

Preface

FIMH 2017 was the 9th International Conference on Functional Imaging and Modelling of the Heart. It was held in Toronto, Canada, during June 11–13, 2017. This year's edition of FIMH followed the past eight editions held in Helsinki (2001), Lyon (2003) Barcelona (2005), Salt Lake City (2007), Nice (2009), New York (2011), London (2013), and Maastricht (2015). FIMH 2017 provided a unique forum for the discussion of the latest developments in the areas of functional cardiac imaging as well as computational modelling of the heart. The topics of the conference included (but were not limited to): advanced cardiac imaging and image processing techniques, myocardial tissue characterization and perfusion, robotics and image-guided therapy procedures, computational fluid dynamics, forward and inverse problems in electro-physiology, modelling of cardiac function across different patient populations, statistical atlases, computational physiology and biomechanics of the heart, parameterization of mathematical models from data, integrated functional and structural analyses, as well as the preclinical and clinical applicability of these methods.

FIMH 2017 drew many submissions from around the world. From the initial 63 registered papers, 49 contributions were accepted. Finally, 48 selected papers were invited to be published by Springer in this *Lecture Notes in Computer Science* proceedings volume. All submitted papers were peer-reviewed by two or three Program Committee members who are international experts in the field. The review process was double-blinded and all papers underwent a rebuttal phase, during which the authors addressed specific concerns and issues raised by reviewers and improved the scientific content and the quality of the manuscripts.

The conference was greatly enhanced by invited keynote lectures given by four world experts in various fields related to: parameterization of patient-specific cardiac biophysical models, novel magnetic resonance (MR) and computed tomography (CT) techniques for myocardial tissue characterization, advanced MR imaging and image reconstruction, as well as artificial agents and personalized medicine. We are extremely grateful to Dr. Maxime Sermesant (Inria, Sophia Antipolis, Asclepios project, France), Dr. Maria Drangova (Robarts Institute, London Ontario, Canada), Dr. Dorin Comaniciu (Siemens, Princeton, USA), and Dr. Debiao Li (Cedar-Sinai, UCLA, Los Angeles, USA) for their exceptional lectures.

We hope that all these papers, along with the keynote contributions and fruitful discussion during the conference, will act to accelerate progress in the important areas of functional imaging and modelling of the heart.

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