

CURRICULUM VITAE

University of Texas Health Science Center, San Antonio

1. Personal Information

Name: dr. Muhammad Ikram

Designation: Postdoctoral Fellow

Department: University of Texas Health Science Center, San Antonio, Texas, United States

Nationality: Pakistan

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2. Professional Summary

- Neuroscientist by training, holding a Pharm-D (Doctor of Pharmacy), an M.Phil in Biochemistry, and a PhD in Neuroscience (Neurobiology/Neuropharmacology).
- Currently working as a Assistant Professor at IPS, KMU (2023–present).
- Postdocs, one from the Gyeongsang National university, South Korea another from the university of Texas health science center, Texas USA
- Research interests centre on proteinopathies, neuroinflammation, neuronal apoptosis, and memory impairment in neurodegenerative and metabolic disorders, as well as traumatic and ischemic brain injury; has published 19 papers, including 7 as first author and 11 as an equally contributing first author.
- Extensive in vitro and in vivo research experience spanning transgenic and lab-developed rodent models of Alzheimer's disease, Parkinson's disease, ischemic stroke, and traumatic brain injury.
- Serves as an editorial board member for Science Frontiers, an editor for Frontiers in Pharmacology and Frontiers in Neuroscience, and a reviewer for several MDPI, PLOS ONE, BMC, and Scientific Reports journals.

3. Academic Qualifications

Degree	Institution	Year
PhD, Neuroscience (Neurobiology/Neuropharmacology) Thesis: “Natural Compounds as Neurotherapeutic Agents Against Rodent Models of Neurodegeneration and Cognitive Dysfunction”	College of Natural Sciences, Gyeongsang National University, Jinju, South Korea	2016 – 2021
M.Phil., Biochemistry	Department of Biochemistry, Hazara University, Mansehra, Pakistan	2011 – 2013
Pharm-D, Doctor of Pharmacy (5-year program)	University of Malakand, Dir Chakdara, Pakistan	2005 – 2010

4. Professional Experience

Position	Organization	Duration
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Postdoctoral Fellow	University of Texas Health Science Center, San Antonio, Texas, United States	2023-2024
Assistant Professor, Pharmacology	Khyber Medical University, Peshawar, Pakistan	Feb 2022 - Till date
Postdoctoral Fellow, Neurobiology/Neuropharmacology	College of Natural Sciences, Gyeongsang National University, Jinju, South Korea	2021 – 2022
PhD Researcher, Neuroscience (Neurobiology/Neuropharmacology)	College of Natural Sciences, Gyeongsang National University, Jinju, South Korea (under Prof. Myeong Ok Kim)	2016 – 2021

5. Areas of Specialization / Research Interests

- Neurodegeneration — proteinopathies (A β , pTau & α -synuclein), oxidative stress, neuroinflammation, synaptic dysfunction, neuronal apoptosis, and cognitive/memory deficits.
- Energy-metabolic regulation in neurodegeneration, including metabolic dysfunction-mediated cognitive deficits and learning/memory impairment.
- Traumatic Brain Injury (TBI) — role of melatonin, JNK, and other stress kinases in TBI-associated oxidative stress, gliosis, cytokine release, and synaptic dysfunction.
- Cerebral ischemia-mediated oxidative stress, neuroinflammation, and synaptic/memory deficits.
- Sphingolipid signaling in neurodegeneration, particularly in Alzheimer's and Parkinson's disease.
- Neurodegeneration-related pathophysiology of the retina and olfactory bulb (postdoctoral work).

