
Program of the Sessions

Gainesville, Florida, March 12–13, 1999

Friday, March 12

Meeting Registration

7:30 AM – 4:00 PM Third Floor Atrium, W. W. Little Hall

AMS Book Sale and Exhibit

7:30 AM – 4:00 PM Room 353, W. W. Little Hall

Special Session on Ergodic Theory and Dynamical Systems, I

8:00 AM – 10:40 AM Room 223, W. W. Little Hall

Organizer: **Jonathan L. F. King**, University of Florida

8:00AM *Maximal chaos on manifolds.*

(1) **Vidhu S. Prasad***, U. Mass Lowell, and **Steve R. Alpern**, LSE (940-28-63)

9:00AM *Chaotic measure-preserving homeomorphisms are generic.*

► (2) **Fons G. M. Daalderop*** and **Robbert Fokkink**, Delft University of Technology (940-54-267)

9:30AM *Kazhdan's property T and the geometry of the collection of invariant measures.*

(3) **Eli Glasner***, Tel Aviv University, and **Benjamin Weiss**, Hebrew University (940-28-381)

10:00AM *Minimal and ergodic cocycles arising from linear differential systems.*

(4) **Mahesh G. Nerurkar**, Rutgers University (940-28-54)

Special Session on Probability on Algebraic Structures, I

8:10 AM – 10:50 AM Room 235, W. W. Little Hall

Organizers: **Gregory M. Budzban**, Southern Illinois University at Carbondale

Philip Feinsilver, Southern Illinois University at Carbondale

Arunava Mukherjea, University of South Florida

8:10AM *Hecke pairs, locally compact hypergroups and probability theory.*

(5) **Herbert Heyer**, Mathematisches Institut, Universitaet Tuebingen, GERMANY (940-60-12)

8:50AM Break

9:30AM *Martingale characterizations of Lévy processes on locally compact groups.*

(6) **Michael P. Voit**, Universitaet Tuebingen (940-60-18)

10:00AM *Markov kernels related with Dunkl operators.*

(7) **Margit M. Roesler***, TU Muenchen, Germany, and **Michael P. Voit**, Universitaet Tuebingen, Germany (940-60-21)

10:30AM *Brownian motion and the classical groups.*

(8) Preliminary report.

Anthony J. D'Aristotile*, SUNY at Plattsburgh, **Persi Diaconis**, Stanford University, and **Charles Newman**, Courant Institute of Mathematical Sciences (940-60-10)

Special Session on The Erdős Legacy and Connections to Florida, I

8:30 AM – 10:50 AM Room 101, W. W. Little Hall

Organizers: **Krishnaswami Alladi**, University of Florida

Jean Larson, University of Florida

8:30AM *Erdős at the University of Florida.* Preliminary report.

► (9) **Jean A. Larson**, University of Florida (940-01-376)

9:00AM *Counting lattice points by means of the residue theorem.* Preliminary report.

(10) **Matthias Beck**, Temple University (940-05-24)

9:30AM *A simple proof of Riemann's function equation for zeta(s).*

► (11) **Sinai Robins**, Temple University (940-05-309)

10:00AM *Erdős's elementary method for the asymptotics of partitions.*

► (12) **Melvyn B. Nathanson**, Lehman College (CUNY) (940-11-374)

The time limit for each contributed paper in the sessions is ten minutes. In the Special Sessions the time limit varies from session to session and within sessions. To maintain the schedule, time limits will be strictly enforced.

For papers with more than one author, an asterisk follows the name of the author who plans to present the paper at the meeting.

Papers flagged with a solid triangle (►) have been designated by the author as being of possible interest to undergraduate students.

Abstracts of papers presented in the sessions at this meeting will be

found in Volume 20, Issue 2 of *Abstracts of papers presented to the American Mathematical Society*, ordered according to the numbers in parentheses following the listings. The middle two digits, e.g., 897-20-1136, refer to the Mathematical Reviews subject classification assigned by the individual author. Groups of papers for each subject are listed chronologically in the *Abstracts*. The last one to four digits, e.g., 897-20-1136, refer to the receipt number of the abstract; abstracts are further sorted by the receipt number within each classification.

Program of the Sessions – Gainesville, FL, Friday, March 12 (cont'd.)

10:30AM *Stable sets*. Preliminary report.
(13) **A. J. Hildebrand**, University of Illinois (940-11-253)

Special Session on Finite Groups and Their Representations, I

8:30 AM – 10:50 AM **Room 109, W. W. Little Hall**

Organizer: **Alexandre Turull**, University of Florida
8:30AM *Some integral representations of complex reflection*
(14) **Walter Feit**, Yale University (940-20-331)
9:00AM *The Schur indices of the special linear groups*.
(15) Preliminary report.
Alexandre Turull, University of Florida
(940-20-144)
9:30AM *Schur indices of projective representations of*
(16) *hyperoctahedral groups*.
Zhaowei Z. D. Du, Microsoft (940-16-357)
10:00AM *Using character correspondences for Schur index*
(17) *computations*. Preliminary report.
Allen Herman, University of Regina (940-20-58)
10:30AM *Tensor products involving the spin representation*
(18) *of the symmetric group*. Preliminary report.
Rod I. Gow, University College, Dublin.
(940-20-114)

Special Session on Galois Theory, I

8:30 AM – 10:50 AM **Room 205, W. W. Little Hall**

Organizers: **J. G. Thompson**, University of Florida
H. Voelklein, University of Florida
8:30AM *Higher dimensional algebraic fundamental groups*.
(19) **Shreeram S. Abhyankar**, Purdue University
(940-14-28)
9:00AM *Galois groups of composite q -additive polynomials*.
(20) Preliminary report.
Ganapathy S. Sundaram, Bell Labs (940-12-343)
9:30AM *Galois Extensions via Drinfeld-module based*
(21) *Iterations*.
Paul A. Loomis, Purdue University (940-12-336)
10:00AM *Linearized polynomials with classical Galois groups*.
▶ (22) Preliminary report.
Michael E. Zieve, USC (940-14-346)
10:30AM *Black box exceptional groups of Lie type*.
(23) Preliminary report.
William M. Kantor, University of Oregon, and **Kay**
Magaard*, Wayne State University (940-20-205)

Special Session on Geometric Topology, I

8:30 AM – 10:50 AM **Room 121, W. W. Little Hall**

Organizers: **James E. Keesling**, University of
Florida
Alexander N. Dranishnikov, University
of Florida
8:30AM *Embeddings in generalized manifolds*.
(24) **John L. Bryant*** and **Washington Mio**, Florida State
University (940-57-319)
9:00AM *Some algebraic applications of topological rigidity*.
(25) Preliminary report.
Boris Goldfarb, SUNY at Albany (940-57-358)
9:30AM *The geometric topology of homology manifolds*.
(26) Preliminary report.
Heather M. Johnston, Rutgers University
(940-57-136)
10:00AM *Stable Z -compactifications of polyhedra*.
(27) **Steven C. Ferry**, Rutgers University (940-57-172)

10:30AM *Controlled maps on homology manifolds*.
(28) Preliminary report.
Washington Mio* and **John L. Bryant**, Florida State
University (940-57-329)

Special Session on Linear Operator Theory, I

8:30 AM – 10:50 AM **Room 113, W. W. Little Hall**

Organizers: **Leiba Rodman**, College of William &
Mary
Scott A. McCullough, University of
Florida
8:30AM *Positive commutators of multipliers and Fourier*
(29) *multipliers*. Preliminary report.
Ira W. Herbst and **Thomas L. Kriete, III***, University
of Virginia (940-47-341)
9:00AM *Lexicographic lifting and interpolation problems*.
(30) **Marisela Domínguez**, Universidad Central de
Venezuela (940-47-49)
9:30AM *Model theory for hyponormal contractions*.
(31) **Michael A. Dritschel***, University of Cincinnati, and
Scott McCullough, The University of Florida
(940-47-305)
10:00AM *Higher order Hankel forms, factorization and*
(32) *derivations*. Preliminary report.
William Cohn, **Sarah Ferguson***, Wayne State
University, and **Richard Rochberg**, Washington
University (940-47-334)
10:30AM *Existence of a rich collection of positively*
▶ (33) *quadratically hyponormal weighted shifts*.
Raúl E. Curto, The University of Iowa (940-47-178)

Special Session on Partial Differential Equations and Applications, I

8:30 AM – 10:50 AM **Room 219, W. W. Little Hall**

Organizers: **Gang Bao**, University of Florida
Yun-mei Chen, University of Florida
8:30AM *Singularities of energy-minimizing maps*.
(34) **Robert M. Hardt**, Rice University (940-35-147)
9:00AM *Weak compactness of harmonic maps and wave*
(35) *maps*.
Alex Freire, University of Tennessee (940-35-266)
9:30AM *Chern-Gauss-Bonnet integrals on complete*
(36) *4-manifolds*. Preliminary report.
Alice S-Y. Chang, Princeton University and UCLA,
Jie Qing*, UCSC, and **Paul Yang**, USC (940-53-356)
10:00AM *The analysis of positive solutions of nonlinear*
(37) *partial differential equations and the topology of*
manifolds.
Shihshu Walter Wei, The University of Oklahoma
(940-53-332)
10:30AM *Partial regularity for heat flows of H -surfaces*.
(38) Preliminary report.
Changyou Wang, Loyola University of Chicago
(940-35-273)

