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	Collana	Computational biomechanics for medicine Computational biomechanics for medicine
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	Soggetti	Biomedical engineering Surgery Applied mathematics Engineering mathematics Biomaterials Robotics Automation Biomedical Engineering and Bioengineering Mathematical and Computational Engineering Robotics and Automation
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	Nota di bibliografia	Includes bibliographical references at the end of each chapters.
	Nota di contenuto	Mechanical Loading of Blood Cells in Turbulent Flow -- Modeling Three Dimensional Avascular Tumor Growth Using Lattice Gas Cellular Automata -- Modelling the Tumour Growth Along a Complex Vasculature Using Cellular Automata -- Investigation of the Influence of Side-branches on Wall Shear Stress in Coronary Arteries Reconstructed from Intravascular Ultrasound -- From Detection to Rupture: A Serial Computational Fluid Dynamics Case Study of a Rapidly-expanding, Patient-specific, Ruptured Abdominal Aortic Aneurysm -- The Effect of

Uncertainty in Vascular Wall Material Properties on Abdominal Aortic Aneurysm Wall Mechanics -- Computer Simulation of Fracture Fixation Using Extra-medullary Devices: An Appraisal -- Hip, Knee and Ankle Joint Forces in Healthy Weight, Overweight and Obese Individuals during Walking -- Whole-body Image Registration Using Patient-specific Non-linear Finite Element Model.

Sommario/riassunto   One of the greatest challenges facing the computational engineering community is to extend the success of computational mechanics to fields outside traditional engineering, in particular to biology, the biomedical sciences, and medicine. The Computational Biomechanics for Medicine titles provide an opportunity for specialists in computational biomechanics to present their latest methodologies and advancements. This latest installment comprises nine of the latest developments in both fundamental science and patient-specific applications, from researchers in Australia, New Zealand, USA, UK, France, Ireland, and China. Some of the interesting topics discussed are: cellular mechanics; tumor growth and modeling; medical image analysis; and both patient-specific fluid dynamics and solid mechanics simulations.