Record Nr. UNINA9911010533503321 Autore Zanders Edward D Titolo Twenty-first Century Drug Discovery: an Expanding Landscape // by Edward D. Zanders Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 3-031-93949-2 [1st ed. 2025.] Edizione Descrizione fisica 1 online resource (365 pages) 660.6 Disciplina Soggetti Biotechnology Pharmaceutical chemistry Pharmacology **Pharmaceutics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Part I. Current State of Drug Discovery and Development -- Chapter 1. Introduction -- Chapter 2. Overview of Current Drug Discovery and Development -- Chapter 3. Computational Approaches to Drug Discovery -- Part II. Emerging Opportunities -- Chapter 4. Points of Scientific Impact -- Chapter 5. Hunting for Targets -- Chapter 6. Interventions -- Chapter 7. Development and Implementation. Sommario/riassunto 'Twenty-first Century Drug Discovery – an Expanding Landscape' follows on from the author's previous book 'The Science and Business of Drug Discovery - Demystifying the Jargon', published by Springer as a second edition in 2020. While many of the key scientific and commercial features of drug discovery described in the latter are essentially unchanged since publication, the underlying science has advanced rapidly thereby presenting a broad landscape of opportunities for biopharmaceutical discovery in the twenty-first century and beyond. However, these wide-ranging and complex discovery opportunities are difficult to convey in a short period of time.

This book overcomes the problem by giving readers time to study the relevant material at their leisure. Starting with a short overview of the current technical and commercial background to drug discovery and development, the book focuses on the discovery of novel targets and

therapeutic agents. The latter are no longer just small molecules, but include engineered proteins, microbes and immune cells created as a result of advances in molecular cell biology and computational methods, among others. These discovery activities are presented as part of a group of 'systems' under the headings of Genetics, Cell Biology, Microbiome, Immune and Nervous Systems, none of which are mutually exclusive and all of which depend upon lab-based and computational technologies. These technologies are covered in some detail, highlighting in particular, single molecule and cell analysis, selective drug target degradation and machine learning.