



NOREEN LATIEF (Ph.D)

U4, Defence housing Society, Phase II Lahore Pakistan,
+923004474648
noreen.latief@cemb.edu.pk, noreenlatief@gmail.com

Motivational statement

I am keen to embark on a career where I can serve the research group in a challenging and dynamic environment towards a successful career by making the best out of my research abilities and interpersonal skills. Qualified for a challenging and decision-making assignments. I see myself as an active contributor to a team of dedicated and ambitious people working on projects that involve blend of Stem cells regenerative medicine, Microbiology, Bioinformatics and Molecular Biology and thereby enhance my knowledge and personality. I have a strong motivation to pursue career in frontier areas of Molecular Biology.

PhD Research

**Center of Excellence in Molecular Biology,
University of the Punjab, Pakistan (www.cemb.edu.pk)**

- **Pcdh15 gene knockdown mice by RNAi technology (Ph.D thesis Title)**

Modules

General Molecular Biology, DNA Recombinant Techniques, Bioinformatics, Instrumentation, Molecular Immunology and Cell Biology, Toxicology, Virology and Regulation of Gene Expression.

Academic Record

PhD Molecular Biology

National Centre of Excellence in Molecular Biology (NCEMB),
University of the Punjab, Lahore Pakistan
73.75%

M. Sc. Botany (16 year of Education)

University of Punjab, Lahore Pakistan.

B. Sc. Bachelors of Science (14 year Education)

University of the Punjab, Lahore Pakistan

F. Sc. Intermediate (12 year of Education)

Board of Intermediate and Secondary Education Lahore Pakistan

SSC. Matriculation (10 year of Education)

Board of Intermediate and Secondary Education Lahore Pakistan

B.Ed. Bachelor of education

Allama Iqbal Open University, Islamabad.

Computer Skills

- Apart from being at hand with Internet tools, I have proficient knowledge of MS Word, MS Excel, MS PowerPoint, and other window packages, Internet applications and biological software (primer3, BLAST, BIOEDIT, USCS human genome browser) etc.

Areas of Expertise

a. Molecular/Recombinant DNA Techniques:

Polymerase chain reaction (PCR), Real Time PCR, Genotyping, Sequencing, Chromatography, Gel electrophoresis (SDS-PAGE & Agarose), Cloning Techniques, Transformation, Microtomy, Cryosectioning, Fluorescent activated cell sorting, spectrophotometry etc

b. Biochemical:

RNA extraction from cells, RNA extraction from tissue, Genomic DNA extraction, Elisa, Protein purification, Western blotting, Immunostaining, immunohistochemistry, cells staining etc

c. Microbiological Techniques:

Disinfections and sterilization, Lab safety, Specimen collection and processing, Smear examination, Cultures and isolation of microbes, Biochemical examination, Cell culturing etc.

d. Cell Culture Techniques:

Mammalian cell culturing, Isolation of stem cells from different sources (Bone marrow, adipose), Culturing, maintenance and propagation of stem cells culture, Transplantation of stem cells, Rat chondrocytes isolation, MSCs isolation from rat as well as human adipose tissue, Chondrogenesis of MSCs. Transfection of cells with plasmids, stable cell line generation, siRNA generation, Transfection with siRNA etc.

e. Small animal surgery.

Rodent ear surgery, Development of rodent model of Osteoarthritis, Development of diabetic rodent model, Development of skin burn rat model

Linguistic skills

- English (Reading, Writing, Speaking)
- Urdu (Reading, Writing, Speaking)
- Punjabi (Vernacular)

Job Experience:

Working as Assistant professor in CEMB on TTS since 05-08-2019 till today.

Worked as Assistant professor in CEMB since 1st April 2011 till 31-12-2018.

1 year worked as Post Doc Fellow in CEMB from 1st April 2010-31st March 2011.

