Computational and Mathematical Methods in Medicine

Hindawi

Special Issue on

Advanced Signal Processing for Cardiovascular and Neurological Diseases

CALL FOR PAPERS

Advanced signal processing and computing techniques have been consistently playing a significant role in the field of biomedical engineering research. This special issue will focus on the use and elaboration of latest techniques, like deep machine learning, compressed sensing, nonlinear dynamical approaches, and so on, to analyze biomedical data relevant for understanding and treatment of cardiovascular and neurological diseases.

More specifically, these advanced techniques are applied to ECG, EEG, arterial pulse, heart sounds, impedance and respiratory signals, plethysmography and transcranial Doppler, near infrared spectroscopy, and so on. The special issue will be an international forum for researchers working in the fields of biomedical engineering, medical physics, computational neuroscience, and integrative physiology to report the most recent developments and ideas, with special emphasis on the following research topics.

Potential topics include but are not limited to the following:

- Noise suppression and removal in analyzing cardiovascular and neurophysiological signals
- Nonlinear dynamical approaches and multivariate and multiscale techniques for analyzing cardiovascular and neurophysiological signals
- Application of machine learning and deep neural networks for detection and classification of cardiovascular and neurological diseases
- Advanced signal processing for the interactions between cardiovascular and neurological diseases
- Advanced signal processing in brain-computer interface and neuroprosthetic devices
- Acquisition and analysis of cardiovascular and neurophysiological signals from mobile and wearable devices and body sensor network techniques

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/cmmm/aspc/.

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

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dingchang.zheng@anglia.ac.uk

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pli9@bwh.harvard.edu

Sheng-Yu Peng, National Taiwan University of Science and Technology, Taipei, Taiwan
sypeng@mail.ntust.edu.tw

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