Stanford

Muhammad Asim

Postdoctoral Scholar, Psychiatry

Bio

BIO

Muhammad Asim, MS, PhD

Currently a Postdoctoral Fellow in the Department of Psychiatry and Behavioral Sciences at Stanford University School of Medicine. As a neuroscientist, I am driven by a deep curiosity about the complexities of the human brain. Through rigorous research and innovative methodologies, I aim to unravel the intricacies of cognition, motivation, and emotion, while contributing to advancements in our understanding of psychiatric disorders. With a commitment to exploring the secrets of the mind, I am dedicated to improving lives and shaping the future of neuroscience.

HONORS AND AWARDS

- Featured at CityU HK Newsletter (Research Stories), City University of Hong Kong, Hong Kong. (Nov 2023)
- Outstanding Academic Performance Award for Research Degree Students, City University of Hong Kong. (Aug 2023)
- Outstanding Academic Performance Award for Research Degree Students (non-local UGC-funded students), City University of Hong Kong. (Aug 2022)
- Research Tuition Scholarship, City University of Hong Kong. (Sep 2021 to Aug 2022)
- Certificate of Merit, Chow Yei Ching School of Graduate Studies, City University of Hong Kong. (Aug 2020)
- Studentship for PhD Studies, City University of Hong Kong (SEP 2019 to Aug 2023)
- University of Pisa, International Summer School Scholarship, University of Pisa, Italy. (June 2018)
- Chinese Government Scholarship For International Students, China Scholarship Council. (Sep 2016 to June 2019)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Early-Career Editorial Board Member of Alpha Psychiatry, Alpha Psychiatry (2026 - present)
- Review Editor, Frontiers in Molecular Neuroscience (2024 - present)
- Review Editor, Frontiers in Behavioral Neuroscience (2024 - present)
- Member, Society for Neuroscience (2023 - present)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, City University Of Hong Kong (2023)
- Master of Science, Sun Yat-Sen University (2019)
- Bachelor of Science, Government College University (2016)

STANFORD ADVISORS

- Jason Tucciarone, Postdoctoral Faculty Sponsor

- Robert Malenka, Postdoctoral Research Mentor

LINKS

- Linkedin: https://www.linkedin.com/in/muhammad-asim-ms-phd-810690124/
- Google Scholar: https://scholar.google.com/citations?user=cQomPksAAAAJ&hl=en
- X/Twitter: https://x.com/asimcheema746
- ResearchGate: https://www.researchgate.net/profile/Muhammad-Asim-24?ev=hdr_xprf

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I am interested in investigating the cell type-specific and neural circuit mechanisms underlying emotional disorders. In particular, I strive to explore the neural mechanisms associated with psychedelic drugs, focusing on how these substances improve mood and exhibit antidepressant-like effects.

#Psychedelics #5HT2AR #striatum #amygdala #Depression&Anxiety

Publications

PUBLICATIONS

- **mGluR5 in ECCCK to BLA Circuit Modulates Depressive-Like Phenotypes through CCK Signaling.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
  Asim, M., Wang, H., Qianqian, G., Waris, A., He, J.
  2026: e23115
- **Basolateral amygdala parvalbumin and cholecystokinin-expressing GABAergic neurons modulate depressive and anxiety-like behaviors.** *Translational psychiatry*
  Asim, M., Wang, H., Waris, A., He, J.
  2024; 14 (1): 418
- **Cholecystokinin neurotransmission in the central nervous system: Insights into its role in health and disease.** *BioFactors (Oxford, England)*
  Asim, M., Wang, H., Waris, A., Qianqian, G., Chen, X.
  2024
- **Shedding light on cholecystokinin's role in hippocampal neuroplasticity and memory formation.** *Neuroscience and biobehavioral reviews*
  Asim, M., Wang, H., Chen, X.
  2024; 159: 105615
- **Potentiated GABAergic neuronal activities in the basolateral amygdala alleviate stress-induced depressive behaviors.** *CNS neuroscience & therapeutics*
  Asim, M., Wang, H., Chen, X., He, J.
  2024; 30 (3): e14422
- **Cholecystokinin B receptor antagonists for the treatment of depression via blocking long-term potentiation in the basolateral amygdala.** *Molecular psychiatry*
  Zhang, X., Asim, M., Fang, W., Md Monir, H., Wang, H., Kim, K., Feng, H., Wang, S., Gao, Q., Lai, Y., He, J.
  2023
- **Ketamine attenuates the PTSD-like effect via regulation of glutamatergic signaling in the nucleus accumbens of mice.** *Molecular and cellular neurosciences*
  Asim, M., Hao, B., Waris, A., Liang, Y. M., Wang, X. G.
  2022; 120: 103723
- **Ketamine for post-traumatic stress disorders and it's possible therapeutic mechanism.** *Neurochemistry international*
  Asim, M., Wang, B., Hao, B., Wang, X.
  2021; 146: 105044

- **Ketamine Alleviates Fear Generalization Through GluN2B-BDNF Signaling in Mice.** *Neuroscience bulletin*
  Asim, M., Hao, B., Yang, Y. H., Fan, B. F., Xue, L., Shi, Y. W., Wang, X. G., Zhao, H.
  2020; 36 (2): 153-164
- **CB1 Receptor Signaling: Linking Neuroplasticity, Neuronal Types, and Mental Health Outcomes.** *Neurochemistry international*
  Gao, Q., Asim, M.
  2025: 105938
- **A Comprehensive Overview of the Current Status and Advancements in Various Treatment Strategies against Epilepsy** *ACS PHARMACOLOGY & TRANSLATIONAL SCIENCE*
  Waris, A., Siraj, M., Khan, A., Lin, J., Asim, M., Alhumaydh, F. A.
  2024
- **Unraveling the Role of Cholecystokinin in Epilepsy: Mechanistic Insight Into Neuroplasticity.** *Neurochemistry international*
  Asim, M., Qianqian, G., Waris, A., Wang, H., Lai, Y., Chen, X.
  2024: 105870
- **The dilemma of epilepsy diagnosis in Pakistan.** *Diagnosis (Berlin, Germany)*
  Waris, A., Asim, M., Ullah, A.
  2024; 11 (3): 333-334
- **Phytotherapeutic options for the treatment of epilepsy: pharmacology, targets, and mechanism of action** *FRONTIERS IN PHARMACOLOGY*
  Waris, A., Ullah, A., Asim, M., Ullah, R., Rajdoula, M., Bello, S., Alhumaydhi, F. A.
  2024; 15: 1403232
- **Various pharmacological agents in the pipeline against intractable epilepsy** *ARCHIV DER PHARMAZIE*
  Waris, A., Asim, M., Ullah, A., Alhumaydhi, F. A.
  2024; 357 (9): e2400229
- **Altered neurotransmission in stress-induced depressive disorders: The underlying role of the amygdala in depression.** *Neuropeptides*
  Asim, M., Wang, H., Waris, A.
  2023; 98: 102322
- **Recent advancement, immune responses, and mechanism of action of various vaccines against intracellular bacterial infections.** *Life sciences*
  Ali, A., Waris, A., Khan, M. A., Asim, M., Khan, A. U., Khan, S., Zeb, J.
  2023; 314: 121332
- **Applications of Various Types of Nanomaterials for the Treatment of Neurological Disorders.** *Nanomaterials (Basel, Switzerland)*
  Waris, A., Ali, A., Khan, A. U., Asim, M., Zamel, D., Fatima, K., Raziq, A., Khan, M. A., Akbar, N., Baset, A., Abourehab, M. A.
  2022; 12 (13)