NITheP cordially invites you to a seminar by:

Dr Lars Fritz  
Universität zu Köln  
Institut für theoretische Physik

Date: Wednesday 6 February 2013  
Time: 14:00  
Venue: NITheP Stellenbosch Node, Seminar Room

TITLE: Topological insulators: effects of a magnetic field and inducing instabilities on the surface by modifying bulk properties

ABSTRACT: Three dimensional topological insulators are a new class of materials which host effective Dirac type fermions on the surface due to the peculiar topology of the bulk band structure. In a first part I will discuss why the quantum Hall effect on the surface of such a three dimensional topological insulators has interesting properties coming from the connected nature of the surface. In a second part I will discuss ideas about how to induce ferromagnetic surface instabilities by modifying bulk properties of topological insulators.

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