RUTGERS UNIVERSITY
DEPARTMENT OF STATISTICS AND BIOSTATISTICS
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Seminar

Speaker: **Professor Xiaoming Huo**
Georgia Institute of Technology
Program Director, National Science Foundation

Title**:** **Detectabilty, Hypotheses Testing, Asymptotic Theorems, and Computational Complexity**

Time: **3:20 – 4:20pm**, *Wednesday*, **February 26, 2014**

Place: **552 Hill Center**

Abstract

The Detectability problem determines when certain type of underlying structures is detectable from noisy images. The methodology will base on analyzing the pattern of a collection of local tests. The aggregation of these testing results needs to ensure both statistical efficiency and low computational complexity. In particular, certain testing methods will depend on the distribution of the length of the longest chains that connect locally significant hypotheses tests. The asymptotic distribution of these largest lengths will reveal properties of the test. I will describe some optimality guarantee of proposed detection methods. Statistical aspect of the problem will be focused. Audience only needs to have knowledge on hypotheses testing and asymptotic theory. The strategy of testing locally and deciding globally may have applications in other statistical problems, in which the alternative hypotheses are complicated or overwhelming.

*** Refreshments will be served @2:50pm in Room 502 Hill Center ***