MATHMATICAL TIMETABLE

MONDAY, AUGUST 26

Algebra-Special Seminar 443 AH 1:00 pm
Professor M. Shirvani, Alberta; Fundamental groups of profinite groups.

TUESDAY, AUGUST 27

Algebra-Special Seminar 443 AH 1:00 pm
Professor M. Shirvani, Alberta; Skew linear metabelian groups.

Analysis-Special Seminar 441 AH 1:00 pm
Professor Yehoram Gordon, Technion; Majorization of Gaussian processes and applications to geometry.

Number Theory 445 AH 1:00 pm
Professor J.-L. Nicolas, University of Lyon; An integral representation of Eulerian numbers.

WEDNESDAY, AUGUST 28

THURSDAY, AUGUST 29

Evaluation of Integrals and Special Functions 243 AH 2:00 pm
Professor Oleg Marichev, Organizational meeting.

Logic 245 AH 2:00 pm
Professor Rod Downey, Victoria University of Wellington; A completeness theory for parameterised tractability. See mailroom bulletin board for abstract. (The logic seminar will normally meet on Tuesday afternoon, likely at 1 or 2. If you have a preference concerning the normal meeting time and cannot attend this initial meeting, please leave a note in Carl Jockusch’s box.)

FRIDAY, AUGUST 30
MATHEMATICAL TIMETABLE

September 2-6, 1991

MONDAY, SEPTEMBER 2 — Labor Day, All University Offices Closed

TUESDAY, SEPTEMBER 3

**Number Theory**
247 AH
1:00 pm
Organizational meeting.

**Algebra**
241 AH
1:00 pm
Professor S. Ullom; Representations related to the Fermat cubic, I

**Geometric Potpourri**
243 AH
2:00 pm
Organizational meeting. Graduate students welcome.

**Combinatorics & Graph Theory**
245 AH
3:00 pm
Organizational meeting. Free for all.

**Differential Geometry**
243 AH
3:00 pm
Organizational meeting. Graduate students welcome.

WEDNESDAY, SEPTEMBER 4

**Combinatorial Algorithms**
2240 DCL
4:00 pm
Mr. Michael Wu, Asynchronous PRAM algorithms for connected components.

THURSDAY, SEPTEMBER 5

**Number Theory**
247 AH
1:00 pm
Ms. Janice Malouf, Essential components.

**Algebraic Number Theory**
247 AH
2:00 pm
Professor Nigel Boston; Some more cases of the Fontaine-Mazur conjecture.

**Analysis**
241 AH
2:00 pm
Professor Lee Rubel; A functional equation.
Combinatorial Group Theory/Differential Geometry - working seminar
Professors S. Alexander, R. Bishop and P. Schupp; Organizational meeting. The proposed topic of the seminar is "Metric structures on simplicial complexes" – recent work of Bridson, Haeflinger, Paulin and Stallings.

Evaluation of Integrals and Special Functions
Professor Oleg Marichev; Applications of gamma–functions to the calculation of integrals.

Low Dimensional Geometry/Topology
Organizational meeting. Everyone is welcome.

Mathematics Colloquium
Professor Eli Aljadeff, Technion; Deformations of group rings and semisimplicity.

ABSTRACT: Maschke's theorem asserts that a group ring KG (K a field, G a finite group) is a semisimple algebra if and only if char K = 0 or char K = p > 0 and p does not divide ord(G). In the nonsemisimple case the group ring may be deformed into a semisimple algebra.

FRIDAY, SEPTEMBER 6
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td><strong>MONDAY, SEPTEMBER 9</strong></td>
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</tbody>
</table>
| **5:00 pm** | Probability & Statistics 247 AH  
Professor Donald Burkholder; On the control of semimartingales. |
| **6:00 pm** | Number Theory 247 AH  
Ms. Janice Malouf; Essential components, II |
| **7:00 pm** | Logic 243 AH  
Dr. Hermann Render, Duisburg, Germany, visiting CalTech; Topologies on the nonstandard model $^*X$ and its relations to quasi-uniform structure. (See mailroom bulletin board for abstract.) |
| **8:00 pm** | Geometric Potpourri 243 AH  
Professor George Francis; Mouse rotors. |

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td><strong>TUESDAY, SEPTEMBER 10</strong></td>
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</table>
| **10:00 am** | Algebra 243 AH  
Professor Nigel Boston; Representations related to the Fermat cubic, II |
| **11:00 am** | Combinatorics & Graph Theory 245 AH  
Professor Doug West; Sphere-of-influence graphs (and other topics). |
| **12:00 pm** | Differential Geometry 243 AH  
Professor Stephanie Alexander; Hypersurfaces and non-negative curvature. A general talk, suitable for graduate students. |

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td><strong>WEDNESDAY, SEPTEMBER 11</strong></td>
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</tbody>
</table>
| **1:00 pm** | Combinatorial Algorithms 1310 DCL  
Dr. Helmut Prodinger, Technical University, Vienna; On the analysis of digital search trees and related data structures. |
THURSDAY, SEPTEMBER 12

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Disciples of Yodar</td>
<td>247 AH</td>
<td>11:00 am</td>
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<tr>
<td>Seminar will begin on Thursday, September</td>
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<td>19.</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>Mr. Kevin Ford; On the value of Euler’s</td>
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<td>function.</td>
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<tr>
<td>Algebraic Number Theory</td>
<td>247 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Organizational meeting.</td>
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<tr>
<td>Analysis</td>
<td>241 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Dr. Hermann Render, visiting CalTech;</td>
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<tr>
<td>Splitting and conjoining topologies on</td>
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<tr>
<td>function spaces. (See mailroom bulletin</td>
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<tr>
<td>board for abstract.)</td>
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<tr>
<td>Combinatorial Group Theory/Differential</td>
<td>245 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Geometry - working seminar</td>
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<tr>
<td>Professors Paul Schupp; Historical</td>
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<td>background.</td>
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<tr>
<td>Evaluation of Integrals and Special</td>
<td>243 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Functions</td>
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<tr>
<td>Professor Oleg Marichev; Mellin-Barnes</td>
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<tr>
<td>integrals.</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>Organizational meeting.</td>
<td></td>
<td></td>
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<tr>
<td>Low Dimensional Geometry/Topology</td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Mr. Pat Callahan; Knots for neophytes.</td>
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<tr>
<td>Mathematics Colloquium</td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor David Webb, Washington University;</td>
<td></td>
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<tr>
<td>One can’t hear the shape of a drum.</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: See mailroom bulletin board</td>
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</tbody>
</table>

ABSTRACT: See mailroom bulletin board

FRIDAY, SEPTEMBER 13
University of Illinois at Urbana-Champaign

Department of Mathematics
273 Altgeld Hall, MC-382
1409 West Green Street
Urbana, IL 61801
217 333-3350 telephone
217 333-9576 fax
510 1011 969 ui tel com urud telex
office@symcom.math.uiuc.edu e-mail

MATHEMATICAL TIMETABLE

September 16–20, 1991

MONDAY, SEPTEMBER 16

TUESDAY, SEPTEMBER 17

**Probability & Statistics**
247 AH
11:00 am
Professor Mary A. Johnson, Mechanical & Industrial Engineering; Analytical and numerical methods for fitting phase-type distributions.

**Algebra**
245 AH
NOON
Algebra area meeting, Dan Grayson presiding.

**Number Theory**
247 AH
1:00 pm
Professor Heini Halberstam; Roth's theorem on sets without 3-term arithmetic progressions, I

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

**Algebraic Geometry**
245 AH
2:00 pm
Mr. Gebhard Boeckle; Semisimplicity of Grothendieck motives, I

**Geometric Potpourri**
243 AH
2:00 pm
Professor George Francis; Mouse rotors, II.

**Algebra**
241 AH
3:00 pm
Professor Nigel Boston; Representations related to the Fermat cubic, III

**Combinatorics & Graph Theory**
245 AH
3:00 pm
Mr. In-Jin Lin; Leafage of chordal graphs.

**Commutative Algebra**
247 AH
3:00 pm
See Wednesday and Friday listings.

**Differential Geometry**
243 AH
3:00 pm
No meeting this week.

**Student Logic**
247 AH
3:00 pm
Mr. Chris Miller; Model completeness of the real exponential field.

WEDNESDAY, SEPTEMBER 18

**Commutative Algebra**
245 AH
3:00 pm
Professor Luchezar Avramov, Purdue University; Characterizations of smoothness in terms of Hochschild homology.

**Combinatorial Algorithms**
1310 DCL
4:00 pm
Mr. David Atkinson; A scaling technique for finding the weighted analytic center of a polytope.
THURSDAY, SEPTEMBER 19

Disciples of Yodar
Ms. Catherine Cavagnaro; Attacking the aspericity problem using Peiffer identities, I

Number Theory
Professor Heini Halberstam; Roth's theorem on sets without 3-term arithmetic progressions, II

Algebraic Number Theory
An informal round table discussion on a preprint of M. Flach led this week by Nigel Boston.

Analysis
Professor Tenney Peck; Splitting a vector topology into "good" and "bad" parts, I

Evaluation of Integrals and Special Functions
Professor Oleg Marichev; Applications of Mellin-Barnes integrals.

Group Theory/Differential Geometry - working seminar
Professors Paul Schupp; An introduction to groups acting on trees, II

Algebra-Special
Professor Amnon Rosenmann, Tel Aviv University; Fractal ideals.

Commutative Algebra
See Wednesday and Friday

Low Dimensional Geometry/Topology
To be announced.

Mathematics Colloquium
Professor Luchezar Avramov, Purdue University; Local properties of homomorphisms.

Coffee & Tea
3:15 pm

ABSTRACT: See mailroom bulletin board

FRIDAY, SEPTEMBER 20

Commutative Algebra
Professor Luchezar Avramov; Locally complete intersection homomorphisms: proof of a conjecture of Quillen on the finiteness of the cotangent complex.
MATHMATICAL TIMETABLE

MONDAY, SEPTEMBER 23

TUESDAY, SEPTEMBER 24

**Probability & Statistics** 247 AH 11:00 am
Professor Victor Solo, Johns Hopkins University; The flicker noise paradox.

**Logic** 243 AH 1:00 pm
Professor Gaisi Takeuti; Left distributive algebras.

**Number Theory** 247 AH 1:00 pm
Professor Harold Diamond; The Beurling–Selberg extremal functions in Fourier analysis, I

**Algebraic Geometry** 245 AH 2:00 pm
Mr. Gebhard Boeckle; Semisimplicity of Grothendieck motives, II

**Geometric Potpourri** 243 AH 2:00 pm
Professor David Berg; Arclength, mean curvature, surface area.

**Evaluation of Integrals and Special Functions** 241 AH 2:00 pm
Professor Oleg Marichev; Classification of functions of hypergeometric type.

**Algebra** 241 AH 3:00 pm
Professor Joe Rotman; Graphs and simple Lie algebras in characteristic 2, I

**Combinatorics & Graph Theory** 245 AH 3:00 pm
To be announced.

**Commutative Algebra** 247 AH 3:00 pm
No meeting today.

**Differential Geometry** 243 AH 3:00 pm
Professor Robert Foote, Wabash College; A geometric solution to the Cauchy problem for the homogeneous Monge–Ampère equation.

