

THEORETICAL PHYSICS SEMINAR

Title: Expeditions for Physics Beyond the Standard Model : Challenges and Prospects

Speaker: Dr. Satyanarayan Mukhopadhyay, PITT, Univ. Pittsburgh, USA

Date/Time/Venue: 16th March 2017 (Thursday) / 2:30 PM/ Room No. 469

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Pls. note the time

Tea will be served at 3:30pm outside Room 469

ABSTRACT

The energy, intensity and cosmic frontiers constitute the three major directions of research in particle physics, driven by a large number of ongoing and upcoming experimental and observational probes. Efforts to explore physics beyond the standard model at these experiments give rise to two challenging tasks : (1) how to dig out a tiny signal from a huge background using our understanding of known physics and (2) how to interpret the experimental results from a vast range of probes within an unified theoretical framework. I shall describe progress in addressing the first challenge using examples from the search for strongly interacting new particles at the LHC in difficult to access kinematic regimes. On the second challenge, I shall take up the case-study of classifying and understanding the different probes of particle dark matter, both within the framework of effective field theory as well as in specific simple models.

All are welcome to attend