Research Skills & Techniques

- In-vivo imagination, including Calcium imaging, Fluorescence analysis, immunohistochemistry, DRG and TG surgical procedures in small laboratory animals, including mice and rats.
- In vitro: Culturing of immortalized neuronal, microglial, astrocyte, and HUVEC cell lines, and isolation of primary cortical/hippocampal, microglial, and astrocyte cells; genomic (PCR), proteomic (western blot), and morphological (immunofluorescent confocal and light microscopy) analysis. Using small RNS inhibitors, Cell knock down.
- In vivo: Rodent handling and ethical protocols; stereotaxic injections (ICV, intracranial, intravenous, PEI-based shRNA knockdown); ischemia/hypoperfusion and TBI models (rmTBI, Feeney's weight-drop, stab wound injury); rodent surgery, brain microdissection, and tissue separation; cardiac perfusion for immunohistochemistry; animal genotyping and breeding using PCR.
- Behavioral assays: Morris water maze, Y-maze, elevated plus-maze, open field, novel object recognition, wire hanging, fear conditioning, forced swim, tail suspension, sucrose preference, and olfactory tests.
- Software & statistics: GraphPad Prism, ImageJ, Confocal FluoView FV1000, Sigma Gel System, SPSS, Microsoft Office, and Adobe.

6. Publications

Total Publications: 38 (20 as first author, 18 as equally contributing co-author)

First and Corresponding Author (Research & Review Articles)

- Electrical Stimulation and Platelet-Rich Plasma as Complementary Approaches for Peripheral Nerve Regeneration. Sardar Ali, Muhammad Ikram. "Cellular and Molecular Neurobiology, Springer nature). 2025. <https://doi.org/10.1007/s10571-025-01652-z>
- Emodin, a Potent Anthraquinone Mitigates MPTP-Induced Parkinsons' Disease Pathology by Regulating Nrf2 and Its Downstream Targets: In-Silico and In Vivo Approach. Sarwat Jahan · Muhammad Ikram · Sami Siraj, Shakir Ullah, Muhammad Zakria, Nasir Ahmad. (Molecular Neurobiology, Springer nature). 2025. <https://doi.org/10.1007/s12035-025-04762-3>.
- Alpha- Linolenic Acid for Mitigating Neuroinflammation and Dopaminergic Neuronal Loss in Parkinson's Disease: Insights From In Vivo and In Silico Studies

- Mahnoor, Sarwat Jahan, Laila Elahi, Muhammad Zakria, Rabia, Muhammad Ikram, Najeeb Ullah. Clinical and Experimental Pharmacology and Physiology, Wiley 2026. [https://doi.org/ 10.1111/1440-1681.70043](https://doi.org/10.1111/1440-1681.70043).
- Ambroxol's Role in PTZ-Induced Anxiety-Like Conditions in Mice: Targeting Neuroinflammation and Oxidative Stress via In Vivo and In-Silico Approaches. Hafeeza Zafar Ali, Sarwat Jahan, Muhammad Ikram, Ashraf Ullah Khan, Manzoor Khan, Fawad Ali Shah, Hafsah Muhammad. (Molecular Neurobiology, Springer nature). 2026. <https://doi.org/10.1007/s12035-025-05530-z>.
- Neuroprotective effects of glycine against cisplatin-induced cognitive decline in mice. Hafiz Muhammad Obaid Kazmi a, Najeeb Ullah b, Muhammad Ikram. Annals of Medicines and Surgery. 2026. <https://doi.org/10.1097/MS9.0000000000004955>.
- Glycine as a potential neuroprotective adjuvant to reduce cisplatin-induced brain inflammation in mice. Hafiz Muhammad Obaid Kazmi, Muhammad Umer Suleman, Muhammad Ikram & Marwan Alqumbaey. BMC Neuroscience, Springer Nature. <https://doi.org/10.1186/s12868-026-01023-4>.
- Hesperetin confers neuroprotection by regulating Nrf2/TLR4/NF- κ B signaling in an A β mouse model. Molecular Neurobiology, 2019. <https://doi.org/10.1007/s12035-019-1512-7>
- Natural dietary supplementation of curcumin protects mice brains against ethanol-induced oxidative stress-mediated neurodegeneration and memory impairment via Nrf2/TLR4/RAGE signaling. Nutrients, 2019. <https://doi.org/10.3390/nu11051082>
- Review: Melatonin as a potential regulator of oxidative stress and neuroinflammation — mechanisms and implications for the management of brain injury-induced neurodegeneration. Journal of Inflammation Research, 2021, 14, 6251. <https://doi.org/10.2147/JIR.S334423>
- Review: Antioxidant and neuroprotective effects of caffeine against Alzheimer's and Parkinson's disease — insight into the role of Nrf-2 and A2AR signaling. Biomolecules, 2020. <https://doi.org/10.3390/antiox9090902>
- Review: Ongoing research on the role of gintonin in the management of neurodegenerative disorders. Cells, 2020, 9, 1464. <https://doi.org/10.3390/cells9061464>

