
Program of the Sessions

Athens, Ohio, March 26–27, 2004

Friday, March 26

Meeting Registration

7:30 AM – 4:00 PM 2nd Floor Lobby, Morton Hall

AMS Exhibit and Book Sale

7:30 AM – 4:00 PM Room 320, Morton Hall

Special Session on Recent Trends in Infinite-Dimensional Banach Space Theory, I

8:00 AM – 11:20 AM Room 219, Morton Hall

Organizers: **Beata Randrianantoanina**, Miami University
Narcisse Randrianantoanina, Miami University

8:00AM (1) *Some properties of the projective tensor product $U \otimes X$ derived from those of U and X .* Preliminary report.

Patrick N Dowling, Miami University (995-46-63)

8:30AM (2) *A method of computing the norm given by partitions and weights.* Preliminary report.
D. Alspach, Oklahoma State University, **S. Tong*** and **M. Riffi**, University of Wisconsin-Eau Claire (995-46-138)

9:00AM (3) *On greedy convergence in Banach spaces.* Preliminary report.
Stephen J. Dilworth, University of South Carolina (995-46-103)

9:30AM (4) *Uncountably many greedy bases of ℓ_p and L_p .* Preliminary report.
Stephen J Dilworth, **Mark Robert Hoffmann***, University of South Carolina, **Anna Kamont**, Polish Academy of Sciences, and **Denka Kutzarova**, Bulgarian Academy of Sciences (995-46-132)

10:00AM (5) *New fixed point free nonexpansive mappings on weakly compact, convex sets in L^1 .*
Patrick N Dowling, Miami University, **Christopher J Lennard***, University of Pittsburgh, and **Barry Turett**, Oakland University (995-46-200)

10:30AM (6) *An operator space with a complete basis, without completely unconditional basic sequences.* Preliminary report.
Timur Oikhberg, UC Irvine (995-46-136)

11:00AM (7) *Subspaces of L_p with unconditional bases.*
Dale E. Alspach*, Oklahoma State University, and **Simei Tong**, University of Wisconsin-Eau Claire (995-46-67)

Special Session on Differential Equations and Control Theory, I

8:30 AM – 11:25 AM Room 226, Morton Hall

Organizers: **Sergiu Aizicovici**, Ohio University
Nicolai Pavel, Ohio University

8:30AM (8) *On optimal control of multichin Markov Decision Processes.*
Arie Leizarowitz, Technion, Israel Institute of Technology (995-49-20)

9:00AM (9) *Measure-Valued Solutions for a Hierarchically Size-Structured Population Model.*
Azmy S. Ackleh*, University of Louisiana at Lafayette, and **Kazufumi Ito**, North Carolina State University (995-35-34)

9:30AM (10) *Basis property of some exponential and quasi-exponential functions and controllability of a string.* Preliminary report.
Sergei A Avdonin, Univ. of Alaska Fairbanks, and **Boris P Belinskiy***, Univ. of Tennessee at Chattanooga (995-93-123)

10:00AM (11) *Evolution Equations on Banach Spaces with Discontinuous Vector Fields and Their Optimal Control.*
Nasiruddin Ahmed, SITE and Dept. of Mathematics, University of Ottawa (995-93-32)

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 25, 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.

- 10:30AM *First-Order Necessary Optimality Conditions for a Nonlinear Programming Problem Governed by a Linear State Equation.*
 ▶ (12) **Mircea D Voisei**, Ohio University (995-49-128)
- 11:00AM *On a class of phase-field systems with memory.*
 (13) **Sergiu Aizicovici***, Ohio University, and **Hana Petzeltova**, Czech Academy of Sciences (995-45-36)

Special Session on Theory of Rings and Modules, I

8:30 AM – 11:20 AM Room 115, Morton Hall

Organizers: **Nguyen Viet Dung**, Ohio University
Franco Guerriero, Ohio University
Dinh Van Huynh, Ohio University
Pramod Kanwar, Ohio University

- 8:30AM *Clean Matrices and Unit-Regular Matrices.*
 (14) **Dinesh Khurana**, Panjab University, and **T. Y. Lam***, University of California, Berkeley, CA (995-16-218)
- 9:00AM *Torsion-freeness. Preliminary report.*
 (15) **John Dauns*** and **Laszlo Fuchs**, Tulane University (995-16-16)
- 9:30AM *On Morphic Rings.*
 (16) **Victor Camillo**, University of Iowa (995-16-195)
- 10:00AM *Smooth Polynomial Identity Rings of Finite Global Dimension.*
 (17) **Charudatta R Hajarnavis***, University of Warwick, and **A Braun**, University of Haifa (995-16-213)
- 10:30AM *Primitive Ideals of Semigroup Graded Rings.*
 (18) **Hema Gopalakrishnan**, Sacred Heart University (995-16-94)
- 11:00AM *Every \aleph_1 - Σ -CS module is Σ -CS.*
 (19) **Pedro Antonio Guil Asensio**, University of Murcia (995-16-115)

Special Session on Probabilistic and Asymptotic Aspects of Group Theory, I

8:30 AM – 11:20 AM Room 222, Morton Hall

Organizers: **Rostislav Grigorchuk**, Texas A&M University
Mark Sapir, Vanderbilt University
Zoran Sunik, Texas A&M University

- 8:30AM *The frequency space of a free group.*
 ▶ (20) **Ilya Kapovich**, University of Illinois at Urbana-Champaign (995-20-42)
- 9:00AM *Boundary behaviour of the Thompson group.*
 (21) Preliminary report.
Vadim A, Kaimanovich, CNRS (995-20-111)
- 9:30AM *Dynamics of isometries and incidence geometry at infinity.*
 ▶ (22) **Anders Karlsson**, KTH Stockholm (995-20-58)
- 10:00AM *Ergodic properties of boundary actions.*
 ▶ (23) **Tatiana Smirnova-Nagnibeda**, University of Geneva / KTH Stockholm (995-20-47)
- 10:30AM *Voiculescu's amalgamated R-transform and applications to symmetric random walks on groups.*
 (24) Preliminary report.
Kenneth J Dykema, Texas A&M University (995-20-238)
- 11:00AM *Analysis and Embeddings in Hilbert Space.*
 (25) **Erik Guentner***, University of Hawaii, Manoa, and **Marius Dadarlat**, Purdue University (995-46-204)

Special Session on Integrable Systems in Mathematics and Physics, I

9:00 AM – 10:50 AM Room 227, Morton Hall

Organizers: **Michael Gekhtman**, University of Notre Dame
Luen Chau Li, Pennsylvania State University

- 9:00AM *Anologue of Leonard Pairs in classical mechanics.*
 (26) **Alexei Zhedanov**, Donetsk Institute for Physics and Technology, and **Alyona Korovnichenko***, Notre Dame University (995-33-222)
- 9:30AM *Genus one corrections in two-matrix model, G-function of Frobenius manifolds and determinants of Laplace operators.*
 (27) **Dmitry Korotkin**, Concordia University (995-00-178)
- 10:00AM *Factorization problems on Lie groupoids and integrable systems.*
 (28) **Luen-Chau Li**, Penn State University, University Park (995-58-114)
- 10:30AM *Calogero-Moser systems and the Fourier-Mukai transform. Preliminary report.*
 (29) **Jacques C. Hurtubise**, McGill University (995-14-104)

