

## *SPECIAL ASTRONOMY SEMINAR*

April 20, 2011

- Speaker : Arunav Kundu  
Eureka Scientific Inc, USA
- Title : The Globular Cluster - Low Mass X-Ray Binary  
Connection and its Implications
- When : Thursday, 28 April, 2011 at 16.00 hrs**
- Where : TAP Seminar Room (A269)

(A. Gopakumar)

### *Abstract*

*Low mass X-ray binaries (LMXBs) are among the most visible tracers of neutron stars and black holes. The Chandra and XMM telescopes have discovered large populations of LMXBs in nearby galaxies. Remarkably, nearly half of the LMXBs are associated with globular clusters, implicating the dynamical environment of these dense stellar systems. The specific characteristics of individual globular clusters, such as metallicity and age, and the wide range of globular cluster properties in these galaxies provide a unique window into the formation and evolutionary histories of LMXBs. I will present the results of some of our recent studies of the LMXB-globular cluster connection in nearby galaxies, including the discovery of the first confirmed black hole X-ray binaries in globular clusters. The study of such a large population of globular clusters and LMXBs (both neutron star and black hole accretors) has led to the discovery of some unusual objects and also revealed interesting new correlations between the properties of X-ray binaries and their host stellar systems. I will discuss some of the implications of our results on the formation and evolution of LMXBs, globular clusters, and galaxies.*