Special Session on Analytical Problems in Mathematical Physics, I

8:30 AM – 10:50 AM **Room 127, W. W. Little Hall**

Organizers: **Eric A. Carlen**, Georgia Institute of
Technology
Laszlo Erdős, Courant Institute, NYU
8:30AM *A Heisenberg uncertainty principle for white noise*
(39) *analysis*.
Aurel I. Stan, Louisiana State University
(940-60-361)

- 9:00AM *Regularity and dimension bounds for random curves.*
(40) **Almut Burchard**, University of Virginia (940-82-236)
- 9:30AM *Lifshitz tails for random Schrödinger operators with negative singular Poisson potential.*
(41) **Frederic Klopp***, Université Paris Nord, and **Leonid A. Pastur**, Université Paris 7 (940-82-65)
- 10:00AM *On the density of states of the Schrödinger operator with a periodic potential.*
(42) **Yulia Karpeshina**, UAB (940-35-293)
- 10:30AM *Non-monotonicity in random Schrödinger operators.*
(43) **Günter Stolz**, University of Alabama at Birmingham (940-81-203)

Special Session on Algebraic and Geometric Combinatorics, I

8:30 AM – 10:50 AM Room 207, W. W. Little Hall

Organizers: **Andrew J. Vince**, University of Florida
Neil L. White, University of Florida

- 8:30AM *Counting points on varieties over finite fields related to a conjecture of Kontsevich.*
(44) **John R. Stembridge**, University of Michigan (940-05-87)
- 9:00AM *Short rational functions.*
▶ (45) **Alexander Barvinok**, University of Michigan (940-05-241)
- 9:30AM *A homotopy equivalence for set partitions related to liftings of S_{n-1} -modules to S_n .* Preliminary report.
(46) **Sheila Sundaram**, Danbury, CT (940-05-84)
- 10:00AM *The Hilbert series of a ladder determinantal ideal.* Preliminary report.
(47) **Ian P. Goulden**, University of Waterloo, Waterloo, Ontario, and **Devadatta M. Kulkarni***, Oakland University, Rochester, Michigan (940-05-276)
- 10:30AM *Matroid automorphisms and symmetry groups.*
▶ (48) **Lori Fern**, SUNY at Binghamton, **Gary P. Gordon***, Lafayette College, **Jason Leasure**, University of Texas, and **Sharon Pronchik**, Imco (940-05-59)

Special Session on Geometry of Interacting Particles, Random Walks, and Brownian Motion, I

8:45 AM – 10:50 AM Room 233, W. W. Little Hall

Organizers: **Irene Hueter**, University of Florida
Gregory F. Lawler, Duke University

- 8:45AM *Hydrodynamic limit for the asymmetric marching soldiers model.*
(49) **Timo Seppäläinen**, Iowa State University (940-60-60)
- 9:30AM *Estimating selection from aligned DNA sequences.* Preliminary report.
(50) **Stanley A. Sawyer**, Washington University in St. Louis (940-60-107)
- 10:15AM *Growth profile of weakly supercritical contact process on a tree.*
(51) **Steven P. Lalley**, Purdue University (940-60-333)

Special Session on Continuum Theory and Dynamical Systems, I

9:00 AM – 10:50 AM Room 125, W. W. Little Hall

Organizers: **Philip Boyland**, University of Florida
Beverly Brechner, University of Florida
John Mayer, University of Alabama at Birmingham

- 9:00AM *The contraction principle for certain locally connected Julia sets.* Preliminary report.
▶ (52) **Lex G. Oversteegen*** and **Alexander Blokh**, UAB (940-54-303)
- 9:30AM *Dynamics of entire semigroups.*
(53) **Hartje Kriete***, University of Goettingen, and **Hiroki Sumi**, Kyoto University (940-30-363)
- 10:00AM *Decomposable models of boundaries of Siegel disks.* Preliminary report.
▶ (54) **Andrew O. Maner***, **John C. Mayer** and **Lex G. Oversteegen**, University of Alabama at Birmingham (940-54-110)
- 10:30AM *Attractors for graph-critical rational functions.* Preliminary report.
(55) **Alexander Blokh***, University of Alabama at Birmingham, and **Michal Misiurewicz**, Indiana University - Purdue University at Indianapolis (940-58-304)

Special Session on Markov Processes and Potential Theory, I

9:00 AM – 10:50 AM Room 239, W. W. Little Hall

Organizers: **Joe Glover**, University of Florida
Murali Rao, University of Florida

- 9:00AM *Brownian potentials and Besov spaces over domains.* Preliminary report.
(56) **Hrvoje Šikić***, Washington University, St. Louis, and University of Zagreb, Croatia, and **Mitchell H. Taibleson**, Washington University, St. Louis (940-60-104)
- 9:30AM *Measure perturbations of Markovian semigroups.*
(57) **R. K. Getoor**, University of California, San Diego (940-60-130)
- 10:00AM *Hardy's inequality for Dirichlet forms.*
(58) **Patrick J. Fitzsimmons**, University of California, San Diego (940-60-351)
- 10:30AM *Martingales on the excursion space.*
(59) **Jacques Azema**, University Paris 5 (940-00-192)

Special Session on Groups and Geometries, I

9:00 AM – 10:50 AM Room 201, W. W. Little Hall

Organizers: **Chat Ho**, University of Florida
Peter Sin, University of Florida

- 9:00AM *Pieces of eight.*
(60) **Robert L. Griess Jr.**, University of Michigan (940-20-367)
- 9:30AM *Dade's conjecture for the finite unitary groups.*
(61) **Chao Ku**, California Institute of Technology (940-20-377)
- 10:00AM *Is $71 : 35$ a maximal subgroup of the Monster?* Preliminary report.
(62) **Hiroyoshi Yamaki**, Kumamoto University (940-20-212)
- 10:30AM *On the first cohomology group of a finite group.*
(63) **Corneliu G. Hoffman**, University of California Irvine (940-20-164)

Special Session on Computability Theory, I

9:00 AM – 10:50 AM Room 217, W. W. Little Hall

Organizers: **Douglas Cenzer**, University of Florida
Geoffrey Louis LaForte, University of West Florida
Rick L. Smith, University of Florida

- 9:00AM *Nonlow₂ r.e. degrees with the properties of low₂ degrees.* Preliminary report.
(64) **Richard A. Shore**, Cornell University (940-03-179)

Program of the Sessions – Gainesville, FL, Friday, March 12 (cont'd.)

- 9:30AM (65) *Some recent results on the computably enumerable sets.* Preliminary report.
Peter A. Cholak*, University of Notre Dame, and **Leo A. Harrington**, University of California–Berkeley (940-03-83)
- 10:00AM (66) *A set with minimal wtt-degree and c.e. Turing degree.* Preliminary report.
Reed Solomon*, University of Wisconsin, Madison, and **Rod Downey**, Victoria University (940-03-246)
- 10:30AM (67) *Every set has a least jump enumeration.*
Richard J. Coles*, University of Auckland, **Rod G. Downey**, Victoria University of Wellington, and **Theodore A. Slaman**, University of California, Berkeley (940-03-189)

Special Session on Structure and Representation Theory of Lattice-Ordered Groups and f -Rings, I

9:00 AM – 10:50 AM Room 203, W. W. Little Hall

- Organizer: **Jorge Martinez**, University of Florida
- 9:00AM (68) *Coepic compactifications.*
Anthony W. Hager*, Wesleyan University, and **Jorge Martinez**, University of Florida (940-06-265)
- 9:30AM (69) *Embedding the algebra of all real-valued functions on a space X in a regular ring $G(X)$ II; when $G(X)$ is a $C(Y)$.* Preliminary report.
Melvin Henriksen, Harvey Mudd College (940-06-113)
- 10:00AM (70) *Model theory of real closed rings.*
Alex Prestel, Universitaet Konstanz, and **Niels C. Schwartz***, Universität Passau (940-06-160)
- 10:30AM (71) *f -Rings and the Stone Weierstrass Theorem.* Preliminary report.
Bernhard Banaschewski, McMaster University (940-06-97)

Invited Address

11:00 AM – NOON Main Lecture Hall, Carleton Auditorium

- 11:00AM Welcome: **Krishnaswami Alladi**, Chair, Department of Mathematics, University of Florida
- 11:05AM Opening Remarks: **Willard Harrison**, Dean - College of Liberal Arts, University of Florida
- (72) *Double cosets in the upper triangular group.*
John G. Thompson, University of Florida

Invited Address

1:25 PM – 2:15 PM Main Lecture Hall, Carleton Auditorium

- (73) *Photons and stability of matter: How heavy is an electron.*
Elliott H. Lieb, Princeton University, and **Michael P. Loss***, Georgia Tech (940-81-112)