Special Session on Fast Algorithms in Numerical Analysis, I

9:00 AM – 11:20 AM Room 215, Morton Hall

Organizers: **George Fann**, Oak Ridge National Laboratory
Martin J. Mohlenkamp, Ohio University

- 9:00AM *Multiscale Augmentation Methods for Solving Operator Equations.*
 (30) **Yuesheng Xu**, Syracuse University (995-65-99)
- 9:30AM *Implementation of a Fast Collocation Method and Application to an Inverse Boundary Value Problem.*
 ▶ (31) **Weifu Fang***, West Virginia University, and **Mingying Lu**, Penn State Erie, the Behrend College (995-45-164)
- 10:00AM *An Adaptive Fast Solver for the Modified Helmholtz Equation in Two Dimensions. Preliminary report.*
 ▶ (32) **Hongwei Cheng**, Madmax Optics Inc., **Jingfang Huang*** and **Terry Jo Leiterman**, University of North Carolina (995-65-43)
- 10:30AM *Wave propagation using bases for bandlimited functions.*
 ▶ (33) **Kristian Sandberg***, Dept. of Applied Mathematics, University of Colorado at Boulder, and **Gregory Beylkin**, Dept. of Applied Mathematics (995-65-119)
- 11:00AM *A fast algorithm for numerical homogenization of PDE's in two and three dimensions. Preliminary report.*
 (34) **Nicholas A Coult**, Augsburg College (995-65-72)

Special Session on Groups, Representations, and Characters, I

9:00 AM – 11:20 AM Room 122, Morton Hall

Organizers: **Mark Lewis**, Kent State University
Thomas R. Wolf, Ohio University

- 9:00AM *Products of characters with few irreducible constituents and finite p-groups. Preliminary report.*
 (35) **Edith Adan-Bante**, University of Southern Mississippi Gulf Coast (995-20-65)

Program of the Sessions – Athens, OH, Friday, March 26 (cont'd.)

- 9:30AM *Bounds on Orders of Products in p -Groups.*
(36) **Lawrence E Wilson**, University of Florida (995-20-28)
- 10:00AM *Ascending central series of iterated wreath product p -groups.* Preliminary report.
(37) **Jeffrey M Riedl**, University of Akron (995-20-117)
- 10:30AM *Numbers of classes of groups of order p^9 .*
(38) **Nigel Boston** and **I. M. Isaacs***, Univ of Wisconsin, Madison (995-20-59)
- 11:00AM *Some Characterizations of Finite Desarguesian Translation Planes By Orders of Subgroups of Collineations.*
(39) **Douglas P Brozovic***, University of North Texas, and **Chat Yin Ho**, University of Florida (995-20-113)

- 10:00AM *Information matrices for optimal experimental designs.*
(49) **Angela M Dean**, The Ohio State University (995-62-66)
- 10:30AM *A parallel algorithm for computing the group inverse via Perron complementation.*
(50) **Michael Neumann**, Department of Mathematics, University of Connecticut, and **Jianhong Xu***, Department of Mathematics and Statistics, University of West Florida (995-15-226)
- 11:00AM *Words in Two Positive Definite Letters.* Preliminary report.
▶ (51) **Charles R. Johnson**, College of William and Mary (995-15-240)

Special Session on Dynamical Systems, I

- 9:00 AM – 11:20 AM **Room 326, Morton Hall**
Organizers: **Patrick D. McSwiggen**, University of Cincinnati
Todd Young, Ohio University
- 9:00AM *Boundedness In NonLinear Differential Equations.*
(40) **Youssef N Raffoul**, University of Dayton (995-34-71)
- 9:30AM *Markov Partitions for Non-Locally Maximal Hyperbolic Sets.*
(41) **Todd Fisher**, Northwestern University (995-37-124)
- 10:00AM *Chaos in a Periodically Forced Elliptic Burst.*
(42) **David Terman***, Dept. of Mathematics/Ohio State University, and **Janet Best**, MBI/Ohio State University (995-92-186)
- 10:30AM *Smooth Conjugacy for Random Dynamical Systems.*
(43) **Kening Lu***, BYU and MSU, and **Weigu Li**, Peking University (995-37-166)

Special Session on Wavelets, Other Multiscale Methods and Their Applications, I

- 9:00 AM – 11:20 AM **Room 223, Morton Hall**
Organizers: **En-Bing Lin**, University of Toledo
Xiaoping Annie Shen, Ohio University
- 9:00AM *Wavelet Methods for Statistical Estimation.*
(44) **Andrey Feuerverger**, University of Toronto (995-62-173)
- 10:00AM *Fast Wavelet Collocation Methods For Second Kind Integral Equations on Polygons.*
(45) **Yi Wang***, Fairmont State College, and **Yuesheng Xu**, Syracuse University (995-45-196)
- 10:30AM *Integrability of the continuum wavelet kernel.*
(46) **Mark A Pinsky**, Northwestern University (995-42-35)
- 11:00AM *Biorthogonal Spline Type Wavelets.* Preliminary report.
(47) **Tian-Xiao He**, Illinois Wesleyan University (995-42-208)

Special Session on Linear Algebra and Its Applications, I

- 9:30 AM – 11:20 AM **Room 126, Morton Hall**
Organizers: **S. K. Jain**, Ohio University
Michael Neumann, University of Connecticut
- 9:30AM *Inertia Sets of Symmetric Sign Pattern Matrices.*
▶ (48) **Frank J Hall*** and **Zhongshan Li**, Georgia State University (995-15-107)

Special Session on Algebraic Coding Theory, I

- 9:30 AM – 11:20 AM **Room 127, Morton Hall**
Organizers: **Marcus Greferath**, San Diego State University
Sergio R. López-Permouth, Ohio University
- 9:30AM *Shadow enumerators and self-dual codes.* Preliminary report.
(52) **Vera Pless**, University of Illinois at Chicago, and **Judy L. Walker***, University of Nebraska (995-94-217)
- 10:00AM *Enumeration of Certain Affine Invariant Extended Cyclic Codes.*
(53) **Xiang-dong Hou**, University of South Florida (995-05-08)
- 10:30AM *A Generalization of Quasi-Cyclic Codes.* Preliminary report.
▶ (54) **Nuh Aydin**, Kenyon College (995-05-22)
- 11:00AM *Making Controlled Physical Random Functions Reliable.*
▶ (55) **Marten van Dijk***, Philips Research, **Daihyun Lim** and **Srinivas Devadas**, MIT CSAIL (995-94-225)

Invited Address

- 11:40 AM – 12:30 PM **Room 201, Morton Hall**
(56) *Dynamics on fractal spheres.*
Mario Bonk, University of Michigan (995-30-168)

