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Nota di contenuto	Chapter 1: Introduction: What are dendritic spines? -- Chapter 2: Techniques to render dendritic spines visible in the microscope -- Chapter 3: Electrophysiology of dendritic spines: information processing, dynamic compartmentalization and synaptic plasticity -- Chapter 4: Dendritic spines, synaptogenesis and synaptic pruning for the developmental organization of brain circuits -- Chapter 5: Neurotrophic factors and dendritic spines -- Chapter 6: Glial cell modulation of dendritic spine structure and synaptic function -- Chapter 7: Dendritic spines in learning and memory: from first discoveries to current insights -- Chapter 8: Steroid hormone interaction with dendritic spines: implications for neuropsychiatric disease -- Chapter 9: Morphological features of human dendritic spines.
Sommario/riassunto	This reference provides detailed coverage of dendritic spines, the fascinating neuronal components that modulate synaptic transmission,

development, strength, and plasticity and are involved in the function of multiple areas of the nervous system. The density, shape, and function of spines may indicate the cellular connectivity and synaptic plasticity in normal and pathological conditions. This field has undergone dramatic advances in terms of techniques and experimental findings from in vitro to in vivo data, from animal models to human neurons, and computational models using artificial intelligence. To address these cutting-edge findings, the book provides state-of-the-art, comprehensive coverage with chapters written by the leading international researchers in the field. The authors consider the multiple implications for the study of dendritic spines with broad implications in the neurosciences and related areas.