

**THE CHINESE UNIVERSITY OF HONG KONG**

*Department of Statistics*

will present a seminar entitled

**The Reversible Jump MCMC Algorithm for Multivariate Gaussian Mixtures with Applications to Linear Mixed-Effects Models**

by

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on

**Wednesday, 30 March 2005**

**2:30pm – 3:30pm**

in

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

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**Abstract:**

We devised a methodology of fully Bayesian inference for multivariate Gaussian mixtures using the reversible jump Markov chain Monte Carlo algorithm. Under preserving the first two moments before and after the split and combine moves, Richardson and Green (1997) first applied the reversible jump Markov chain Monte Carlo algorithm to univariate Gaussian mixture models. Along the same line, we extend the algorithm to multivariate Gaussian mixtures by using the Cholesky decomposition of a positive definite matrix. We also apply a modified version of our algorithm to the linear mixed-effects model with both random intercept and random slopes. Experimental results on simulated and real datasets demonstrate the efficacy of our algorithm.

**All are Welcome**