



**Michael E. Greenberg, Ph.D.
Nathan Marsh Pusey Professor of Neurobiology
Chair, Department of Neurobiology
Harvard Medical School**

Michael E. Greenberg is the Chair of the Department of Neurobiology and Nathan Marsh Pusey Professor at Harvard Medical School. He received his Ph.D. from the Rockefeller University in 1982 and carried out his postdoctoral research at New York University Medical Center. After joining the faculty at Harvard Medical School in 1986, Dr. Greenberg served first as the founding Director of the F.M. Kirby Neurobiology Center at Boston Children's Hospital and since 2008 as Chair of the Department of Neurobiology at Harvard Medical School.

Over the last three decades Dr. Greenberg has been a leader in the field of molecular neurobiology. His research seeks to understand how neuronal activity controls gene transcription to effect critical steps in synapse and neural circuit development. In addition to providing insight into the process of brain development, this research has contributed to the understanding of neurological diseases in which these processes have gone awry. This work began in 1984 with the discovery that growth factors induce the rapid and transient expression of a family of genes, Immediate Early Genes (IEGs) such as c-fos, whose functions are crucial for neuronal differentiation, cell survival, and adaptive responses. Dr. Greenberg's recent studies have used genomics to identify neuronal transcripts and cis-regulatory elements that respond to changes in synaptic activity, uncovering an activity-responsive transcriptional program that regulates the complexity of the dendritic arbor, the development of excitatory and inhibitory synapses, the composition of protein complexes at the pre- and post-synaptic sites, and the production of neuropeptides that control neural circuit development. These activity-regulated processes are critical for normal brain development and function, and defects in the activity-dependent gene program contribute to disorders of human cognition such as Rett Syndrome (RTT) and Angelman Syndrome (AS), two neurological disorders associated with syndromic autism. Understanding how the neuronal activity-dependent gene program functions may provide insight into how the dysregulation of this process leads to neurological diseases and, ultimately, may suggest therapies for treatment of disorders of cognitive function.

Dr. Greenberg is the recipient of a number of honors and awards for his research including the Edward M. Scolnick Prize in Neuroscience, the J. Allyn Taylor International Prize in Medicine, the Perl-UNC Neuroscience Prize and the Julius Axelrod Award for the Society of Neuroscience. He holds membership in the American Academy of Arts and Sciences and the National Academy of Science.