

# **Theoretical Physics Seminars**

## **$\tau$ reconstruction to determine CP properties of the Higgs boson at the LHC**

**Speaker:** Ms. Akanksha Bhardwaj

**From:** Physical Research Laboratory (PRL), Ahmedabad.

**When:** June 27 , 2017 Tuesday 4:00 pm

**Place:** Room No. 469

In our ongoing endeavor to uncover properties of the Higgs boson at the LHC, looking for event where the Higgs boson decays into third generation  $\tau$  's is the natural first step in exploring the interactions of the Higgs boson with leptons. We propose a technique to reconstruct the full kinematics at the LHC to pin down the CP properties in the corresponding Yukawa coupling. The reconstruction technique works well for 1- prong decays as well as 3- prong decays. Hence several CP sensitive observable corresponding to different  $\tau$  decay modes can be studied.

**All are welcome**