

Special Issue on
Multimodal Biomedical Data Fusion and Representation

CALL FOR PAPERS

Biomedical signal processing has numerous research directions. Fusion of brain data such as EEG and fMRI is one classical yet active research path. In this field data fusion is applied to perform a more accurate spatial and temporal analysis of brain function at the same time. Other types of fusions such as EEG and ECG or EMG can be used. The results of these analyses can be employed in designing BCI systems to improve human life. Even diverse types of modalities such as eye gaze, video, audio and biomedical signals can be incorporated. Not limited to brain, multisensory data fusion where artificial intelligence, pattern recognition, and statistical estimation can be employed is another broad aspect of this special issue. The main challenges in data fusion could be dealing with different data modalities particularly towards big data for medical imaging and fusion.

In this special issue the aim is to publish original research articles where new applications and developments in data fusion for medical applications are addressed. Variety of applications such as identification of the brain state, brain computer interfacing (BCI), human computer interaction (HCI), diagnosis automation, physical and mental rehabilitation, and disease progress monitoring can be included. Even data integration at molecular, cellular, and tissue scale for creating a more comprehensive view of key biological processes is of interest. Review articles which describe the current state of the art are also welcome.

Potential topics include but are not limited to the following:

- ▶ Dictionary learning
- ▶ Blind source separation
- ▶ Tensor factorization
- ▶ Multisensory data fusion
- ▶ Pattern recognition
- ▶ Molecular, cellular, and tissue data integration
- ▶ Multimodal fusion of EEG and EMG for BCI
- ▶ Artifact removal
- ▶ Metaclassification
- ▶ Sparse data representation
- ▶ Brain connectivity
- ▶ EEG and video fusion for Emotion recognition
- ▶ BCI and eye gaze
- ▶ Deep learning for fusion and classification
- ▶ Cooperative learning
- ▶ BCI for Rehabilitation

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijbi/mnmdf/>.

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

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