



Foundation for the NIH to Award Lurie Prize in Biomedical Sciences to Karl Deisseroth for Innovative Advances in Brain Research and Technology

Medal Recognizes the Development of Optogenetics and CLARITY, New Tools to Understand the Brain

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The Foundation for the National Institutes of Health (FNIH) has selected Karl Deisseroth, M.D., Ph.D., as the 2015 winner of the Lurie Prize in Biomedical Sciences for the development of optogenetics and CLARITY as tools to study the functions of cells, especially neurons. Dr. Deisseroth is being recognized for leading the development of optogenetics, a technology for controlling cells with light to determine function, as well as for CLARITY, a method for transforming intact organs into transparent polymer gels to allow visualization of biological structures with high resolution and detail. The Lurie Prize will be presented to Dr. Deisseroth on May 20, 2015 in Washington, D.C.

Dr. Deisseroth is the D.H. Chen Professor of Bioengineering and of Psychiatry and Behavioral Sciences at Stanford University and a Howard Hughes Medical Institute Investigator. He first pioneered the field of optogenetics, which has greatly expanded our understanding of normal behavior as well as of diseases like Parkinson's, schizophrenia and depression, by combining genetic manipulation and optics to activate or deactivate precisely targeted brain cells. In addition to leading the development of optogenetics, his team also pioneered CLARITY, a chemical engineering method for making biological tissues such as the intact brain fully transparent and accessible, and which has already enabled scientists to observe intricate molecular-resolution details within healthy brains as well as brains from Alzheimer's disease and autism patients.

"Karl Deisseroth has opened exciting new fields of scientific endeavor that transform how we view and understand the brain," said Charles A. Sanders, M.D., Chair of the FNIH. "This research provides great hope to understand biology at a deeper level and, in time, to assist people suffering from diseases such as Parkinson's and depression."

Dr. Deisseroth was selected for the award by a jury of six distinguished biomedical researchers, chaired by Dr. Solomon H. Snyder, Director-Emeritus of The Solomon H. Snyder Department of Neuroscience at The Johns Hopkins University and Vice Chairman for Science of FNIH.

“We are delighted to bestow the Lurie Prize to Dr. Deisseroth for his revolutionary work studying the complex circuitry and function of the brain,” said Dr. Maria. C. Freire, President and Executive Director of the FNIH. “Today’s outstanding biomedical advances, such as optogenetics and CLARITY, will make their way into standard laboratory practice and ultimately help to alleviate human suffering.”

Endowed by philanthropist and FNIH Board member Ann Lurie, the Lurie Prize recognizes outstanding achievement by a promising scientist age 52 or younger, and includes a \$100,000 honorarium. Ms. Lurie is president of the Ann and Robert H. Lurie Foundation, which she founded with her late husband, Robert, and the president of Lurie Holdings.

“Dr. Deisseroth’s accomplishments are opening up new ways to look at extraordinarily complex biological processes that offer great potential to help patients,” Ms. Lurie said. “We are proud to support this important work at the cusp of psychiatry and neurology.”

A member of the National Academy of Sciences and the Institute of Medicine, Dr. Deisseroth is a practicing psychiatrist. His work is supported by grants from the National Institutes of Health (NIH), the Defense Advanced Research Projects Agency (DARPA), the National Science Foundation (NSF), and the Howard Hughes Medical Institute, and he is a working group member for the NIH BRAIN Initiative, a program announced by President Obama to deepen science’s understanding of the human brain.

“It is a tremendous honor to receive the 2015 Lurie Prize, particularly since our work has its roots in basic science, and we could not have confidently predicted its impact on understanding of disease”, said Dr. Deisseroth. “I am deeply grateful to all of my students and fellows for their enormous contributions to the development and enablement of optogenetics and CLARITY.”

The previous Lurie Prize winners are Jennifer Doudna, Ph.D., from the University of California Berkeley (2014) and Ruslan M. Medzhitov, Ph.D., of Yale University (2013).

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About the Foundation for the NIH

The Foundation for the National Institutes of Health creates and manages alliances with public and private institutions in support of the mission of the NIH, the world’s premier medical research agency. The Foundation, also known as the FNIH, works with its partners to accelerate key issues of scientific study and strategies against diseases and health concerns in the United States and across the globe. The FNIH organizes and administers research projects; supports education and training of new researchers; organizes educational events and symposia; and administers a series of funds supporting a wide range

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