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Place of birth Karachi
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QUALIFICATION

1998 M.Sc. Biochemistry, University of Karachi
2008 Ph.D (Biochemistry, University of Karachi) entitled “Proteomic Approach Towards Corneal Epithelial Wound healing.”
2010 Course “Health Bioscience” from The University of Tokushima, Japan
2019 Stem Cell course from University of Toronto, Canada.
2015 **HEC Approved Supervisor**

PREVIOUS POSITIONS

2000-2002 Research Associate, Project entitled “Low Molecular Weight Proteins in CaOx Renal Stones”, funded by University Research Council (URC), **Aga Khan University and Hospital.**
2003 to 2009 Research Officer, Juma Research Laboratory, Research Office, **Aga Khan University and Hospital, Karachi, Pakistan.**
2009-2013 Assistant Professor at National Center for Proteomics, **University of Karachi.**
2013-2016 Assistant Professor at Department of Biochemistry, **Ziauddin University, Karachi.**

CURRENT POSITION

2016 to Date Professor at Department of Biochemistry **Ziauddin University, Karachi.**
2020 Director Postgraduate Program

PUBLICATIONS

- 2007 Shamim Mushtaq, Zulfiqar A. Naqvi, Anwar A. Siddiqui, Carina Palmberg, Jawed Shafqat, Nikhat Ahmed Professor**, Changes in albumin precursor and heat shock protein 70 expression and their potential role in response to corneal epithelial wound repair. *Proteomics*: (7) 3; 463-468
<https://doi.org/10.1002/pmic.200600446>
- Shamim Mushtaq
http://www.wiley-vch.de/goproteomics/index.php?page=podcast_archiv
- 2007 Mushtaq Shamim**, Siddiqui AA, Naqvi ZA, Rattani A, Talati J, Palmberg C, Shafqat J.
“Identification of myeloperoxidase, alpha-defensin and calgranulin in calcium oxalate renal stones”. *Clin Chim Acta*. 26;(384) 41-47 **Impact Factor (2.615)**
- 2008 A.A. Siddiqui and Mushtaq Shamim** “Urolithiasis: In Search of New Factors”. *JPMA*, 58;(9) 475-476 **Impact Factor (0.409)**
- 2008 Saeeda Baig, Anwar Ali Siddiqui, Shamim Mushtaq** and Jawed Shafqat “Hepatitis B Virus Interacts with Albumin Precursor in Vivo” *Scientific Research and Essay* 3; (10), 467-472 **Impact Factor (0.45)**
- 2011 Mushtaq Shamim**, Zulfiqar A. Naqvi, Anwar A. Siddiqui, and Nikhat Ahmed “Albumin Precursor and Hsp70 modulate corneal wound healing in an organ culture model” *Acta Histochem*. 113(1):36-42 **Impact Factor (2.107)**
- 2011 Khalid Mumtaz** , Saeed Hamid, Shahid Ahmed, Tariq Moatter, **Shamim Mushtaq**, Anis Khan, Masashi Mizokami , Wasim Jafri “ A study of genotypes, mutants and nucleotide sequence of hepatitis B virus in Pakistan. *Hepat Mon*. 11(1):14-18 **Impact Factor (1.578)**
- 2011 Jafri L, Khan AH, Siddiqui AA, Mushtaq Shamim**, Iqbal R, Ghani F, Siddiqui I. Comparison of high performance liquid chromatography, radio immunoassay and electrochemiluminescence immunoassay for quantification of serum 25 hydroxy vitamin D. *Clin Biochem*. 44(10-11):864-8. **Impact Factor (2.584)**
- 2011 Mushtaq, Shamim.**, Anwar A. Siddiqui, and Nikhat Ahmed “Effects of preserved and unpreserved timolol maleate on the surface of the corneal epithelium of albino rabbits. *Scientific Research and Essays*. Vol. 6(16), 3531-3538. **Impact Factor (0.45)**