Special Session on Continuum Theory and Dynamical Systems, II

2:30 PM – 5:50 PM Room 125, W. W. Little Hall

- Organizers: **Philip Boyland**, University of Florida
Beverly Brechner, University of Florida
John Mayer, University of Alabama at Birmingham
- 2:30PM (74) *A characterization of k -dimensional Nobeling space for every $k > 1$.*
S. Ageev, Brest State University (940-54-379)
- 3:00PM (75) *Some properties and problems concerning continua arising in dynamical systems.* Preliminary report.
R. Daniel Mauldin, University of North Texas (940-58-225)

- 3:30PM (76) *Dynamics of fixed-point-free maps on tree-like continua.*
Piotr Minc, Auburn University (940-54-166)
- 4:00PM (77) *Dynamics and inverse limit spaces.* Preliminary report.
Louis Block, University of Florida (940-54-50)
- 4:30PM (78) *Retracts and indecomposability.* Preliminary report.
Wayne Lewis, Texas Tech University (940-54-275)
- 5:00PM (79) *One-parameter adjustments of self-insertion.* Preliminary report.
Krystyna M. Kuperberg, Auburn University (940-58-88)
- 5:30PM (80) *Using the code space with self-similar fractals.* Preliminary report.
James E. Keesling, University of Florida (940-28-352)

Special Session on The Erdős Legacy and Connections to Florida, II

2:30 PM – 4:50 PM Room 101, W. W. Little Hall

- Organizers: **Krishnaswami Alladi**, University of Florida
Jean Larson, University of Florida
- 2:30PM (81) *Induced subgraphs with given numbers of edges.*
Paul Erdős, **Zoltán Füredi**, University of Illinois at Urbana-Champaign, **Bruce Rothschild***, University of California, Los Angeles, and **Vera Sós**, Mathematical Institute, Hungarian Academy of Sciences (940-05-206)
- 3:00PM (82) *Database security and concentrating sums of vectors.*
Jerrold R. Griggs, University of South Carolina (940-05-297)
- 3:30PM (83) *Countable partition ordinals.*
Rene J. Schipperus, University of Colorado at Boulder (940-04-256)
- 4:00PM (84) *What about polarized partition relations?*
Albin L. Jones, Dartmouth College (940-04-327)
- 4:30PM (85) *Partition relations for Successor Cardinals.* Preliminary report.
Matthew D. Foreman, UC Irvine (940-05-306)

Special Session on Markov Processes and Potential Theory, II

2:30 PM – 5:20 PM Room 239, W. W. Little Hall

- Organizers: **Joe Glover**, University of Florida
Murali Rao, University of Florida
- 2:30PM (86) *Multiply superharmonic functions and Jensen measures.* Preliminary report.
Kohur Gowrisankaran, McGill Univ. (940-31-208)
- 3:00PM (87) *Sobolev spaces, stability, and capacities.*
Lars I. Hedberg, Linköping University (940-31-221)
- 3:30PM (88) *Thin sets and boundary behavior of solutions of the Helmholtz equation.*
Kohur Gowri Sankaran, McGill University, and **David H. Singman***, George Mason University (940-31-61)
- 4:00PM (89) *Choquet integrals in potential theory: An L^p -Evans law.*
David R. Adams, University of Kentucky (940-31-14)
- 4:30PM (90) *Jensen measures and harmonic measures.* Preliminary report.
Brian J. Cole, Brown University, and **Thomas J. Ransford***, Laval University (940-31-42)

- 5:00PM *Nonlinear potentials and generalized Sobolev inequalities.*
(91) **Igor E. Verbitsky**, University of Missouri (940-31-33)

Special Session on Finite Groups and Their Representations, II

2:30 PM – 4:50 PM Room 109, W. W. Little Hall

- Organizer: **Alexandre Turull**, University of Florida
- 2:30PM *Elementary abelian subgroups of finite p -groups of prime exponent.* Preliminary report.
(92) **George I. Glauberman**, University of Chicago (940-20-173)
- 3:00PM *On some Lie algebras associated to pro- p -groups.* Preliminary report.
(93) **Norberto Gavioli**, University of L'Aquila, **Valerio Monti**, University of Rome "La Sapienza", and **Carlo M. Scoppola***, University of L'Aquila (940-20-238)
- 3:30PM *On the density of generating pairs in some finite classical simple groups.*
(94) **Aron Bereczky**, Mathematical Institute, Hungarian Academy of Sciences (940-20-260)
- 4:00PM *A generalization of the Brauer-Suzuki theorem.*
(95) **Radha Kessar***, University of Minnesota, and **Markus Linckelmann**, CNRS (940-20-347)
- 4:30PM *Subgroup chains in finite groups.*
(96) **Ronald M. Solomon**, The Ohio State University (940-20-148)

Special Session on Galois Theory, II

2:30 PM – 5:20 PM Room 205, W. W. Little Hall

- Organizers: **J. G. Thompson**, University of Florida
H. Voelklein, University of Florida
- 2:30PM *Arithmetic lifting over large fields.* Preliminary report.
(97) **David Harbater**, University of Pennsylvania (940-14-186)
- 3:00PM *Ordinariness and covers.* Preliminary report.
(98) **Katherine F. Stevenson**, California Institute of Technology (940-14-254)
- 3:30PM *Reduction of covers of curves.* Preliminary report.
(99) **Irene I. Bouw**, University of Pennsylvania (940-14-228)
- 4:00PM *Formal geometry, rigid geometry and regular covers.*
(100) **Tamara R. Lefcourt**, University of Texas (940-14-81)
- 4:30PM *Good reduction of wildly ramified covers.* Preliminary report.
(101) **Claus G. Lehr**, University of Pennsylvania, Philadelphia, PA (940-14-201)
- 5:00PM *Patching and deformation of wildly ramified covers.* Preliminary report.
(102) **Rachel J. Pries**, University of Pennsylvania (940-14-204)

Special Session on Computability Theory, II

2:30 PM – 5:50 PM Room 217, W. W. Little Hall

- Organizers: **Douglas Cenzer**, University of Florida
Geoffrey Louis LaForte, University of West Florida
Rick L. Smith, University of Florida
- 2:30PM *Automorphisms of the Lattice of Π_1^0 Classes.*
(103) **Rod Downey**, Victoria University of Wellington (940-03-176)

- 3:00PM *Automorphisms of the computably enumerable sets.*
(104) **Kevin Wald**, University of Chicago (940-03-312)
- 3:30PM *Relativizations of certain concepts in computability theory.*
▶ (105) **Stephen M. Walk**, University of Notre Dame (940-03-335)
- 4:00PM *The complexity of extensions of a nonmonotonic theory.* Preliminary report.
(106) **Amy K. C. S. Vanderbilt**, University of Florida (940-03-274)
- 4:30PM *Some recent results on the lattice of Π_0-1 classes.*
▶ (107) **Farzan Riazati**, University of Florida (940-03-342)
- 5:00PM *Computability theory of generalized functions.* Preliminary report.
(108) **Klaus Weihrauch**, Fern University, and **Ning Zhong***, University of Cincinnati (940-03-139)
- 5:30PM *Some open problems in computable analysis.*
(109) **Marian B. Pour-El**, University of Minnesota (940-03-263)

Special Session on Geometric Topology, II

2:30 PM – 5:20 PM Room 121, W. W. Little Hall

- Organizers: **James E. Keesling**, University of Florida
Alexander N. Dranishnikov, University of Florida
- 2:30PM *Group actions on $CAT(0)$ spaces.*
(110) **Geoghegan Ross**, State University of New York at Binghamton (940-57-75)
- 3:00PM *A non- z -compactifiable polyhedron whose product with the Hilbert cube is Z -compactifiable.*
(111) **Craig R. Guilbault**, University of Wisconsin-Milwaukee (940-57-237)
- 3:30PM *Dynamics of the action of a $CAT(0)$ group on the boundary.* Preliminary report.
(112) **Kim E. Ruane**, Vanderbilt University (940-20-373)
- 4:00PM *Piecewise linear and topological embeddings of 2-spheres in 4-manifolds.*
(113) **Gerard A. Venema**, National Science Foundation (940-57-321)
- 4:30PM *Blowup and invariants of fixed points.* Preliminary report.
(114) **Christopher W. Stark**, University of Florida and NSF (940-57-350)
- 5:00PM *Foliations with good geometry.* Preliminary report.
(115) **Sergio R. Fenley**, Washington University and Princeton University (940-57-380)

Special Session on Linear Operator Theory, II

2:30 PM – 5:50 PM Room 113, W. W. Little Hall

- Organizers: **Leiba Rodman**, College of William & Mary
Scott A. McCullough, University of Florida
- 2:30PM *Left versus right Wiener-Hopf factorization.*
(116) **Albrecht Böttcher**, TU Chemnitz, **Sergei Grudskii**, Rostov-on-Don University, and **Ilya M. Spitkovsky***, The College of William and Mary (940-47-207)
- 3:00PM *Local normal forms of certain linear singular operators.* Preliminary report.
(117) **Alexander Tovbis**, University of Central Florida (940-47-137)
- 3:30PM *Factorization of transfer functions of Pritchard-Salamon systems.*
(118) **Cornelis V. Van der Mee***, University of Cagliari, **Marinus A. Kaashoek** and **Andre' C. Ran**, Free University Amsterdam (940-93-98)

