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ACADEMIC CREDENTIALS

- Doctor of Philosophy (PhD)-with distinction (**Awarded Magna cum laude**)
Institute for Human Genetics, Eberhard Karls University, Tuebingen, Germany
- Bachelor of Science, (BS, 4-Year) in Biotechnology
University of Malakand, Khyber Pakhtunkhwa, Pakistan

AWARDS

- Awarded fully funded scholarship for Ph.D studies abroad under the “Faculty Development Programme” of the Higher Education Commission (HEC) of Pakistan.
- Winner of the prize for the best short talk and poster presentation at the “6th International Conference on Trefoil Family Factors (18.-20.11.2009)” at Queen Mary, University of London, UK.
- Awarded research grant by the Directorate of Science and Technology (DoST), Government of Khyber Pakhtunkhwa, Pakistan (2014), titled "Investigation of male infertility using semen analysis and hormonal profile" (As PI).
- Research Productivity Award for the year 2015 by ORIC, University of Malakand.
- Awarded Research Grant under National Research Program for Universities (NRPU) from the Higher Education Commission (HEC) of Pakistan (2017), titled “Epidemiology of Bluetongue in Small and large Ruminants in Khyber pakhtunkhwa, Pakistan” (As Co-PI).
- Awarded Research Grant under National Research Program for Universities (NRPU) from the Higher Education Commission (HEC) of Pakistan (2022), titled, “Investigating the Genetic Basis as a risk factor for Familial Infertility in Pakistani families” (As PI)..
- Associate Fellow of the Higher Education Academy, UK (AdvanceHE) for teaching and learning support in Higher Education.
- Nominated for HEC University-Level Best University Teacher Award, 2022.

EXPERIENCE

- Research Associate (HEC funded project, from 11-05-2007 till 18-02-2008): Department of Biosciences, COMSATS Institute of Information Technology (CIIT) Islamabad.
Title of the project: “Mapping the genes responsible for autosomal recessive *retinitis pigmentosa*”.
- Assistant Professor (contract) (from April 2012 till July 2012): Department of Biotechnology, Faculty of Biological Sciences, University of Malakand, Chakdara, Lower Dir, Khyber Pakhtunkhwa, Pakistan
- Assistant Professor (TTS) (from July 2012 till July 2018): Department of Biotechnology, Faculty of Biological Sciences, University of Malakand, Chakdara, Lower Dir, Khyber Pakhtunkhwa, Pakistan

- Associate Professor (Tenured) (from July 2018 till date): Department of Biotechnology, Faculty of Biological Sciences, University of Malakand, Chakdara, Lower Dir, Khyber Pakhtunkhwa, Pakistan

M.Phil/Ph.D SCHOLARS SUPERVISION

S. No.	Name of the Scholar	Program	Session	Thesis title
1	Mushtaq Ahmad	Ph.D	2014-2017	Genetic Polymorphism of MicroRNAs and <i>BRCA</i> Genes in Breast Cancer
2	Hazir Muhammad	M.Phil.	2013-2015	Diagnostic evaluation of male infertility using hormonal and seminal analyses
3	Muhammad Ajmal	M.Phil.		PCR based detection of Y chromosome microdeletion in infertile male
4	Asaf Khan	M.Phil.	2014-2016	Molecular characterization in new combination of <i>Pisum Sativum</i> (L). through EST-SSR markers and seed protein profile
5	Anila Rehman	M.Phil.	2015-2017	Association of genetic variants in ONCOMIR sequences with increased risk of breast cancer
6	Sadia Ahmad	M.Phil.		Investigation of functional polymorphism in microRNA genes and their association with breast cancer risk
7	Sumayya	M.Phil.		Flanking sequences variation of oncogenic microRNAs in breast cancer patients
8	Bashir Rahman	M.Phil.	2017-2019	Association of MIR146A rs2910164 (A>G) variations with susceptibility to Type 2 diabetes mellitus
9	Muhammad Sohail	M.Phil.	2018-2020	Influence of microRNA-related polymorphisms on clinical outcomes in Type 2 diabetes mellitus
10	Noor Ali Khan	M.Phil.		The role of functional miR-17-92 cluster variants in Type 2 diabetes mellitus
11	Abdul Zahoor	M.Phil.		Genetic analysis of microRNAs-related polymorphism in arterial thrombosis
12	Irfan Ullah	M.Phil.	2019-2021	Investigation of association between microRNA variants and risk of Rheumatoid Arthritis
13	Muhammad Uzair	M.Phil.		Association of single nucleotide polymorphism in MIR196A2 and MIR-423 with myocardial infraction
14	Mutasim Billah	M.Phil.		Association of Single nucleotide polymorphism in MIR4513 seed region with Type 2 diabetes mellitus

