STATISTICS COLLOQUIUM

THURSDAY, APRIL 28, 2011
TALK: 4:00 PM — SCIENCE CENTER RM. 705
RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

"Rerandomization to Improve Covariate Balance in Randomized Experiments"

Kari Lock
Statistics Department
Harvard University

ABSTRACT

Randomized experiments are the "gold standard" for conducting research and establishing a causal effect, yet often in practice chance imbalances exist in covariates. If covariate data is available before an experiment is conducted, it should be checked for balance before the experiment takes place. Provided a concrete definition of imbalance has been pre-specified, imbalanced randomizations should be rerandomized. This rerandomization process can continue until a randomization yielding comparable groups is achieved. Conducting the experiment on balanced groups then leads to more precise and trustworthy estimates and tests of the treatment effect.