

# News Release

## Funding Cutting-Edge Neuroscience Research

### Brain Research Foundation Announces Recipients of 2016 Scientific Innovations Award

- Brain Research Foundation to award a combined \$600,000 to four neuroscientists from leading U.S. research institutions
- Scientific Innovations Award grants will advance scientific research to better understand, treat and cure neurological disorders

*CHICAGO, February 11, 2016* – [Brain Research Foundation](#), a non-profit organization that funds the nation's most innovative neuroscience research, today announced the recipients of its 5<sup>th</sup> annual Scientific Innovations Award (SIA). Four SIA winners were selected based on their progressive approach to the understanding and prevention of debilitating brain disorders. Each winner will receive a \$150,000 grant to complete research in their respective fields of study.

“Brain Research Foundation is founded on the values of innovation, exploration and discovery,” said Terre A. Constantine, Ph.D., Executive Director and CEO of the Foundation. “The scientists selected to receive the Scientific Innovations Award demonstrate those key values in their approach to neuroscience research. We are confident that the research made possible through such grants will accelerate new treatments and cures for brain disorders.”

Brain Research Foundation 2016 Scientific Innovations Award recipients include:

**Thomas Biederer, Ph.D. (Tufts University)**

**Research Title:** Mapping and restoring synaptic connectivity in brain disorders

**Applications:** Autism Spectrum Disorders, Schizophrenia

Dr. Biederer's research focuses on how nerve cells in the brain communicate with each other through cellular connections called synapses. Synaptic abnormalities are linked to autism spectrum disorders and schizophrenia. This proposal aims to identify the underlying disease-linked synaptic changes and investigate novel interventions.

**Yamuna Krishnan, Ph.D. (The University of Chicago)**

**Research Title:** Dissecting microglial function in neuro-inflammation by mapping nitric oxide in real time in the living brain

**Applications:** Alzheimer's, Parkinson's, Stroke

Nitric oxide (NO), a gaseous chemical messenger, normally functions as a neuroprotective agent in the brain. However, too much NO is highly toxic and kills nerve cells. In excess amounts, NO causes neuro-inflammation leading to neurodegeneration – as seen in conditions like stroke, Alzheimer's, Parkinson's, and dementia. Dr. Krishnan's research seeks to develop improved quantitative imaging of NO to better understand its role in the brain.

**Jeffrey Macklis, M.D., Ph.D. (Harvard University)**

**Research Title:** Specificity and defects of neuronal circuitry in health and disease: Growth cone proteomes and RNA

**Applications:** Huntington's Disease

Many devastating developmental and neurodegenerative diseases, such as Huntington's disease, affect nerve cell connections. The wiring of nerve cell circuits is performed by tiny structures called "growth cones" (GCs). Dr. Macklis's research seeks to uncover the molecules that control the different GCs responsible for the circuitry that makes us think, move, sense, and behave. Understanding the nerve cell connections controlled by GCs might uncover what goes wrong in a disease state.

**Fan Wang, Ph.D. (Duke University)**

**Research Title:** Unravel the neuronal pathways underlying anesthesia-induced loss of consciousness

**Applications:** Anesthesia, Unconsciousness, Coma

General anesthesia is a reversible, drug-induced brain state comprised of unconsciousness, amnesia, analgesia and immobility with stability and control of vital physiological systems. Yet the mechanism by which anesthetic drugs induce such a brain state remains largely a mystery. Dr. Wang's study will explore the precise neural pathways that suppress consciousness, with a potential to reveal a critical therapeutic target for restoring consciousness to patients in comas or vegetative states.

**About the Scientific Innovations Award**

Brain Research Foundation's Scientific Innovations Award supports innovative discovery research in both basic and clinical neuroscience. The funding supports creative and cutting-edge science in well-established research laboratories, under the direction of reputable investigators. SIA grants are ideal for research projects that may be too innovative and speculative for traditional funding sources, but still have a high likelihood of producing important findings in a very short timeframe. It is expected that research supported by an SIA grant will yield high-impact findings, resulting in further grant application funding and publication in prominent scientific journals.

All grant proposals funded by Brain Research Foundation, including those for the Scientific Innovations Award, are reviewed and rated by the Foundation's [Scientific Review Committee](#). The committee is comprised of esteemed researchers from leading neuroscience institutions across the country.

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**About Brain Research Foundation (<http://www.theBRF.org/>)**

Brain Research Foundation supports cutting-edge neuroscience research and programming that lead to novel treatments and prevention of all neurological diseases in children and adults. We deliver this commitment through seed grants, which provide initial funding for innovative research projects, as well as educational programs for researchers and the general public.

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