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Nota di contenuto	From P Colonies to 2D P Colonies and Simulations of Multiagent Systems -- A Bioinspired Computing Approach to Model Complex Systems -- P Systems with Active Membranes Working in Sublinear Space -- Membrane Computing Inspired Approach for Executing Scientific Workflow in the Cloud -- P Systems with Anti-Matter -- Priorities, Promoters and Inhibitors in Deterministic Non-cooperative P Systems -- P Systems with Toxic Objects -- Promoters and Inhibitors in Purely Catalytic P Systems -- Red–Green P Automata -- Extended Simulation and Verification Platform for Kernel P Systems -- The Abilities of P Colony Based Models in Robot Control -- Probabilistic Guarded P Systems, a New Formal Modelling Framework -- Solving the ST-Connectivity Problem with Pure Membrane Computing Techniques -- Simulating Turing Machines with Polarizationless P Systems with

Active Membranes -- Categorised Counting Mediated by Blotting Membrane Systems for Particle-Based Data Mining and Numerical Algorithms -- Polymorphic P Systems with Non-cooperative Rules and No Ingredients -- Spiking Neural P Systems with Astrocytes Using the Rules in the Exhaustive Mode -- Simulating Elementary Active Membranes with an Application to the P Conjecture -- Small Universal Spiking Neural P Systems with Cooperating Rules as Function Computing Devices -- Spiking Neural P Systems with Cooperating Rules -- Parallel Thinning with Complex Objects and Actors -- Causal Nets for Geometrical Gandy–Paun–Rozenberg Machines -- P System Computational Model as Framework for Hybrid (Membrane-Quantum) Computations -- Fault Diagnosis Models for Electric Locomotive Systems Based on Fuzzy Reasoning Spiking Neural P Systems.

Sommario/riassunto

This book constitutes the thoroughly refereed post-conference proceedings of the 15th International Conference on Membrane Computing, CMC 2014, held in Prague, Czech Republic, in August 2014. The 19 revised selected papers presented together with 5 invited lectures were carefully reviewed and selected from 24 papers presented at the conference. In addition, two papers selected from the 22 papers presented at the regional version of CMC, the Asian Conference on Membrane Computing , ACMC 2014, held in Coimbatore, India, are included. The papers cover a wide range of topics in the area of membrane computing, which is an area of computer science aiming to abstract computing ideas and models from the structure and the functioning of living cells, as well as from the way the cells are organized in tissues or higher order structures.