MATHMATICAL TIMETABLE

MADNADY AUGUST 27

TUESDAY, AUGUST 28

Max Newman
Organizational meeting

Number Theory
Professor Harold Diamond; Elementary estimates of Euler's constant.

Geometric Potpourri
Organizational meeting.

Differential Geometry
Professor Philippe Tondeur; (a) Organization session, followed (after a pause)
by (b) An introductory lecture on Riemannian foliations (for newcomers
to the subject; graduate students are especially invited).

WEDNESDAY, AUGUST 29

Please Turn Over
THURSDAY, AUGUST 30

**Number Theory**

Professor Sid Graham, visiting from Michigan Tech; Moments of gaps between square free numbers

**Logic**

Organizational meeting. If you are interested in speaking or there are certain topics you would like to hear talks on but are unable to attend, please leave a note in Carl Jockusch’s box. (Also, if you are unhappy with having Thursday at 2 as the regular meeting time.)

**Commutative Algebra**

Organizational meeting.

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**Mathematics Colloquium**

Professor Mark Phillips, University of Richmond; Complex hyperbolic geometry.

**Coffee & Tea**

ABSTRACT: Complex hyperbolic geometry is the geometry of the unit ball in complex n-space with a metric of constant negative holomorphic sectional curvature. The talk will include an introduction to the subject and will discuss some recent results in the theory of discrete groups of isometries acting on complex hyperbolic space. Computer graphics has played a significant role in this research; the talk will include computer-generated images of objects in complex hyperbolic space.

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FRIDAY, AUGUST 31

**Complex Hyperbolic Geometry**

Demonstration of the associated software (see Thursday’s colloquium notice) with an opportunity for technical conversation.
MATHEMATICAL TIMETABLE

MONDAY SEPTEMBER 3

Labor Day – All University Holiday

TUESDAY, SEPTEMBER 4

Max Newman
Mr. Ken Feuerman; The Hanna Newmann Conjecture: A flow detection approach.

Number Theory
Professor Sid Graham; Moments of gaps between square free integers, II

Automatic Groups and Small Cancellation Theory
Professor Paul Schupp; Organizational meeting. This seminar will focus on groups of alternating knots.

Algebraic Number Theory
Organizational meeting.

Analysis
Professor Jean Bourgain; Restrictions of Fourier transforms — the multiplier problem, I

Geometric Potpourri
Professor Ralph Alexander; On the sum of distances determined by \( n \) points on a unit space.

Combinatorics and Finite Sets
Mr. Hunter Snevily; Open problems concerning intersecting families of subsets of a finite set.

Differential Geometry
See Friday listing.

WEDNESDAY, SEPTEMBER 5

Reception for New and Visiting Faculty
3:00 pm
Commons Room

Mathematics Colloquium
Professor Tom Wolff, Caltech; Lewy’s harmonic gradient maps in higher dimensions.
THURSDAY, SEPTEMBER 6

**Algebra**
Organizational meeting.
243 AH
11:00 am

**Lie Algebra**
Organizational meeting.
243 AH
1:00 pm

**Number Theory**
Professor Paul Bateman; Pomerance’s theorem on the additive subgroup of $\mathbb{Q}^n$ generated by the rational unit vectors.
247 AH
1:00 pm

**Analysis**
Professor Karl Petersen, University of North Carolina; Ergodic theory, harmonic analysis, spectral theory.
241 AH
2:00 pm

**Logic**
Professor Jan Krajicek; Progress in bounded arithmetic and complexity of propositional calculus.
245 AH
2:00 pm

**Commutative Algebra**
Organizational meeting.
247 AH
3:00 pm

**Mathematics Colloquium**
Professor Herman Gluck; University of Pennsylvania; What is the shape of space?
314 AH
4:00 pm
Coffee & Tea
321 AH
3:15 pm
ABSTRACT: The talk is a discussion of relations between elementary aspects of algebraic topology (homology) and of geometry (length, area, volume).

FRIDAY, SEPTEMBER 7

**Differential Geometry**
Professor Herman Gluck; Pontrjagin geometry.
243 AH
4:00 pm
# Mathematical Timetable

## Monday, September 10

### Probability & Statistics
- **Professor Roger Koenker**, Dept. of Economics; Tail behavior of regression estimators and their breakdown points.
- **Location**: 241 AH
- **Time**: 11:00 am

## Tuesday, September 11

### Probability & Statistics
- **Professor Roger Koenker**, Dept. of Economics; Tail behavior of regression estimators and their breakdown points.
- **Location**: 241 AH
- **Time**: 11:00 am

### Maz Newman
- **Mr. Ken Feuerman**; The Hanna Neumann Conjecture: A flow detection approach, II
- **Location**: 245 AH
- **Time**: 1:00 pm

### Boolean Complexity
- **Professor Jan Krajíček**; Organizational meeting. Basic notions and definitions and preliminaries for lower bounds for constant-depth circuits.
- **Location**: 241 AH
- **Time**: 1:00 pm

### Number Theory
- **Professor Bruce Berndt**; Introduction to Gauss and Jacobi sums, I
- **Location**: 247 AH
- **Time**: 1:00 pm

### Geometric Potpourri
- **Professor Monica Nicolau**; Symmetries of algebraic knots.
- **Location**: 243 AH
- **Time**: 2:00 pm

### Lie Algebras, I
- **Professor Ari Babakhian**; Universal enveloping algebras, I
- **Location**: 247 AH
- **Time**: 2:00 pm

### Combinatorics and Graph Theory
- **Professor E.T. Parker**; Reduction of Latin squares using graphs.
- **Location**: 241 AH
- **Time**: 3:00 pm

### Differential Geometry
- **Dr. Hobum Kim**; A fundamental inequality for foliations on a Riemannian manifold.
- **Location**: 243 AH
- **Time**: 3:00 pm

### Special Colloquium
- **Professor Walter Hayman**, York University, UK; Strict isoperimetric inequalities.
- **Location**: 314 AH
- **Time**: 4:00 pm

### Coffee & Tea
- **Location**: 321 AH
- **Time**: 3:15 pm

## Wednesday, September 12

### Complex Systems
- **Professor G. Uli Nienhaus**, Physics; Equilibrium fluctuations in proteins and glass-forming liquids.
- **Location**: 3269 Beckman
- **Time**: 4:00 pm
THURSDAY, SEPTEMBER 13

*Lie Algebra, II*  
Professors Maarten Bergvelt & Fons ten Kroode; Introduction to Lie algebra representations, I  

*Number Theory*  
Professor Bruce Berndt; Introduction to Gauss and Jacobi sums, II  

*Algebraic Number Theory*  
Professor Dan Grayson; Groups which appear as Galois groups over the rational numbers, I  

*Analysis*  
See Friday listing.  

*Automatic Groups*  
Professor Paul Schupp; Small cancellation theory and knot groups, I (NOTE: CHANGE OF DAY)  

*Logic*  
Ms. Tamara Hummel; V3-Decision procedures in recursion theory, I  

*Commutative Algebra*  
No meeting this week.  

*Mathematics Colloquium*  
Professor Jeremy Teitelbaum, UIC; Degenerating curves over p-adic fields.  
Coffee & Tea  

ABSTRACT: The classical theory of degenerating curves deals with families of Riemann surfaces, where the "generic" member of the family is non-singular but certain "special" members of the family acquire singularities. In this talk, I will give an introduction to the analogous theory for p-adic Riemann surfaces (algebraic curves over p-adic fields) which was invented by Mumford. I will explain some relatively recent results on p-adic automorphic functions, and indicate the relationship between this work and some arithmetic conjectures.

FRIDAY, SEPTEMBER 14

*Analysis*  
Professor Jean Bourgain; Restrictions of Frouier transforms—the multiplier problem, II
MATHMATICAL TIMETABLE

MONDAY SEPTEMBER 17

TUESDAY, SEPTEMBER 18

Probability & Statistics 241 AH 11:00 am
Professor Uwe Einmahl; On the almost sure behavior of Martingales.

Number Theory 247 AH 1:00 pm
Professor Bruce Berndt; Introduction to Gauss and Jacobi sums, III

Analysis 241 AH 2:00 pm
Professor Walter Hayman, University of York; Conformal mapping of thick annuli and long quadrilaterals.

Boolean Complexity 241 AH 1:00 pm
Professor Jan Krajíček; Hastad's lower bound for constant-depth circuits.

Definability in Finite Fields 245 AH 2:00 pm
Professor Lou van den Dries, Definability in finite fields.

Geometric Potpourri 243 AH 2:00 pm
Professor Dick Bishop; The chromatic spectrum of pseudoline configurations in the plane.

Lie Algebras, I 247 AH 2:00 pm
Professor Ari Babakhanian; Universal enveloping algebras, II

Combinatorics and Graph Theory 241 AH 3:00 pm
Professor Doug West; A game on a graph and its application to the k-server problem.

Differential Geometry 243 AH 3:00 pm
Dr. Horum Kim; A fundamental inequality for foliations on a Riemannian manifold, II

LAS Julibee Lecture 3rd floor Levis Faculty 4:00 pm
Professor Nina Baym, Department of English; Charlotte and the Whale.

WEDNESDAY, SEPTEMBER 19

Complex Systems 3269 Beckman 4:00 pm
To be announced.
THURSDAY, SEPTEMBER 20

**Disciples of Yoda**
Mr. William Haight; Freely reducing group readings for 2-complexes in 4-manifolds, I

245 AH 1:00 pm

**Lie Algebra, II**
Professor Fons ten Kroode; Lie algebras and flag manifolds.

243 AH 1:00 pm

**Number Theory**
Professor Jean Bourgain; On a theorem of Katznelson and Weiss on the recurrence of discrete patterns

247 AH 1:00 pm

**Algebraic Number Theory**
Professor Dan Grayson; Groups which appear as Galois groups over the rational numbers, II

243 AH 2:00 pm

**Analysis**
See Tuesday listing.

241 AH 2:00 pm

**Automatic Groups**
Professor Paul Schupp; Small cancellation theory and knot groups, II

247 AH 2:00 pm

**Logic**
Ms. Tamara Hummel; V3-Decision procedures in recursion theory, II (It has been proposed to change the regular meeting time of the seminar to 1 pm on TH, starting next week. If you wish to comment, please come to this meeting or leave a note in Carl Jockusch's mailbox.)

245 AH 2:00 pm

**Commutative Algebra**
Professor William Haboush; The failure of Kodaira vanishing for line bundles on generalized flag varieties, I

247 AH 3:00 pm

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**Mathematics Colloquium**
Professor David Catlin, Purdue; Embeddings on CR manifolds.

314 AH 4:00 pm

Coffee & Tea 321 AH 3:15 pm

ABSTRACT: A CR manifold is a real odd dimensional manifold whose tangent spaces behave formally like those of real hypersurfaces in \( \mathbb{C}^n \). A natural question is whether a CR manifold can be imbedded in some \( \mathbb{C}^n \). In this talk we generalize results of Kuranishi, Webster, and Akahori by embedding CR manifolds whose Levi forms have a certain number of eigenvalues of the same sign. The proof includes a Nash-Moser iteration procedure.

FRIDAY, SEPTEMBER 21
# MATHEMATICAL TIMETABLE

## MONDAY, SEPTEMBER 24

**Probability & Statistics**

- **Time:** 11:00 am
- **Room:** 241 AH
- **Professor:** Peter Loeb
- **Description:** A general reduction technique applied the convergence of Martingales.

**Max Newman**

- **Time:** 1:00 pm
- **Room:** 245 AH
- **Professor:** Ken Feuerman
- **Description:** The Hanna Neumann Conjecture: A flow detection approach, IV

**Algebra**

- **Time:** 1:00 pm
- **Room:** 243 AH
- **Professor:** Jan Krajicek
- **Description:** Organization meeting.

**Boolean Complexity**

- **Time:** 1:00 pm
- **Room:** 241 AH
- **Professor:** Jan Krajicek
- **Description:** Hastad's lower bound for constant-depth circuits, II

**Number Theory**

- **Time:** 1:00 pm
- **Room:** 247 AH
- **Professor:** Harold Diamond
- **Description:** A survey of Beurling generalized prime number theory.

