**Dr. UMM-E-KALSOOM**

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**Personal Details:**

Date of Birth: 8 Jan 1984

Nationality: Pakistani

Status: Married

**Academic Qualifications and Education**

**PhD** *Quaid I Azam University, Islamabad*/ *Max plank Institute Germany* **2013**

**Subject:** Molecular Biology (Human Genetics)

**Thesis Title:** Mapping Genes Involved in Human Hereditary Skeletal Disorder

**MPhil** *Quaid I Azam University, Islamabad* **2008**

**Subject:** Biochemistry/Molecular Biology

**Thesis Title:** Mapping Primary Microcephaly Genes in Consanguineous Pakistani Families

**MSc** *Quaid I Azam University, Islamabad* **2006**

**Subject:** Biochemistry/Molecular Biology

**Professional Experience**

* Working as an Assistant Professor (TTS) in Department of Biochemistry, Hazara University, Mansehra since 1st Nov 2018.
* Worked as an Assistant Professor (Contract) in Department of Biochemistry, Hazara University, Mansehra from 26th Oct 2016 to 31st Oct 2018.
* Worked as an Assistant Professor in Department of Biochemistry, PMAS Arid Agriculture University, Rawalpindi from 10th Feb 2014 to
17th Aug 2015.

**Research Experience**

* Four years of research work in Human Genetic Laboratory, Quaid I Azam University, Islamabad, Pakistan.
* Six months of research work at Charite University, Berlin and Max Planck Institute for Molecular Genetics, Berlin, Germany.

**Experimental Skills**

* Linkage analysis via microsatellite markers.
* Sequencing DNA samples using the ABI310 and CEQ8800 Genetic Analyzer
* Basic principle of array comparative genomic hybridization (aCGH)
* Data Analysis of Whole exome sequencing (WES)
* Whole mount insitu hybridization
* Quantitative Real time PCR
* Handling PCR and other lab equipments

**Computer Skills**

* Online search engines e.g UCSC human Genome Browser, Ensemble Genome Browser, NCBI.
* Primer Designing (Oligo Explorer 1.2, and Primer 3)
* Mutation Analysis softwares (Mutation Taster, SIFT, POLYPHEN, HSF, MaxEntScan)
* Sequence Analysis Softwares (Bioedit)
* Proficiency in MS Office Suite (Word, Excel, Power Point)

**Scholarship**

* Indigenous 5000 Ph.D. Fellowship program Batch IV, awarded by Higher Education Commission (HEC), Islamabad.
* Award of Scholarship under International Research Support Initiative Program (IRSIP) for Max Planck Institute of Molecular Genetics, Berlin, Germany.

**Research Projects**

Successfully completed the Startup Research Grant Project of Higher Education Commission, titled “Identification of Genes Involved in Human Hereditary Skeletal Disorders”.

**Teaching**

* Molecular Biology, Lipids, Introductory Biochemistry, Enzymology and metabolism to BS.
* Advances in Molecular Biology, Proteomics, Endocrinology and Application of Biotechnology to M.Phil/PhD.

**Research Supervision**

* 02 M.Phil Students has been awarded degree
* 03 M.Phil Students are doing research work

**Conferences/Workshop**

* **National Conference on Trends in** **Biochemistry and Molecular Biology organized by Biochemists Association Quaid-I-Azam University, Islamabad (BAQI), 21st Feb 2012**
* 3-Days International Conference on “Energy Production from Agriculture Biomass and Domestic Wastes” organized by Department of Biochemistry, Arid Agriculture University, Rawalpindi, 15-17th April, 2014.
* 3-Days national conference on “Emerging trends in Bioinformatics and Biosciences” organized by Department of Bioinformatics, Hazara University, Mansehra 20-22th July, 2017
* 3-Days conference on “Computational Biology and Genomics” organized by Center of Human genetics, Hazara University, Mansehra. 27-29th Sep, 2017
* One day workshop on “Data Analysis & Statistical Tools” organized by Department of Biochemistry, Hazara University, Mansehra. 14th Dec 2017.

