

Anila Abid

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ACADEMIC DETAILS:

- **Ph. D. (Biochemistry and Molecular Biology)** 2017-2021
Nankai University, Tianjin, China
- **Masters of Science (Physiology)** (1st Division) 2010
Department of Physiology
University of Karachi.
- **Bachelor of Science (Physiology, Chemistry, Zoology)** (1st Division) 2008
Department of Physiology
University of Karachi.
- **High School Education (Pre-medical Science)** (1st Division) 2005
Government Degree Girls College.
Karachi, Pakistan.
- **Secondary School Education (Science Discipline)** (1st Division) 2003
Government Girls High Secondary School.
Karachi, Pakistan.

PUBLICATIONS:

- X. Zhang, Y. Zhang, R. Zhang, X. Jiang, A. Midgley, Q. Liu, H. Kang, J. Wu, **A. Khalique**, et al. Biomimetic Design of Artificial Hybrid Nanocells for Boosted Vascular Regeneration in Ischemic Tissues. (Submitted in Nature Communication)
- **Khalique A**, Zhang Y et al. Intrinsic pro-angiogenesis prospects of ferritin nanocages (FTn) for the treatment of cardiac ischemic diseases. (*In preparation*)
- Xueyan H., Xinyue W., Qiqi L., Jin W., Haoqi., **Khalique A.**, et al. Nanozyme-powered Artificial Cells for Mimicry and Modulation of Intracellular Oxidative Stress. (Accepted in **ACS Applied Materials and Interfaces**) (IF=9.229)
- Y. Zhang*, **A. Khalique***, , X. Du, Z. Gao, J. Wu, X. Zhang, R. Zhang, Z. Sun, Q. Liu, Z. Xu, A. C. Midgley, L. Wang, X. Yan, J. Zhuang, D. Kong, X. Huang. Biomimetic Design of Mitochondria-targeted Hybrid Nanozymes as Superoxide Scavengers. **Advanced Materials**, 2020. (IF=30.849)
- Midgley AC, Wei Y, Zhu D, Gao F, Yan H, **Khalique A**, et al. Multifunctional Natural Polymer Nanoparticles as Antifibrotic Gene Carriers for CKD Therapy. **Journal of the American Society of Nephrology**. 2020, 31(8). (IF=9.274)
- Zhang R, Luo W, Zhang Y, Zhu D, Midgley C, Song H, **Khalique A**, Zhang H, Zhuang J, Kong D, Huang X. 2020. Particle-based Artificial Three-dimensional Stem Cell Spheroids for Revascularization of Ischemic Diseases. **Science Advances**, 2020. (IF=14.136)

- Bingbing Ke, Yujie Zeng, Zhihong Zhao, Fusheng Han, Taoyan liu, Jingyi Wang, **Anila Khalique**, Wen-Jing Lu, James Chong, Feng Lan & Hua He. 2018. Uric acid: a potent molecular contributor to pluripotent stem cell cardiac differentiation via mesoderm specification. **Cell death and differentiation** 2018. (IF=10.717)
- Tahir RA, Wu H, Javed N, **Khalique A**, Khan S, Mir A, Ahmed S, Barreto G, Qing H, Ashraf G and Sehgal A. Pharmacoinformatics and molecular docking reveal potential drug candidates against Schizophrenia to target TAAR6. **Journal of Cellular Physiology** 2018; 1–14. (IF=5.546)
- **Khalique A.**, Shakir S., Qureshi MA and Hussain M*. 2015. Evolution and clinical science: Still a long bridge to build. **Journal of Evolutionary Medicine**. 3:35.

WORK EXPERIENCE:

Researcher (2020-2021)

University of Sharjah, UAE.

- The role of disturbed cellular exocytosis in susceptibility and mortality in diabetic patient with COVID-19
- Potential role of IL-6 in type-2 Diabetes Mellitus and COVID-19
- Role of vitamin A receptors in insulin secretion

Ph.D. Research Scholar (2016-2021)

Nankai University, Tianjin, China.

- **Project 1:** Hypoxic-tropic Protein Ferritin (FTn) Nanocages Mediate Intrinsic Vascularization in Damaged Tissues and Engrafted Stem Cells
- **Project 2:** Enzymatically-Responsive Hydrogel modifies infarct microenvironment and enhances induced pluripotent stem cell survival for myocardial infarction therapy
- **Project 3:** Potential effect of modified IGF-1C on stem cells migration

Lab Instructor (06/2013 – 04/2016)

Dow University of Health Sciences, Karachi, Pakistan.

