

# Department of Theoretical Physics

## Free Meson Seminar

*Speaker* : Dipan Sengupta  
*Topic* : The Invisible Higgs  
*Day, Date & Time* : Thursday, March 28, 2013  
at 2:30 p.m.  
*Place* : AG 69

### *Abstract*

The discovery of a 125 GeV Higgs and its coupling measurements do not rule out beyond standard model physics scenarios most of which contain a dark matter candidate. The Higgs boson can act as a candle to dark matter searches by decaying into a pair of stable weakly interacting particles. This invisible decay of the Higgs boson is motivated in a variety of BSM physics models like SUSY, Extra dimensions, etc. This talk will focus on the status of invisible branching ratio of the Higgs at the LHC from considerations of global fit constraints on coupling measurements along with direct searches. Finally I will provide a comprehensive analysis of signals of invisible Higgs at the LHC.

*(Nilmani Mathur)*