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ISBN	3-030-13951-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (279 pages)
Disciplina	660.63
Soggetti	Biotechnology Manufactures Biomaterials Cytology Surgery Machines, Tools, Processes Cell Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Material Types, Properties, Selection and Development -- Testing and Characterization of Materials and Products -- Applications of Materials in Heath and Disease -- Fabrication of Artificial Joints, Fixations, and Scaffolds -- Development of Standard Practices for Testing and Development -- Modeling, Analysis & Simulation -- Single and Multi-objective Optimization -- Focused Clinical Reports -- ISO Standards and Compliance for Biomanufacturing -- Organ Regeneration: In-vitro and In-vivo Studies.
Sommario/riassunto	This book presents cutting-edge research on the design, fabrication, assembly, and measurement of bio-elements in structures, devices, and systems. The field of biomaterial and biomanufacturing is growing exponentially in order to meet the increasing demand for artificial joints, organs and bone-fixation devices. Rapid advances in the biological sciences and engineering are leading to novel and viable resources, methods and techniques that may provide better quality of

life and more affordable health care services. The book covers various aspects of biomanufacturing, including: • synthesis of biomaterials; • implant coating techniques; • spark plasma sintering; • microwave processing; and • cladding, powder metallurgy and electrospinning. The contributors illustrate the recent trends in biomanufacturing, highlighting the main aspects of biomaterial synthesis, including their use as feedstock in fabrication technologies, characterization, in-vivo/in-vitro mechanical analysis and associated ISO standards, and their clinical implementation. As such, it provides a comprehensive update on the latest advances and techniques for researchers and scientists in the field.

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