- 4:00PM *The spectral shift operator.*
(119) **Fritz Gesztesy** and **Konstantin A. Makarov***, University of Missouri-Columbia (940-47-219)
- 4:30PM *Perturbation of the Heisenberg commutation relation and unbounded subnormal operators.* Preliminary report.
(120) **Daoxing Xia**, Vanderbilt University (940-47-35)
- 5:00PM *Stochastic linearization of nonlinear point dissipative systems.*
(121) **James A. Reneker**, Clemson University (940-47-08)
- 5:30PM *Evolution semigroups and applications to control theory.*
▶ (122) **Yuri Latushkin**, University of Missouri (940-47-170)

Special Session on Partial Differential Equations and Applications, II

2:30 PM – 5:20 PM Room 219, W. W. Little Hall

- Organizers: **Gang Bao**, University of Florida
Yun-mei Chen, University of Florida
- 2:30PM *Indefinite elliptic problems in a domain.*
(123) **Wenxiong Chen***, Southwest Missouri State University, and **Congming Li**, University of Colorado (940-35-165)
- 3:00PM *Quasilinear elliptic systems with perturbation of critical growth.*
(124) **Ruediger Landes**, University of Oklahoma (940-35-366)
- 3:30PM *Higher order stochastic differential equations and their applications.*
(125) **Libin Mou**, Bradley University (940-35-313)
- 4:00PM *Solutions to the initial boundary value problem for a hydrodynamic model of semiconductors.*
(126) **Sixin Qian**, West Virginia University (940-35-106)
- 4:30PM *Asymptotic behavior of semilinear parabolic differential equations and applications to stochastic processes.* Preliminary report.
(127) **Ty Lee**, U. of Maryland (940-35-05)
- 5:00PM *Set-theoretic methods for partial differential equations.* Preliminary report.
(128) **Efim Galperin**, Université du Québec à Montréal (940-35-264)

Special Session on Structure and Representation Theory of Lattice-Ordered Groups and f -Rings, II

2:30 PM – 4:50 PM Room 203, W. W. Little Hall

- Organizer: **Jorge Martinez**, University of Florida
- ▶ 2:30PM *Archimedean extensions of groups of continuous functions.* Preliminary report.
(129) **Warren William McGovern**, Bowling Green State University (940-06-202)
- 3:00PM *Some ordered groups that are hard to divisibilize.*
(130) **W. Charles Holland**, Bowling Green State University (940-06-301)
- 3:30PM *A characterization of lattice-ordered matrix algebras with the usual lattice order.*
(131) **Jingjing Ma**, University of Toledo (940-06-149)
- 4:00PM *On the scarcity of lattice-ordered matrix algebras II.*
(132) **Stuart A. Steinberg**, University of Toledo (940-06-80)
- 4:30PM *Wreath products with tyings.* Preliminary report.
(133) **Richard N. Ball**, University of Denver, and **Stephen H. McCleary***, University of Denver (on leave for the academic year from Bowling Green State Univ.) (940-06-255)

Special Session on Analytical Problems in Mathematical Physics, II

2:30 PM – 5:50 PM Room 127, W. W. Little Hall

- Organizers: **Eric A. Carlen**, Georgia Institute of Technology
Laszlo Erdős, Courant Institute, NYU
- 2:30PM *Atoms in magnetic fields: The high field limit at fixed nuclear charge.* Preliminary report.
(134) **Jan Philip Solovej**, Univ. of Copenhagen, and **Jakob Yngvason***, Univ. of Vienna (940-81-261)
- 3:00PM *Stability of matter in ultraviolet-cutoff quantized fields.*
(135) **Gian Michele Graf**, ETH Zurich (940-82-226)
- 3:30PM *Spectral analysis of atoms and molecules interacting with the electromagnetic field.*
(136) **Volker Bach***, TU Berlin, **Juerg M. Froehlich**, ETH Zuerich, and **Israel Michael Sigal**, Univ. of Toronto (940-81-39)
- 4:00PM *The scattering matrix for stark effect Hamiltonians.*
(137) **Peter D. Hislop**, University of Kentucky (940-81-339)
- 4:30PM *On a minimax principle for the eigenvalues in spectral gaps.*
(138) **Marcel J. Griesemer***, University of Alabama at Birmingham, and **Heinz Siedentop**, Universitaet Regensburg (940-35-194)
- 5:00PM *Abstract quantization in the presence of constraints.* Preliminary report.
(139) **John R. Klauder**, University of Florida (940-81-79)
- 5:30PM *Derivative recursion formulas for linear second-order differential equations.*
▶ (140) **Andrew Gary Childs**, University of North Alabama (940-34-19)

Special Session on Geometry of Interacting Particles, Random Walks, and Brownian Motion, II

2:30 PM – 4:35 PM Room 233, W. W. Little Hall

- Organizers: **Irene Hueter**, University of Florida
Gregory F. Lawler, Duke University
- 2:30PM *Random growth models: Some recent results.*
(141) **Janko Gravner**, University of California, Davis (940-60-52)
- 3:15PM *Uniform spanning forests and collections of random walks.*
(142) **Russell D. Lyons***, Indiana University, **Itai Benjamini**, **Oded Schramm**, Weizmann Institute of Science, and **Yuval Peres**, Hebrew University of Jerusalem (940-60-216)
- 4:00PM *Packing dimension and fine properties of stochastic processes.* Preliminary report.
(143) **Yimin Xiao**, University of Utah (940-60-34)

Special Session on Algebraic and Geometric Combinatorics, II

2:30 PM – 5:50 PM Room 207, W. W. Little Hall

- Organizers: **Andrew J. Vince**, University of Florida
Neil L. White, University of Florida
- 2:30PM *Symplectic matroids the easy way.*
(144) **Timothy Y. Chow**, Tellabs Research Center (940-05-143)
- 3:00PM *Recognizing Schubert cells.*
(145) **Sergey Fomin***, M.I.T., and **Andrei V. Zelevinsky**, Northeastern University (940-05-190)

- 3:30PM (146) *Double Bruhat cells and groups generated by symplectic transvections.* Preliminary report.
Andrei V. Zelevinsky, Northeastern University (940-05-232)
- 4:00PM (147) *The singular locus of a Schubert variety.* Preliminary report.
Vesselin N. Gasharov, Cornell University (940-05-258)
- 4:30PM (148) *Boolean term orders and the root system B_n .*
Diane M. Maclagan, University of California, Berkeley (940-05-310)
- 5:00PM (149) *Brownian motion in a Weyl chamber, non-colliding particles, and random matrices.*
David J. Grabiner, University of Michigan (940-60-242)
- 5:30PM (150) *Index of parabolic subalgebras of $GL(n)$ and meanders.* Preliminary report.
Vladimir Dergachev* and **Alexandre Kirillov**, University of Pennsylvania (940-22-140)

Special Session on Probability on Algebraic Structures, II

2:30 PM – 5:20 PM Room 235, W. W. Little Hall

Organizers: **Gregory M. Budzban**, Southern Illinois University at Carbondale
Philip Feinsilver, Southern Illinois University at Carbondale
Arunava Mukherjea, University of South Florida

- 2:30PM (151) *Symmetric cones as Gelfand pairs: Probabilistic applications.*
Gerard G. Letac, Université Paul Sabatier, Toulouse, France. (940-60-100)
- 3:15PM (152) *Moments of the Wishart distribution.*
Helene M. Massam*, University of Virginia, Charlottesville, and **Gerard G. Letac**, Université Paul Sabatier, Toulouse, France (940-62-199)
- 3:45PM Break
- 4:00PM (153) *Stochastic processes and operator calculus on quantum groups.*
René Schott, Université Henri Poincaré-Nancy 1 (940-60-40)
- 4:30PM (154) *Levy processes on quantum groups.*
Uwe Franz, Ernst-Moritz-Arndt-Universität Greifswald (940-60-101)
- 5:00PM (155) *Bernstein and Skitovic-Darmois theorems on algebraic structures.*
Daniel Neuenschwander, University of Lausanne, Institute for Actuarial Science (940-60-245)

Special Session on Ergodic Theory and Dynamical Systems, II

2:30 PM – 5:10 PM Room 223, W. W. Little Hall

Organizer: **Jonathan L. F. King**, University of Florida

- 2:30PM (156) *Finitary reconstruction of a measure preserving transformation.* Preliminary Report.
Terrence M. Adams*, Rhode Island College, and **Andrew B. Nobel**, University of North Carolina at Chapel Hill (940-28-372)
- 3:30PM (157) *Infinite ergodic index does not imply power weak mixing for infinite measure preserving transformations.* Preliminary report.
Terrence Adams, Ohio State University, **Nathaniel Friedman**, SUNY-Albany, and **Cesar E. Silva***, Williams College (940-28-117)

