. *Chemico-Biological Interactions* 370: 110291
5. Khan N, Paterson AD, Roshandel D, Maqbool S, Fazal N, Ali L, Khurram R, Maqsood SI, **Ali SHB**, Khan H, Tariq K, Bano S, Azam A, Muslim I, Maria M, Agha Z, Babar M, Waheed NK, Azam M and Qamar R (2023). Role of 19 SNPs in 10 Genes with Type 2 Diabetes in the Pakistani Population. *Gene* 848: 146899
6. **Ali SHB**, Shafqat MN, Eqani SAMAS and Shah STA (2019). Trends of climate change in the upper Indus basin region, Pakistan: implications for cryosphere. *Environmental Monitoring and Assessment* 191(2): 1-12
7. Agha Z[✉], Shaiq PA, Ahmed S, Ali L, Azam M, **Ali SHB**[✉], Kaukab G and Qamar R (2018). A study of ACE, eNOS and MTHFR association with psoriasis in Pakistani population. *Meta Gene* 15: 65-69
8. Ahmed T, Nawaz S, Noreen R, Bangash KS, Rauf A, Younis M, Anwar K, Khawaja MA, Azam M, Qureshi AA, Akhter S, Kiemeney LA, Qamar R[✉] and **Ali SHB**[✉] (2018). A 3' untranslated region polymorphism rs2304277 in the DNA repair pathway gene OGG1 is a

novel risk modulator for urothelial bladder carcinoma. *Annals of Human Genetics* 82(2): 74-87

9. **Ali SHB**[✉], Bangash KS, Rauf A, Younis M, Anwar K, Khurram R, Khawaja MA, Azam M, Qureshi AA, Akhter S, Kiemeny LA and Qamar R[✉] (2017). Identification of novel potential genetic predictors of urothelial bladder carcinoma susceptibility in Pakistani population. *Familial Cancer* 16(4): 577-594
10. Saleem S, Azam A, Maqsood SI, Muslim I, Bashir S, Fazal N, Riaz M, **Ali SHB**, Niazi MK, Ishaq M, Waheed NK, Qamar R and Azam M (2015). Role of ACE and PAI-1 polymorphisms in the development and progression of diabetic retinopathy. *PLoS One* 10(12): e0144557
11. Maria M, Ajmal M, Azam M, Waheed NK, Siddiqui SN, Mustafa B, Ayub H, Ali L, Ahmad S, Micheal S, Hussain A, Shah ST, **Ali SHB**, Ahmed W, Khan YM, den Hollander AI, Haer-Wigman L, Collin RW, Khan MI, Qamar R and Cremers FP (2015). Homozygosity mapping and targeted Sanger sequencing reveal genetic defects underlying inherited retinal disease in families from Pakistan. *PLoS One* 10(3): e0119806
12. Agha Z, Iqbal Z, Azam M, Ayub H, Vissers LE, Gilissen C, **Ali SHB**, Riaz M, Veltman JA, Pfundt R, van Bokhoven H and Qamar R (2014). Exome sequencing identifies three novel candidate genes implicated in intellectual disability. *PLoS One* 9(11): e112687
13. **Ali SHB**, Younis M, Bangash KS, Rauf A, Anwar K, Khurram R, Khawaja MA, Qureshi AA, Akhter S, Azam M, Kiemeny LA and Qamar R (2013). Common variants at 8q24 confer susceptibility to urothelial bladder cancer in the Pakistani population. *Pakistan Journal of Zoology* 45(6): 1501-1509
14. Tariq K, Malik SB, **Ali SHB**, Maqsood SE, Azam A, Muslim I, Khan MS, Azam M, Waheed NK and Qamar R (2013). Association of Pro12Ala polymorphism in peroxisome proliferator activated receptor gamma with proliferative diabetic retinopathy. *Molecular Vision* 19: 710-717
15. Ajmal M, Khan MI, Neveling K, Tayyab A, Jaffar S, Sadeque A, Ayub H, Abbasi NM, Riaz M, Micheal S, Gilissen C, **Ali SHB**, Azam M, Collin RWJ, Cremers FPM and Qamar R (2013) Exome sequencing identifies a novel and a recurrent *BBS1* mutation in Pakistani families with Bardet-Biedl syndrome. *Molecular Vision* 19: 644-653
16. Ahmed W, Ali IS, Riaz M, Younas A, Sadeque A, Niazi AK, Niazi SH, **Ali SHB**, Azam M and Qamar R (2013). Association of *ANRIL* polymorphism (rs1333049:C>G) with

myocardial infarction and its pharmacogenomic role in hypercholesterolemia. *Gene* 515(2): 416-420

17. Ajmal M, Khan MI, Neveling K, Khan YM, **Ali SHB**, Ahmed W, Iqbal MS, Azam M, den Hollander AI, Collin RWJ, Qamar R and Cremers FPM (2012). Novel mutations in *RDH5* cause fundus albipunctatus in two consanguineous Pakistani families. *Molecular Vision* 18: 1558-1571
18. Yousaf S, Khan MI, Micheal S, Akhtar F, **Ali SHB**, Riaz M, Ali M, Lall P, Waheed NK, den Hollander AI, Ahmed A and Qamar R (2011). XRCC1 and XPD DNA repair gene polymorphisms: A potential risk factor for glaucoma in the Pakistani population. *Molecular Vision* 17: 1153-1163
19. Ajmal M, Ahmed W, Akhtar N, Sadeque A, Khalid A, **Ali SHB**, Ahmed N, Azam M and Qamar R (2011). A novel pathogenic nonsense triple-nucleotide mutation in the low-density lipoprotein receptor gene and its clinical correlation with familial hypercholesterolemia. *Genetic Testing and Molecular Biomarkers* 15(9): 601-606
20. Ajmal M, Ahmed W, Sadeque A, **Ali SHB**, Bokhari SH, Ahmed N and Qamar R (2010). Identification of a recurrent insertion mutation in the LDLR gene in a Pakistani family with autosomal dominant hypercholesterolemia. *Molecular Biology Reports* 37(8): 3869-3875
21. Ayub H, Khan MI, Micheal S, Akhtar F, Ajmal M, Shafique S, **Ali SHB**, den Hollander AI, Ahmed A and Qamar R (2010). Association of eNOS and HSP70 gene polymorphisms with glaucoma in Pakistani cohorts. *Molecular Vision* 16: 18-25
22. Khan AA and **Ali SB** (2004). Effects of drought on agrobased activities in Pakistan and strategies for mitigation. *Science, Technology and Development* 23(3): 20-22
23. Khan AA and **Ali SB** (2003). Effects of erosion on Indus River biodiversity in Pakistan. *Pakistan Journal of Biological Sciences* 6(12): 1035-1040