



Cornell CIS
Statistical Science

STATISTICS SEMINAR

Wednesday, November 16, 2016

4:15 pm

G01 Biotechnology



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Non-parametric empirical Bayes improvement of common shrinkage estimators

We consider the problem of estimating a vector (μ_1, \dots, μ_n) of normal means under a squared loss, based on independent $Y_i \sim N(\mu_i, 1)$, $i = 1, \dots, n$. We use ideas and techniques from non-parametric empirical Bayes, to obtain asymptotical risk improvement of classical shrinkage estimators, such as, Stein's estimator, Fay-Herriot, Kalman filter, and more. We consider both the sequential and retrospective estimation problems. We elaborate on state-space models and the Kalman filter estimators. The performance of our improving method is demonstrated both through simulations and real data examples.

Joint work with Ariel Mansura, and Ya'acov Ritov

Refreshments will be served following the seminar in 1181 Comstock Hall.