

The Friedman Brain Institute Announces 2026 FBI Research Scholars

On behalf of the Philanthropic Leadership Council of The Friedman Brain Institute, we are pleased to announce the 2026 recipients of The FBI Research Scholars Awards.

Joseph and Nancy DiSabato Research Scholar Award



Scott Russo, PhD
Professor, Neuroscience, Psychiatry, Immunology & Immunotherapy



Rachel Fremont, MD
Assistant Professor, Psychiatry & Neuroscience



James Murrough, MD, PhD
Adjunct Associate Professor, Psychiatry



Zahi A Fayad, PhD
Director, Molecular & Interventional Radiology, Medicine, Cardiology & Artificial Intelligence & Human Health



Priti Balchandani, PhD
Professor, Diagnostic, Molecular & Interventional Radiology, Neuroscience, Psychiatry & Artificial Intelligence & Human Health

Non-Invasive Mapping of Brain-Immune Clearance in Depression with CSF-STREAM

The brain's glymphatic system clears waste and regulates immune signaling by shuttling cerebrospinal fluid (CSF) through perivascular spaces. Disruption by aging, sleep disturbance, or chronic stress may promote neuroinflammation and mood symptoms. Patients with major depressive disorder (MDD) show evidence of glymphatic impairment and an enlargement of perivascular spaces, especially in those with a history of trauma. Preclinical studies link stress to lymphatic dysfunction, allowing peripheral immune factors to enter the brain and exacerbate depression-like behavior, yet human evidence remains correlational. We propose a one-year pilot using CSF-specific MRI to dynamically assess CSF flow and test reversibility of clearance deficits in MDD. We hypothesize that impaired CSF mobility is associated with a biologically distinct MDD subtype, particularly in individuals with elevated trauma or inflammation.

Nash Family Research Scholar Award



Tristan Shuman, PhD
Associate Professor, Neuroscience



Madeline Fields, MD
Professor, Neurology



Lara Marcuse, MD
Professor, Neurology



Ignacio Saez, PhD
Associate Professor, Neuroscience, Neurosurgery & Neurology

Towards a neuropsychiatric brain-computer interface: identifying and controlling pathological brain states in human epilepsy patients

Neuropsychiatric disorders such as epilepsy and major depression cause debilitating changes to behavior, but there is tremendous variability in symptoms from day to day that remains poorly understood. These fluctuations in symptoms must be reflected in changing neural activity patterns or "brain states" that can be identified and disrupted to treat these disorders. This project will use intracranial neural recordings in epilepsy patients to identify the precise patterns of brain activity that predict whether a patient will have seizures or show symptoms of depression. This work will develop the core features of a neuropsychiatric brain-computer interface to control the symptoms of neurological disorders.

Jane Martin and Stuart Katz Research Scholar Award



Michael Lazarus, PhD
Associate Professor, Pharmacological Sciences & Graduate Education



Yi Shi, PhD
Associate Professor, Pharmacological Sciences

Discovery of Lipophagy Activators for Neurodegenerative Diseases

New therapeutic strategies are desperately needed for Alzheimer's Disease (AD). One emerging pathway that has recently garnered attention is autophagy, a highly conserved catabolic pathway. One type of autophagy that has been the focus of recent work in autophagy is lipophagy, the recycling of lipid droplets. Neutral lipids are stored in organelles called lipid droplets, which can then be broken down and recycled through autophagic processes. The goal of this project is to identify novel small molecule activators of lipophagy and validate their targets, as a way to develop selective chemical probes to study lipophagy in AD.

