



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

# *PHYSICS COLLOQUIUM*

Thursday, 13 November 2008  
17:00-18:00

3<sup>rd</sup> Floor Seminar Room

*“The Extreme Physical Properties of Neutron Stars”*

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## Abstract

Neutron stars are important end stages of stellar evolution and manifestations of matter at super-nuclear densities. The existence of such “atomic nuclei of stellar masses” has been predicted in the 1930’s and confirmed by the discovery of radio pulsars and binary X-ray sources some 30 years later. Today they are observed in a variety of astrophysical modes – as X-ray bursters, millisecond pulsars, RRAT’s, soft gamma ray repeaters, anomalous X-ray pulsars, isolated neutron stars showing purely thermal emission, and X-ray point sources in supernova remnants. I will discuss what we have learned from observations and theoretical modelling about the physical properties of neutron stars like masses, radii, temperatures and cooling, magnetic fields, central densities and the equation of state of matter at very high densities.