1. Record Nr. UNINA9910300409803321

Titolo	New Techniques in Systems Neuroscience / / edited by Adam D. Douglass
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-12913-9
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (309 p.)
Collana	Biological and Medical Physics, Biomedical Engineering, , 1618-7210
Disciplina	530 571.4 573.8 612.8
Soggetti	Biophysics Neurosciences Neurobiology Neuropsychology Biological and Medical Physics, Biophysics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	High Resolution Synaptic Connectomics -- Decoding the Transcriptome of Neuronal Circuits -- Fluorescent Protents for Neuronal Imaging -- The Voltage Imaging Frontier -- Discovery and Development of Spectrally-diverse Channelrhodopsins for Neurobiological Applications -- Optogenetics in Drosophila Melanogaster -- Optically Monitoring and Manipulating Brain and Behavior in C. Elegans -- Sensorimotor Integration in the Spinal Cord, from Behaviors to Circuits: New Toos to Close the Loop?- Patterned Photo-stimulation in the Brain -- Beyond Localization of Function: Dissecting a Neural Code with Optogenetics.
Sommario/riassunto	This volume is essential reading for anyone wishing to understand the recent explosion of experimental tools in neuroscience that now make it possible to manipulate, record, and understand neuronal activity within the intact brain, and which are helping us to learn how the many neurons that comprise a network act together to control behavior.

Leaders in the field discuss the latest developments in optogenetics, functional imaging, circuit mapping, and the application of these tools to complex biological problems. New Techniques in Systems Neuroscience Explores cutting-edge methodological developments and their biological motivations Covers state-of-the-art advances in optogenetics, imaging, circuit mapping, and the molecular characterization of individual neurons Describes key examples of how these methods have been applied in different model organisms Is appropriate for experts and those just entering the field alike.