



Speaker: Si Li
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Thursday, November 3, 2011
2:00 PM
125 Hayes-Healy Hall

Title: Quantum Geometry on Calabi-Yau manifolds and Higher genus Mirror Symmetry

Abstract:

I will discuss a geometric approach to topological string invariants on compact Calabi-Yau manifolds from perturbative quantum field theory. The relevant QFT is the Kodaira-Spencer gauge theory whose classical geometry describes the deformation of complex structure. We show how rigorous quantization of such gauge theory leads to interesting geometric invariants. I will discuss the example of elliptic curve where such construction can be carried out completely. This turns out to be identified with Gromov-Witten invariants (with all genera and descendants) on the mirror elliptic curve. This is a joint work with Kevin Costello.