

MATHEMATICS DEPARTMENT SEMINAR SCHEDULE
October 29 – November 2, 2001

All seminars are held in Boyd Graduate Studies unless otherwise noted.

MONDAY, October 29, 2001

Group Representation & Cohomology

2:30 - 3:30 p.m., Room 410

Speaker: Blake Hindman, University of Georgia

Title of talk: *“Representations of Symmetric Groups”*

Number Theory

3:30 p.m., Room 304

Speaker: Nathan Ng, University of Georgia

Title of talk: *“Haar measure on the unitary group”*

Analysis

2:30 p.m., Room 322

Speaker: Jingzhi Tie, University of Georgia

Title: *“Dirichlet problem of sub-Laplacian on the Heisenberg group”*

Abstract: I will discuss the explicit solution of the boundary value problem of sub-Laplacian in the special case of upper half plane in the Heisenberg group.

Topology

3:00 p.m., Room 303

No Meeting this week

TUESDAY, October 30, 2001

VIGRE Seminar

Room 302, 2:00 p.m.-3:15 p.m.

Speaker: Nancy Wrinkle, University of Georgia

Title of talk: *“The algebra and topology of braids”*

Abstract: In this talk, I will introduce the concept of braids and knots, and what we know from studying them in an algebraic setting (groups and representations), and in a topological setting (surfaces and 3-manifolds). This will be a survey talk, aimed at first year graduate students. Basic algebra will be assumed, but not topology.

Algebraic Geometry

3:30 p.m., Room 326

Speaker: Adam Parusinski, Univ. d'Angers

Title of talk: “*Injective endomorphisms of algebraic varieties*”

Abstract: The theorem of Ax (1969) says that any injective regular self-mapping of a complex algebraic variety is surjective. Ax's proof is based on the Lefschetz principle and a reduction to the finite field case. Using a topological argument Borel (1969) showed a similar statement for nonsingular real algebraic varieties. His proof was extended to singular real algebraic varieties by Kurdyka (1999). We shall recall the basic ideas of proofs of Ax and Borel and propose a simplified proof of Kurdyka's result.

Student Number Theory

3:30 p.m., Room 303

No Meeting this week

WEDNESDAY, October 31, 2001**Group Representation & Cohomology**

2:30 - 3:30 p.m., Room 410

Speaker: Amnon Neeman, Australian National University

Title of talk: `TBA`

Faculty and Graduate Social

3:00 p.m., Room 409

Coffee, Tea, Cookies

Representation Theory

3:30 p.m., Room 302

Speaker: Hongyu He, Georgia State University

Title of talk: “*Theta correspondence and unipotent representations*”

Abstract: I will discuss a new approach of constructing irreducible unitary representations for classical groups of type I. I will introduce various results from the theory of theta correspondence and then construct some unitary representations by composing theta correspondences. We will further compute the infinitesimal character and the associated variety of these representations. They are unipotent in the sense of Vogan and Arthur. Philosophically, they should also be automorphic.

Numerical Analysis

3:30 – 4:30 p.m., Rm. 410

Speaker: Ming-Jun Lai, University of Georgia

Title of talk: “*Quasi-Uniform Refinement of Tetrahedra*”

CATS

Combinatorics, Algorithms, and Theoretical Computer Science Seminar

4:40 p.m., Rm. 306

Speaker: Aaron Windsor, Graduate Student, Computer Science Dept.

Title of talk: “*Intersecting Hypergraphs and the Erdos-Ko-Rado Theorem*”

Abstract: A hypergraph is a generalization of a graph, which, instead of restricting the edge set to contain subsets of pairs of the vertex set, allows it to contain arbitrarily large subsets of the vertex set. Formally, a hypergraph with vertex set V is a pair (V, E) , where E is a subset of the powerset of V . An intersecting hypergraph is a hypergraph where any two edges have a non-empty intersection with each other. We'll prove the Erdos-Ko-Rado Theorem, a result that bounds the maximal size of a certain class of intersecting hypergraphs, and then look at various related results for different classes of hypergraphs.

THURSDAY, November 1, 2001

VIGRE Seminar

Room 302, 2:00 p.m.-3:15 p.m.

No Meeting today

FRIDAY, November 2, 2001

Geometry Seminar

2:30 p.m., Room 322

Speaker: Jason Cantarella, University of Georgia

Title of talk: “*Conversations with Zheng-Xu He -or- Which link minimizes Mobius energy?*”