



**The Institute of
Mathematical Sciences**
Golden Jubilee Year : 2012



**K S Krishnan Discussion Meeting on
Frontiers in Quantum Science (FQS2012)
Tensor Network States for Quantum Matter**

19-21 February 2012

Ramanujan Auditorium

Understanding quantum and classical correlations in many particle wave functions demands a deeper understanding of the structure of the wave function at different length scales. Recent developments, starting from density matrix renormalization group have evolved into matrix product and tensor product representation for many body states. Ideas from quantum information theory have been used. A popular tensor network state called MERA (multiscale entanglement renormalization ansatz) brings out an AdS/CFT type of correspondence in a manifest fashion. It is also believed that the tensor product representation will enable us to address hard problems in strongly correlated electrons in condensed matter and strong coupling problems in QCD.

List of Speakers

Sukhwinder Singh (Maquarie Univ), Miles Stoudenmire (UC Irvine), *S Ramasesha (IISc), *H R Krishnamurthy (IISc), *H S Sharatchandra (Matscience)

[* to be confirmed]

To participate : Please send an email to kskfqs@imsc.res.in
on or before **1st March 2012**

Website : www.imsc.res.in/~kskfqs/

Organizers

G Baskaran, Sibasish Ghosh, Ashok Mishra, R Shankar and R Simon