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Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 2230
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Speaker -- Modules in Cardiac Modeling: Mechanics, Circulation, and Depolarization Wave -- Anatomical Modeling -- Geometrical Modeling of the Heart and Its Main Vessels -- Reconstructing 3D Boundary Element Heart Models from 2D Biplane Fluoroscopy -- Introducing Spectral Estimation for Boundary Detection in Echographic Radiofrequency Images -- Geometrical Modelling of the Fibre Organization in the Human Left Ventricle -- Invited Speaker -- Challenges in Modelling Human Heart's Total Excitation -- Motion and Deformation -- Two-Dimensional Ultrasonic Strain Rate Measurement of the Human Heart in Vivo -- Deformation Field Estimation for the Cardiac Wall Using Doppler Tissue Imaging -- A New Kinetic Modeling

Scheme for the Human Left Ventricle Wall Motion with MR-Tagging Imaging -- Integrated Quantitative Analysis of Tagged Magnetic Resonance Images -- Invited Speaker -- Measurement of Ventricular Wall Motion, Epicardial Electrical Mapping, and Myocardial Fiber Angles in the Same Heart -- Functional Imaging -- A 3-D Model-Based Approach for the PET-Functional and MR-Anatomical Cardiac Imaging Data Fusion -- 3D Regularisation and Segmentation of Factor Volumes to Process PET H2 15O Myocardial Perfusion Studies -- In Vivo Assessment of Rat Hearts with and without Myocardial Infarction by Cine NMR - Comparison of the NMR Method to Invasive Techniques and Application to Intervention Studies -- Dempster Shafer Approach for High Level Data Fusion Applied to the Assessment of Myocardial Viability -- Invited Speaker -- Experimental and Computational Modeling of Cardiac Electromechanical Coupling -- Towards Electromechanical Modeling -- Towards Model-Based Estimation of the Cardiac Electro-Mechanical Activity from ECG Signals and Ultrasound Images -- A Physiologically-Based Model for the Active Cardiac Muscle Contraction -- Post-Systolic Thickening in Ischaemic Myocardium: A Simple Mathematical Model for Simulating Regional Deformation -- Simulation of Anisotropic Propagation in the Myocardium with a Hybrid Bidomain Model -- Imaging of Electrical Function within the Human Atrium and Ventricle from Paced ECG Mapping Data.

Sommario/riassunto

This book constitutes the refereed proceedings of the First International Workshop on Functional Imaging and Modeling of the Heart, FIMH 2001, held in Helsinki, Finland, in November 2001. The 17 revised full papers presented together with four invited papers were carefully reviewed and selected for inclusion in the book. The papers are organized in topical sections on anatomical modeling, motion and deformation, functional imaging, and towards electromechanical modeling.
