# THEORETICAL PHYSICS SEMINAR

Title: Topological condensed matter physics wins Nobel

Speaker: Navinder Singh and Namit Mahajan, THEPH PRL

Date/Time/Venue: 10th November (Thursday)/2:30 PM/ Room No. 469

**********
Tea will be served at 3:30pm outside Room 469
**********

## ABSTRACT

David Thouless, Duncan Haldane and Michael Kosterlitz have won the 2016 Nobel Prize in Physics for their theoretical explanations of strange states of matter in two-dimensional materials, known as topological phases. The trio's work in the 1970s and 1980s laid the foundations for predicting and explaining bizarre behaviours that experimentalists discovered at the surfaces of materials, and inside extremely thin layers.

It is the Kosterlitz-Thouless phase transition, topological explanation of the quantum Hall effect, and the topological band theory that originates from the Haldane chains that form the basis for the Nobel prize. We will explain, in simple language, the physics behind these topics. In the end, we will also present brief biographical sketches of these great men of science.

All are welcome