

THE UNIVERSITY



OF HONG KONG

Department of Mathematics

Numerical Mathematics and Applied Analysis Group Seminar (NMAA)

Signal Processing Methods for Brain Connectivity Modeling

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on Tuesday, October 19, 2010 at 3:00pm
in Room 309, Run Run Shaw Building, HKU

Abstract

There have been revolutions in neuroimaging technologies that can non-invasively probe the brain at different temporal and spatial scales, such as functional MRI (fMRI) and electroencephalogram (EEG). With the recent revolution in neuroimaging techniques, there is greater recognition of the vital role signal processing techniques can play for modeling brain connectivity, which is critical for the understanding and assessment of brain functioning. While there has been significant progress, there are still a number of challenges associated with inferring brain connectivity from neurological signals that require special exploration. In this talk, we focus on developing novel, fundamental signal processing and graphical models for accurately inferring brain connectivity from neurological data (e.g. fMRI, EEG) by addressing key challenges, including sparsity, temporal-variability, blind source separation, error control in learning network structures and group analysis to deal with inter-subject variability.

All are welcome
