

DEPARTMENT OF MATHEMATICS AND STATISTICS
MISSISSIPPI STATE UNIVERSITY

COLLOQUIUM

Bivariate Scale-Invariant one- sample location test based on slopes

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Allen 14

Abstract. Modern data collection settings often involve collection information on multiple attributes of each object (person, animal) in the study. In health studies, for example, each observation on a patient is actually a whole array of measurements which together describe the health status of the person at a particular point in time. Thus a multivariate examination of the data is very appropriate and important. In this talk, we propose a test for bivariate one-sample location problem. The proposed test statistic does not depend on covariance structure of the population and is scale-invariant. The asymptotic relative efficiency of the proposed test statistic indicates superior performance of this test under heavy-tailed distributions. The proposed test statistics is compared with Hotelling's test statistic, Mardia's test statistic, Willcoxon's rank sum test statistic, and Peter-Randles test statistic using Monte Carlo simulation technique.

Dr. Sepehrifar is a candidate for a position in our department. There will be a reception for him in Allen 467 at 3:00 pm.