

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:	Second law of black-hole thermodynamics in Lovelock theories of gravity
Speaker:	Nilay Kundu, Yukawa Institute for Theoretical Physics (YITP), Kyoto, Japan
Date:	October 13, 2017 (Friday)
Time:	3:00 p.m.
Venue:	Theoretical Physics Seminar Room (C406), 3rd Floor, Centenary Building, IACS
Abstract:	In this talk we will discuss the construction of an entropy function for dynamical black holes in a specific higher derivative theory of gravity, namely Lovelock theories. As is known, in classical general relativity described by Einstein-Hilbert gravity, black holes behave as thermodynamic objects. The first law of black hole mechanics extends to higher derivative theories via the Noether charge construction of Wald. In order to extend the second law (which in Einstein-Hilbert theory owes to Hawking's area theorem) to higher derivative theories one needs a notion of entropy for dynamical black holes beyond the Noether charge construction. We will discuss one such possible extension for the Lovelock theories of gravity, treating the higher derivative terms as perturbations to Einstein's gravity.

All are cordially invited to attend the seminar