Big Data in Observational Astronomy

Professor Jogesh Babu  
The Pennsylvania State University

Date: 21 December 2012 (Friday)  
Time: 2.00pm – 3.00pm  
Venue: MAS Executive Classroom 1, MAS-03-06  
School of Physical and Mathematical Sciences

Astronomy is among the first areas to encounter and learn from Big Data. Until a few decades ago astronomers would typically compete for observation time on telescopes, spending cold nights on distant mountain top observatories to collect data on few stars and galaxies.
This has changed substantially. Today, they pour over massive data through high speed internet connection to their office computers, thinking of automated procedures to identify objects. It is bringing information scientists, statisticians and astronomers together to collaborate on scientific investigations. Several ongoing and future astronomy projects will be discussed, where statisticians and applied mathematicians could contribute.

Speaker Biography  
Professor Jogesh Babu has diverse research interests in both statistics and probability, and in their applications to problems in genetics, astronomy and astrophysics. He has contributed extensively to probabilistic number theory (Erdős Number 1), resampling methods, nonparametric methods and asymptotic theory. Babu's work in astrostatistics includes multivariate methods for satellite data on Gamma-ray bursts, faint source detection in multi-epoch data, analysis of astronomical datacubes, quantitative comparison of source properties to compare data with astrophysical theories and regression methods to calibrate steps in the cosmic distance ladder.
Prof. Babu is currently the Director of Center for Astrostatistics, The Pennsylvania State University. He is a Core Team Member of Informatics and Statistics Science Collaboration of Large Synoptic Survey Telescope. Prof. Babu is Vice-Chair, Executive Board of ISI Astrostatistics Committee. He is also the Editor-in-Chief of Statistical Methodology. He served on the editorial boards of the Journal of Nonparametric Statistics, Journal of Statistical Planning and Inference, and Sankhya.

Host: Assistant Professor Pan Guangming, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

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