



The University of Chicago

Department of Statistics

Seminar Series

YUGUO CHEN

Department of Statistics

University of Illinois at Urbana-Champaign

“Sampling for Conditional Inference on Multiway Tables”

MONDAY, April 3, 2006 at 4:00 PM
133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

We describe an efficient sequential Monte Carlo method for sampling multiway tables with given constraints, which can be used to approximate exact conditional inference on contingency tables. An essential feature of our new method is that it samples table entries sequentially according to an appropriate proposal distribution. The sequential sampling approach “divides and conquers” the difficult task of finding an appropriate proposal distribution for a multiway table with complex constraints. Computational commutative algebra is used to provide conditions that guarantee that our method has certain good properties. We apply our method to a range of examples from social and medical sciences to demonstrate its efficiency in real problems.