## ΚΟΙΝΟ ΣΕΜΙΝΑΡΙΟ ΚΕΝΤΡΟΥ ΚΒΑΝΤΙΚΗΣ ΠΟΛΥΠΛΟΚΟΤΗΤΑΣ ΚΑΙ ΝΑΝΟΤΕΧΝΟΛΟΓΙΑΣ & ΚΕΝΤΡΟΥ ΘΕΩΡΗΤΙΚΗΣ ΦΥΣΙΚΗΣ ΚΡΗΤΗΣ /

## JOINT CCQCN -CCTP SEMINAR

**Tuesday, 02 December 2014**

**14:00-15:00**

**2nd Floor Seminar Room**

# Supersymmetric partition functions and Twisted Holomorphic Theories

Dr Guido Festuccia

NBI at University of Copenhagen

## Abstract

I will consider supersymmetric field theories on compact manifolds M and obtain constraints on the dependence of their partition functions Z_M on the geometry of M. For N=1 theories with a U(1) R symmetry in four dimensions, M must be a complex manifold with a Hermitian metric. I will show how describe the theory in terms of twisted variables that make easy to analyze the dependence of Z_M on the parameters entering the Lagrangian. I will also show that Z_M is "almost" topological: Z_M is independent of the Hermitian metric and depends holomorphically on the complex structure moduli.