1. Record Nr. UNINA9910483764203321

Titolo	Membrane Computing : 7th International Workshop, WMC 2006, Leiden, Netherlands, July 17-21, 2006, Revised, Selected, and Invited Papers / / edited by Hendrik Jan Hoogeboom, Gheorghe Paun, Grzegorz Rozenberg, Arto Salomaa
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2006
ISBN	3-540-69090-5
Edizione	[1st ed. 2006.]
Descrizione fisica	1 online resource (X, 556 p.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 4361
Altri autori (Persone)	HoogeboomHendrik Jan
Disciplina	621.39/1
Soggetti	Computer science Machine theory Computer simulation Bioinformatics Theory of Computation Formal Languages and Automata Theory Computer Modelling Computational and Systems Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
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 Symport/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, volume2235),in August 2001(with a selection of papers published asa 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 2006edition of WMC wasorganized(and supported) byLorentzCenter, 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 availableduring theworkshop.