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Soggetti	Computer simulation Bioinformatics Software engineering Database management Computer science Computer Modelling Computational and Systems Biology Software Engineering Database Management Theory of Computation
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chemical Master Equation and Langevin Regimes for a Gene Transcription Model -- Simultaneous Stochastic Simulation of Multiple Perturbations in Biological Network Models -- Modelling Yeast Pre-rRNA Processing -- On the Analysis of Numerical Data Time Series in Temporal Logic -- Context Sensitivity in Logical Modeling with Time Delays -- Stochastic Simulation of Biological Systems with Dynamical Compartment Structure -- Computational Simulation of Optical Tracking of Cell Populations Using Quantum Dot Fluorophores -- A Formal and Integrated Framework to Simulate Evolution of Biological Pathways -- Reconstruction of Mammalian Cell Cycle Regulatory Network from Microarray Data Using Stochastic Logical Networks -- An Automated Translation from a Narrative Language for Biological

Modelling into Process Algebra -- Expressive Models for Synaptic Plasticity -- Modelization and Simulation of Nano Devices in nano ? Calculus -- Efficient, Correct Simulation of Biological Processes in the Stochastic Pi-calculus -- A Unifying Framework for Modelling and Analysing Biochemical Pathways Using Petri Nets -- Reconstructing Metabolic Pathways by Bidirectional Chemical Search -- Decision Diagrams for the Representation and Analysis of Logical Models of Genetic Networks.

Sommario/riassunto

This book constitutes the refereed proceedings of the International Conference on Computational Methods in Systems Biology, CMSB 2007, held in Edinburgh, Scotland, September 2007. The 16 revised full papers presented present a variety of techniques from computer science, such as language design, concurrency theory, software engineering, and formal methods, for biologists, physicists, and mathematicians interested in the systems-level understanding of cellular processes.