3 Years teaching experience as Lecturer of Biology and senior science teacher in school and college.

Publications:

1. Jaworek TJ, Bhatti R, **Latief N**, Khan SN, Riazuddin S, Ahmed ZM: USH1K, a novel locus for type I Usher syndrome, maps to chromosome 10p11.21-q21.1. *J Hum Genet* 2012, 57:633-637.
2. Bashir ZE, **Latief N**, Belyantseva IA, Iqbal F, Riazuddin SA, Khan SN, Friedman TB, Riazuddin S: Phenotypic variability of CLDN14 mutations causing DFNB29 hearing loss in the Pakistani population. *J Hum Genet* 2013, 58:102-108.
3. Khaliq S, **Latief N**, Jahan S: Role of different regions of the hepatitis C virus genome in the therapeutic response to interferon-based treatment. *Arch Virol* 2014, 159:1-15.
4. Wajid N, **Latief N**, Ali M, Javed Sara, Naseem Rashida, Ali F: The Effect Of Glucose On Growth Of Mesenchymal Stem Cells Derived From Umbilical Cords Of Normal And Gestational Diabetic Mothers. *IJLSR* 2015:222-226
5. **Latief N**, Raza FA, Bhatti FU, Tarar MN, Khan SN, Riazuddin S : Adipose stem cells differentiated chondrocytes regenerate osteoarthritic cartilage. *Cell Biol Int.* 2016 May; 40(5):579-88.
6. Bhatti FU, Mehmood A, **Latief N**, Zahra S, Cho H, Khan SN, Riazuddin S: Vitamin E protects rat mesenchymal stem cells against hydrogen peroxide-induced oxidative stress in vitro and improves their therapeutic potential in surgically-induced rat model of osteoarthritis. *Osteoarthritis Cartilage.* 2017 FEB;25(2)321-331
7. Javaid MS, **Latief N**, Ijaz B, Ashfaq UA: Epigallocatechin Gallate as an anti-obesity therapeutic compound: An in silico approach for structure based drug designing. *Natural Product Research.* 2017 Aug 14:1-5. doi: 10.1080/14786419
8. Fazal N, **Latief N**: Bombyx mori derived scaffolds and their use in cartilage regeneration: a systematic review. *Osteoarthritis Cartilage.* 2018 Jul 29. pii: S1063-4584(18)31384-0. doi: 10.1016/j.joca.2018.07.009
9. Naseer N*, Bashir S*, **Latief N**, Latif F, Khan SN, Riazuddin S: Human amniotic membrane as differentiating matrix for in vitro chondrogenesis. *Regenerative Medicine.* 2018 Oct 9 doi.org/10.2217/rme-2018-0017
10. Wajid N, Ali A, Ali F, **Latief N**, Qazi A: Therapeutic potential of stem cells derived factor-1alpha (SDF-1 α) for skin burn injuries. 2019. *Advancements in Life Sciences* 6 (4), 139-146
11. Iqar U, Javaid H, Ashraf N, Ahmed A, **Latief N**, et al. Structural and Functional Analysis of Pullulanase Type 1 (PulA) from *Geobacillus thermopakistanensis*. *Mol Biotechnol.* 2020;62(8):370-379. doi:10.1007/s12033-020-00255-
12. Fazal N, Khawaja H, Naseer N, Khan AJ, **Latief N**. *Daphne mucronata* enhances cell proliferation and protects human adipose stem cells against monosodium iodoacetate induced oxidative stress *in vitro*. *Adipocyte.* 2020;9(1):495-508. doi:10.1080/21623945.2020.1812242

