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Sommario/riassunto	<p>Synaptic transmission is the basis of neuronal communication and is thus the most important element in brain functions, ranging from sensory input to information processing. Changes in synaptic transmission can result in the formation or dissolution of memories, and can equally lead to neurological and psychiatric disorders. The proteins composing the synapse, and their respective functions, are getting increasingly known. One aspect that has become evident in the last years is that most synaptic functions are performed not by single proteins, but by highly organized multi-protein machineries, which interact dynamically to provide responses optimally suited to the needs of the neuronal network. To decipher synaptic and neuronal function, it is essential to understand the organisational, morphological and functional aspects of the molecular nanomachines that operate at the synapse. We discuss these aspects in 11 different chapters, focusing on the structure and function of the active zone, on the functional anatomy of the synaptic vesicle, and on some of the best known soluble protein complexes from the synapse, including those involved in endocytosis and vesicle recycling.</p>