**Student Logic** 44 ENGL BLDG 3:00 pm
Mr. Chris Miller; Model completeness of the real exponential field, II
(NOTE: Change of room)

WEDNESDAY, SEPTEMBER 25

**Combinatorial Algorithms** 1310 DCL 4:00 pm
Mr. Tiow-Seng Tan; A quadratic time algorithm for the minimax length triangulation.
THURSDAY, SEPTEMBER 26

Disciples of Yodar
Ms. Catherine Cavagnaro; Attacking the aspericity problem using Peiffer identities, II

Applied Mathematics
Professor Nigel Goldenfeld, Physics Department; Asymptotics of PDE's and the renormalisation group.

Number Theory
Professor Harold Diamond; The Beurling–Selberg extremal functions in Fourier analysis, II

Algebraic Number Theory
An informal round table discussion on a preprint of M. Flach led this week by Nigel Boston, II

Analysis
Professor Tenney Peck; Splitting a vector topology into "good" and "bad" parts, II

Group Theory/Differential Geometry - working seminar
Professors Paul Schupp; An introduction to groups acting on trees, III

Commutative Algebra
Professor E. Graham Evans; Betti numbers of finite length modules, I

Low Dimensional Geometry/Topology
Mr. Scott Brown; Skeins and things.

Mathematics Colloquium
Professor Kenneth Stephenson, University of Tennessee; Circle packings and classical complex analysis.

Coffee & Tea

ABSTRACT: See mailroom bulletin board

FRIDAY, SEPTEMBER 27
MATHEMATICAL TIMETABLE

September 30–October 4, 1991

MONDAY, SEPTEMBER 30

TUESDAY, OCTOBER 1

**Probability & Statistics**
8 IH
11:00 am
Professor William Stout; Statistical detection of unfairness (bias) in standard ability testing – a new approach. (NOTE: Room change)

**Logic**
243 AH
1:00 pm
Professor Gaisi Takeuti; Left distributive algebras, II

**Number Theory**
247 AH
1:00 pm
Professor Adolf Hildebrand; On the Buchstab function, III

**Algebraic Geometry**
245 AH
2:00 pm
Mr. Gebhard Boeckle; Semisimplicity of Grothendieck motives, III

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

**Evaluation of Integrals and Special Functions**
241 AH
2:00 pm
Professor Oleg Marichev; Calculation of Mellin-Baznes integrals of general kind.

**Algebra**
241 AH
3:00 pm
Professor Joe Rotman; Graphs and simple Lie algebras in characteristic 2, II

**Combinatorics & Graph Theory**
245 AH
3:00 pm
Mr. Zhu-Xin Hu; Boolean algebras contained in the partition lattice.

**Commutative Algebra**
247 AH
3:00 pm
No meeting today.

**Differential Geometry**
243 AH
3:00 pm
Professor Robert Currier, Smith College; Nonnegatively curved ends of Euclidean hypersurfaces.

**Student Logic**
44 ENGL BLDG
3:00 pm
Mr. Chris Miller; Model completeness of the real exponential field, III

**Mathematics Colloquium**
314 AH
4:00 pm
Professor Bernard Beauzamy, University of Lyon and Institut de Cal Mathématique, Paris; Massively parallel computations on many-variable polynomials: when seconds count.

**Coffee & Tea**
321 AH
3:15 pm
ABSTRACT: See mailroom bulletin board.
WEDNESDAY, OCTOBER 2

**Combinatorial Algorithms**
No meeting today.

THURSDAY, OCTOBER 3

**Disciples of Yoda**
Ms. Catherine Cavagnaro; Attacking the aspericity problem using Peiffer identities, III

**Applied Mathematics**
No meeting today.

**Number Theory**
To be announced.

**Algebraic Number Theory**
An informal round table discussion on a preprint of M. Flach led this week by Nigel Boston, III

**Analysis**
Professor Bernard Beauzamy; Polynomials with many variables = real vs. complex norms.

**Group Theory/Differential Geometry - working seminar**
Professors Paul Schupp; An introduction to groups acting on trees, IV

**Commutative Algebra**
Ms. Heather Hulett; Betti numbers of finite length modules, II

**Low Dimensional Geometry/Topology**
Mr. Paul Rogowski; 1-forms.

**Fama Mathematica**
Professor Dan Grayson; Polylogarithms and values of the Riemann zeta function.

Coffee & Tea

FRIDAY, OCTOBER 4

**Complex Systems Colloquium**
Professor George Contopoulos, University of Athens; Order and chaos in Hamiltonian systems from stellar dynamics.
Monday, October 7

Tuesday, October 8

Computer Facilities Committee 247 AH 11:00 am
Professor Larry Dornhoff, presiding; This meeting is open to all interested faculty.

Probability & Statistics 8 IH 11:00 am
To be announced.

Max Newman 243 AH 12 noon
Professor Wolfgang Haken; Planar diagrams and fast algorithms for knots.
(Continuation of Picture Show.)

Logic 243 AH 1:00 pm
Dr. Jesus Aldaz; On a question in measure theory.

Number Theory 247 AH 1:00 pm
Professor Heini Haberstam; On B_h-sequences.

Algebraic Geometry 245 AH 2:00 pm
Mr. Gebhard Boeckle; Semisimplicity of Grothendieck motives, IV

Geometric Potpourri 243 AH 2:00 pm
Professor Monica Nicolau; Periodicity and the monodromy theorem.

Evaluation of Integrals and Special Functions 241 AH 2:00 pm
Professor Oleg Marichev; Evaluations of the Mellin–Barnes integrals of general kind.

Algebra 241 AH 3:00 pm
Professor Joe Rotman; Graphs and simple Lie algebras in characteristic 2, III

Combinatorics & Graph Theory 245 AH 3:00 pm
Professor Zoltan Furedi; New results on Vapnik–Chervonenkis dimension.

Commutative Algebra 247 AH 3:00 pm
No meeting today.

Differential Geometry 243 AH 3:00 pm
Professor Mohan Ramachandran, Purdue University; Fundamental groups of compact Kähler manifolds have one end.

Exponentiation Seminar 343 AH 3:00 pm
Mr. Chris Miller; Model completeness of the real exponential field, IV
(NOTE ROOM CHANGE!)
### Wednesday, October 9

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Combinatorial Algorithms</strong> Mr. Arthur Goldstein; Complexity of a pursuit problem and other combinatorial games.</td>
<td>4:00 pm</td>
<td>1310 DCL</td>
</tr>
<tr>
<td><strong>Departmental Faculty Meeting</strong> Professor Ward Henson, presiding.</td>
<td>4:00 pm</td>
<td>314 AH</td>
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</table>

### Thursday, October 10

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Disciples of Yodar</strong> Ms. Catherine Cavagnaro; Attacking the aspericity problem using Peiffer identities, III</td>
<td>11:00 am</td>
<td>247 AH</td>
</tr>
<tr>
<td><strong>Applied Mathematics</strong> Professor Y. Oono, Physics; Discrete modelling of partial differential equations.</td>
<td>1:00 pm</td>
<td>245 AH</td>
</tr>
<tr>
<td><strong>Number Theory</strong> Professor Bahman-Saffari, Orsay; Golay-Rudin-Shapiro polynomial pairs.</td>
<td>1:00 pm</td>
<td>247 AH</td>
</tr>
<tr>
<td><strong>Geometric Number Theory</strong> An informal round table discussion on a preprint of M. Flach led this week by Nigel Boston, IV</td>
<td>2:00 pm</td>
<td>247 AH</td>
</tr>
<tr>
<td><strong>Analysis</strong> Professor Jean Bourgain; New estimates on oscillatory integrals, II</td>
<td>2:00 pm</td>
<td>241 AH</td>
</tr>
<tr>
<td><strong>Group Theory/Differential Geometry - working seminar</strong> Professors Paul Schupp; An introduction to groups acting on trees, V</td>
<td>2:00 pm</td>
<td>245 AH</td>
</tr>
<tr>
<td><strong>Commutative Algebra</strong> Ms. Heather Hulett; Betti numbers of finite length modules, II</td>
<td>3:00 pm</td>
<td>247 AH</td>
</tr>
<tr>
<td><strong>Low Dimensional Geometry/Topology</strong> Mr. Paul Rogowski; 1-forms, II</td>
<td>3:00 pm</td>
<td>243 AH</td>
</tr>
<tr>
<td><strong>Mathematics Colloquium</strong> Professor Steve Hurder, UIC; Rigidity for the integer matrices.</td>
<td>4:00 pm</td>
<td>314 AH</td>
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### Friday, October 11

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Complex Systems Colloquium</strong> James P. Crutchfield; Computation in chaos.</td>
<td>4:00 pm</td>
<td>3269 BI</td>
</tr>
</tbody>
</table>

**ABSTRACT:** See mailroom bulletin board.
MATHEMATICAL TIMETABLE

TUESDAY, OCTOBER 15

Probability & Statistics 8 IH 11:00 am
Professor Joseph Doob; The beginning of vigorous probability and statistics.

Newman 243 AH 12 noon
Professor Wolfgang Haken; Planar diagrams and fast algorithms for knots, II

South Asian Studies Brown Bag Series 101 INT STUDIES 12 noon
Professor Bruce Berndt; Ramanujan the mathematician. (New building on 5th between Daniel and Chalmers)

Logic 243 AH 1:00 pm
No meeting this week.

Number Theory 247 AH 1:00 pm
Professor John Steinig; Continued fractions: some simple proofs.

Algebraic Geometry 245 AH 2:00 pm
Mr. Gebhard Boeckle; Semisimplicity of Grothendieck motives, V

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

Evaluation of Integrals and Special Functions 241 AH 2:00 pm
Professor Oleg Marichev; Evaluation of conditions for existence of Mellin-Barnes integrals.

Exponentiation Seminar 247 AH 2:00 pm
Mr. Chris Miller; Model completeness of the real exponential field, V
(NOTE TIME & ROOM CHANGE!)

Algebra 241 AH 3:00 pm
No meeting today. Will move to 2 pm next week.

Combinatorics & Graph Theory 245 AH 3:00 pm
Professor E.T. Parker; Searching for three orthogonal Latin n-squares.

Commutative Algebra 247 AH 3:00 pm
No meeting today.

Differential Geometry 243 AH 3:00 pm
Professor Johan Dupont, Aarhus University; Formulas for Cheeger-Chern-Simons classes of flat bundles.
### WEDNESDAY, OCTOBER 16

**Computational Group Theory-Special**  241 AH  3:00 pm  
Professor Gary Sherman, Rose-Hulman Institute; How to discover stuff using Cayley: an example.

**Combinatorial Algorithms**  1310 DCL  4:00 pm  
Professor Doug West; A graph-theoretic game and its application to the $k$-server problem.

### THURSDAY, OCTOBER 17

**Disciples of Yoda**  247 AH  11:00 am  
To be announced.

**Applied Mathematics**  245 AH  1:00 pm  
Professor Y. Oono, Physics; Discrete modelling of partial differential equations.

**Number Theory**  247 AH  1:00 pm  
Professor Adolf Hildebrand; Consecutive $k$-th power residues.

**Algebraic Number Theory**  247 AH  2:00 pm  
No meeting this week.

**Analysis**  241 AH  2:00 pm  
To be announced.

**Group Theory/Differential Geometry - working seminar**  245 AH  2:00 pm  
Professors Paul Schupp; An introduction to groups acting on trees, VI

**Commutative Algebra**  247 AH  3:00 pm  
Ms. Heather Hulett; Betti numbers of finite length modules, III

**Low Dimensional Geometry/Topology**  243 AH  3:00 pm  
Mr. Paul Rogowski; 1-forms, III

**Arthur B. Coble Memorial Lecture**  314 AH  4:00 pm  
Professor Israel Gelfand, Moscow State University of Rutgers University; What is a discriminant and resultant of algebraic equations.

