The Hong Kong University of Science and Technology

Department of Mathematics

Hong Kong Geometry Colloquium

Mirror Symmetry of Weighted Projective Lines

By

Prof. Atsushi Takahashi
Department of Mathematics, Osaka University

Abstract

There are three constructions of Frobenius manifolds from completely different origins and purposes; the Gromov-Witten theory, the theory of primitive forms and the invariant theory of Weyl groups. Our main purpose is to give isomorphisms among these Frobenius manifolds by studying the Gromov-Witten theory for weighted projective lines, the theory of primitive forms for cusp singularities and the invariant theory of extended affine Weyl groups. In particular, we simplify and generalize the result given by Milanov-Tseng and Rossi.

Date : *Saturday, 14 January 2012*
Time : *10:00a.m.-11:00a.m.*
Venue : *Room 2463, Academic Building*
    (near Lifts 25 & 26), HKUST

Donaldson Invariants for Algebraic surfaces

By

Prof. Kota Yoshioka
Department of Mathematics, Kobe University

Abstract

Witten conjectured that Donaldson invariants are equivalent Seiberg-Witten invariants. More precisely Witten gave an explicit relation by using Kronheimer-Mrowka's structure theorem on Donaldson invariants. For algebraic surfaces, Mochizuki developed a general machinery to compute Donaldson type invariants. By using Mochizuki's results, we show Witten's conjecture for algebraic surfaces. This is a joint work with Lothar Goettsche and Hiraku Nakajima.

Date : *Saturday, 14 January 2012*
Time : *11:20a.m.-12:20a.m.*
Venue : *Room 2463, 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