1. Record Nr. UNINA9910298397803321

Titolo	Advanced High-Resolution Tomography in Regenerative Medicine : Three-Dimensional Exploration into the Interactions between Tissues, Cells, and Biomaterials / / edited by Alessandra Giuliani, Alessia Cedola
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-030-00368-X
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (235 pages)
Collana	Fundamental Biomedical Technologies, , 1559-7083
Disciplina	616.0757
Soggetti	Regenerative medicine Tissue engineering Radiology Stem cells Biomaterials Regenerative Medicine/Tissue Engineering Imaging / Radiology Stem Cells
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	The Huge Machines of Physics: the bet of the Multidisciplinary Research Teams in Regenerative Medicine -- X-ray Microtomography: the basic principles for dummies -- Role of X-ray Microtomography in Regenerative Medicine -- Synchrotron Radiation – based Microtomography: what opportunities more? -- From Projections to the 3D Exploration of the Regenerated Tissue: Algorithms, Software and more -- Inside the bone: applications in Orthopedics and Dentistry -- The Challenge of the Vascularization of Regenerated Tissues -- Lung Imaging: Alterations and treatment Approaches in Pulmonary Diseases -- Better Cartilage Imaging at Synchrotron Facilities -- Into the “Heart” of the problem: which contributes to Cardiac Regeneration -- Frontiers in Muscle Diseases: the X-ray microtomography Support to latest Researches -- Brain, Drug release and more: what is cooking in research related to other Districts -- Towards an Increased Sensitivity

	by the In-line Phase Tomography -- Perspectives and Prospective from insiders -- Role of Standard X-ray Microtomography in Tissue Engineering.
Sommario/riassunto	This book covers the state-of-the-art research on advanced high-resolution tomography, exploring its role in regenerative medicine. and also explores the 3D interactions between tissues, cells, and biomaterials. Various multidisciplinary paths in regenerative medicine are covered, including X-ray microtomography and its role in regenerative medicine, synchrotron radiation-based microtomography and phase contrast tomography, the challenge of the vascularization of regenerated tissues, lung and cartilage imaging, and more. This is an ideal book for biomedical engineers, biologists, physicists, clinicians, and students who want to pursue their studies in the field of regenerative medicine. This book also: Reviews in detail the algorithms and software used for the 3D exploration of regenerated tissue Covers the latest research on the use of X-ray microtomography for muscle diseases Details applications of synchrotron radiation tomography in orthopedics and dentistry.