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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 9726
Disciplina	006
Soggetti	Computer science Machine theory Algorithms Artificial intelligence Computer networks Theory of Computation Computer Science Logic and Foundations of Programming Formal Languages and Automata Theory Artificial Intelligence Computer Communication Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Reachability Problems for Continuous Chemical Reaction Networks -- An All-Optical Soliton FFT Computational Arrangement in the 3NLSE-domain -- Babbage meets Zuse: A Minimal Mechanical Computer -- Generative Power of Matrix Insertion-deletion Systems with Context-free Insertion or Deletion -- Evolving Carbon Nanotube Reservoir Computers -- Global Network Cooperation Catalysed by a Small Prosocial Migrant Clique -- Model-Based Computation -- In vitro Implementation of a Stack Data Structure Based on DNA Strand Displacement -- Analysis of Boolean Logic Gates Logical Complexity for use with Spiking Memristor Gates -- Language Recognition Power and Succintness of Affine Automata -- Training a Carbon-Nanotube / Liquid Crystal Data Classifier Using Evolutionary Algorithms -- Towards

Quantitative Verification of Reaction Systems -- Traversal Languages
Capturing Isomorphism Classes on Sierpinski Gaskets -- Discrete DNA
Reaction-Diffusion Model for Implementing Simple Cellular Automaton
-- Universal Totalistic Asynchronous Cellular Automaton and its
Possible Implementation by DNA.

Sommario/riassunto

This book constitutes the refereed proceedings of the 15th International Conference on Unconventional Computation and Natural Computation, UCNC 2016, held in Manchester, UK, in July 2016. The 15 revised full papers presented together with 5 invited papers were carefully reviewed and selected from 30 submissions. The papers cover a wide range of topics including molecular, cellular, quantum, optical and chaos computing; cellular automata; neural and evolutionary computation; artificial immune systems; Ant algorithms and swarm intelligence; amorphous computing; membrane computing; computational systems biology and computational neuroscience; and synthetic biology. .
