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Special Track on Computer-Aided and Robotic Endoscopy Systems

June 22-24, 2017, Aristotle University of Thessaloniki, Thessaloniki, Greece,
http://www.cbms2017.org/

Endoscopy empowers clinicians to access and assess the interior surfaces of luminal organs. Its importance in preventative medicine has motivated significant developments in biomedical imaging and engineering. Conventional fiber optic endoscopes have evolved into magnifying optical or confocal laser devices enabling real-time (optical) diagnosis, whereas they are progressively giving their place to miniature and wireless robotic devices, or even virtual endoscopes based on computed tomography (CT) and magnetic resonance (MR) imaging. In this process, intelligent computational models aim to provide cost-efficient, early and accurate diagnosis, hence improving both patient comfort and safety.

This special track aims to:

a) Bring together scientists from various disciplines related to this research field;
b) Present advanced concepts in endoscopic imaging, engineering, including state-of-the-art methods for intelligent processing and analysis of endoscopic data, sensors, robotic systems, hardware and software architectures;
c) Discuss open issues and research perspectives.

Prospective authors are solicited to submit complete and original, unpublished contributions which must not be under review elsewhere. Studies presenting original results on publicly available data are highly encouraged. All papers will be peer reviewed and will be included in the official CBMS conference proceedings.

Topics of this session include (but are not limited to):

- Image/video acquisition, processing and analysis
- Model construction, validation and application
- Semantic content understanding and modeling
- Multimodal information fusion
- Computer-aided diagnosis and measurements
- Medical decision support
- Wireless energy transmission
- Energy-efficient data processing and transmission
- Low radiation techniques
- Mechanisms for endoluminal navigation and treatment
- Robotics and autonomous agents
- Wireless endoscopic localization systems
- Wireless miniature endoscopic systems
- Wireless diagnosis based on integrated modalities, autofluorescence etc
- Endoscopic follow up and treatment approaches
- Virtual endoscopy and in silico medicine

Organizers

- **Dimitris K. Iakovidis**, University of Thessaly, Greece.
- **Anastastios Koulaouzidis**, The Royal Infirmary of Edinburgh, United Kingdom.
- **Gastone Ciuti**, The BioRobotics Institute of Scuola Superiore Sant'Anna, Italy.
- **Alexandros Karargyris**, IBM Research, San Jose California, USA.

Important Dates

See conference website: http://www.cbms2017.org/content/important-dates

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