JAMES FRANCIS HANNAN LECTURE SERIES
Department of Statistics and Probability
Michigan State University

Professor Peter J. Bickel

University of California, Berkeley
Member of National Academy of Sciences
James Francis Hannan Visiting Scholar

Topics in Nonparametric Inference for Unlabeled Network Models

Tuesday, September 4, 2012
A405 Wells Hall, 10:20 a.m. - 11:10 a.m.
Refreshments: 10:00 a.m.

Abstract

In Bickel and Chen (2009) we introduced a "nonparametric" model for unlabeled graphs with average degrees L ranging from $log(n)$ to $O(n)$ and studied it in relation to "block models". In this talk we will give an overview of our work in this regime including new results on maximum and variational likelihood for block models as well as methods generally appropriate when L tends to infinity, including methods presented in Bickel, Chen and Levina (2012). Finally we will discuss briefly the important but subtle case of bounded L.

This talk is based on joint work (in various parts) with A. Chen, D. Choi, E. Levina, and S. Bhattacharyya

References:

• Bickel P.J. and Chen, A. (2009) A nonparametric view of network models and Newman-Girvan and other modularities. *Proc. Natl. Acad. Sci. USA*, **106**, 2106821073.

• Bickel, P.J., Chen, A., and Levina, E. (2012). The method of moments and degree distributions for network models. *Ann. Statist.*

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