

University of Georgia
Department of Mathematics
Seminar Schedule

September 4 – September 8, 2006

All Seminars are held in Boyd Graduate Studies Bldg. unless otherwise noted.

MONDAY, September 4, 2006

Labor Day Holiday

TUESDAY, September 5, 2006

VIGRE Graduate Student Seminar

2:00pm, Room 302

Speaker: Joe Rusinko, University of Georgia

Title of talk: *Intro To Mirror Symmetry*

Abstract: String theory uses a particular type of manifold to describe the universe. Two such manifolds are called mirror symmetric if the universe they describe has the same physical properties. We'll explore some mathematical problems involved in mirror symmetry.

Analysis

3:30pm, Room 222

Speaker: Jingzhi Tie, University of Georgia

Title of talk: *Sub-Riemannian Geometry on the Heisenberg group and Engel Field.*

WEDNESDAY, September 6, 2006

Algebraic Geometry

2:30pm, Room 410

Speaker: Joe Rusinko, University of Georgia

Title of talk: *Combinatorial Construction of Mirror Families*

Abstract: Alexeev and Brion have constructed many different degenerations of the full flag variety to a toric pair corresponding to a certain polytope. For a fixed flag variety, Alexeev and Brion's degenerations can be related by a sequence of braid moves. We will discuss how these braid moves effect the corresponding polytopes.

Generic anti-canonical hypersurfaces in the flag variety are smooth Calabi-Yau varieties. For any Alexeev and Brion degeneration we construct a family of varieties mirror to the anti-canonical hypersurfaces in the flag variety. By using the combinatorics of the polytopes we construct birational maps between the elements of the mirror families. This shows that the construction of mirror families is independent of the choice of Alexeev and Brion degeneration.

Faculty and Graduate Social

3:00pm, Room 409

Coffee, Tea, Cookies

Arithmetic Geometry/Number Theory

3:30pm, Room 304

Speaker: Pete Clark, University of Georgia

Title of talk: *An attempt at a parallel introduction to (some) quaternionic Shimura curves., continued*

THURSDAY, September 7, 2006

Wavelets and Splines

2:30pm, Room 524

Speaker: Ming-Jun Lai, University of Georgia

Title of talk: *Convergence of L1 spline methods.*

Abstract: When we use the L1 spline methods for scattered data interpolation and fitting, the spline surfaces will resemble the surfaces of any given data values.

VIGRE-Algebraic Geometry

2:00pm, Room 326

VIGRE – Quantum Mechanics

2:00pm, Room 410

FRIDAY, September 8, 2006

Probability Theory

2:30pm, Room 323

Speaker: C Zhuang, University of Georgia

Title of talk: *Verification theorems within the framework of viscosity solutions*

Geometry

2:30pm, Room 410

Speaker:

Title of talk:

VIGRE-Algebra

2:30pm, Room 304