**Coffee & Tea**  321 AH  3:15 pm
<table>
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<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td><strong>Arthur B. Coble Memorial Lecture</strong></td>
<td>343 AH</td>
<td>1:00 pm</td>
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<tr>
<td>Professor Israel Gelfand; Cohomology of Poisson algebras.</td>
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<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>321 AH</td>
<td>3:15 pm</td>
</tr>
<tr>
<td><strong>Professor Israel Gelfand; A new proof of the oscillation theorem for Strum-Liouville equations</strong></td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td><strong>Complex Systems Colloquium</strong></td>
<td>3269 BI</td>
<td>4:00 pm</td>
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<tr>
<td>Walter Fontana, Santa Fe Institute; A calculus for biology.</td>
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</tbody>
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MATHEMATICAL TIMETABLE

MONDAY, OCTOBER 21

Probability & Statistics 8 IH 11:00 am
Professor Joseph Doob; The beginning of vigorous probability and statistics.

Max Newman 243 AH 12 noon
To be announced.

Logic 243 AH 1:00 pm
Professor Carl Jockusch; Semenov's theorem on decidability of monadic theories, I

Number Theory 247 AH 1:00 pm
Professor Adolf Hildebrand; Consecutive k-th power residues, II

Algebra 343 AH 2:00 pm
Professor Derek Robinson; Semisimplicity of crossed products, I (NOTE TIME AND ROOM CHANGE)

Algebraic Geometry 245 AH 2:00 pm
No meeting this week.

Geometric Potpourri 243 AH 2:00
Professor Ralph Alexander; Sums of distances between points on a sphere.

Evaluation of Integrals and Special Functions 241 AH 2:00 pm
Professor Oleg Marichev; Representations of hypergeometric function \( \text{hyp}F_{1}(a,b,c,z) \) through Mellin-Barnes integrals.

Exponentiation Seminar 247 AH 20 pm
Mr. Chris Miller; Model completeness of the real exponential field, VI

Combinatorics & Graph Theory 245 AH 3:00 pm
Professor Andrzej Proskurowski, University of Oregon; Graph reduction approach to deciding membership in classes of graphs with bounded tree width. (Joint seminar with Combinatorial Algorithms.)

Commutative Algebra 247 AH 3:00 pm
No meeting today.

Differential Geometry 243 AH 3:00 pm
Professor Richard Bishop; Topology of thin Riemannian surfaces–with-boundary.

TUESDAY, OCTOBER 22

Probability & Statistics 8 IH 11:00 am

Max Newman 243 AH 12 noon
To be announced.

Logic 243 AH 1:00 pm

Number Theory 247 AH 1:00 pm

Algebra 343 AH 2:00 pm

Algebraic Geometry 245 AH 2:00 pm

Geometric Potpourri 243 AH 2:00

Evaluation of Integrals and Special Functions 241 AH 2:00 pm

Exponentiation Seminar 247 AH 20 pm

Combinatorics & Graph Theory 245 AH 3:00 pm

Commutative Algebra 247 AH 3:00 pm

Differential Geometry 243 AH 3:00 pm

**WEDNESDAY, OCTOBER 23**

*Combinatorial Algorithms*  
See Tuesday listing of Combinatorics and Graph Theory

**THURSDAY, OCTOBER 24**

*Disciples of Yoda*  
247 AH  
Mr. Paul Kapitza; Whitehead’s "equivalence of certain sets", II  
11:00 am

*Applied Mathematics*  
245 AH  
No meeting this week.  
1:00 pm

*Number Theory*  
247 AH  
Professor John Steinig; Continued fractions: some simple proofs, II  
1:00 pm

*Algebraic Number Theory*  
247 AH  
Professor Nigel Boston; Special values of motivic L-functions, I  
2:00 pm

*Analysis*  
241 AH  
Professor Jean Bourgain; New estimates on oscillatory integrals, III  
2:00 pm

*Group Theory/Differential Geometry - working seminar*  
245 AH  
Professors Paul Schupp; An introduction to groups acting on trees, VII  
2:00 pm

*Commutative Algebra*  
247 AH  
Ms. Heather Hulett; Betti numbers of finite length modules, IV  
3:00 pm

*Low Dimensional Geometry/Topology*  
243 AH  
Mr. Louis Kerofsky; Intersection forms and four manifolds.  
3:00 pm

*Mathematics Colloquium*  
314 AH  
Professor Jose Escobar, Indiana University; The Yamabe problem on Riemannian manifolds.  
4:00 pm

*Coffee & Tea*  
321 AH  
3:15 pm

**ABSTRACT:** See mailroom bulletin board.

**FRIDAY, OCTOBER 25**

*Complex Systems Colloquium*  
3269 BI  
Professor Thomas Ray; Optimization and creativity in synthetic life: evolution and ecology of digital organisms.  
4:00 pm
### MONDAY, OCTOBER 28

### TUESDAY, OCTOBER 29

<table>
<thead>
<tr>
<th>Subject</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability &amp; Statistics</td>
<td>8 IH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>No meeting this week.</td>
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</tr>
<tr>
<td>Max Newman</td>
<td>243 AH</td>
<td>12 noon</td>
</tr>
<tr>
<td>To be announced.</td>
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</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Harold Diamond; Occurrence of $e^{-\gamma}$ in prime number theory.</td>
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</tr>
<tr>
<td>Algebra</td>
<td>343 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Derek Robinson; Semisimplicity of crossed products, II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebraic Geometry</td>
<td>245 AH</td>
<td>2:00 pm</td>
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<tr>
<td>No meeting this week.</td>
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</tr>
<tr>
<td>Geometric Potpourri</td>
<td>243 AH</td>
<td>2:00</td>
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<tr>
<td>No meeting this week.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of Integrals and Special Functions</td>
<td>241 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Oleg Marichev; Applications of the integral representations for hypergeometric functions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exponentiation Seminar</td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Mr. Chris Miller; Model completeness of the real exponential field, VII</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combinatorics &amp; Graph Theory</td>
<td>245 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor E.T. Parker; Searching for three orthogonal latin 10-squares.</td>
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</tr>
<tr>
<td>Commutative Algebra</td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor E. Graham Evans; Stanley’s Combinatorics and Commutative Algebra.</td>
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<td></td>
</tr>
<tr>
<td>Differential Geometry</td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Scot Adams, University of Chicago; Finite-volume foliations by manifolds of nonnegative curvature.</td>
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</tr>
<tr>
<td>Logic</td>
<td>343 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Carl Jockusch; Semenov’s theorem on decidability of monadic theories, II (NOTE TIME AND ROOM CHANGE FOR TODAY ONLY!)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WEDNESDAY, OCTOBER 30

**Combinatorial Algorithms**
1310 DCL
4:00 pm
Mr. Majid Sarrafzadeh, Northwestern University; Slicible dual of plane graphs: A VLSI floorplanning approach.

THURSDAY, OCTOBER 31

**Disciples of Yodar**
247 AH
11:00 am
Mr. Paul Kapitza; Whitehead's "equivalence of certain sets", III

**Applied Mathematics**
245 AH
1:00 pm
No meeting this week.

**Number Theory**
247 AH
1:00 pm
Professor Harold Edwards, Courant Institute; Euler and the discovery of reciprocity laws.

**Algebraic Number Theory**
247 AH
2:00 pm
Professor Nigel Boston; Special values of motivic L-functions, II

**Analysis**
241 AH
2:00 pm
Professor Horacio Porta; Negative curvature-like behaviour of spaces of operators.

**Group Theory/Differential Geometry - working seminar**
245 AH
2:00 pm
Professors Paul Schupp; An introduction to groups acting on trees, VIII

**Commutative Algebra**
247 AH
3:00 pm
Professor Sankar Dutta; To be announced

**Low Dimensional Geometry/Topology**
243 AH
3:00 pm
Mr. Jim Colliander; The Riemann Mapping Theorem via Circle Packings.

**Mathematics Colloquium**
314 AH
4:00 pm
Professor Harold Edwards, Courant Institute; An introduction to divisor theory.

Coffee & Tea
321 AH
3:15 pm

ABSTRACT: The theory of divisors; as it is developed in the speaker’s book *Divisor Theory* will be explained and some of its applications in number theory and algebraic geometry will be described.

FRIDAY, NOVEMBER 1

**Complex Systems Colloquium**
3269 BI
4:00 pm
To be announced.
### Mathematical Timetable

**Monday, November 4**

**Tuesday, November 5**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>11:00 am</td>
<td>Probability &amp; Statistics; Professor Kumar Joag-dev; Certain partial orderings of distribution functions.</td>
</tr>
<tr>
<td>12 noon</td>
<td>Algebra Area Meeting; Professor Day Grayson; Discussion of Fall 92 courses.</td>
</tr>
<tr>
<td>12 noon</td>
<td>Naz Newman; Professor W. Haken; The computational complexity of the knotting problem, I</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Logic; Professor Ward Henson; Model theory of Banach spaces I: Basics.</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Number Theory; Discussion of number theory course offerings for Fall 92, followed by 5 minute talks.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Algebra; To be announced.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Geometric Potpourri; Professor Remi Langevin, University of Dijon; Geometry of level sets of a complex polynomial near an isolated singularity (Joint seminar with Differential Geometry).</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Evaluation of Integrals and Special Functions; Professor Oleg Marichev; Some properties of hypergeometric functions $\text{F}_1(a;b;c;z)$, $\text{F}_1(a;c;z)$.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Exponentiation Seminar; Model completeness of the real exponential field, VIII</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Combinatorics &amp; Graph Theory; Ms. Yi-Wu Chang, Mr. In-Jin Lin &amp; Mr. Todd Will; Three short talks for MIGHTY XIX (Midwest Graph Theory).</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Combinatorial Algebra; Professor E. Graham Evans; Stanley's Combinatorics and Commutative Algebra, II</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Differential Geometry; See joint listing with Geometric Potpourri at 2; also see area meeting at 3.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Geometry/Topology Area Meeting; Discussion of Fall 92 courses.</td>
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</tbody>
</table>

**Mathematics Colloquium**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>4:00 pm</td>
<td>Mathematics Colloquium; Professor N.S. Raghunathan, Tata Institute, Bombay, visiting MSRI-Berkeley and University of Chicago; Rationally trivial principal bundles.</td>
</tr>
</tbody>
</table>

**Abstract:** This is on a recent result proving an old conjecture of Serre & Grothendieck, viz. that a principal $G$-bundle ($G$ is a reductive group over a field $k$) on a smooth $k$-scheme of finite type is locally trivial in the Zariski topology if it is trivial over some non-empty Zariski open set.
WEDNESDAY, NOVEMBER 6

**Combinatorial Algorithms**
Mr. Weiping Shi; Expected number of vertex-disjoint paths in a random grid with application to yield analysis of reconfigurable multi-pipelines.