**Analysis**

- **Time:** 2:00 pm
- **Room:** 241 AH
- **Professor:** Robert Kaufman
- **Description:** $\mathcal{M}_0$-sets, $\mathcal{M}$-sets and measures, I

**Definability in Finite Fields**

- **Time:** 2:00 pm
- **Room:** 245 AH
- **Professor:** Lou van den Dries
- **Description:** Definability in finite fields, II

**Geometric Potpourri**

- **Time:** 2:00 pm
- **Room:** 243 AH
- **Professor:** Dick Bishop
- **Description:** The chromatic spectrum of pseudoline configurations in the plane.

**Lie Algebras, I**

- **Time:** 2:00 pm
- **Room:** 247 AH
- **Professor:** Ari Babakhani
- **Description:** The Poincaré-Birkhoff-Witt theorem, I

**Combinatorics and Graph Theory**

- **Time:** 3:00 pm
- **Room:** 241 AH
- **Professor:** Doug West
- **Description:** A game on a graph and its application to the $k$-server problem, II

**Differential Geometry**

- **Time:** 3:00 pm
- **Room:** 243 AH
- **Professor:**
- **Description:** See Friday listing.

## TUESDAY, SEPTEMBER 25

**Complex Systems**

- **Time:** 4:00 pm
- **Room:** 3269 Beckman
- **Professor:**
- **Description:** See Friday listing.

# SEPTEMBER 24–28, 1990
### THURSDAY, SEPTEMBER 27

<table>
<thead>
<tr>
<th>Disciples of Yodar</th>
<th>245 AH</th>
<th>1:00 pm</th>
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<tbody>
<tr>
<td>Mr. Will Haight; Freely reducing group readings for 2–complexes in 4–manifolds, II</td>
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<thead>
<tr>
<th>Lie Algebra, II</th>
<th>243 AH</th>
<th>1:00 pm</th>
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<tbody>
<tr>
<td>Professor Fons ten Kroode; Bruhat decomposition and Flag manifolds.</td>
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<thead>
<tr>
<th>Logic</th>
<th>241 AH</th>
<th>1:00 pm</th>
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<tbody>
<tr>
<td>Ms. Tamara Hummel; ∀∃-Decision procedures in recursion theory, III</td>
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(Note change of time/room)

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<thead>
<tr>
<th>Number Theory</th>
<th>247 AH</th>
<th>1:00 pm</th>
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<tbody>
<tr>
<td>Professor Alf van der Poorten, Macquarie University; Folded continued fractions.</td>
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<thead>
<tr>
<th>Algebraic Number Theory</th>
<th>243 AH</th>
<th>2:00 pm</th>
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<tbody>
<tr>
<td>Professor Nigel Boston; Groups which appear as Galois groups over the rational numbers, III</td>
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<table>
<thead>
<tr>
<th>Analysis</th>
<th>241 AH</th>
<th>2:00 pm</th>
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<tbody>
<tr>
<td>See Tuesday listing.</td>
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<tr>
<th>Automatic Groups</th>
<th>247 AH</th>
<th>2:00 pm</th>
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<tbody>
<tr>
<td>Professor Paul Schupp; Small cancellation theory and knot groups, III</td>
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<thead>
<tr>
<th>Commutative Algebra</th>
<th>247 AH</th>
<th>3:00 pm</th>
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<tbody>
<tr>
<td>Professor William Haboush; The failure of Kodaira vanishing for line bundles on generalized flag varieties, II</td>
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<thead>
<tr>
<th>Mathematics Colloquium</th>
<th>314 AH</th>
<th>4:00 pm</th>
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<tbody>
<tr>
<td>Professor Brian Smyth, Notre Dame; Umbilical points on surfaces.</td>
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<table>
<thead>
<tr>
<th>Coffee &amp; Tea</th>
<th>321 AH</th>
<th>3:15 pm</th>
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**ABSTRACT:** What is the number of umbilical points on a surface?

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### FRIDAY, SEPTEMBER 28

<table>
<thead>
<tr>
<th>Complex Systems</th>
<th>3269 Beckman</th>
<th>4:00 pm</th>
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<tbody>
<tr>
<td>Professor Lee Rubel; The extended analog computer.</td>
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<thead>
<tr>
<th>Differential Geometry</th>
<th>241 AH</th>
<th>4:00 pm</th>
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<tbody>
<tr>
<td>Professor Brian Smyth; Principal curvatures.</td>
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</tbody>
</table>
MATHMATICAL TIMETABLE

MONDAY OCTOBER 1

TUESDAY, OCTOBER 2

Probability & Statistics
To be announced.

Algebra
Professor J. Rotman; Graphs and simple Lie algebras in characteristic 2.

Boolean Complexity
Professor Jan Krajíček; Switching lemma.

Complex Analysis
Professor Monica Nicolau; Symmetries of algebraic knots, I

Number Theory
Professor Bernard Beauzamy, Institut de Calcul Mathématique, Paris; On the size of factors in polynomial decompositions.

Analysis
Professor Bernard Beauzamy; On the zeros of polynomials with concentration at low degrees. (See also 3 pm listing today)

Definability in Finite Fields
Ms. Jan Hutson; On the decomposition-intersection procedure, I

Geometric Potpourri
Professor Alfred Gray, University of Maryland; The Weyl tube formula, I

Lie Algebras, I
Professor Ari Babakhani; The Poincaré-Birkhoff-Witt theorem, II

Analysis
Professor Robert Kaufman; $M_0$-sets, $M$-sets and measures, II (Note room change)

Combinatorics and Graph Theory
Professor Carla Savage, CS Dept/North Carolina State University; Listing partitions of integers in Gray code order.

Differential Geometry
Dr. Martin Saralegui, University of Madrid; Gysin sequence of a circle action.
### Wednesday, October 3

**Complex Systems**
To be announced.

3269 Beckman  
4:00 pm

### Thursday, October 4

**Disciples of Yodar**
Mr. John Price; Stabilization by free products.

245 AH  
1:00 pm

**Lie Algebra, II**
Professor William Haboush; Homogeneous vector bundles and flag manifolds.

243 AH  
1:00 pm

**Logic**
Professor Carl Jockusch; $\forall\exists$-Decision procedures in recursion theory, IV

241 AH  
1:00 pm

**Number Theory**
To be announced.

247 AH  
1:00 pm

**Algebraic Number Theory**
Professor Nigel Boston; Groups which appear as Galois groups over the rational numbers, IV

243 AH  
2:00 pm

**Analysis**
See Tuesday listings.

241 AH  
2:00 pm

**Automatic Groups**
Professor Paul Schupp; Small cancellation theory and knot groups, IV

247 AH  
2:00 pm

**Commutative Algebra**
Professor Robert Fossum; The failure of Kodaira vanishing for line bundles on generalized flag varieties, III

247 AH  
3:00 pm

### Mathematics Colloquium
Professor Bernard Beauzamy; A priori estimates for coefficients in polynomial decompositions: from number theory to computer science.

314 AH  
4:00 pm

Coffee & Tea  
321 AH  
3:15 pm

**Abstract:** We show how the results of a paper by Beauzamy-Bombieri-Enflo-Montgomery, dealing with polynomials in many variables, can be used in order to obtain sharp estimates for polynomials in one variable: we derive an upper bound for the size of coefficients in the factors of a polynomial in one variable, which strongly improves all the existing ones.

### Friday, October 5
# Mathematical Timetable

**Monday, October 8**

<table>
<thead>
<tr>
<th>Probability &amp; Statistics</th>
<th>241 AH</th>
<th>11:00 am</th>
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<tr>
<td><strong>Algebra</strong></td>
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<tr>
<td>Professor Nigel Boston,</td>
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<tr>
<td>An elementary theorem</td>
<td>243 AH</td>
<td>1:00 pm</td>
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<td>concerning rings with</td>
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<td>involutions, modular</td>
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<td>curves, and modular</td>
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<td>representations.</td>
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<td><strong>Boolean Complexity</strong></td>
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<tr>
<td>Professor Jan Krajićek;</td>
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<tr>
<td>Algebraic methods in</td>
<td>241 AH</td>
<td>1:00 pm</td>
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<td>lower bounds: Razborov,</td>
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<td>Smolensky.</td>
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<td><strong>Wax Newman</strong></td>
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<tr>
<td>Professor Monica Nicolau;</td>
<td>245 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Symmetries of algebraic</td>
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<td>knots, II</td>
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<tr>
<td><strong>Number Theory</strong></td>
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<tr>
<td>Professor Heini</td>
<td>247 AH</td>
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<td>Halberstam, Square</td>
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<td>free numbers in an</td>
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<td>arithmetic progression,</td>
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<td>II</td>
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<tr>
<td><strong>Analysis</strong></td>
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<tr>
<td>To be announced.</td>
<td>241 AH</td>
<td>2:00 pm</td>
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<tr>
<td><strong>Definability in Finite</strong></td>
<td>245 AH</td>
<td>2:00 pm</td>
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<td>Fields</td>
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<tr>
<td>Ms. Jan Hutson; On the decomposition-intersection procedure,</td>
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<td>II</td>
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<tr>
<td><strong>Geometric Potpourri</strong></td>
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<tr>
<td>No meeting this week.</td>
<td>243 AH</td>
<td>2:00 pm</td>
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<tr>
<td><strong>Lie Algebras, I</strong></td>
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<td>Professor Ari Babakhanian; Serre's Theorem: Characterization</td>
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<td>of semisimple Lie</td>
<td>247 AH</td>
<td>2:00 pm</td>
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<td>algebras by generators</td>
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<td>and relations, I</td>
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<tr>
<td><strong>Combinatorics and Graph Theory</strong></td>
<td>241 AH</td>
<td>3:00 pm</td>
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<tr>
<td>Ms. Myung S. Chung; Large P₄-free graphs with bounded degrees.</td>
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<tr>
<td><strong>Differential Geometry</strong></td>
<td>243 AH</td>
<td>3:00 pm</td>
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<tr>
<td>Professor Stephanie</td>
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<tr>
<td>Alexander; Singular</td>
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<td>spaces of nonpositive</td>
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<td>curvature.</td>
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<tr>
<td><strong>Combinatorial Algorithms</strong></td>
<td>1310 DCL</td>
<td>4:00 pm</td>
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<tr>
<td>Professor Gianfrancco</td>
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<td>Bilardi, Cornell;</td>
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<td>Theoretical aspects of</td>
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<td>parallel machines.</td>
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<tr>
<td><strong>Fama Mathematica</strong></td>
<td>314 AH</td>
<td>4:00 pm</td>
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<tr>
<td>Professor Nigel Boston;</td>
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<tr>
<td>&quot;1, 11, 21, 1211, 111221, 312211,...&quot; Conway's weird and</td>
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<td>wonderful radioactive</td>
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<td>decay.</td>
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WEDNESDAY, OCTOBER 10

**Combinatorial Algorithms**  
Professor Ketan Mulmuley, University of Chicago; Dynamic problems in randomized computational geometry.

**Complex Systems**  
To be announced.

THURSDAY, OCTOBER 11

**Disciples of Yodar**  
To be announced.

**Lie Algebra, II**  
Professor William Haboush; Homogeneous vector bundles and flag manifolds, II

**Logic**  
Professor Carl Jockusch; \( \forall \exists \)-Decision procedures in recursion theory, \( \forall \)

**Number Theory**  
Professor Ken Stolarsky; A prelude to the 3x+1 problem.

**Algebraic Number Theory**  
Professor Steve Ullom; Groups which appear as Galois groups over the rational numbers, \( \forall \)

**Automatic Groups**  
Professor Paul Schupp; Small cancellation theory and knot groups, \( \forall \)

**Commutative Algebra**  
Professor Robert Fossum; The failure of Kodaira vanishing for line bundles on generalized flag varieties, \( \forall \)

**Mathematics Colloquium**  
Professor David Benson, Oxford and MSRI; Reflection groups, braids and mapping class groups.

