Journal of Engineering

Special Issue on

Advanced Signal Processing in Biomedical Imaging

CALL FOR PAPERS

With advancement in biomedical imaging, the amount of data generated by multimodality image techniques (e.g., ranging from Computed Tomography (CT), Magnetic Resonance

Imaging (MR), Ultrasound, Single Photon Emission Computed Tomography (SPECT), and Positron Emission Tomography (PET) to Magnetic Particle Imaging, EE/MEG, Optical Microscopy and Tomography, Photoacoustic Tomography, Electron Tomography, and Atomic Force Microscopy) has grown exponentially and the nature of such data has increasingly become more complex. This poses a great challenge as to how to develop new advanced imaging methods and computational models for efficient data processing, analysis, and modelling in clinical applications and in understanding the underlying biological process.

The purpose of this special issue is to provide a diverse, but complementary, set of contributions to demonstrate new developments and applications of advanced imaging analysis in the multimodal biomedical imaging area. The ultimate goal is to promote research and development of advanced imaging analysis for multimodal biomedical images by publishing high-quality research articles and reviews in this rapidly growing interdisciplinary field.

Potential topics include but are not limited to the following:

- New algorithms, models, and applications of advanced imaging methods
- Multimodal imaging techniques: data acquisition, reconstruction, and 2D, 3D, and 4D imaging
- Translational multimodality imaging and biomedical applications (e.g., detection, diagnostic analysis, quantitative measurements, and image guidance of ultrasonography)
- Variational and combinatorial optimizations for biomedical imaging and image analysis
- Advanced biomedical image analysis (image processing, statistical and probabilistic methods for biomedical imaging and image analysis, and machine learning in biomedical imaging and image analysis)
- Deep learning methods (convolutional neural network, autoencoder, deep belief network, etc.)
- Visualization

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/je/electrical.engineering/aspbi/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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