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Performance of Implants -- 13. Bioinformatics & Nanotechnology: Current Challenges and Pathways -- 14. Biomaterials in orthopaedics and bone regeneration: Design and Synthesis -- 15. Zinc Powder Mixed Electro-discharge Machining on Magnesium Alloy for Potential Biodegradable Implants Application -- 16. Smart Nano-Biomaterial in Orthopaedic Applications.

Sommario/riassunto

This book focuses on the recent advances in the field of orthopaedic biomaterials, with a particular emphasis on their design and fabrication. Biomimetic materials, having similar properties and functions to that of the natural tissue, are becoming a popular choice for making customized orthopaedic implants and bone scaffolds. The acceptability of these materials in the human body depends on the right balance between their mechanical and biological properties. This book provides a comprehensive overview of the state-of-the-art research in this rapidly evolving field. The chapters cover different aspects of multi-functional biomaterials design, and cutting-edge methods for the synthesis and processing of these materials. Advanced manufacturing techniques, like additive manufacturing, used for developing new biomimetic materials are highlighted in the book. This book is a valuable reference for students and researchers interested in biomaterials for orthopaedic applications. .