



NITheP cordially invites you to a seminar by:

Professor Jeff Peterson

Carnegie Mellon University

Dates: Thursday, 27th August 2015

Time: 10h30 – 11h30

Venue: NITheP Seminar Room, H-Block, 3rd Floor

Title: Fast Radio Bursts.

Abstract:

Fast radio bursts are bright, millisecond flashes of unknown astronomical origin observed at radio frequencies. The dispersion of these bursts due to intervening plasma is much greater than expected for propagation through the Milky Way. If the observed dispersion is dominated by the intergalactic medium, the sources are at cosmological distances at redshifts 0.2 to 1 and have brightness temperatures as high as 10^{35} K, twenty orders of magnitude higher than gamma ray bursts. The eleven bursts detected so far are consistent with a wide range of source models ranging from comet impacts on neutron stars to magnetar collapse. I will report on the discovery of a new fast radio burst with a detection of Faraday rotation, wavelength-dependent scattering, and scintillation. The data imply source location in the dense central region of its host galaxy or the presence of magnetized material associated with the source itself. The HIRAX telescope, along with other telescopes in Canada and China will have the potential to detect 10 FRBs per day and will localize the emission to a single galaxy or star.

Coffee and biscuits will be served at 10h15