I. BS Supervision: Supervised more than 30 students.

ORGANIZATIONAL EXPERIENCE

- Member of the National Curriculum Revision Committee (NCRC) (Biotechnology) of the Higher Education Commission (HEC) of Pakistan
- Member of the National Curriculum Revision Committee (NCRC) (Bioinformatics) of the Higher Education Commission (HEC) of Pakistan
- Member of the Academic Council, University of Malakand
- Member of the Advanced Studies Research Board (ASRB), University of Malakand
- Member of the board of studies of different universities

COUNTRIES VISITED

Germany, Switzerland, UK, France, Austria, Poland, Croatia, Slovenia, Liechtenstein

INTERNATIONAL CONFERENCES ATTENDED

- Symposium of the German Academy of Sciences Leopoldina (18.-20.05.2008): "Molecular medicine of sensory systems" Eberhard Karls University, Tuebingen, Germany.
- Poster presentation (24.-27.03.2009): Novel interacting partners of the TFF3 (intestinal trefoil factor) connect it with apoptosis in the inner ear (Europ. J. Cell Biol.88:45-46) at the "1st Joint Congress of the Swiss and German Societies of Cell Biology", University of Konstanz, Germany.
- Oral and poster presentation (18.-20.11.2009): Challenging of immune-compromised *Tff2* knock-out mice with *Yersinia enterocolitica* infection at the "6th International Conference on the Trefoil Factor Family" at the Octagon, Queen Mary, University of London, UK.
- Poster presentation (13.-16.10.2010): The intestinal factor Tff3 and a miRNA network regulate murine caloric metabolism at the symposium "The Non-Coding Genome" at EMBL (European Molecular Biology Laboratory) Advanced Training Center, Heidelberg, Germany.
- Poster presentation (30.03.-02.04.2011): Differential miRNA expression pattern in *Tff2*-impaired mice is connected with neoplastic development, carbohydrate metabolism and adipocytokine pathway at the "34th Annual Meeting of the German Society of Cell Research (DGZ)" Bonn, Germany.
- Poster presentations (24-26.07.2011):
Altered expression of securin (Pttg1) and serpin3n in the auditory system of hearing-impaired Tff3-deficient mice.
Regulatory miRNAs target genes for cytoprotective peptides of the digestive tract at the Leopoldina Symposium "Regenerative Medicine", Tuebingen, Germany.
- 27th National and 15th International chemistry Conference' (22-25.08.2016) at the University of Malakand, Pakistan.
- International conference on 'Research and Enterprise on Food Safety in Developing World' (05-08.12.16) organized by the Department of Biosciences, COMSATS Islamabad.
- 4th International Conference on Biological and Computer Sciences (C-BICS 2016) (December; 17th, 2016) at the Capital University Science and Technology (CUST), Islamabad.
- International Symposium on 'Human Population and Disease Genomics' (April; 10-12, 2017) at COMSTECH Secretariat, Islamabad.
- 1st International Conference on "Strategies for Therapeutics, Control and Prevention of Dengue and Other Emerging Viral Infection in Pakistan" (March 1-2, 2018) at the University of Swabi, Pakistan.
- 6th International Conference on Biological and Computational Sciences (C-BICS 2018) (December 13th, 2018) at the Capital University of Science & Technology, Islamabad, Pakistan.
- 1st International Conference on "Recent Updates in Biotechnology (ICRUB-2019) Islamabad" (October 16-18, 2019), Organized by the Department of Biotechnology, Abdul Wali Khan University Mardan, Pakistan

NATIONAL CONFERENCES ATTENDED

- DoST Biotechnology EXPO2015 and presented Research Project (poster) (March 10, 2015) held at Directorate of Archives, Peshawar, organized by the Directorate of Science and Technology (DoST), Government of Khyber Pakhtunkhwa, Pakistan.
- Invention to Innovation summit (November 16-17, 2016) organized by the University of Engineering and Technology, Peshawar, Pakistan
- National Conference on Computational Biology and Genomics (September 27-29, 2017) at Hazara University Mansehra, Pakistan, and presented the poster.
- "5th Conference on Biological and Computational Sciences (C-BICS)" (December; 14th, 2017) at the Capital University Science and Technology (CUST), Islamabad.
- 1st National Conference on Phytomedicines: Current & Future Perspectives (October 9 – 11, 2018) at Shaheed Benazir Bhutto University Sheringal, Dir Upper, Khyber Pakhtunkhwa, Pakistan.

