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Titolo	Formal and Natural Computing [[electronic resource]] : Essays Dedicated to Grzegorz Rozenberg / / edited by Wilfried Brauer, Hartmut Ehrig, Juhani Karhumäki, Arto K. Salomaa
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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 2300
Disciplina	005.13
Soggetti	Computer programming Architecture, Computer Computers Algorithms Computer logic Data structures (Computer science) Programming Techniques Computer System Implementation Computation by Abstract Devices Algorithm Analysis and Problem Complexity Logics and Meanings of Programs Data Structures
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Words, Languages, Automata -- Balanced Grammars and Their Languages -- Safety and Liveness Properties for Real Traces and a Direct Translation from LTL to Monoids -- The Delta Operation: From Strings to Trees to Strings -- Infinite Solutions of Marked Post Correspondence Problem -- The Branching Point Approach to Conway's Problem -- A Survey of Some Quantitative Approaches to the Notion of Information -- Nondeterministic Trajectories -- Binary Patterns in Infinite Binary Words -- Graph Transformations -- A Sight-seeing Tour of the Computational Landscape of Graph Transformation -- Local

Action Systems and DPO Graph Transformation -- Bisimulation Equivalences for Graph Grammars -- Petri Nets -- High-Level Net Processes -- Petri Net Control for Grammar Systems -- Regular Event Structures and Finite Petri Nets: A Conjecture -- Concurrent Computing -- Towards Team-Automata-Driven Object-Oriented Collaborative Work -- Grammars as Processes -- Temporal Concurrent Constraint Programming: Applications and Behavior -- Molecular Computing -- Rewriting P Systems with Conditional Communication -- An Aqueous Algorithm for Finding the Bijections Contained in a Binary Relation -- Upper Bounds for Restricted Splicing -- Codes, Involutions, and DNA Encodings -- DNA Manipulations in Ciliates -- A Magic Pot : Self-assembly Computation Revisited.

Sommario/riassunto

This book presents state of the art research in theoretical computer science and related ?elds. In particular, the following areas are discussed: automata theory, formal languages and combinatorics of words, graph transformations, Petri nets, concurrency, as well as natural and molecular computing. The articles are written by leading researchers in these areas. The writers were originally invited to contribute to this book but then the normal refereeing procedure was applied as well. All of the articles deal with some issue that has been under vigorous study during recent years. Still, the topics range from very classical ones to issues raised only two or three years ago. Both survey articles and papers attacking speci?c research problems are included. The book highlights some key issues of theoretical computer science, as they seem to us now at the beginning of the new millennium. Being a comprehensive overview of some of the most active current research in theoretical computer science, it should be of de?nite interest for all researchers in the areas covered. The topics range from basic decidability and the notion of information to graph grammars and graph transformations, and from trees and traces to aqueous algorithms, DNA encoding and self-assembly. Special e?ort has been given to lucid presentation. Therefore, the book should be of interest also for advanced students.