



NITheP cordially invites you to a seminar by:

**Dr. Yin-Zhe MA**

*Jodrell Bank Center for Astrophysics*

Date: Monday, 2<sup>nd</sup> February 2015

Time: 14h00 – 15h00

Venue: NITheP Seminar Room, H-Block, 3<sup>rd</sup> Floor

**TITLE: The density and velocity fields of galaxies**

**ABSTRACT:**

The density and peculiar velocity field are the two major tools of astronomers to probe the large-scale structure of the Universe. The observations of the galaxies in our local volume can give us new advances to probe the nature of dark matter and growth of structure. In this talk, I will address three major issues on this topics on different scales: (a) In our local group system (within 3 Mpc), we re-weight the mass of the Milky Way and Andromeda Galaxy and measuring the quadruple structure of the local group on scales; (b) on scales of 10-150 Mpc scale, we test the prediction of standard Lambda-Cold-Dark-Matter cosmology with the observed density and velocity fields on scales, and obtain stringent measurement of the growth of structure at low redshift; (c) on galaxy clustering scales ( $d \gg 100$  Mpc), by observing the galaxy clusters through Sunyaev-Zeldvoich effect, we search for the “missing baryons” and quantify the baryon content around the galaxy clusters. I will further discuss what are the implications of these current studies.

**Tea, coffee and biscuits will be served after the talk**