1. Record Nr. UNINA9910136409003321

Autore	Tatjana Tchumatchenko
Titolo	Correlated neuronal activity and its relationship to coding, dynamics and network architecture [[electronic resource] /] / topic editors Robert Rosenbaum, Tatjana Tchumatchenko and Ruben Moreno-Bote
Pubbl/distr/stampa	Frontiers Media SA, 2014 France : , : Frontiers Media SA, , 2014
ISBN	9782889193578 (ebook)
Descrizione fisica	1 online resource (237 pages) : illustrations, charts
Collana	Frontiers Research Topics
Soggetti	Neurons Brain function
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	Correlated activity in populations of neurons has been observed in many brain regions and plays a central role in cortical coding, attention, and network dynamics. Accurately quantifying neuronal correlations presents several difficulties. For example, despite recent advances in multicellular recording techniques, the number of neurons from which spiking activity can be simultaneously recorded remains orders magnitude smaller than the size of local networks. In addition, there is a lack of consensus on the distribution of pairwise spike cross correlations obtained in extracellular multi-unit recordings. These challenges highlight the need for theoretical and computational approaches to understand how correlations emerge and to decipher their functional role in the brain.