

1. Record Nr.	UNINA9910299837203321
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Titolo	Dynamic Systems for Everyone : Understanding How Our World Works / / by Asish Ghosh
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-10735-6
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (252 p.)
Disciplina	004 502.3 620 621 658.40301
Soggetti	Engineering—Vocational guidance Vibration Dynamics Computers and civilization Operations research Decision making Sociophysics Econophysics Computational complexity Job Careers in Science and Engineering Vibration, Dynamical Systems, Control Computers and Society Operations Research/Decision Theory Data-driven Science, Modeling and Theory Building Complexity
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Thinking in Systems -- The Engineered Systems -- Political, Social, and Biological Systems -- The Fundamental Behavior Patterns -- Modeling

and Simulation -- Optimization -- Distributed Intelligence -- Discrete Events and Procedures -- Unintended Consequences -- The Seven Habits of a Systems Savvy Person -- Epilogue: Future Directions and Challenges.

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## Sommario/riassunto

This book is a study of the interactions between different types of systems, their environment, and their subsystems. The author explains how basic systems principles are applied in engineered (mechanical, electromechanical, etc.) systems and then guides the reader to understand how the same principles can be applied to social, political, economic systems, as well as in everyday life. Readers from a variety of disciplines will benefit from the understanding of system behaviors and will be able to apply those principles in various contexts. The book includes many examples covering various types of systems. The treatment of the subject is non-mathematical, and the book considers some of the latest concepts in the systems discipline, such as agent-based systems, optimization, and discrete events and procedures. . Shows how system knowledge may be applied in many different areas without the need for deep mathematical knowledge; . Demonstrates how to model and simulate system behaviors on personal computers with readily available software packages; . Considers the various ways of optimizing system behavior; . Discusses the benefits of systems with highly distributed intelligence and the ways in which they may be modeled; . Considers how to incorporate discrete events and sequential steps in system dynamics; . Discusses the difference between holistic and reductionist world view. .

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