The Hong Kong University of Science and Technology

Department of Mathematics

<u>Hong Kong Geometry Colloquium</u>

Determinant line bundles on Moduli spaces of pure sheaves on surfaces and Strange Duality

By

Dr. Yao Yuan
*ITCP, Italy***

<u>Abstract</u>

Strange Duality states a duality between the spaces of sections of determinant line bundles on two moduli spaces. It is first conjectured for curves in 1990s and proved around 2007. There are also somegeneralizations to cases on surfaces, one of which is related to the moduli spaces of pure sheaves of dimension one on surfaces. I will introduce the statement of this conjecture and briefly review the work of other people, then I will introduce my results on computing the sections of some determinant line bundles on the moduli space of pure sheaves and explain how they provide an evidence for Strange Duality in these cases.

Date   : Saturday, 8 October 2011
Time   : 10:00a.m.-11:00a.m.
Venue   : Room 4480, Academic Building
*   (near Lifts 25 & 26), HKUST*

On Schroedinger equation and the deformation theory

By

Prof. Huijun Fan
Department of Mathematics, Peking University

<u>Abstract</u>

We construct the deformation theory of the form Schrödinger equation, which is related to a section-bundle system (M,g,f), where (M,g) is anoncompact complete Kähler manifold with bounded geometry and f is aholomorphic function defined on M. This work is also the first step attempting to understand the whole Landau-Ginzburg B-model including the higher genus invariants. Our work is mainly based on the pioneer work of Cecotti, Cecotti and Vafa.

Date   : Saturday, 8 October 2011
Time   : 11:15a.m.-12:15noon
Venue   : Room 4480, Academic Building
*   (near Lifts 25 & 26), HKUST*

All are welcome!

Light refreshment will be provided at Room 3493 from 11:00 am to 11:15 am
** Pls note the change in the affiliation of the speaker, Dr. Yao Yuan