**ABSTRACT:** I shall describe the generalised braid group corresponding to a complex reflection group, and demonstrate how to use these concepts to construct classifying spaces for certain mapping class groups. This leads to recent work with F. Cohen on the cohomology of the mapping class groups of closed oriented surfaces of genus two and three.

FRIDAY, OCTOBER 12
MATHEMATICAL TIMETABLE

MONDAY OCTOBER 15

TUESDAY, OCTOBER 16

Probability & Statistics  241 AH  11:00 am
To be announced.

Algebra  243 AH  1:00 pm
Mr. Tuval Foguel; A measuring argument for finite groups.

Boolean Complexity  241 AH  1:00 pm
Professor Jan Krajíček; Algebraic methods in lower bounds: Razborov, Smolensky, II

NAX Newman  245 AH  1:00 pm
Professor Monica Nicolau; Symmetries of algebraic knots, III

Number Theory  247 AH  1:00 pm
Mr. Gennady Bachman; An upper bound for the sum \( \sum_{n=a+1}^{a+H} f(n) \) for certain class of functions \( f \).

Definability in Finite Fields  245 AH  2:00 pm
To be announced.

Geometric Potpourri  243 AH  2:00 pm
Professor Alfred Gray; The Weyl tube formula, II

Lie Algebras, I  247 AH  2:00 pm
Professor Ari Babakhanian; Serre’s Theorem: Characterization of semisimple Lie algebras by generators and relations, II

Combinatorics and Graph Theory  241 AH  3:00 pm
Mr. In Jin Lin; Indifference digraphs.

Differential Geometry  243 AH  3:00 pm
Professor Vladimir Tulovsky, IUPUI; Geometric invariants of differential operators.

Graduate Student Meeting  314 AH  4:00 pm
Professor Kenneth Appel; Discussion of policy on teaching assistant appointments.

Coffee & Tea  321 AH  3:15 pm
WEDNESDAY, OCTOBER 17

Combinatorial Algorithms 1310 DCL 4:00 pm
Mr. Ran Libeskind-Hadas; Fault covering problems in reconfigurable arrays.

THURSDAY, OCTOBER 18

Disciples of Yodar 245 AH 1:00 pm
Mr. John Price; Bogley’s generalization of the Freiheitssatz, I

Lie Algebra, II 243 AH 1:00 pm
Professor William Haboush; Homogeneous vector bundles and flag manifolds, III

Logic 241 AH 1:00 pm
Mr. Todd Will; Probability vs teams in finite inductive inference, I

Number Theory 247 AH 1:00 pm
Dr. Jeffrey Lagarias, Self packing of Minkowski disks.

Algebraic Number Theory 243 AH 2:00 pm
Professor Steve Ullom; Groups which appear as Galois groups over the rational numbers, VI

Analysis 241 AH 2:00 pm
Professor G. Gorach, Universidad de Buenos Aires; Stable rank in Banach algebras.

Automatic Groups 247 AH 2:00 pm
Mr. David Peifer; Small cancellation theory and bicombings.

Commutative Algebra 247 AH 3:00 pm
To be announced.

Mathematics Colloquium 314 AH 4:00 pm
Dr. Jeffrey Lagarias; A.T. & T. Bell Laboratories; Tiling with polyominoes and combinatorial group theory.

ABSTRACT: See mailroom bulletin board.

FRIDAY, OCTOBER 19

Complex Systems 3269 Beckman 4:00 pm
Professor David Goldberg; A gentle introduction to genetic algorithms.
## Mathematical Timetable

### Monday, October 22

**Algebraists Meeting**

Discussion of Fall 91 courses.

**Probability & Statistics**

Professor Michael Osborne, Australian National University; Fisher's method of scoring.

**Algebra**

Mr. Tuval Foguel; A measuring argument for finite groups, II

**Boolean Complexity**

Professor Jan Krajiček; Counting mod p versus mod q.

**Nas Newman**

Professor Monica Nicolau; Symmetries of algebraic knots, IV

**Number Theory**

Professor Harold Diamond; A class of identities for sums of Riemann zeta function.

**Definability in Finite Fields**

Mr. Jose lohino; Solvability module primes, II

**Geometric Potpourri**

Professor H. Mazzeo, UC-San Diego; Regularity of the singular Yamabe problem.

**Lie Algebras, I**

Professor Ari Babakhanian; Serre's Theorem: Characterization of semisimple Lie algebras by generators and relations, III

**Combinatorics and Graph Theory**

Professor Joe Rotman; Graphs and Lie Algebras.

**Differential Geometry**

Dr. Steve Altschuler, Inst. for Math & Its Applications, University of Minnesota; Singularities of the space curve flow.

**Iowa Mathematics**

Professor Peter Brannfeld; Ants, vacuums, and (especially) limits in Galileo.

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### Tuesday, October 23

**Algebraists Meeting**

Discussion of Fall 91 courses.

**Probability & Statistics**

Professor Michael Osborne, Australian National University; Fisher's method of scoring.

**Algebra**

Mr. Tuval Foguel; A measuring argument for finite groups, II

**Boolean Complexity**

Professor Jan Krajiček; Counting mod p versus mod q.

**Nas Newman**

Professor Monica Nicolau; Symmetries of algebraic knots, IV

**Number Theory**

Professor Harold Diamond; A class of identities for sums of Riemann zeta function.

**Definability in Finite Fields**

Mr. Jose lohino; Solvability module primes, II

**Geometric Potpourri**

Professor H. Mazzeo, UC-San Diego; Regularity of the singular Yamabe problem.

**Lie Algebras, I**

Professor Ari Babakhanian; Serre's Theorem: Characterization of semisimple Lie algebras by generators and relations, III

**Combinatorics and Graph Theory**

Professor Joe Rotman; Graphs and Lie Algebras.

**Differential Geometry**

Dr. Steve Altschuler, Inst. for Math & Its Applications, University of Minnesota; Singularities of the space curve flow.

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### Wednesday, October 24

**Combinatorial Algorithms**

See Thursday listing.

**Department Meeting**

Professor Ward Henson, presiding.

**Coffee & Tea**

314 AH, 4:00 pm
**THURSDAY, OCTOBER 25**

<table>
<thead>
<tr>
<th>Time</th>
<th>Place</th>
<th>Event</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>245 AH</td>
<td>Disciples of Yodar; Mr. John Price; Bogley's generalization of the Freiheitssatz, II</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>243 AH</td>
<td>Lie Algebra, II; Professor William Haboush; Homogeneous vector bundles and flag manifolds, IV</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>241 AH</td>
<td>Logic; Mr. Todd Will; Probability vs teams in finite inductive inference, II</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>247 AH</td>
<td>Number Theory; Discussion of number theory courses for Fall, 1991. Interested graduate students and faculty are encouraged to attend; if that is not possible, proxies may be given to Professor Halberstam before the meeting.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>243 AH</td>
<td>Algebraic Number Theory; Professor Steve Ullom; Groups which appear as Galois groups over the rational numbers, VII</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>241 AH</td>
<td>Analysis; Professor Roger Jones; Singular integrals with complex homogeneity.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>247 AH</td>
<td>Automatic Groups; Mr. David Peifer; Small cancellation theory and bicombings, II.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>1310 DCL</td>
<td>Combinatorial Algorithms; Maria M. Klawe, UBC; Matrix searching: applications, algorithms, and lower bounds.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>247 AH</td>
<td>Commutative Algebra; Professor Phil Griffith; Ramification theory in codimension 1, II</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>314 AH</td>
<td>Mathematics Colloquium; Professor Y. Giga; Hokkaido University and IMA; Minimal currents and geodesics.</td>
</tr>
<tr>
<td>3:15 pm</td>
<td>321 AH</td>
<td>Coffee &amp; Tea</td>
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**FRIDAY, OCTOBER 26**

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<tr>
<th>Time</th>
<th>Place</th>
<th>Event</th>
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<tbody>
<tr>
<td>4:00 pm</td>
<td>243 AH</td>
<td>Commutative Algebra; Professor Chr. U. Jensen, University of Copenhagen; The inverse problem of Galois theory for finite and profinite groups.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>3269 Beckman</td>
<td>Complex Systems; Professor Bruce Hannon; Policy driven modeling.</td>
</tr>
</tbody>
</table>
## MATHEMATICAL TIMETABLE

### MONDAY, OCTOBER 29

**Probability & Statistics**
241 AH
11:00 am
Professor Douglas G. Simpson; Classification of Stochastic Processes with Applications to Chromatography

**Algebra**
243 AH
1:00 pm
Professor L. McCulloh; Constructible Units in Integral Group Rings.

**Boolean Complexity**
241 AH
1:00 pm
Professor Jan Krajíček; Razborov's lower bound for monotone circuits, I

**Mat Newman**
245 AH
1:00 pm
Professor Monica Nicolau; Symmetries of algebraic knots, V

**Number Theory**
247 AH
1:00 pm
Mr. David Bradley; Bernoulli Numbers

**Definability in Finite Fields**
245 AH
2:00 pm
Mr. Jose Iovino; Solvability module primes, III

**Geometric Potpourri**
243 AH
2:00 pm
Professor Felix Albrecht; Hilbert's Sixteenth Problem Revisited, II

**Lie Algebras, I**
Professor Ari Babakhanian; Serre's Theorem: Characterization of semisimple Lie algebras by generators and relations, IV.

**Combinatorics and Graph Theory**
241 AH
3:00 pm
Professor John George; The Circuit Covering Property of Graphs.

**Differential Geometry**
243 AH
3:00 pm
Geometry/Topology Area Meeting, discussion of Fall 91 courses.

**Algebraic Geometry**
247 AH
3:00 pm
Professor S. S. Abhyankar, Purdue University; Enlargements of one simple group by another, a generalization of extensions.

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### OCTOBER 39–NOVEMBER 2, 1990

**Mathematics Colloquium**
314 AH
4:00 pm
Professor M. Weinstein, University of Michigan; Asymptotic stability in Conservative Systems.

**Coffee & Tea**
321 AH
3:15 pm
WEDNESDAY, OCTOBER 31

Special Talk in Algebra 247 AH 4:00 pm
Professor S. S. Abhyankar, Purdue University; Some amazing facts about polynomials

THURSDAY, NOVEMBER 1

Disciples of Yodar 245 AH 1:00 pm
Mr. John Price; Bogley’s generalization of the Freiheitssatz, III

Lie Algebras, II 243 AH 1:00 pm
Professor Ranga Rao; The Borel-Weil Theorem, Analytic Proof.

Logic 241 AH 1:00 pm
Dr. C. Smoryński; Some Remarks on the Pell Equation.

Number Theory 247 AH 1:00 pm
Professor Sid Graham; Introduction to exponential sums

Algebraic Number Theory 243 AH 2:00 pm
Professor Lou van den Dries; Groups which appear as Galois groups over the rationals, VIII.

Analysis 241 AH 2:00 pm
To be announced

Automatic Groups 247 AH 2:00 pm
Mr. David Peifer; Small cancellation theory and bicombings, III.

Combinatorial Algorithms 1310 DCL 3:00 pm
To be announced.

Commutative Algebra 247 AH 3:00 pm
No meeting this week.

Mathematics Colloquium 314 AH 4:00 pm
Professor S. S. Abhyankar, Purdue University; The Algebraic Fundamental Group.
Coffee & Tea 321 AH 3:15 pm
ABSTRACT: I will describe the algebraic fundamental group and its relation to the Galois group with particular attention to this question. If the simple groups G and H can be realized as Galois groups of extensions of the field K, when can a suitably defined "enlargement" of G and H, be realized as the Galois group of an extension of K.

FRIDAY, NOVEMBER 2

Complex Systems 3269 Beckman 4:00 pm
To be announced.