Invited Address

- 2:00 PM – 2:50 PM **Room 201, Morton Hall**
(57) *On the Boltzmann equation for inelastic interactions.*
Irene Gamba, University of Texas at Austin (995-00-96)

Special Session on Recent Trends in Infinite-Dimensional Banach Space Theory, II

- 3:00 PM – 7:25 PM **Room 219, Morton Hall**
Organizers: **Beata Randrianantoanina**, Miami University
Narcisse Randrianantoanina, Miami University
- 3:00PM *Complex convexity of Lorentz spaces and its applications.*
(58) **Changsun Choi**, KAIST, **Anna Kamińska***, The University of Memphis, and **Han Ju Lee**, KAIST (995-46-181)

- 3:30PM (59) *Convergence of the weak dual greedy algorithm in L_p -spaces and related questions (joint work with Nigel Kalton).*
Mikhail Ganichev, University of Missouri-Columbia (995-46-234)
- 4:00PM (60) *Interpolation techniques for non-commutative martingales.*
Magdalena E Musat, University of California, San Diego (995-46-175)
- 4:30PM (61) *Almost r -double transitivity and the Banach-Mazur problem. Preliminary Report.* Preliminary report.
Edwin J Beggs, University of Wales Swansea, **Simon R Cowell***, University of Missouri, Columbia, and **Geoffrey V Wood**, University of Wales, Swansea (995-46-135)
- 5:00PM (62) *The Diameter of the Isomorphism Class of a Banach Space.*
William B. Johnson*, Texas A&M University, and **Edward Odell**, The University of Texas at Austin (995-46-76)
- 5:55PM (63) *Elastic Banach Spaces.*
William B Johnson, Texas A&M University, and **Edward Odell***, The University of Texas at Austin (995-46-92)
- 6:45PM (64) *On the structure of the spreading models of a Banach space.*
Georgis Androulakis, University of South Carolina, **Edward Odell**, University of Texas at Austin, **Thomas Schlumprecht***, Texas A&M University, and **Nicole Tomczak-Jaegermann**, University of Alberta (995-46-122)

Special Session on Integrable Systems in Mathematics and Physics, II

3:00 PM – 5:50 PM Room 227, Morton Hall

Organizers: **Michael Gekhtman**, University of Notre Dame
Luen Chau Li, Pennsylvania State University

- 3:00PM (65) *Poisson formalism for 1+1 integrable systems and Riemann surfaces.* Preliminary report.
Kirill Vaninsky, Michigan State University (995-35-68)
- 3:30PM (66) *Nonlinear steepest descent and the associated variational problem.*
Spyridon Kamvissis, National Technical University, Athens, Greece (995-35-129)
- 4:00PM (67) *Singular Asymptotics for Integrable PDE.*
Peter D Miller, Department of Mathematics, University of Michigan (995-35-209)
- 4:30PM (68) *New results on equilibrium measure.*
Fei-Ran Tian, Ohio State University (995-35-203)
- 5:00PM (69) *Closure of a unipotent group orbit and nilpotent Toda lattice.*
Yuji Kodama, Ohio State University (995-14-78)
- 5:30PM (70) *Three-dimensional Frobenius manifolds, solutions to the Painleve equations and connection to CKP integrable hierarchy.*
Henrik Aratyn, University of Illinois at Chicago (995-35-191)

Special Session on Fast Algorithms in Numerical Analysis, II

3:00 PM – 5:50 PM Room 215, Morton Hall

Organizers: **George Fann**, Oak Ridge National Laboratory

- Martin J. Mohlenkamp**, Ohio University
- 3:00PM (71) *How do you solve a linear system in dimension 20?*
Martin J. Mohlenkamp*, Ohio University, and **Gregory Beylkin**, University of Colorado at Boulder (995-65-90)
- 3:30PM (72) *Exponential sum models and generalized Gaussian quadratures.* Preliminary report.
Lucas A Monzon* and **Gregory Beylkin**, University of Colorado (995-65-148)
- 4:00PM (73) *Matrix Factorizations for Fast Fourier Transform with Unconventional Sample Distribution.*
Xiaobai Sun, Duke University (995-65-201)
- 4:30PM (74) *Finite Divergence-free Radial Basis Functions Used to Numerically Solving a Navier-Stokes Equation.*
Svenja Lowitzsch, West Virginia University, Morgantown, WV 26506 (995-65-83)
- 5:00PM (75) *Locally One-Dimensional Methods: Improved Accuracy and Applications.*
Seongjai Kim, University of Kentucky (995-65-106)
- 5:30PM (76) *Faste Backward Stable Bidiagonal Reduction.*
Jesse L Barlow*, The Pennsylvania State University, **Nela Bosner** and **Zlatko Drmac**, University of Zagreb (995-65-74)

Special Session on Discrete Structures and Complex Dynamics, I

3:00 PM – 5:20 PM Room 318, Morton Hall

Organizers: **Mario Bonk**, University of Michigan
Lukas Geyer, University of Michigan

- 3:00PM (77) *Recurrence Rates for Loosely Markov Dynamical Systems.*
Mariusz Urbanski, University of North Texas (995-37-73)
- 3:30PM (78) *The Critical Locus of Hénon Maps.* Preliminary report.
Mikhail Lyubich, SUNY Stony Brook / University of Toronto, and **John W. Robertson***, University of Toronto (995-37-93)
- 4:00PM (79) *Melting Snowballs.*
Daniel Meyer, University of Washington (995-30-153)
- 4:30PM (80) *Multifractal analysis of harmonic measure.*
Iliia Binder, UIUC (995-30-177)
- 5:00PM (81) *Classical and CP Types of Surfaces of Class S.*
Sergiy Merenkov, The University of Michigan, and **Byung-Geun Oh***, Purdue University (995-30-230)

Special Session on Differential Equations and Control Theory, II

3:00 PM – 5:55 PM Room 226, Morton Hall

Organizers: **Sergiu Aizicovici**, Ohio University
Nicolai Pavel, Ohio University

- 3:00PM (82) *Higher Order Variational Problems.*
Irene Fonseca, Carnegie Mellon University (995-49-46)
- 3:30PM (83) *The Exact solutions for $y y'' + f(x)(y')^2 = 0$.* Preliminary report.
Fady A. Gusin, Cleveland State University (995-34-01)
- 4:00PM (84) *Boundary Control of Hyperbolic Equations with Pointwise State Constraints.*
Boris Mordukhovich*, Wayne State University, and **Jean-Pierre Raymond**, University Paul Sabatier (995-49-85)

- 4:30PM *Some Remarks on Some Second-Order Hyperbolic Differential Equations.*
 ▶ (85) **Toka Diagana**, Howard University (995-34-62)
- 5:00PM *First and second-order abstract functional stochastic evolution equations.* Preliminary report.
 (86) **Mark A McKibben***, Goucher College, and **Dave N Keck**, Ohio University (995-34-39)
- 5:30PM *Nonlocal Cauchy problems in Banach spaces.*
 (87) Preliminary report.
Sergiu Aizicovici and **Haewon Lee***, Ohio University (995-34-40)

