Title: Tests for High-Dimensional Covariance Matrices Using Random Matrix Projection

3:30 pm, Monday, April 24, 2017
Hume Hall 321

Abstract: The classic likelihood ratio test for testing the equality of two covariance matrices break downs due to the singularity of the sample covariance matrices when the data dimension $p$ is larger than the sample size $n$. In this paper, we present a conceptually simple method using random projection to project the data onto the one-dimensional random subspace so that the conventional methods can be applied. Both one-sample and two-sample tests for high-dimensional covariance matrices are studied. Asymptotic results are established and numerical results are given to compare our method with state-of-the-art methods in the literature.