1.	Record Nr.	UNINA9910484420903321
	Titolo	Functional Imaging and Modeling of the Heart : Third International Workshop, FIMH 2005, Barcelona, Spain, June 2-4, 2005, Proceedings / / edited by Alejandro F. Frangi, Petia I. Radeva, Andres Santos, Monica Hernandez
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2005
	Edizione	[1st ed. 2005.]
	Descrizione fisica	1 online resource (XVI, 496 p.)
	Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 3504
	Altri autori (Persone)	FrangiAlejandro F
	Disciplina	616.1/2075
	Soggetti	Computer vision Computer simulation Artificial intelligence Bioinformatics Radiology Cardiology Computer Vision Computer Modelling Artificial Intelligence Computational and Systems Biology
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Modeling of the Heart - Anatomy Extraction and Description -- Multi-surface Cardiac Modelling, Segmentation, and Tracking -- Analysis of the Interdependencies Among Plaque Development, Vessel Curvature, and Wall Shear Stress in Coronary Arteries -- Automated Segmentation of X-ray Left Ventricular Angiograms Using Multi-View Active Appearance Models and Dynamic Programming -- SPASM: Segmentation of Sparse and Arbitrarily Oriented Cardiac MRI Data Using a 3D-ASM -- Combining Active Appearance Models and Morphological Operators Using a Pipeline for Automatic Myocardium Extraction -- Long-Axis Cardiac MRI Contour Detection with Adaptive Virtual Exploring Robot -- A Deterministic-Statistic Adventitia Detection in

IVUS Images -- Trajectory Planning Applied to the Estimation of Cardiac Activation Circuits -- A Functional Heart Model for Medical Education -- Artificial Enlargement of a Training Set for Statistical Shape Models: Application to Cardiac Images -- Towards a Comprehensive Geometric Model of the Heart -- Automatic Cardiac 4D Segmentation Using Level Sets -- Level Set Segmentation of the Fetal Heart -- Supporting the TECAB Grafting Through CT Based Analysis of Coronary Arteries -- Electro-Physiology, Electro- and Magnetography -- Clinical Validation of Machine Learning for Automatic Analysis of Multichannel Magnetocardiography -- Hypertrophy in Rat Virtual Left Ventricular Cells and Tissue -- Virtual Ventricular Wall: Effects of Pathophysiology and Pharmacology on Transmural Propagation -- Electrophysiology and Tension Development in a Transmural Heterogeneous Model of the Visible Female Left Ventricle -- Reentry Anchoring at a Pair of Pulmonary Vein Ostia -- A Method to Reconstruct Activation Wavefronts Without Isotropy Assumptions Using a Level Sets Approach -- MagnetocardiographicImaging of Ventricular Repolarization in Rett Syndrome -- Insights into Electrophysiological Studies with Papillary Muscle by Computational Models -- Induced Pacemaker Activity in Virtual Mammalian Ventricular Cells -- Transvenous Path Finding in Cardiac Resynchronization Therapy -- Methods for Identifying and Tracking Phase Singularities in Computational Models of Re-entrant Fibrillation -- Estimating Local Apparent Conductivity with a 2-D Electrophysiological Model of the Heart -- Monodomain Simulations of Excitation and Recovery in Cardiac Blocks with Intramural Heterogeneity -- Spatial Inversion of Depolarization and Repolarization Waves in Body Surface Potential Mapping as Indicator of Old Myocardial Infarction -- Dissipation of Excitation Fronts as a Mechanism of Conduction Block in Re-entrant Waves -- Wavebreaks and Self-termination of Spiral Waves in a Model of Human Atrial Tissue -- Calcium Oscillations and Ectopic Beats in Virtual Ventricular Myocytes and Tissues: Bifurcations, Autorhythmicity and Propagation -- Modeling of the Cardiac Mechanics and Functions -- Left Ventricular Shear Strain in Model and Experiment: The Role of Myofiber Orientation -- Cardiac Function Estimation from MRI Using a Heart Model and Data Assimilation: Advances and Difficulties -- Assessment of Separation of Functional Components with ICA from Dynamic Cardiac Perfusion PET Phantom Images for Volume Extraction with Deformable Surface Models -- Detecting and Comparing the Onset of Myocardial Activation and Regional Motion Changes in Tagged MR for XMR-Guided RF Ablation -- Suppression of IVUS Image Rotation. A Kinematic Approach -- Computational Modeling and Simulation of Heart Ventricular Mechanics from Tagged MRI -- A Realistic Anthropomorphic Numerical Model of the Beating Heart -- Multi-formalism Modelling of Cardiac Tissue -- Analysis of Tagged Cardiac MRI Sequences -- Fast Spatio-temporal Free-Form Registration of Cardiac MR Image Sequences -- Comparison of Cardiac Motion Fields from Tagged and Untagged MR Images Using Nonrigid Registration -- Tracking of LV Endocardial Surface on Real-Time Three-Dimensional Ultrasound with Optical Flow -- Cardiac Motion Estimation -- Dense Myocardium Deformation Estimation for 2D Tagged MRI -- A Surface-Volume Matching Process Using a Markov Random Field Model for Cardiac Motion Extraction in MSCT Imaging -- Evaluation of Two Free Form Deformation Based Motion Estimators in Cardiac and Chest Imaging -- Classification of Segmental Wall Motion in Echocardiography Using Quantified Parametric Images.

Sommario/riassunto

The1stand2ndInternationalConferencesonFunctionalImagingandModelling of the Heart (FIMH) were held in Helsinki, Finland, in November 2001, and in Lyon, France, in June 2003. These meetings were born

through a fruitful sci- ti?c collaboration between France and Finland that outreached to other groups and led to the start of this biennial event. The FIMH conference was the ?rst attempt to agglutinate researchers from several complementary but often i- lated ?elds: cardiac imaging, signal and image processing, applied mathematics and physics, biomedical engineering and computer science, cardiology, radi- ogy, biology, and physiology. In the ?rst two editions, the conference received an enthusiastic acceptance by experts of all these communities. FIMH was ori- nally started as a European event and has increasingly attracted more and more people from the US and Asia. This edition of FIMH received the largest number of submissions so far with a result of 47 papers being accepted as either oral presentations or posters. There were a number of submissions from non-EU institutions which con?rms the growing interest in this series of meetings. All papers were reviewed by up to four reviewers. The accepted contributions were organized into 8 oral sessions and 3 poster sessions complemented by a number of invited talks. This year we tried to allocate as many papers as possible as oral presentations to facilitate more active participation and to stimulate multidisciplinary discussions.