INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

Org. by

Theoretical Physics Department

Title:	**Two new avenues in dark matter indirect detection**
Speaker:	**Ranjan Laha, Kavli Institute for Particle Astrophyiscs and Cosmology,** **Stanford University and SLAC National Accelerator Laboratory,USA**
Date:	**February 27,2017 (Monday)**
Time:	**03:00 p.m.**
Venue:	**Theoretical Physics Seminar Room (R/No.-C406), 3rd Floor, Centenary Building, IACS**
Abstract:	Indirect detection is one of the major ways to search for dark matter. However, backgrounds have been a major problem for these searches. In this talk, I will introduce two new techniques to distinguish signal from background. Firstly, I will show how telescopes with ~ 0.1% energy resolution can exploit the Doppler shift of sharp photon features arising from dark matter interactions and separate the signal from background. The technique is general and I will give an example of this search strategy with the 3.5 keV line. In the second half of my talk, I will show how limits from the searches for very high energy photons can be used to constrain dark matter interactions. Using this observable, I will constrain very heavy dark matter which is very difficult to constrain using other means.

All are cordially invited to attend the seminar