Mathematics and Mathematics Education
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"I have in my possession two maps ..."

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Time: 3.30pm – 4.30pm
Venue: MME Journal Room NIE 7-03-16

Abstract
Given two spatial data sets collected over the same geographical region, a common question of interest is the differences between these two data sets. The data may have been collected at two time points and the differences represent how the data has changed over the intervening time period. Or they may be data on two sub-populations and the differences then describe where and how these two sub-populations vary relative to each other. We will consider the problem of objectively highlighting the differences between two spatial data sets, and showing these differences on a map. Specifically, we assume that the data sets are collected over a lattice, and model the values of one set as a function of those of the other data set, taking into account the inherent spatial structure. The model is a hierarchical model with spatial errors whose specification controls the amount of smoothing applied to the data. Additional covariates may be added to the model to explore more complex relationships between the two data sets.

Loh Ji Meng is Associate Professor at the Department of Mathematical Sciences at the New Jersey Institute of Technology which he joined in Sep 2012 after 3 years with AT&T Labs-Research. Prior to that he was with the Dept of Statistics at Columbia University. He did his graduate work at the University of Chicago. His research interest is in spatial statistics, especially the analysis of spatial point patterns, anomaly detection and spatial bootstrap. His work has included applications in astronomy, public health, fMRI and telecommunications.

All are Welcome!

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