Special Session on Groups, Representations, and Characters, II

3:00 PM – 5:20 PM **Room 122, Morton Hall**

Organizers: **Mark Lewis**, Kent State University
Thomas R. Wolf, Ohio University

- 3:00PM *A strengthening of the McKay Conjecture by including local fields and local Schur indices.*
 (88) Preliminary report.
Alexandre Turull, University of Florida (995-20-102)
- 3:30PM *Computing Schur indices of Frobenius complements.* Preliminary report.
 (89) **Allen Herman**, University of Regina (995-20-60)
- 4:00PM *On the structure of the complex group algebras of finite groups.*
 (90) **Alexander Moreto**, Universidad of Valencia (995-20-121)
- 4:30PM *Real conjugacy classes in algebraic groups and finite groups of Lie type.* Preliminary report.
 (91) **Pham Huu Tiep***, University of Florida, and **Alexandre E. Zalesski**, University of East Anglia (995-20-27)
- 5:00PM *On the number of zeros in the columns of the character table of a group.*
 (92) **Alexander Moreto**, Universidad de Valencia, and **Josu Sangroniz***, Universidad del Pais Vasco (995-20-88)

Special Session on Dynamical Systems, II

3:00 PM – 5:50 PM **Room 326, Morton Hall**

Organizers: **Patrick D. McSwiggen**, University of Cincinnati
Todd Young, Ohio University

- 3:00PM *Periodic coexistence of species on three essential resources.*
 (93) **Bingtuan Li**, University of Louisville (995-92-179)
- 3:30PM *Actions of solvable groups on the circle.*
 (94) **Lizzie Burslem***, University of Michigan, and **Amie Wilkinson**, Northwestern University (995-37-216)
- 4:00PM *Equilibrium States for Unimodal Maps.*
 (95) **Samuel Senti***, Indiana Univ Purdue Univ. Indianapolis, and **Yakov Pesin**, Pennsylvania State University (995-37-162)
- 4:30PM *Ergodic Theorems Along Polynomials: Results and Conjectures.*
 ▶ (96) **Vitaly Bergelson**, Ohio State University (995-37-190)
- 5:30PM Discussion

Special Session on Theory of Rings and Modules, II

3:00 PM – 5:50 PM **Room 115, Morton Hall**

Organizers: **Nguyen Viet Dung**, Ohio University
Franco Guerriero, Ohio University

- Dinh Van Huynh**, Ohio University
Pramod Kanwar, Ohio University
- 3:00PM *Cotilting and Related Dualities.*
 (97) **Kent R Fuller**, University of Iowa (995-16-64)
- 3:30PM *Structure of certain semigroup algebras.*
 ▶ (98) **Vlastimil Dlab** and **Tomáš Pospíchal***, Carleton University, Ottawa (995-16-50)
- 4:00PM *Root vectors in the composition algebra of the Kronecker algebra.*
 (99) **Xueqing Chen**, University of Ottawa (995-16-192)
- 4:30PM *Prime Coalgebras and Prime Comodules.*
 (100) Preliminary report.
Miguel Ferrero and **Virginia Rodrigues***, Universidade Federal do Rio Grande do Sul (995-16-29)
- 5:00PM *Subgroups of Finite Abelian Groups via Poset Representations.*
 (101) **Claus Michael Ringel**, Bielefeld University, and **Markus Schmidmeier***, Florida Atlantic University (995-16-235)
- 5:30PM *Local rings of finite embedding dimension.*
 (102) **Hans Schoutens**, NYC College of Technology-CUNY (995-13-24)

Special Session on Linear Algebra and Its Applications, II

3:00 PM – 4:20 PM **Room 126, Morton Hall**

Organizers: **S. K. Jain**, Ohio University
Michael Neumann, University of Connecticut

- 3:00PM *Spectral properties of Coxeter transformation.*
 (103) **Piroska Lakatos**, Institute of Mathematics and Informatics, Debrecen University (995-15-54)
- 3:30PM *Revisiting a Classical Test for Oscillatory Matrices.*
 (104) **Shaun M Fallat**, University of Regina (995-15-214)
- 4:00PM *Conjugacy Invariants of $SI(2, H)$.*
 (105) **Brendan Foreman**, John Carroll University (995-15-09)

Special Session on Statistics and Probability, I

3:00 PM – 5:20 PM **Room 218, Morton Hall**

Organizers: **Maria Rizzo**, Ohio University
Vladimir Vinogradov, Ohio University

- 3:00PM *New uniform bounds for uniform order statistics.*
 (106) **Kevin Ford**, University of Illinois at Urbana-Champaign (995-62-25)
- 3:30PM *Mean Distance Characterization and Test for Poisson Distribution.*
 ▶ (107) **Maria L Rizzo**, Ohio University (995-62-130)
- 4:00PM *The Simplest Two Sample Dispersion Test: Count Five.*
 ▶ (108) **Richard N McGrath*** and **Arthur B Yeh**, Bowling Green State University (995-62-100)
- 4:30PM *Multiple testing in 2^k experiments.*
 (109) **Jane Y. Chang***, Bowling Green State University, and **Jason Hsu**, Ohio State University (995-62-127)
- 5:00PM *Modeling Effects of Agent Combinations Using Nonlinear Mixture Experiment Methods.* Preliminary report.
 ▶ (110) **Donald B White***, University of Toledo, **William R Greco**, Roswell Park Cancer Institute, and **Leonid A Khinkis**, Canisius College (995-62-77)

Special Session on Algebraic Coding Theory, II

3:00 PM – 5:20 PM Room 127, Morton Hall

Organizers: **Marcus Greferath**, San Diego State University**Sergio R. López-Permouth**, Ohio University

- 3:00PM **Design Parameters for Low Density Parity Check Codes**. Preliminary report.
▶ (111) **Christine Kelley, Joachim Rosenthal***, University of Notre Dame, and **Deepak Sridhara**, Indian Institute of Science (995-94-144)
- 3:30PM **A class of (3,4) regular Quasi-Cyclic LDPC Codes with $d_{\min}=32$** .
(112) **Roxana Smarandache***, San Diego State University, **Pascal O. Vontobel**, University of Illinois at Urbana-Champaign, **Michael E. O'Sullivan** and **Marcus Greferath**, San Diego State University (995-94-202)
- 4:00PM **Expander codes and their graphs**.
(113) **Ian F. Blake***, Dept. Elec. and Comp. Eng., University of Toronto, and **Kenneth Shum**, Dept. Math., University of Toronto (995-94-142)
- 4:30PM **An Essay on Equivalence of Linear Codes, II**.
(114) **Jay A Wood**, Western Michigan University (995-94-171)
- 5:00PM **On Prehomogeneous Weights on Finite Rings**.
▶ (115) Preliminary report.
Marcus Greferath, San Diego State University (995-05-228)