Special Colloquium 314 AH 4:00 pm
Professor J. Rabin; University of California, San Diego; The Geometry of the Super KP Hierarchies.
Coffee & Tea 321 AH 3:15 pm
ABSTRACT: See mailroom bulletin board.
### University of Illinois
### at Urbana-Champaign

#### Department of Mathematics
- 273 Altgeld Hall, MC-382
- 1409 West Green Street
- Urbana, IL 61801

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**MATHEMATICAL TIMETABLE**

**MONDAY NOVEMBER 5**

**TUESDAY, NOVEMBER 6**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Probability &amp; Statistics</strong></td>
<td>11:00</td>
<td>241 AH</td>
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<tr>
<td>Professor Michael Lacey, Indiana University; Continuity, irrational rotations, and central limit theorems.</td>
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<thead>
<tr>
<th>Topic</th>
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<tbody>
<tr>
<td><strong>Algebra</strong></td>
<td>1:00</td>
<td>243 AH</td>
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<tr>
<td>Meeting of algebraists to discuss 401/402 syllabi, regular offering of intermediate algebra courses, 317 syllabus.</td>
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<tr>
<th>Topic</th>
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<tbody>
<tr>
<td><strong>Boolean Complexity</strong></td>
<td>1:00</td>
<td>241 AH</td>
</tr>
<tr>
<td>Professor Jan Krajícek; Razborov’s lower bound for monotone circuits, II</td>
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<tr>
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<tbody>
<tr>
<td><strong>Max Newman</strong></td>
<td>1:00</td>
<td>245 AH</td>
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<tr>
<td>Professor Monica Nicolau; Symmetries of algebraic knots, VI</td>
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<tbody>
<tr>
<td><strong>Number Theory</strong></td>
<td>1:00</td>
<td>247 AH</td>
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<tr>
<td>Dr. Sid Graham; Introduction to exponential sums, II</td>
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<tr>
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<tbody>
<tr>
<td><strong>Definability in Finite Fields</strong></td>
<td>2:00</td>
<td>245 AH</td>
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<tr>
<td>Professor Lou van den Dries; Topic to be announced.</td>
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<tr>
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<tbody>
<tr>
<td><strong>Geometric Potpourri</strong></td>
<td>2:00</td>
<td>243 AH</td>
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<tr>
<td>Professor Richard Bishop; A synthetic description of classical Riemannian spaces. (Professor Bishop will give several expository lectures on a paper by I.G. Nikolaev, who will be visiting this department next semester. The lectures are intended to be accessible to graduate students.), I</td>
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<tr>
<th>Topic</th>
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<tbody>
<tr>
<td><strong>Analysis</strong></td>
<td>2:00</td>
<td>241 AH</td>
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<tr>
<td>Professor John Lewis, University of Kentucky; On pseudospheres. (See abstract on mailroom bulletin board.)</td>
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<tr>
<td><strong>Lie Algebras, I</strong></td>
<td>2:00</td>
<td>247 AH</td>
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<tr>
<td>Professor Ari Babakhianan; Serre’s Theorem: Characterization of semisimple Lie algebras by generators and relations, V.</td>
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<tbody>
<tr>
<td><strong>Combinatorics and Graph Theory</strong></td>
<td>3:00</td>
<td>241 AH</td>
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<tr>
<td>Ms. Yi-Vu Chang; Subtree and substar intersection graphs.</td>
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<tbody>
<tr>
<td><strong>Differential Geometry</strong></td>
<td>3:00</td>
<td>243 AH</td>
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<tr>
<td>Professor James Glazebrook, Eastern Illinois University; Some aspects of gauge theory and Riemannian foliations.</td>
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<tr>
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<tbody>
<tr>
<td><strong>Arthur B. Coble Memorial Lecture</strong></td>
<td>4:00</td>
<td>314 AH</td>
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<tr>
<td>Professor Burgess Davis, Purdue University; Lifetimes of conditioned Brownian motion and the shapes of heat kernels.</td>
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<tbody>
<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>3:15</td>
<td>321 AH</td>
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</table>
WEDNESDAY, NOVEMBER 7

Arthur B. Coble Memorial Lecture
Professor Burgess Davis; Lifetimes of conditioned Brownian motion and the shapes of heat kernels.

Coffee & Tea

Combinatorial Algorithms
Kokichi Sugihara, Purdue University; Numerically robust geometric algorithms bases on combinatorial abstraction.

THURSDAY, NOVEMBER 8

Disciples of Yodar
Mr. John Price; Bogley's generalization of the Freiheitssatz, IV

Lie Algebras. II
Professor Ranga Rao; The Borel-Weil Theorem, Analytic Proof, II

Logic
Professor Thanases Pheidas; An analogue of Hilbert's Tenth Problem for p-adic entire functions.

Number Theory
Professor Sid Graham; Introduction to exponential sums, III

Algebraic Number Theory
Professor Lou van den Dries; Groups which appear as Galois groups over the rationals, IX

Analysis
Professor Juha Heinonen, University of Michigan; Fine topology in nonlinear potential theory.

Automatic Groups
Mr. David Peifer; Small cancellation theory and bicombings, IV

Commutative Algebra
To be announced.

FRIDAY, NOVEMBER 9

Complex Systems
To be announced.
### University of Illinois at Urbana-Champaign

#### MATHEMATICAL TIMETABLE

**Monday, November 12**

**Probability & Statistics**
- **Time:** 11:00 am
- **Location:** 241 AH
- **Professor:** Linn Sennott; Markov decision processes and the control of queueing systems.

**Algebra**
- **Time:** 1:00 pm
- **Location:** 243 AH
- **Professor:** Leon McCulloh; Constructible units in integral group rings, II

**Boolean Complexity**
- **Time:** 1:00 pm
- **Location:** 241 AH
- **Professor:** Jan Krajíček; Monotone vs. nonmonotone, and relation between circuit-depth, formula-size and communication complexity.

**Max Newman**
- **Time:** 1:00 pm
- **Location:** 245 AH
- **Meeting:** No meeting this week.

**Number Theory**
- **Time:** 1:00 pm
- **Location:** 247 AH
- **Professor:** Kevin Ford; Dedekind sums.

**Definability in Finite Fields**
- **Time:** 2:00 pm
- **Location:** 245 AH
- **Meeting:** To be announced.

**Geometric Potpourri**
- **Time:** 2:00 pm
- **Location:** 243 AH
- **Professor:** Richard Bishop; A synthetic description of classical Riemannian spaces, II

**Lie Algebras, I**
- **Time:** 2:00 pm
- **Location:** 247 AH
- **Professor:** Jackson Kilpatrick; Maximal vectors of representations, I

**Combinatorics and Graph Theory**
- **Time:** 3:00 pm
- **Location:** 241 AH
- **Professor:** Hunter Snevily; Explicit matchings between middle levels of the subset lattice.

**Differential Geometry**
- **Time:** 3:00 pm
- **Location:** 243 AH
- **Meeting:** No meeting this week.

**Fama Mathematica**
- **Time:** 4:00 pm
- **Location:** 314 AH
- **Professor:** Joseph Rotman; Officers, fertilizer, and a line at infinity.

**Wednesday, November 14**

**Combinatorial Algorithms**
- **Time:** 4:00 pm
- **Location:** 1310 DCL
- **Professor:** Michael Frazier; Learning conjunctions of Horn clauses.
THURSDAY, NOVEMBER 15

Disciples of Yodar
245 AH
Mr. John Price; Bogley’s generalization of the Freiheitssatz, V

Lie Algebras, II
243 AH
M. Bergveld; Weyl group and Hassediagrams.

Logic
241 AH
Professor Sergio Fajardo, Universidad de los Andes visiting Wisconsin; Model theory of stochastic processes.

Mr. Joseph Pe; Theories for feasible functionals, I

Number Theory
247 AH
Professor Roger Baker, Royal Holloway College visiting Utah; Fractional parts of \( \alpha n^2 \).

Algebraic Number Theory
243 AH
Professor Lou van den Dries; Groups which appear as Galois groups over the rationals, X

Automatic Groups
247 AH
Mr. David Peifer; Small cancellation theory and bicombings, V

Commutative Algebra
247 AH
To be announced.

Mathematics Colloquium
314 AH
Professor D.B.A. Epstein, University of Warwick and I.M.A.; Growth functions for groups.

Coffee & Tea
321 AH
3:15 pm

ABSTRACT: How to use finite state automata in order to prove results about groups, including the proof of a conjecture of K. Saito. The talk might be of interest to computer scientists working with finite state automata.

FRIDAY, NOVEMBER 16

Complex Systems Colloquium
3269 Beckman
4:00 pm

Professor Yoski H. Ichikawa, Nagoya; Symmetry and stochasticity of relativistic standard map.
Monday November 19

Tuesday, November 20

Probability & Statistics 241 AH 11:00 am
To be announced.

Mathematics, Science & Technology 210A EDUC BLDG Noon
Professor Kenneth Travers, NSF; Program assessment at the NSF: Past practices, present policies, and future decision. (Brown bag lunch).

Algebra 243 AH 1:00 pm
Professor Nigel Boston; Computing the image of Hida’s representations for the cusp form \( \Delta \).

Boolean Complexity 241 AH 1:00 pm
Professor Jan Krajíček; Formula size at Boolean functions.

Max Newman 245 AH 1:00 pm
No meeting this week.

Number Theory 247 AH 1:00 pm
Professor Bruce Reznick; Partitions of integers into powers of \( 2 \): a case study.

Definability in Finite Fields 245 AH 2:00 pm
To be announced.

Geometric Potpourri 243 AH 2:00 pm
Professor Richard Bishop; A synthetic description of classical Riemannian spaces, III

Lie Algebras, I 247 AH 2:00 pm
No meeting this week.

Combinatorics and Graph Theory 241 AH 3:00 pm
Mr. André Kézdy; Cycle double coverings, graph embeddings, and edge colorings.

Differential Geometry 243 AH 3:00 pm
To be announced.

Logic 245 AH 3:00 pm
Mr. Joseph Pe; Theories for feasible functions, II: A Martin–Löf approach.

Mathematics Colloquium 314 AH 4:00 pm
Professor V. Moncrief, Yale; Some global problems in general relativity.

Coffee & Tea 321 AH 3:15 pm

ABSTRACT: See bulletin board.
WEDNESDAY, NOVEMBER 21

Combinatorial Algorithms
No meeting this week.

THURSDAY, NOVEMBER 15

Thanksgiving - All University offices closed.

FRIDAY, NOVEMBER 23

Thanksgiving Holiday - All University offices closed.
MATHMATICAL TIMETABLE

MONDAY NOVEMBER 26

Logic
Professor Steffen Lempp, University of Wisconsin; Degrees of differences of recursively enumerable sets.

Differential Geometry
Professor D. Daskalopoulos, MIT; Transversality and the topology of moduli spaces.

TUESDAY, NOVEMBER 27

Probability & Statistics
To be announced.

Algebra
Algebraists meeting. Discussion of 401/402 syllabi.

Boolean Complexity
Professor Jan Krajiček; Lower bounds to formula size via matrix methods, I

Max Newman
Professor Mary-Elizabeth Hamstrom; Gordon-Luecke: Knots are determined by their complements. Reprise.

Student Number Theory
Mr. Eberth Alarcon; Kronecker’s theorem of diophantine approximation.

Definability in Finite Fields
To be announced.

Geometric Potpourri
Professor Richard Bishop; A synthetic description of classical Riemannian spaces, IV

Lie Algebras, I
Mr. Jackson Kilpatrick; Maximal vectors of representations, II

Combinatorics and Graph Theory
Mr. John George; The 1-factor graph of a graph.

Differential Geometry
No meeting. See Monday’s listing.

Triitzinsky Lectures
Professor Karen Uhlenbeck, University of Texas; Minimization problems.

Coffee & Tea
### WEDNESDAY, NOVEMBER 28

**Combinatorial Algorithms**
Mr. Donald Gillies; The complexity of and/or scheduling.

<table>
<thead>
<tr>
<th>Event</th>
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<tbody>
<tr>
<td>Combinatorial Algorithms</td>
<td>1310 DCL</td>
<td>4:00 pm</td>
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**Triititzinsky Lectures**
Professor Karen Uhlenbeck; Geometric equations.

