

# COLLOQUIUM

## Glimpses of Physics Education Research

**Abstract:** Physics Education Research (PER) is a nascent area spanning a host of disciplines: cognitive science, psychology and physics, among others. We shall argue that there is a rigour to it and it is scientific. In this talk we shall give a flavour of this discipline by highlighting three trends: (i) Discussion of Concept Inventory (CI) which is a set of carefully crafted multiple choice questions designed to elicit misconceptions which a student and even a scientist may harbour. For example if a wire carrying a current is snipped, do the electrons spill out? Granted that action and reaction are equal and opposite; are they simultaneous? (ii) Peer instruction method which ensures an interactive and lively classroom and in which the instructor is more a facilitator than a “lecturer”. (iii) How PER can inform science curricula and science policy. We believe that this discipline cannot thrive in a stand alone format and must be situated in physics departments where it will ensure a synergistic collaboration between science educationists, physics faculty and school and college teachers. While physics is the theme, our observations apply equally well to other subjects such as biology and chemistry.

By

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He oversees India's Olympiad efforts as the National Coordinator, Science Olympiads.. He has guided a large number of undergraduate students and this has resulted in several international publications . He has over 150 peer-reviewed international scientific publications.

**Day & Date : Tuesday, January 14, 2014**

**Time : 15:45 hrs**

**Venue : Seminar Room PF-AG-14, Prefabs, Near Annabhau Sathe Bhavan University of Mumbai, Vidyanagari, Kalina Campus, Mumbai - 400 098**

**All are Welcome**