Town & Gown
UC San Diego

Ralph J. Greenspan, Ph.D.

Director, Center for Brain Activity Mapping
Associate Director, Kavli Institute for Brain and Mind
Professor of Neurobiology and Cognitive Science

Ralph Greenspan began working on the genetic and neurobiological basis of behavior in the fruit fly (Drosophila melanogaster). His work has ranged from the genetic control of nervous system development in the fruit fly and mouse, to genetic, molecular and neurobiological studies of innate and learned behaviors in the fruit fly.

In the course of this work, he has pioneered new approaches in the fruit fly that have had important implications for mammalian neurobiology, including the demonstration that the fruit fly has a sleep-like behavior similar to that of mammals; studies of physiological and behavioral consequences of mutations in a neurotransmitter system affecting one of the brain's principal chemical signals; studies making highly localized genetic alterations in the nervous system to alter behavior; and molecular identification of genes causing naturally occurring variation in behavior.

His current main interest is to understand the role of network-level activity in the nervous system and among the genes, motivated by a strong belief that the state of these networks is of major importance in determining behavior. He was one of the original six architects of the proposal to the White House Office of Science and Technology Policy that eventually became the B.R.A.I.N. Initiative and is the founding director of the Center for Brain Activity Mapping at UC San Diego.

Dr. Greenspan earned his B.A. and his Ph.D. in Biology at Brandeis University. His postdoctoral training was at University of California, San Francisco. Among his appointments, he has worked and taught at Princeton University, the Roche Institute of Molecular Biology, New York University and The Neurosciences Institute, San Diego. He joined the UC San Diego faculty in 2004, and holds adjunct positions at National Tsing Hua University, Hsinchu, Taiwan; Universidad de Valparaíso, Chile; and CAS-MPG Partner Institute for Computational Biology, Shanghai, China.