

Data Science Seminar  
Hosted by Department of Mathematical Sciences

- Date: Tuesday, September 26, 2017
- Time: 12:00pm - 1:00pm
- Room: WH-100E
- Speaker: Ji Meng Loh (New Jersey Institute of Technology)
- Title: Single-index model for inhomogeneous spatial point processes

**Abstract**

I will introduce a single-index model for the intensity of an inhomogeneous spatial point process, relating the intensity function to an unknown function  $\rho$  of a linear combination of a  $p$ -dimensional spatial covariate process. Such a model extends and generalizes the commonly used log-linear model. I will describe an estimating procedure for  $\rho$  and for the coefficient parameters  $\beta$ . Consistency and asymptotic normality of estimates of  $\beta$  can be achieved under some regularity assumptions. I will show results from a simulation study showing the effectiveness of the procedure and from fitting the model to a dataset of fast food restaurant locations in New York City.

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