

1. Record Nr.	UNINA9910298279103321
Autore	Pannese Ennio
Titolo	Neurocytology : Fine Structure of Neurons, Nerve Processes, and Neuroglial Cells / / by Ennio Pannese
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-06856-3
Edizione	[2nd ed. 2015.]
Descrizione fisica	1 online resource (329 p.)
Disciplina	571.6 573.8 610 612.8
Soggetti	Neurosciences Cytology Cell physiology Neurobiology Cell Biology Cell Physiology
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	Neurons and Interneuronal Connections: a Historical Overview -- Some Evolutionary Aspects and General Features of Neurons -- Shape and Size of Neurons -- Different Types of Neuron -- The Structure of Neurons -- The Perikaryon -- The Nucleus -- Dendrites -- Age-Related Changes -- The Axon -- The Plasma Membrane -- Intercellular Junctions Involving Neurons -- Interneuronal Adherent Junctions -- Interneuronal Chemical Synapses -- Autapses -- The Neuromuscular Junction -- Structural Aspects of Synaptic Activity -- Synaptic Structural Plasticity -- Age-Related Changes -- Relationship Between Axons of the Autonomic Nervous System and Effector Cells -- Electrotonic and Mixed Junctions -- Synapse-Like Junctions Involving Neuroglial Cells -- Other Types of Interneuronal Communication -- The Neuroglia of the PNS -- The Satellite Cells of Sensory and Autonomic Ganglia -- Schwann Cells and the Myelin Sheath -- Other Neuroglial Cells of the

PNS -- Functions of the PNS Neuroglia -- Neuron-Glia Communication  
-- The Neuroglia of the CNS -- Historical Note -- Some Evolutionary Aspects -- The Ependyma -- The Choroid Epithelium -- Astrocytes -- Oligodendrocytes -- NG2-Expressing Cells -- Renewal of the Neuroglial Cell Population -- Microglial Cells -- Historical Note -- Resting Microglia -- Neural Macrophages -- Age-Related Changes -- The Cellular Organization of the CNS -- The Blood Vessels of the CNS -- Arteries -- Capillaries and the Blood-Brain Barrier -- Veins -- Cells Associated with Microvessels -- Age-Related Changes.

---

#### Sommario/riassunto

During the second half of the 20th century, the introduction of a variety of new techniques greatly expanded our knowledge of the structure of nerve and neuroglial cells, and of the organization of the nervous system at the cellular level. This new information has, however, generally been scattered throughout the literature, making it difficult for investigators to gain an overall vision of the discipline. The author has marshalled these scattered data to provide a systematic overview of the field placed within a historical context. He has correlated the major new findings with the classical notions of light microscopy and has integrated them with elements of biochemistry and cell physiology. After the publication of the first edition, the introduction of new microscopies and especially the growth of molecular biology have greatly expanded our knowledge, in particular on the intercellular communication in the nervous system and on the roles of neuroglial cells. These achievements have made a second edition of the book necessary. The fully revised and updated text, together with unique high-quality illustrations of structures of the central and peripheral nervous system, ensure that this new edition will be invaluable for neuroscientists, particularly those involved in cellular neuropathology, neurochemistry, neurophysiology, and molecular neurobiology.

---