Curriculum Vitae

Prof. Dr. Muhammad Ayub
Tenured Professor (TTS)
Institute of Biochemistry, University of Balochistan,
Quetta, 87100, Pakistan
Cell: +92 3315277232
E-mail: ayub_2004@hotmail.com & drayub.biochemistry@uob.edu.pk

Personal Information

Date of Birth: May 18, 1976

Nationality: Pakistani

Research Interest

Human Molecular Genetics

Awards and Fellowships

2022	Balochistan Excellence Award, in the field of Science and Technology, by Government of Balochistan, Pakistan.
2014	Best Teacher Award, for outstanding performance and lasting contribution in the field of Education, by Chief Minister Government of Balochistan
2016	SATHA Innovation Award by South Asian Triple Helix Association
2011	Best research paper award Awarded by Higher Education Commission (HEC), Islamabad
2009	Research output award Awarded by University of Balochistan, Quetta

Work Experience

Professor

Tenored Professor (TTS)

Present 2025	**Director Linkages** **UOB, Quetta.**
2025	**Dean, Biological, Pharmaceutical and Health Sciences,** **UOB, Quetta.**
2021-2022	**Director, Sub- Campuses, UOB, Quetta**
2016-2019	**Director, Associate Professor (TTS)** Institute of Biochemistry UOB, Quetta, Pakistan Responsibilities: Teaching and Research
	Director, Institute of Biochemistry UOB , Quetta, Pakistan Responsibilities: Teaching and Research,
2003-	**PhD –Thesis Title: identification of genes involved in hereditary skin disorders** Institute of Biochemistry, UOB and Department of Biochemistry, Quaid-i-Azam University, Islamabad, Pakistan
2006 –	**M.Phil Biochemistry/Molecular Biology** Quaid-e-Azam University Islamabad, Pakista

Master of Science in Biochemistry and Molecular Biology

Department of Biochemistry,
Quaid-i-Azam University,
Islamabad,
Pakistan

MEMBERSHIPS OF NATIONAL COMMITTEES	Member of Board of Trustees, (BOT) of Pakistan Science Foundation, (PSF) 2024
	Member of Board of Advance Studies
	Member of Academic Council
	Member of Affiliation Committee
	Member of Bioethical Committee
	Chairman Tenure Track System
	Member of Departmental Admission Committee
	Member of HEC Review Committee Islamabad 2015-2016
	Member of National Young Scientist
	Member of Faculty Board
	Member of National Curriculum Revision Committee (HEC) Higher Education Commission of Pakistan for Biochemistry
	Member of National Curriculum Revision Committee (HEC) Higher Education Commission of Pakistan for Bioinformatics
	Member of Review Committee (HEC) Higher Education Commission of Pakistan for Universities
Research Projects 2022	Delineating Genes Underlying Hereditary Nephrotic Syndrome in Balochistan Population using Highly Parallel Genetic Technologies. PKR. 2.9 million, funded by Government of Balochistan Quetta, Pakistan). **Role: Principal Investigator**
2014-2017	Genotyping of autosomal recessive genes involved in human hereditary skin disorder in Balochistan (2014-2017). (PKR.8.3 million, funded by Higher Education Commission, Pakistan) **Role: Principal Investigator completed**
2019-2021	Elucidating genetic pattern of epidermolysis bullosa and targeted correction of gene mutations using genome editing technology (PKR. 4.7 million, funded by Higher Education Commission, Pakistan). **Role: Co-principal Investigator**
2018-2020	Deciphering genetic pattern of Epidermolysis bullosa in Pakistani population and establishment of diagnostic protocol (2018). (PKR. 0.5 million, funded by University of Balochistan Quetta, Pakistan). **Role: Co-principal Investigator,**
	NEW DEPARTMETN ESTABLISHMENT,
2022	**Establishment of Pharmacy Department in Sub-Campus, Pishin as Director, Sub-Campuses.**

Research Publications

More than 30 research articles in peer reviewed international journals Impact Factor: more than 170 Citations: more than 1238

