

STANFORD UNIVERSITY
DEPARTMENT OF STATISTICS
DEPARTMENTAL SEMINAR

4:15 p.m., Wednesday, December 5, 2007
Sequoia Hall, Room 200

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Empirical Likelihood

Empirical likelihood provides likelihood-based inferences whose validity does not depend on the data belonging to any known parametric family. It uses instead a nonparametric likelihood ratio function, which in most cases reduces to a multinomial on the sample. Although there are as many parameters as data points in this likelihood, a version of Wilks theorem holds. Because it is a likelihood, it can be adapted to censoring, truncation, biased sampling and even prior information. Surprisingly, the large sample power of tests based on empirical likelihood is competitive with that of the parametric likelihood when the parametric model holds.

This talk is based on a lecture given at a Fields Institute Seminar in 2005. In the context of our statistical foundations series, one notable thing about empirical likelihood is that it uses optimization at its core instead of Monte Carlo.