Record Nr. UNINA9910373942803321 Nanobiomaterial Engineering [[electronic resource]]: Concepts and **Titolo** Their Applications in Biomedicine and Diagnostics / / edited by Pranjal Chandra, Rajiv Prakash Singapore:,: Springer Singapore:,: Imprint: Springer,, 2020 Pubbl/distr/stampa 981-329-840-5 **ISBN** Edizione [1st ed. 2020.] Descrizione fisica 1 online resource: illustrations (some color) Disciplina 620.5 Soggetti Biomedical engineering Nanotechnology Regenerative medicine Tissue engineering **Immunology** Biomedical Engineering/Biotechnology Regenerative Medicine/Tissue Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter 1. Nanomaterials, classifications, and properties -- Chapter 2. Engineering nanomaterials for bio-interfacing -- Chapter 3. Biomaterials and surface modification strategies -- Chapter 4. Nano materials as a nanotheronostic agent -- Chapter 5. Nanobiomaterials in biomedicine: Designing strategies and critical concepts -- Chapter 6. Phytofabricated nanodelivery systems: Engineering principles and applications -- Chapter 7. Nanobiosensors based diagnostics system: Transducers and surface materials -- Chapter 8. Nanobiomaterials and nanocomposites in clinical diagnostics -- Chapter 9. Tissue Engineering and Regenerative Medicines based on nanobiomaterials --Chapter 10. Prospects and advantages of microfluidics utilizing various nanobiomaterials -- Chapter 11. Electrochemical nanoengineered sensors in infectious disease diagnosis -- Chapter 12. Multiplexing utilizing various nanobiomaterials -- Chapter 13. Future perspects of nanobiomaterials in human health care -- Chapter 14. Commercial aspects of nanobiomaterials: Short-coming and future aspects.

Sommario/riassunto

This book comprehensively documents the application of Nanobiomaterials in the field of bio-medicine and diagnostics technologies by involving classical concepts/examples. Nanobiotechnology is an emerging area which encompasses all the facets of research of nano and biomaterials with their interaction with biological systems. The book summarises design and development of various nanobiomaterials and their composites for diagnostics and therapeutic applications. It skilfully reviews the utilization of the nanomaterials alone or in combination with other bio-molecules as a contrast enhancer in in-vivo imaging, Nano-Theranostics, drug delivery, and sensing transducer matrix. It also discusses the current research on designing of the new Nanobiomaterials and their implementation in numerous fields including bio-medicine and diagnostics. Finally, it summarizes the future prospects and the commercial viability of Nanobiomaterials in the human health care.