Imaging and Image processing in Ophthalmology

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

Ophthalmic imaging and image processing is a constantly developing area. A number of different modalities are currently used for anterior or posterior segment imaging and most of them are still developing - OCT with different wavelengths can penetrate deeper into retinal tissue, laser scanning ophthalmoscopes can be equipped with adaptive optics, fundus cameras have higher spatial and temporal resolution and may use spectral filters. Other advances include OCT angiography, polarization sensitive OCT, multi-spectral imaging for oximetry and mobile phone or handheld ophthalmic cameras. These imaging technologies provide images with different properties and enable new applications, requiring modified or new image processing approaches.

The application area is not just ophthalmology itself, but has become very broad – including cardiovascular research, neurology, psychology, bioinformatics and biometry.

This thematic session aims to bring together scientist working in ophthalmic imaging and image processing and to share knowledge and discuss current and future challenges within these topics.

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

- New imaging approaches in ophthalmology
- Processing and analysis of ophthalmic images
- Pupil tracking, gaze estimation, eye movement
- Fundus image processing, analysis and segmentation
- Machine learning (including deep learning) in ophthalmic image analysis
- CAD systems for screening, diagnosis and follow-up of ophthalmic diseases
- Modelling of ophthalmic images
- Retinal imaging for cardiology, neurology and other non-ophthalmic applications

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.

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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