13. Ahmad MR, Badar W, Ullah Khan MA, Mahmood A, **Latief N**, Iqbal T, Khan Assir MZ, Sleem MA. Combination of preconditioned adipose-derived mesenchymal stem cells and platelet-rich plasma improves the repair of osteoarthritis in rat. *Regen Med.* 2020 Nov;15(11):2285-2295. doi: 10.2217/rme-2020-0040. Epub 2020 Dec 16. PMID: 33326341
14. Yaqub F, **Latief N**, Butt H, Naseer N, Riazuddin S. Alpha lipoic acid priming enhances the hepatoprotective effect of adipose derived stem cells in CCl4 induced hepatic injury in-vitro. *Eur J Pharmacol.* 2021 Jun 9;906:174201. doi: 10.1016/j.ejphar.2021.174201. Epub ahead of print. PMID: 34118221.
15. Khawaja, H., Fazal, N., Yaqub, F., Ahmad, M. R., Hanif, M., Yousaf, M. A., & **Latief, N.** (2021). Protective and proliferative effect of Aesculus indica extract on stressed human adipose stem cells via downregulation of NF-κB pathway. *PLoS one*, 16(10), e0258762.
16. Javaid MS, Kaul H, Fazal N, Yaqub F, Naseer N, Hanif M, **Latief N.** (2021). *In silico* analysis to reveal underlying trans differentiation mechanism of Mesenchymal Stem Cells into Osteocytes. *Adv. Life Sci.* 8(4): 412-418.
17. Shams, A., Brice Landry, K., Shams, F., Tariq, S., Azeem, A., Anjum, H., **Latief, N.**, Malik, K., & Ijaz, B. (2022). Hepatoprotective and Anti-inflammatory Potential of Crude methanolic extract of Euphorbiapilulifera via NF-KB/Nrf2/Akt/TGF-β1 pathway. *Pakistan BioMedical Journal*, 5(5). <https://doi.org/10.54393/pbmj.v5i5.487>
18. F Shams, A Azeem, A Shams, A Tawab, S Rehman, S Tariq, N Latief. (2022). Flavonoid rich extract of Trigonella foenum-graecum leaves ameliorate liver fibrosis. *Food Bioscience* 50, 102046, ISSN 2212-4292, <https://doi.org/10.1016/j.fbio.2022.102046>.
19. Sadaqat, N., Khan, S.A., Bibi, A., Zahra, S., faisal Salamt, M., **Latief, N.** and Ali, F., 2022. Effect of N-Acetylcysteine Oral Administration on Cutaneous Wound Healing.
20. Faryad, Q., Fazal, N., Ijaz, B., Bilal, A.Z., Malik, K., **Latief, N.** (2022). Adipose-derived stem cells (adscs) pretreated with vascular endothelial growth factor (vegf) promoted wound healing in rat skin burn model. *Biol. Clin. Sci. Res. J.*, 2022: 178. doi: <https://doi.org/10.54112/bcsrj.v2023i1.178>
21. Ahmed, H., Fazal, N., Ahmad, M.R., Ijaz, B., Bilal, A.Z., Ilyas, S., Malik, K., **Latief, N.** (2022). S-Allyl-l-cysteine-induced anti-inflammatory and anti-apoptotic effects in chondrocytes is associated with suppression of the mitochondrial inflammation pathway. *Biol. Clin. Sci. Res. J.*, 2022: 179. doi: <https://doi.org/10.54112/bcsrj.v2023i1.179>

Supervision

Ph.D Scholars

1. **Bushra Rauf** A study of Molecular and Genetic determinants of primary congenital Glucoma
2. **Bushra Iram** Genetic Exploration and analysis of autosomal recessive cataract
3. **Mureed Hussain** Molecular and genetic basis of Intellectual Disability in Pakistani population
4. **Faiza Rasheed** Characterization of new locus for Autosomal Recessive Intellectual Disability in Pakistani Population
5. **Sana Zahra** Mapping of New locus for Syndromic Hearing Impairment
6. **Faiza Yaqub** Primed adipose derived stem cells for the regeneration of liver fibrosis
7. **Numan Fazal** Evaluation of antiarthritic effect of stem cells traditional medicinal plants

M.Phil Scholars

1. **Quratulain Aftab:** Potential of VEGF Preconditioned Adipose Derived Stem Cells for Repair of Burn Wound in Rats
2. **Fahad Ali Raza:** Chondrogenic Potential of Adipose Derived Mesenchymal Stem Cells
3. **Nadia Naseer:** Exploiting potential of umbilical cord derived and adipose derived stem cells on human amniotic membrane (HAM) for in vitro chondrogenesis.
4. **Saliha Bashir:** Use of Human Amniotic Membrane (Ham) as Supporting Matrix For In Vitro Chondrogenesis Of Placental Derived Stem Cells (PDMSCS)
5. **Sumera Rashid:** Enhanced growth characteristics of Hydrogen peroxide induced injured chondrocytes in co-culture with normal and OA chondrocytes.
6. **Aisha Tarar:** Cytoprotective effects of co-cultures of normal and OA chondrocytes on hydrogen peroxide induced injured chondrocytes
7. **Naghmana Ashraf: Expression** Profiling of MicroRNAs(miRNAs) and their role in pathophysiology of osteoarthritis
8. **Muhammad Shahid Javaid:** Investigating the regeneration potential of platelet rich plasma in restoring the cartilage and bone function
9. **Rayana Farooq.** In vitro analysis of type 2 diabetes as potential cause of osteoarthritis

