

M Windy McNerney, PhD

Dr. M. Windy McNerney is the Director of Biological Sciences for the MIRECC at the Department of Veterans Affairs in Palo Alto, and a Clinical Associate Professor (Affiliated) at Psychiatry and Behavioral Sciences at Stanford School of Medicine. Dr. McNerney holds a particular passion for not only understanding the neurophysiology and biochemistry of mental health diseases, but also advocating for these invisible diseases. Her research focuses on neurodegeneration, depression, TBI, PTSD, and addiction. She is collaborating with researchers to integrate brain imaging and biochemical markers in hopes to better understand these diseases. She also is taking a lead role at the VA in investigating the biochemistry of magnetic brain stimulation and is the leader of the NeuroNado Laboratory. At Stanford University, she is the professor of two popular courses examining the biological and societal issues surrounding substance use disorder, with a major focus on opioids such as fentanyl. She has individually mentored over 25 students from underrepresented groups in STEM activities and leads monthly seminars aimed at facilitating career development. In her free time, she is a community advocate for the treatment of mental health and educates groups about the dangers of fentanyl.

She earned her BS from UC Davis and her PhD from the University of Notre Dame. While at ND, she interned at NASA Ames on Human Factors Engineering. She then went on to a postdoctoral position at Lawrence Livermore National Laboratory (DOE), and then completed a fellowship at the WRIISC program at the VA and Stanford University.

Selected Publications:

McNerney MW, Gurkoff G, Berryhill M (2023). The rehabilitation potential of neurostimulation for mild traumatic brain injury in animal and human studies. Brain Sciences, 13, 1402.

McNerney MW, Kraybill EP Narayanan S, Mojabi F, Venkataramanan V, Heath A (2023). Memory-related hippocampal brain-derived neurotrophic factor activation pathways from repetitive transcranial magnetic stimulation in the 3xTg-AD mouse line. Experimental Gerontology, 183, 11323.

Shuken, S, McNerney MW (2023). Cost and benefits for popular p-value correction methods I three models of quantitative omic experiments. Analytical Chemistry, 95, 2732.

McNerney MW, Heath A, Narayanan S, Yesavage J (2022). Repetitive transcranial magnetic stimulation improves brain-derived neurotrophic factor and cholinergic signaling in the 3xTgAD mouse model of Alzheimer’s disease. Journal of Alzheimer’s Disease, 86, 499..

Heath AM, Brewer M, Yesavage J, McNerney MW. (2021). Improved object recognition memory using post-encoding

repetitive transcranial magnetic stimulation. Brain Stimulation, 15, 78.

Yang AC, Vest RT, Kern F, Lee DP, Agam M, Maat CA, Losada PM, Chen MB, Schaum N, Khoury N, Toland A, Calcuttawala K, Shin H, Palovics R, Shin A, Wang EY, Luo J, Gate D, Schultz-Schaeffer WJ, Chu P, Siegenthalar J, McNerney MW, Keller A, Wyss-Coray T (2022). A human brain vascular atlas reveals diverse mediators or Alzheimer's disease. Nature, 603, 885.

McNerney MW, Hobday T, Cole B, Ganong R, Winas N, Matthews D, Hood J, Lane S (2019). Objective classification of mTBI using machine learning on a combination of frontal electroencephalography measurements and self-reported symptoms. Sports Medicine Open, 4, 14.

McNerney MW, Sheng T, Nechvatal JM, Lee A, Lyons D, Adamson M (2018). Integration of neural and epigenetic contributions to posttraumatic stress symptoms: The role of hippocampal volume and glucocorticoid receptor gene methylation. PLOSONE, e0192222.

Bennion BJ, Be NA, McNerney MW, Lao V, Carlson E, Valdez CA (2017). Predicting a drug's membrane permeability: A computational model validated with in vitro permeability assay data. Journal of Physical Chemistry, B, 121, 5228.

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