1. Record Nr. UNINA9910156520503321

Autore	Kennedy Henry
Titolo	Micro-, Meso- and Macro-Connectomics of the Brain [[electronic resource] /] / edited by Henry Kennedy, David C. Van Essen, Yves Christen
Pubbl/distr/stampa	Cham, : Springer Nature, 2016 Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-27777-4
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (X, 166 p. 32 illus., 28 illus. in color.)
Collana	Research and Perspectives in Neurosciences, , 0945-6082
Disciplina	612.8
Soggetti	Neurosciences Neurology Neurology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Parcellations and connectivity patterns in human and macaque cerebral cortex -- Nanoconnectomics -- Inhibitory cell cypes, circuits and receptive fields in mouse visual cortex -- Form meets function in the brain: observing the activity and structure of specific neural connections -- The network for intracortical communication in mouse visual cortex -- The brain in space -- In-vivo connectivity in monkeys -- Connectome networks: from cells to systems -- Intra- and Inter-hemispheric connectivity supporting hemispheric specialization -- Genetics of the connectome and the ENIGMA project.
Sommario/riassunto	This book has brought together leading investigators who work in the new arena of brain connectomics. This includes ‘macro-connectome’ efforts to comprehensively chart long-distance pathways and functional networks; ‘micro-connectome’ efforts to identify every neuron, axon, dendrite, synapse, and glial process within restricted brain regions; and ‘meso-connectome’ efforts to systematically map both local and long-distance connections using anatomical tracers. This book highlights cutting-edge methods that can accelerate progress in elucidating static ‘hard-wired’ circuits of the brain as well as dynamic interactions that are vital for brain function. The power of connectomic approaches in

characterizing abnormal circuits in the many brain disorders that afflict humankind is considered. Experts in computational neuroscience and network theory provide perspectives needed for synthesizing across different scales in space and time. Altogether, this book provides an integrated view of the challenges and opportunities in deciphering brain circuits in health and disease.