

Special Issue on Novel Computational Tools in Biosignal Processing

Call for Papers

Computational science is thought of as the third leg of science along with experiments and theoretical science, particularly in biological science. In recent years, computational science has been widely applied in biological science, becoming a requisite tool to explore advance knowledge in discovering biological fundamental problems and understanding the mechanisms of disease. Due to the complexity in biological systems, a truly multidisciplinary approach is required which includes novel experiments, biological techniques, and computational tools. Computational tools from theory and experimentations by making use of mathematics and computers will be able to provide the utilizable approaches to enhance our understanding of complex biological systems.

The aim of the special issue is the presentation of novel computational techniques and tools based on the use of artificial intelligence, machine learning, and signal processing techniques to analyze biosignals, such as electroencephalogram (EEG), electrocardiogram (ECG), electromyogram (EMG), and magnetoencephalogram (MEG), as well as images acquired by computed tomography (CT), magnetic resonance imaging (MRI), and other medical imaging devices.

The main focus of the special issue will be new and existing tools and techniques in biosignal processing for real-world applications. Potential topics include, but are not limited to:

- Computational intelligence in bio- and clinical medicine
- Computational methods for biomarker discovery
- Time series analysis and identification of biosignals
- Biosignal modelling, control, prediction, and synchronization
- Chaotic biosignals characteristics
- Image analysis in biomedicine
- Pattern recognition of biological data
- Wavelet transform applications
- Optical spectroscopic signals (spectra processing)
- 3D reconstruction of biomedical images

Before submission authors should carefully read over the journal's Author Guidelines, which are located at

<http://www.hindawi.com/journals/tswj/guidelines/>. Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/tswj/signal.processing/nctb/> according to the following timetable:

Manuscript Due	Friday, 1 August 2014
First Round of Reviews	Friday, 24 October 2014
Publication Date	Friday, 19 December 2014

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