Temple University

ANNOUNCES A

Seminar

Harry Crane

Rutgers University

will speak on

Edge exchangeability: a new framework for modeling network data

Time:  3:00 – 4:00 PM
Date:   Friday, October 28, 2016
Place: Alter Hall 238

Abstract

Exchangeable models for vertex-labeled graphs cannot replicate the large sample behaviors of sparsity and power law degree distribution observed in many network datasets. Out of this mathematical impossibility emerges the question of how network data can be modeled in a way that reflects known empirical behaviors and respects basic statistical principles.

We address this question with the new invariance principle of edge exchangeability, which admits models for networks with sparse and/or power law structure. Our characterization of edge exchangeable networks gives rise to a class of nonparametric models, akin to graphon models in the vertex exchangeable setting. We also identify a two parameter model whose close relationship to Ewens’s sampling formula leads to several nice properties for theory and applications.

Based on joint work with Walter Dempsey.