



NITheP cordially invites you to a seminar by:

Dr. Hugo Touchette

School of Mathematical Sciences Queen Mary, University of London

Date: Tuesday, 10th April 2012

Time: 14:15 – 15:15

Venue: NITheP Seminar Room, H-Block, 3rd Floor

Title: Unusual properties of long-range interacting systems

Abstract:

Many-body systems involving long-range interactions, such as gravitating particles or unscreened plasmas, give rise to equilibrium and nonequilibrium properties that are not seen in short-range systems. One such property is that long-range systems can have a negative heat capacity, which implies that these systems cool down by absorbing energy. This talk will discuss the origin of this unusual property, as well as some of its connections with phase transitions, metastability, and the nonequivalence of statistical ensembles. It will be shown that the essential difference between long- and short-range systems is that the entropy can be nonconcave as a function of the energy for the former but not for the latter type of systems.

Tea/coffee & biscuits will be served after the talk