

# STATISTICS COLLOQUIUM

MONDAY, NOVEMBER 11, 2013

TALK: 4:15 PM — SCIENCE CENTER RM. 705

RECEPTION: 3:50 PM — SCIENCE CENTER, 7TH FLOOR

## **“Bayesian Nonparametric Models for Bipartite Graphs”**

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### ABSTRACT

In this talk I will present a novel Bayesian nonparametric model for bipartite graphs, based on the theory of completely random measures. The model is able to handle a potentially infinite number of nodes and has appealing properties; in particular, it may exhibit a power-law behavior for some values of the parameters. I derive a posterior characterization, a generative process for network growth, and a simple Gibbs sampler for posterior simulation. Finally, the model is shown to provide a good fit to several large real-world bipartite social networks.