Yun Hwang

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Education

Stanford University Palo Alto, CA
Ph.D. student in Bioengineering

Johns Hopkins University Baltimore, MD
B.S. in Applied Mathematics & Statistics and Neuroscience

Research

Sarma lab, Johns Hopkins University **2022–2023**
Research Assistant

- Recorded local field potentials in the ventroposterior lateral nucleus in rats while giving nociceptive nerve stimulation to construct a transfer function model of the nociceptive circuit.
- Designed a model based closed-loop electrical stimulation strategy to treat chronic pain.

Kadam lab, Johns Hopkins University **2020–2022**
Research Intern

- Performed subdural EEG surgeries and analysis to discover electrophysiological biomarkers of Syngap1$^{+/-}$ mice.
- Validated the existence of the biomarkers in patients with SYNGAP1$^{+/-}$ and assessed the efficacy of Perampanel as a treatment.

Snyder lab, Johns Hopkins University **2018–2020**
Research Intern

- Designed and performed ligand binding assays to compute the binding affinity of BASP1 as a potential cocaine receptor.
- Analyzed the structural determinants of binding by comparing cocaine with its structural and functional analogs.

Writing/Presentation

Yun Hwang, Simon Ammanuel (2022). *System and Method to Identify and Use Brain Wave Signal Biomarkers.* (US Patent App. No. 63/412,256).

Yun Hwang, Brennan Sullivan, Rick Huganir, Shilpa D. Kadam (2022). *Perampanel alleviates sleep-deprivation induced gamma dysregulation in juvenile SynGAP1$^{+/-}$ mice*. (Manuscript in progress).

Siddharth Gupta, **Yun Hwang**, Nathasha Ludwig, Julia Henry, Shilpa D. Kadam (2023). *Off-label use of low-dose perampanel trialed in a 25-month girl with pathogenic SYNGAP1 variant.* Frontiers in Neurology. doi: 10.3389/fneur.2023.1221161. PMCID: PMC10469904

Yun Hwang (2022). *Low-dose Perampanel rescues sleep deprivation-induced gamma dysregulation in juvenile Syngap1$^{+/-}$ mice*. Pediatric Neurology Conference. (Invited talk)

Maged M. Harraz, Adarsha P. Malla, Evan R. Semenza, Maria Shishikura, Manisha Singh, **Yun Hwang**, In Guk Kang, Young Jun Song, Adele M. Snowman, Pedro Cortes, Senthilkumar S. Karuppagounder, Ted M. Dawson, Valina L. Dawson, Solomon H. Snyder (2022). *A high-affinity cocaine binding site associated with the brain acid soluble protein 1.* Proceedings of the National Academy of Sciences. https://doi.org/10.1073/pnas.2200545119 PMCID: PMC9169839.

Yun Hwang, Kripi Singapuri, Sullivan Brennan, Preeti Vyas, Anjali Devireddy, Shilpa D. Kadam (2021). *Sleep-Deprivation Aggravates Cortical Gamma Dysregulation in Syngap1$^{+/-}$ mice.* American Epilepsy Society (Poster presentation).

Yun Hwang, Shilpa D. Kadam (2021). *Targeting Epileptogenesis: A conceptual black hole or light at the end of the tunnel.* Epilepsy Currents. https://doi.org/10.1177/15357597211030384

Maged M. Harraz, Adarsha P. Malla, Evan R. Semenza, Maria Shishikura, Manisha Singh, **Yun Hwang**, In Guk Kang, Young Jun Song, Adele M. Snowman, Pedro Cortes, Senthilkumar S. Karuppagounder, Ted M. Dawson, Valina L. Dawson, Solomon H. Snyder (2022). *Cocaine Receptor Identified as BASP1.* Undergraduate Research Symposium (Poster presentation).

Papers and slides of my work can be found from my personal website: www.yunhwang.com