



Call for Papers

Special Issue on Microscopy Image Analysis for Biomedical Applications

Overview

There is a growing interest in developing image analysis tools for digital microscopy images customized for a variety of biomedical applications. The proposed Special Issue will bring together the latest research in image analysis techniques and discuss open challenges specific to large-scale analysis of microscopy images with applications to both medicine and biology.

Aim and Scope

This special issue will highlight the latest developments in automatic analysis of microscope images for applications in biology and medicine, and will feature papers proposing new solutions in addressing some of the real challenges and difficulties faced in this area. We solicit original contributions from researchers, practitioners and clinicians, which address a wide range of theoretical and applied issues.

The scope includes the development and application of computational methods for analysis of image data from any microscopic imaging devices, including multi-spectral, fluorescence, confocal, phase-contrast, tomographic, electron and multimodal microscopy.

Topics of interest include, but are not limited to:

- Detection, segmentation and classification of objects and structures at intracellular, cellular or tissue level.
- Analysis of shape and morphology
- Multispectral analysis
- Motion analysis and tracking in time-lapse data
- Event detection and analysis of dynamics
- Registration of microscopy images (intra-modality and inter-modality)
- Acquisition, storage, communication and visualization of large-scale image data generated by digital scanners and multi-channel microscopy
- Annotation for machine learning, indexing and retrieval
- Evaluation of algorithms and systems
- Applications in areas such as cell biology, histopathology, diagnosis and grading, high-throughput screening, drug discovery, plant biology

Important Dates:

Full paper due: August 15, 2010	First notification: November 15, 2010
Acceptance notification: March 1, 2011	Revised manuscript due: January 15, 2011
Final manuscript due: March 31, 2011	Tentative publication: 2nd quarter of 2011

Guest Editors:

Stephen McKenna (University of Dundee, UK)

Derek Magee (University of Leeds, UK)

Nasir Rajpoot (University of Warwick, UK)