1. Record Nr. UNISALENTO991003951549707536

Titolo	Cutting-edge enabling technologies for regenerative medicine [e-book] / Heung Jae Chun, Chan Hum Park, Il Keun Kwon, Gilson Khang, editors
ISBN	9789811309502 9811309507 9789811309496 9811309493
Descrizione fisica	1 online resource (ix, 493 pages) : illustrations (some color)
Collana	Advances in Experimental Medicine and Biology, 0065-2598 ; 1078 Advances in experimental medicine and biology, 0065-2598 ; 1078
Altri autori (Persone)	Chun, Heung Jaeeditor Park, Chan Humeditor Kwon, Il Keuneditor Khang, Gilsoneditor
Disciplina	610.28
Soggetti	Regenerative medicine - Technological innovations Tissue scaffolds Regenerative Medicine Biotechnology Tissue Engineering Bioprinting Nanotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	3D printing and 3D electro-spun for regenerative medicine. 3D bioprinting of adipose-derived stem cells for organ manufacturing / Xiaohong Wang, Chang Liu -- 3D bioprinting technologies for tissue engineering applications / Bon Kang Gu, Dong Jin Choi, Sang Jun Park, Young-Jin Kim, Chun-Ho Kim -- Electrospun 3D scaffolds for tissue regeneration / T. S. Sampath Kumar, V. Yogeshwar Chakrapani -- Scaffolds fabricated from natural polymers/composites by electrospinning for bone tissue regeneration / Hasham S. Sofi, Roqia Ashraf, Mushtaq A. Beigh, Faheem A. Sheikh -- Electrospun and

electrosprayed scaffolds for tissue engineering / Natasha Maurmann, Laura-Elena Sperling, Patricia Pranke -- Intelligent nanocomposite biomaterials for regenerative medicine. Graphene-based nanocomposites as promising options for hard tissue regeneration / Yong Cheol Shin, Su-Jin Song, Seung Jo Jeong, Bongju Kim, Il Keun Kwon, Suck Won Hong [and others] -- Modifications of poly(methyl methacrylate) cement for application in orthopedic surgery / Yue Sa, Fang Yang, Yining Wang, Joop G. C. Wolke, John A. Jansen -- Intrinsically conductive polymer nanocomposites for cellular applications / Özge Lalegül-Ülker, Aye Eser Elçin, Yaar Murat Elçin -- Materials and applications of smart diagnostic contact lens systems / Sijin Park, Dong Yun Lee -- Advances in protein-based materials: from origin to novel biomaterials / Soon Mo Choi, Prerna Chaudhry, Sun Mi Zo, Sung Soo Han -- Drug delivery systems for regenerative medicine. Crosslinking biopolymers for advanced drug delivery and tissue engineering applications / Goutam Thakur, Fiona Concy Rodrigues, Krizma Singh -- Bone tissue engineering strategies in co-delivery of bone morphogenetic protein-2 and biochemical signaling factors / Sungjun Kim, Sangmin Lee, Kyobum Kim -- Growth factor delivery systems for tissue engineering and regenerative medicine / Pau Atienza-Roca, Xiaolin Cui, Gary J. Hooper, Tim B. F. Woodfield, Khoon S. Lim -- New combination/application of polymer-based nanoparticles for biomedical engineering / Ray Chang, Peng-Yuan Wang, Ching-Li Tseng -- Reactive oxygen species responsive naturally occurring phenolic-based polymeric prodrug / S. V. Berwin Singh, Angela Guma Adam, Nirmalya Tripathy, Dongwon Lee, Gilson Khang -- Biodegradable polymeric nanocarrier-based immunotherapy in hepatitis vaccination / Seo Jin Hong, Min Hye Ahn, Yong Woo Lee, Sukdeb Pal, Jaiprakash Sangshetti, Rohidas B. Arote -- Future enabling technologies for regenerative medicine. Biomaterials developments for brain tissue engineering / Eduarda P. Oliveira, Joana Silva-Correia, Rui L. Reis, Joaquim M. Oliveira -- Polypyrrole as electrically conductive biomaterials: synthesis, biofunctionalization, potential applications and challenges / Jifu Mao, Ze Zhang -- Design of temperature-responsive cell culture surfaces for cell sheet-based regenerative therapy and 3D tissue fabrication / Jun Kobayashi, Yoshikatsu Akiyama, Masayuki Yamato, Tatsuya Shimizu, Teruo Okano -- Harnessing nanotopography of electrospun nanofibrous nerve guide conduits (NGCs) for neural tissue engineering / Jeong In Kim, Cheol Sang Kim, Chan Hee Park -- Biomechanics in annulus fibrosus degeneration and regeneration / Genglei Chu, Chen Shi, Jun Lin, Shenghao Wang, Huan Wang, Tao Liu [and others] -- Nanopatterned scaffolds for neual tissue engineering and regenerative medicine / Sunho Park, Daun Kim, Sungmin Park, Sujin Kim, Dohyeon Lee, Woochan Kim [and others] -- Process system engineering methodologies applied to tissue development and regenerative medicine / Ágata Paim, Nilo S. M. Cardozo, Patricia Pranke, Isabel C. Tessaro -- Biomimetic extracellular matrices and scaffolds prepared from cultured cells / Guoping Chen, Naoki Kawazoe -- Tissue scaffolds as a local drug delivery system for bone regeneration / Elif Sarigol-Calamak, Canan Hascicek

Sommario/riassunto

"This book explores in depth the latest enabling technologies for regenerative medicine. The opening section examines advances in 3D bioprinting and the fabrication of electrospun and electrosprayed scaffolds. The potential applications of intelligent nanocomposites are then considered, covering, for example, graphene-based nanocomposites, intrinsically conductive polymer nanocomposites, and smart diagnostic contact lens systems. The third section is devoted to various drug delivery systems and strategies for regenerative medicine.

Finally, a wide range of future enabling technologies are discussed. Examples include temperature-responsive cell culture surfaces, nanopatterned scaffolds for neural tissue engineering, and process system engineering methodologies for application in tissue development. This is one of two books to be based on contributions from leading experts that were delivered at the 2018 Asia University Symposium on Biomedical Engineering in Seoul, Korea - the companion book examines in depth novel biomaterials for regenerative medicine" -- Publisher's description