- 2012 Shamim Mushtaq**, Anwar Ali Siddiqui, and Nikhat Ahmed: Inhibitory Effects of Timolol Maleate and its Preservative Benzalkonium Chloride on Corneal Epithelial Migration in a Rabbit Organ Culture System. **IIOABJ**, Vol.3 (1):15-21. **Impact Factor(4.13)**
- 2012.** Saeed Khan, **Shamim Mushtaq**, Narmeen Arshad, Nazir Ahmed Lone. “The Current Status of Research Bioethics in Pakistan” **Open Access Scientific Reports**.
vol (1) 3:1-3.
- 2013** Rubina Ghani, Nazia Jameel, Fareeha Shahih, **Shamim Mushtaq**. “Frequency of Hepatitis B and C in different Area of Catchment Center in GADAP Town, Karachi, Pakistan”. **International Science and Investigation Journal**.
- 2013** Rubina Ghani, Muhammad Saboor, Iftikhar Ahmed, **Shamim Mushtaq**. “Identification of β -globin gene mutations in families and the affected child with β thalassemia major: Importance of prenatal diagnosis. **Advance Research in Biological Science**, Vol. 1(4), pp.45-50.
- 2014 Uroosa Tariq Sadaf Naeem, **Shamim Mushtaq** “How Pakistan’s media spreads the message about reproductive and sexual health.”
<https://www.bmj.com/content/350/bmj.h1309/rapid-responses>
Published 16 March 2015) Cite this as: **BMJ** ;350:h1309 –**Impact Factor (17.44)**.
- 2015** Saeeda Baig, **Shamim Mushtaq**, Zaryab Ahmed, Moazzam Shaid “ Role of Vitamin D In Hepatic B. **European Journal Of Biotechnology and Bioscience**. 2015; 3 (2): 35-41. **Impact Factor (3.742)**
- 2015** Anwar Ali Siddiqui, **Shamim Mushtaq** “Plagiarism Free Academic Environment”**PJMD** 4(3):2
- 2016** Ayesha Khan, Nikhat Ahmed, Beena Hasan, **Shamim Mushtaq** “Co and Contra-regulation of Glycosylated Proteins in Three Distinct Regions of Schizophrenics brain. **Current Proteomics**. Volume 13(3) 187-195. k
- 2016** Shamim Mushtaq, Meraj Zehra, Aysha Khan and Nikhat Ahmed “Biological Association and Expressions of NOS3 & SOD2 in non-diabetic senile Cataractogenesis. **Advances in Enzyme Research**. 4, 87-97
- 2016** Meraj Zehra, Shamim Mushtaq, Erum Zafar and Nikhat Ahmed. “ Towards An Integrative View Of Corneal Proteomics In Epithelial Wound Healing. **PJMD** 5(3):43-47.
- 2017** Rubina Ghani, Syed Hafeez ul Hassan, Uzma Naseeb, Shamim Mushtaq and Zarghoona Wajid “Comparative study for the rapid detection and genotyping of

- MTB and RIF / INHResistant MTB Mutants with Gene Flow Hybridization and Conventional PCR” **Int J Biol Med Res.**8(4):-6121-6124.
- 2018 M. Fazal Hussain Qureshi, Mahira Lakhani, Muzna Shah, Shamim Mushtaq “Cell cycle regulator: cyclin dependent kinase 10 as potential target in cancer” **PJMD** 7(4).
- 2019 MerajZehra, Shamim Mushtaq, SyedGhulam Musharraf, RubinaGhani & NikhatAhmed. “Association of Cyclin Dependent Kinase 10 and Transcription Factor 2 during Human Corneal Epithelial Wound Healing in vitro model” **Scientific Reports (Nature Research).** 9:11802.
- 2019 Nosheen Mehmood, Muhammad Hanif,Akhtar Ahmed,Qamar Jamal,Shamim Mushtaq,Adnan Khan,Muhammad Saqib.” Circulating miR-21 as a prognostic and predictive biomarker in oral squamous cell carcinoma. **Pak J of Med Sci** (35)5. Impact factor (0.754)
- 2020 MerajZehra, Shamim Mushtaq, SyedGhulam Musharraf, & NikhatAhmed IL18RAP and Pim1 Proteins: Predicted role during in vitro corneal epithelial wound healing **JPMA** Vol. 70, No. 2, February 2020. **Impact Factor (0.409)**
- 2020 Tabinda Urooj, Bushra Wasim , Shamim Mushtaq , Syed Nudrat Nawaid Shah and Muzna Shah. Cancer Cell-Derived Secretory Factors in Breast Cancer-Associated Lung Metastasis: their Mechanism and Future Prospects. **Current Cancer Drug Targets,** 2020, 20, 1-19 (**Impact factor : 3.52**)
- 2020 Tabinda Urooj, Bushra Wasim , Shamim Mushtaq , Syed Nudrat Nawaid Shah Increased NID1 Expression among Breast Cancer Lung Metastatic Women; A Comparative Analysis between Naive and Treated Cases” accepted in **Recent Patents on Anti-Cancer Drug Discovery.** 15(1) 2020 Mar 1. doi: 10.2174/1574892815666200302115438. [Epub ahead of print] (**Impact factor : 4.29**)
- 2020 Shamim Mushtaq , Muzna Shah , Muhammad Fazal Hussain Qureshi , Danish Muhammad , Mahira Lakhani , Tabinda Urooj. CDKs Family -a Glimpse into the Past and Present: From Cell Cycle Control to Current Biological Functions. Accepted in **Asian Pacific Journal of Cancer Care.** 5 (1) , 1-9. DOI:10.31557/APJCB.2020.5.1.1
- 2020 Nosheen Mahmood, Shamim Mushtaq, Qamar Jamal, “Evaluation of diagnostic and prognostic relevance of single nucleotide polymorphism at let-7 micro RNA-binding site of KRAS3 /UTR in oral squamous cell carcinoma” **Int.j.pathol.**2020;18(1)
- 2021 Muhammad Fazal Hussain Qureshi¹, Muzna Shah, Mahira Lakhani, Zain Jawed Abubaker, Danish Mohammad, Hira Farhan, Iman Zia, Rida Tafveez, Samahir Tariq Khan, Rubina Ghani, Shamim Mushtaq and Ghulam Haider “*Gene signatures of cyclin-dependent kinases: A comparative study in naïve early and advanced stage of lung metastasis breast cancer among pre- and post-menopausal women.* **Genes & Cancer,** Published: February 10, 2021
- 2021 Sofia Amjad, Shamim Mushtaq, Rehana Rehman, Adnan Munir, Nida Zahid, Pir-zada Qasim Ali Raza Siddique. *Protamine 1 / Protamine 2 mRNA ratio in non-obstructive azoospermic patients.* **Andrologia** Jan 11;e13936.
- 2021 Sofia Amjad, Shamim Mushtaq, Rehana Rehman, NidaZahid, Adnan Munir, Pir-zada Qasim Ali Raza Siddique. Spermatozoa retrieval in azoospermia and expression profile of JMJD1A, TNP2, and PRM2 in a subset of the Karachi population. **Andrology.** DOI: 10.1111/andr.13076