THURSDAY, NOVEMBER 7

**Disciples of Yoda**
Mr. Paul Kapitza; Whitehead's "equivalence of certain sets", IV

**Applied Mathematics**
To be announced.

**Number Theory**
Mr. Kevin Ford; On the values of Euler's function, II

**Algebraic Number Theory**
Professor Nigel Boston; Special values of motivic L-functions, III

**Analysis**
Professor Robert Kaufman; Porous sets and analytic functions in the Zygmund class.

**Group Theory/Differential Geometry - working seminar**
Professors Paul Schupp; Metric simplicial complexes, I

**Commutative Algebra**
Professor Sankar Dutta; On Chow groups and intersection multiplicity.

**Low Dimensional Geometry/Topology**
Mr. Patrick Callahan; Surgery.

**Fama Mathematica**
Professor Bruce Berndt; Ramanujan for lowbrows (but highbrows are also welcome).

FRIDAY, NOVEMBER 8

**Complex Systems Colloquium**
Professor Leon Chua, University of California; Cellular neural networks: State of the art.
MATHMATICAL TIMETABLE

MADAY, NOVEMBER 11

LAS Jubilee Lecture Series
Professor Cary Nelson, Department of English and Jubilee Professor of Liberal Arts and Sciences; Modern poems we have wanted to forget: race, class, gender and the Canon.

TUESDAY, NOVEMBER 12

Probability & Statistics
Professor Ioanis Pinelis; An approach to the minimax estimation.

Max Newman
Professor W. Haken; The computational complexity of the knotting problem, II

Logic
Professor Pavel Pudlák, Czechoslovakia Academy of Science visiting Emory; An exponential lower bound to certain proofs in propositional calculus.

Math Theory
Problem session.

Algebra
Mr. James Carter; Steinitz classes of tamely ramified nonabelian extensions of algebraic number fields of degree p^3.

Geometric Potpourri
Professor Josh Wand, Department of Biochemistry; Protein structure, nuclear magnetic resonance and distance geometry: room for improvement.

Evaluation of Integrals and Special Functions
Professor Oleg Marichev; Bessel functions and its Mellin-Barnes integrals.

Exponentialisation Seminar
Mr. Chris Miller; Model completeness of the real exponential field, IX

Combinatorics & Graph Theory
Professor Douglas West; Recent problems and results from the Oberwolfach meeting on ordered sets.

Commutative Algebra
Professor E. Graham Evans; Stanley's Combinatorics and Commutative Algebra, III

Differential Geometry
To be announced.

Triitzinsky Lecture
Dr. Charles F. Osgood, Director of the Mathematical Sciences Program and the Sabbatical Program, National Security Agency; Approximation of algebraic functions.

Coffee & Tea

WEDNESDAY, NOVEMBER 13

Combinatorial Algorithms
Mr. Howard Aizenstein; Exact learning of read-twice DNF formulas.

Triitzinsky Lecture
Dr. Charles F. Osgood; Approximation in Nevanlinna theory.

Coffee & Tea
**THURSDAY, NOVEMBER 14**

<table>
<thead>
<tr>
<th>Disciples of Yoda</th>
<th>247 AH</th>
<th>11:00 am</th>
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</thead>
<tbody>
<tr>
<td>Mr. Paul Kapitza; Whitehead's &quot;equivalence of certain sets&quot;, V</td>
<td></td>
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</tbody>
</table>

**Applied Mathematics**
245 AH

To be announced.

**Number Theory**
247 AH

Professor Adolf Hildebrand; Consecutive values of multiplicative functions.

**Algebraic Number Theory**
247 AH

Professor Nigel Boston; Special values of motivic L-functions, IV

**Analysis**
241 AH

No meeting this week.

**Group Theory/Differential Geometry - working seminar**
245 AH

Professors Paul Schupp; Metric simplicial complexes, II

**Commutative Algebra**
247 AH

Professor Sankar Dutta; On Chow groups and intersection multiplicity, II

**Low Dimensional Geometry/Topology**
243 AH

To be announced.

**Trjitzinsky Lecture**
314 AH

Dr. Charles F. Osgood; Dummy parameters in approximation theory.

Coffee & Tea 321 AH

3:15 pm

**Pi Mu Epsilon**
269 EVERITT

Professor Paul Schupp; The limits of computation.

**FRIDAY, NOVEMBER 15**

**Complex Systems Colloquium**
3269 BI

Professor John Holland, University of Michigan and Santa Fe Institute;
Complex adaptive systems: How do we study them?
MATHEMATICAL TIMETABLE
November 18–22, 1991

MONDAY, NOVEMBER 18

TUESDAY, NOVEMBER 19

Probability & Statistics 8 IH 11:00 am
Professor Bruce Hajek; On the average delay for delivering pizza subject to random diversions.

Max Newman 243 AH 12 noon
Professor W. Haken; The computational complexity of the knotting problem, III

Logic 243 AH 1:00 pm
Professor Ward Henson; Model theory of Banach Spaces II: omitting types, separable categoricity, and other properties of separable spaces.

Number Theory 247 AH 1:00 pm
Mr. Heng Huat Chan; Strong primality tests.

Algebra 343 AH 2:00 pm
Mr. James Carter; Steinitz classes of tamely ramified nonabelian extensions of algebraic number fields of degree $p^3$, II

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

Evaluation of Integrals and Special Functions 241 AH 2:00 pm
Professor Oleg Marichev; Logarithmic cases of the Mellin–Barnes integrals.

Exponentiation Seminar 247 AH 2:00 pm
Mr. Chris Miller; Model completeness of the real exponential field, X

Combinatorics & Graph Theory 245 AH 3:00 pm
Mr. In-Jen Lin; Proper and unit tolerance graphs.

Commutative Algebra 247 AH 3:00 pm
Professor E. Graham Evans; Stanley’s Combinatorics and Commutative Algebra, IV

Differential Geometry 243 AH 3:00 pm
Professor Patrick Coulton, EIU; Kinematic formulas in homogeneous spaces.

Mathematics Colloquium 314 AH 4:00 pm
Professor Luis Cafferelli; Institute for Advanced Study; Title to be announced.

Coffee & Tea 321 AH 3:15 pm
WEDNESDAY, NOVEMBER 20

Combinatorial Algorithms  1310 DCL  4:00 pm
Dr. John Gilbert, XEROX; Expression evaluation in data-parallel architectures.

THURSDAY, NOVEMBER 21

Disciples of YodaR  247 AH  11:00 am
To be announced.

Applied Mathematics  245 AH  1:00 pm
No meeting this week.

Number Theory  247 AH  1:00 pm
Professor Bruce Berndt; The Borweins’ cubic analogue of Jacobi’s theta-function identity for fourth powers.

Algebraic Number Theory  247 AH  2:00 pm
Professor Leon McCulloh; Special values of motivic L-functions, V

Analysis  241 AH  2:00 pm
To be announced.

Group Theory/Differential Geometry - working seminar  245 AH  2:00 pm
Professors Richard Bishop; Metric simplicial complexes, III

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

Low Dimensional Geometry/Topology  243 AH  3:00 pm
Mr. Louis Kerofsky; Classical vector analysis in modern terms.

FRIDAY, NOVEMBER 22

Complex Systems Colloquium  3269 BI  4:00 pm
Professor Arthur Baskin; The role of finiteness in the emergence of structure.

Computer Science Seminar  1310 DCL  4:00 pm
Professor Bill Garsarch, University of Maryland; If you ask questions then you can learn more stuff.
**Fama Mathematica**

314 AH  
4:00 pm

Professor John D'Angelo; P.D.E. methods in several complex variables.

Coffee & Tea  
321 AH  
3:15 pm

**Pi Mu Epsilon**

217 NOYES  
8:00 pm

Professor Paul Weichsel; A problem in Mathematics. Refreshments will be served. All are welcome, particularly undergraduates. When the time is near, please write the announcement on your classroom blackboards.

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**FRIDAY, NOVEMBER 22**

**Algebra Area Meeting**

241 AH  
4:00 pm

Professor Dan Grayson, presiding.

**Complex Systems Colloquium**

3269 BI  
4:00 pm

Dr. Paul Pudaite; Long cycles in war and production.
MATHEMATICAL TIMETABLE

MONDAY, NOVEMBER 25

TUESDAY, NOVEMBER 26

Cellular Automata
247 AH
11:00 am
Ms. Lenore Levine; Regular language invariance under cellular automaton rules.

Probability & Statistics
8 IH
11:00 am
No meeting this week.

Max Newman
243 AH
12 noon
Professor W. Haken; The computational complexity of the knotting problem, IV

Logic
243 AH
1:00 pm
Professor Ward Henson; Model theory of Banach Spaces III: omitting types, separable categoricity, and other properties of separable spaces.

Number Theory
247 AH
1:00 pm
Mr. David Bradley; On a differential difference equation arising in sieve theory.

Algebra
343 AH
2:00 pm
Mr. William Harris; Real even symmetric forms, I

Geometric Potpourri
243 AH
2:00
To be announced.

Evaluation of Integrals and Special Functions
241 AH
2:00 pm
Professor Oleg Marichev; Evaluation of integrals in the logarithmical cases.

Exponentiation Seminar
247 AH
2:00 pm
Mr. Chris Miller; Model completeness of the real exponential field, XI

Combinatorics & Graph Theory
245 AH
3:00 pm
Professor Mike Plantholt, ISU; Factorization of regular multigraphs into regular simple graphs.

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

Differential Geometry
243 AH
3:00 pm
Professor Howard Osborn; Twisted characteristic classes.

Nonlinear Analysis
343 AH
3:00 pm
Mr. Dennis Evans; Examples related to the atomic space problem, I
WEDNESDAY, NOVEMBER 27

**Combinatorial Algorithms**
No meeting this week.

THURSDAY, NOVEMBER 28
and
FRIDAY, NOVEMBER 29

Thanksgiving Holiday
all University offices
closed.
University of Illinois
at Urbana-Champaign

Department of Mathematics
273 Altgeld Hall, MC-382
1409 West Green Street
Urbana, IL 61801
217 333-3350 telephone
217 333-9576 fax
510 1011 969 ui tel com urud telex
office@symcom.math.uiuc.edu e-mail

MATHEMATICAL TIMETABLE

December 2-6, 1991

MONDAY, DECEMBER 2

TUESDAY, DECEMBER 3

Cellular Automata
Ms. Lenore Levine; Regular language invariance under cellular automaton rules, II

Probability & Statistics
Professor Ken Berk, ISU; Zero degrees of freedom for error.

Max Newman
Professor W. Haken; The computational complexity of the knotting problem, V

Logic
Professor Angus Macintyre; Rates of growth of definable functions and real exponentiation.

Number Theory
Professor Heini Halberstam; On Heath-Brown’s version of the large sieve, I

Algebra
Mr. William Harris; Real even symmetric forms, I

Geometric Potpourri
Professor Ralph Alexander; Unsolved problems concerning sums of distances on unit spheres.

Evaluation of Integrals and Special Functions
Professor Oleg Marichev; Some properties of polylogarithmic functions.

Exponentiation Seminar
Mr. Chris Miller; Model completeness of the real exponential field, XII

Combinatorics & Graph Theory
Professor Paul Weichsel; Graphs and inner product spaces.

