

13TH ANNUAL SWARTZ FOUNDATION MINDBRAINLECTURE

The Swartz Foundation

PROBING THE MYSTERIES OF THE MIND

SENSE FROM CHAOS:

CONTROLLING THE DYNAMIC NETWORKS OF THE BRAIN

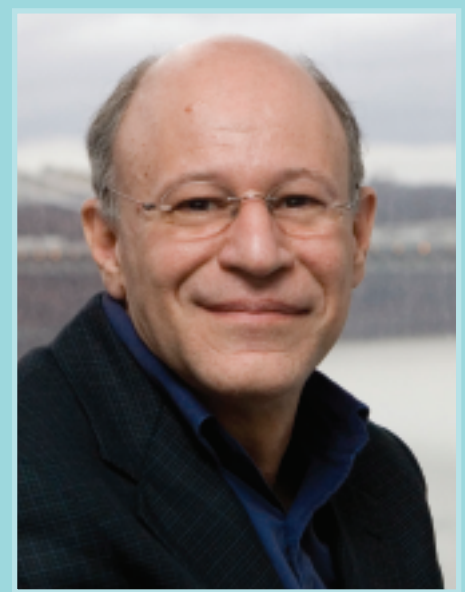
Larry F. Abbott, Ph.D.

Professor and Co-director, Center for Theoretical Neuroscience, Columbia University

Monday, March 2, 2009

4:30 pm

Staller Center for the Arts, Main Stage
Stony Brook University



Can a state of chaos actually be a good thing for the human mind? Activity recorded from neurons in the brain often looks random or chaotic. How do we make sense of the world and produce precisely controlled responses when so much of the activity in our brains is chaotic? Professor Larry Abbott will show how brain circuits can switch between chaotic and well-controlled patterns of activity, illustrating these points with computer demonstrations of network models. He will also discuss how chaos may be essential for a healthy brain and demonstrate what goes wrong when activity is insufficiently chaotic.

Larry Abbott is the William Bloor Professor of Theoretical Neuroscience at Columbia University and a recipient of an NIH Pioneer Award. His research in neuroscience involves the mathematical modeling and analysis of neurons and neural networks, using computer simulation to show how populations of neurons interact.

The Swartz Foundation sponsors the Mind/Brain Lecture Series in cooperation with the Department of Neurobiology and Behavior and Stony Brook University. For more information about the Foundation, please visit www.theswartzfoundation.org

For more details about this lecture, please visit www.stonybrook.edu/sb/mind



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