- 2021 Nosheen Mahmood, Shamim Mushtaq, Qamar Jamal, Muhammad Hanif, Humera Ikhtlaq, Dur e Shawar Rehman, Rashid Awan. *Potential utility of cell free high mobility group AT-hook 2 (HMGA2) as a prognostic biomarker in liquid biopsies of oral squamous cell carcinoma. Asian pacific journal of cancer prevention. 22* (2), 407-412. doi: 10.31557/APJCP.2021.22.2.407.
- 2021 Sobia Manzoor, Ayesha Khan, Beena Hasan, Shamim Mushtaq, Nikhat Ahmed. Expression Analysis of 4-Hydroxynonenal Modified Proteins in Schizophrenia Brain; Relevance to Involvement in Redox Dysregulation. *Current Proteomics* [10.2174/1570164618666210121151004](https://doi.org/10.2174/1570164618666210121151004)

- 2021 Hafiz S. M.Osama Jafri, Shamim Mushtaq and Saeeda Baig
Detection of Kras Gene in Colorectal Cancer Patients through Liquid Biopsy: A Cost-effective Method. *Journal of the College of Physicians and Surgeons Pakistan. Vol. 31(10): 1174-1178*

Book:

- 2012** Urolithiasis- basic science and clinical practice. Springer-Verlag London, Chapter (20)“Anti-Inflammatory proteins in Kidney Stone Matrix”, Anwar Ali Siddiqui and **Shamim Mushtaq**. p:177-182.

AWARDS AND SHOLARSHIPS

- 2015** Travel fellowship awarded for presentation entitled “CDK10 and ETS2 association in corneal wound healing” in HUPO world congress September 27-30, at Vancouver Canada.
- 2012** Research Productivity Award (RPA) from Pakistan Council for Science and Technology, Islamabad, Pakistan
- 2011** Travel fellowship awarded for Poster presentation entitled “Identification of Albumin Precursor and Hsp70 Proteins, Their Role during Corneal Epithelial Wound Healing” presented at 7th annual conference “Proteomics: New Developments and grant challenges” March 20-23 at Raleigh, North Carolina, USA.
- 2010** Fellowship award for “SUMMER PROGRAM 2010 – Health Bioscience Course Global Topics of Interdisciplinary Health Care” at The University of Tokushima, Japan, July 25-1 August.
- 2005** First Prize in poster presentation held at Sindh Institute of Urology and Transplantation (SIUT) title “Identification of Antimicrobial Peptides in the Matrix of Calcium Oxalate (CaOx) Renal Stones”.
- 2005** First Prize in poster presentation held at 7th International Symposium on Protein Structure function Relationship organized by HEJ Research Institute of Chemistry

at Karachi university title “Identification of Antimicrobial Peptides in the Matrix of Calcium Oxalate (CaOx) Renal Stones.