- 4:00PM (158) *Baire category results for infinite measure preserving transformations.* Preliminary report.
Stanley J. Eigen, Northeastern University (940-28-364)
- 4:30PM (159) *Group-rotation factors of one-sided shifts.* Preliminary report.
Karl Petersen, University of North Carolina, Chapel Hill (940-28-37)

Special Session on Groups and Geometries, II

3:00 PM – 5:20 PM Room 201, W. W. Little Hall

Organizers: **Chat Ho**, University of Florida
Peter Sin, University of Florida

- 3:00PM (160) *Af^* - Af geometries and locally grid graphs of Pfaffian type.* Preliminary report.
Jonathan I. Hall, Michigan State University (940-51-348)
- 3:30PM (161) *A local characterization of the long root geometries.* Preliminary report.
Anna Kasikova and **Ernest Shult***, Kansas State University (940-51-285)
- 4:00PM (162) *A geometric approach to the standard form problem.* Preliminary report.
Curtis D. Bennett and **Sergey Shpectorov***, Bowling Green State University (940-20-355)
- 4:30PM (163) *Primitive ovoids in $O_8^+(q)$.* Preliminary report.
Athula D. Gunawardena, University of Wisconsin-Whitewater (940-51-328)
- 5:00PM (164) *Grassmannian fixed point ratios.*
Daniel E. Frohardt* and **Kay Magaard**, Wayne State University (940-15-340)

Department of Mathematics Reception

5:00 PM – 7:00 PM Keene Faculty Center, Dauer Hall

Saturday, March 13

Meeting Registration

7:30 AM – NOON Third Floor Atrium, W. W. Little Hall

AMS Book Sale and Exhibit

7:30 AM – NOON Room 353, W. W. Little Hall

Special Session on Linear Operator Theory, III

8:00 AM – 10:50 AM Room 113, W. W. Little Hall

Organizers: **Leiba Rodman**, College of William & Mary
Scott A. McCullough, University of Florida

- 8:00AM (165) *Some new results in operator theory.* Preliminary report.
Don Hadwin, University of New Hampshire (940-47-315)
- 8:30AM (166) *Invariant subspaces and limits of similarities.*
Alan Lambert, UNCC, and **Srdjan Petrovic***, Western Michigan University (940-47-337)
- 9:00AM (167) *Commutators on Besov spaces.* Preliminary report.
Zhijian Wu, Univ. of Alabama (940-47-326)
- 9:30AM (168) *Commutant lifting theorems.* Preliminary report.
Tavan T. Trent, University of Alabama (940-47-268)

- 10:00AM *The bilateral shift on spaces of harmonic functions.*
(169) Preliminary report.
William T. Ross, University of Richmond
(940-47-138)
- 10:30AM *Local spectral theory and spectral inclusions.*
(170) Preliminary report.
Michael M. Neumann, Mississippi State University
(940-47-280)

Special Session on Algebraic and Geometric Combinatorics, III

8:00 AM – 10:50 AM Room 207, W. W. Little Hall

Organizers: **Andrew J. Vince**, University of Florida
Neil L. White, University of Florida

- 8:00AM *Inequalities for the cd-index.*
(171) **Richard G. Ehrenborg***, Institute for Advanced Study, and **Louis J. Billera**, Cornell University
(940-05-269)
- 8:30AM *Interior faces of subdivisions of the simplex.*
(172) Preliminary report.
Margaret M. Bayer, University of Kansas
(940-52-168)
- 9:00AM *A topological classification of regular Polytopes.*
(173) Preliminary report.
Egon Schulte, Northeastern University (940-51-272)
- 9:30AM *A space of tetrahedra.* Preliminary report.
(174) **Eric K. Babson***, University of Washington, **Paul Gunnells**, Columbia University, and **Richard Scott**, Santa Clara University (940-05-360)
- 10:00AM *Polytopal bundles.*
(175) **Laura Anderson***, Texas A&M University, and **Nikolai Mnev**, Steklov Institute (940-05-354)
- 10:30AM *Systems of parameters for cubical complexes.*
(176) Preliminary report.
Margaret A. Readdy, Institute for Advanced Study
(940-05-224)

Special Session on Probability on Algebraic Structures, III

8:00 AM – 10:40 AM Room 235, W. W. Little Hall

Organizers: **Gregory M. Budzban**, Southern Illinois University at Carbondale
Philip Feinsilver, Southern Illinois University at Carbondale
Arunava Mukherjea, University of South Florida

- 8:00AM *On the embedding problem for infinitely divisible probabilities on groups and semigroups.*
(177) **M. McCrudden**, University of Manchester
(940-60-229)
- 8:50AM *Probability theory without probabilities: From delphic semigroups to Hungarian semigroups and further.*
(178) **Gabor Szekely**, Bowling Green State University
(940-60-231)
- 9:30AM Break
- 9:50AM *Remarks on measure-valued cocycle equations.*
(179) **Zbigniew J. Jurek**, University of Wroclaw
(940-60-233)
- 10:20AM *Infinite-dimensional cocycles and stochastic systems with memory.*
(180) **Salah-Eldin A. Mohammed**, Southern Illinois University
(940-60-257)

Special Session on Ergodic Theory and Dynamical Systems, III

8:00 AM – 10:40 AM Room 223, W. W. Little Hall

Organizer: **Jonathan L. F. King**, University of Florida

- 8:00AM *Higher order mixing for rank one group actions.*
(181) **Andres del Junco***, University of Toronto, and **Reem Yassawi**, Trent University (940-28-56)
- 9:00AM *A transformation with square roots of all orders but no infinite square root chain.* Preliminary report.
(182) **Blair F. Madore**, University of Toronto (940-28-46)
- 9:30AM *Almost equicontinuous systems which are weakly disjoint from all minimals.* Preliminary report.
(183) **Ethan J. Akin***, The City College, and **Eli Glasner**, University of Tel-Aviv (940-34-371)
- 10:00AM *The proximal and regionally proximal relations in minimal flows.*
(184) **Joseph Auslander**, University of Maryland
(940-54-180)

Special Session on Continuum Theory and Dynamical Systems, III

8:30 AM – 10:50 AM Room 125, W. W. Little Hall

Organizers: **Philip Boyland**, University of Florida
Beverly Brechner, University of Florida
John Mayer, University of Alabama at Birmingham

- 8:30AM *Chain explosions for planar maps.* Preliminary report.
(185) **Evelyn Sander**, George Mason University
(940-58-353)
- 9:00AM *The role of tangencies in global bifurcations for planar maps.*
(186) **Kathleen Alligood**, George Mason University
(940-58-316)
- 9:30AM *From the discrete to the continuous.* Preliminary report.
(187) **Judy A. Kennedy**, University of Delaware
(940-58-244)
- 10:00AM *The Horseshoe: Pruning and homoclinic families.*
(188) **Andre de Carvalho***, IMS - SUNY at Stony Brook, and **Toby Hall**, University of Liverpool (940-58-288)
- 10:30AM *Rotation theory.*
(189) **Michał Misiurewicz**, IUPUI (940-58-198)

Special Session on The Erdős Legacy and Connections to Florida, III

8:30 AM – 10:50 AM Room 101, W. W. Little Hall

Organizers: **Krishnaswami Alladi**, University of Florida
Jean Larson, University of Florida

- 8:30AM *Two contradictory conjectures on Carmichael numbers.* Preliminary report.
▶ (190) **Andrew Granville** and **Carl Pomerance***, U. Georgia (940-11-320)
- 9:00AM *Lasker's game.* Preliminary report.
▶ (191) **David A. Drake**, University of Florida (940-05-344)
- 9:30AM *Two problems of Erdős concerning character sums.*
(192) Preliminary report.
Peter D. T. A. Elliott, University of Colorado at Boulder (940-11-82)
- 10:00AM *Large values of the number of factorization of an integer into primes.*
▶ (193) **Jean-Louis Nicolas**, Université Claude-Bernard (Lyon I) (940-11-299)

10:30AM *Multiplicative functions and small divisors.*
(194) **Krishnaswami Alladi**, University of Florida
(940-11-375)

Special Session on Finite Groups and Their Representations, III

8:30 AM – 10:50 AM Room 109, W. W. Little Hall

Organizer: **Alexandre Turull**, University of Florida

8:30AM *The extraspecial case of the $k[GV]$ problem.*
(195) Preliminary report.
David H. Gluck* and **Kay Magaard**, Wayne State University (940-20-196)

9:00AM *Orbit sizes and character degrees.*
(196) **Thomas M. Keller**, Southwest Texas State University (940-20-62)

9:30AM *Fitting heights of solvable groups with few irreducible character degrees.* Preliminary report.
(197) **Jeffrey M. Riedl**, Ohio State University (940-20-188)

10:00AM *The complexity of modules.* Preliminary report.
(198) **Jiping Zhang**, Peking University (940-20-191)

