

Imaging and Simulation Techniques for Cardiovascular Diseases

Thematic Session within VipIMAGE 2017

VI ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing

Porto, Portugal, 18-20 October 2017

www.fe.up.pt/vipimage

web.fe.up.pt/~vipimage/nav/conference/sessions.htm

Description

Imaging technologies, and their application to aid design of other medical devices, make a significant contribution to the treatment of cardiovascular disease. However, cardiovascular disease still accounts for 47% of all deaths in Europe with an estimated cost to the EU economy of almost €196 billion a year.

The use of image-driven simulation to optimise medical device design for an individual is now widely applied in cardiovascular medicine and is being extended to enhance personalized treatments. This integration of simulation with medical imaging to derive additional benefits from quantitative data requires high quality validation as described in recent guidance published by the US Food and Drug Administration

¹. This thematic session will bring together researchers with a focus on image-based simulation and novel imaging techniques applied to cardiovascular medicine. This will stimulate discussion of the state-of-the-art in this domain and provide an opportunity to identify key challenges in terms of future technical development, clinical interpretation of outcomes and industrial and clinical translation.

Topics of interest include (but are not restricted to):

- Image-based simulation for device design and evaluation
- Quality assurance of imaging systems
- Novel imaging techniques for strain/flow measurements
- Patient-specific treatment planning from medical images and simulation

Publications

The **proceedings book** will be **published by Springer** under the book series "[Lecture Notes in Computational Vision and Biomechanics](#)" and **indexed by Elsevier Scopus**.

A **special issue** of the Taylor & Francis international journal "[Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization](#)", indexed in ISI Thomson Reuters, Elsevier Scopus and dblp, **will be published**. All authors of works presented in VipIMAGE 2017 will be invited to submit an extended version to the special issue.

¹<http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM381813.pdf>

Important dates

- **Submission of extended abstracts: April 21, 2017 (FINAL deadline)**
- Authors Notification: May 10, 2017
- Final Papers (not compulsive): June 15, 2017

Organizers

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