



NITheP cordially invites you to a seminar by:

**Sashwin Sewran**

*University of KwaZulu-Natal, Pietermaritzburg Campus*

Date: Thursday, 7<sup>th</sup> March 2013

Time: 10h30 -11h15

Venue: NITheP Seminar Room, H-Block, 3<sup>rd</sup>Floor

**Title: Quantum Dynamics of Driven Oscillators- A Numerical Approach**

**Abstract:**

Driven oscillators have been proposed as a cause of cooling effects and inhomogeneous temperature distributions, in condensed matter systems. In turn, the latter phenomenon has been proposed as a possible explanation for the recent experimental assessment of the importance of quantum coherence, in photosynthetic systems. With such motivations, we studied numerically a model comprising two quantum harmonic oscillators, with a time dependent coupling between them. The representation of the system in phase space, by means of the Wigner formalism, allowed us to investigate the difference between purely classical evolution and the relative importance of quantum corrections with respect to the cooling effect. The method and the preliminary results of this study will be discussed

**Tea/coffee & biscuits will be served at 10:00**