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Soggetti	Computer science Machine theory Computer simulation Bioinformatics Theory of Computation Formal Languages and Automata Theory Computer Modelling Computational and Systems Biology
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Lectures -- Biological Roots and Applications of P Systems: Further Suggestions -- Formalizing Spherical Membrane Structures and Membrane Proteins Populations -- Quorum Sensing: A Cell-Cell Signalling Mechanism Used to Coordinate Behavioral Changes in Bacterial Populations -- A Modeling Approach Based on P Systems with Bounded Parallelism -- Synchrony and Asynchrony in Membrane Systems -- MP Systems Approaches to Biochemical Dynamics: Biological Rhythms and Oscillations -- Modeling Signal Transduction Using P Systems -- Regular Papers -- Extended Spiking Neural P Systems -- Towards a Characterization of P Systems with Minimal Sympport/Antiport and Two Membranes -- Expressing Control Mechanisms of Membranes by Rewriting Strategies -- Tissue P Systems with Communication Modes -- Towards a Hybrid Metabolic Algorithm

-- Towards a P Systems Pseudomonas Quorum Sensing Model --
Membrane Systems with External Control -- A Case Study in (Mem)
Brane Computation: Generating Squares of Natural Numbers --
Computing with Genetic Gates, Proteins, and Membranes -- Classifying
States of a Finite Markov Chain with Membrane Computing -- Partial
Knowledge in Membrane Systems: A Logical Approach -- Tau Leaping
Stochastic Simulation Method in P Systems -- P Machines: An Automata
Approach to Membrane Computing -- Modeling Dynamical Parallelism
in Bio-systems -- P Colonies with a Bounded Number of Cells and
Programs -- P Finite Automata and Regular Languages over Countably
Infinite Alphabets -- Mitotic Oscillators as MP Graphs -- Infinite
Hierarchies of Conformon-P Systems -- A Protein Substructure Based P
System for Description and Analysis of Cell Signalling Networks --
Characterizations of Some Restricted Spiking Neural P Systems -- A
Membrane Algorithm for the Min Storage Problem -- P Systems with
Symport/Antiport and Time -- Towards Probabilistic Model Checking
on P Systems Using PRISM -- Graphical Modeling of Higher Plants Using
P Systems -- Identifying P Rules from Membrane Structures with an
Error-Correcting Approach -- Computational Completeness of Tissue
P Systems with Conditional Uniport -- Distributed Evolutionary
Algorithms Inspired by Membranes in Solving Continuous Optimization
Problems.

Sommario/riassunto

The present volume contains a selection of papers presented at the Seventh Workshop on Membrane Computing, WMC7, which took place in Leiden, The Netherlands, during July 17–21, 2006. The ?rst three workshops on membrane computing were organized in Curtea de Arge, s, Romania – they took place in August 2000 (with the proceedings published in Lecture Notes in Computer Science, volume 2235), in August 2001 (with a selection of papers published as a special issue of Fundamenta Informaticae, volume 49, numbers 1–3, 2002), and in August 2002 (with the proceedings published in Lecture Notes in Computer Science, volume 2597). The next three workshops were organized in Tarragona, Spain, in July 2003, in Milan, Italy, in June 2004, and in Vienna, Austria, in July 2005, with the proceedings published as volumes 2933, 3365, and 3850, respectively, of Lecture Notes in Computer Science. The 2006 edition of WMC was organized (and supported) by LorentzCenter, Leiden, under the auspices of the European Molecular Computing Consortium (EMCC). Special attention was paid to the interaction of membrane computing with biology, focusing both on the biological roots of membrane computing and on applications of membrane computing in biology and medicine. Furthermore, the meeting was planned also as an event promoting the interaction and co-eration between the participants (e. g. , the workshop was one day longer than usually, with afternoons devoted mainly to joint work). The pre-proceedings of WMC7 were published by the Institute of Advanced Computer Science (LIACS) of Leiden University, and they were available during the workshop.
