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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 5204
Disciplina	006.3
Soggetti	Computer science Algorithms Bioinformatics Theory of Computation Computational and Systems Biology
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Papers -- Quantum Experiments Can Test Mathematical Undecidability -- Computational Challenges and Opportunities in the Design of Unconventional Machines from Nucleic Acids -- Predictions for the Future of Optimisation Research -- Immune Systems and Computation: An Interdisciplinary Adventure -- Regular Contributions -- Distributed Learning of Wardrop Equilibria -- Oracles and Advice as Measurements -- From Gene Regulation to Stochastic Fusion -- A Biologically Inspired Model with Fusion and Clonation of Membranes -- Computing Omega-Limit Sets in Linear Dynamical Systems -- The Expressiveness of Concentration Controlled P Systems -- On Faster Integer Calculations Using Non-arithmetic Primitives -- A Framework for Designing Novel Magnetic Tiles Capable of Complex Self-assemblies -- The Role of Conceptual Structure in Designing Cellular Automata to Perform Collective Computation -- A Characterisation of NL Using Membrane Systems without Charges and Dissolution -- Quantum Wireless Sensor Networks -- On the Computational Complexity of Spiking Neural P Systems -- Self-assembly of Decidable

Sets -- Ultrafilter and Non-standard Turing Machines -- Parallel Optimization of a Reversible (Quantum) Ripple-Carry Adder -- Automata on Multisets of Communicating Objects.

Sommario/riassunto

This book constitutes the refereed proceedings of the 7th International Conference on Unconventional Computation, UC 2008, held in Vienna, Austria, in August 2008. The 16 revised full papers presented together with 4 invited papers were carefully reviewed and selected for inclusion in the book. The papers are devoted to all aspects of unconventional computation ranging from theoretical and experimental aspects to various applications. Typical topics are: natural computing including quantum, cellular, molecular, neural and evolutionary computing, chaos and dynamical system-based computing, and various proposals for computations that go beyond the Turing model.