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<th>Event</th>
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<tbody>
<tr>
<td>Triititzinsky Lectures</td>
<td>314 AH</td>
<td>4:00 pm</td>
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</table>

### Donald B. Gillies Memorial Lecture
Professor Dana Scott, Carnegie Mellon University; Teaching with Mathematica.

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donald B. Gillies Memorial Lecture</td>
<td>114 DKH</td>
<td>8:00 pm</td>
</tr>
</tbody>
</table>

### THURSDAY, NOVEMBER 29

**Ph.D. Thesis Defense**
Mr. Ken Feuerman; The Hanna Neumann Conjecture: A flow detection approach. (Professor Robert Craggs, Director of Research)

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D. Thesis Defense</td>
<td>247 AH</td>
<td>10:00 am</td>
</tr>
</tbody>
</table>

**Disciples of Yodar**
Mr. John Price; Bogley's generalization of the Freiheitssatz, VI

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disciples of Yodar</td>
<td>245 AH</td>
<td>1:00 pm</td>
</tr>
</tbody>
</table>

**Lie Algebras, II**
Professor Maarten Bergvelt; Weyl group and Hasse diagrams, II

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lie Algebras, II</td>
<td>243 AH</td>
<td>1:00 pm</td>
</tr>
</tbody>
</table>

**Logic**
Ms. Jan Hutson; Elimination of imaginaries for algebraically closed fields.

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logic</td>
<td>241 AH</td>
<td>1:00 pm</td>
</tr>
</tbody>
</table>

**Number Theory**
Mr. Paul Bialek; New results on the almost-Goldbach conjecture.

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
</tbody>
</table>

**Algebraic Number Theory**
Professor Lou van den Dries; Groups which appear as Galois groups over the rationals, XI

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algebraic Number Theory</td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
</tbody>
</table>

**Automatic Groups**
Mr. David Peifer; Small cancellation theory and bicombings, VI

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Groups</td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
</tbody>
</table>

**Donald B. Gillies Memorial Lecture**
Professor Dana Scott; Formalization in LF.

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donald B. Gillies Memorial Lecture</td>
<td>1320 DCL</td>
<td>2:30 pm</td>
</tr>
</tbody>
</table>

**Arithmetic Geometry**
Dr. Jens Franke, Karl-Weierstrass Institute; Counting rational points of bounded height on Fano varieties.

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arithmetic Geometry</td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
</tbody>
</table>

**Triititzinsky Lectures**
Professor Karen Uhlenbeck; Moduli Spaces.

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triititzinsky Lectures</td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
</tbody>
</table>

| Coffee & Tea | 321 AH | 3:15 pm |
FRIDAY, NOVEMBER 30

Ph.D. Thesis Defense
Mr. André Kézdy; Studies in connectivity. (Professor Douglas West, Director of Research)

Complex Systems Colloquium
To be announced.
December 3–7, 1990

**No seminars week of 12/10 unless special room arrangements are made.**

---

**MONDAY DECEMBER 3**

**TUESDAY, DECEMBER 4**

<table>
<thead>
<tr>
<th>Course</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability &amp; Statistics</td>
<td>241 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Professor Juha Alho; Imputation approach to the analysis of occult tumors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebra</td>
<td>243 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Mr. Tuval Foguel; Galois theoretical group.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boolean Complexity</td>
<td>241 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Jan Krajícek; Branching program. (Last talk of the semester, we plan to continue next semester.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maz Newman</td>
<td>245 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Mary–Elizabeth Hamstrom; Gordon–Luecke: Knots are determined by their complements, II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Mr. Gennady Bachman; On the coefficients of cyclotomic polynomials, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definability in Finite Fields</td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>To be announced.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometric Potpourri</td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>No meeting this week.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lie Algebras, I</td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Mr. Jackson Kilpatrick; Maximal vectors of representations, III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combinatorics and Graph Theory</td>
<td>241 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor John Brown; Is there a BIBD (46,69,9,6,1) that contains a Fano configuration?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential Geometry</td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Sharon Pedersen, MSRI, Berkeley; The geometry of great circle tubes. (See also Friday listing.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mathematics Colloquium**

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Joseph Johnson, Rutgers University; Generalized global differential calculus.</td>
<td></td>
</tr>
<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
</tr>
</tbody>
</table>

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**WEDNESDAY, DECEMBER 5**

<table>
<thead>
<tr>
<th>Course</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combinatorial Algorithms</td>
<td>1310 DCL</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Ms. Nancy Amato; The parallel 3D convex-hull problem revisited.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Location</td>
<td>Time</td>
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<tr>
<td>-------------------------------</td>
<td>----------</td>
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</tr>
<tr>
<td>Disciples of Yodar</td>
<td>245 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Mr. John Price; Bogley's generalization of the Freiheitssatz, VII</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lie Algebras, II</td>
<td>243 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>No meeting this week.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logic</td>
<td>241 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Ms. Jan Hutson; Canonical formulas for algebraically closed fields.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Mr. Gennady Bachman; On the coefficients of cyclotomic polynomials, II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebraic Number Theory</td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Lou van den Dries; Groups which appear as Galois groups over the rationals, XII</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic Groups</td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Paul Schupp; Bicombings and the conjugacy problem.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commutative Algebra</td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor J. Koh, Indiana University; Cofiniteness and vanishing of local cohomology modules.</td>
<td></td>
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</tr>
</tbody>
</table>

**Mathematics Colloquium**

314 AH 4:00 pm

Professor Clifford Taubes, Harvard; A biased history of gauge theory.

**ABSTRACT:** Motivations and origins of gauge theory. A talk on geometry and physics for a general audience. Graduate students are specially invited to attend.

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<table>
<thead>
<tr>
<th>Course</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex Systems Colloquium</td>
<td>3269 Beckman</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Mark Bedau, Dartmouth; Philosophical perspectives on mind, artificial intelligence, and artificial life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential Geometry</td>
<td>141 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Clifford Taubes; Gauge theory and Mayer–Vietoris.</td>
<td></td>
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</tr>
</tbody>
</table>
MATHEMATICAL TIMETABLE

MONDAY JANUARY 14

Special Lecture 243 AH 4:00 pm
Dr. Trevor Wooley, Institute for Advanced Study; On simultaneous diagonal equations and applications.

Coffee & Tea 321 AH 3:15 pm

TUESDAY, JANUARY 15

Max Newman Topology 245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, I

Number Theory 247 AH 1:00 pm
Professor Sid Graham; Watson’s proof of the 7-cube theorem.

Algebra 241 AH 1:00 pm
Professor Nigel Boston; p-groups occurring in unramified extensions of number fields.

Geometric Potpourri 243 AH 2:00 pm
No meeting this week.

Combinatorics and Graph Theory 241 AH 2:00 pm
Professor Paul Weichsel; Graphs and inner product spaces.

Special Lecture 243 AH 4:00 pm
Dr. Geza Bohus, Rutgers University; On the discrepancy of 3 permutations.

Coffee & Tea 321 AH 3:15 pm

ABSTRACT: See mailroom bulletin board.

WEDNESDAY, JANUARY 16

THURSDAY, JANUARY 17

Hyperbolic Spaces and Graphs 241 AH 2:00 pm
Professor Paul Schupp; Organizational meeting.

FRIDAY, JANUARY 18

Complex Systems Colloquium 3269 Beckman 4:00 pm
Professor Sudeshna Sinka; Spatio temporal intermittency on the sandpile.
MATHEMATICAL TIMETABLE

January 21-25, 1991

MONDAY, JANUARY 21

Martin Luther King Holiday - All University Offices Closed

TUESDAY, JANUARY 22

Max Newman Topology 245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon–Luecke: Knots are determined by their complements. The combinatorics, II

Number Theory 247 AH 1:00 pm
Professor Heini Halberstam; Integers having a given number of prime factors, I

Algebra 241 AH 2:00 pm
Professor William Haboush; The Hochschild cohomology of the additive group scheme, I

Boolean Complexity 245 AH 2:00 pm
Organizational meeting plus Dr. Kevin Buescher, Threshold circuits, I

Geometric Potpourri 243 AH 2:00 pm
Organizational meeting.

Lie Algebra, I 247 AH 2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, IV

Combinatorics and Graph Theory 241 AH 3:00 pm
See Special Lecture today at 4.

Special Lecture 247 AH 4:00 pm
Dr. Ding-Zhu Du, Princeton; A proof of Gilbert–Pollak conjecture on Steiner ratio.

Coffee & Tea 321 AH 3:15 pm

ABSTRACT: See mailroom bulletin board.

WEDNESDAY, JANUARY 23

Combinatorial Algorithms 1310 DCL 4:00 pm
Dr. Peter Shor, AT&T Bell Labs; Finding stabbing lines in 3-dimensional space.

Special Lecture 247 AH 4:00 pm
Dr. Andrea Bertozzi, Princeton; Title to be announced.

Coffee & Tea 321 AH 3:15 pm
THURSDAY, JANUARY 24

Logic 245 AH 1:00 pm
Professor Jan Krajicek; Beth’s theorem.

Number Theory 247 AH 1:00 pm
Professor H. Halberstam; Integers having a given number of prime factors, II

Algebraic Number Theory 243 AH 2:00 pm
Professor Lou van den Dries; Groups which appear as Galois groups over the rational numbers, XIII

Hyperbolic Spaces and Groups 241 AH 2:00 pm
Professor Paul Schupp; An introduction to Gromov’s hyperbolic spaces, I

Commutative Algebra 247 AH 3:00 pm
Organizational meeting.

Mathematics Education 385 EDUC 3:00 pm
Professor Wang Lin Quan, South China Normal University; Helping students to command mathematical methodology.

FRIDAY, JANUARY 25

Complex Systems Colloquium 3269 Beckman 4:00 pm
To be announced.

Special Lecture 247 AH 4:00 pm
Dr. Ruth Williams; UC-San Diego; Reflected Browninan motions in polyhedral domain.

Coffee & Tea 321 AH 3:15 pm
ABSTRACT: See mailroom bulletin board.
### MONDAY, JANUARY 28

<table>
<thead>
<tr>
<th>Special Lecture</th>
<th>247 AH</th>
<th>4:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. William Y.C. Chen, M.I.T.; A general bijective algorithm for trees.</td>
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</tr>
<tr>
<td><strong>ABSTRACT:</strong> See mailroom bulletin board.</td>
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</tbody>
</table>

### TUESDAY, JANUARY 29

<table>
<thead>
<tr>
<th>Maxwell Newman Topology</th>
<th>245 AH</th>
<th>11:00 am</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor M.-E. Hamstrom; Gordon-Luecke; Knots are determined by their complements. The combinatorics, III</td>
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<table>
<thead>
<tr>
<th>Probability &amp; Statistics</th>
<th>247 AH</th>
<th>11:00 am</th>
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</thead>
<tbody>
<tr>
<td>Professor Dennis Cox; Generalized smoothing splines for nonparametric logistic regression.</td>
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</table>

<table>
<thead>
<tr>
<th>Number Theory</th>
<th>247 AH</th>
<th>1:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor H Halberstam; Integers having a given number of prime factors, III</td>
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<table>
<thead>
<tr>
<th>Boolean Complexity</th>
<th>245 AH</th>
<th>1:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Kevin Buescher, Threshold circuits, II</td>
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<table>
<thead>
<tr>
<th>Geometric Potpourri</th>
<th>243 AH</th>
<th>2:00 pm</th>
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</thead>
<tbody>
<tr>
<td>Professor John Wetzel; An axiom system for the absolute plane and the Grand Trichotomy.</td>
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</table>

<table>
<thead>
<tr>
<th>Lie Algebra, I</th>
<th>247 AH</th>
<th>2:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Jackson Kilpatrick; Representations with maximal vectors, V</td>
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<table>
<thead>
<tr>
<th>Logic-Special Lecture</th>
<th>245 AH</th>
<th>2:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Samuel R. Buss, UC-San Diego; A proof of Gödel’s theorem on lengths of proofs.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Algebra</th>
<th>245 AH</th>
<th>3:00 pm</th>
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</thead>
<tbody>
<tr>
<td>Professor William Haboush; The Hochschild cohomology of the additive group scheme, II</td>
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<table>
<thead>
<tr>
<th>Combinatorics and Graph Theory</th>
<th>241 AH</th>
<th>3:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Special Lectures Monday and Wednesday at 4.</td>
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</table>

### WEDNESDAY, JANUARY 30

<table>
<thead>
<tr>
<th>Combinatorial Algorithms</th>
<th>1310 DCL</th>
<th>4:00 pm</th>
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</thead>
<tbody>
<tr>
<td>Mr. Wei-Kuan Shih; Algorithms for scheduling imprecise computation with timing constraints.</td>
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<table>
<thead>
<tr>
<th>Special Lecture</th>
<th>247 AH</th>
<th>4:00 pm</th>
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</thead>
<tbody>
<tr>
<td>Dr. Guoli Ding, Rutgers University; Subgraphs and well-quasi-ordering.</td>
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</tr>
<tr>
<td><strong>ABSTRACT:</strong> See mailroom bulletin board.</td>
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</table>
THURSDAY, JANUARY 31

**Disciples of Yoda: Student Topology**
245 AH
To be announced.

**Logic**
245 AH
1:00 pm
Professor Carl Jockusch; Conway’s undecidability theorem for the generalized Collatz problem.

**Number Theory**
247 AH
1:00 pm
Professor Bruce Berndt; Eta function identities (The first lecture will be a survey of past and present problems on the Dirichlet eta function.), I

**Algebraic Number Theory**
243 AH
2:00 pm
Professor William Haboush; Groups which appear as Galois groups over the rational numbers, XIV

**Hyperbolic Spaces and Groups**
241 AH
2:00 pm
Professor Paul Schupp; An introduction to Gromov’s hyperbolic spaces, II

**Commutative Algebra**
247 AH
3:00 pm
Professor Dan Grayson; Adams operations and symmetric powers of acyclic complexes.

