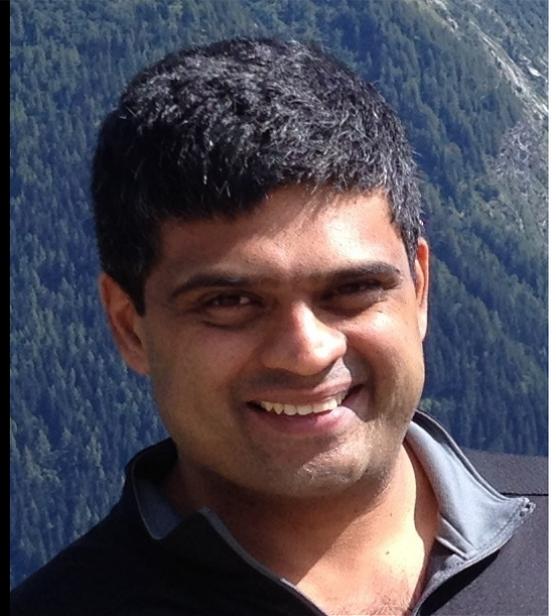


Condensed Matter Seminar Series

Speaker: Ashvin Vishwanath

Harvard University



Date: 31st July, 2018 (Tue) Time: 11:00 am Venue: AG 66

Quantum Information, Entanglement and Classification of Gapped
Quantum Phases of Matter

The simplest many body quantum states have an energy gap to excitations. Ideas from quantum information have been useful in classifying these phases, leading to the prediction of entirely new phases of matter with topological properties

Date: 1st August, 2018 (Wed) Time: 11:00 am Venue: AG 66

Gauge theories in Condensed Matter Physics

I will outline a few examples where gauge theories must be invoked to understand strongly interacting quantum many body systems despite there being no gauge structure in their microscopic Hamiltonians. Examples include phase transitions between quantum hall states, competing orders in magnetic materials built from quantum spins and mass generation in Dirac fermion systems in the absence of symmetry breaking.