

Statistics Seminar
Department of Mathematical Sciences

DATE:	Thursday, March 1, 2018
TIME:	1:15pm - 2:15pm
LOCATION:	WH 100E
SPEAKER:	Ganggang Xu, Binghamton University
TITLE:	Structured Multi-Level Log-Gaussian Cox Processes

Abstract

We propose a general framework of using multi-level log-Gaussian Cox processes to model repeatedly observed point processes with complex structures. A novel nonparametric approach is developed to consistently estimate the covariance kernels of the latent Gaussian processes at all levels. Consequently, multi-level functional principal component analysis can be conducted to investigate the various sources of variations in the observed point patterns. We further extend our procedure to the bivariate point process case in which potential correlations between the processes can be assessed.

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