- 2004** Third prize in poster presentation in HUPO Third Annual world Congress held at Beijing, China title “Isolation of Myeloperoxidase like Protein from Renal Stone”.
- 2003** First Prize in poster competition held at 7th International Symposium on Protein Structure function Relationship organized by HEJ Research Institute of Chemistry at Karachi University, title “Protein Expression during Corneal Epithelial Wound Healing”.
- 2002** Travel fellowship awarded for Poster presentation entitled “Effect of beta-blockers on corneal epithelial wound healing at presented at 16th FAOBMB Symposium on “From Genes to Proteins: Frontiers in Biochemistry and Molecular Biology, Taipei, Taiwan.

LABORATORY SKILLS

Organ and cell culture, Polyacrylamide gel electrophoresis, RNA/DNA extraction, PCR, Cloning, Agarose electrophoresis, Isoelectric focusing, 2-Dimensional electrophoresis, Western Blotting, Immunoelectrophoresis, Ion exchange Chromatography, HPLC, Immunohistochemistry, Immunoprecipitation, Mass spectrometry.

WORKSHOPS & CONFERENCE FACILITATED

- 2016** International Conference on Translational Medicine from Discovery to Health care Feb 1-3 at Ziauddin University
- 2015** Hands on Workshops on ENDNOTE Software at Conference titled “Advances in Gynaecology & Foetomaternal Medicine held on 6th September at ziauddin University.
- 2015** Hands on Workshop “Application of Power Lab in Biomedical Science” Ziauddin University, Karachi, 31st March
- 2015** Workshop on “Clinical Proteomics” Ziauddin University, Karachi, 12th January.
- 2015** National Conference on “Advances in Health Sciences” Ziauddin University, Karachi, 10th -11 January.
- 2014** Workshop on “Research Tools and Techniques” Ziauddin University, Karachi, 24th February to March 04th
- 2012** Pakistan Proteomics Society (PPS) workshop on “2-D and Mass Spectrometry Data Analysis” University of Karachi, 12-13 July.
- 2012** Post-Workshop on "Exploring Gene Expression" at National Center for Proteomics, University of Karachi, Feb 23 -24.

- 2012** Symposium on "Omics Research: Road Map for Future" at National Center for Proteomics, University of Karachi, Feb 22.
- 2011** Workshop on "Research Tools in Genomics and Proteomics" December 20-22.
- 2010** Workshop on "Bioinformatics and Proteomics" December 28-30.
- 2009** Workshop on "Research Tools in Proteomics" National Center for Proteomics, University of Karachi, Pakistan. November 16-18.
- 2009** HEC-COMSTECH-NCP Thematic Workshop in Frontier Technologies "Proteomics in Health & Disease" National Center for Proteomics, University of Karachi, Pakistan August 17-20.
- 2008** Workshop on "Fundamentals of Tissue Engineering" at Research Department, Aga Khan University, Karachi, Pakistan.
- 2006** Workshop on "In vivo and in vitro assays for study of pain mechanisms - Sep 7-9, 2006 at Research Office, Aga Khan University, Karachi, Pakistan.
- 2005** Workshop on "Genetic and Biochemical Aspects of Inheritable Metabolic Disorders" at Research Department, Aga Khan University, Karachi, Pakistan.
- 2004** Workshop on "Molecular and Analytical Techniques in Research and Diagnosis of Reproductive Disorders" at Research Department, Aga Khan University, Karachi, Pakistan.
- 2003** Workshop on "PCR Applications in Research and Diagnostics" at the Department of Biochemistry University of Karachi, Karachi, Pakistan.
- 2003** Molecular Biology Workshop on "Molecular and Analytical Techniques in Research and Diagnosis of Mental Disorders", at Research Department, Aga Khan University, Karachi, Pakistan.