Equally Contributed First Author

- Oral administration of alpha-linoleic acid rescues A β -induced glia-mediated neuroinflammation and cognitive dysfunction in C57BL/6N mice. Cells, 2020. <https://doi.org/10.3390/cells9030667>
- Deciphering the potential neuroprotective effects of luteolin against A β 1–42-induced Alzheimer's disease. IJMS, 2021, 22, 9583. <https://doi.org/10.3390/ijms22179583>
- Caffeine may abrogate LPS-induced oxidative stress and neuroinflammation by regulating Nrf2/TLR4 in adult mouse brains. Biomolecules, 2019, 9, 719. <https://doi.org/10.3390/biom9110719>
- Neurological enhancement effects of melatonin against brain injury-induced oxidative stress, neuroinflammation, and neurodegeneration via AMPK/CREB signaling. Cells, 2019. <https://doi.org/10.3390/cells8070760>
- Vanillic acid, a bioactive phenolic compound, counteracts LPS-induced neurotoxicity by regulating c-Jun N-terminal kinase in the mouse brain. Biomedicines, 2021. <https://doi.org/10.3390/ijms22010361>
- Fisetin rescues mice brains against D-galactose-induced oxidative stress, neuroinflammation, and memory impairment. Frontiers in Pharmacology, 2021. <https://www.frontiersin.org/articles/10.3389/fphar.2021.612078/full>
- Review: Antioxidant and anti-inflammatory effects of citrus flavonoid hesperetin — special focus on neurological disorders. Antioxidants, 2020. <https://doi.org/10.3390/antiox9070609>
- Review: Gut microbiota, its role in induction of Alzheimer's disease pathology, and possible therapeutic interventions — special focus on anthocyanins. Cells, 2020, 9, 853. <https://doi.org/10.3390/cells9040853>
- Review: Pathology, risk factors, and oxidative damage related to type 2 diabetes-mediated Alzheimer's disease and the rescuing effects of the potent antioxidant anthocyanin. Oxidative Medicine and Cellular Longevity, 2021. <https://doi.org/10.1155/2021/4051207>
- Review: Systematic review of the common pathophysiological mechanisms in COVID-19 and neurodegeneration — the role of bioactive compounds and natural antioxidants. Cells, 2022, 11, 1298. <https://doi.org/10.3390/cells11081298>

7. Patents

None reported.

8. Research Grants & Projects

None reported.

9. Book Chapters

None reported.

10. Student Supervision

None reported.

11. Achievements & Awards

- Pharm-D Merit Scholarship, University of Malakand, Pakistan (2005–2010).
- BK21+ (Brain Korea 21 Plus) Scholarship for the doctoral degree, awarded by the Korean Government.
- Young Pioneer Research Award — excellent research performance, May 2019.
- Young Pioneer Research Award — excellent research performance, November 2019.
- Young Pioneer Research Award — excellent research performance, May 2020.
- Outstanding Research Award — outstanding research achievements, May 2020.
- Young Pioneer Research Award — excellent research performance, November 2020.

Short Courses

- Ethical Guidelines and Protocols of the IACUC (Approval ID: 125), October 2016.
- Good Laboratory Practice, October 2016.
- Cyber Security Course, November 2016.
- LMO (Living Modified Organism) Handling, January 2017.

International Conferences

- Society for Neuroscience (2019) — Poster: “Osmotin mitigates susceptibility of alpha-synuclein and MPTP-induced neuropathology dopaminergic neuronal death via the AMPK activation.”

Editorial & Reviewer Roles

- Editorial Board Member, Science Frontiers.
- Editor, Frontiers in Pharmacology and Frontiers in Neuroscience.
- Reviewer for several MDPI journals, Scientific Reports, BMC Complementary and Alternative Medicine, PLOS ONE, and Frontiers in Pharmacology.

Language Proficiencies

English	Urdu	Pashto	Korean
Excellent	Native	Native	Basic

12. References

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