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Nota di contenuto	Molecular Communication Among Nanomachines -- Passive Molecular Communication Through Absorbers -- Passive Molecular Communication Through Ligand-Receptor Binding -- Active Molecular Communication.
Sommario/riassunto	In this book, the concepts of molecular communications and nanonetworks are introduced. Throughout the book, the existing molecular communication paradigms are categorized into two main groups. The first group includes the Passive Molecular Communication (PMC) paradigms in which molecules freely diffuse to transfer information from a transmitter to a receiver. The second group includes the Active Molecular Communication (AMC) paradigms in which molecules are carried or guided by some mediators such as molecular motors, gap junction channels and bacteria. In the book, after briefly discussing why molecular communication is needed for the

sophisticated nano and biotechnology applications, the existing molecular communication systems are first presented. Then, the principles of diffusion phenomena and molecular reception with absorbers and the ligand-receptor binding mechanism are introduced. Based on these principles, the communication theories and techniques are given for the PMC. Then, the physical dynamics of molecular motors, calcium (Ca^{2+}) signaling (with gap junction channels), cell-to-cell adhesion, motile behavior of bacteria are reviewed and based on these dynamics the AMC paradigms are discussed from the viewpoint of the communication theory.