**Mathematics Education**
385 EDUC
3:00 pm
Professor Wang Lin Quan, South China Normal University; Chinese advancements in Mathematics education.

**Special Lecture**
247 AH
4:00 pm
Dr. Jan Krajicek, UIUC; On collapse of bounded arithmetic.

3:15 pm
Coffee & Tea

ABSTRACT: See mailroom bulletin board.

FRIDAY, FEBRUARY 1

**Complex Systems Colloquium**
3269 Beckman
4:00 pm
To be announced.

**Special Lecture**
343 AH
1:00 pm
Dr. Eduard Harabetian; Geometric Optics, Hamilton-Jacobi equations and convergence of numerical front capturing methods.

3:15 pm
Coffee & Tea

ABSTRACT: See mailroom bulletin board.
# Mathematical Timetable

**Monday, February 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 4:00 pm    | Special Lecture
Dr. Ivan Penkov, UC-Berkeley; Borel-Weil-Bott theory for Lie subgroups. |
| 3:15 pm    | Coffee & Tea                                                         |

**Abstract:** See mailroom bulletin board.

**Tuesday, February 5**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 11:00 am   | Max Newman Topology
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, IV |
| 11:00 am   | Probability & Statistics
To be announced.                                                             |
| 1:00 pm    | Algebra Area Meeting
Professor Joseph Rotman, presiding; Discussion of 401/402 syllabi.       |
| 1:00 pm    | Number Theory
Professor Bruce Berndt; Eta function identities, II                      |
| 1:00 pm    | Boolean Complexity
Mr. Kevin Buescher, Threshold circuits; III                               |
| 2:00 pm    | Geometric Potpourri
Professor Bruce Reznick; Well-dispersed points on $S^n$, Hilbert's solution to Waring's Problem and sums of powers of linear forms. |
| 2:00 pm    | Lie Algebra, I
Mr. Jackson Kilpatrick; Representations with maximal vectors, VI          |
| 3:00 pm    | Algebra
Mr. Sunil Gunaratne; A new congruence for Bernoulli numbers.               |
| 3:00 pm    | Combinatorics and Graph Theory
Mr. Hunter Snevily; Graceful labelings of graphs.                           |

**Wednesday, February 6**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 3:00 pm    | Boolean Complexity-Special Seminar
Professor Pavel Pudláč, Mathematical Institute at Prague; On bounded depth circuits. |
| 4:00 pm    | Combinatorial Algorithms
Mr. Prasson Tiwari; Bounds on computations involving the floor operation. |
<table>
<thead>
<tr>
<th>Event</th>
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<tbody>
<tr>
<td><strong>Disciples of Yodar Student Topology</strong></td>
<td>245 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td><strong>Logic</strong></td>
<td>245 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Pavel Pudlák; Witnessing theorems in arithmetic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number Theory</strong></td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Bruce Berndt; Eta function identities, III</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Algebraic Number Theory</strong></td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor William Haboush; Groups which appear as Galois groups over the rational numbers, XV</td>
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<tr>
<td><strong>Hyperbolic Spaces and Groups</strong></td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, III</td>
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<tr>
<td><strong>Commutative Algebra</strong></td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Dan Grayson; Adams operations and symmetric powers of acyclic complexes, II</td>
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<tr>
<td><strong>Special Lecture</strong></td>
<td>247 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Dr. Zoltan Füredi, M.I.T.; Turán type problems.</td>
<td>321 AH</td>
<td>3:15 pm</td>
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<tr>
<td><strong>FRIDAY, FEBRUARY 8</strong></td>
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<tr>
<td><strong>Complex Systems Colloquium</strong></td>
<td>3269 Beckman</td>
<td>4:00 pm</td>
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<tr>
<td>To be announced</td>
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<tr>
<td><strong>Special Lecture</strong></td>
<td>247 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Dr. Steven Bradlow, UC-San Diego; Guage theory and holomorphic vector bundles.</td>
<td>321 AH</td>
<td>3:15 pm</td>
</tr>
<tr>
<td>ABSTRACT: See mailroom bulletin board.</td>
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</tbody>
</table>
MATHMATICAL TIMETABLE

MONDAY FEBRUARY 11

TUESDAY, FEBRUARY 12

Mar Newman Topology  245 AH  11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, V

Probability & Statistics  247 AH  11:00 am
Professor Dennis Cox; Generalized smoothing splines for nonparametric logistic regression.

Algebra Area Meeting  159 AH  1:00 pm
Professor Joseph Rotman, presiding; Discussion of 401/402 syllabi, II

Number Theory  247 AH  1:00 pm
Professor Bruce Berndt; Eta function identities, III

Boolean Complexity  245 AH  1:00 pm
Professor Jan Krajíček; Appendix to threshold circuits.

Geometric Potpourri  243 AH  2:00 pm
To be announced.

Lie Algebra, I  247 AH  2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, VII

Algebra  245 AH  3:00 pm
Professor John Walter; Characterization of finite projective planes. Moody’s characterization of a finite projective plane in terms of homogeneous space of the stabilizer of a point in a doubly transitive group, I

Combinatorics and Graph Theory  241 AH  3:00 pm
Mr. John George; Theorem lost and theorem regained.

WEDNESDAY, FEBRUARY 13

Combinatorial Algorithms  1310 DCL  4:00 pm
To be announced.
**THURSDAY, FEBRUARY 14**

**Disciples of Yodar Student Topology**
245 AH
11:00 am

No meeting this week.

**Logic**
245 AH
1:00 pm
Professor Carl Jockusch; Conway's undecidability proof for the generalized Collatz problem (rescheduled).

**Number Theory**
247 AH
1:00 pm
Professor Lee Rubel; The integer zeros of exponential polynomials, I

**Algebraic Number Theory**
243 AH
2:00 pm
Professor William Haboush; Groups which appear as Galois groups over the rational numbers, XVI

**Hyperbolic Spaces and Groups**
241 AH
2:00 pm
Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, IV

**Commutative Algebra**
247 AH
3:00 pm
To be announced.

**Probability-Special Seminar**
245 AH
3:00 pm
Professor Glen Swindle, UCSB; Self-organized criticality and singular diffusions.

**Mathematics Colloquium**
314 AH
4:00 pm
Professor Thomas Parker, Michigan State University; Bubbles and holomorphic curves.

Coffee & Tea
321 AH
3:15 pm

**FRIDAY, FEBRUARY 15**

**Complex Systems Colloquium**
3269 Beckman
4:00 pm
To be announced.

**Differential Geometry-Special Seminar**
241 AH
4:00 pm
Professor Thomas Parker; Non-minimal Yang-Mills fields and dynamics.
### Monday, February 18

**Max Newman Topology**

245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, VI

**Probability & Statistics**

247 AH 11:00 am
Professor Robert Wijsman; On a problem of Marsaglia.

**Number Theory**

247 AH 1:00 pm
Professor Lee Rubel; The integer zeros of exponential polynomials, II

**Boolean Complexity**

245 AH 1:00 pm
Professor Jan Krajiček; Appendix to threshold circuits, II

**Differential Geometry**

241 AH 1:00 pm
Professor Etton Park, IUPUI; Toeplitz algebras and index theory on flows.

**Geometric Potpourri**

243 AH 2:00 pm
No meeting this week.

**Lie Algebra, I**

247 AH 2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, VIII

**Algebra**

245 AH 3:00 pm
Professor John Walter; Characterization of finite projective planes. Moody’s characterization of a finite projective plane in terms of homogeneous space of the stabilizer of a point in a doubly transitive group, II

**Combinatorics and Graph Theory**

241 AH 3:00 pm
Ms. Myung Chung; p-intersection number and a graph design problem.

### Tuesday, February 19

**Max Newman Topology**

245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, VI

**Probability & Statistics**

247 AH 11:00 am
Professor Robert Wijsman; On a problem of Marsaglia.

**Number Theory**

247 AH 1:00 pm
Professor Lee Rubel; The integer zeros of exponential polynomials, II

**Boolean Complexity**

245 AH 1:00 pm
Professor Jan Krajiček; Appendix to threshold circuits, II

**Differential Geometry**

241 AH 1:00 pm
Professor Etton Park, IUPUI; Toeplitz algebras and index theory on flows.

**Geometric Potpourri**

243 AH 2:00 pm
No meeting this week.

**Lie Algebra, I**

247 AH 2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, VIII

**Algebra**

245 AH 3:00 pm
Professor John Walter; Characterization of finite projective planes. Moody’s characterization of a finite projective plane in terms of homogeneous space of the stabilizer of a point in a doubly transitive group, II

**Combinatorics and Graph Theory**

241 AH 3:00 pm
Ms. Myung Chung; p-intersection number and a graph design problem.

### Wednesday, February 20

**Combinatorial Algorithms** 1310 DCL 4:00 pm
To be announced.
<table>
<thead>
<tr>
<th>Event</th>
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<tbody>
<tr>
<td><strong>Disciples of Yoda: Student Topology</strong></td>
<td>245 AH</td>
<td>11:00 am</td>
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<tr>
<td>To be announced</td>
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<tr>
<td><strong>Graph Theory - Special Seminar</strong></td>
<td>165 AH</td>
<td>11:00 am</td>
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<tr>
<td>Professor Heiko Harborth, University of Braunschweig; Graph theory on the plane.</td>
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<tr>
<td><strong>Logic</strong></td>
<td>245 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Professor Lou van den Dries; On rigid analytic sets.</td>
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<tr>
<td><strong>Number Theory</strong></td>
<td>247 AH</td>
<td>1:00 pm</td>
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<tr>
<td>To be announced</td>
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<tr>
<td><strong>Algebraic Number Theory</strong></td>
<td>243 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Professor William Haboush; Groups which appear as Galois groups over the rational numbers, XVII</td>
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<tr>
<td><strong>Hyperbolic Spaces and Groups</strong></td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Mr. David Peifer; Divergence of geodesics, I</td>
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<tr>
<td><strong>Commutative Algebra</strong></td>
<td>247 AH</td>
<td>3:00 pm</td>
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<tr>
<td>Professor S.P. Dutta; On Chow group and Serre's intersection multiplicity conjecture.</td>
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<tr>
<td><strong>Mathematics Colloquium</strong></td>
<td>314 AH</td>
<td>4:00 pm</td>
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<tr>
<td>Professor Igor Nikolaev; Gromov's compactness theorem and Alexandrov's spaces of bounded curvature.</td>
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<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>321 AH</td>
<td>3:15 pm</td>
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**FRIDAY, FEBRUARY 22**

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<tr>
<th>Event</th>
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<tbody>
<tr>
<td><strong>Complex Systems Colloquium</strong></td>
<td>3269 Beckman</td>
<td>4:00 pm</td>
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<tr>
<td>Professor Donald Tomalia, Michigan Molecular Institute; Starburst dendrimers: Molecular level control of size, shape, surface chemistry, topology, and flexibility from atoms to macroscopic matter.</td>
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</table>
MATHEMATICAL TIMETABLE

MONDAY FEBRUARY 25

Special Lecture 314 AH 4:00 pm
Professor Stephen Wolfram; Mathematica 2.0 and the new paradigm for technical computing.

