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Titolo	Systems Biology Application in Synthetic Biology [[electronic resource] /] / edited by Shailza Singh
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ISBN	81-322-2809-X
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Descrizione fisica	1 online resource (166 p.)
Disciplina	570
Soggetti	Systems biology Bioinformatics Biostatistics Systems Biology Computational Biology/Bioinformatics
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 at the end of each chapters.
Nota di contenuto	1. Computational Proteomics (Debasree Sarkar) -- 2. Design Principles, Network architecture and their Analysis Strategies as Applied to Biological Systems (Ahmad Abu Turab) -- 3. Structureomics in Systems-Based Drug Discovery (Lumbini) -- 4. Biosensors for Metabolic Engineering (Qiang Yan) -- 5. Sustainable Assessment on Using Bacterial Platform to Produce High Added Value Products from Berries through Metabolic Engineering (Lei Pei) -- 6. Hindrances to the Efficient and Stable Expression of Transgenes in Plant Synthetic Biology Approaches (Ana Perez Gonzalez) -- 7. The new Massive Data: mirNomics and its Application to Therapeutics (Mohammad Ahmed) -- 8. Microscopy Based Analysis of Cells Interacting with Nanostructures (Raimo Hartmann) -- 9. Mathematical Chemodescriptors and Biodescriptors: Background and their Applications in Systems Toxicology (Subhash Basak).
Sommario/riassunto	This book introduces students to methods that will help them understand behaviour in terms of cellular components and their interactions in non-intuitive ways, which calls for an interdisciplinary approach combining mathematical, chemical, computational and biological strategies. Tibor Ganti was one of the early pioneers who

proposed a theoretical framework to understand living principles in terms of chemical transformation cycles and their coupling. The twenty-first century then brought with it a novel 'systems' paradigm, which shone new light on all previous work and was accompanied by numerous implications for the way we conceive of chemical and biological complexity today. This book seeks to equip students to take advantage of any field that investigates living systems. Based on a conceptualisation of science-oriented branches, engineering-oriented branches and biology as astoundingly complex fields, those structures laden with biochemical detail encompass a deeper theory unifying our knowledge of designed systems. Readers will be pleasantly surprised at how lucidly the topics are presented. The book offers an indispensable resource for students and professionals working in systems and synthetic biology or any of the various related fields of research.
