



The Hong Kong University of Science and Technology

Department of Mathematics

Hong Kong Geometry Colloquium

Saturday, 27 October 2001

Room 4503, Academic Building, (near Lifts 25 & 26), HKUST

10:00a.m.-11:00a.m.

Prof. Mark Gross (Warwick and RIMS)

Affine Manifolds and Degenerations of Calabi-Yau Manifolds

Abstract: I will discuss an approach to constructing degenerations of Calabi-Yau manifolds from affine manifolds inspired by the Strominger-Yau-Zaslow approach to mirror symmetry. These ideas should eventually lead to a clearer understanding of mirror symmetry and the counting of rational curves on Calabi-Yau manifolds.

* 11:00a.m.-11:20a.m. Tea Break *

* Venue: Room 3493, Academic Building, (near Lifts 25 & 26), HKUST *

* Possible *hiking* after lunch if the weather permits. *

* (contact person: Dr. Yan Min at tel. no.2358 7442 or email: mamyan@ust.hk) *

11:20a.m.-12:20p.m.

Prof. Ernesto Lupercio (University of Wisconsin at Madison)

Orbifolds, Gerbes and Twisted K-theory

Abstract: Orbifolds are generalizations of the concept of manifold that allow points to have additional 'internal symmetries.' Such spaces are relevant in String Theory Models. Recently Prof. Y.B. Ruan has proposed a mathematical program to study and generalize the geometrical and topological information inspired by String Theory. In this talk, I will discuss some recent results of B. Uribe and myself that interpret several concepts and results of this theory in the language of Groupoids. Roughly speaking a groupoid is much like a Lie group, except that not every pair of elements can be multiplied definition of Gerbe over an orbifold and use it to interpret the twisted K-theory of Adem-Ruan and also the one defined by Witten.

All are welcome!