TUESDAY, FEBRUARY 26

Max Newman Topology 245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, VII

Probability & Statistics 247 AH 11:00 am
To be announced.

Number Theory 247 AH 1:00 pm
To be announced.

Boolean Complexity 245 AH 1:00 pm
Mr. E. Ramos; Small depth threshold circuits.

Differential Geometry 241 AH 1:00 pm
Professor Randy Hughes, SIU; Curvature conditions for Riemannian manifolds with Brownian independent property.

Geometric Potpourri 243 AH 2:00 pm
No meeting this week.

Lie Algebra, I 247 AH 2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, IX

Algebra 245 AH 3:00 pm
To be announced.

Combinatorics and Graph Theory 241 AH 3:00 pm
Mr. Patrick McGuinness; An algorithm to find a $K_5$-minor in a graph.

WEDNESDAY, FEBRUARY 27

Combinatorial Algorithms 1310 DCL 4:00 pm
To be announced.
THURSDAY, FEBRUARY 28

**Disciples of Yoda: Student Topology**
Ms. Catherine Cavagnaro; Local indicability and asphericity.

**Logic**
Professor Zacharias Robinson, Purdue; Subanalytic sets in two dimensional rigid analytic varieties.

**Number Theory**
To be announced.

**Algebraic Number Theory**
Professor William Haboush; Groups which appear as Galois groups over the rational numbers, XVIII

**Hyperbolic Spaces and Groups**
Mr. David Peifer; Hyperbolic implies linear isoperimetric inequality.

**Commutative Algebra**
See Friday's listing.

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**Mathematics Colloquium**
Professor R. Sridharan, Tata Institute, visiting MSRI and University of Chicago; A new invariant attached to an algebra with involution.

Coffee & Tea

FRIDAY, MARCH 1

**Complex Systems Colloquium**
To be announced.

**Commutative Algebra-Special**
Professor R. Sridharan; To be announced.
MATHENTIC TIMETABLE

MONDAY, MARCH 4

TUESDAY, MARCH 5

Max Newman Topology
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, VIII

Probability & Statistics
Professor Sean Meyn; Criteria for stability of Markov processes.

Number Theory
Professor Sid Graham, Moments of gaps between square free numbers, I

Boolean Complexity
Mr. E. Ramos; Small depth threshold circuits, II

Differential Geometry
Professor Conrad Plaut, Ohio State; Controlling topology through metric curvature bounds. This will be a general survey; graduate students are particularly invited.

Geometric Potpourri
No meeting this week.

Lie Algebra, I
Mr. Jackson Kilpatrick; Representations with maximal vectors, X

Algebra
Professor John Walter; Characterization of finite projective planes, IV

Combinatorics and Graph Theory
Mr. Patrick McGuinness; An algorithm to find a $K_5$-minor in a graph.

Calculus
Professor Jerry Uhl; What's going on in Calculus & Mathematica.

WEDNESDAY, MARCH 6

Combinatorial Algorithms
To be announced.

March 4-8, 1991
THURSDAY, MARCH 7

Disciples of Yodar Student Topology 245 AH 11:00 am
Ms. Catherine Cavagnaro; Local indicability and asphericity, II

Logic 245 AH 1:00 pm
Professor Jan Krajíček; Interpretability of theories.

Number Theory 247 AH 1:00 pm
Professor Sid Graham, Moments of gaps between square free numbers, II

Algebraic Number Theory 243 AH 2:00 pm
Professor William Haboush; Groups which appear as Galois groups over the rational numbers, XIX

Analysis 245 AH 2:00 pm
Professor Bruce Reznick; Some remarks on the Beauzamy-Bombieri-Enflo/ Montgomery inequality for the coefficients of products of polynomials.

Hyperbolic Spaces and Groups 241 AH 2:00 pm
Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, V

Commutative Algebra 247 AH 3:00 pm
To be announced.

Mathematics Colloquium 314 AH 4:00 pm
Professor Harold P. Boas, Texas A & M University; EGGS, SCV, and PDE.

Coffee & Tea 321 AH 3:15 pm

ABSTRACT: To distinguish Humpty Dumpty from an imposter, all the king's horses and all the king's men might use methods from complex analysis. We will discuss, in particular, the holomorphic equivalence problem for eggs (convex domains) and some recent results on boundary regularity of solutions of the inhomogeneous Cauchy-Riemann equations on eggs.

FRIDAY, MARCH 8

Complex Systems Colloquium 3269 Beckman 4:00 pm
To be announced.
MONDAY, MARCH 11

Max Newman Topology
245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The combinatorics, IX

Probability & Statistics
247 AH 11:00 am
Professor John C. Kiefer, University of Minnesota; Strong consistent model class selection for a stationary ergodic process based on log-likelihood.

Number Theory
247 AH 1:00 pm
Professor Sid Graham, Moments of gaps between square free numbers, III

Boolean Complexity
245 AH 1:00 pm
Professor Jan Krajíček; Matrix methods and methods of communication complexity in Boolean complexity, I

Differential Geometry
241 AH 1:00 pm
See Friday listing.

Geometric Potpourri
243 AH 2:00 pm
No meeting this week.

Lie Algebra, I
247 AH 2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, XI

Algebra/Commutative Algebra
245 AH 3:00 pm
Professor Hans-Bjorn Foxby, University of Copenhagen; The fibre of a local homomorphism.

Combinatorics and Graph Theory
241 AH 3:00 pm
Mr. Hunter Snevily; Topics on tree-width.

TUESDAY, MARCH 12

WEDNESDAY, MARCH 13

Combinatorial Algorithms
1310 DCL 4:00 pm
To be announced.

LAS Jubilee Lecture
Levis Faculty Center 4:00 pm
Professor Richard Schacht, Department of Philosophy; Hegel, Marx, Nietzsche and the future of self-alienation.
THURSDAY, MARCH 14

**Disciples of Yodar Student Topology** 245 AH 11:00 am
Ms. Catherine Cavagnaro; Local indicability and asphericity, III

**Logic** 245 AH 1:00 pm
To be announced.

**Number Theory** 247 AH 1:00 pm
Mr. Kevin Ford; A measure of non principality of a Dirichlet character.

**Algebraic Number Theory** 243 AH 2:00 pm
Professor Leon McCullough; $S_n$ and $A_n$ as Galois groups over $\mathbb{Q}(T)$
(Serre-continued), I

**Analysis** 245 AH 2:00 pm
Professor Horacio Porta; An interpretation of Segal’s inequality.

**Hyperbolic Spaces and Groups** 241 AH 2:00 pm
Professor Paul Schupp; An introduction to Gromov’s hyperbolic spaces, VI

**Special Colloquium** 247 AH 2:00 pm
Professor R. Glowinski, University of Houston; Decomposition principles in scientific computing.

Coffee and Tea 321 AH 3:15 pm

ABSTRACT: See mailroom bulletin board.

**Commutative Algebra** 247 AH 3:00 pm
See Tuesday listing.

**Mathematics Colloquium** 314 AH 4:00 pm
Professor Anatolii Fomenko, Moscow University visiting UBC; Topological classification of integrable Hamiltonian systems: New results.

Coffee & Tea 321 AH 3:15 pm

FRIDAY, MARCH 15

**Complex Systems Colloquium** 5602 Beckman 11:00 am
Professor Anatolii Fomenko, Visual images in 3-D topology: Computer geometry and Thurston’s conjecture concerning hyperbolic 3-manifolds

Coffee and Tea 10:30 am

**Complex Systems Colloquium** 3269 Beckman 4:00 pm
Professor William T. Powers, Control Systems Group, Inc.; The role of negative feedback in complex purposeful systems.

**Topology/Geometry** 241 Ah 4:00 pm
Professor Tatiana Fomenko, Moscow University visiting UBC; On some cohomological invariants of equivariant maps on cohomology spheres.
**MATHEMATICAL TIMETABLE**

**MONDAY, MARCH 18**

**TUESDAY, MARCH 19**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Max Newman Topology</td>
<td>245 AH</td>
<td>11:00 am</td>
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<tr>
<td>Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The topology, X</td>
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<tr>
<td>Probability &amp; Statistics</td>
<td>247 AH</td>
<td>11:00 am</td>
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<tr>
<td>See today's colloquium at 4.</td>
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<tr>
<td>Complex Systems/Nonlinear Dynamics</td>
<td>4269 Beckman</td>
<td>Noon</td>
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<tr>
<td>Professor Y. Ichikawa, Nagoya University; Solitons on a vortex filament.</td>
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<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Professor Paul Bateman; The Carmichael conjecture.</td>
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<tr>
<td>Boolean Complexity</td>
<td>245 AH</td>
<td>1:00 pm</td>
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<tr>
<td>No meeting this week.</td>
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<tr>
<td>Differential Geometry</td>
<td>241 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Dr. Roger Uve, NCSA; Constant mean curvature hypersurfaces and numerical spacetimes.</td>
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**Mathematics Colloquium-Special**

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<th>Course</th>
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<tr>
<td>Professor Stephen Smith, UIC; Subgroups complexes associated with finite groups and their representations.</td>
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<tr>
<td>Coffee and Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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**Geometric Potpourri**

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<td>No meeting this week.</td>
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**Lie Algebra, I**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Mr. Jackson Kilpatrick; Representations with maximal vectors, XII</td>
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**Algebra**

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<th>Course</th>
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<tr>
<td>Professor Nigel Boston; Introduction to the deformation of Galois representations, I</td>
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**Combinatorics and Graph Theory**

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<th>Course</th>
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<tbody>
<tr>
<td>Mr. Andre Kezdy; Tree width of graphs.</td>
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**Mathematics Colloquium-Special**

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<th>Course</th>
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<tr>
<td>Professor Vladimir Vapnik, Academy of Sciences, USSR; Stochastical ill-posed problems and the methods of nonparametric estimation.</td>
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<tr>
<td>Coffee and Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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**1991 Ogura Lecture**

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<tr>
<th>Course</th>
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<td>Professor Edward N. Lorenz, MIT; Chaos and climatic change.</td>
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**Department of Mathematics**

273 Altgeld Hall, MC-382
1409 West Green Street
Urbana, IL 61801

March 18–22, 1991
WEDNESDAY, MARCH 20

Combinatorial Algorithms 1310 DCL 4:00 pm
Mr. Ching-Chih Han; Scheduling real-time computations with extended deadlines.

THURSDAY, MARCH 21

Disciples of Yodar Student Topology 245 AH 11:00 am
Ms. Catherine Cavagnaro; Local indicability and asphericity, IV

Logic 245 AH 1:00 pm
Professor Lou van den Dries; On closures of definable collections and subanalytic sets, I

Number Theory 247 AH 1:00 pm
Mr. James Stowers; The number of integers in \([1,x]\) representable as a sum of two squares.

Algebraic Number Theory 243 AH 2:00 pm
Professor Leon McCulloh; \(\text{PSL}_2(F_p)\) as a Galois group over \(\mathbb{Q}(T)\)
(Serre-continued), I

Hyperbolic Spaces and Groups 241 AH 2:00 pm
Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, VII

Commutative Algebra 247 AH 3:00 pm
To be announced.

Mathematics Colloquium 314 AH 4:00 pm
Professor Sidney Graham, Michigan Tech visiting UIUC; Zeros of \(L\)-functions.