PUBLICATIONS

- Lubka M, **Shah AA**, Blin N, Baus-Loncar M (2009). Intestinal trefoil factor (Tff3), also expressed in the inner ear, interacts with peptides contributing to apoptosis. **J. Appl. Genet.**, 50: 167-171.
- Žak M, **Shah AA**, Blin N (2009). The trefoil peptide family: small but versatile—from anti-apoptosis to neoplasia in the digestive tract. **Pol. J. Sur.**, 81: 486–490.
- Azam M, Collin RW, Shah ST, **Shah AA**, Khan MI, Hussain A, Sadeque A, Strom TM, Thiadens AAHJ, Roosing S, den Hollander AI, Cremers FP, Qamar R (2010). Novel *CNGA3* and *CNGB3* mutations in two Pakistani families with achromatopsia. **Mol. Vis.**, 16:774-781.
- **Shah AA**, Leidinger P, Blin N, Meese E (2010). miRNA: Small molecules as potential novel biomarkers in cancer. **Curr. Med. Chem.**, 17:4427-4432.
- **Shah AA**, Meese E, Blin N (2010). Profiling regulatory microRNA transcriptomes in animal kingdom. **J. Appl. Genet.**, 51:501-507.
- **Shah AA**, Blin N (2010). Target sequences for microRNAs within the Tff gene cluster. **BioChip J.**, 4:279-284.
- **Shah AA**, Leidinger P, Keller A, Wendschlag A, Backes C, Baus-Loncar M, Meese E, Blin N (2011). The intestinal factor Tff3 and a miRNA network regulate murine caloric metabolism. **RNA Biol.**, 8:77-81.
- Azam M, Collin RW, Malik A, Khan MI, Shah ST, **Shah AA**, Hussain A, Sadeque A, Arimadyo K, Ajmal M, Azam A, Qureshi N, Bokhari H, Strom TM, Cremers FP, Qamar R, den Hollander AI (2011). Identification of novel mutations in Pakistani families with autosomal recessive retinitis pigmentosa. **Arch. Ophthalmol.**, 129:1377-1378.
- Lubka-Pathak M, **Shah AA**, Gallozzi M, Müller M, Zimmermann U, Löwenheim H, Pfister M, Knipper M, Blin N, Schimmang T (2011). Altered expression of two regulatory proteins, securin (Pttg1) and serpin3n, in the auditory system of hearing-impaired mice caused by genetic loss of the protective peptide Tff3. **Cell. Mol. Life Sci.**, 86:2739-2749.
- **Shah AA**, Leidinger P, Keller A, Wendschlag A, Meese E, Blin N (2012). Altered miRNA expression

patterns in Tff2 knock-out mice correlate with cellular pathways of neoplastic development and caloric metabolism. **Int. J. Mol. Med.**, 29: 637-643.

