MODELING THE NAVIGATIONAL CIRCUITRY OF THE FLY

Navigation requires orienting oneself relative to landmarks in the environment, evaluating relevant sensory data, remembering goals, and convert all this information into motor commands that direct locomotion. I will present models, highly constrained by connectomic, physiological and behavioral data, for how these functions are accomplished in the fly brain.

Larry F. Abbott, PhD, is William Bloor Professor of Theoretical Neuroscience and Professor of Physiology and Cellular Biophysics (in Biological Sciences), Principal Investigator at Columbia's Zuckerman Institute and Codirector of Columbia's Kavli Institute for Brain Science.

Regarded as one of the leaders of theoretical neuroscience, he collaborates with experimentalists.

His current research focuses on building computer models to help us understand how large groups of neurons work together to perceive and respond to the world around us.