

**A Two Sample Test for Ultra High
Dimensional Data with Applications to
Gene Sets Testing**

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We proposed a two sample test for means of high dimensional data when the data dimension p is much larger than the sample size n , the so-called “large p small n ” situation. The test does not require any explicit condition on the relationship between the data dimension and sample size. This offers more flexibility than other existing methods in analyzing high dimensional data. An important application of the proposed test is in testing significance for sets of genes in genetic studies. We will demonstrate empirically the usage of the proposed test on a biological data set.

Speaker Biography

Yingli Qin is a PhD candidate at the Department of Statistics, Iowa State University and is expected to receive her PhD degree supervised by Prof Song Xi Chen in summer 2009. Her research interests include statistical inference for high dimensional data, microarray data analysis, empirical likelihood method and non-parametric methods. She received her B.S. in Mathematics in 2002 and M.S. in Statistics under the supervision of Prof Zhidong Bai in 2006 from Northeast Normal University, China.

Host: Prof. Bernhard Schmidt, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

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