



# GEOMETRY, TOPOLOGY, AND PHYSICS SEMINAR

## The Moduli of Sheaves and “Counting Invariants” for Calabi–Yau Threefolds

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Friday, November 13th, 2008, 4:00 p.m.  
Room 6635 South Hall

**Abstract:** We will continue our discussion of stability and moduli spaces in algebraic geometry, focussing on a particular problem: the moduli of sheaves on a certain Calabi–Yau threefold known as the “resolved conifold”. We will explain the recent results of Nagao and Nakajima on this problem, as well as describing the connection with certain kinds of “counting invariants” on this Calabi–Yau threefold (related to the counting of BPS states in physics). There are many different ways to evaluate these counting invariants, which (as we shall explain) are related by a “wall-crossing formula.”