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Soggetti	Computer systems Artificial intelligence Biological models Bioinformatics Computer System Implementation Artificial Intelligence Biological Models Computational and Systems Biology
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Nota di contenuto	-- Boolean Networks. -- Computation of immediate neighbours of monotone Boolean functions. -- Three-State Gene Expression Model Parameterized for Single-Cell Multi-Omics Data. -- On Model Reductions of Boolean Networks. -- AEON 2025: Robust Control of Partially-Specified Boolean Networks (tool paper). -- Looking for Signs: Reasoning About FOBNNs Using SAT. -- Continuous Petri Nets Faithfully Fluidify Most Permissive Boolean Networks. -- Continuous and Hybrid models. -- Efficient stochastic simulation of gene regulatory networks using hybrid models of transcriptional bursting. -- Exploring Metastable Dynamics of Gene Regulatory Networks with ISOKANN. -- Rule-based models. -- Reachability Analysis for Parametric Rule-Based Models. -- A rule-based modeling approach for studying animal collectives: a case study of juvenile honeybee thermotaxis. -- A Formal Approach to Identify Structural Patterns in RNA. -- Model inference and machine learning. -- Kolmogorov-

Arnold Network for Gene Regulatory Network Inference. -- Optimal input design for model selection in systems with cell-to-cell variability. -- Decoding Gene Regulation in Alzheimer's disease with Transfer Learning and Explainable Machine Learning. -- Influence Graphs of Phytoplankton Species Interactions using Logical Learning. -- Evaluating PDE discovery methods for multiscale modeling of biological signals. -- Optimizing Feature Extraction Methods using Class Similarity Ratio for EMG-based Hand Gesture Classification. -- Population models and control. -- Eukaryotic ancestry in a finite world. -- Minimal metabolic exchanges for microbial communities in a chemostat at steady state. -- Seed inference in interacting microbial communities using combinatorial optimization. -- A model-free control strategy for selective disruption of parkinsonian brain oscillations.

Sommario/riassunto

This book constitutes the refereed proceedings of the 23rd International Conference on Computational Methods in Systems Biology, CMSB 2025, which took place in Lyon, France, during September 10–12, 2025. The 21 full papers presented in this volume were carefully reviewed and selected from 34 submissions sent to reviews. They are grouped into the following topics: Boolean Networks; Continuous and Hybrid models; Rule-based models; Model inference and machine learning; Population models and control. .