Glickenhau Research Scholar Award



Allison C Waters, PhD
Assistant Professor, Psychiatry and Neuroscience



Joohi Jimenez-Shahed, MD
Professor, Neurology, Movement Disorders and Neurosurgery



Emmanuel Doring, MD
Associate Professor, Neurology, Movement Disorders, Medicine, Pulmonary, Critical Care & Sleep Medicine



Rachel Fremont, MD
Assistant Professor, Psychiatry

Closed-Loop Neuromodulation at Home to Enhance Deep Sleep in Parkinson's Disease

Sleep disruption in Parkinson's disease is not just a symptom but an early signal and a severity multiplier, impacting memory, mood, and daily function. This project tests an emerging treatment strategy to enhance deep sleep at home using precisely timed, noninvasive brain stimulation. Wearable EEG and bedside computing enable stimulation to be timed to the brain's slow-wave rhythms as they occur. We will evaluate feasibility and determine whether this approach produces meaningful gains in deep sleep for people with Parkinson's. The larger aim is to develop a scalable, home-based platform for sleep measurement and intervention.

Lipschultz Research Scholar Award



Brian Sweis, MD, PhD
Assistant Professor, Neuroscience & Psychiatry



Jonathan M DePierro, PhD
Professor, Psychiatry

Translational neuroeconomic investigation of stress-modulated ensembles in regret processing

Chronic stress can distort how individuals learn from past experiences, contributing to mood disorders such as depression. This project examines how stress reshapes counterfactual thinking – the ability to consider how alternative actions might have produced better outcomes – and how these reflections guide future decisions. These valuation processes form the computational basis of sensitivity to regret, yet their underlying mechanisms remain largely unknown. By combining innovative cross-species behavioral paradigms rooted in neuroeconomics with cutting-edge neural imaging and circuit manipulation approaches, this work will define how stress-sensitive ensembles in the nucleus accumbens encode forgone outcomes, providing insight into maladaptive decision-making in depression.

Fascitelli Research Scholar Award



Jinye Dai, PhD
Assistant Professor, Neuroscience



Scott Russo, PhD
Assistant Professor, Genetics & Genomic Sciences

Unraveling the Mechanisms of Social Approach-Withdrawal Conflict Induced by Adolescent Isolation Stress

Social connection is essential for health, yet isolation during adolescence can produce lasting brain changes and increase the risk of mental illness. In a mouse model of adolescent isolation stress, animals initially approach a social partner but rapidly shift to freezing and withdrawal, revealing a conflict between social drive and threat avoidance. We hypothesize that this behavior is driven by stress-induced remodeling of social circuit communication and serotonin signaling. We will integrate activity-based cell labeling, real-time serotonin monitoring, synaptic physiology, single-cell profiling, and targeted pharmacology to define causal mechanisms and test rescue strategies. This work will identify actionable targets for treating stress-related disorders.

Richard and Susan Friedman Research Scholar Award



Roberto Gulli, PhD
Assistant Professor, Psychiatry



Ignacio Saez, PhD
Associate Professor, Neuroscience, Neurosurgery & Neurology



Fedor Panov, MD
Associate Professor, Neurosurgery

High-density human electrophysiology: towards a cellular-level understanding of human cognition

Human cognition depends on the flexible acquisition and deployment of abstract rules, yet we lack a cellular-resolution map of the circuits that support this capacity. We will combine high-density Neuropixels recordings with intracranial electrophysiology in awake neurosurgical patients to directly measure thousands of human hippocampal neurons after learning. Building on primate work showing dynamic shifts in representational geometry from prefrontal cortex to hippocampus, we test whether rapid human rule learning produces geometric neuronal reorganization and whether self-reported strategies map onto distinct population codes. This interdisciplinary effort will bridge non-human primate and human neuroscience, enabling a next-generation cellular understanding of human cognition.

Ram Sundaram and Preethi Krishna Research Scholar Award



Yael Jacob, PhD
Assistant Professor, Psychiatry



Laurel Morris, PhD
Adjunct Associate Professor, Psychiatry

FISHER: A Novel Digital Intervention to Improve Symptoms Related to Depression

People with Major Depressive Disorder (MDD) often show stronger "negative bias" and a reduced "positive bias" when interpreting their environment. We developed a novel digital intervention (an online game - FISHER) designed to help people notice and interpret more positive information in their environment by changing activity in the amygdala, a brain region involved in learning about positive experiences and balancing negative and positive bias. In this project, we will use brain imaging to examine whether our new intervention can modify amygdala activity and improve emotional processing in individuals with MDD.