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Nota di contenuto	1. Editorial: Future of Novel Technologies in Biosystems, Biomedicine, and Drug Delivery -- Part I; Novel Technologies in Biosystems, Biomedicine, and Drug Delivery: Characterization -- 2. Characterization Tools for Current Drug Delivery Systems -- 3. Characterization of Transdermal Drug Delivery Systems: Retrospect and Future Prospects -- 4. Analytical Tools for the Characterization of Nasal Spray Drug Products -- Part II: Novel Technologies in Biosystems, Biomedicine, and Drug Delivery: Restoration -- 5. AI-Enabled Models in the Restoration of Drug Efficacy and Drug Design -- 6. Restoration and Sustenance of Nano drug delivery systems: potential, Challenges, and limitations -- 7. Artificial Intelligence and Machine Learning in Restoring and Strengthening HealthCare -- Part III: Novel Technologies in Biosystems, Biomedicine, and Drug Delivery: Optimization -- 8. Optimizing Oncology Tools: Organ-on-a-clip alternative to animal model -- 9.

Optimizing Drug Synthesis: AI-Powered Kinetics study in Pharmaceutical Research -- 10. In Silico Toxicological Protocols Optimization for the Prediction of Toxicity of Drugs -- 11. Optimizing Healthcare Throughput: The Role of Machine Learning and Data Analytics -- Part IV: Novel Technologies in Biosystems, Biomedicine, and Drug Delivery: Applications -- 12. Applications of AI-based Models in the field of Biomedicine -- 13. Application of New Biological Entities (NBEs) as Therapeutics -- 14. Applications of Computational Tools in the Prediction of Toxicity -- 15. Application of Peptides for the treatment of diabetes: A plant-based bioactive material -- 16. Regenerative Medicines: Application to Degenerative Diseases and Disorders.

Sommario/riassunto

The book gives an insight into the thorough study and examination of incumbent biosystems, their present status and disruption in their integrity, causes and effects, measures to be taken for their characterization and restoration apart from advances and applications in the field of biosciences, drug design, discovery, bio-systems, biomedical and drug delivery technologies, tools in particular. The book collates information from several disciplines, such as chemistry, biology, material science, engineering, statistics, biomedicine, genetics, etc., as the subject in question is a confluence of many disciplines exhibiting numerous applications such as bioimaging, novel biological agents, synthesis, discovery testing, characterization of drugs right from selecting a suitable precursor to discovering and designing a drug following a correct synthetic route, adoption of computer simulation-based models, AI/ML-based models, application of statistical tools in analyzing and interpreting data, design, multi-functional, and operational drug delivery systems, their bio-compatibility, capacity of carrying and release of drug reproducibly etc. The book is helpful to postgraduate students, research scholars, academicians, and scientists from the pharmaceutical, biotechnology, and chemical engineering domains. The book covers a conceptual understanding of the exploration of drugs in unity with the applications desired, sound bio-system development, and carriers for drug and supplement delivery.