The Friedman Brain Institute Announces 2021 FBI Research Scholars

On behalf of the Philanthropic Leadership Council of The Friedman Brain Institute, we are pleased to announce the 2021 recipients of The FBI Research Scholars Awards.

Fascitelli Research Scholar Award

Feda Richner (MD/FACQ Student)

Katherine Guttmann, MD

Benjamin Glicksberg, MD

Madeline Fields, MD

Helen Lo-Voge-Massoud, MD

Multimodal Seizure Monitoring in the Neonatal Intensive Care Unit

Neurologic changes in many clinical disorders in the Neonatal Intensive Care Unit and are assessed initially by physical exam, which is conducted at limited time points, can be delayed, is variable between examiners, and may not detect subtle changes. Neonatal seizures are subtle and challenging to accurately diagnose. This can lead to delayed treatment, increased morbidity, and increased mortality. This project will develop novel, objective, neurometric metrics to predict seizure activity. This research lays the groundwork for novel information, which promises to improve neonatal outcomes but has been limited mainly to other clinical care disciplines.

Lipschultz Research Scholar Award

Deanna L. Benven, PhD

J. Javier Brain-Cordero, PhD

Michael Lazcano, PhD

Targeting Autophagy for Alzheimer’s Disease

There is emerging evidence that autophagy dysfunction is involved in the pathogenesis of Alzheimer’s disease (AD). Early pathologic changes, such as neurofibrillary tangles and amyloid plaques, are formed when normal autophagy is impaired. A deficiency of autophagic vacuoles and lysosomal dysfunction are well-recognized in AD. The challenges of studying autophagy in AD reside in the complex nature of autophagy pathway, and the lack of specific markers to characterize the pathway in vivo. In this project, we propose to study the role of autophagy in AD by testing small molecule inhibitors and activators of different stages of autophagy in different model systems of AD. The goals are to develop novel treatments for Alzheimer’s disease by understanding the components of the correlation between the autophagic pathway and AD pathogenesis.

Targeting Autophagy for Alzheimer’s Disease

Katherine Guttmann, MD

Associate Professor, Division of Neonatology, Department of Pediatrics, Newborn Medicine, and Neonatology, Department of Pediatrics

J. Javier Brain-Cordero, PhD

Assistant Professor, Division of Neurosurgery, Department of Neurological Surgery, and Assistant Professor, Neurology, Department of Neurology

Michael Lazcano, PhD

Assistant Professor, Neuroscience and Pharmacology Sciences

Satter Research Scholar Award

Viviana Zurchinis, MD

Benjamin TenOever, PhD

Decoding Adaptive Responses of Dorsal Root Ganglia to Respiratory SARS-CoV-2 Infection

Dorsal root ganglia represent a highly adaptive peripheral neuronal population that undergoes rapid transcriptional changes in response to insult, including inflammation and virus infection. SARS-CoV-2 respiratory infection leads to substantial lung inflammation and is a primary cause for increased mortality and declining respiratory function. The goal of this project is to elucidate the susceptibility of the autonomic nervous system to SARS-CoV-2 infection, using dorsal root ganglia from mice infected with SARS-CoV-2 virus. This research will help to shed light on the mechanisms of respiratory changes associated with respiratory infection, and use behavior tests to identify the developing of nervous system injuries that may alter long-term lung function and neuropathic pain.

Sutherland Research Scholar Award

J. Javier Brain-Cordero, PhD

Michael Lazcano, PhD

Targeting Autophagy for Alzheimer’s Disease

Michael Lazcano, PhD

Assistant Professor, Neuroscience and Pharmacology Sciences

Closing a Translational Gap by Linking a Preclinical Network to Social Discrepancies Across Species

Implied social processing is a hallmark of several psychiatric disorders including Schizophrenia (SCH) and Autism Spectrum Disorder (ASD). The goal of this translational study is to bridge insights from specific circuitry in rodents to human (and back) to advance our understanding of social processing deficits in psychiatric disorders starting with SCH. We will focus on the same circuitry and function, and adopt an equivalent methodological imaging approach in both humans and mice, to test the hypothesis that the pheno-type-cohort network is associated with social cognition and social behavior.

Owens Research Scholar Award

Karen Phillips, PhD

Jessica M. Shaw, PhD

Characterizing the Development of Respiratory Tissue Inflammation in the Neonate

Respiratory infection in the neonatal intensive care unit results in significant morbidity and mortality. Little is known about the relative contributions of innate and adaptive immune responses to tissue inflammation, or the role of cytokines in the pathogenesis of respiratory diseases. This project will use an experimental model of respiratory infection in the preterm neonatal rat to analyze the role of innate and adaptive immunity in the development of lung inflammation and identify potential therapeutic targets.

Neumann-Deglus Research Scholar Award

Pema Rounce, MD, PhD

Assistant Professor, Psychiatry and Genetics and Genomic Sciences

Joseph and Nancy DiSabato Research Scholar Award

John F. Fulhake, PhD

Assistant Professor, Neuroscience and Pharmacology Sciences

Neurochemical Mapping of the Autonomic Nervous System

The challenge lies in identifying regions of the brain that control autonomic function and identifying network activity domains that are disrupted in schizophrenia. By mapping the autonomic nervous system across multiple sites, this project will provide novel insights into the brain’s autonomic control and potential mechanisms underlying schizophrenic illness.

Fascitelli Research Scholar Award

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