

Representation Theory, Geometry & Combinatorics Seminar

Organizer(s): M. Haiman, K. Reshetikhin, D. Hill & J. Sussan

Monday, 1:00–3:00pm, 939 Evans

11/3/2008 **Michael Rose**, UCB

On Categorification of Donaldson-Thomas invariants

I will describe Donaldson-Thomas theory as one of several techniques in enumerative geometry to virtually count rational curves on Calabi-Yau 3-folds. What sets it apart from other techniques is the existence of a symmetric obstruction theory, which allows each invariant to be described as a certain weighted topological euler characteristic of the relevant moduli space. From this perspective, it is natural to seek a categorification of the Donaldson-Thomas invariants. I will describe work in progress, joint with Kai Behrend and Ionut Ciocan-Fontanine, on an explicit categorification. This is a progress report and some conjectures we make have yet to be proven.