- **Shah AA**, Mihalj M, Ratkay I, Lubka-Pathak M, Balogh P, Klingel K, Bohn E, Blin N, Baus-Loncar M (2012). Increased Susceptibility to *Yersinia enterocolitica* Infection of Tff2 Deficient Mice. **Cell. Physiol. Biochem.**, 30:853-862.
- **Shah AA**, Leidinger P, Keller A, Backes C, Karpinski P, Sasiadek MM, Blin N, Meese E (2013). A set of specific miRNAs is connected with murine and human gastric cancer. **Genes Chrom, Cancer.**, 52:237-249.
- De Giorgio MR, Yoshioka M, Riedl I, Moreault O, Cherizol RG, **Shah AA**, Blin N, Richard D, St-Amand J (2013). Trefoil factor family member 2 (Tff2) KO mice are protected from high-fat diet-induced obesity. **Obesity.**, 21:1389-1395.
- Hassan MA, **Shah AA**, Szmida E, Smigiel R, Sasiadek MM, Pfister M, Blin N, Bress A (2015). A TMC1 (transmembrane channel-like1) Mutation (p.S320R) in a Polish Family with Hearing Impairment. **J. App. Genet.**, 56: 311-316.
- Nisar M, Khan A, Wadood SF, **Shah AA**, Hanci F (2017). Molecular characterization of edible pea through EST-SSR markers. **Turkish J. Bot.**, 41: 338-346.
- Imran M, Khan N, **Shah AA**, Ahmad I (2018), Overweight and Obesity Prevalence Pattern and Associated Risk Factors Among the People of Malakand Division, Khyber Pakhtunkhwa Pakistan. **Arab J. Sci. Eng.**, 44: 65-74.
- **Shah AA**, Haq TU, Ahmed M (2018). Deciphering Conserved Identical Sequences of Mature miRNAs Among Six Members of Great Apes. **Zoosyst. Evol.**, 94, 401-408.
- Ahmad M, **Shah AA** (2019). Functional polymorphism within miR-23a~27a~24-2 cluster confers clinical outcome of breast cancer in Pakistani cohort. **Per. Med.**, 16,107-114.
- Ahmad M, **Shah AA** (2019). *In-Silico* Target Prediction for hsa-mir-27a and Identification of Genes Involved in Breast Cancer. **Int. J. Hum. Genet.**, 19,12-21.
- Ahmad M, Ahmad S, Rahman B, Haq TU, Jalil F, **Shah AA** (2019). Association of MIR146A rs2910164 variation with a predisposition to sporadic breast cancer in a Pakistani cohort. **Ann. Hum. Genet.**, 83: 325-330.
- Ahmad M, Jalil F, Haq M, **Shah AA** (2019). Effect of variation in miRNA-Binding Site (rs8176318) of *BRCA1* Gene in Breast Cancer Patients. **Turk. J. Med. Sci.**, 49,1433-1438.
- Akhtar M, Jamal T, Din J, **Shah AA**, et al. (2019). An *in-silico* approach to characterize nonsynonymous SNPs and regulatory SNPs in human *TOX3* gene. **J. Genet.**, 98:104.
- Khan A, Khan S, Aman A, Ali Y, Jamal M, Rahman B, Ahmad M, Aasim M, Jalil F, **Shah AA** (2019). Association of *VDR* gene variant (rs1544410) with type 2 diabetes in a Pakistani cohort. **BJMG.**, 22, 59-64.

- Ahmad M, **Shah AA** (2020) Predictive role of single nucleotide polymorphism (rs11614913) in the development of breast cancer in Pakistani population. **Per. Med.**,17(3):213-227.
- Khan BM, Zheng LX, Khan W, **Shah AA**, Liu Y, Cheong KL (2021). Antioxidant Potential of Physicochemically Characterized Gracilaria blodgettii Sulfated Polysaccharides. **Polymers**. 13 (3), 442.
- Khan MS, Rahman B, Haq TU, Jalil F, Khan BM, Maooda SN, Al-Farraj SAA, El-Serehy HA, **Shah AA** (2021) Deciphering the variants located in the MIR196A2, MIR146A, and MIR423 with Type-2 Diabetes Mellitus in Pakistani Population. **Genes**. 12(5):664.
- Ali Y, Khan S, Chen Y, Farooqi N, Islam Z, Akhtar M, Aamir, Aman A, **Shah AA**, Jamal M, Jal F (2021). Association of AFF3 Gene Polymorphism rs10865035 with Rheumatoid Arthritis: A Population-Based Case-Control Study on a Pakistani Cohort. **Genetic Res.**, 5544198.
- Haq TU, Zahoor A, Ali Y, Chen Y, Jalil F, **Shah AA** (2022). Genetic variants of MIR27A, MIR196A2 may impact the risk for the onset of coronary artery disease in the Pakistani population. **Genes**. 13(5), 747.
- Wahid N, Shakeel Muhammad B, Gulfam N, **Shah AA**, Fawad ali F (2022). Screening of breast cancer patients for known genetic variations in selected candidate microRNA genes in the selected area of district swat kp Pakistan. **J. Tianjin Univ. Sci. Technol.** 55 (12).
- Ali Y, Chen Y, Islam ZU, Aman A, Almutairi MM, Alouffi A, Mohammed A, **Shah AA**, Rhman ZU, Hussain I, Ali A, Jalil F (2023). MIR149 rs2292832 and MIR499 rs3746444 Genetic Variants Associated with the Risk of Rheumatoid Arthritis. **Genes**. 14 (2), 1-11.
- Ali Y, Khan A, Akhtar M, Khan S, UllIslam Z, Farooqi N, **Shah, AA**, Chen Y, Jalil F (2023). Exploring the Associations and Molecular Impacts of miR-146a/rs2910164 and miR-196a2/rs185070757 with Rheumatoid Arthritis in a Pakistani Population. **Lifestyle Genomics**. (In Press).