Partha P. Mitra, Ph.D.

Partha Mitra is the Crick-Clay Professor of Biomathematics at Cold Spring Harbor Laboratory in Cold Spring Harbor, NY. Dr. Mitra received his PhD in theoretical physics from Harvard in 1993. He worked in quantitative neuroscience and theoretical engineering at Bell Laboratories from 1993-2003 and as an Assistant Professor in Theoretical Physics at Caltech in 1996 before moving to Cold Spring Harbor Laboratory in 2003. Dr Mitra holds the H N Mahabala Chair Professorship (visiting) at IIT Madras (India) holds adjunct positions at NYU and Cornell Medical School. Dr Mitra is a fellow of the American Physical Society and a Senior Member of the IEEE.

Dr Mitra is interested in understanding intelligent machines that are products of biological evolution (particularly animal brains), with the basic hypothesis that common underlying principles may govern these "wet" intelligent machines and the "dry" intelligent machines that are transforming the present economy. Dr Mitra initiated the idea of brain-wide mesoscale circuit mapping, and his laboratory is involved in carrying out such mapping in the Mouse and the Marmoset (in collaboration with Japanese and Australian scientists at the RIKEN Brain Science Institute, Keio University and Monash University). As part of the Brain Initiative Cell Census Network, Dr Mitra has extended his work in modern quantitative neuroanatomy to cell-type specific data, including both morphological and transcriptomic analysis. Over a peta-voxel of whole brain imaging data from these projects at light microscopic resolution can be viewed at the website for the Brain Architecture Project (http://brainarchitecture.org/), which provides an open, virtual microscope into the detailed anatomy of the Mouse and Marmoset brains.

Dr. Mitra is the author of Observed Brain Dynamics (Oxford University Press) and has co-founded and co-directed summer courses at the Marine Biological Laboratories and the Cold Spring Harbor Laboratory on Neuroinformatics, Genome-Wide Data Analysis and Vertebrate Neuroanatomy. He founded a course on Machine Intelligence and Brain Research at IIT Madras.