Area Seminar

Title	Black hole membrane paradigm
Date and Time	24/01/2013 16:00:00
Speaker	Dr. Sudipta Sarkar IIT Gandhinagar
Area	Theoretical Physics
Venue	Room No. 469
Abstract	Black hole membrane paradigm is an alternative way to look at the classical dynamics of black hole horizon in terms of a fluid membrane. In this talk, I present the formal construction of the membrane paradigm for black objects in general relativity and then to Einstein-Gauss-Bonnet gravity. I also discuss the derivation of the stress-tensor for this membrane fluid and study the perturbation around static backgrounds to express the stress tensor in the form of a Newtonian viscous fluid with pressure, shear viscosity and bulk viscosity. Next I will discuss the relationship between membrane paradigm and AdS/CFT conjecture, in particular the violation of so called KSS bound for the ratio of shear viscosity to entropy density in modified gravity theories. The talk will be based on the reference: arXiv:1107.1260 .