Coffee & Tea 321 AH 3:15 pm

FRIDAY, MARCH 22
MATHEMATICAL TIMETABLE

MONDAY, APRIL 1

TUESDAY, APRIL 2

Max Newman Topology 245 AH 11:00 am
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The topology, XI

Probability & Statistics 247 AH 11:00 am
To be announced.

Number Theory 247 AH 1:00 pm
To be announced.

Algebra Area Meeting 159 AH 1:00 pm
Committee report on 401/402.

Boolean Complexity 245 AH 1:00 pm
Professor Jan Krajíček; Matrix methods and methods of communication complexity in boolean complexity, II

Differential Geometry 241 AH 1:00 pm
Professor Hillel Gauchman; Inequalities for cohomology classes of Kaehler and Sasakian manifolds.

Geometric Potpourri 243 AH 2:00 pm
Professor Igor Nikolaev; A curve in $\mathbb{R}^n$, homeomorphic to a line, that intersects every unbounded curve of bounded curvature.

Lie Algebra, I 247 AH 2:00 pm
Mr. Jackson Kilpatrick; Representations with maximal vectors, XIII

Algebra 245 AH 3:00 pm
Professor Nigel Boston; Introduction to the deformation of Galois representations, II

Combinatorics and Graph Theory 241 AH 3:00 pm
Mr. Andre Kezdy; Structure theorems for graph minors.
WEDNESDAY, APRIL 3

**Combinatorial Algorithms** 1310 DCL 4:00 pm
Mr. Prasoon Tiwari; Bounds on computations involving the floor operation.

THURSDAY, APRIL 4

**Disciples of Yodar Student Topology** 245 AH 11:00 am
Ms. Catherine Cavagnaro; Local indicability and asphericity, V

**Logic** 245 AH 1:00 pm
Professor Lou van den Dries; On closures of definable collections and subanalytic sets, II

**Number Theory** 247 AH 1:00 pm
To be announced.

**Algebraic Number Theory** 243 AH 2:00 pm
Professor Leon McCulloh; $\text{PSL}_2(F_p)$ as a Galois group over $\mathbb{Q}(T)$ (Serre-continued), II

**Hyperbolic Spaces and Groups** 241 AH 2:00 pm
Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, VIII

**Commutative Algebra** 247 AH 3:00 pm
Professor S. P. Dutta; Chow group and intersection multiplicity, II

**Mathematics Colloquium** 314 AH 4:00 pm
Professor David Handelman, University of Ottawa; Positivity, polynomials, and polytopes.

Coffee & Tea 321 AH 3:15 pm

FRIDAY, APRIL 5
MATHMATICAL TIMETABLE

MONDAY, APRIL 8

TUESDAY, APRIL 9

Maz Newman Topology
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The topology, XII

Probability & Statistics
To be announced.

Number Theory
Dr. Roger Heath-Brown, Oxford University; Distribution and moments of the error term in the Dirichlet Division Problem.

Algebra Area Meeting
Committee report on 401/402, II

Boolean Complexity
To be announced.

Differential Geometry
See Thursday colloquium.

Geometric Potpourri
No meeting this week.

Lie Algebra, I
Mr. Jackson Kilpatrick; Representations with maximal vectors, XIV

Algebraic Geometry-Special
Professor David Roberts, University of Chicago; An introduction to motives.

Combinatorics and Graph Theory
Professor John Brown; A BIBD(51,85,10,6,1) must contain a Fano or a near Fano configuration.

WEDNESDAY, APRIL 10

Combinatorial Algorithms
To be announced.
**THURSDAY, APRIL 11**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Disciples of Yodar Student Topology</td>
<td>245 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. John Price; Framed links for Peiffer identities, I</td>
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</tr>
<tr>
<td>Finite Group Theory</td>
<td>241 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Steve Smith; Construction of modules for finite groups using presheaves, II</td>
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<tr>
<td>Logic</td>
<td>245 AH</td>
<td>1:00 pm</td>
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<tr>
<td>See Friday listing.</td>
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<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Professor Kenneth Stolarsky; An algorithm for $e^{\pi/2}$ suggested by the geometry of the ellipse. This is an elementary talk for number theorists and geometers.</td>
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<tr>
<td>Algebraic Number Theory</td>
<td>243 AH</td>
<td>2:00 pm</td>
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<tr>
<td>To be announced.</td>
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<tr>
<td>Analysis</td>
<td>245 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Professor Ronghui Ji, IUPUI; Idempotents in group algebras, dual space, and cyclic cohomology.</td>
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<tr>
<td>Hyperbolic Spaces and Groups</td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, IX</td>
<td></td>
<td></td>
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<tr>
<td>Commutative Algebra</td>
<td>247 AH</td>
<td>3:00 pm</td>
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<tr>
<td>To be announced.</td>
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<tr>
<td>Mathematics Colloquium</td>
<td>314 AH</td>
<td>4:00 pm</td>
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<tr>
<td>Professor Lieven Vanhecke, University of Leuven; A theorem of Archimedes, and two-point homogeneous spaces (for a general audience).</td>
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<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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<tr>
<td>ABSTRACT: We discuss an extension of the theorem of Archimedes about the ratios of the volumes of a sphere and a circumscribing cylinder in Euclidean three-space to general Riemannian manifolds. We use this to characterize the two-point homogeneous spaces. In this context we also discuss the remarkable theorem of H. Weyl about the volume of tubes.</td>
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**FRIDAY, APRIL 12**

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<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Logic-Special Seminar</td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Egon Börger, CS Dept, University of Pisa and Depts of CS &amp; EE, University of Michigan; A formal specification of standard prolog and related system (see abstract on mailroom bulletin board).</td>
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</tr>
<tr>
<td>Geometry and Topology-Special Seminar</td>
<td>241 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Clarence Wilkerson, Purdue University; Lie theory via homotopy.</td>
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</tbody>
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MATHEMATICAL TIMETABLE

MONDAY, APRIL 15

Humanities Lecture
Professor Jack Stillinger, English; Poets who revise, poets who don’t, critics who should.

TUESDAY, APRIL 16

Max Newman Topology
Professor M.-E. Hamstrom; Gordon-Luecke: Knots are determined by their complements. The topology, XIII

Probability & Statistics
To be announced.

Number Theory
Professor Heini Halberstam; Long arithmetic progressions.

Boolean Complexity
Professor Jan Krajiček, Matrix methods in boolean complexity, IV

Geometry Topology Area Meeting
Plan courses for Spring 92.

Geometric Potpourri
Mr. Paul Rogowski; Whitehead’s contractible 3-manifold, the 2-adic solenoid, Cantor’s set, and you.

Lie Algebra, I
Mr. Jackson Kilpatrick; Representations with maximal vectors, XV

Algebra
Professor Nigel Boston; Introduction to the deformation of Galois representations, II

Combinatorics and Graph Theory
Mr. In-Jen Lin; Leafage and proper leafage of graphs.

Stewart S. Cairns Memorial Lecture
Professor John Stallings, UC-Berkeley; Group triangles of non-positive curvature.

Coffee & Tea
### WEDNESDAY, APRIL 17

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Combinatorial Algorithms</td>
<td>1310 DCL</td>
<td>4:00 pm</td>
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<tr>
<td>To be announced</td>
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<tr>
<td><strong>Stewart S. Cairns Memorial Lecture</strong></td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor John Stallings, UC-Berkeley; Negatively curved groups and related concepts.</td>
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<td></td>
</tr>
<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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### THURSDAY, APRIL 18

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<thead>
<tr>
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<tbody>
<tr>
<td>Disciples of Yodar Student Topology</td>
<td>245 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. John Price; Framed links for Peiffer identities, II</td>
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<tr>
<td><strong>Finite Group Theory</strong></td>
<td>241 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Professor John Walter; Structure of root lattices for reflection and application over groups of tori in Chevalley groups.</td>
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<tr>
<td><strong>Logic</strong></td>
<td>245 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Professor Edward Reingold, CS Dept; Unbounded search, the finite case.</td>
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<tr>
<td><strong>Number Theory</strong></td>
<td>247 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Mr. David Bradley; A weighted lattice point problem.</td>
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<tr>
<td><strong>Algebraic Number Theory</strong></td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>To be announced</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>To be announced</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hyperbolic Spaces and Groups</strong></td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Paul Schupp; An introduction to Gromov's hyperbolic spaces, X</td>
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<td></td>
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<tr>
<td><strong>Commutative Algebra</strong></td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>To be announced</td>
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<tr>
<td><strong>Stewart S. Cairns Memorial Lecture</strong></td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor John Stallings, UC-Berkeley; Group theoretic ideas related to simple connectedness at infinite for 3-manifolds.</td>
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</tr>
<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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### FRIDAY, APRIL 19

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>Differential Geometry</strong></td>
<td>241 AH</td>
<td>4:00 pm</td>
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<tr>
<td>Professor Pawel Walczak, University of Lódz, visiting Washington Univ; Entropy for foliated spaces.</td>
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</table>
MATHMATICAL TIMETABLE

MONDAY, APRIL 22

Statistics
215 GH
Noon
Professor Z.Y. Lin, visiting Carleton University; Two parameter Gaussian processes with a kernel.

TUESDAY, APRIL 23

Probability & Statistics
247 AH
11:00 am
Professor Robert Burton, Oregon State University; Trees and dominoes.

Number Theory
247 AH
1:00 pm
Professor Sid Graham; Square free numbers in arithmetic progressions.

Boolean Complexity
245 AH
1:00 pm
Professor Jan Krajíček, Matrix methods in boolean complexity, V (graph complexity)

Differential Geometry
241 AH
1:00 pm
No meeting this week.

Geometric Potpourri
243 AH
2:00 pm
No meeting this week.

Lie Algebra, I
247 AH
2:00 pm
Mr. Niels Lauritzen; Representations with maximal vectors, XVI

Algebra
245 AH
3:00 pm
Professor Nigel Boston; Introduction to the deformation of Galois representations, V

Analysis
245 AH
2:00 pm
Professor Anton Ströh, visiting Kent State; \( \sigma \)-compact operators relative to a semi-finite von Neumann algebra.

Combinatorics and Graph Theory
241 ASH
3:00 pm
Ms. Yi-Wu Chang; A best-possible bound on star number.

WEDNESDAY, APRIL 24

Combinatorial Algorithms
1310 DCL
4:00 pm
To be announced.
**THURSDAY, APRIL 25**

**Disciples of Yoda Student Topology** 245 AH 11:00 am
Mr. John Price; Framed links for Peiffer identities, III

**Finite Group Theory** 241 AH 1:00 pm
Professor Everett Dade; Conjectures about characters and blocks.

**Logic** 245 AH 1:00 pm
To be announced.

**Number Theory** 247 AH 1:00 pm
Five minute talks. Members of the audience are invited to give talklets.

**Algebraic Number Theory** 243 AH 2:00 pm
Professor Nigel Boston; Introduction to deformation of Galois representations, VI

**Analysis** 245 AH 2:00 pm
Professor Jean Brossard, Institut Fourier; Fatou’s pointwise theorem and derivability of measures.

**Hyperbolic Spaces and Groups** 241 AH 2:00 pm
Professor Paul Schupp; An introduction to Gromov’s hyperbolic spaces, XI

**Commutative Algebra** 247 AH 3:00 pm
To be announced.

**Mathematics Colloquium** 314 AH 4:00 pm
Professor Irwin Lutwak, Polytechnic University; Larger bodies which cast smaller shadows: some counter-intuitive results in elementary geometry.

**Coffee & Tea** 321 AH 3:15 pm

**FRIDAY, APRIL 26**

**Special Seminar** 231 AH 3:00 pm
Dr. J. Szmigielski, University of Kansas; Title to be announced.

**Complex Systems** 3269 Beckman 4:00 pm
Mr. Bill Ditto, Department of the Navy; Experimental exploitation of chaos

**MONDAY, April 29**

**Special Logic Seminar** 243 AH 3:00 pm
Dr. Andreas Baudisch, visiting UC Irvine; On the algebraic structure of superstable groups.