



THE UNIVERSITY OF CHICAGO

Department of Statistics

STATISTICS COLLOQUIUM

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Network data: Modeling and Statistical Analysis

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Eckhart 133, 5734 S. University Avenue

ABSTRACT

Network data arises frequently in modern scientific applications. These networks often exhibit specific characteristics like edge sparsity, heavy-tailed degree distribution etc. Some broad challenges arising in the analysis of such datasets include (i) developing flexible, interpretable models for networks, (ii) provably recovering latent structure from such data, and (iii) testing for goodness of fit. In this talk, we will discuss recent progress in addressing very specific instantiations of these challenges. In particular, we will

1. Interpret the Caron-Fox model using notions of graph sub-sampling,
2. Discuss recovery of community structure, given additional covariates,
3. Study model misspecification due to rare, highly “influential” nodes.