INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

Org. by

Theoretical Physics Department

Title:	**Cosmology as a testing ground of Quantum Mechanics**
Speaker:	**Suratna Das, IIT Kanpur**
Date:	**July 3, 2017 (Monday)**
Time:	**03:30 p.m.**
Venue:	**Theoretical Physics Seminar Room (R/No.-C406), 3rd Floor, Centenary Building, IACS**
Abstract:	At present modern cosmology is soundly based on precision data obtained by several state-of-the-art observartions, like WMAP and PLANCK. Physics spanning over a length scale of almost 61 orders of magnitude, starting from the Planck length to cosmological scales of thousand of mega parsecs, can be probed via cosmological observations. On the other hand, Quantum Mechanics is one of the most successful theory we have today and our modern world carries the signature of its success. Even though the elusive dynamics of quantum mechanics often evokes question about its fundamental nature. In laboratory systems, such problems are known as the Measurement problem of Quantum Mechanics. We will argue in this talk that such fundamental problems of quantum mechanics, seen in a cosmological background, become more serious as the Copenhegan Interpretation breaks down in a cosmological setup. We will then try to see whether any modification to

	standard quantum dynamics, in order to take into account the measurement problem, can play any significant role in Cosmology and whether we can put such theories to test by looking at cosmological observations like Cosmic Microwave Background.

All are cordially invited to attend the seminar