



NICHOLAS SCHIFF

Despite major advances in neuroscience, recovery of consciousness after brain injury remains poorly understood...how can doctors help victims awaken after years of impairment? At the origin of this challenge is the surprising degree of uncertainty of underlying brain function that may be present when confronted with patients at the bedside with very limited or no overt signs of behavioral responsiveness. Dr. Nicholas Schiff will review studies that have expanded the understanding of the potential for late recovery of substantial cognitive function and provide emerging insight into possible biological mechanisms that may lead to the underlying “circuit-level” recovery of consciousness. His talk will include examples of novel neuroimaging and the results of a thalamic stimulation on a brain-injured patient.

Nicholas Schiff is a physician-scientist with expertise in neurological disorders of consciousness. He is Associate Professor in the Department of Neurology and Neuroscience, Department of Public Health, and in the Graduate Program in Neuroscience at Weill Cornell Medical College. He directs the Laboratory of Cognitive Neuromodulation at Weill Cornell and is Adjunct Faculty at Rockefeller University.

In 2008, Schiff was named to *TIME Magazine's* “TIME 100” of the world’s most influential people for opening a new frontier in deep brain stimulation when he and his team helped to “awaken” a brain-damaged man who had been in a minimally conscious state for six years.

For videos and more information on Dr. Schiff, please visit www.stonybrook.edu/sb/mind

PREVIOUS SPEAKERS IN THIS SERIES

2009 • **Larry F. Abbott, Ph.D.**

Co-director, Center for Theoretical Neuroscience, Columbia University

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Department of Physiology and Biophysics, University of Washington

2006 • **Helen Fisher, Ph.D.**

Research Professor, Center for Human Evolutionary Studies
Department of Anthropology, Rutgers University

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2000 • **Paul Churchland, Ph.D.**

Professor of Philosophy, University of California at San Diego

1999 • **Michael Gazzaniga, Ph.D.**

Distinguished Professor, Dartmouth College

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Professor of Computational Biology, The Salk Institute

1997 • **Antonio Damasio, M.D., Ph.D.**

Professor of Neurology, University of Iowa

14th ANNUAL

MIND/BRAIN LECTURE SERIES

The Swartz Foundation’s scientific and philosophical perspective on theoretical neuroscience is that capabilities of the brain—from sensory perception to learning to consciousness—intrinsically derive from biophysical properties and anatomical pathways... *the mind is the brain at work.*

Recent neuroscience research has led us to better understand the relationship between the mind and the brain, requiring the collaboration of investigators from a wide range of disciplines: cognitive science, computer science, electrical engineering, mathematical physics, theoretical neurobiology, etc. The application of systems analysis to distributed brain dynamics is also providing a deeper interpretation of brain activity imaging and data analysis related to human behavior. The Swartz Foundation and Stony Brook University present this ongoing lecture series to acquaint the University community and the public with current research in neuroscience.

For more on the Mind/Brain Lecture Series, please visit www.stonybrook.edu/sb/mind

View this lecture live on our Web site.
Visit www.stonybrook.edu/sb/mind for details.



The Swartz Foundation

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Stony Brook University

and

The Swartz Foundation

are proud to present
an exploration into
the far reaches of the
human mind

with

Nicholas Schiff

Monday, March 15, 2010

at 4:30 pm

Staller Center for the Arts



*“What is necessary and sufficient to
recover consciousness and
communication? I don’t think we’re
going to get that answer in five years,
but we may just get further along the
way toward it.”*

*—Nicholas Schiff, as told to
Charlie Rose on his PBS TV show*

THE SWARTZ FOUNDATION

The Swartz Foundation was established by Jerry Swartz in 1994 to explore the application of physics, mathematics, and engineering principles to neuroscience, as a path to better understanding the mind/brain relationship.

To achieve these goals, the Swartz Foundation supports research at 11 centers for theoretical neuroscience: The Salk Institute, California Institute of Technology, New York University, University of California at San Francisco, Brandeis University, University of California at San Diego, Cold Spring Harbor Laboratory, and most recently, Columbia, Princeton, Yale, and Harvard universities. In general, our objective is to understand the distributed dynamics of brain activity and identify principles of brain function in relation to cognition and behavior. Targeted research projects range from experimental investigations of brain circuitry to computational modeling of large-scale neuronal networks to exploration of nonconscious mental processing—all utilizing physical and mathematical principles. The Swartz Foundation also sponsors conferences, workshops, seminars, and public lectures in brain science, as well as the annual Society for Neuroscience (SfN) Swartz Prize for Theoretical and Computational Neuroscience. Core themes have included communication in brain systems, neurobiology of decision making, and large-scale neural network modeling.

Dr. Jerome Swartz co-founded Symbol Technologies Inc. in 1975 and was its chairman of the board and chief scientist until retiring in 2004. Swartz received a B.E.E. degree from the City University of New York and a Ph.D. in electrical engineering from Brooklyn’s Polytechnic University, where he was the recipient of National Science Foundation and Ford Fellowships.



Swartz is an expert in the allied engineering physics fields of electro-optics, laser systems, and optical design, with particular application to new product development. He is credited with some 200 U.S. patents and 30 published papers. He is a member of the National Academy of Engineering and a Fellow of the IEEE. Under his leadership, Symbol Technologies was awarded the 1999 National Medal of Technology, the highest honor for technical innovation in the United States. Swartz is a trustee of the Stony Brook Foundation, Cold Spring Harbor Laboratory, and the University of California at San Diego.

More information is available at www.theswartzfoundation.org

14th ANNUAL SWARTZ FOUNDATION MINDBRAINLECTURE

PROBING THE MYSTERIES OF THE MIND

UNDERSTANDING THE RECOVERY OF CONSCIOUSNESS

Nicholas D. Schiff, M.D.

Director, Laboratory of
Cognitive Neuromodulation,
Weill Cornell Medical College, Cornell University



Monday, March 15, 2010

4:30 pm

Staller Center for the Arts, Main Stage
Stony Brook University



*Free Presentation
Intended for a General Audience*