10:30AM *Large orbits of supersolvable linear groups.*
(199) **Thomas R. Wolf**, Ohio University (940-20-317)

Special Session on Galois Theory, III

8:30 AM – 10:50 AM Room 205, W. W. Little Hall

Organizers: **J. G. Thompson**, University of Florida
H. Voelklein, University of Florida

8:30AM *Linear rigidity and symplectic groups.*
(200) **Karl Strambach***, Universitaet Erlangen, and **Helmut Voelklein**, University of Florida (940-20-118)

9:00AM *A family of curves with many rational points, constructed by rigidity.*
(201) **Gerhard Frey**, University of Essen, **Ernst Kani**, Queens University, and **Helmut Voelklein***, University of Florida (940-14-250)

9:30AM *Curves with infinite K -rational geometric fundamental group.*
(202) **Gerhard Frey**, Universitaet Essen, **Ernst Kani***, Queen's University, and **Helmut Voelklein**, University of Florida (940-11-311)

10:00AM *Deformation of covers of the Riemann sphere along highly singular curves.* Preliminary report.
(203) **Michael Dettweiler**, University of Erlangen (940-14-215)

10:30AM *On rigid tuples in linear groups of odd dimension.*
(204) **Stefan Reiter***, Univ. of Heidelberg, and **Michael Dettweiler**, Univ. of Erlangen (940-20-300)

Special Session on Groups and Geometries, III

8:30 AM – 10:50 AM Room 201, W. W. Little Hall

Organizers: **Chat Ho**, University of Florida
Peter Sin, University of Florida

8:30AM *The even type theorem for quasithin groups.*
(205) Preliminary report.
Michael Aschbacher, Caltech (940-20-210)

9:00AM *Classification of finite simple groups.* Preliminary report.
(206) **Gernot Stroth***, Universität Halle Wittenberg, **Bernd Stellmacher**, Universität Kiel, and **Ulrich Meierfrankenfeld**, Michigan State University, East Lansing (940-20-115)

9:30AM *Geometric techniques in the classification of quasithin Groups.* Preliminary report.
(207) **Stephen D. Smith**, U Illinois-Chicago (940-20-77)

10:00AM Discussion

10:30AM Discussion

Special Session on Computability Theory, III

8:30 AM – 10:50 AM Room 217, W. W. Little Hall

Organizers: **Douglas Cenzer**, University of Florida
Geoffrey Louis LaForte, University of West Florida
Rick L. Smith, University of Florida

8:30AM *On the lattice of c.e. subalgebras of a computable Boolean algebra.* Preliminary report.
(208) **Jeffrey B. Remmel***, University of California, San Diego, and **Jinghui Yang**, Qualcomm (940-03-286)

9:00AM *Δ_2^0 -categorical linear orderings and Boolean algebras.* Preliminary report.
(209) **Charles F. McCoy**, University of Notre Dame (940-03-227)

9:30AM *The Δ_2^0 -Spectrum of a Linear Order.*
(210) **Russell G. Miller**, University of Chicago (940-03-146)

10:00AM *Degree spectra of relations on algebraic structures.* Preliminary report.
(211) **Denis R. Hirschfeldt**, Cornell University (940-03-235)

10:30AM *Ramsey's theorem for computably enumerable partitions.* Preliminary report.
(212) **Tamara J. Hummel***, Allegheny College, and **Carl G. Jockusch Jr.**, University of Illinois (940-03-222)

Special Session on Geometric Topology, III

8:30 AM – 10:50 AM Room 121, W. W. Little Hall

Organizers: **James E. Keesling**, University of Florida
Alexander N. Dranishnikov, University of Florida

8:30AM *Topological equivalence of discontinuous norms.*
(213) **Jan J. Dijkstra***, The University of Alabama, and **Jan van Mill**, Vrije Universiteit (940-57-308)

9:00AM *A noncontractible cell-like compactum whose suspension is contractible.*
(214) **Dušan Repovš**, University of Ljubljana (940-57-07)

9:30AM *Universal metric spaces and extension dimension.*
(215) **Alex Chigogidze***, University of Saskatchewan, and **Vesko Valov**, University of Swaziland (940-57-78)

10:00AM *Function spaces and shape theories.* Preliminary report.
(216) **Jerzy Dydak**, University of Tennessee (940-55-145)

10:30AM *On homological Borsuk-Sieklucki Theorem.*
(217) **Rolando Jimenez*** and **Evgeny Shchepin**, Instituto de Matematicas, UNAM (940-54-239)

Special Session on Partial Differential Equations and Applications, III

8:30 AM – 10:50 AM Room 219, W. W. Little Hall

Organizers: **Gang Bao**, University of Florida
Yun-mei Chen, University of Florida

8:30AM *Exponential decay of solutions to nonlinear parabolic systems.* Preliminary report.
(218) **Zhengfang Zhou**, Michigan State University (940-35-291)

9:00AM *Rank one and rank zero sets of harmonic mappings.*
(219) **Qing Han**, University of Notre Dame/New York University (940-35-211)

9:30AM *Qualitative behavior of solutions to chemotactic diffusion systems: Effects of motility and chemotaxis.* Preliminary report.
(220) **Xuefeng Wang**, Tulane University (940-92-102)

- 10:00AM (221) *Existence of entire large positive solutions of semilinear elliptic systems.* Preliminary report.
Alan V. Lair and **Aihua W. Wood***, Air Force Institute of Technology (940-35-67)
- 10:30AM (222) *A reverse estimate for Hodge decomposition of p -Laplacian type nonlinear operators.*
Baisheng Yan, Michigan State University (940-35-36)

Special Session on Geometry of Interacting Particles, Random Walks, and Brownian Motion, III

8:45 AM – 10:50 AM Room 233, W. W. Little Hall

- Organizers: **Irene Hueter**, University of Florida
Gregory F. Lawler, Duke University
- 8:45AM (223) *Anisotropic contact process and percolation on trees between phase transitions.*
Irene Hueter, University of Florida, Gainesville, FL (940-60-252)
- 9:30AM (224) *Surface tension and Wulff construction in three or more dimensions.*
Raphael Cerf, Universite Paris Sud, and **Agoston Pisztora***, Carnegie Mellon University (940-60-150)
- 10:15AM (225) *Boundary Fluctuations in Wulff droplets.* Preliminary report.
Kenneth S. Alexander, University of Southern California (940-60-330)

Special Session on Markov Processes and Potential Theory, III

9:00 AM – 10:50 AM Room 239, W. W. Little Hall

- Organizers: **Joe Glover**, University of Florida
Murali Rao, University of Florida
- 9:00AM (226) *Crossing estimates for symmetric Markov processes.*
Zhen-Qing Chen, University of Washington, **Patrick J. Fitzsimmons**, University of California, San Diego, and **Renming Song***, University of Illinois (940-60-129)
- 9:30AM (227) *Boundary Harnack principle for symmetric stable processes.*
Renming Song and **Jang-Mei Wu***, University of Illinois (940-31-128)
- 10:00AM (228) *Isometric stochastic flows on spheres.*
Ming Liao, Auburn University (940-60-43)
- 10:30AM (229) *Asymptotics of Brownian first-passage time over a stochastic boundary based on the local time.*
Zoran Vondraček, University of Zagreb (940-60-86)

Special Session on Structure and Representation Theory of Lattice-Ordered Groups and f -Rings, III

9:00 AM – 10:50 AM Room 203, W. W. Little Hall

- Organizer: **Jorge Martinez**, University of Florida
- ▶ 9:00AM (230) *Nilpotent elements in totally ordered commutative rings.*
James J. Madden, Louisiana State University (940-06-270)
- ▶ 9:30AM (231) *A classification of totally ordered positive commutative nil-monoids with 6, 7, and 8 elements.* Preliminary report.
Gretchen W. Whipple, Louisiana State University (940-06-133)
- 10:00AM (232) *Properties of semigroup rings as f -rings.* Preliminary report.
Chawne M. Kimber, University of Florida (940-06-85)

- 10:30AM (233) *F^* -rings are O^* .* Preliminary report.
Piotr J. Wojciechowski, The University of Texas at El Paso (940-06-154)

Special Session on Analytical Problems in Mathematical Physics, III

9:00 AM – 10:50 AM Room 127, W. W. Little Hall

- Organizers: **Eric A. Carlen**, Georgia Institute of Technology
Laszlo Erdős, Courant Institute, NYU
- 9:00AM (234) *On the spectrum of interface states in the XXZ model.* Preliminary report.
Bruno L. Nachtergaele, UC Davis (940-82-362)
- 9:30AM (235) *On the stationary state of a model in non-equilibrium statistical mechanics.* Preliminary report.
Lawrence E. Thomas, University of Virginia (940-82-200)
- 10:00AM (236) *Cases of equality in Bobkov's inequality and in Gaussian rearrangement.*
Eric A. Carlen, Georgia Institute of Technology, and **J. Clayton Kerce***, Georgia Institute of Technology (940-46-195)
- 10:30AM (237) *Sharp inequalities and functional determinants.*
Thomas P. Branson, University of Iowa (940-58-290)

