Stanford University
Department of Statistics

DEPARTMENTAL SEMINAR

4:15pm, Tuesday, October 26, 2010
Sequoia Hall Room 200

Cookies served at 3:45pm, 1st Floor Lounge.

Speaker:  Xiao-Li Meng
Department of Statistics, Harvard University


Abstract:
The self-consistency principle, originated by Efron (1967), generalizes MLE to semi/non-parametric estimation with incomplete data under an arbitrary loss function. It is conceptually appealing, essentially a mathematical formalization of the common-sense “trial-and-error” methods; mathematically elegant, with one fixed-point equation to solve and a general contraction mapping theorem to establish its optimality; and practically straightforward because it directly uses complete-data methods such as the LASSO (Tibshirani, 1996) within iterations, much like the EM algorithm. Its major disadvantage is that it can be computationally very intensive. However, increasingly efficient (approximate) implementations are being discovered, such as for wavelet de-noising with hard and soft thresholding (Donoho and Johnstone, 1994). This talk summarizes these findings, based on joint work with Thomas Lee of UC Davis and Zhan Li of Harvard University.