Special Session on Wavelets, Other Multiscale Methods and Their Applications, II

3:00 PM – 5:20 PM Room 223, Morton Hall

Organizers: **En-Bing Lin**, University of Toledo
Xiaoping Annie Shen, Ohio University

- 3:00PM **A Discrete Wavelet Analysis of Freak Waves in the Ocean**.
(116) **En-Bing Lin**, Texas A&M International University (995-42-159)
- 3:30PM **Analysis with wavelets**.
(117) **Gilbert G Walter**, UW-Milwaukee (995-41-56)
- 4:00PM **Families of wavelets: Multiplicity theory and group symmetries**. Preliminary report.
(118) **Palle E. T. Jorgensen***, University of Iowa, **Larry Baggett**, University of Colorado, **Kathy Merrill**, Colorado College, and **Judy Packer**, University of Colorado (995-43-06)
- 4:30PM **A Construction of Multivariate Bi-orthogonal Wavelet Filter Banks**.
(119) **Yuesheng Xu**, Syracuse University (995-41-101)
- 5:00PM **Power Quality Disturbances Analysis based on Wavelet Multiresolution Decomposition**. Preliminary report.
▶ (120) **Haibo He***, **Janusz A. Starzyk** and **Xiaoping Shen**, Ohio University (995-42-205)

Special Session on Probabilistic and Asymptotic Aspects of Group Theory, II

3:00 PM – 5:50 PM Room 222, Morton Hall

Organizers: **Rostislav Grigorchuk**, Texas A&M University**Mark Sapir**, Vanderbilt University**Zoran Sunik**, Texas A&M University3:00PM **Polynomial maps over finite fields and residual finiteness of mapping tori of free group endomorphisms**.**Mark V. Sapir***, Vanderbilt University, and **Alexander Borisov**, Pennstate University (995-20-89)3:30PM **Free groups of automorphisms of rooted trees**. Preliminary report.**Said Najati Sidki**, Universidade de Brasilia (995-20-98)4:00PM **Isomorphism problem for fully residually free groups**.**Inna Bumagin, Olga Kharlampovich*** and **Alexei Myasnikov**, McGill University (995-20-206)4:30PM **Intersecting verbal subgroups of free groups**.**S. V. Ivanov**, University of Illinois (995-20-189)5:00PM **Hypertrees and the ℓ^2 Betti numbers of the pure symmetric automorphism group**.**Jon McCammond***, University of California, Santa Barbara, and **John Meier**, Lafayette College (995-20-91)5:30PM **CAT(0) versus geometric dimension for torsion free hyperbolic groups**.**Noel P Brady***, University of Oklahoma, and **John Crisp**, Universite de Bourgogne (995-20-224)**Session for Contributed Papers**

3:00 PM – 4:25 PM Room 322, Morton Hall

3:00PM **Double-dual n -types over Banach spaces not containing ℓ_1** . Preliminary report.**Markus Pomper**, Indiana University East (995-46-13)3:15PM **On Ball separation property of Banach spaces**.▶ (128) **Sudeshna Basu**, Howad University (995-46-147)3:30PM **Boundary controllability of Maxwell's equations with nonzero conductivity inside a cube**. Preliminary report.**Steven Slava Krigman***, MIT / Lincoln Laboratory, and **C. Eugene Wayne**, Boston University (995-49-116)3:45PM **Numerical Inverse Laplace Transform**.▶ (130) **Kim Tuan Vu**, State University of West Georgia (995-65-150)4:00PM **Investigation of genuinely non-Abelian difference sets in groups of order 676**.**Paul E. Becker*** and **Jennifer Mendes**, Penn State - Erie (995-05-134)4:15PM **Enumeration of m -tuples of permutations and a new class of power bases for the space of symmetric functions**.**Thomas M Langley***, Rose-Hulman Institute of Technology, and **J B Rimmel**, University of California, San Diego (995-05-210)**Social Event**

6:00 PM – 7:00 PM 2nd Floor Lobby, Morton Hall

Reception (Hosted by the Department of Mathematics)

Saturday, March 27**Meeting Registration**

8:00 AM – NOON 2nd Floor Lobby, Morton Hall

Special Session on Recent Trends in Infinite-Dimensional Banach Space Theory, III

8:00 AM – 11:20 AM Room 219, Morton Hall

Organizers: **Beata Randrianantoanina**, Miami University
Narcisse Randrianantoanina, Miami University

- 8:00AM (133) *Operators Determined by Subspaces*. Preliminary report.
Elizabeth M Bator* and **Rhonda Huettenmueller**, University of North Texas (995-46-212)
- 8:30AM (134) *Some results about Schur multipliers on the Schatten classes*.
William D. Banks and **Asma Harcharras***, University of Missouri-Columbia (995-46-156)
- 9:00AM (135) *Examples of asymptotic symmetric structures*.
M. Junge, University of Illinois at Urbana-Champaign, **D. Kutzarova***, Bulgarian Academy of Sciences, currently at Univ o, and **E. Odell**, University of Texas at Austin (995-46-86)
- 9:30AM (136) *Spectrum of a weakly hypercyclic operator*.
Vladimir G Troitsky, University of Alberta (995-47-120)
- 10:00AM (137) *Algebraic weighted composition operators*.
Karim Boulabiar, IPEST, Universite de Carthage, **Gerard Buskes**, University of Mississippi, and **Gleb Sirotkin***, Northern Illinois University (995-46-183)
- 10:30AM (138) *An irregularity in the class of weak Hilbert spaces*.
Razvan Anisca, Texas A&M University (995-46-223)
- 11:00AM (139) *Partial Unconditionality in Banach Spaces*.
S Dilworth, University of South Carolina, **E Odell**, University of Texas at Austin, **T Schlumprecht**, Texas A&M University, and **Andras Zsak***, Texas A&M University and Fitzwilliam College, Cambridge (995-46-221)

AMS Exhibit and Book Sale

8:00 AM – NOON Room 320, Morton Hall

Special Session on Differential Equations and Control Theory, III

8:30 AM – 11:25 AM Room 226, Morton Hall

Organizers: **Sergiu Aizicovici**, Ohio University
Nicolai Pavel, Ohio University

- 8:30AM (140) *Higher order necessary and sufficient conditions for optimality*.
Elena Constantin, Ohio University (995-49-75)
- 9:00AM (141) *Estimates of the second derivatives for solutions of quasilinear subelliptic equations*.
Andras Domokos, University of Pittsburgh (995-35-12)
- 9:30AM (142) *Genericity of Singular Behavior in Nonlinear Optimization Problems of Continuum Mechanics*.
Victor J Mizel, Dept. of Math. Sci. Carnegie Mellon (995-49-207)
- 10:00AM (143) *Uniqueness and exact multiplicity for non-autonomous Dirichlet problems*.
Philip L Korman, University of Cincinnati (995-35-41)
- 10:30AM (144) *Two-Step Systems for Relaxed Pseudocoercive Nonlinear Variational Inequality Problems and Related Projection Methods*. Preliminary report.
Ram Verma, International Publications (995-49-61)

