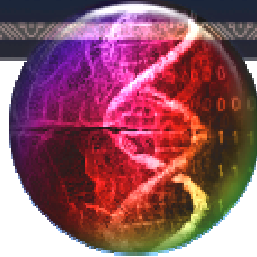


Center for
**Computational
Biology (CCB)**



Presents

Junning Li

PhD candidate in the Department of Electrical and Computer Engineering,
at the University of British Columbia, Vancouver, Canada.

Thursday, July 16, 2009 at 11 AM

LONI DIVE Theater, 635 Charles E. Young Drive South, Suite 225

***Bayesian Networks, with Applications to Discovering
and Modeling Brain Connectivity***

Abstract:

Studying interactions between different brain regions or neural components is crucial in understanding mental diseases. Bayesian networks, a type of statistical graphical models, have been suggested as a promising tool to model neural communication systems. This talk discusses the reliability, generality and interpretability of Bayesian networks in their application to analyzing neural connectivity. It covers the following sub-topics.

- (1) Error control during learning brain connectivity. In this part, recent advancement in network learning will be presented, with focus on controlling the false discovery rate (FDR).
- (2) Selection of group-analysis methods. In this part, different group-analysis strategies will be compared, in a study on Parkinson's disease using fMRI data, regarding their performances of detecting the normalizing effect of L-dopa medication.
- (3) Extraction of structural features. In this part, structural features of networks and methods for extracting them will be discussed.

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