

University of Georgia
Department of Mathematics

Seminar Schedule
March 27 – March 31, 2006

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

MONDAY, March 27, 2006

VIGRE-Algebraic Geometry

3:30pm, Room 304

Topology/Geometry

2:30pm Room 222

No meeting this week

Algebra

2:30pm, Room 410

Speaker: Brian Boe, University of Georgia

Title of talk: *Infinite-dimensional modules which "look" finite-dimensional.*

Abstract: A Kostant module is a simple highest weight module whose u -cohomology decomposes via a formula like Kostant's famous theorem for the u -cohomology of a finite-dimensional module. Here u is the nilradical of a parabolic subalgebra of a complex simple Lie algebra. I will discuss some equivalent formulations, including one involving geometry of Schubert varieties. I will describe how certain "standard" Kostant modules are associated to subdiagrams of the Dynkin diagram.

In a second talk, I will show that, for maximal parabolics in simply-laced type, all Kostant modules with regular integral highest weights are standard. I will also give a complete classification of all (singular) Kostant modules for the parabolics associated to Hermitian symmetric spaces. If time permits, I will show what can go wrong with singular modules for general maximal parabolics, and propose an idea for handling these.

Analysis

2:30pm, Room 303

Speaker: Gerd Mockenhaupt, Katholische Universität Eichstätt-Ingolstadt

Title of talk: *Optimal extension of the Hausdorff-Young inequality, part I*

Abstract: The Hausdorff-Young inequality for the Fourier transform on the torus states: $\|\widehat{f}\|_{L^p(\mathbb{T})} \leq \|f\|_{L^{p'}(\mathbb{T})}$, where $1/p + 1/p' = 1$. In this talk we address the question of the existence and description of the optimal domain X such that the Fourier transform has a continuous extension from X into $L^p(\mathbb{T})$.

Faculty and Graduate Student Social

3:00pm, Room 409
Coffee, Cookies, Tea

TUESDAY, March 28, 2006

VIGRE-Graduate Student Seminar

2:00p.m., Room 304

Speaker: TBA

Title of talk: TBA

Analysis

3:30pm, Room 302

Title of talk: *Optimal extension of the Hausdorff-Young inequality, part II*

Abstract: The Hausdorff-Young inequality for the Fourier transform on the torus states: $\|\widehat{f}\|_{L^p(\mathbb{T})} \leq \|f\|_{L^q(\mathbb{T})}$, where $1/p + 1/q = 1$. In this talk we address the question of the existence and description of the *optimal* domain X such that the Fourier transform has a continuous extension from X into $L^p(\mathbb{Z})$.

WEDNESDAY, March 29, 2006

Geometry in the Curriculum Seminar

1:25pm, Aderhold, Room 111

Speaker: Clint McCrory, University of Georgia

Title of talk: *Discussion of the Georgia Center workshop*

Algebraic Geometry

2:30pm, Room 410

Speaker: TBA

Title of talk: TBA

VIGRE- Algebra

2:30pm, Room 303

Speaker: Lenny Chastkofsky, University of Georgia

Title of talk: *Cohomology in degree $p+r$*

Faculty and Graduate Student Social

3:00pm, Room 409
Coffee, Cookies, Tea

Arithmetic Geometry/Number Theory

3:30pm, Room 304

Speaker: Robert Rumely, University of Georgia

Title of talk: *Multi-resultants and the Fekete-Leja Transfinite Diameter, continued*

THURSDAY, March 30, 2006

VIGRE – Feynman Diagrams

2:00pm, Room 326

VIGRE – Cardiac Physiology

2:00pm, Room 640

VIGRE- Zeta Functions

2:15pm, Room 302

VIGRE-Algebraic Geometry

2:00pm, Room 304

FRIDAY, March 31, 2006

Probability Theory

2:30-3:30pm, Room 303

Speaker: Jie Yu, University of Georgia

Title of talk: *Kalman filter for Markov processes (cont.)*