The Department of Statistics & Actuarial Science

COLLOQUIUM- *SPRING 2015*

ASSISTANT PROFESSOR
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UNIVERSITY OF IOWA

Title: "Estimating false inclusion rates in penalized regression models"

Abstract: Penalized regression methods are an attractive tool for feature selection with many appealing properties, although their widespread adoption has been hampered by the difficulty of applying inferential tools. In particular, the question "How reliable is the selection of those features?" has proved difficult to address, partially due to the complexity of defining a false discovery in the penalized regression setting. In this talk, I will define a false inclusion as a variable that is independent of the outcome regardless of whether other variables are conditioned on. I show that this definition permits straightforward estimation of the number of false inclusions in near-independence conditions. I also discuss a permutation-based approach and show that it yields more accurate estimation of the false inclusion rate in highly correlated settings.

April 16, 2015
Reception at **3:00 p.m.,** 241-B Schaeffer Hall
Talk at **3:30 p.m.,** 61 Schaeffer Hall