- 11:00AM (145) *Nonlinear optimization problems and flow invariance via second order generalized tangential cones*. Preliminary report.
Nicolae H Pavel*, Ohio University, and **Florian Potra**, University of Maryland, Baltimore County (995-34-38)

Special Session on Theory of Rings and Modules, III

8:30 AM – 11:20 AM Room 115, Morton Hall

Organizers: **Nguyen Viet Dung**, Ohio University
Franco Guerriero, Ohio University
Dinh Van Huynh, Ohio University
Pramod Kanwar, Ohio University

- 8:30AM (146) *On Dual Krull Dimension for Modules, Lattices and Grothendieck Categories*. Preliminary report.
Mark L. Teply*, University of Wisconsin - Milwaukee, **Toma Albu**, Koc University, and **Mihai Iosif**, Bucharest University (995-16-19)
- 9:00AM (147) *On Distributive Modules and Rings*.
Miguel Ferrero* and **Alveri Sant'Ana**, Universidade Federal do Rio Grande do Sul (995-16-30)
- 9:30AM (148) *Radicals Whose Semisimple Classes Satisfy a Generalised ADS Condition*.
Gary F Birkenmeier, Department of Mathematics, University of Louisiana (995-16-137)
- 10:00AM (149) *Associated Lie Algebras of Group Algebras*.
J B Srivastava, Indian Institute of Technology, Delhi (India) (995-16-165)
- 10:30AM (150) *Some more decomposition theory of pure-projective modules*.
Philipp S Rothmaler, OSU Lima (995-16-197)
- 11:00AM (151) *Prime elements in partially ordered groupoids with applications to module theory*.
Christian Lomp, Centro de Matematica da Universidade do Porto (995-16-110)

Special Session on Wavelets, Other Multiscale Methods and Their Applications, III

8:30 AM – 10:20 AM Room 223, Morton Hall

Organizers: **En-Bing Lin**, University of Toledo
Xiaoping Annie Shen, Ohio University

- 8:30AM (152) *A 'maximal overlap' multiresolution analysis of L^2* . Preliminary report.
Jeff Connor, Ohio University, and **Xunming Du***, Great Basin College (995-43-188)
- 9:00AM (153) *Error Analysis for Image Inpainting Problem*. Preliminary report.
Sung Ha Kang, University of Kentucky (995-65-131)
- 9:30AM (154) *Numerical aspects of a biorthogonal wavelet basis*. Preliminary report.
Xiaoping A. Shen, Ohio University (995-42-146)
- 10:00AM (155) *Dual Bases for Nonnegative Scaling Vectors on the Interval*.
David K Ruch*, Metropolitan State College of Denver, and **Patrick J Van Fleet**, University of St. Thomas (995-42-219)

Special Session on Probabilistic and Asymptotic Aspects of Group Theory, III

8:30 AM – 11:20 AM Room 222, Morton Hall

Organizers: **Rostislav Grigorchuk**, Texas A&M University
Mark Sapir, Vanderbilt University
Zoran Sunik, Texas A&M University

- 8:30AM (156) *Uniform non-amenability and Kazhdan constants.*
Goulmara N. Arzhantseva*, University of Geneva, **J Burillo**, Universitat Politècnica de Catalunya, **M Lustig**, **L Reeves**, Université d'Aix-Marseille III, **H Short**, University of Provence, and **E. Ventura**, Universitat Politècnica de Catalunya (995-20-231)
- 9:00AM (157) *Aspects of growth of groups.*
John S Wilson, Oxford University (995-20-87)
- 9:30AM (158) *Groups with isoperimetric function $n^2 \log n$.*
Alexander Y Olshanskii* and **Mark V Sapir**, Vanderbilt University (995-20-149)
- 10:00AM (159) *Is there a bound on the gap between the time complexity of the word problem and the Dehn function for finitely presented groups?* Preliminary report.
Ilya Kapovich and **Paul Schupp***, University of Illinois (995-20-227)
- 10:30AM (160) *Random van Kampen diagrams and algorithmic problems in groups.* Preliminary report.
Alexei Myasnikov*, McGill, Montreal, and **Alexander Ushakov**, Graduate Center of CUNY (995-20-233)
- 11:00AM (161) *A context-free language of geodesic normal forms for Baumslag-Solitar groups.*
Murray J Elder, University of St Andrews (995-20-14)

AMS Special Presentation

- 8:30 AM – 11:30 AM **Room 313, Morton Hall**
TA development using case studies: A workshop for faculty
 Organizer: **Diane Hermann**, University of Chicago

Special Session on Integrable Systems in Mathematics and Physics, III

- 9:00 AM – 11:30 AM **Room 227, Morton Hall**
 Organizers: **Michael Gekhtman**, University of Notre Dame
Luen Chau Li, Pennsylvania State University
- 9:00AM (162) *Invariant theory of Killing tensors and integrable Hamiltonian systems.*
Roman G. Smirnov, Dalhousie University (995-70-174)
- 9:30AM (163) *Commuting Differential and Integral Operators.*
Milen T Yakimov, Univ. California Santa Barbara (995-34-229)
- 10:00AM (164) *Geometry and Dynamics of Generalized Double Bracket Flows.*
Anthony M Bloch*, University of Michigan, and **Arieh Iserles**, Cambridge University (995-34-82)
- 10:30AM (165) *Semi-classical (zero dispersion) limit for the focusing Nonlinear Schroedinger (NLS) equation for certain class of initial data.*
Alexander Tovbis, Fields Institute / University of Central Florida (995-35-232)
- 11:00AM Discussion

Special Session on Discrete Structures and Complex Dynamics, II

- 9:00 AM – 11:20 AM **Room 318, Morton Hall**
 Organizers: **Mario Bonk**, University of Michigan
Lukas Geyer, University of Michigan

- 9:00AM (166) *Rational functions arising from finite subdivision rules.* Preliminary report.
James Cannon, Brigham Young University, **William Floyd**, Virginia Tech, and **Walter Parry***, Eastern Michigan University (995-54-194)
- 9:30AM (167) *Harmonic Polynomials and Hubbard Trees.*
Lukas Geyer, University of Michigan (995-30-215)
- 10:00AM (168) *Wandering triangles exist.*
Alexander Blokh* and **Lex Oversteegen**, University of Alabama (995-37-170)
- 10:30AM (169) *A hyperbolic surface whose net is the square grid.*
Lukas Geyer and **Sergiy Merenkov***, The University of Michigan (995-30-187)
- 11:00AM (170) *The split space-at-infinity of a Gromov hyperbolic group.* Preliminary report.
James W Cannon, Brigham Young University, **William J Floyd***, Virginia Tech, **Sa'ar Hersonsky**, Ben Gurion University, and **Walter R Parry**, Eastern Michigan University (995-20-176)

