

STATISTICS COLLOQUIUM

MONDAY, MARCH 05, 2007

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

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

“Empirical Process Limits under Model Misspecification”

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ABSTRACT

The understanding of the limiting behavior of empirical processes has found much application in a wide variety of problems in statistics. In particular, empirical processes are natural quantities to look at when studying the asymptotic of infinite-dimensional data.

In this talk, we consider two types of perturbations, both on the order of $n^{-1/2}$. We show that neither perturbation affects the empirical law of large numbers. However, the first type of perturbation, which we call a perturbation in finitely many directions, causes a change in the mean of the central limit theorem. On the other hand, if we consider perturbations in infinitely many directions, we obtain a change in the variance. For the perturbations, we consider both real-valued and function-valued (diffusion) data.