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Titolo	Biomaterials for bone regenerative medicine / / edited by Nandyala Sooraj Hussain, Jose Domingos da Silva Santos
Pubbl/distr/stampa	Stafa-Zuerich : , : Trans Tech, , [2010] ©2010
ISBN	3-03813-442-2
Descrizione fisica	1 online resource (206 p.)
Collana	Materials science foundations, , 1422-3597 ; ; volume 62
Disciplina	617.4710592
Soggetti	Bone substitutes Bone regeneration
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Biomaterials for Bone, Regenerative Medicine; Dedicated; Contents; Forward; Preface; Contributors; Table of Contents; CHAPTER 1 Skeletal Regenerative Nanobiomaterials; 1. Introduction; 2. Basics of Bone Biology; 3. Current Scenarios of Bone Grafting; 4. Concept of Biomimetics in Skeletal Regeneration; 5. Mechanism of Biological Mineralization; 6. Biomimetic Mineralization - Rationale and Benefits; 7. Processing of Biomineralized Nanobiomaterial Systems; 8. Biomineralization of Electrospun Nanofibers - A New Approach; Conclusions and Future Challenges; Glossary; References CHAPTER 2 Silica-Based Materials as Precursorsof Nanoapatites1. Bioactive glasses; 2. Sol-Gel Glasses: Components of Mixed Materials; 3. Organic-Inorganic Hybrids to Expand the Clinical Application of Bioactive Glasses; 4. Star Gels Bioactive Materials; 5. Silica Based Ordered Mesoporous Materials; 6. Synthesis of Templated Glasses; 7. Considerations on Materials Eligible for Bone Regeneration Duties; References; CHAPTER 3 Phytochemicals for Bone Regeneration; 1. Introduction; 2. Material and Methods; 3. Results; 4. Discussion; 5. Conclusion; References CHAPTER 4 Designed Biomaterial Scaffoldsfor Bone Regeneration1. Introduction; 2. Scaffold Design; 3. Effective Mechanical and Permeability Properties of Designed Scaffolds; 4. Bone Regeneration on Designed Scaffolds; 5. Discussion; References; CHAPTER 5 Engineered

Ca-Si Based Ceramics for Skeletaltissue Reconstruction; 1. Introduction; 2. Ca-Si Based Bioactive Glass and Glass-Ceramics; 3. Ca-Si Based Binary Oxide System Bioactive Ceramics; 4. Ca-Si-Mg Bioactive Ceramics; 5. Future Trends. References; CHAPTER 6 Calcium Phosphate-Based Materials for Boneregenerative Medicine; 1. Introduction
2. Bioactive Glasses and Glass-Ceramics3. Silicon-Substituted Apatites; 4. Calcium Phosphate-Based Materials; 5. Bonelike® Medical Applications; References; CHAPTER 7 Cell Adhesion and Proliferation over Zinc-Glassreinforced Hydroxyapatite Composites (Zn-GRHA); 1. Introduction; 2. Materials and Methods; 3. Physicochemical and Morphological Analysis of the Zn-GRHA Composites; 4. In Vitro Biocompatibility of the Zn-GRHA Composites; 5. Conclusions. References

Sommario/riassunto

The aim of ""Biomaterials for Bone Regenerative Medicine"" is to review extensively the latest developments in Biomaterials and their application to bone regeneration in vivo. Indeed, research on biomaterials and their novel applications is essential because of the health issues related to the aging population. A wide range of worldwide investigations is being undertaken by eminent scholars in order to develop further innovative materials for next-generation applications. In future, it is expected that a tissue engineering approach, associating novel biomaterials with stem cells, will be avail

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ISBN	1-315-35464-0 0-367-87140-8 1-315-37193-6
Edizione	[1st ed.]
Descrizione fisica	1 online resource (384 pages) : illustrations
Collana	Taylor & Francis series in remote sensing applications
Disciplina	363.7/063028
Soggetti	Environmental monitoring - Remote sensing Sustainable development - Remote sensing Sustainable urban development - Remote sensing Sustainable agriculture - Remote sensing Natural resources - Remote sensing Renewable energy sources - Remote sensing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface : towards a sustainable Earth through remote sensing / Qihao Weng -- Extraction of parameters from remote sensing data for environmental indices for urban sustainability / John C. Trinder -- EO datasets for urban and regional planning / Thomas Esch -- Assessment of urban growth in the Pearl River Delta, China, using time series Landsat imagery / Lei Zhang and Qihao Weng -- InSAR monitoring of land subsidence for sustainable urban planning / Abduwasit Ghulam, Mark Grzovic, Maitiniyazi Maimaitijiang, and Mamat Sawut -- A tale of two cities : urbanization in Greensboro, North Carolina, USA and Guiyang, Guizhou, China / Honglin Xiao and Qihao Weng -- Role of remote sensing in sustainable grassland management / Alexander Tong, Yuhong He, Bing Lu, and Xulin Guo -- Classifying tree species using high spatial resolution imagery to support the conservation of an endangered bird species in Hawaii / Qi Chen -- Remote sensing of

forest damage by diseases and insects / Gang Chen and Ross K. Meentemeyer -- Monitoring water quality with remote sensing image data / Bunkei Matsushita, Wei Yang, Lalu Muhamad Jaelani, Fajar Setiawan, and Takehiko Fukushima -- Urban air quality studies using EO data / Xuefei Hu -- Heat hazard monitoring with satellite derived land surface temperature / Yitong Jiang and Qihao Weng -- Remote sensing identification of threshold zones along a Mediterranean to arid climatic gradient / Maxim Shoshany -- Soil moisture using optical remote sensing and ground measurements : a case study from Pakistan / Mudassar Umar -- Global assessment of sustainable straw energy potential using EO / Thomas Esch -- Use of nighttime imaging data to assess decadal trends in energy use in China / Yanhua Xie and Qihao Weng -- Support of wind resource modeling using Earth Observation / Thomas Esch -- Assessing solar energy potential and building energy use in Indianapolis using geospatial techniques / Yuanfan Zheng and Qihao Weng.

Sommario/riassunto

Remote Sensing for Sustainability introduces the current state of the art remote sensing knowledge integral for monitoring the world's natural resources and environments, managing exposure to natural disasters and man-made risks, and helping understand the sustainability and productivity of natural ecosystems. This comprehensive guide, which can serve to professors, researchers, and students alike, takes in consideration the United Nations set of sustainable development goals and intends to contribute to the GEO's Strategic Plan by addressing and exemplifying a number of societal benefit areas of remote sensing data sets, methods, and techniques for sustainable development.