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Nota di contenuto	Chapter 1. Integrated Systems and Chemical biology approaches for targeted therapies -- Chapter 2. Application of bioengineering in revamping human health -- Chapter 3. Integrative Omics for Interactomes -- Chapter 4. Studying parasite gene function and interaction through ribozymes and riboswitches design mechanism -- Chapter 5. Genome microbiology for Synthetic applications -- Chapter 6. Medicinal Application of Synthetic Biology -- Chapter 7. Computational tools for applying multi-level models to Synthetic Biology -- Chapter 8. Computational techniques for a comprehensive understanding of different genotype-phenotype factors in biological systems and their applications -- Chapter 9. Alignment-free analyses of nucleic acid sequences using graphical representation -- Chapter 10. Modern Approaches in Synthetic Biology: Genome Editing, Quorum Sensing and Microbiome Engineering -- Chapter 11. Synthetic Probes, their applications & designing -- Chapter 12. Omics Based Nanomedicine -- Chapter 13. Characterization of plant genetic modifications using Next Generation Sequencing. .

Sommario/riassunto

The book uses an integrated approach to predict the behavior of various biological interactions. It further discusses how synthetic biology gathers the information about various systems, in order to either devise an entirely new system, or, to modulate existing systems. The book also tackles the concept of modularity, where biological systems are visualized in terms of their parts. The chapters discuss how the principles of engineering are being used in biomedical sciences, to design biological circuits that can harbor multiple inputs and generate multiple outputs; to create genetic networks and control gene activity, in order to generate a desired response. The book aims to help the readers develop an array of biological parts, and to use these parts to develop synthetic circuits that can be assembled like electronic circuits. The ultimate aim of the book will be to serve as an amalgamation of key ideas of how judiciously synthetic biology could be exploited in therapeutic device and delivery mechanism.