



The University of Chicago  
Department of Statistics

Mini-seminars for First Year Ph.D. Students

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**“Dirichlet Cluster Processes and Classification Problems”**

**THURSDAY, May 25, 2006 at 12:15 PM**  
**110 Eckhart Hall, 5734 S. University Avenue**

### **ABSTRACT**

Many interesting and important classification problems arise when a sample from a population is observed with clear or known cluster groups. One such problem is determining the probabilities of a new sample point of being in each of the existing clusters (or starting a new one of its own) conditional on its observed value. Dirichlet cluster processes can be utilized to tackle this problem and, under certain conditions, to derive rather simple forms for the conditional probabilities. An example is also presented, in the form of a simple simulation.