The University of Chicago
Department of Statistics

Seminar Series

MEI WANG
Department of Statistics
University of Chicago

"Inferred Distributions on Certain Parameter Spaces via Group Invariance"

MONDAY April 25, 2005 at 4:00 PM
133 Eckhart Hall, 5734 S. University Avenue
Refreshments following the seminar in Eckhart 110.

ABSTRACT

In answering the question "what is the probability distribution of the parameter given observed data" when there is little or no prior knowledge on the parameter values, one may consider three types of statistical inference: Bayesian, frequentist, and group invariance-based. The focus here is on the latter method. We use three one-parameter probability families (the Poisson, normal and binomial distributions) to illustrate a group-invariance method to obtain inferred distributions on the parameter spaces conditional upon observed results. The families are constructed according to group theoretic methods involving so-called "coherent states". These particular inferred distributions coincide with Bayesian posteriors. In that sense, this context provides a method for obtaining noninformative prior measures.