Special Session on Groups, Representations, and Characters, III

- 9:00 AM – 11:20 AM **Room 122, Morton Hall**
 Organizers: **Mark Lewis**, Kent State University
Thomas R. Wolf, Ohio University
- 9:00AM (171) *Primitive characters of quasisimple groups.* Preliminary report.
Gerhard Hiss, RWTH-Aachen, and **Kay Magaard***, Wayne State University (995-20-108)
- 9:30AM (172) *Bounding graph diameters of nonsolvable groups.*
John K McVey, Kent State University (995-20-140)
- 10:00AM (173) *The Donovan conjectures and a question of rationality.*
Radha Kessar, The Ohio State University (995-20-180)
- 10:30AM (174) *Steinberg characters for Chevalley groups over finite local rings.*
Peter S Campbell, University of Ottawa (995-20-23)
- 11:00AM (175) *On the minimal genus of a permutation representation.*
Daniel E. Frohardt*, Wayne State University, Detroit, MI, **Robert Guralnick**, USC, Los Angeles, and **Kay Magaard**, Wayne State University, Detroit, MI (995-20-184)

Special Session on Dynamical Systems, III

- 9:00 AM – 11:20 AM **Room 326, Morton Hall**
 Organizers: **Patrick D. McSwiggen**, University of Cincinnati
Todd Young, Ohio University
- 9:00AM (176) *Braided waves in parabolic PDEs.*
Robert Christ*, Univ. Illinois, Urbana-Champaign, and **Robert Vandervorst**, Vrije Universiteit (995-35-33)
- 9:30AM (177) *Sub-stable and weak-stable manifolds associated with finitely non-resonant spectral subspaces.*
Mohamed Sami ElBialy, Mathematics Deptment, University of Toledo (995-37-239)
- 10:00AM (178) *Absolute Instabilities of Standing Pulses.* Preliminary report.
Bjorn Sandstede*, Ohio State University, and **Arnd Scheel**, University of Minnesota (995-35-161)
- 10:30AM (179) *The Toda Lattice, Positive-Entropy Integrable Systems and Transcendental Numbers.*
Leo T Butler, Queen's University (995-37-15)

Program of the Sessions – Athens, OH, Saturday, March 27 (cont'd.)

11:00AM *Real $3x + 1$.*
▶ (180) **Michal Misiurewicz***, Indiana University Purdue University Indianapolis, and **Ana Rodrigues**, Universidade do Minho (995-37-105)

11:00AM *Algebraic Theory of Cyclic Convolutional Codes.*
(191) **Heide Gluesing-Luerssen**, University of Kentucky (995-94-160)

Special Session on Statistics and Probability, II

9:00 AM – 10:50 AM Room 218, Morton Hall

Organizers: **Maria Rizzo**, Ohio University
Vladimir Vinogradov, Ohio University

9:00AM *Q-Markov random probability measures and their posterior distributions.*
(181) **Raluca M. Balan**, University of Ottawa (995-60-44)

9:30AM *Conditional moments of q -Meixner processes.*
(182) Preliminary report.
Wlodzimierz Bryc*, University of Cincinnati, and **Jacek A Wesolowski**, Warsaw University of Technology (995-60-57)

10:00AM *Asymptotic Analysis of the Critical Stock Price for American Options on Alternative Stochastic Processes.*
(183) **David C Saunders*** and **J. Chadam**, University of Pittsburgh (995-60-158)

10:30AM *Large Deviations Principle for Evolution of Stochastic Vorticity.*
(184) **Anna Amirdjanova***, University of Michigan, and **Jie Xiong**, University of Tennessee (995-60-21)

Special Session on Linear Algebra and Its Applications, III

9:30 AM – 11:30 AM Room 126, Morton Hall

Organizers: **S. K. Jain**, Ohio University
Michael Neumann, University of Connecticut

9:30AM *Characterizations of Nonnegative Matrices where the Product with a Generalized Inverse is also Nonnegative.* Preliminary report.
▶ (185) **John C Tynan**, Marietta College (995-15-236)

10:00AM *Classifying Trees According to the Spectral Radius of Submatrices of the Laplacian Matrix.* Preliminary report.
(186) **Jason J Moliterno**, Sacred Heart University (995-15-139)

10:30AM *Applying ring-theoretic methods to some linear preserver problems.* Preliminary report.
(187) **Matej Bresar**, University of Maribor (995-16-112)

11:00AM Discussion

Special Session on Algebraic Coding Theory, III

9:30 AM – 11:20 AM Room 127, Morton Hall

Organizers: **Marcus Greferath**, San Diego State University
Sergio R. López-Permouth, Ohio University

9:30AM *On the construction of tame towers over finite fields.*
(188) **Maharaj Hiren***, Clemson University, and **Joerg Wulfange**, University of Essen (995-14-10)

10:00AM *One-point codes using points of higher degree.* Preliminary report.
(189) **Gretchen L. Matthews*** and **Todd W. Michel**, Clemson University (995-14-48)

10:30AM *Advances in list decoding of Reed-Solomon codes and codes from curves.* Preliminary report.
▶ (190) **Ralf Koetter**, University of Illinois at Urbana-Champaign (995-94-198)

Invited Address

11:40 AM – 12:30 PM Room 201, Morton Hall

(192) *Kolmogorov complexity, growth and algorithmic problems.*
Rostislav Ivanovich Grigorchuk, Texas A&M University (995-20-79)

Invited Address

2:00 PM – 2:50 PM Room 201, Morton Hall

(193) *Mirror symmetry: An orientation.*
Eric G. Zaslow, Northwestern University (995-00-05)

Special Session on Recent Trends in Infinite-Dimensional Banach Space Theory, IV

3:00 PM – 7:25 PM Room 219, Morton Hall

Organizers: **Beata Randrianantoanina**, Miami University
Narcisse Randrianantoanina, Miami University

3:00PM *An appropriate choice of a Banach space which admits statistical solutions to the Navier-Stokes equations, and some results about space averages.*
(194) **George Androulakis***, University of South Carolina, and **Stamatis Dostoglou**, University of Missouri (995-76-169)

3:30PM *R-bounded approximating sequences and applications to semigroups.*
(195) **Mark Robert Hoffmann**, University of South Carolina-Columbia, **Nigel Kalton** and **Tamara Kucherenko***, University of Missouri-Columbia (995-46-81)

4:00PM *Operator Valued Hardy Spaces.*
(196) **tao Mei**, math dept, TAMU (995-42-49)

4:30PM *Envelope Functions and Asymptotic- ℓ_p Spaces.*
(197) **Bunyamin Sari**, University of Alberta (995-46-172)

5:00PM *Classical summation methods in noncommutative L_p spaces.* Preliminary report.
(198) **Andreas - Defant**, Carl von Ossietzky Universtiaet Oldenburg, and **Marius - Junge***, UIUC (995-46-70)

5:55PM *Saturating Constructions for Normed Spaces.*
(199) **Stanislaw J. Szarek**, Paris 6 and Case Western Reserve University, and **Nicole Tomczak-Jaegermann***, University of Alberta (995-46-151)

6:45PM *Unconditionality in spaces of polynomials: a problem of Dineen.*
(200) **Nigel Kalton**, University of Missouri (995-46-18)

