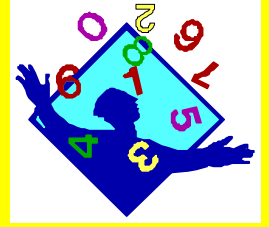


# STATISTICS SEMINAR



**\*Master Report\***  
**Simulation Study of Tests for a  
Common Correlation Coefficient of  
Bivariate Normal Distributions**

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**Department of Statistics**  
**Kansas State University**

DATE: January 12, 2006

TIME: 4:00 pm

PLACE: Dickens 106

REFRESHMENTS: 3:30 pm – Dickens 108

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Paul(1988) used simulation to study some tests for the null hypothesis that the correlation coefficients of two or more bivariate normal distributions are zero. This report extends this work by exploring tests for the null hypothesis that the correlation coefficients are equal to some unspecified value. In addition to an approximate chisquare test provided by Snedecor and Cochran (1980), we derive and investigate the likelihood ratio test. Simulation is used to study the performance of the two tests in terms of size and power. Snedecor and Cochran's test is shown to perform well. However, the likelihood ratio test fails to hold its nominal size and is not recommended.

\*\* Upcoming seminars may also be found on the web at <http://www.ksu.edu/stats/current.seminars/nav.currentseminars.html>.