Methods for NEURAL ENSEMBLE RECORDINGS (Frontiers in Neuroscience)

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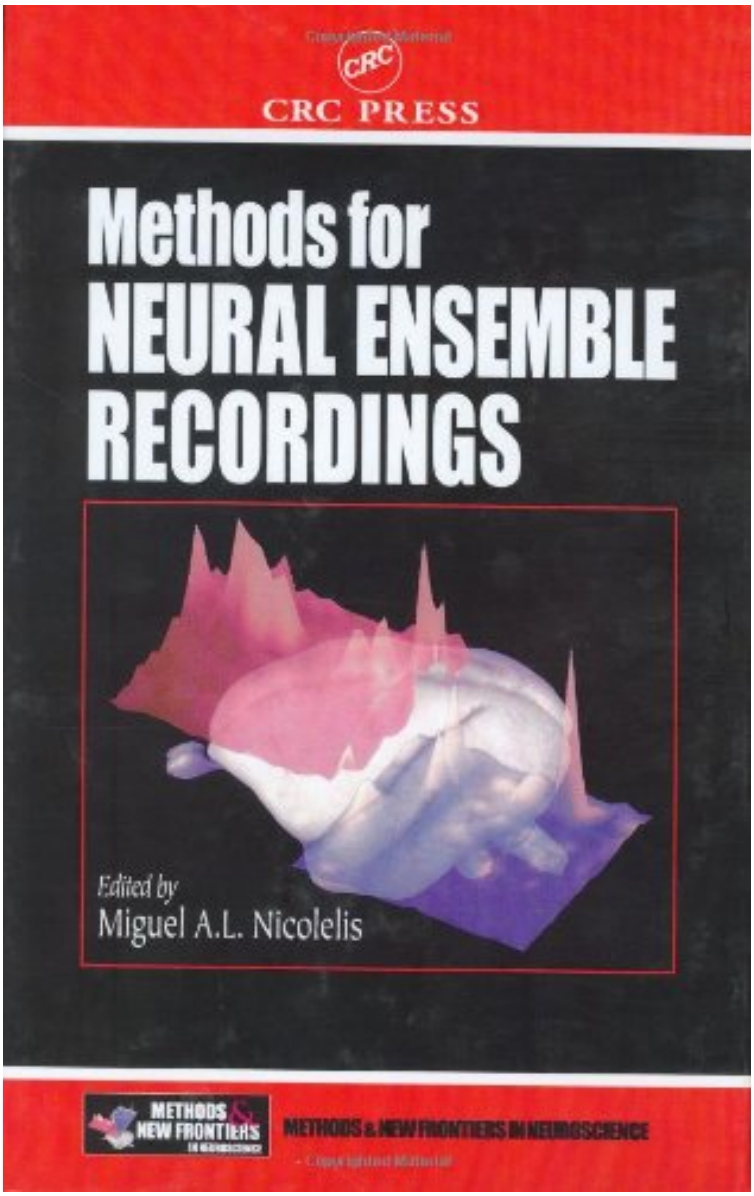

#4410638 in Books CRC Press 1998-12-23Original language:EnglishPDF # 1 9.21 x .69 x 6.14l, 1.10 #File Name: 0849333512272 pages | File size: 61.Mb

From Brand: CRC Press : Methods for NEURAL ENSEMBLE RECORDINGS (Frontiers in Neuroscience) before purchasing it in order to gage whether or not it would be worth my time, and all praised Methods for NEURAL ENSEMBLE RECORDINGS (Frontiers in Neuroscience):

0 of 2 people found the following review helpful. INSIGHTFUL BOOK ON BRAIN ACTIVITYBy EUGENGREAT BOOK, ANYONE WHO IS SERIOUS ABOUT LEARNING THE KNOW HOW OF BRAIN ACTIVITIES MUST HAVE THIS BOOK.

Neuroscientists have long recognized the importance of understanding the underlying principles of information processing by large populations of neurons. Methods for Neural Ensemble Recordings explores methods for using electrophysiological techniques for monitoring the concurrent activity of ensembles of single neurons. Since current methods allow one to simultaneously record the extracellular activity of up to 100-150 neurons for days or even weeks, neural ensemble recordings have been used to address long-standing issues in development, learning, memory, sensorimotor integration, sensory information processing, and neuronal plasticity. EXAMINES THE MANY POSSIBLE APPLICATIONS FOR THIS REVOLUTIONARY METHODEach chapter offers a step-by-step description for the implementation of a particular technique or experimental paradigm employing simultaneous multiple electrode recordings. The techniques described can be used in applications that impact a large group of life scientists, including: drug screening (pharmacology) in both in vitro and in vivo preparationsdevelopmental studies and studies of neuronal plasticitychronic monitoring of neuronal function in behavioral studiesphysiological monitoring of neuronal activity in cell cultures and brain slicesphysiological monitoring of neuronal activity in neurons trafected with genetic vectorschronic monitoring of physiological changes in populations of neurons during learning of new sensorimotor and cognitive tasks

This volume leads readers through microelectrode design, choice and availability; hardware and software for simultaneous sampling; and neural ensemble data analysis. -Joel L. Davis, Cognitive Neural Systems Division, Office of Naval Research, Arlington, Virginia, USANicolelis' long chapter is the most informative. It provides a clear soup-to-nuts recipe for recording from neuronal ensembles. -Joel L. Davis, Cognitive Neural Systems Division, Office of Naval Research, Arlington, Virginia, USA