

Call for Papers
IEEE Signal Processing Society
IEEE Journal of Selected Topics in Signal Processing (J-STSP)

Special Issue on fMRI Analysis for Human Brain Mapping

Functional Magnetic Resonance Imaging (fMRI) is a new technology allowing non-invasive assessment of brain activity. It has therefore been of increasing interest to neuroscience researchers for the investigation of the brain in normal and disease states. The development of MRI technology has been made possible due to the advances in physics and associated technology. Between these two groups – the developers of the technology and the ultimate end users – there exists a growing need for development of signal processing strategies for the analysis and modeling of fMRI data for human brain mapping.

The goal of this special issue is to bring together a diverse but complementary set of contributions to demonstrate the importance of signal processing in the neuroscience area and to provide an insight into current advances in functional MRI data analysis and modeling for human brain mapping from a signal processing perspective. We invite original and unpublished research contributions in all areas relevant to fMRI signal processing and modeling for exploring the spatial and temporal organization of the neural systems supporting human behavior. The topics of interest include, but are not limited to:

- FMRI data acquisition, preprocessing and denoising
- Detection or localization of neural activity
- Modeling of functional connectivity
- Multivariate methods
- Statistical inference for fMRI (*e.g.*, robust and non-parametric inference, Bayesian inference)
- Multi-subject region-of-interest analysis
- Single subject and across subjects analysis
- Fusion of fMRI data with other modalities, such as EEG/MEG

Prospective authors can find submission information at <http://www.ece.byu.edu/jstsp>. The authors are required to follow the Author's Guide for manuscript submission to the IEEE Transactions on Signal Processing (T-SP) at <http://ewh.ieee.org/soc/sps/tsp/>. The manuscripts will be peer reviewed according to the standard IEEE process.

Submission deadline: **March 15, 2008**
First round of reviews completed: May 15, 2008
Revised manuscripts due: June 30, 2008
Second round of reviews completed: Aug. 15, 2008
Final manuscripts due: Oct. 1, 2008

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