

**MATHEMATICS DEPARTMENT SEMINAR SCHEDULE**  
**February 4 – February 8, 2002**

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

**MONDAY, February 4, 2002**

**Faculty and Graduate Social**

3:00 p.m., Room 409

Coffee, Tea and Cookies

**Group Representation & Cohomology**

*(joint meeting with \*Lie Theory Seminar)*

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

**Speaker:** Dan Nakano, University of Georgia

**Title of talk:** *“Lie algebra cohomology and nilpotent orbits II”*

**Topology**

3:00 p.m., Room 322

**Speaker:** TBA

**Title of talk:** *TBA*

**Number Theory**

3:30 p.m., Room 304

**Speaker:** Andrew Granville, University of Georgia

**Title of talk:** *“Primes and Zeta, Part II”*

**Numerical Analysis**

3:30 p.m., Room 410

**Speaker:** Okkyung Cho, University of Georgia

**Title of talk:** *“Biorthogonal Wavelets” (cont.)*

**Lie Theory**

3:30 p.m., Room 302

*\*Please see Group Representations & Cohomology Seminar*

**CATS**

4:40 p.m., Room 308

**Speaker:** Jonathan Myers, recent MS graduate in Computer Science

**Title of talk:** *“BLAST Algorithm and Significance of Results”*

**Abstract:** Biological databases introduce the general problem that a practical regular expression cannot be defined for biological queries. To account for this problem, the algorithms FASTA and BLAST have become established as dominant biological database standards for searches. BLAST was developed in 1990 in an intent to improve the 1985 FASTA algorithm. One of the main differences between BLAST and FASTA is the statistics used to approximate the significance of the search result produced.

However, questions still remain as to the effectiveness of the statistical methods used which has lead to continued work on sequence comparison probabilities.

## **TUESDAY, February 5, 2002**

### **VIGRE**

2:00 p.m.-3:15 p.m., Room 304

**Speakers:** David Hemmer, University of Georgia

**Title of talk:** *"Some open problems in the representation theory of the symmetric group"*

**Abstract:** I'll begin with a review of the basics; what is a representation and a character of a finite group? Much of the representation theory of the symmetric group in characteristic 0 has been well understood for almost 100 years, but there are still interesting and longstanding open problems. In particular I will discuss Foulke's conjecture which relates to a certain kind of multiplication on characters known as plethysm.

We will then consider what happens when the field is allowed to have positive characteristic. In this case the theory is very far from understood and a very active area of research. I will attempt to woo the audience with some tantalizing open problems.

### **Algebraic Geometry**

3:30 p.m., Room 326

**Speaker:** Valery Alexeev, University of Georgia

**Title of talk:** *"Singularities of stable varieties"*

### **Analysis**

3:30 p.m., Room 304

**Speaker:** Ed Azoff, University of Georgia

**Title of talk:** *"On completely positive maps", continued*

### **Student Number Theory**

3:30 p.m., Room 302

**Speaker:** Eric Pine, University of Georgia

**Title of talk:** *"How close are we to finding a taxicab?"*

## **WEDNESDAY, February 6, 2002**

### **Group Representation and Cohomology**

Room 410, 2:30 - 3:20

**Speaker:** David Hemmer, University of Georgia

**Title of talk:** *"A row removal theorem for symmetric groups"*

### **Faculty and Graduate Social**

3:00 p.m., Room 409

Coffee, Tea, Cookies

## **FRIDAY, FEBRUARY 8, 2002**

### **Geometry**

2:30 p.m., Room 322

**Speaker:** TBA

**Title of talk:** “TBA”

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## ***Upcoming Seminars***

### **Wednesday, February 20, 2002**

#### **Teacher Education Seminar**

2:30 - 3:30 pm, Room 326 Boyd Graduate Studies

**Speakers:** Denise Mewborn, Paola Sztajn, and Dorothy White, Department of Mathematics Education

**Subject of talk:** Speakers will talk about the mathematics methods courses for prospective elementary school teachers, EMAT 3400 and 3410.

### **Tuesday, February 26, 2002**

#### **Teacher Education Seminar**

2:30 - 3:30 pm, Room 326 Boyd Graduate Studies

**Speakers:** Martha Allexsah-Snyder, Department of Elementary Education,

**Subject of talk:** Will talk about the preparation of elementary school teachers.