

Michael Yassa

Professor and Chancellor's Fellow at UC Irvine

Irvine, CA, US

Michael Yassa is interested in how learning and memory mechanisms are altered in aging and neuropsychiatric disease.

Biography

Michael Yassa's laboratory is interested in how the brain learns and remembers information, and how learning and memory mechanisms are altered in aging and neuropsychiatric disease. The central questions in their research are: What are the neural mechanisms that support learning and memory? How are memory circuits and pathways altered in the course of aging, dementia, and neuropsychiatric disorders such as depression and anxiety? How can we identify early preclinical biomarkers that can distinguish between normal and pathological neurocognitive changes so that we can better design diagnostic and therapeutic tools. To address these questions, Yassa develops and refines cognitive assessment tools that specifically target memory processes and computations, such as pattern separation. Yassa's lab also develops, optimizes, and uses a host of advanced brain measurement techniques including high-resolution structural, functional, and diffusion MRI, PET, EEG, and intracranial recordings (ECoG) in patients, to explore the brain's architecture at very fine levels of detail. Yassa's lab combines these approaches with more traditional psychophysics including measurements of galvanic skin response (skin conductance), heart rate variability, and eye tracking. They are also working with collaborators to develop novel platforms for cellular resolution functional imaging in awake, behaving animals using novel MRI tracers. Finally, we are actively developing and testing several pharmacological and nonpharmacological cognitive enhancement interventions in older adults at risk for dementia, including studies of physical exercise.

Areas of Expertise

Neurobiology and Behavior, Aging and Alzheimer's Disease, Memory and Disease, Memory, Neuropsychiatric Disorders

Affiliations

American Psychological Association, Cognitive Neuroscience Society, International Neuropsychological Society

Education

UC Irvine

PhD Neurobiology and Behavior

The Johns Hopkins University

MA Psychological and Brain Sciences

Accomplishments

Ossoff Scholars Award in Cognitive Disorders Research

2011 Alzheimer's Treatment Center, Johns Hopkins Medicine

Roger W. Russell Scholar's Award in the Neurobiology of Learning and Memory

2010 Center for Neurobiology of Learning and Memory

Carl W. Cotman Scholar's Award in the Neurobiology of Neurological Disorders

2010 MIND Institute, University of California, Irvine

Fine Science Tools Travel Award in Neuroscience

2010 University of California, Irvine

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