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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction. Biological Cybernetics and the optimization problem of transport of substances in the cells -- Models of ion transport in mammalian cells -- Models of ion transport and regulation in plant cells and unicellular organisms -- Optimization of the transport of substances in cells. Index.
Sommario/riassunto	Understanding the general laws of an effective system for the transport of substances in cells is an important goal of systems and synthetic biology and will help us to answer why the transport subsystem of a cell is arranged as it is. In addition, the construction of models for optimizing transport systems is of considerable importance in the early stages in the development of a functioning protocell. The aim of this book is to describe the latest techniques for the calculation of the optimal parameters of the transport subsystem of a cell at its maximum efficiency. The book will describe linear and nonlinear programming, dynamic programming, game theory for models of ion transport in different types of cells (e.g. mammalian cells, bacteria, plants and fungi).