Commutative Algebra
Ms. Heather Hulett; Stanley’s combinatorics and commutative algebra, V

Differential Geometry
To be announced.
<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Nonlinear Analysis</td>
<td>343 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Mr. Dennis Evans; Examples related to the atomic space problem, II</td>
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</tr>
<tr>
<td>Mathematics Colloquium</td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Angus Macintyre, Oxford University visiting UIC; definable sets over finite fields.</td>
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<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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**WEDNESDAY, DECEMBER 4**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combinatorial Algorithms</td>
<td>1310 DCL</td>
<td>4:00 pm</td>
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<tr>
<td>No meeting this week.</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 Mikhail Kapranov, Northwestern University; Braided monoidal 2-categories and the tetrahedral axiom.</td>
<td></td>
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<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
<td>3:15 pm</td>
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**THURSDAY, DECEMBER 5**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Disciples of Yoda</td>
<td>247 AH</td>
<td>11:00 am</td>
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<tr>
<td>To be announced.</td>
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<tr>
<td>Applied Mathematics</td>
<td>245 AH</td>
<td>1:00 pm</td>
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<tr>
<td>To be announced.</td>
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</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Heini Halberstam; On Heath Brown's version of the large sieve, II</td>
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<tr>
<td>Algebraic Number Theory</td>
<td>247 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Mr. Gebhard Boeckle; Special values of motivic L-functions, VI</td>
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<tr>
<td>Analysis</td>
<td>241 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Professor Zhong-jin Ruan; Operator convolution algebras.</td>
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<tr>
<td>Group Theory/Differential Geometry - working seminar</td>
<td>245 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Professors Richard Bishop; Metric simplicial complexes, IV</td>
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<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>Low Dimensional Geometry/Topology</td>
<td>243 AH</td>
<td>3:00 pm</td>
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<tr>
<td>Ms. Catherine Cavagnaro; A conjecture of J.H.C. Whitehead</td>
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</tbody>
</table>
### MATHEMATICAL TIMETABLE

#### December 9–13, 1991

#### MONDAY, DECEMBER 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Course/Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 am</td>
<td>247 AH</td>
<td>Cellular Automata Ms. Lenore Levine; Regular language invariance under cellular automaton rules, III</td>
</tr>
<tr>
<td>12 noon</td>
<td>243 AH</td>
<td>Logic Max Newman Professor W. Haken; The computational complexity of the knotting problem, VI</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>243 AH</td>
<td>Algebra Mr. Jose Iovino; Stability in Banach space model theory.</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>247 AH</td>
<td>Number Theory Professor John Steinig; Sum-free sets, I</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>343 AH</td>
<td>Evaluation of Integrals and Special Functions Mr. Gebhard Boeckle; Tamagawa numbers, II</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>314 AH</td>
<td>Mathematics Colloquium Professor Quanhua Xu, visiting University of Iowa; Interpolation between Hardy spaces.</td>
</tr>
<tr>
<td>3:15 pm</td>
<td>321 AH</td>
<td>Coffee &amp; Tea</td>
</tr>
</tbody>
</table>

#### TUESDAY, DECEMBER 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Course/Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 am</td>
<td>247 AH</td>
<td>Algebra Professor John Steinig; Sum-free sets, I</td>
</tr>
<tr>
<td>12 noon</td>
<td>343 AH</td>
<td>Evaluation of Integrals and Special Functions Mr. Gebhard Boeckle; Tamagawa numbers, II</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>243 AH</td>
<td>Logic Professor W. Haken; The computational complexity of the knotting problem, VI</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>343 AH</td>
<td>Nonlinear Analysis Mr. Dennis Evans; Examples related to the atomic space problem, III</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>314 AH</td>
<td>Mathematics Colloquium Professor Quanhua Xu, visiting University of Iowa; Interpolation between Hardy spaces.</td>
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<tr>
<td>3:15 pm</td>
<td>321 AH</td>
<td>Coffee &amp; Tea</td>
</tr>
</tbody>
</table>

#### WEDNESDAY, DECEMBER 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Course/Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 pm</td>
<td>1310 DCL</td>
<td>Combinatorial Algorithms Professor Gitta Domik, University of Colorado; The role of data visualization.</td>
</tr>
</tbody>
</table>
THURSDAY, DECEMBER 12

Disciples of Yoda
To be announced.

Number Theory
Professor John Steinig; Sum-free sets, II

Algebraic Number Theory
Mr. Gebhard Boeckle; Special values of motivic L-functions, VII

Analysis
Professor Zhong-jin Ruan; Operator convolution algebras, II

Group Theory/Differential
Geometry - working seminar
Professors Richard Bishop; Metric simplicial complexes, V

Low Dimensional Geometry/Topology
To be announced.

FRIDAY, DECEMBER 13
MATHEMATICAL TIMETABLE

January 20–24, 1992

MONDAY, JANUARY 20
Martin Luther King Holiday
all University offices closed

TUESDAY, JANUARY 21

Differential Geometry  243 AH  1:00 pm
Dr. Daowei Ma, University of Chicago; To be announced.

WEDNESDAY, JANUARY 22

Combinatorial Algorithms  1310 DCL  4:00 pm
Mr. Greg Frederickson, Purdue University; Ambivalent data structures for
dynamic 2-edge-connectivity and k smallest spanning tree.

THURSDAY, JANUARY 23

Group Theory/Differential
Geometry - working seminar  245 AH  2:00 pm
Professors Stephanie Alexander; Metric simplicial complexes, VI

Low Dimensional Geometry/Topology  243 AH  3:00 pm
Organizational meeting. Discussion of upcoming topics. Everyone is welcome.

Fama Mathematica  314 AH  4:00 pm
Professor Bruce Reznick; Okay, Bruce, I give up. What do do you? Or, if it’s
4:20, this must be Waring’s problem.

Coffee & Tea  321 AH  3:15 pm

ABSTRACT: This talk will cover topics in algebra, geometry, combinatorics,
number theory, functional analysis and numerical analysis. The common thread
is identities of the following type:

\[(x_1^2 + \cdots + x_n^2)^r = \sum_{k=1}^{n} (a_{k1} x_1 + \cdots + a_{kn} x_n)^{2r}.\]

FRIDAY, JANUARY 24
MATHMATICAL TIMETABLE

January 27–31, 1992

MONDAY, JANUARY 27

TUESDAY, JANUARY 28

Probability & Statistics 2 IH 11:00 am
Professor Frank Knight; Forms of equivalence of processes.

Max Newman 245 AH Noon
Organizational meeting.

Differential Geometry 243 AH 1:00 pm
Dr. Daowei Ma, University of Chicago; The scaling method in complex analysis.

Logic 241 AH 1:00 pm
Professor Daniel Leivant, Indiana University; Logics for computational complexity.

Number Theory 247 AH 1:00 pm
Professor Paul Bateman; The least primitive root module $p^2$, I

Geometric Potpourri 243 AH 2:00 pm
Professor Ralph Alexander; Short talk on spherical point-distributions (organizational).

Combinatorics and Graph Theory 245 AH 3:00 pm
Mr. Todd Will; Parsimonious 2-multigraphs.

Numerical Geometry 102 AH 8:00 pm
Professor George Francis; Organization and project scheduling.

WEDNESDAY, JANUARY 29

Combinatorial Algorithms 1310 DCL 4:00 pm
Mr. David Atkinson; Using geometry to solve the transportation problem in the plane.
THURSDAY, JANUARY 30

**Number Theory**
247 AH  1:00 pm
Professor Paul Bateman; The least primitive root modulo $p^2$, II

**Algebraic Number Theory**
247 AH  2:00 pm
Professor Steve Ullom; Representations related to CM elliptic curves.

**Group Theory/Differential Geometry – working seminar**
245 AH  2:00 pm
Professors Stephanie Alexander; Metric simplicial complexes, VII

**Commutative Algebra**
247 AH  3:00 pm
Professor Phil Griffith; Purity of branch locus and maximal Cohen–Macaulay modules, I

**Low Dimensional Geometry/Topology**
243 AH  3:00 pm
Mr. Patrick Callahan; Ribbons, slices 4-manifolds, and the classical knot cobordism group.

FRIDAY, JANUARY 31

**Complex Systems Colloquium**
3269 BI  4:00 pm
Professor John Cheeseman; 'Mechanism-less' integration of activity in plants.
MATHMATICAL TIMETABLE.  

MARCHDAY, FEBRUARY 3

TUESDAY, FEBRUARY 4

**Probability & Statistics**  
2 IH  
11:00 am  
Professor Paul Newbold; Fractional ARIMA Models: Estimation and testing in moderate-sized samples.

No meeting this week.

**Differential Geometry**  
243 AH  
1:00 pm  
Professor James Glazebrook, EIU; Yang-Mills geometry & foliation theory, I  
(An expository talk. Graduate students welcome.)

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

**Number Theory**  
247 AH  
1:00 pm  
Mr. Kevin Ford; A remarkable identity.

**Geometric Potpourri**  
243 AH  
2:00 pm  
Professor Zoltan Füredi; The second smallest distance on the sphere.

**Combinatorics and Graph Theory**  
245 AH  
3:00 pm  
Mr. Steven Seng-Wah Kwek; Rapidly mixing Markov chains with combinatorial applications.

WEDNESDAY, FEBRUARY 5

**Combinatorial Algorithms**  
1310 DCL  
4:00 pm  
Professor Michael Loui; The communication complexity of atomic commitment and of gossiping.
**THURSDAY, FEBRUARY 5**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disciples of Yodar</td>
<td>247 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. John Davis; Whitehead's &quot;On equivalent sets of elements in a free group.&quot;</td>
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</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Mr. Steven Knox; Fibonacci sequences in finite groups.</td>
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</tr>
<tr>
<td>Algebraic Number Theory</td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Mr. Gebhard Boeckle; Title to be announced.</td>
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</tr>
<tr>
<td>Group Theory/Differential Geometry - working seminar</td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professors Stephanie Alexander; Metric simplicial complexes, VIII</td>
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<td></td>
</tr>
<tr>
<td>Commutative Algebra</td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Phil Griffith; Purity of branch locus and maximal Cohen-Macaulay modules, II</td>
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<td></td>
</tr>
<tr>
<td>Low Dimensional Geometry/Topology</td>
<td>243 AH</td>
<td>3:00 pm</td>
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<tr>
<td>To be announced.</td>
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</table>

**Mathematics Colloquium**

<table>
<thead>
<tr>
<th>Location</th>
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<tbody>
<tr>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Tadeusz Figiel, Math. Institute, Warsaw; Singular integral operators: a martingale approach.</td>
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</tbody>
</table>

**Abstract:** In the talk a simple construction will be presented which produces a vast class of singular integral operators on \( \mathbb{R}^d \) in terms of some natural "bases" in the space of kernels. The boundedness properties of those operators depend solely on those of martingale transforms. In particular, if \( X \neq \{0\} \) is any UMD Banach space, then the \( L_p(\mathbb{R}^d;X) \)-boundedness of operators in this class is characterized by the familiar David-Journe condition (both \( T_1 \) and \( T_1^* \) should be functions of bounded mean oscillation on \( \mathbb{R}^d \)).

**FRIDAY, FEBRUARY 6**

<table>
<thead>
<tr>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>Complex Systems Colloquium</td>
<td>3269 BI</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Mr. Ed Wasserman, Dupont; Oscillation and chaos from an industrial perspective.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## MATHETICAL TIMETABLE

### February 10–14, 1992

### MONDAY, FEBRUARY 10

**Probability & Statistics**
- **2 IH**
- 11:00 am
- Professor Victor H. de la Pena; Some inequalities for sums of dependent variables.

