

## **Seminar**

### **Parton paradigm for the fractional quantum Hall effect**

**Ajit Coimbatore Balram**

**Niels Bohr Institute, University of Copenhagen,  
Denmark**

The fractional quantum Hall effect (FQHE) in the lowest Landau level (LLL) is understood in a unified manner in terms of composite fermions, which are bound states of electrons and vortices. The strongest states in the LLL are understood as integer quantum Hall states of composite fermions and the compressible  $1/2$  state as a Fermi liquid of composite fermions. For the FQHE in the second LL, such a unified description does not exist: experimentally observed states are described by different physical mechanisms. In this talk, I will discuss our first steps towards a unified understanding of states in the second LL using the “Parton” theory. I will elucidate in detail our recent work on the Parton construction of wave functions to describe many of the FQH states observed in the second LL.

***Monday, Apr 29<sup>th</sup> 2019***

***4:00 PM (Tea/Coffee at 3:30 PM)***

***Seminar Hall, TIFR-H***