1. Record Nr. UNINA9910298426703321

Titolo	Osteochondral Tissue Engineering : Challenges, Current Strategies, and Technological Advances / / edited by J. Miguel Oliveira, Sandra Pina, Rui L. Reis, Julio San Roman
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-76735-6
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (IX, 511 p. 86 illus., 79 illus. in color.)
Collana	Advances in Experimental Medicine and Biology, , 0065-2598 ; ; 1059
Disciplina	612.028 571.538
Soggetti	Regenerative medicine Tissue engineering Biomedical engineering Biomedical materials Regenerative Medicine/Tissue Engineering Biomedical Engineering/Biotechnology Biomaterials Biomedical Engineering and Bioengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I: Current Challenges in Osteochondral Repair and Regeneration: Trauma vs Disease -- Advances for treatment of knee OC defects -- Emerging Concepts in Treating Cartilage, Osteochondral Defects and Osteoarthritis of the Knee and Ankle -- Osteoarthritis: Trauma Vs Disease -- Surgical Treatment Paradigms of Ankle Lateral Instability, Osteochondral Defects and Impingement -- Part II: Viscosupplementation -- Clinical management in early OA -- Hyaluronic Acid -- Semi-IPNs and IPNs Based Hydrogels -- Promising biomolecules -- Part III: Technological Advances in Osteochondral Tissue Engineering -- Nanoparticles-based systems for Osteochondral Tissue Engineering -- Stem cells for osteochondral regeneration -- PRP Therapy -- Enhancing biological and biomechanical fixation of osteochondral scaffold: a grand challenge -- Part IV: Osteochondral

Tissue Engineering approaches -- Combination of polymeric supports and drug delivery systems for ostechondral regeneration -- Osteochondral Angiogenesis and Promoted Vascularization: New Therapeutic Target -- Models Of Disease -- Part V: In vitro models for Osteochondral Regeneration -- Tissue Engineering Strategies for Osteochondral Repair -- In vitro mimetic models for the bone-cartilage interface regeneration -- Bioreactors and microfluidics for osteochondral interface maturation -- Part VI: In vivo models for Osteochondral Regeneratio -- nSmall Animal Models -- Large animal models for Osteochondral Regeneration -- Index.

Sommario/riassunto

This book covers the most recent developments in the field of osteochondral tissue engineering (OCTE) and covers in detail the concepts and current challenges for bone and cartilage repair and regeneration. Specific topics include viscosupplementation, biologicals, tissue engineering approaches, in vitro and in vivo models, and technological advances with stem cells, bioreactors, and microfluidics. Osteochondral Tissue Engineering: Challenges, Current Strategies, and Technological Advances presents challenges and strategies in the field of osteochondral regeneration and serves as a core reference for biomedical engineering students and a wide range of established researchers and professionals working in orthopedics.