**Publications**

1. Humaira Aziz Sawal, Rubina Dad, Sarmad Mehmood, Umme Kalsoom, Peter John, Muhammad Jawad Hassan. In - Silico characterization of SCN9A: A protein that mediates voltage-dependent sodium ion permeability of excitable membranes. IJB 2017:11(5), 378-385. (If. 0.553)
2. Rubina Dad, **Umm-e-Kalsoom**, sarmad Mehmood, Humaira Aziz Sawal, Attya Bhatti, Muhammad Jawad Hassan. In-silico analysis to identify the role of 3’UTR associated miRNAs in epilepsy syndromes. IJB 2017: 11(5), 337-345. (If. 0.553)
3. Ullah A, Umair M, **Kalsoom U-E**, Shahzad S, Basit S, Ahmad W. Exome Sequencing Revealed a Novel Nonsense Variant in ALX3 Gene Underlying Frontorhiny. J Hum Genet 2017: 63(1):97-100. (If: 2.487)
4. Ullah A, **Kalsoom U-E,** Umair M, John P, Ansar M, Basit S, Ahmad W. Exome sequencing revealed a novel splice site variant in the ALX1 gene underlying Frontonasal Dysplasia.Clin Genet 2017: 91(3): 494-498. (If: 3.892)
5. [**-Kalsoom UE**](http://www.ncbi.nlm.nih.gov/pubmed?term=-Kalsoom%20UE%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Klopocki E](http://www.ncbi.nlm.nih.gov/pubmed?term=Klopocki%20E%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Wasif N](http://www.ncbi.nlm.nih.gov/pubmed?term=Wasif%20N%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Tariq M](http://www.ncbi.nlm.nih.gov/pubmed?term=Tariq%20M%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Khan S](http://www.ncbi.nlm.nih.gov/pubmed?term=Khan%20S%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Hecht J](http://www.ncbi.nlm.nih.gov/pubmed?term=Hecht%20J%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Krawitz P](http://www.ncbi.nlm.nih.gov/pubmed?term=Krawitz%20P%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Mundlos S](http://www.ncbi.nlm.nih.gov/pubmed?term=Mundlos%20S%5BAuthor%5D&cauthor=true&cauthor_uid=23160277), [Ahmad W](http://www.ncbi.nlm.nih.gov/pubmed?term=Ahmad%20W%5BAuthor%5D&cauthor=true&cauthor_uid=23160277). Whole exome sequencing identified a novel zinc-finger gene ZNF141 associated with autosomal recessivepostaxial polydactyly type A.[J Med Genet.](http://www.ncbi.nlm.nih.gov/pubmed/23160277) 2013 50(1):47-53. (If: 5.65)
6. **Umm-E-Kalsoom**, Basit S, Kamran-Ul-Hassan Naqvi S, Ansar M, Ahmad W. [Genetic mapping of an autosomal recessive postaxial polydactyly type A to chromosome 13q13.3-q21.2 and screening of the candidate genes.](http://www.ncbi.nlm.nih.gov/pubmed/21877132)Hum Genet.  2012 131(3):415-422.(If: 5.138)
7. Basit S, Lee K, Habib R, Chen L, **Umm-e-Kalsoom**, Santos-Cortez RL, Azeem Z, Andrade P, Ansar M, Ahmad W, Leal SM. [DFNB89, a novel autosomal recessive nonsyndromic hearing impairment locus on chromosome 16q21-q23.2.](http://www.ncbi.nlm.nih.gov/pubmed/21181198)Hum Genet. 2011 Apr; 129 (4):379-385.(If: 5.138)
8. 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. [Mutations in the LPAR6 and LIPH genes underlie autosomal recessive hypotrichosis/woolly hair in 17 consanguineous families from Pakistan.](http://www.ncbi.nlm.nih.gov/pubmed/21426374)ClinExpDermatol. 2011 Aug; 36(6):652-654.(If: 1.315)
9. **Umm-e-Kalsoom**, Wasif N, Tariq M, Ahmad W. A novel missense mutation in the *EVC* gene underlies Ellis-van Creveld syndrome in a Pakistani family. PedInt 2010 Apr; 52(2):240-246. (If: 0.868)
10. **Umm-e-Kalsoom**, Habib R, Khan B, Ali G, Ali N, Ansar M, Ahmad W. Mutations in *LIPH* gene underlie autosomal recessive hypotrichosis in five Pakistani families. ActaDerm-venereol. 2010; 90(1):93-94 (If: 3.72).

**References**

1. Prof Dr Waseem Ahmad

Department of Biochemistry

Quaid-i-Azam University, Islamabad, Pakistan

1. Dr Ghazala Kaukab Raja

Associate Professor

University Institute of Biochemistry and Biotechnology

PMAS, Hazara University, Mansehra