

## **Theoretical Physics Seminars**

### **A glimpse of quantum Hall physics for optically trapped Bosons**

**Speaker:** Dr. Sukla Pal

**From:** PRL

**When:** August 24, 2017 Thursday 4:00 pm

**Place:** Room No. 469

Emergence of quantum Hall states in cold atoms recently has captured much attention. In this seminar, I will present few basic aspects to implement quantum Hall states for Bosons trapped in optical lattice. Considering Bose Hubbard model (BHM), I will describe the behavior of interacting Bosons in an optical lattice subjected to a synthetic magnetic field where the system can have a possibility to enter into the quantum Hall regime. In presence of random local impurities, the equilibrium phase diagram differs from clean one -- a new gapless phase-Bose glass phase appears as an equilibrium solution of disordered BHM.

**All are welcome**