



The University of Chicago  
Department of Statistics

Mini-seminars for First Year Ph.D. Students

---

**HAN XIAO**

Department of Statistics  
The University of Chicago

**Algebraic Algorithms for Sampling from Conditional Distributions**

**TUESDAY, May 29, 2007 at 5:30 PM**  
**110 Eckhart Hall, 5734 S. University Avenue**

**ABSTRACT**

The talk is based on the paper “Algebraic Algorithms for Sampling from Conditional Distributions” (Persi Diaconis and Bernd Sturmfels, *Ann. Stat.* 26, 363-397). I will describe the construction of Markov chain algorithms for sampling from discrete exponential families conditional on a sufficient statistic. The algorithms involve computations in polynomial rings using Groebner bases. Contingency tables are treated to illustrate the application of the algorithms