**Max Newman**
- **245 AH**
- Noon
- Professor W. Haken; The unknotting problem is in both NP and Co-NP, I

**Differential Geometry**
- **243 AH**
- 1:00 pm
- Professor James Glazebrook, EIU; Yang-Mills geometry & foliation theory, II

**Logic**
- **245 AH**
- 1:00 pm
- Mr. Adam Lewenberg; Real closed fields with a T-convex subring, I

**Number Theory**
- **247 AH**
- 1:00 pm
- Mr. David Bradley; Formulation and proof of a conjecture of Ramanujan.

**Geometric Poipourri**
- **243 AH**
- 2:00 pm
- No meeting this week.

**Combinatorics and Graph Theory**
- **245 AH**
- 3:00 pm
- Mr. Steven Seng-Wah Kwek; Rapidly mixing Markov chains with combinatorial applications, II

### TUESDAY, FEBRUARY 11

**Combinatorial Algorithms**
- **1310 DCL**
- 4:00 pm
- Professor Edward Reingold; Multidimensional divide-and-conquer maximin recurrences.
### Thursday, February 13

<table>
<thead>
<tr>
<th>Course</th>
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<th>Time</th>
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</thead>
<tbody>
<tr>
<td><strong>Functional Analysis</strong></td>
<td>245 AH</td>
<td>10:00 am</td>
</tr>
<tr>
<td>Mr. Dennis Evans; Near-atomic spaces, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disciples of Yodar</strong></td>
<td>247 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. John Davis; Whitehead's &quot;On equivalent sets of elements in a free group&quot;, II</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; Introduction to Ramanujan’s theory of Theta-functions, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Algebraic Number Theory</strong></td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Mr. Gebhard Boeckle; Tamagawa numbers, IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group Theory/Differential Geometry - working seminar</strong></td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professors Stephanie Alexander; Metric simplicial complexes, IX</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commutative Algebra</strong></td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Phil Griffith; Purity of branch locus and maximal Cohen-Macaulay modules, III</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Integrable Systems-Special</strong></td>
<td>241 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Professor Boris Konopelchenko, Institute of Nuclear Physics, Novosibirsk, Russia; Title to be announced.</td>
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</tr>
<tr>
<td><strong>Low Dimensional Geometry/Topology</strong></td>
<td>243 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>Mr. John Davis; Simplifying Heegaard diagrams.</td>
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### Friday, February 14

<table>
<thead>
<tr>
<th>Course</th>
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<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Complex Systems Colloquium</strong></td>
<td>3269 BI</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>No meeting today.</td>
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</tbody>
</table>

**Note:** No meeting today.
University of Illinois at Urbana-Champaign  
Department of Mathematics  
273 Altgeld Hall, MC-382  
1409 West Green Street  
Urbana, IL 61801  
217 333-3350 telephone  
217 333-9576 fax  
510 1011 969 ui tel com urud telex  
office@symcom.math.uiuc.edu e-mail

MATHEMATICAL TIMETABLE  
February 17–21, 1992

MONDAY, FEBRUARY 17

TUESDAY, FEBRUARY 18

Probability & Statistics  
2 IH  
11:00 am

No meeting this week.

Max Newman  
245 AH  
Noon

Professor W. Haken; The unknotting problem is in both NP and Co-NP, II

Differential Geometry  
243 AH  
1:00 pm

Professor John D’Angelo; Solution to the CR spherical space form problem.

Logic  
245 AH  
1:00 pm

Mr. Adam Lewenberg; Real closed fields with a T-convex subring, II

Number Theory  
247 AH  
1:00 pm

Professor Bruce Berndt; Introduction to Ramanujan’s theory of Theta- 
functions, II

Geometric Potpourri  
243 AH  
2:00 pm

Professor Jack Wetzel; Simplicial Grünbaum arrangements.

Combinatorics and Graph Theory  
245 AH  
3:00 pm

Mr. In-Jen Lin; More forbidden subgraph results about interval digraphs.

WEDNESDAY, FEBRUARY 19

Combinatorial Algorithms  
1310 DCL  
4:00 pm

Mr. John Hamkins; Routing in a rectangle with K-ary overlap.
THURSDAY, FEBRUARY 20

**Functional Analysis** 245 AH 10:00 am
Mr. Dennis Evans; Near-atomic spaces, II

**Disciples of Yodar** 247 AH 11:00 am
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free group", III

**Number Theory** 247 AH 1:00 pm
Professor Bruce Berndt; Introduction to Ramanujan's theory of Theta-functions, III

**Algebraic Number Theory** 247 AH 2:00 pm
Professor Boas Erez; Equivariant Euler-Poincaré characteristics and tameness.

**Group Theory/Differential Geometry - working seminar** 245 AH 2:00 pm
Professors Stephanie Alexander; Metric simplicial complexes, X

**Commutative Algebra** 247 AH 3:00 pm
Professor Phil Griffith; Purity of branch locus and maximal Cohen-Macaulay modules, IV

**Low Dimensional Geometry/Topology** 243 AH 3:00 pm
Mr. Scott Brown; 3-manifolds are determined by their spines, or everything you wanted to know about manifolds but didn't have the backbone to ask.

**Mathematics Colloquium** 314 AH 4:00 pm
Professor Boas Erez, Harvard; Group actions on rings of integers and Riemann surfaces.

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

ABSTRACT: See mailroom bulletin board.

FRIDAY, FEBRUARY 21

**Complex Systems Colloquium** 3269 BI 4:00 pm
No meeting this week.
**Mathematical Timetable**

**Monday, February 24**

**Tuesday, February 25**

**Probability & Statistics**
Professor Istvan Berkes, Hungarian Academy of Sciences; Limit theorems related to the a.s. central limit theorem.

2 IH, 11:00 am

**Max Newman**
Professor W. Haken; The unknotting problem is in both NP and Co-NP, III

245 AH, Noon

**Differential Geometry**
See Friday's listing.

243 AH, 1:00 pm

**Logic**
Adam Lewenberg; Real closed fields with a T-convex subring, III

245 AH, 1:00 pm

**Number Theory**
Professor Bruce Berndt; Introduction to Ramanujan's theory of Theta-functions, IV

247 AH, 1:00 pm

**Geometric Potpourri**
No meeting this week.

243 AH, 2:00 pm

**Combinatorics and Graph Theory**
Mr. Tiow-Seng Tan,; An upper bound for conforming Delaunay triangulations.

245 AH, 3:00 pm

**Wednesday, February 26**

**Combinatorial Algorithms**
Mr. Louis Mak; Probabilistic machines can be simulated by alternating machines without time loss.

1310 DCL, 4:00 pm
**THURSDAY, FEBRUARY 27**

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<td>245 AH</td>
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<tr>
<td>Mr. Dennis Evans; Near-atomic spaces, III</td>
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<tr>
<td><strong>Disciples of Yodar</strong></td>
<td>247 AH</td>
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<tr>
<td>Mr. John Davis; Whitehead's &quot;On equivalent sets of elements in a free group&quot;, IV</td>
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<tr>
<td><strong>Number Theory</strong></td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor Bruce Berndt; Introduction to Ramanujan's theory of Theta-functions, V</td>
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</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Tadek Figiel, Mathematics Institute of Poland; Spline bases in Orlicz spaces and regularity of Brownian motion.</td>
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<tr>
<td><strong>Algebraic Number Theory</strong></td>
<td>247 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Mr. Gebhard Boeckle; Tamagawa numbers, V</td>
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</tr>
<tr>
<td><strong>Group Theory/Differential Geometry - working seminar</strong></td>
<td>245 AH</td>
<td>2:00 pm</td>
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<tr>
<td>Professors Richard Bishop; Metric simplicial complexes, XI</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 Phil Griffith; Purity of branch locus and maximal Cohen-Macaulay modules, V</td>
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<td></td>
</tr>
<tr>
<td><strong>Low Dimensional Geometry/Topology</strong></td>
<td>243 AH</td>
<td>3:00 pm</td>
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<tr>
<td>To be announced.</td>
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<tr>
<td><strong>Mathematics Colloquium</strong></td>
<td>314 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Peter Woit, Columbia University; Geometric quantization and path integrals.</td>
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<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>321 AH</td>
<td>3:15 pm</td>
</tr>
<tr>
<td><strong>ABSTRACT:</strong></td>
<td></td>
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<td>See mailroom bulletin board.</td>
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FRIDAY, FEBRUARY 28

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>Complex Systems Colloquium</strong></td>
<td>3269 BI</td>
<td>4:00 pm</td>
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<tr>
<td>No meeting this week.</td>
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<tr>
<td><strong>Differential Geometry</strong></td>
<td>243 AH</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>Professor Peter Woit; Index theory and BRST symmetry.</td>
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</table>
MATHEMATICAL TIMETABLE

MARCH 2, 1992

TUESDAY, MARCH 3

Probability & Statistics  2 IH  11:00 am
To be announced.

Wax Newman  245 AH  Noon
Professor W. Haken; The unknotting problem is in both NP and Co-NP, IV

Differential Geometry  243 AH  1:00 pm
Professor Philippe Tondeur; Taut Riemannian foliations.

Logic  245 AH  1:00 pm
Professor S.G. Simpson, Penn State visiting UIUC; König’s duality theorem for infinite graphs. (See Thursday listing also.)

Number Theory  247 AH  1:00 pm
Professor Bruce Berndt; Introduction to Ramanujan’s theory of Theta-functions, VI

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

Combinatorics and Graph Theory  245 AH  3:00 pm
Ms. Myung-Sook Chung; 2-intersection number of paths and bounded-degree trees.

WEDNESDAY, MARCH 4

Combinatorial Algorithms  1310 DCL  4:00 pm
Ms. Nancy Amato; Computing the minimum visible vertex distance between two nonintersecting simple polygons.

LAS Jubilee Lecture  Lincoln Hall Theater  4:00 pm
Professor Stanley Smith; Changing the curriculum with multimedia.