Invited Address

11:10 AM – NOON Main Lecture Hall, Carleton Auditorium

- (238) *Geometric and fractal properties of the path of a Brownian particle.*
Gregory F. Lawler, Duke University (940-60-23)

Invited Address

1:25 PM – 2:15 PM Main Lecture Hall, Carleton Auditorium

- (239) *Dimension theory and the Novikov conjecture.* Preliminary report.
Alexander N. Dranishnikov, University of Florida (940-20-01)

Special Session on The Erdős Legacy and Connections to Florida, IV

2:30 PM – 4:50 PM Room 101, W. W. Little Hall

- Organizers: **Krishnaswami Alladi**, University of Florida
Jean Larson, University of Florida
- 2:30PM (240) *Some progress on Erdős problems.* Preliminary report.
Andras Hajnal, Rutgers University (940-04-27)
- 3:00PM (241) *An amusing combinatorial problem.* Preliminary report.
Carl Darby, UNLV (940-04-318)
- ▶ 3:30PM (242) *Paul Erdős and discrepancy theory.*
Vera T. Sós, Mathematical Institute of the Hungarian Academy of Sciences (940-11-296)
- ▶ 4:00PM (243) *Paul Erdős and the Southeastern Conferences on Combinatorics, Graph Theory and Computing.*
Frederick Hoffman, Florida Atlantic University (940-05-338)
- 4:30PM (244) *Partitions and selections in planar geometry.*
R. Daniel Mauldin, University of North Texas (940-04-223)

Special Session on Markov Processes and Potential Theory, IV

2:30 PM – 4:20 PM Room 239, W. W. Little Hall

Organizers: **Joe Glover**, University of Florida
Murali Rao, University of Florida

2:30PM *Some general results involving stationary random measures.* (245)

Olav H. Kallenberg, Auburn University (940-60-307)

3:00PM *Excessive functions related to Γ -potentials.* (246)

Preliminary report.
Joseph Glover, **Zoran R. Pop-Stojanović***, **Murali Rao**, University of Florida, **Renming Song**, University of Illinois at Urbana-Champaign, and **Hrvoje Šikić**, Washington University, St. Louis (940-60-108)

3:30PM *Path measure limits for conditional survival distributions of Brownian motion in an obstacle setting.* (247)

Preliminary report.
Sunder Sethuraman, Iowa State University (940-60-142)

4:00PM *Exit time moments for Brownian motion, Poisson problems and Riemannian geometry.* (248)

Patrick T. McDonald, New College of USF (940-31-365)

Special Session on Finite Groups and Their Representations, IV

2:30 PM – 4:50 PM Room 109, W. W. Little Hall

Organizer: **Alexandre Turull**, University of Florida

2:30PM *Irreducible tensor products over symmetric group.* (249)

Preliminary report.
Christine Bessenrodt, Otto-von-Guericke-Universität Magdeburg, and **Alexander Kleshchev***, University of Oregon (940-20-126)

3:00PM *Reduction mod p of unramified representations of finite groups of Lie type.* (250)

Preliminary report.
Pham Huu Tiep*, University of Florida, and **Alexander E. Zalesskii**, University of East Anglia (940-20-214)

3:30PM *Simply connected, adjoint and universal groups of Lie type.* (251)

Peter Paul Schmid, Mathematisches Institut, University of Tuebingen (940-20-66)

4:00PM *Restrictions of $\Omega_m(q)$ -modules to alternating groups.* (252)

Preliminary report.
William J. Husen, Ohio State University (940-20-15)

4:30PM *Finite subgroups of Lie groups.* (253)

Robert L. Griess Jr., University of Michigan (940-20-368)

Special Session on Galois Theory, IV

2:30 PM – 4:50 PM Room 205, W. W. Little Hall

Organizers: **J. G. Thompson**, University of Florida
H. Voelklein, University of Florida

2:30PM *A nilpotent Weil pairing and application of the nilpotent Tate-Grassmanian to the inverse Galois problem.* (254)

Preliminary report.
Michael David Fried, UC Irvine (940-14-158)

3:00PM *Conjectural Galois extensions of Q with Galois group $SL(3,3)$.* (255)

Preliminary report.
Avner D. Ash, Ohio State University (940-11-53)

3:30PM *Field of moduli vs field of definition and central extensions as Galois groups.* (256)

Preliminary report.
Stefan Wewers, University of Pennsylvania (940-11-243)

4:00PM *Realizing the alternating groups as monodromy groups of meromorphic functions on genus one Riemann surfaces.* (257)

Mike Fried, University of California at Irvine, **Eric P. Klassen***, Florida State University, and **Yaacov Kopeliovich**, Parametric Technologies (940-30-197)

4:30PM *Equations for a Hurwitz space associated with degree 7 elliptic subfields of genus 2 function fields.* (258)

Preliminary report.
Vishwa Krishnamoorthy* and **Tanush Shaska**, University of Florida (940-12-287)

Special Session on Groups and Geometries, IV

2:30 PM – 4:20 PM Room 201, W. W. Little Hall

Organizers: **Chat Ho**, University of Florida
Peter Sin, University of Florida

2:30PM *Classification of some Griesmer bound codes.* (259)

Wolfgang Willems, University of Magdeburg (940-94-116)

3:00PM *2-Rank and the chromatic number of a graph.* (260)

Preliminary report.
Chris D. Godsil*, University of Waterloo, and **Gordon F. Royle**, University of Western Australia (940-05-325)

3:30PM *On certain Schur rings of dimension 4.* (261)

Kenzi Akiyama, Fukuoka University, Fukuoka, Japan (940-20-134)

4:00PM *Recent results on difference sets with classical parameters.* (262)

Qing Xiang, University of Delaware (940-05-135)

Special Session on Computability Theory, IV

2:30 PM – 5:50 PM Room 217, W. W. Little Hall

Organizers: **Douglas Cenzer**, University of Florida
Geoffrey Louis LaForte, University of West Florida

Rick L. Smith, University of Florida

2:30PM *Minimality questions and completions of PA.* (263)

Preliminary report.
Julia F. Knight, University of Notre Dame (940-03-103)

3:00PM *Effective Robinson forcing.* (264)

preliminary report.
Walker M. White, Cornell University (940-03-247)

3:30PM *Relative computability of models and enumerations.* (265)

Alex M. McAllister, Dartmouth College (940-03-277)

4:00PM *Computationally enumerable relations on computable structures.* (266)

Valentina S. Harizanov, The George Washington University (940-03-259)

4:30PM *On automata presentable structures.* (267)

Preliminary report.
Bakhadyr M. Khoushainov* and **Sasha Rubin**, The University of Auckland (940-03-119)

5:00PM *Generalized weak presentations.* (268)

Preliminary report.
Alexandra Shlapentokh, East Carolina University, Greenville, NC (940-03-193)

5:30PM *Reflection principles and constructive large cardinals.* (269)

Edward R. Griffor, CAI (940-03-271)

Special Session on Geometric Topology, IV

2:30 PM – 5:20 PM Room 121, W. W. Little Hall

Organizers: **James E. Keesling**, University of Florida
Alexander N. Dranishnikov, University of Florida

- 2:30PM (270) *Covering spaces of aspherical manifolds.* Preliminary report.
Hanspeter Fischer and **David G. Wright***, Brigham Young University (940-57-359)
- 3:00PM (271) *Holey coronas: A solution of the Grunbaum-Shephard conjecture on convex isohedral tilings.*
Włodzimierz Kuperberg, Auburn University (940-52-99)
- 3:30PM (272) *On the lower estimation of the dimension of intersections.*
Evgeny V. Shchepin, Steklov Math. Inst. (940-57-240)
- 4:00PM (273) *Planar sets are aspherical.*
Andreas Zastrow, Ruhr-Universitaet Bochum (940-55-314)
- 4:30PM (274) *Boundaries of right angled Coxeter groups with manifold nerves.*
Hanspeter Fischer, Brigham Young University (940-57-175)
- 5:00PM (275) *Hyperbolic groups are hyperhopfian.*
Robert J. Daverman, University of Tennessee (940-57-68)

Special Session on Linear Operator Theory, IV

2:30 PM – 6:20 PM Room 113, W. W. Little Hall

Organizers: **Leiba Rodman**, College of William & Mary
Scott A. McCullough, University of Florida

