

## Area Seminar

Title	Quantum Phases of Ultracold Bosonic Atoms in a One Dimensional Optical Superlattice
Date and Time	05/12/2013 16:00:00
Speaker	Prof. B. P. Das Indian Institute of Astrophysics, Bangalore
Area	Theoretical Physics
Venue	Room No. 469
Abstract	<p>Ultracold atoms in optical lattices have provided important insights into a wide range of physical phenomena during the past decade. My talk will begin with the landmark observation of the superfluid to Mott insulator transition in ultracold bosonic atoms in optical lattices in 2002 and then focus on the different quantum phases of ultracold bosonic atoms in a periodic one dimensional optical superlattice. The theoretical approach used in obtaining these phases will be briefly discussed. The physical situations that lead to the emergence of the Mott insulator and the superfluid phases as well as Mott insulators induced by the superlattice will be explained. Results showing the coexistence of the superfluid phase with the superlattice induced Mott insulator will be presented.</p>