Sparse Signal Detection with Binary Outcomes

In this talk, I will discuss some examples of sparse signal detection problems in the context of binary outcomes. These will be motivated by examples from next generation sequencing association studies, understanding heterogeneities in large scale networks, and exploring opinion distributions over networks. Moreover, these examples will serve as templates to explore interesting phase transitions present in such studies. In particular, these phase transitions will be aimed at revealing a difference between studies with possibly dependent binary outcomes and Gaussian outcomes. The theoretical developments will be further complemented with numerical results.

Rajarshi Mukherjee is a Stein Fellow/Lecturer in the Department of Statistics at Stanford University. Mukherjee is generally interested in structured signal detection problems in High Dimensional and Network Models, Functional Estimation and Adaptation Theory in Nonparametric Statistics, and Quasi Monte Carlo Methods.

Refreshments will be served following the seminar in 1181 Comstock Hall.