- Conducted Physiology Lectures and tutorials for MBBS, BDS, DPT & Radiology Students
- Practical and tutorial demonstration on PowerLab for undergraduate and graduate students
- Invigilation duties for MBBS and BDS theory and OSPE Exams, SOP preparation for electrophysiology Lab for ISO certification

Research Officer (06/2011 – 04/2013)

International Center for Chemical and Biological Sciences Karachi, Pakistan.

- Project 1: “Biomedical Studies and IPR (Intellectual Property Rights) Documentation of Medicinal Plants Used in the Treatment of Women Diseases in Sindh”
- Project 2: “Survey, Documentation and Scientific studies of the plant Remedies used for the treatment of infectious skin diseases in Sindh”

Medical Record Coder (06/2010 – 06/2011)

Aga Khan University of Health Sciences, Karachi, Pakistan.

- Completed six months training program in Indexing & Coding of medical record charts at the Health Information Management Services of the Aga Khan University Hospital (July – Dec 2010). This included theoretical element (29 chapters related to ICD-9- CM Coding Handbook by Faye Brown) as well as hands-on training for coding of inpatient medical records with one-year job.

International Conferences abstract:

- “*Systems Biology of Anger: Developing Composite Molecular Network of Anger Physiology*” accepted for oral presentation at Physiology 2016, on July (29-31) at convention Centre, Dublin, Ireland.
- “*Khalique A., Shakir S., Qureshi MA and Hussain M*. 2015. Evolution and clinical science: Still a long bridge to build. J. Evo. Med. 3:35*”, Abstract accepted for oral presentation on July 30 to August 1, 2015, at the University of Zurich, Switzerland.

RESEARCH INTEREST:

- Tissue Engineering and stem cells therapy
- Systems Biology
- Behavioral Physiology
- Neurophysiology
- Treatment of Cardiovascular diseases with Induced Pluripotent stem cells (iPSCs) along with biomaterials & nanoparticles
- Diabetes and Metabolic diseases

Experimental/Research Skills:

- **Stem Cell isolation and Culturing:** Stem cells isolation from animal tissues (Bone Marrow and Adipose), Induced pluripotent stem cells differentiation into beating cardiomyocytes and multiple cells culturing, Generation of stable cells, transfection etc
- **Animal disease and oncological mouse models:** Myocardial Infarction (MI), Ischemia Reperfusion injury (IRI), Hindlimb ischemia (HI), Bone marrow transplantation, Tail-vein injection, intraperitoneal injection, tumor monitoring, and drugs administration.
- **In vivo work:** Sacrifice of mice, removal of tumors, fixing of tumors, HE staining of tumors, checking for different micro/macro metastasis.
- **Nanoparticles:** synthesis and characterization of Ferritin (FTn) nanoparticles and so on.
- **Protein and RNA techniques:** Western blot, PCR, RT-PCR.
- **Extraction techniques:** DNA extraction, RNA extraction, cytoplasmic and nuclear protein extraction.
- **Protein-protein interaction:** Immunoprecipitation (IP), co-IP and GST-pull down.
- **Luminescence techniques:** Luciferase assay and GFP/RFP/YFP-techniques (IVIS).
- **Functional assay:** CCK8/MTT assay, colony formation assay, soft agar assay, mammosphere assay, senescence assay.

- **Imaging techniques:** Transmission Electron Microscope (TEM), Scanning Electron Microscope (SEM), confocal microscopy (CM), Immunofluorescence (IF) Immunohistochemistry (IHC).
- **Invasion assay:** Transwell/cell migration/ invasion assays, wound healing assay.
- Data analysis by using SPSS and Prism software
- Teaching Biological subjects

ORAL PRESENTATION:

- **Topic: “Systems Biology of Anger: Developing Composite Molecular Network of Anger Physiology”** at National Conference 2015 on Advances in Health Sciences [January 9th -11th, 2015 organized by Ziauddin University Karachi, Pakistan.
- **Topic: “Validation of Buss Perry Questionnaire and systems biology of aggressive behavior”** at 51st Annual Medical Symposium on Ethics in medical practice [13th – 17th Dec 2015] organized by Jinnah Postgraduate Medical Centre, Karachi, Pakistan.

PERSONAL SKILLS:

- High personal integrity, excellent interpersonal skills and able to create trust in all.
- Ability to grasp new ideas and integrate them into desired results.
- Dedication and motivated to continue to my education.
- Accept new challenges to achieve the set targets.
- Result oriented and problem solving.
- Microsoft office word & excel.
- Good verbal and writing skills in English, Chinese, Urdu and Sindhi.