*** Corresponding Author**

1. A homozygous recurrent nonsense mutation identified in COL7A1 in a family with autosomal recessive dystrophic epidermolysis bullosa **Muhammad Ayub**[1], Xing Xiong[2], Saima Anwer[1], Janine Altmüller[3], Muhammad Naeem[1], Noor Hassan[1], Kafaitullah Khan[4], Susanne Motameny[3], Samira Khaliq[1], Fazal Ur Rehman[4], Syed Ashraf Uddin[1,5], Abdul Wali[5], Sulman Basit[6], Regina C. Betz[2] Jurnalul Pentru MedicinaSI VIATA SRL Accepted 2024
2. Identification and Annotation of the 21 Novel Sugar Cane (Saccharum officinarum) MicroRNA Clusters and Their Significant Biological, Molecular and Cellular Targets Abdul Baqi1,2 · Samiullah2 · Muhammad Zafar Saleem3 · **Muham mad Ayub4** · Shazia Saeed5, Tropical Plant Biology (2024) 17:65–81.
3. Experimental Validation and Characterization of Sugarcane Genome-Encoded MicroRNAs and Their Targets Using PCRBased Expressional Methodology Abdul Baqi1,2*, Samiullah2 , M. Z. Saleem3 , M. Ayub4 , and Habibullah1. Agric. Sci. Technol. (2024) Vol. 26 (5): 1057-1071

4. A novel TMC8 splice variant causes epidermodysplasia verruciformis in a Pakistani Family,Xing Xiong, Sobia Munir, Syed Ashraf Uddin, Nicole Cesarato, Fitnat Buket BA smanav, Noor Hassan, Fazal Ur Rhamn, Muhammad Naeem, Abdul Wali, Sulman Basit, **Muhammad Ayub**, Regina C Betz, 2023, Clinical and Experimental Dermatology. , Clinical and Experimental Dermatology. Clin Exp Dermatol 2023; 00:1–4https://doi.org/10.1093/ced/llad042

5. Identification and in-silico analysis of homozygous novel variants in TGMI gene in a consanguineous family (2022). Ambreen Ijaz, Abdul Aziz, Muhammmad Mushtaq, Rafiullah, Fazal ur rehman, Shakeela Dawood, Rozeena Shaikh, **Muhammad Ayub**, Abdul Wali, J. Medicina. . Medicina. Medicina (Kaunas). 2023 Jan 2;59(1):103. doi: 10.3390/medicina59010103.

6. Lanthanum Sulfide Nanorods Modified Glassy Carbon Electrode as Non-Enzymatic Biosensor for Xanthine Zainab Javeed1, Muhammad Ibrahim1, Muhammad Faisal Iqbal2, Rahat Nawaz3, Dilshad Hussain4, **Muhammad Ayub5**, Muhammad Naeem Ashiq3, Saadat Majeed3, Muahmmad Najam-ul-Haq3 and Batool Fatima1 Published 24 November 2023 • © 2023 The Electrochemical Society ("ECS").
7. A Recurrent Nonsense Mutation in NECTIN4 Underlying Ectodermal Dysplasia-Syndactyly Syndrome with a Novel Phenotype in aConsanguineous Kashmiri Family Ghazanfar Ali 1, Sadia Sadia 1, Syeda Ain-Ul-Batool 1, Zahid Azeem 2, Naheed Bashir Awan 1, Syed Akif Raza Kazmi 3, Zia- Ur-Rehman 4, Zeeshan Anjum 1, Fazal- Ur-Rehman 5, Abdul Wali 6, Kafaitullah Khan 5, Nasib Zaman 7, **Muhammad Ayub** 8, Muhammad Sajid 9, Noor Hassan 8 Genet Res (Camb) . 2023 Oct 4:2023:9999660.
8. Identification of the maize (Zea mayz) micro RNAs and their significant target on the basis of their structural and functional properties using expressed sequence TAGS gene. (2022). Abdul Baqi,

Muhammad Zafar, Saleem, **Muhammad Ayub**, Ali Akbar, Samiullah. Genejournal. (**Under Review**)

