

1. Record Nr.	UNINA9910485593503321
Titolo	Functional Imaging and Modeling of the Heart : 11th International Conference, FIMH 2021, Stanford, CA, USA, June 21-25, 2021, Proceedings // edited by Daniel B. Ennis, Luigi E. Perotti, Vicky Y. Wang
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-78710-9
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (697 pages)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics, , 3004-9954 ; ; 12738
Disciplina	616.120754
Soggetti	Computer vision Computer networks Machine learning Social sciences - Data processing Computer science - Mathematics Computer Vision Computer Communication Networks Machine Learning Computer Application in Social and Behavioral Sciences Mathematical Applications in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Population-based personalization of geometric models of myocardial infarction -- Impact of Image Resolution and Resampling on Motion Tracking of the Left Chambers from Cardiac Scans -- Shape Constraints in Deep Learning for Robust 2D Echocardiography Analysis -- Image-Derived Geometric Characteristics Predict Abdominal Aortic Aneurysm Growth in a Machine Learning Model -- Cardiac MRI Left Ventricular Segmentation and Function Quantification Using Pre-trained Neural Networks -- Three-Dimensional Embedded Attentive RNN (3D-EAR) Segmentor for Left Ventricle Delineation from Myocardial Velocity Mapping -- Whole Heart Anatomical Refinement from CCTA using Extrapolation and Parcellation -- Optimisation of Left Atrial Feature

Tracking using Retrospective Gated Computed Tomography Images -- Assessment of geometric models for the approximation of aorta cross-sections -- Improved High Frame Rate Speckle Tracking for Echocardiography -- Efficient Model Monitoring for Quality Control in Cardiac Image Segmentation -- Domain adaptation for automatic aorta segmentation of 4D flow magnetic resonance imaging data from multiple vendor scanners -- A multi-step machine learning approach for short axis MR images segmentation -- Diffusion biomarkers in chronic myocardial infarction -- Spatially constrained Deep Learning approach for myocardial T1 mapping -- A methodology for accessing the local arrangement of the sheetlets that make up the extracellular heart tissue -- A High-Fidelity 3D Micromechanical Model of Ventricular Myocardium -- Quantitative Interpretation of Myocardial Fiber Structure in the Left and Right Ventricle of an Equine Heart using Diffusion Tensor Cardiovascular Magnetic Resonance Imaging -- Analysis of Location-Dependent Cardiomyocyte Branching -- Systematic Study of Joint Influence of Angular Resolution and Noise in Cardiac Diffusion Tensor Imaging -- Arbitrary Point Tracking with Machine Learning to Measure Cardiac Strain in Tagged MRI -- Investigation of the impact of normalization on the study of interactions between myocardial shape and deformation -- Reproducibility of Left Ventricular CINE DENSE Strain in Pediatric Subjects with Duchenne Muscular Dystrophy -- M-SiSSR: Regional Endocardial Function using Multilabel Simultaneous Subdivision Surface Registration -- CNN-based Cardiac Motion Extraction to Generate Deformable Geometric Left Ventricle Myocardial Models from Cine MRI -- Multiscale Graph Convolutional Networks for Cardiac Motion Analysis -- An image registration framework to estimate 3D myocardial strains from cine cardiac MRI in mice -- Sensitivity of Myocardial Stiffness Estimates to Inter-observer Variability in LV Geometric Modelling -- A computational approach on sensitivity of left ventricular wall strains to fiber orientation -- A Framework for Evaluating Myocardial Stiffness Using 3D-Printed Heart Phantoms -- Modeling patient-specific periaortic interactions with static and dynamic structures using a moving heterogeneous elastic foundation boundary condition -- An Exploratory Assessment of Focused Septal Growth in Hypertrophic Cardiomyopathy -- Parameter Estimation in a Rule-Based Fiber Orientation model from End Systolic Strains Using the Reduced Order Unscented Kalman Filter -- Effects of fibre orientation on electrocardiographic and mechanical functions in a computational human biventricular model -- Model-assisted time-synchronization of cardiac MR image and catheter pressure data -- From clinical imaging to patient-specific computational model: Rapid adaptation of the Living Heart Human Model to a case of aortic stenosis -- Cardiac support for the right ventricle: effects of timing on hemodynamics-biomechanics tradeoff -- In vivo pressure-volume loops and chamber stiffness estimation using real-time 3D echocardiography and left ventricular catheterization -- application to post-heart transplant patients -- In silico mapping of the omecamtiv mecarbil effects from the sarcomere to the whole-heart and back again -- High-Speed Simulation of the 3D Behavior of Myocardium Using a Neural Network PDE Approach -- On the interrelationship between left ventricle infarction geometry and ischemic mitral regurgitation grade -- Cardiac modeling for Multisystem Inflammatory Syndrome in Children (MIS-C, PIMS-TS) -- Personal-by-design: a 3D Electromechanical Model of the Heart Tailored for Personalisation -- Scar-Related Ventricular Arrhythmia Prediction from Imaging using Explainable Deep Learning -- Deep Adaptive Electrocardiographic Imaging with Generative Forward Model

for Error Reduction -- EP-Net 2.0: Out-of-Domain Generalisation for Deep Learning Models of Cardiac Electrophysiology -- Simultaneous Multi-Heartbeat ECGI Solution with a Time-Varying Forward Model: a Joint Inverse Formulation -- The Effect of Modeling Assumptions on the ECG in Monodomain and Bidomain Simulations -- Uncertainty Quantification of the Effects of Segmentation Variability in ECGI -- Spiral Waves Generation using an Eikonal-reaction Cardiac Electrophysiology Model -- Simplified Electrophysiology Modeling Framework to Assess Ventricular Arrhythmia Risk in Infarcted Patients -- Sensitivity analysis of a smooth muscle cell electrophysiological model. -- A volume source method for solving ECGI inverse problem -- Fast and Accurate Uncertainty Quantification for the ECG with Random Electrodes Location -- Quantitative Hemodynamics in Aortic Dissection: Comparing in vitro MRI with FSI Simulation in a Compliant Model -- 3-D Intraventricular Vector Flow mapping Using Triplane Doppler Echo -- The role of extra-coronary vascular conditions that affect coronary fractional flow reserve estimation. -- In-silico analysis of the influence of pulmonary vein configuration on left atrial haemodynamics and thrombus formation in a large cohort -- Shape analysis and computational fluid simulations to assess feline left atrial function and thrombogenesis -- Using the Universal Atrial Coordinate system for MRI and electroanatomic data registration in patient-specific left atrial model construction and simulation -- Geometric Deep Learning for the Assessment of Thrombosis Risk in the Left Atrial Appendage -- Learning atrial fiber orientations and conductivity tensors from intracardiac maps using physics-informed neural networks -- The Effect of Ventricular Myofibre Orientation on Atrial Dynamics -- Intra-Cardiac Signatures of Atrial Arrhythmias Identified By Machine Learning and Traditional Features -- Computational Modelling of the Role of Atrial Fibrillation on Cerebral Blood Perfusion.

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#### Sommario/riassunto

This book constitutes the refereed proceedings of the 11th International Conference on Functional Imaging and Modeling of the Heart, which took place online during June 21-24, 2021, organized by the University of Stanford. The 65 revised full papers were carefully reviewed and selected from 68 submissions. They were organized in topical sections as follows: advanced cardiac and cardiovascular image processing; cardiac microstructure: measures and models; novel approaches to measuring heart deformation; cardiac mechanics: measures and models; translational cardiac mechanics; modeling electrophysiology, ECG, and arrhythmia; cardiovascular flow: measures and models; and atrial microstructure, modeling, and thrombosis prediction.

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