



# *Call for Public Lecture*

## **Preparing for Big Data: Statistical and Computational Challenges**

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### *Abstract*

*The century is dubbed as the century of Big Data. Big Data has even caught the attention of the New York Times as shown in the Feb 11, 2012 editorial “The age of big data”. Signaling its critical importance, the White House (WH) has announced a \$200 Million initiative on “Big Data Research and Development” which was announced in March 2012. Big Data encompasses data that arise from medical imaging studies, marketing, climate studies, medical records, genomics, etc. In addition to being big, these datasets are characterized by complex issues such as, hierarchical structure, high-dimension, missingness, multiple testing, spatial/temporal correlations etc. Big data occurs in many areas of research such as medicine, marketing, telecommunications, engineering as well as social sciences. According to recent WH announcements, the main challenges in dealing with big data are going to be, (1) getting state-of-the-art technologies to collect, store, preserve, manage, analyze, and share huge quantities of data; (2) harnessing technologies to accelerate the pace of discovery in science and engineering, strengthen national security, and transform teaching and learning; and (3) expanding the workforce needed to develop and use Big Data technologies. All these will involve strong collaboration between government, industry and higher education institutions. How ready are we for big data? We will discuss the challenges of big data using examples from functional magnetic resonance imaging (fMRI) study and a product recommender system.*

**Thursday – 27<sup>th</sup>, December 2012.**

 **2pm – 4pm**

**Venue : College of Natural Sciences,  
Graduate building Conference  
Room, 9<sup>th</sup> floor.**

*Every one is invited!*