

Lester Wolfe Workshop in Laser Biomedicine

Optogenetics - Probing the Brain with Light

This Lester-Wolfe Workshop covers a relatively new, but already a high-impact field called Optogenetics. It is concerned with the use of genetically encoded light-sensitive proteins like channel rhodopsins and high-speed optical methods for probing and controlling specifically targeted neurons within intact neural circuits. Light can be delivered at will to switch on or off specific groups of neurons thus providing answers to fundamental questions in neurobiology.

Optogenetics - Engaging the Brain Microcircuits with Light
Arto Nurmikko, Brown University

Engineering Light-gated Neurotransmitter Receptors
Stephanie Szobota, University of California, Berkeley

Optical Deconstruction of Sleep-wake Circuits in the Brain
Antoine Adamantidis, Stanford University

A New View of Neocortical Function: Integration of Optogenetic Control with High-resolution fMRI
Itamar Kahn, Harvard University

Tuesday, April 20, 2010
4:00 - 6:00 PM (Coffee 3:30PM)
Massachusetts General Hospital
Richard B. Simches Research Center, Room 3110
185 Cambridge Street, Boston
(located in Charles River Plaza next to Whole Foods Market and CVS)

Sponsored by the G. R. Harrison Spectroscopy Laboratory, MIT; MGH Wellman Center for Photomedicine; Harvard–MIT Division of Health Sciences and Technology; and CIMIT (Center for Integration of Medicine and Innovative Technology).