WORK PRESENTED AT SCIENTIFIC MEETINGS AND PUBLISHED ABSTRACTS

- 2017** Oral presentation entitled "Expression and Association of CDK10 with ETS2 proteins during Human Corneal Epithelial Wound Healing" HUPO world congress will be held on sept 17-21, Dublin.
- 2015** Oral presentation entitled "CDK10 and ETS2 expression and association in corneal wound healing", HUPO world congress will be held on September 27-30, Vancouver Canada.
- 2014** Oral presentation entitled "Migration associated CDK10 protein in human corneal epithelial cells (HCEC) and its role in wound repair" on 5th-8th October 2014 at 13th Human Proteome Organization (HUPO) World Congress in Madrid, Spain.

- 2014** Poster presentation entitled “Migration associated CDK10 protein in human corneal epithelial cells (HCEC) and its role in wound repair.” On 8th March at Fifth Inter-University Medical and Dental Faculty/Students Research Day, at Dow University of Health Sciences.
- 2010** Poster presentation entitled “Identification of Albumin Precursor and Hsp70 Proteins, Their Role during Corneal Epithelial Wound Healing” presented at 7th annual conference “Proteomics: New Developments and grant challenges” March 20-23 at Raleigh, North Carolina, USA.
- 2007** Hupo, 6th annual world congress conference October 6-10, 2007 Seoul, Korea “Immunolocalization assessment of migration associated protein in rabbit corneal epithelial membrane and its role in wound repair”
- 2006** The Bone and the Kidney Nexus Symposium, October 12-15, 2006 Copenhagen, Denmark. “Candidates of Urolithogenesis: Identification of Myeloperoxidase, α -Defensin and Calgranulin”.
- 2005** Poster presentation held at Sindh Institute of Urology and Transplantation (SIUT) title “Identification of Antimicrobial Peptides in the Matrix of Calcium Oxalate (CaOx) Renal Stones”.
- 2005** Poster presentation held at 7th International Symposium on Protein Structure function Relationship organized by HEJ Research Institute of Chemistry at Karachi university title “Identification of Antimicrobial Peptides in the Matrix of Calcium Oxalate (CaOx) Renal Stones.
- 2005** The 30th FEBS Congress & 9th IUBMB Conference, Hungary “Molecular Approaches for Expression and Identification Analysis in Corneal Epithelial Membrane Proteins”.
- 2004** Poster presentation in HUPO Third Annual world Congress held at Beijing, China title “Isolation of Myeloperoxidase like Protein from Renal Stone”.
- 2004** Poster presentation in HUPO Third Annual world Congress held at Beijing entitled “Profiling and Expression Analysis of Regenerating Corneal Epithelial Proteins”
- 2003** Poster competition held at 7th International Symposium on Protein Structure function Relationship organized by HEJ Research Institute of Chemistry at Karachi.
- 2002** Poster presentation entitled “Role of beta-blockers in corneal epithelial wound healing at presented at 16th FAOBMB Symposium on “From Genes to Proteins: Frontiers in Biochemistry and Molecular Biology, Taipei, Taiwan.
- 2000** Poster presentation entitled “Effect of beta-blockers on corneal epithelial wound healing” presented at 6th national conference of Pakistan Society of Biochemistry and Molecular biology at Shah Abdul Latif University, Khairpur, Pakistan.

TEACHING EXPERIENCES

- MS/BS, at Department of Biochemistry and National Center for Proteomics, University of Karachi.
- MBBS/BDS/Postgraduate (Mphil/PhD) at Ziauddin University.

CURRICULUM DEVELOPMENT

- Proteomics course, National Center of Proteomics, University of Karachi, Karachi.
- Post graduate Biochemistry and laboratory courses for Mphil/PhD at Ziauddin University.

MEMBER OF RESEARCH AND ADVOCACY COMMITTEE (RAC)

- Member of RAC at Ziauddin University

MEMBERSHIP

- Member, Pakistan Proteomics Society (PPS), Karachi.
- Member, international scientific organization “Human Proteomics Organization (HUPO)”.

ASSOCIATE EDITOR:

- Pakistan Journal of Medicine and Dentistry (PJMD) Ziauddin University
<https://pjmd.zu.edu.pk/editorial-board/>

HEC GRANTS: 2020-21

Grant No 11952 in 2021

Completed HEC GRANTS:

- Identification of structural, apoptosis-related, and disease-causing genes/proteins in wound healing model of human corneal epithelial cells (HCEC) funded by Higher Education Commission (HEC), Islamabad, Pakistan. Amount: 1.888million
- Proteome profiling of Human Cataract and identification of structural and apoptosis related marker proteins funded by Higher Education Commission (HEC), Islamabad, Pakistan. Amount: 1.0 million

REFERENCES

Prof. Dr. Anwar Ali Siddiqui

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Professor of Biochemistry

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