Fall 2015
Colloquium Series
Friday, November 6, 2015 at 3pm in Bell Hall 143

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A New Class of Measures for Testing Independence

We introduce a new class of measures for testing independence between two random vectors, which uses expected difference of conditional and marginal characteristic functions. In this paper, by choosing a particular weight function in the class, we propose a new index for measuring independence and study its property. To illustrate the use of such an index, one empirical version by slicing on one of the random vectors is developed. Its properties, asymptotics, connection with existing measures and applications in testing independence are discussed. Implementation and Monte Carlo results are also presented.

(Joint work with Qingcong Yuan)