

DEPARTMENT OF STATISTICS SEMINAR SERIES

SIDNEY SMITH HALL, ROOM SS1083

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Identify Interactions for Ultra-high Dimensional Data

H. Helen Zhang

Department of Statistics
North Carolina State University

For the ultra-high dimensional data, it is extremely challenging to identify important interaction effects among covariates. The first major challenge is implementation feasibility. When the data dimension is more than hundreds of thousands, the total number of interactions is enormous and far beyond capacity of standard software and computers. The second difficulty is the computation speed, even if doable, required to solve big-scaled optimization problems. Asymptotic theory poses additional key challenges. We propose a new class of methodologies, along with efficient computational algorithms, to tackle these issues. The new methods are featured with feasible implementation, fast speed, and desired theoretical properties. Various examples are presented to illustrate the new proposals.

This is the joint work with Dr. Ning Hao, University of Arizona.