International Journal of Biomedical Imaging

Special Issue on
Microscopic Image Analysis

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Nowadays, microscopic images are widely utilized for disease diagnosis and monitoring treatment. For example, interpretation of microscopic images of the human tissue biopsies is a reliable way for screening malignancies and for grading of cancer. However, manual analysis and interpretation of these images can be troublesome, slow, and time-consuming for clinical and research purposes. Thus, computer-aided tools that perform semi- or automated image processing for enhancement, segmentation, classification, and so on are needed. Accordingly, development of computational methods for analysis of microscopic images is a topic of interest in the field of image processing and computer vision. The goal of this special issue is to present latest developments and cutting-edge research in analysis of microscope images for variety of biomedical applications.

The scope includes computational methods, applications, tools, and software for analysis of microscopic images from any imaging modality, such as light, electron, fluorescence, ultrasound, EM, and X-ray microscopy.

Potential topics include but are not limited to the following:

- Acquisition, storage, and communication of microscopic image data
- Microscopic image denoising/enhancement
- Microscopic image reconstruction
- Registration and mosaicking of microscopy images
- Object detection and segmentation
- Classification and object recognition
- Analysis of shape and morphology
- Motion analysis and object tracking
- Microscopic image fusion
- Visualization
- Computer-aided detection and diagnosis
- Development of tools and software in microscopy imaging
- Evaluation of algorithms and systems

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