Pi Mu Epsilon Lecture  241 AH  7:00 pm
Professor Julian Palmore; Dynamics and the three-body problem.
**THURSDAY, MARCH 5**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Functional Analysis</td>
<td>245 AH</td>
<td>10:00 am</td>
</tr>
<tr>
<td>Mr. Dennis Evans; Near-atomic spaces, IV</td>
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<td></td>
</tr>
<tr>
<td>Disciples of Yoda</td>
<td>247 AH</td>
<td>11:00 am</td>
</tr>
<tr>
<td>Mr. John Davis; Whitehead's &quot;On equivalent sets of elements in a free group&quot;, V</td>
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<tr>
<td>Logic</td>
<td>243 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor G.E. Mints, Stanford; Cut elimination for second order logic with the axiom of choice.</td>
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</tr>
<tr>
<td>Number Theory</td>
<td>247 AH</td>
<td>1:00 pm</td>
</tr>
<tr>
<td>Professor John Steinig; The sum of two finite sets of integers.</td>
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<tr>
<td>Analysis</td>
<td>243 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Tenney Peck; Rademacher functions and projection constants, I</td>
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<tr>
<td>Algebraic Number Theory</td>
<td>247 AH</td>
<td>2:00 pm</td>
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<tr>
<td>To be announced.</td>
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<tr>
<td>Group Theory/Differential</td>
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<tr>
<td>Geometry - working seminar</td>
<td>245 AH</td>
<td>2:00 pm</td>
</tr>
<tr>
<td>Professor Stephanie Alexander; Metric simplicial complexes, XII</td>
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<tr>
<td>Commutative Algebra</td>
<td>247 AH</td>
<td>3:00 pm</td>
</tr>
<tr>
<td>To be announced.</td>
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<td></td>
</tr>
<tr>
<td>Low Dimensional Geometry/Topology</td>
<td>243 AH</td>
<td>3:00 pm</td>
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<tr>
<td>Mr. Louis Kerofsky; Morse theory.</td>
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**Mathematics Colloquium**

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>314 AH</td>
<td>4:00 pm</td>
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<tr>
<td>Professor G. Mints, Stanford; Gentzen-type systems and Hilbert’s epsilon substitution method.</td>
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<tr>
<td>Coffee &amp; Tea</td>
<td>321 AH</td>
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</tbody>
</table>

**ABSTRACT:** See mailroom bulletin board.

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**FRIDAY, MARCH 6**

<table>
<thead>
<tr>
<th>Course</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Complex Systems Colloquium</td>
<td>3269 BI</td>
<td>4:00 pm</td>
</tr>
<tr>
<td>No meeting this week.</td>
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</tbody>
</table>

There will be a Relativity Conference at the Bechman Institute on Friday and Saturday, March 6 and 7. For those who might be interested in attending this conference, a list of talks is posted on the bulletin board in room 321 AH.
## MATHEMATICAL TIMETABLE

### MONDAY, MARCH 16

**Probability & Statistics**
- Time: 2 IH
- Room: 245 AH
- Time: 11:00 am
- To be announced.

**Wax Newman**
- Time: 245 AH
- Time: Noon
- Professor W. Haken; The unknotting problem is in both NP and Co-NP, V

**Logic**
- Time: 245 AH
- Time: 1:00 pm
- Professor S.G. Simpson, Penn State visiting UIUC; König's duality theorem for infinite graphs, II

**Number Theory**
- Time: 247 AH
- Time: 1:00 pm
- Mr. John Massman; On Hamburger's theorem.

**Geometric Potpourri**
- Time: 243 AH
- Time: 2:00 pm
- Professor Ralph Alexander; The hypermetric inequality in Hilbert space.

**Combinatorics and Graph Theory**
- Time: 245 AH
- Time: 3:00 pm
- Professor Robert Beezer, University of Puget Sound; Counting subgraphs of regular graphs.

**Differential Geometry**
- Time: 241 AH
- Time: 3:00 pm
- Dr. Kwan Seok Ko, Inha University; Pinching theorems for Riemannian 4-manifolds. (Note change of time and room for this week only.)

### WEDNESDAY, MARCH 18

**Combinatorial Algorithms**
- Time: 1310 DCL
- Time: 4:00 pm
- See Friday listing.

**Complex Systems Colloquium**
- Time: 5602 BI
- Time: 4:00 pm
- Dr. Andre D. Bandrauk; University of Sherbrooke; Control of molecular excitation and dissociation with lasers.

**Stewart S. Cairns Memorial Lecture**
- Time: 314 AH
- Time: 4:00 pm
- Coffee & Tea: 321 AH
- Time: 3:15 pm
- Professor John Morgan, Columbia University; Gauge theory and the topology of 4-manifolds: I. Introduction and overview.

**Stewart S. Cairns Memorial Lecture**
- Time: 314 AH
- Time: 4:00 pm
- Coffee & Tea: 321 AH
- Time: 3:15 pm
- Professor John Morgan, Columbia University; Gauge theory and the topology of 4-manifolds: II. Connections with algebraic geometry.
THURSDAY, MARCH 19

**Functional Analysis** 245 AH 10:00 am
Mr. Dennis Evans; Near-atomic spaces, V

**Disciples of Yodar** 247 AH 11:00 am
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free group", VI

**Number Theory** 247 AH 1:00 pm
Professor Harold Diamond; Results of Erdös on $\sum 1/a \log a$ for primitive sequences.

**Analysis** 243 AH 2:00 pm
Professor Lazaro Recht, visiting UIUC; Conditional expectations and decompositions of operators.

**Algebraic Number Theory** 247 AH 2:00 pm
To be announced.

**Group Theory/Differential Geometry - working seminar** 245 AH 2:00 pm
Professor Stephanie Alexander; Metric simplicial complexes, XIII

**Commutative Algebra** 247 AH 3:00 pm
Mr. Adam Borek; Weak purity theorem for isolated singularities.

**Low Dimensional Geometry/Topology** 243 AH 3:00 pm
Mr. Pat Callahan; Geometry of three-manifolds.

**Stewart S. Cairns Memorial Lecture** 314 AH 4:00 pm
Professor John Morgan, Columbia University; Gauge theory and the topology of 4-manifolds: III. A Meyer-Vietoris principle for self-dual connections and its applications.

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

FRIDAY, MARCH 20

**Combinatorial Algorithms** 1310 DCL 4:00 pm
Mr. Mike Goodrich, Johns Hopkins University; Algorithmic techniques in parallel computational geometry.

**Complex Systems Colloquium** 3269 BI 4:00 pm
See Wednesday listing.
MONDAY, MARCH 23

TUESDAY, MARCH 24

Probability & Statistics 2 IH 11:00 am
Professor Victor de la Pena, Columbia University; Some general decoupling inequalities.

Max Newman 245 AH Noon
Professor W. Haken; The unknotting problem is in both NP and Co-NP, VI

Differential Geometry 243 AH 1:00 pm
Mr. Jae-Kwan Shim; Complete manifolds of nonnegative k-th Ricci curvature - work of Zhongmin Shen.

Logic 245 AH 1:00 pm
Professor S.G. Simpson; Hilbert’s epsilon symbol and second order arithmetic.

Number Theory 247 AH 1:00 pm
Professor John Steinigj; The sum of two finite sets of integers, II

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

Combinatorics and Graph Theory 245 AH 3:00 pm
Mr. In-Jen Lin; Leafage and catch leafage of digraphs.

WEDNESDAY, MARCH 25

Combinatorial Algorithms 1310 DCL 4:00 pm
Ran Libeskind-Hadas; Fault tolerance through configuration in bi-modal systems.

Pi Mu Epsilon Lecture 343 AH 7:00 pm
Professor Bruce Reznick; The mathematics and life of James Joseph Sylvester.
THURSDAY, MARCH 26

Disciples of Yodar 247 AH 11:00 am
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free group", VII

Number Theory 247 AH 1:00 pm
Professor Ken Stolarsky; Khintchine's theorem on inhomogeneous diophantine approximation (mostly expository).

Analysis 243 AH 2:00 pm
No meeting this week.

Algebraic Number Theory 247 AH 2:00 pm
Professor Nigel Boston; The abc conjecture, I

Group Theory/Differential Geometry - working seminar 245 AH 2:00 pm
Professor Stephanie Alexander; Metric simplicial complexes, XIV

Commutative Algebra 247 AH 3:00 pm
Mr. Adam Borek; Weak purity theorem for isolated singularities, I

Low Dimensional Geometry/Topology 243 AH 3:00 pm
To be announced.

Mathematics Colloquium 314 AH 4:00 pm
Professor Richard Kadison, University of Pennsylvania; Aspects of semi-simplicity dimensions.

Coffee & Tea 321 AH 3:15 pm
ABSTRACT: The talk is a self-contained discussion of what happens to algebraic semi-simplicity as we move to infinite dimensions and introduce topological structure – especially in relation to Hilbert spaces and algebras of operators thereon. This theme includes invariant subspaces, the similarity problem, and the Haagerup-Pisier-Ringrose inequalities.

FRIDAY, MARCH 27

Complex Systems Colloquium 3269 BI 4:00 pm
No meeting this week.
MATHEMATICAL TIMETABLE

MARCH 30–APRIL 3, 1992

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

TUESDAY, MARCH 31

PROBABILITY & STATISTICS

2 IH
11:00 am
Professor V. B. Rao, Indian Statistical Institute & Indiana University; The dynamics of quadratic map under random iteration.

Max Newman
245 AH
Noon
Professor W. Haken; The unknotting problem is in both NP and Co-NP, VII

LOGIC

245 AH
1:00 pm
Mr. Chris Miller; Unary functions definable in the real exponential field are piecewise differentially algebraic, I

NUMBER THEORY

247 AH
1:00 pm
Mr. Eberth Alarcon; Distribution of $\alpha$, $2\alpha$, $3\alpha$, ... mod 1

GEOMETRIC POTPOURRI

243 AH
2:00 pm
No meeting this week.

COMBINATORICS AND GRAPH THEORY

245 AH
3:00 pm
To be announced.

DIFFERENTIAL GEOMETRY

247 AH
3:00 pm
Professor Abderrahim Elghanmi, Franklin College; Spacelike surfaces in Lorentzian manifolds. (Note change of time & room for this week only.)

WEDNESDAY, APRIL 1

COMBINATORIAL ALGORITHMS

1310 DCL
4:00 pm
Susanne E. Hambrusch, Purdue University; New forms of connectivity in images.
THURSDAY, APRIL 2

Disciples of Yodar
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free group", VIII

Number Theory
No meeting today; see colloquium.

Buseman Function
Mr. Jae-Kwan Shim; The topological structure of manifolds with positive $k$th Ricci curvature, I

Analysis
Professor P. Mankiewicz, Polish Academy of Sciences; Solving the finite dimensional homogeneous Banach space problem.

Algebraic Number Theory
Professor Nigel Boston; The abc conjecture, II

Group Theory/Differential Geometry - working seminar
Professor Stephanie Alexander; Metric simplicial complexes, XV

Commutative Algebra
Mr. Adam Borek; Weak purity theorem for isolated singularities, II

Low Dimensional Geometry/Topology
To be announced.

Mathematics Colloquium
Professor Peter Elliott, University of Colorado; On the mean value of multiplicative functions.

Coffee & Tea

ABSTRACT: The distribution of multiplicative functions over residue classes is considered, and a treatment of primes in arithmetic progression given, without zero density theorems or zero free regions of $L$-series.

FRIDAY, APRIL 3

Complex Systems Colloquium
No meeting this week.
MATHMATICAL TIMETABLE

MOUNTDAY, APRIL 6

Complex Systems Colloquium

Professor Vladimir Mel'nikov, L. D. Landau Institute of Theoretical Physics, Moscow; Stochastic Resonance

TUESDAY, APRIL 7

Probability & Statistics

To Be Announced

Max Newman

Professor W. Haken; The unknotting problem is in both NP and Co-NP, VIII

Special Analysis Seminar

Professor Mikhail Sodin, Purdue University & Institute for Low Temperature Physics and Engineering, Kharkov; Value Distribution Theory from Potential Theory Viewpoint

Logic

Mr. Chris Miller; Unary functions definable in the real exponential field are piecewise differentially algebraic, II

Number Theory

Professor Krishnaswami Alladi, University of Florida; On modified convergence of certain Rogers–Ramanujan type continued fractions

Differential Geometry

Professor S. Goldberg; A generalization of Yau's distance-decreasing theorem

Geometric Potpourri

Professor Marko Kranjc, Western Illinois University; A class of 2-complexes which embed in $\mathbb{R}^4$

Combinatorics and Graph Theory

Mr. Yi-Wu Chang; The Maximum Size of k-Pseudotrees

Mathematics Colloquium

Professor Krishnaswami Alladi, University of Florida; Partition Identities and Continued Fractions;

Coffee & Tea

ABSTRACT: Posted on Mailroom bulletin board
WEDNESDAY, APRIL 8

Combinatorial Algorithms 1310 DCL 4:00 pm
No Meeting

THURSDAY, APRIL 9

Disciples of Yodar 247 AH 11:00 am
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free
group", IX

Number Theory 247 AH 1:00 pm
Mr. Kevin Ford; The continued fraction of \( \sum_{k=1}^{\infty} z^{-[k \alpha]} \)

Buseman Function 243 AH 1:00 pm
Mr. Jae-Kwan Shim; The topological structure of manifolds with positive \( k \) th
Ricci curvature, II

Analysis 243 AH 2:00 pm
Professor Zbigniew J. Jurek, University of Wroclaw, Wroclaw, Poland
(and Wayne State University, Detroit); Operator Exponents of Measures and
Polar Coordinates in Banach Spaces.

