1. Record Nr. UNINA9910163087203321

Titolo	Advances in Biomaterials for Biomedical Applications / / edited by Anuj Tripathi, Jose Savio Melo
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2017
ISBN	981-10-3328-5
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XII, 545 p. 94 illus.)
Collana	Advanced Structured Materials, , 1869-8433 ; ; 66
Disciplina	620.11
Soggetti	Biomaterials Biomedical engineering Regenerative medicine Tissue engineering Biomedical Engineering and Bioengineering Biomedical Engineering/Biotechnology Regenerative Medicine/Tissue Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	State of the Art and Future Directions of Macroporous Cryogels in Tissue Engineering -- 3-D Printed Biomaterials -- Biomaterials Adapted for Stem Cells Dedicated to Cartilage Engineering -- Polyelectrolyte complexes (PECs) for biomedical applications -- Oral Insulin Delivery: Challenges and Opportunities -- Magnetically engineered manufacturing systems for mouse pluripotent stem cells -- Biodegradable polymer blends and nanocomposites for implants and scaffolds.
Sommario/riassunto	This book highlights recent advances in the field of biomaterials design and the state of the art in biomaterials applications for biomedicine. Addressing key aspects of biomaterials, the book explores technological advances at multi-scale levels (macro, micro, and nano), which are used in applications related to cell and tissue regeneration. The book also discusses the future scope of bio-integrated systems. The contents are supplemented by illustrated examples, and schematics of molecular and cellular interactions with biomaterials/scaffolds are included to promote a better understanding

of the complex biological mechanisms involved in material-to-biomolecule interactions. The book also covers factors that govern cell growth, differentiation, and regeneration in connection with the treatment and recovery of native biological systems. Tissue engineering, drug screening and delivery, and electrolyte complexes for biomedical applications are also covered in detail. This book offers a comprehensive reference guide for multi-disciplinary communities working in the area of biomaterials, and will benefit researchers and graduate students alike.