9. Sheikh Ahmed,1,2,**MuhammadAyub,**1MuhammadNaeem,4 Faisal Hayat Nazir,5 Abrar Hussain,6 Daud Ghilzai,3 Lars O. Magnius,7 Ashif Sajjad,1 and Hele´ ne Norder2,8 Thalassemia Patients from Baluchistan in Pakistan Are Infected with Multiple Hepatitis B or C Virus Strains, Am. J. Trop. Med. Hyg., 104(4), 2021, pp. 1569–1576 doi:10.4269/ajtmh.20-0740
10. Ethnobotanical and Biochemical Study of Berberis lycium Royle Collected from Different Areas of Azad Jammu and Kashmir Syeda Maria Fiaz Bukhari,1 Ghazanfar Ali,1 Syed Rizwan Abbas,2 Zeeshan Anjum,1 Nasim Ahmed,3 Ammara Munir,4 Abdul Wali,5 **Muhammad Ayub**,6 Kafaitullah Khan,7 Ahmed Khames,8 and Muneeb Muhamed Musthafa 9 Impact Factor 1.5 2021
11. Syed Ashraf Uddin, Nicole Cesarato, Aytaj Humbatova, Axel Schmidt, Fazal ur Rehman, Muhammad Naeem, Sabrina Wolf, Muhammad Anwar Panezai, Holger Thiele, Abdul Wali, Regina Fölster-Holst, Sulman Basit, **Muhammad Ayub,** Regina C. Betz Apparent Missense Variant in COL7A1 Causes a Severe Form of Recessive Dystrophic Epidermolysis Bullosa via Effects on Splicing. Acta Dermato-Venereologica, 2020.
12. Khan GM, Hassan N, Khan N, Humayun M, Khan K, Khaliq S, Rehman FU, Ahmed S, Shah K, Khan SA, Muhammad N, Wali A, Khan S, Basit S, **Ayub M** (2019). Biallelic mutations in the LPAR6 gene causing autosomal recessive wooly hair/hypotrichosis phenotype in five Pakistani families. **International Journal of Dermatology,** 58: 946-952
13. Ambreen Ijaz1,2, Khadim Shah3 , Abdul Aziz4 , Fazal U Rehman5 , Yasir Ali4 , Abdul M Tareen5 , Kafaitullah Khan5 , **Muhammad Ayub** , Abdul Wali1 Novel Frameshift Mutations in XPC Gene Underlie Xeroderma Pigmentosum in Pakistani Families, Indian J of Dermatology, 2020.
14. Jahangir Khan Achakzai ,1 Muhammad Anwar Panezai,1 **Muhammad Ayub Kakar**,1 Abdul Manan Kakar,1 Shahabuddin Kakar,2 Javed Khan,3 Nazima Yousaf Khan,1 Inayatullah Khilji,1 and Ajab Khan Tareen1 In Vitro Anticancer MCF-7, Anti-Inflammatory, and Brine Shrimp Lethality Assay (BSLA) and GC-MS Analysis of Whole Plant Butanol Fraction of Rheum ribes (WBFRR) Hindawi, BioMed Research International 2019
15. Ullah R, Ansar M, Durrani ZU, Lee K, Santos-Cortez RL, Muhammad D, Ali M, Zia M, **Ayub M**, Khan S, Smith JD, Nickerson DA, Shendure J, Bamshad M, Leal SM, Ahmad W. Novel mutations in the genes TGM1 and ALOXE3 underlying autosomal recessive congenital ichthyosis. Int J Dermatol. 2016 May;55(5):524-30.

16. Mehmood S, Shah SH, Jan A, Younus M, Ahmad F, **Ayub M**, Ahmad W. Frameshift Sequence Variants in the Human Lipase-H Gene Causing Hypotrichosis. Pediatr Dermatol. 2016 Jan-Feb;33(1):e40-2
17. Mehmood S, Jan A, Raza SI, Ahmad F, Younus M, Irfanullah, Shahi S, **Ayub M**, Khan S, Ahmad W. Disease causing homozygous variants in the human hairless gene. Int J Dermatol. 2016 Sep;55(9):977-81.
18. Mutations in the lipase-H gene causing autosomal recessive hypotrichosis and woolly hair. Mehmood S, Jan A, Muhammad D, Ahmad F, Mir H, Younus M, Ali G, **Ayub M**, Ansar M, Ahmad W. Australas J Dermatol. 2015 Aug;56(3):e66-70.
19. Rehman AU, Santos-Cortez RL, Morell RJ, Drummond MC, Ito T, Lee K, Khan AA, Basra MA, Wasif N, **Ayub M**, Ali RA, Raza SI; University of Washington Center for Mendelian Genomics, Nickerson DA, Shendure J, Bamshad M, Riazuddin S, Billington N, Khan SN, Friedman PL, Griffith AJ, Ahmad W, Riazuddin S, Leal SM, Friedman TB Mutations in TBC1D24, a gene associated with epilepsy, also cause nonsyndromic deafness DFNB86..Am J Hum Genet. 2014 Jan 2;94(1):144-52.
20. Riazuddin S, Belyantseva IA, Giese AP, Lee K, Indzhykulian AA, Nandamuri SP, Yousaf R, Sinha GP, Lee S, Terrell D, Hegde RS, Ali RA, Anwar S, Andrade-Elizondo PB, Sirmaci A, Parise LV, Basit S, Wali A, **Ayub M**, Ansar M, Ahmad W, Khan SN, Akram J, Tekin M, Riazuddin S, Cook T, Buschbeck EK, Frolenkov GI, Leal SM, Friedman TB, Ahmed ZM (2012). Alterations of the CIB2 calcium- and integrin-binding protein cause Usher syndrome type 1J and nonsyndromic deafness DFNB48. **Nature Genetics**. 44:1265-1271
21. Khan S, Habib R, Mir H, Umm-E-Kalsoom, Naz G, **Ayub M**, Shafique S, Yamin T, Ali N, Basit S, Wasif N, Kamran-Ul-Hassan Naqvi S, Ali G, **Wali A**, Ansar M, Ahmad W (2011). Mutations in the LPAR6 and LIPH genes underlie autosomal recessive hypotrichosis/woolly hair in 17 consanguineous families from Pakistan.**Clinical & Experimental Dermatology**, 36: 652-654
22. Ahmad B, Munir N, Bashir S, Azam S, Khan I, **Ayub M**. Biological screening of Hederanepalensis Journal of Medicinal Plants Research Vol. 6(39), pp. 5250-5257, October, 2012
23. Zahid Azeem 1, Naveed Wasif, Sulman Basit, Suhail Razak, Raja Amjad Waheed, Adeel Islam, **Muhammad Ayub,** Kafaitullah, Syed Kamran-ul-hassan Naqvi, Ghazanfar Ali, Wasim Ahmad, Congenital atrichia with papular lesions resulting from novel mutations in human hairless gene in four consanguineous families J Dermatol . 2011 Aug;38(8):755-60.
24. **Ayub M**, ur-Rehman F, Yasinzai M, **Ahmad W** , A novel missense mutation in the ectodysplasin-A (EDA) gene underlies X-linked recessive nonsyndromic hypodontia..Int J Dermatol. 2010 Dec;49(12):1399-402.

