

1078-53-1

Zhiqin Lu* (zlu@uci.edu), Department of Mathematics, UC Irvine, Irvine, CA 92697. *Geometry of Calabi-Yau moduli.*

In this talk, I will give an essentially self-contained introduction to the moduli space of Calabi Yau manifolds (CY moduli).

The Weil-Petersson metric on the moduli space plays an important role. I will begin with the local theory, and using the local theory to study the global geometry of the moduli space. I will emphasize on the Gauss-Bonnet theorem, Chern numbers, etc, on CY moduli. The upshot is, even though we don't know the degenerations of CY manifolds, we are still able to define these topological invariants on the moduli space.

This talk contains some joint works with Michael R. Douglas, H. Fang, X. Sun, and K-I. Yoshikawa. (Received November 28, 2011)