

STATISTICS COLLOQUIUM

TUESDAY, APRIL 19, 2011

TALK: 4:00 PM - SCIENCE CENTER RM. 705

RECEPTION: 5:15 PM - SCIENCE CENTER, 7TH FLOOR

“SURE shrinkage Estimation in Heteroscedastic Hierarchical Models”

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ABSTRACT

This talk discusses the problem of shrinkage estimation in heteroscedastic hierarchical models. Based on the Stein's unbiased risk estimate (SURE), we introduce a class of shrinkage estimators and study their optimality properties. Connection of the methods to popular model selection procedures and specialization of our results to the homoscedastic cases are then discussed. We also generalize the idea to hierarchical models based on natural exponential family with quadratic variance function. The methods are applied to some real examples and encouraging results are obtained.

(This is a joint work with Professor Samuel Kou at Harvard University and Professor Lawrence Brown at University of Pennsylvania)