10. Ifrah Ishaq: Role of phytochemicals in combination with stem cells alleviating cartilage injury
11. Hassan Ahmed Investigating the regenerative potential of S allyl L cystein in restoring the osteoarthritic cartilage
12. Hamza Khawaja: Aesculus indica inhibits inflammation via down-regulation of the NF-κB in human Adipose Stem Cells
13. 13Maryam Zameer: Effects of nano particles on apoptotic gene expression in liver cell lines
14. 14. Maria Sadaf: Elucidating the role of platelet rich plasma on the senescence of aged mesenchymal stem cells of mouse derived from bone marrow
15. 15. Amina Arif: S-Allyl-L-Cysteine (SAC) Ameliorated Inflammation via down-regulation of the NF-κB pathway in human Adipose Stem Cells
16. **Mehwish Irfan:** Metformin Primed Human Adipose Stem Cells Ameliorate Acute Spinal Cord Injury by Down regulating mTOR Pathway In Vivo
17. **Muzaffar Hanif:** Evaluation of Combinatorial Effect Of Niacin And Human Adipose Stem Cells For The Repair Of Spinal Cord Injury
18. **Abeera Iftikhar:** Exploiting the Potential of Silk Scaffolds with Primed Stem Cells against *in vitro* Injury
19. **Muhammad Munam Mustafa:** Role of S-allyl Cysteine and Nanoparticles in Ameliorating Oxidative Stress in Human Adipose Derived Mesenchymal Stem Cells
20. **Shumaila Arif:** Genetic variations and expression analysis of Heat Shock Protein 70.1 and its association with heat stress in Holstein Friesian and Sahiwal cattle
21. **Hamza Khan:** Reversal of Oxidative Stress and Inflammation in Human Adipose Derived Mesenchymal Stem Cells *In-vitro and In-vivo* by phytochemical primin
22. **Umar Sajjad:** Attenuation of MIA Induced Cartilage Inflammation and Fibrosis via NF-κB Pathway Regulation

Contribution to a book chapter

Riazuddin S., Mehmood A., **Latief N.**, Tarar MN (2017). Cells for the repair of damaged skin and cartilage. In DE GRUYTER, Stem cells-From Drug-to-Drug Discovery.p.85-110

Projects

Regenerative Medicine (RM) in combination with Ayurvedic plants for the treatment of injury induced arthritis (6.321/-Million PKR, Ref No. 20-16657/NRPU/R&D/HEC/2021)

Investigation of hepato protective role of flavonoids and Saponins mediated pathways in liver fibrosis and cirrhosis (4.206/- Million PKR, HEC NRPU, 2018)

Role of Stem cells in cartilage repair

Poster Presentation

Noreen latief, Nadia wajid, Fazal-ur-Rehman Bhatti, Fahad Ali Raza, Shaheen N.Khan, Sheikh Riazuddin . 11th Biennial conference of Molecular Biosciences –Challenges and opportunities organized by Pakistan Society for Biochemistry and Molecular Biology.(25-28.Nov2013)

Oral Presentation

1. **Stem cells Research- Bench to Clinics (Invited Talk).** Under graduate faculty training STEM education in Pakistan, March 14-18,2022, Virtual University of Pakistan
2. **Evaluating the antioxidant potential of platelet Rich Plasma (PRP)** 3rd International conference on Biosciences 2018, GC university Lahore, Pakistan May 9-11.2018
3. **Human Amniotic Membrane as Scaffold for growth of MSCs derived from different sources.** Biobanking (5-7th January 2016. Lodon, Uk.
4. **Stem Cells for the Repair of Osteoarthritis** International Symposium on Genetic Diseases at Shaheed Zulfiqar Ali Bhutto Medical University (30-31March 2015).