

STATISTICS COLLOQUIUM

MONDAY, APRIL 23, 2012

TALK: 4:00 PM — SCIENCE CENTER RM. 309

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

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“Topics in Nonparametric Inference for Unlabeled Network Models”

ABSTRACT

In Bickel and Chen (2009) we introduced a “nonparametric” model for unlabeled graphs with average degrees ranging from $O(\log(n))$ to $O(n)$ and studied it in relation to “block models”. In Bickel, Chen and Levina (2011) we showed how to obtain the asymptotic distributional behavior of average counts of patterns under this model. These statistics have many uses, for instance as homophile measures. We show how to apply a naïve bootstrap to do inference with these statistics. We discuss as well inferential use of an ingenious very rapid “bootstrap” proposed to estimate the counts themselves since direct counting is prohibitive (Kashtan et al. (2004)). We will also discuss the asymptotic behavior of maximum likelihood and variational likelihood for block models.