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Descrizione fisica	viii, 290 p
Collana	Emergence, complexity and computation ; ; 5
Altri autori (Persone)	ZelinkaIvan <1965->
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Complexity Decomplexified: A List of 200+ Results Encountered over 55 Years -- The Cause of Complexity in Nature: An Analytical and Computational Approach -- Complexity Fits the Fittest -- Rugged Landscapes and Timescale Distributions in Complex Systems -- Structural Complexity of Vortex Flows by Diagram Analysis and Knot Polynomials -- Two Conceptual Models for Aspects of Complex Systems Behavior -- Toward a Computational Model of Complex Human Systems Dynamics -- Stochastic Complexity Analysis in Synthetic Biology -- Automatic Computation of Crossing Point Numbers within Orthogonal Interpolation Line-Graphs -- Computational Tactic to Retrieve a Complex Seismic Structure of the Hydrocarbon Model -- Controlling Complexity -- Influence of Chaotic Dynamics on the Performance of Differential Evolution Algorithm.
Sommario/riassunto	This book is based on the outcome of the “2012 Interdisciplinary Symposium on Complex Systems” held at the island of Kos. The book consists of 12 selected papers of the symposium starting with a comprehensive overview and classification of complexity problems, continuing by chapters about complexity, its observation, modeling and its applications to solving various problems including real-life applications. More exactly, readers will have an encounter with the structural complexity of vortex flows, the use of chaotic dynamics within evolutionary algorithms, complexity in synthetic biology, types of complexity hidden inside evolutionary dynamics and possible

controlling methods, complexity of rugged landscapes, and more. All selected papers represent innovative ideas, philosophical overviews and state-of-the-art discussions on aspects of complexity. The book will be useful as instructional material for senior undergraduate and entry-level graduate students in computer science, physics, applied mathematics and engineering-type work in the area of complexity. The book will also be valuable as a resource of knowledge for practitioners who want to apply complexity to solve real-life problems in their own challenging applications. The authors and editors hope that readers will be inspired to do their own experiments and simulations, based on information reported in this book, thereby moving beyond the scope of the book.