



The Hong Kong University of Science and Technology

Department of Mathematics

Hong Kong Geometry Colloquium

Saturday, 01 March 2008

Room 3315, Academic Building, (near Lifts 17 & 18), HKUST

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

Professor Hiroshi Iritani

Imperial College London and Kyushu University

Crepant resolution conjecture via mirror symmetry

Quantum cohomology is a family of commutative rings which deforms the ordinary cohomology ring. The Crepant Resolution Conjecture states that the quantum cohomology of two birationally equivalent varieties --- an orbifold and its crepant resolution --- are connected by an analytic continuation of quantum parameters. The most mysterious part of the conjecture will be the analytic continuation. Mirror symmetry gives us a natural explanation for this phenomenon and we can prove the conjecture in some toric examples. This is the joint work with Coates, Corti and Tseng.

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

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

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

Professor Shengli TAN

East China Normal University and IMS of CUHK

Arakelov inequality and the number of singular fibers

I will talk about our recent work on the minimal number of singular fibers of a semistable curve over P^1 . We prove that if the genus is bigger than 17, then the number of singular fibers is at least 6, and if the total space is of general type and the genus is at least 50, then the number of singular fibers is at least 7. This is a joint work with Yuping Tu and Fei Yu.

All are welcome!