- 2:30PM (276) *The Friedrichs operator of a planar domain.*
Mihai Putinar*, University of California, and **Harold S. Shapiro**, Royal Institute of Technology-Stockholm (940-30-11)
- 3:00PM (277) *Local semigroups of isometries and applications.*
Ramón Bruzual, Universidad Central de Venezuela (940-47-44)
- 3:30PM (278) *The commutator structure of operator ideals.*
Kenneth J. Dykema, Odense University, **Tadeusz Figiel**, Inst. of Mathematics PAN, **Gary Weiss***, University of Cincinnati, and **Mariusz Wodzicki**, Berkeley (940-47-13)
- 4:00PM (279) *Contractive extension problems for matrix valued almost periodic functions of several variables.* Preliminary report.
Leiba Rodman, **Ilya M. Spitkovsky** and **Hugo J. Woerdeman***, The College of William and Mary (940-47-169)
- 4:30PM (280) *Representations of holomorphic functions on the polydisc.* Preliminary report.
Linda J. Patton*, Cal Poly, San Luis Obispo, and **Mihai Putinar**, University of California, Santa Barbara (940-47-218)
- 5:00PM (281) *On the limit of a one parameter family of exponentials of two operators.* Preliminary report.
Gaspar Porta, University of Chicago (940-47-378)
- 5:30PM (282) *A characterization of band preserving projection operators.*
Yuri A. Abramovich*, IUPUI, and **Arkady K. Kitover**, CCP (940-47-159)

- 6:00PM (283) *Interpolation with symmetries and two-point interpolation in Hardy class.*
Daniel Alpay, Ben-Gurion University of the Negev, Israel, **Vladimir Bolotnikov** and **Leiba Rodman***, College of William and Mary (940-47-31)

Special Session on Partial Differential Equations and Applications, IV

2:30 PM – 5:20 PM Room 219, W. W. Little Hall

Organizers: **Gang Bao**, University of Florida
Yun-mei Chen, University of Florida

- 2:30PM (284) *On the optimal control problems governed by partial differential equations.*
Mohsen Razzaghi, Mississippi State University (940-49-57)
- 3:00PM (285) *On oscillations of an asymptotic equation of a nonlinear wave equation.*
Ping Zhang, Academia Sinica, and **Yuxi Zheng***, Indiana University (940-35-292)
- 3:30PM (286) *Time periodic solutions of a class of nonlinear dispersive wave equations.* Preliminary report.
Bing-Yu Zhang, University of Cincinnati (940-35-105)
- 4:00PM (287) *A variational principle to the Kramers equation.*
Chaocheng Huang, Wright State University (940-35-109)
- 4:30PM (288) *Image restoration via heat flow method.*
Celia A. Z. Barcelos*, Universidade Federal de Uberlandia, and **Yunmei Chen**, University of Florida (940-35-220)
- 5:00PM (289) *A Rayleigh-Ritz method applied to a two-dimensional inverse spectral problem.*
C. Maeve McCarthy, Murray State University (940-35-22)

Special Session on Structure and Representation Theory of Lattice-Ordered Groups and f-Rings, IV

2:30 PM – 4:20 PM Room 203, W. W. Little Hall

Organizer: **Jorge Martinez**, University of Florida

- 2:30PM (290) *A structure theorem for residuated lattices.* Preliminary report.
Constantine Tsinakis, Vanderbilt University (940-06-322)
- 3:00PM (291) *Lattice-ordered quotients.* Preliminary report.
R. H. Redfield, Hamilton College (940-06-171)
- 3:30PM (292) *Hyper-special-valued lattice-ordered groups.* Preliminary report.
Michael R. Darnel*, Indiana University South Bend, and **Jorge Martinez**, University of Florida (940-06-55)
- 4:00PM (293) *A noncompactifiable Q-flow.* Preliminary report.
Richard N. Ball* and **James N. Hagler**, University of Denver (940-06-249)

Special Session on Geometry of Interacting Particles, Random Walks, and Brownian Motion, IV

2:30 PM – 4:35 PM Room 233, W. W. Little Hall

Organizers: **Irene Hueter**, University of Florida
Gregory F. Lawler, Duke University

- 2:30PM (294) *A martingale approach in the study of percolation clusters.*
Yu Zhang, University of Colorado, Colorado Springs (940-60-298)

- 3:15PM *Purity of the limit distribution for random walks in matrices.* Preliminary report.
(295) **Arunava Mukherjea**, University of South Florida, Tampa (940-60-302)
- 4:00PM *The effect of finite memory cutoff on loop erased walk in 3 dimensions.*
(296) **Aklilu Zeleke**, Alma College (940-60-30)

Special Session on Algebraic and Geometric Combinatorics, IV

2:30 PM – 5:20 PM Room 207, W. W. Little Hall

Organizers: **Andrew J. Vince**, University of Florida
Neil L. White, University of Florida

- 2:30PM *The k-consecutive arrangements.* Preliminary report.
(297) **Bruce E. Sagan*** and **William Brockman**, Michigan State University, East Lansing (940-05-25)
- 3:00PM *A combinatorial proof of the log-concavity of the numbers of permutations with k runs.*
▶ (298) **Miklós Bóna*** and **Richard Ehrenborg**, IAS (940-05-45)
- 3:30PM *The intersection lattice of a discriminantal arrangement.*
(299) **Christos A. Athanasiadis**, MSRI (940-05-111)
- 4:00PM *Aztec dungeons and powers of 13.*
(300) **Mihai A. Ciucu**, Georgia Institute of Technology (940-05-262)
- 4:30PM *Graphical generalizations of the sieve formula.*
▶ (301) Preliminary report.
Gabor Hetyei, University of Kansas (940-05-64)
- 5:00PM *Pieri operators on posets.* Preliminary report.
(302) **Nantel Bergeron**, **Stefan Mykytiuk**, York University, **Frank Sottile***, University of Wisconsin, and **Stephanie van Willigenburg**, York University (940-05-74)

Special Session on Probability on Algebraic Structures, IV

2:30 PM – 5:30 PM Room 235, W. W. Little Hall

Organizers: **Gregory M. Budzban**, Southern Illinois University at Carbondale
Philip Feinsilver, Southern Illinois University at Carbondale
Arunava Mukherjea, University of South Florida

- 2:30PM *Algebraic aspects of probability theory.*
(303) **Valeri Maximow**, Uniwersytet w Białymstoku (940-60-345)
- 3:20PM *Topics in random matrix theory.*
(304) **Goran Hognas**, Abo Akademi University (940-60-284)
- 4:00PM Break
- 4:20PM *Arithmetics of probability measures on symmetric spaces.*
(305) **Piotr Graczyk**, Universite d'Angers (940-60-234)
- 4:50PM *On shifted convolution powers and concentration functions in locally compact groups.*
(306) **Wojciech Jaworski**, Carleton University (940-60-217)

Special Session on Ergodic Theory and Dynamical Systems, IV

2:30 PM – 6:00 PM Room 223, W. W. Little Hall

Organizer: **Jonathan L. F. King**, University of Florida

- 2:30PM *Billiards on surfaces of constant curvature.*
▶ (307) **Eugene Gutkin**, USC (940-58-51)
- 3:30PM *A half-commutative IP Roth theorem.*
(308) **Randall G. McCutcheon**, University of Maryland (940-28-47)
- 4:30PM *Oscillation inequalities in ergodic theory, the multi-parameter case.* Preliminary report.
(309) **Roger L. Jones***, DePaul University, **Joseph Rosenblatt**, University of Illinois at Urbana, and **Máté Wierdl**, University of Memphis (940-26-48)
- 5:20PM *Residuality and orbit equivalence.*
(310) **Daniel J. Rudolph**, University of Maryland (940-28-38)

Session for Contributed Papers, I

2:45 PM – 5:10 PM Room 127, W. W. Little Hall

- 2:45PM *New linear codes over F_3 and F_5 and improvements on bounds.*
▶ (311) **Irfan Siap*** and **Dijen K. Ray-Chaudhuri**, The Ohio State University (940-05-17)
- 3:00PM *On the existence of generating pair for simple p-analytic matrix functions.*
(312) **G. P. Youvaraj**, Emporia State University (940-35-187)
- 3:15PM *The doorstep method of polynomial stablization.*
▶ (313) Preliminary report.
C. S. Felicitas, C.F.C.T.E., Inc. (940-33-120)
- 3:30PM *Asymptotic expansions and log-concavity for coefficients of power series.* Preliminary report.
(314) **Valerio De Angelis**, Xavier University of Louisiana (940-41-16)
- 3:45PM *A short proof of Helly's theorem via Čech cohomology.* Preliminary report.
(315) **Ludvik Janos**, Kent State University (940-55-41)
- 4:00PM *Contact process in random environment and weak survival.*
(316) **Oana Mocioalca*** and **Irene Hueter**, University of Florida, Gainesville (940-60-251)
- 4:15PM *An extension of the list of extreme value distributions.* Preliminary report.
▶ (317) **Boris I. Kunin**, University of Alabama in Huntsville (940-62-182)
- 4:30PM Break
- 4:45PM *Sequences of cards of $T(a)$ from R and the $O(t)$ embedding.* Preliminary report.
(318) **C. S. Felicitas***, C.F.C.T.E., Inc., and **Aghapi Dodona**, Pan Asian Congress of Mathematicians (940-01-127)
- 5:00PM *The beginnings of algebra and a solution result to a famous equation.* Preliminary report.
▶ (319) **C. S. Felicitas**, C.F.C.T.E., Inc., and **Sudhangshu B. Karmakar***, International Committee for Arab-Israeli Reconciliation (940-01-123)

Robert J. Daverman
Associate Secretary
Knoxville, Tennessee