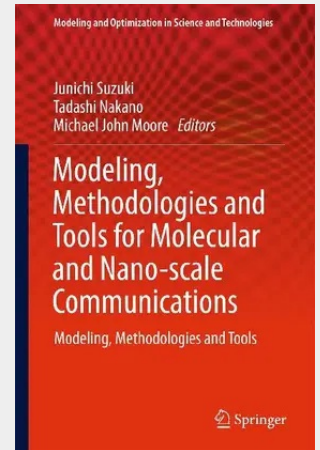


Modeling, Methodologies and Tools for Molecular and Nano-scale Communications

Modeling, Methodologies and Tools

This book reports on cutting-edge modeling techniques, methodologies and tools used to understand, design and engineer nanoscale communication systems, such as molecular communication systems. Moreover, it includes introductory materials for those who are new to the field. The book's interdisciplinary approach, which merges perspectives in computer science, the biological sciences and nanotechnology, will appeal to graduate students and researchers in these three areas. The book is organized into five parts, the first of which describes the fundamentals of molecular communication, including basic concepts, models and designs. In turn, the second part examines specific types of molecular communication found in biological systems, such as neuronal communication in the brain. The book continues by exploring further types of nanoscale communication, such as fluorescence resonance energy transfer and electromagnetic-based nanoscale communication, in the third part, and by describing nanomaterials and structures for practical applications in the fourth. Lastly, the book presents nanomedical applications such as targeted drug delivery and biomolecular sensing.

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