The Hong Kong University of Science and Technology

Department of Mathematics

<u>Hong Kong Geometry Colloquium</u>

Donaldson-Thomas invariants of Calabi-Yau threefolds

By

Prof. Jun Li
Stanford University, USA

Date   : Saturday, 11 September 2010
Time   : 10:00a.m.-11:00a.m.
Venue   : Room 1505, Academic Building
            (near Lifts 25 & 26), HKUST

Tree-like compactification of the moduli space of rank 2 vector bundles over a projective surface

By

Prof. Dimitri Markushevich
University of Lille, France

<u>Abstract</u>

The moduli space of vector bundles of rank 2 on a nonsingular algebraic surface possesses several compactifications constructed by different methods, for example, that of Gieseker. The points of Gieseker's compactification represent the S-equivalence classes of semistable sheaves on S.The tree-like compactification permits to simplify the nature of sheaves that arise on the boundary, replacing them by vector bundles, but complicates the base: the original surface S should be blown up into a tree of bubbles.We define a moduli functor of rank 2 vector bundles on the bubble trees with root S and prove that this functor has a coarse moduli space, which is a separated algebraic space of finite type. The construction uses an embedding into the Fulton-McPherson configuration space and a quotient by a proper action of a linear group.This is a joint work with Tikhomirov and Trautmann.

Date   : Saturday, 11 September 2010
Time   : 11:20a.m.-12:20noon
Venue   : Room 1505, Academic Building
            (near Lifts 25 & 26), HKUST

All are welcome!

Light refreshment will be provided at Room 3493 from 11:00 am to 11:20 am