Special Session on Fast Algorithms in Numerical Analysis, III

3:00 PM – 5:20 PM Room 215, Morton Hall

Organizers: **George Fann**, Oak Ridge National Laboratory
Martin J. Mohlenkamp, Ohio University

- 3:00PM *Adaptive application of operators using multiwavelets, Part I: analysis.*
(201) **Gregory Beylkin, Vani Cheruvu*** and **Fernando Perez**, University of Colorado at Boulder (995-65-125)
- 3:30PM *Adaptive application of operators using multiwavelets, Part II: algorithms.*
(202) **Gregory Beylkin, Vani Cheruvu** and **Fernando Perez***, University of Colorado at Boulder (995-65-126)
- 4:00PM *Multiresolution quantum chemistry.*
(203) **Robert J Harrison***, ORNL/UTK, **George I Fann**, ORNL, **Gregory Beylkin**, U. Colorado, **Takeshi Yanai** and **Zhengting Gan**, ORNL (995-65-152)
- 4:30PM *Mixed Time-Frequency Quantum Propagation Via Compact-Support Wavelets.*
(204) **Bruce R. Johnson***, Department of Chemistry and Rice Quantum Institute, Rice University, **Haixiang Wang**, **Ramiro Acevedo**, **Heather Mollé** and **James L. Kinsey**, Department of Chemistry & Rice Quantum Institute, Rice University (995-81-97)
- 5:00PM *Multiresolution Representation of Some Operators in Higher Dimensions.* Preliminary report.
(205) **George I Fann***, Oak Ridge National Laboratory, and **Gregory Beylkin**, University of Colorado at Boulder (995-65-167)

Special Session on Groups, Representations, and Characters, IV

3:00 PM – 5:20 PM Room 122, Morton Hall

Organizers: **Mark Lewis**, Kent State University
Thomas R. Wolf, Ohio University

- 3:00PM *Some problems related to the theory of k -characters.* Preliminary report.
(206) **Kenneth W Johnson**, Penn State Abington (995-20-80)
- 3:30PM *Derived length and conjugacy class sizes.*
(207) **Thomas Michael Keller**, Texas State University (995-20-26)
- 4:00PM *Orbit method on associative algebras.*
▶ (208) **Vladimir Dergachev**, University of Michigan (995-16-17)
- 4:30PM *Fusion category algebras of finite groups.*
(209) **Markus T Linckelmann**, Ohio State University (995-20-143)
- 5:00PM *Control of the Fusion in Fusion Systems.*
(210) **Radu Stancu**, The Ohio State University (995-20-163)

Special Session on Dynamical Systems, IV

3:00 PM – 5:50 PM Room 326, Morton Hall

Organizers: **Patrick D. McSwiggen**, University of Cincinnati
Todd Young, Ohio University

- 3:00PM *Fourier and Wavelet Methods for Regularity of Critical Maps.*
(211) **Nikola P. Petrov***, University of Michigan, **Rafael de la Llave**, University of Texas, and **Arturo Olvera**, UNAM, Mexico City (995-37-118)
- 4:00PM *Puzzle Dynamics.* Preliminary report.
(212) **William Geller**, Indiana U.-Purdue U. Indianapolis (995-37-237)
- 4:30PM *Determining the initial conditions for a weather forecast: a low-dimensional dynamics perspective.*
▶ (213) **Brian R Hunt**, University of Maryland (995-86-199)
- 5:30PM Discussion

Special Session on Theory of Rings and Modules, IV

3:00 PM – 5:50 PM Room 115, Morton Hall

Organizers: **Nguyen Viet Dung**, Ohio University
Franco Guerriero, Ohio University
Dinh Van Huynh, Ohio University
Pramod Kanwar, Ohio University

- 3:00PM *Some Results on Radicals of Rings.*
(214) **Richard Wiegandt**, Mathematics Research Institute, Hungarian Academy of Sciences, Budapest, Hungary (995-16-109)
- 3:30PM *On Graded Polynomial Identities of Graded Algebras and Functional Identities.*
(215) **Konstantin Beidar**, NCKU (995-16-157)
- 4:00PM *A Generalization of the BGG correspondence.*
(216) **Izuru Mori**, University of Toledo (995-16-95)
- 4:30PM *Naïve noncommutative blowing up.*
(217) **Dennis S. Keeler***, Miami University, **Daniel Rogalski**, MIT, and **J. T. Stafford**, U of Michigan (995-17-185)
- 5:00PM *On direct sums of M -injective modules.*
(218) **Nguyen Van Sanh**, Mahidol University, Bangkok, Thailand (995-16-193)
- 5:30PM *On combinatorics of words and algebras which are sums of locally nilpotent subalgebras.*
(219) **Vesselin Drensky**, Department of Math., Bulgarian Academy of Sciences, and **Lakhdar Hammoudi***, Department of Math, Ohio U., Chillicothe (995-16-31)

Special Session on Algebraic Coding Theory, IV

3:00 PM – 5:20 PM Room 127, Morton Hall

Organizers: **Marcus Greferath**, San Diego State University
Sergio R. López-Permouth, Ohio University

- 3:00PM *On Linear Codes With Two Lee-Weights.*
▶ (220) **Eimear N Byrne**, University of Notre Dame & University College, Dublin (995-05-133)
- 3:30PM *Linear Codes over $F_q[u]/(u^t)$.*
(221) **Ricardo Alfaro**, University of Michigan-Flint (995-94-220)
- 4:00PM *Negacyclic Codes of Length 2^t over \mathbb{Z}_{2^m} .*
▶ (222) **Hai Quang Dinh***, North Dakota State University, and **Sergio R. Lopez-Permouth**, Ohio University (995-94-155)
- 4:30PM *On Modular Gray Map.* Preliminary report.
▶ (223) **Manish K Gupta**, Arizona State University (995-94-211)
- 5:00PM *Ring constructions in algebraic coding theory.*
▶ (224) **Andrei Kelarev**, University of Tasmania (995-94-45)

Special Session on Probabilistic and Asymptotic Aspects of Group Theory, IV

3:00 PM – 5:50 PM Room 222, Morton Hall

Organizers: **Rostislav Grigorchuk**, Texas A&M University
Mark Sapir, Vanderbilt University
Zoran Sunik, Texas A&M University

- 3:00PM *Presentations of Word Hyperbolic Groups.* Preliminary report.
(225) **Robert Gilman**, Stevens Institute of Technology (995-20-145)

Program of the Sessions – Athens, OH, Saturday, March 27 (cont'd.)

- 3:30PM *Tree-graded spaces and asymptotic cones of*
(226) *groups.*
Cornelia Drutu*, University Lille 1, France, and
Mark Sapir, Vanderbilt University (995-20-55)
- 4:00PM *Algebraic, geometric, and algorithmic properties of*
(227) *relatively hyperbolic groups.*
Denis V. Osin, Vanderbilt University (995-20-141)
- 4:30PM Discussion
5:00PM Discussion
5:30PM Discussion

Susan J. Friedlander
Associate Secretary
Chicago, Illinois