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Altri autori (Persone)	CaludeCristian <1952->
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Soggetti	Computer science Life sciences Algorithms Bioinformatics Theory of Computation Life Sciences Computational and Systems Biology Models of Computation
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Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Talks and Tutorials -- Using Physical Experiments as Oracles -- A Tutorial on Analog Computation: Computing Functions over the Reals -- Computational Mechanics: Natural Computation and Self-organization -- Diophantine Equations and Computation -- Structure of Reversible Cellular Automata -- Brain Dynamics Promotes Function -- Awakening the Analogue Computer: Rubel's Extended Analog Computer Workshop -- Artifice, Interpretation and Nature: Key Categories in Radiology Work -- Developmental Computing -- Evolvable Hardware: From Applications to Implications for the Theory of Computation -- Relativistic Computers and Transfinite Computation --

Regular Contributions -- Turing Completeness Using Three Mobile Membranes -- Resource-Competing Oscillator Network as a Model of Amoeba-Based Neurocomputer -- Networks of Evolutionary Picture Processors with Filtered Connections -- Mapping Computation with No Memory -- Real Computable Manifolds and Homotopy Groups -- Distributed Quantum Programming -- Foundations of Optical Encryption: Formal Modeling and Achieving Shannon Secrecy -- Random Number Selection in Self-assembly -- Abstract Geometrical Computation and Computable Analysis -- Descriptive Complexity of Tissue-Like P Systems with Cell Division -- Computing Domains of Attraction for Planar Dynamics -- Approximating the Behaviours of Physarum polycephalum for the Construction and Minimisation of Synthetic Transport Networks -- Simulation of Neurocomputing Based on Photophobic Reactions of Euglena: Toward Microbe-Based Neural Network Computing -- Reasoning about Entanglement and Separability in Quantum Higher-Order Functions -- On the Brightness of the Thomson Lamp: A Prolegomenon to Quantum Recursion Theory -- Advances in I/O, Speedup, and Universality on Colossus, an Unconventional Computer.-Membrane Dissolution and Division in P -- Computing Naturally in the Billiard Ball Model -- Posters -- Water as a Quantum Computing Device -- Cloning for Heteroscedasticity Elimination in GMDH Learning Procedure -- Tug-Of-War Model for Two-Bandit Problem -- Intrusion Detection in Circular Frustrated Systems: An Eminently Parallel Processing Algorithm -- NMR-Based Encoding and Processing of Alphanumeric Information.

Sommario/riassunto

This book constitutes the refereed proceedings of the 8th International Conference on Unconventional Computation, UC 2009, held in Ponta Delgada, Portugal, in September 2009. The 18 revised full papers presented together with 8 invited talks, 3 tutorials and 5 posters were carefully reviewed and selected from 40 submissions. 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 computational mechanisms that go beyond the Turing model.