Algebraic Number Theory 247 AH 2:00 pm
Professor Nigel Boston; The abc conjecture, III

Group Theory/Differential Geometry - working seminar 245 AH 2:00 pm
Professor Stephanie Alexander; Metric simplicial complexes, XVI

Commutative Algebra 247 AH 3:00 pm
Professor Hans-Bjorn Foxby, University of Copenhagen; Structure of Local
Homomorphisms

Low Dimensional Geometry/Topology 243 AH 3:00 pm
To be announced.

Fama Mathematics 314 AH 4:00 pm
Professor Lee A. Rubel; Some Complex Approximation Theorems
Coffee & Tea 321 AH 3:15 pm

FRIDAY, APRIL 10

Complex Systems Colloquium 3269 BI 4:00 pm
Professor W. Ebeling, Institute for Theoretical Physics Humboldt University at
Berlin Germany; Entropy and Evolution of Information.
**MATHEMATICAL TIMETABLE**

**April 13-17, 1992**

### MONDAY, APRIL 13

**Donald B. Gillies Memorial Lecture**

1320 DCL  
3:00 pm  
Professor Burton J. Smith, Tera Computer Company; The Tera Computer System.

### TUESDAY, APRIL 14

**Probability & Statistics**

2 TH  
11:00 am  
Professor Mohsen Pourahmadi, NIU; Rank, canonical correlation and reduction of multiple time series.

**Max Newman**

245 AH  
Noon  
Professor W. Haken; The unknotting problem is in both NP and Co-NP, IX

**Logic**

245 AH  
1:00 pm  
Mr. Chris Miller; Unary functions definable in the real exponential field are piecewise differentially algebraic, III

**Differential Geometry**

243 AH  
1:00 pm  
Professor S. Goldberg; A generalization of Yau’s distance-decreasing theorem II

**Number Theory**

247 AH  
1:00 pm  
Mr. Heng Huat Chan; A proof of Jacobi’s identity for fourth powers via Weierstrass’s elliptic functions.

**Geometric Potpourri**

243 AH  
2:00 pm  
Professor Paul Schupp; Hyperbolic polyominoes and computational complexity: hyperbolic tilings are "more decidable" than Euclidean tilings.

**Combinatorics and Graph Theory**

245 AH  
3:00 pm  
Ms. Yi-Wu Chang; The maximum size of k-pseudotrees, II and Professor Doug West; An Erdős problem on bandwith.

**Donald B. Gillies Memorial Lecture**

1320 DCL  
4:00 pm  
Professor Burton J. Smith; Support for heterogeneous parallelism in the Tera architecture.

1320 DCL  
8:00 PM  
Professor Burton J. Smith; Future computers.

**Mathematics Colloquium**

314 AH  
4:00 pm  
Professor Ciprian Foias, Indiana University; Title to be announced.

**Coffee & Tea**

321 AH  
3:15 pm

**ABSTRACT:** See mailroom bulletin board for title and abstract.
WEDNESDAY, APRIL 15

Combinatorial Algorithms
Professor Bruce Maggs, NEC Research Institute; A comparison of sorting algorithms for the connection machine.

THURSDAY, APRIL 16

Disciples of Yoda
Mr. John Davis; Whitehead’s "On equivalent sets of elements in a free group", X

Number Theory
Mr. David Bradley; Small divisors and dynamical systems.

Buseman Function
Mr. Jae-Kwan Shim; The topological structure of manifolds with positive $k^{th}$ Ricci curvature, III

Analysis
Professor Lee Rubel; Sums of square of entire functions.

Commutative Algebra
To be announced.

Low Dimensional Geometry/Topology
To be announced.

Mathematics Colloquium
Professor Gunther Uhlmann, University of Washington; The Calderon projector in inverse problems.

Coffee & Tea

FRIDAY, APRIL 17

Complex Systems Colloquium
No meeting this week.
### Mathematical Timetable

#### Monday, April 20

**Donald B. Gillies Memorial Lecture**
1320 DCL 3:00 pm
Professor Burton J. Smith, Tera Computer Company; The Tera Computer System.

#### Tuesday, April 21

**Probability & Statistics**
2 IH 11:00 am
Dr. Ward Whitt, AT&T Bell Labs; The Poisson-Arrival-Location Model (PALM).

**Max Newman**
245 AH Noon
Professor W. Haken; The unknotting problem is in both NP and Co-NP, 

**Logic**
245 AH 1:00 pm
Dr. Nigel Cutland, University of Hull; Some recent applications of nonstandard analysis in fluid dynamics and stochastic analysis.

**Differential Geometry**
243 AH 1:00 pm
Geometry/Topology Area Meeting. See also today's colloquium.

**Number Theory**
247 AH 1:00 pm
Discussion of course offerings in number theory for Spring 1993.

**Analysis**
247 AH 2:00 pm
Ms. Beate Zimmer; The unconditional basic sequences problem, I

**Geometric Potpourri**
243 AH 2:00 pm
Professor Paul Schupp; Hyperbolic polyominoes and computational complexity: hyperbolic tilings are "more decidable" than Euclidean tilings, II

**Combinatorics and Graph Theory**
245 AH 3:00 pm
Professor Zoltan Furedi; Szemeredi's lemma and graphs of diameter 2.

**Complex Systems**
4269 BI 4:00 pm
Peter Jung, University of Augsburg; Rate processes in periodically driven systems.

**Donald B. Gillies Memorial Lecture**
1320 DCL 4:00 pm
Professor Burton J. Smith; Support for heterogeneous parallelism in the Tera architecture.

**Donald B. Gillies Memorial Lecture**
1320 DCL 8:00 PM
Professor Burton J. Smith; Future computers.

**Mathematics Colloquium**
314 AH 4:00 pm
Professor Carolyn Gordon, Washington University; Title to be announced.

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

**Abstract:** See mailroom bulletin board for title and abstract.
WEDNESDAY, APRIL 22

Departmental Awards Ceremony  314 AH  4:00 pm
Professor Ward Henson, presiding
Reception  321 AH  4:20 pm

Combinatorial Algorithms  1310 DCL  4:00 pm
Professor David Eppstein, UC-Irvine; Fully dynamic maintenance of Euclidean minimum spanning trees and maxima of decomposable functions.

THURSDAY, APRIL 23

Disciples of Yodar  247 AH  11:00 am
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free group", XI

Number Theory  247 AH  1:00 pm
Professor Harold Diamond; Metric theorems on estimation of integrals by sums.

Analysis  243 AH  2:00 pm
Mr. Bill Hammack; The unconditional basic sequence problem, II

Commutative Algebra  247 AH  3:00 pm
Mr. Adam Borek; Weak purity theorem for isolated singularities, III

Low Dimensional Geometry/Topology  243 AH  3:00 pm
Mr. Conley Powell; Intrinsic geometry of flat semi-Riemannian structures in dimension 4 and relativistic phenomena.

Mathematics Colloquium  314 AH  4:00 pm
Professor J.C. Beidleman, University of Kentucky; Frattini-like subgroups of a group.

Coffee & Tea  321 AH  3:15 pm
ABSTRACT: Let $G$ be a group and let Frat($G$) be the Frattini subgroup of $G$. Three subgroups which are somewhat related to Frat($G$) are: Fit($G$), the fitting subgroup of $G$, HP($G$), the Hirsch–Plotkin radical of $G$, and $C$, the centralizer of all the chief factors of $G$. Some of the relationships between these subgroups will be discussed.

FRIDAY, APRIL 24

Complex Systems Colloquium  3269 BI  4:00 pm
Professor Gottfried Mayer-Kress; Order and chaos in non-linear systems and music.
MATHEMATICAL TIMETABLE

MONDAY, APRIL 27

TUESDAY, APRIL 28

_Probability & Statistics_ 2 IH 11:00 am
Professor Qi-Man Shao, Hangzhou Univ. and Univ. of Cincinnati; A Chung type law of the iterated logarithm for subsequences of a Wiener process.

_Nez Newman_ 245 AH Noon
Professor W. Haken; The unknotting problem is in both NP and Co-NP, XI

_Logic_ 245 AH 1:00 pm
No meeting today; see today’s colloquium.

_Differential Geometry_ 243 AH 1:00 pm
Professor Stephanie Alexander; Report on Riemannian manifolds with boundary.

_Number Theory_ 247 AH 1:00 pm
Professor Harold Diamond; Metric theorems on the estimation of integrals by sums, II

_Analysis_ 247 AH 2:00 pm
Mr. Gregory Michalopoulos; The unconditional basic sequences problem, III

_Geometric Potpourri_ 243 AH 2:00 pm
No meeting this week.

_Combinatorics and Graph Theory_ 245 AH 3:00 pm
To be announced.

_Complex Systems_ 4269 BI 4:30 pm
Gene E. Robinson; In search of the honey bee colony’s brain: genetic and hormonal analyses of division of labor.

_Mathematics Colloquium_ 314 AH 4:00 pm
Professor Alexander Razborov, Steklov Inst., visiting MIT; On lower bounds in Boolean complexity.

_Coffee & Tea_ 321 AH 3:15 pm

WEDNESDAY, APRIL 29

_Combinatorial Algorithms_ 1310 DCL 4:00 pm
Mr. Rolando Cruz; Generalized agreement in asynchronous shared memory systems.

_Pi Mu Epsilon Lecture_ 141 AH 7:00 pm
Professor Dan Grayson; Algebra, geometry and the zeta functions.
THURSDAY, APRIL 30

**Disciples of Yoda**
Mr. John Davis; Whitehead's "On equivalent sets of elements in a free group", XII

**Number Theory**
Professor Ken Stolarsky; An Erdős-inspired discrepancy game played with points on the unit circle, and P. O'Hara's complex variable approach to it (only prerequisite: complex variables).

**Analysis**
Professor Tenney Peck; The unconditional basic sequence problem, IV

**Commutative Algebra**
To be announced.

**Low Dimensional Geometry/Topology**
Professor Maarten Bergvelt; The amazing KP equation.

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**Mathematics Colloquium**
Professor Jean-Pierre Rosay, University of Wisconsin; Automorphism of $\mathbb{C}^n$.

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

**ABSTRACT:** I will discuss results about automorphisms of $\mathbb{C}^n$ (joint with Forstneric). One introduces an appropriate notion of equivalence of sets under the automorphism group. Then one gets results of the following kind: there is (in some appropriate sense) only one arc in $\mathbb{C}^n$, only one closed polynominally convex curve, only one analytic disc, etc.

FRIDAY, MAY 1

**Complex Systems Colloquium**
Dr. Paul Pudaite; Long cycles in war and production.