1. Record Nr. UNINA9910686477303321

Titolo	Targeted Cancer Therapy in Biomedical Engineering / / edited by Rishabha Malviya, Sonali Sundram
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	9789811997860 9811997861
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (xxii, 941 pages, 211 illustrations, 204 illustrations in color) : illustrations
Collana	Biological and Medical Physics, Biomedical Engineering, , 2197-5647
Disciplina	616.99406
Soggetti	Medical physics Cancer - Treatment Biomedical engineering Computer-aided engineering Nanobiotechnology Cancer - Imaging Medical Physics Cancer Therapy Biomedical Engineering and Bioengineering Computer-Aided Engineering (CAD, CAE) and Design Cancer Imaging
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Strategies for Cancer Targeting: Novel Drug Delivery Systems Opportunities and Future Challenges -- Implementation of Biomedical Engineering Tools in Targeted Cancer Therapy: Challenges and Opportunities -- Exploration of tissue-engineered systems for cancer research -- Advancement of Tissue Engineered in Cancer treatment -- Immunotherapy: Targeting Cancer Cells -- Bioinformatics Tools to Discover and Validate Cancer Biomarkers -- Application of Biomaterials in Cancer Research -- Engineered Tissue in Cancer Research: Techniques, Challenges and Current status -- CADD for Cancer Therapy: Current and Future Perspective -- Leveraging Advancement in

Robotics in the Treatment of Cancer -- Innovative Biomedical Equipment for Diagnosis of Cancer -- Detection of Cancer Biomarker by Advanced Biosensor.

Sommario/riassunto

This book highlights the role of Biomedical Engineering (BME) used in diagnosis (e.g., body scanners) and treatment (radiation therapy and minimal access surgery in order to prevent various diseases). In recent years, an important progress has been made in the expansion of biomedical microdevices which has a major role in diagnosis and therapy of cancer. When fighting cancer, efficacy and speed are of the utmost importance. A recently developed microfluidic chip has enabled a breakthrough in testing the efficacy of specialized cancer drugs. Effective cancer-targeting therapies will require both passive and active targeting strategies and a thorough understanding of physiologic barriers to targeted drug delivery. Targeted cancer treatments in development and the new combinatorial approaches show promise for improving targeted anticancer drug delivery and improving treatment outcomes. This book discusses the advancements and innovations in the field of BME that improve the diagnosis and treatment of cancer. This book is focused on bioengineering approaches to improve targeted delivery for cancer therapeutics, which include particles, targeting moieties, and stimuli-responsive drug release mechanisms. This book is a useful resource for students, researchers, and professionals in BME and medicine.