1. Record Nr. UNINA9910450716003321

Titolo	Bursting [[electronic resource]] : the genesis of rhythm in the nervous system / / editors, Stephen Coombes, Paul C. Bressloff
Pubbl/distr/stampa	Hackensack, NJ, : World Scientific Pub., c2005
ISBN	1-281-89920-8 9786611899202 981-270-323-3
Descrizione fisica	1 online resource (418 p.)
Altri autori (Persone)	CoombesStephen BressloffPaul C
Disciplina	612.8/1
Soggetti	Neural transmission Sensory neurons Electronic books.
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 and index.
Nota di contenuto	PREFACE; CONTENTS; PART I: BURSTING AT THE SINGLE CELL LEVEL; CHAPTER 1 THE DEVELOPMENT OF THE HINDMARSH-ROSE MODEL FOR BURSTING; CHAPTER 2 NEGATIVE CALCIUM FEEDBACK: THE ROAD FROM CHAY-KEIZER; CHAPTER 3 AUTOREGULATION OF BURSTING OF AVP NEURONS OF THE RAT HYPOTHALAMUS; CHAPTER 4 BIFURCATIONS IN THE FAST DYNAMICS OF NEURONS: IMPLICATIONS FOR BURSTING; CHAPTER 5 BURSTING IN 2-COMPARTMENT NEURONS: A CASE STUDY OF THE PINSKY-RINZEL MODEL; CHAPTER 6 GHOSTBURSTING: THE ROLE OF ACTIVE DENDRITES IN ELECTROSENSORY PROCESSING; PART 11: BURSTING AT THE NETWORK LEVEL CHAPTER 7 ANALYSIS OF CIRCUITS CONTAINING BURSTING NEURONS USING PHASE RESETTING CURVESCHAPTER 8 BURSTING IN COUPLED CELL SYSTEMS; CHAPTER 9 MODULATORY EFFECTS OF COUPLING ON BURSTING MAPS; CHAPTER 10 BEYOND SYNCHRONIZATION: MODULATORY AND BURSTING EMERGENT EFFECTS OF COUPLING IN SQUARE-WAVE; CHAPTER 11 BURSTING IN EXCITATORY NEURAL NETWORKS; CHAPTER 12 OSCILLATORY BURSTING MECHANISMS IN RESPIRATORY PACEMAKER NEURONS AND NETWORKS; CHAPTER 13

GEOMETRIC ANALYSIS OF BURSTING NETWORKS; CHAPTER 14 ELLIPTIC BURSTERS, DEPOLARIZATION BLOCK, AND WAVES; INDEX

Sommario/riassunto

Neurons in the brain communicate with each other by transmitting sequences of electrical spikes or action potentials. One of the major challenges in neuroscience is to understand the basic physiological mechanisms underlying the complex spatiotemporal patterns of spiking activity observed during normal brain functioning, and to determine the origins of pathological dynamical states such as epileptic seizures and Parkinsonian tremors. A second major challenge is to understand how the patterns of spiking activity provide a substrate for the encoding and transmission of information, that is, how