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Nota di contenuto	Towards Prediction of Peri-Prosthetic Fractures: A Comprehensive Finite Element Model of Uncemented Total Hip Arthroplasty -- Computational Modeling of Right Coronary Artery Flow Impairment in Pulmonary Hypertension -- Cranial Implant with 3D Printing Technology and PMMA: A Low-Cost Option of Cranioplasty for Patients in Developing Country -- Future-Ready Medical Vest: Real-Time Multi-Channel Auscultation for AI-Assisted Pulmonary Diagnostics -- Estimation of Space and Time Evolution of Mg ²⁺ Concentration near a Mg ²⁺ -Releasing Implant -- Alteration of Biomechanical Properties in Early-Stage Osteoarthritis: A Study on Elastic Modulus and Permeability of Articular Cartilage -- Comparative Preclinical Study of a Solid and a Porous Hip Stem for Canine Femora Using Finite Element Analysis -- Design & Development of a highly sensitive aptamer based electrochemical sensor using reduced Graphene oxide-gold nanocomposite for detection of Enrofloxacin -- Wearable monitoring of

brain activations in response to visual stimuli provided through a virtual reality headset -- Nuclear medicine imaging in Parkinson's disease - comma or no comma? - that is the question.

Sommario/riassunto

This book presents cutting-edge advancements in biomedical engineering, with a special emphasis on innovation in healthcare technologies. It covers advances in wearable devices, 3D printing applications in biomedicine, as well as computational and experimental advances in biomaterials and biomechanics, together with their applications in clinical settings. Gathering ten selected, peer-reviewed works, presented at the 18th International Conference on Biomedical Engineering (ICBME2024), held on December 9-12, 2024, in Singapore, this volume offers a timely snapshot of research and developments that are expected to accelerate the translation of biomedical engineering research into tangible improvements in human health.