25. **Ayub M** , Sulman Basit, Musharraf Jelani, Fazal Ur Rehman, Muhammad Iqbal, Masoom Yasinzai, Wasim Ahmad A homozygous nonsense mutation in the human desmocollin-3 (DSC3) gene underlies hereditary hypotrichosis and recurrent skin vesicles, Am J Hum Genet. 2009 Oct;85(4):515-20.
26. Kousar R, Nawaz H, Khurshid M, Ali G, Khan SU, Mir H, **Ayub M**, Wali A, Ali N, Jelani M, Basit S, Ahmad W, Ansar M (2010). Mutation Analysis of the ASPM Gene in 18 Pakistani Families with Autosomal Recessive Primary Microcephaly. **Journal of Child Neurology**, 25: 715-720
27. Tariq M, **Ayub M**, Jelani M, Basit S, Naz G, Wasif N, Raza SI, Naveed AK, Khan S, Azeem Z, Yasinzai M, **Wali A**, Ali G, Chishti MS, Ahmad W (2009). Mutations in P2RY5 gene underlie autosomal recessive hypotrichosis in thirteen Pakistani families. **British Journal of Dermatology**, 160: 1006-1010 **Equally Contributed**
28. Azeem Z, Jelani M, Naz G, Tariq M, Wasif N, Kamran-Ul-Hassan Naqvi S, **Ayub M,** Yasinzai M, Amin-Ud-Din M, Wali A, Ali G, Chishti MS, Ahmad W(2008). Novel mutations in G protein-coupled receptor gene (P2RY5) in families with autosomal recessive hypotrichosis (LAH3). **Human Genetics**, 123: 515-519
29. Wali A, Chishti MS, **Ayub M,** Yasinzai M, Kafaitullah, Ali G, John P, Ahmad W (2007). Localization of a Novel Autosomal Recessive Hypotrichosis Locus (LAH3) to chromosome 13q14.11-q21.32. **Clinical Genetics**, 72: 23-29
30. Muhammad Tariq 1, Naveed Wasif, **Muhammad Ayub**, Wasim Ahmad, A novel 4-bp insertion mutation in EDA1 gene in a Pakistani family with X-linked hypohidrotic ectodermal dysplasia, Eur J Dermatol, May-Jun 2007;17(3):209-12

Future Research:

Apart from hereditary skin disease, My group is aiming to focus on Molecular genetic background of hereditary cardiovascular diseases (HCD). Incidence of HCD is very high in Balochistan province but this area of research is unexplored yet. To our opinion this particular area of research will have a strong impact and potential.

For this purpose I have already applied for a research grant at HEC Pakistan and application is under review.

The project is entitled as; Delineating genetic defects in congenital heart diseases patients and in vivo functional genomic studies in Zebrafish. Applied for PKR 22 million.