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Titolo	Structural and functional organization of the synapse [[electronic resource] /] / edited by Johannes W. Hell and Michael D. Ehlers
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Altri autori (Persone)	EhlersMichael D HellJohannes W
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Diversity in Synapse Structure and Composition -- The Role of Glutamate Transporters in Synaptic Transmission -- Structure and Function of Vertebrate and Invertebrate Active Zones -- Neurotransmitter Release Machinery: Components of the Neuronal SNARE Complex and Their Function -- The Molecular Machinery for Synaptic Vesicle Endocytosis -- Initiation and Regulation of Synaptic Transmission by Presynaptic Calcium Channel Signaling Complexes -- Adhesion Molecules at the Synapse -- Dendritic Organelles for Postsynaptic Trafficking -- Structure and Mechanism of Action of AMPA and Kainate Receptors -- Cellular Biology of AMPA Receptor Trafficking and Synaptic Plasticity -- Structure and Function of the NMDA Receptor -- Molecular Properties and Cell Biology of the NMDA Receptor -- Surface Trafficking of Membrane Proteins at Excitatory and Inhibitory Synapses -- Scaffold Proteins in the Postsynaptic Density -- Ca ²⁺ Signaling in Dendritic Spines -- Postsynaptic Targeting of Protein Kinases and Phosphatases -- Long-Term Potentiation -- Homeostatic Synaptic Plasticity -- Ubiquitin and Protein Degradation in Synapse Function -- Signaling from Synapse to Nucleus -- Molecular Organization of the Postsynaptic Membrane at Inhibitory Synapses --

Acid-Sensing Ion Channels (ASICs) and pH in Synapse Physiology --
Glia as Active Participants in the Development and Function of Synapses
-- Plasticity of Dentate Granule Cell Mossy Fiber Synapses: A Putative
Mechanism of Limbic Epileptogenesis -- Stroke – A Synaptic Perspective
-- and Pathological Pain.

Sommario/riassunto

Synapses play a central role in the brain by mediating signal transmission between neurons. This book provides a fundamental description of the synapse by leading experts in the field. Each individual synapse carries out its numerous functions in a tiny space, thereby requiring an exquisite molecular and functional arrangement. This book describes the molecular structure and cellular function of central synapses in the brain, providing a detailed view of the brain's fundamental unit of information storage.
