

THE CHINESE UNIVERSITY OF HONG KONG

Department of Statistics

will present a seminar entitled

**Network Component Analysis for Gene Regulatory Network
Reconstruction from Microarray Data**

by

**Prof. Chunqi Chang
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on

**Tuesday, 3 March 2009
2:00pm – 3:00pm**

in

**Lady Shaw Building G35
The Chinese University of Hong Kong**

Abstract:

Gene regulatory network reconstruction is an important research problem in systems biology where structure and dynamics of cellular functions are of interest. Since gene regulatory network reveals the underlying inter-dependency and cause-and-effect relationship between various cellular functions, it has become one of the key areas of interest in systems biology. Among the various methods proposed for gene regulatory network reconstruction, one of the most successful approaches is network component analysis (NCA). However, most of the available algorithms are computationally expensive, suffer from local convergence problem, and are not amenable to the inclusion of prior knowledge. In this talk, we introduce some new network component analysis algorithms which are more stable, robust to noise, capable of incorporating possible known biological information, and in the same time, much faster. In addition, methods to improve the performance of network component analysis for modeling uncertainties in the microarray data, will also be discussed.

All are Welcome