Seminar

Institute for Plasma Research

Title: Simulation, Track Reconstruction and Data Analysis Techniques for High Energy Physics Experiments

Speaker: Dr. Tapasi Ghosh
Federal University of Goias, Brazil

Date : 23rd August, 2018 (Thursday)

Time : 03.30 PM

Venue : Seminar Hall, IPR

Abstract :

Detector Simulation and Track reconstruction are integral part for any High Energy Physics Experiment. I have been actively involved with two such experiments NOvA and LArIAT based at Fermilab, USA.

NOvA is a neutrino oscillation experiment envisioned for precise measurement of neutrino oscillation parameters and LArIAT is a testbeam facility to execute a comprehensive program to characterize liquid argon TPC performance and charged particle interactions on argon nuclei in the energy ranges relevant for neutrino experiments. Both the experiments are operating since last few years and are publishing their results. I have contributed on their simulation, data taking, data processing, physics analysis and also on the detectors.

In this seminar, I will briefly explain different tool-kits e.g., GEANT4, Kalman Filter used for developing detector simulation and track reconstruction techniques. I will talk about my contributions and explain how these tools can be utilised to other experiments.