
Program of the Sessions

Binghamton, New York, October 11–12, 2003

Saturday, October 11

Meeting Registration

7:30 AM – 4:30 PM Outside Room 1, Lecture Hall

AMS Exhibit and Book Sale

7:30 AM – 4:30 PM Room 13, Lecture Hall

Special Session on Biomolecular Mathematics, I

8:00 AM – 10:45 AM Room 12, Lecture Hall

Organizers: **Thomas J. Head**, Binghamton University
Dennis G. Pixton, Binghamton University
Mitsunori Ogihara, University of Rochester
Carlos Martin-Vide, Universitat Rovira i Virgili

8:00AM Welcome introductions, and a statement of goals for the session.

8:30AM *Splicing to the Limit*. Preliminary report.
▶ (1) **Elizabeth Goode***, Towson University, and **Dennis Pixton**, Binghamton University (990-68-216)

9:00AM *Structural DNA Nanotechnology*.
(2) **Nadrian C Seeman**, New York University (990-00-14)

10:00AM *Topological questions related to DNA graph self assembly*.
(3) **Natasha Jonoska**, University of South Florida (990-92-93)

Special Session on Infinite Groups and Group Rings, I

8:00 AM – 10:50 AM Room 14, Lecture Hall

Organizers: **Luise-Charlotte Kappe**, Binghamton University

Derek J. S. Robinson, University of Illinois, Urbana-Champaign

8:00AM (4) *Totally Permutable Products in Infinite Groups*.
James C. Beidleman*, University of Kentucky, and **Hermann Heineken**, University Of Wuerzburg (990-20-42)

8:30AM (5) *The Infinite Norm of a Group*.
Hermann Heineken*, Universitaet of Wuerzburg, and **James C Beidleman**, University of Kentucky (990-20-56)

9:00AM (6) *Abelian sections in free groups*.
Ted Hurley, National University of Ireland, Galway (990-20-85)

9:30AM (7) *Notions of Discrimination I*. Preliminary report.
Anthony M. Gaglione*, U.S. Naval Academy, **Dennis Spellman**, Temple University, and **Benjamin Fine**, Fairfield University (990-20-110)

10:00AM (8) *Notions of Discrimination II*. Preliminary report.
Benjamin Fine*, Fairfield University, **Anthony M. Gaglione**, U.S. Naval Academy, and **Dennis Spellman**, Temple University (990-20-111)

10:30AM (9) *Invariant ideals in abelian group algebras*.
Donald S. Passman, University of Wisconsin (990-16-94)

Special Session on Homotopy Theory: Honoring Peter Hilton on his Eightieth Birthday, I

8:00 AM – 10:50 AM Room 8, Lecture Hall

Organizers: **Martin Bendersky**, Hunter College (CUNY)

Joseph Roitberg, Hunter College (CUNY)

8:00AM (10) *The Sectional Category of a Map*.
Martin Arkowitz*, Dartmouth College, and **Jeffrey Strom**, Western Michigan University (990-55-61)

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 24, Issue 4 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.

- 8:30AM *Homotopy Classification and Realization of Poincaré Duality Pairs in Dimension Three*. Preliminary report.
(11) **Bea Bleile**, University of New England, Armidale, NSW, Australia (990-57-74)
- 9:00AM *On the Geoghegan Conjecture*.
(12) **Guido Mislin**, ETH Zurich, Switzerland (990-55-38)
- 9:30AM *Homotopy theory with mod p coefficients, from a homological viewpoint*. Preliminary report.
(13) **Dominique Arlettaz**, University of Lausanne (990-55-25)
- 10:00AM *P -localizing finite-by-nilpotent groups*. Preliminary report.
(14) **Karl Lorensen**, Penn State, Altoona College (990-20-146)
- 10:30AM *On a Theorem of Schur*.
(15) **Peter Hilton**, Binghamton University (990-20-18)

Special Session on Topological Combinatorics, I

8:00 AM – 10:50 AM Room 2, Lecture Hall

Organizers: **Laura M. Anderson**, Binghamton University
Edward B. Swartz, Cornell University

- 8:00AM *Topological Obstructions to Graph Colorings*. Preliminary report.
▶ (16) **Dmitry N Kozlov***, KTH, Stockholm, Sweden, and **Eric Babson**, U Washington-Seattle (990-05-177)
- 8:30AM *Homomorphisms of cycles and chromatic number*.
(17) **Eric Babson***, University of Washington, and **Dmitry Kozlov**, KTH (990-05-268)
- 9:00AM *Shifted simplicial complexes and algebraic shifting*.
(18) **Art M. Duval**, University of Texas at El Paso (990-05-198)
- 10:00AM *Combinatorial Properties of Shifted Complexes*.
(19) **Caroline J Klivans**, MSRI (990-05-247)
- 10:30AM *The Catalan matroid*.
▶ (20) **Federico Ardila**, Mathematical Sciences Research Institute (990-05-250)

Special Session on Geometric Group Theory, I

8:30 AM – 10:20 AM Room 10, Lecture Hall

Organizers: **Zlil Sela**, Einstein Institute of Mathematics
Ross Geoghegan, Binghamton University

- 8:30AM *Cut vertices in commutative graphs*.
(21) **James Conant**, University of Tennessee at Knoxville, **Ferenc Gerlits**, Alfred Renyi Institute of Mathematics, and **Karen Vogtmann***, Cornell University (990-20-108)
- 9:00AM *An Analogue of the Johnson Homomorphism for $Aut(F_n)$* . Preliminary report.
▶ (22) **Kai-Uwe Bux**, Cornell University (990-20-209)
- 9:30AM *Asymptotic cones of uniform lattices*.
(23) **Simon Thomas**, Rutgers University (990-20-37)
- 10:00AM *Proper 3-realizability*.
(24) **Francisco F. Lasheras*** and **Manuel Cardenas-Escudero**, University of Seville, Spain (990-57-23)

Special Session on Probability Theory, I

8:30 AM – 10:45 AM Room 321, Student Wing

Organizers: **Miguel A. Arcones**, Binghamton University

- 8:30AM *Brownian loop soup*.
(25) **Gregory F. Lawler**, Cornell University (990-60-119)
- 9:05AM *The heat equation with multiplicative time-independent compound Poisson noise*. Preliminary report.
(26) **Carl E Mueller*** and **Aurel Stan**, University of Rochester (990-60-55)
- 9:40AM *Point processes associated with stationary stable processes*. Preliminary report.
(27) **Sidney I. Resnick** and **Gennady Samorodnitsky***, Cornell University (990-60-47)
- 10:15AM *Liquidity Risk and Arbitrage Pricing Theory*.
(28) **Philip E. Protter***, **Umud Cetin** and **Robert Jarrow**, Cornell University (990-60-100)

Special Session on Statistics, I

8:30 AM – 10:45 AM Room 323, Student Wing

Organizers: **Miguel A. Arcones**, Binghamton University
Anton Schick, Binghamton University
Qiqing Yu, Binghamton University

- 8:30AM *A new construction for skew multivariate distribution*. Preliminary report.
▶ (29) **Dipak K Dey*** and **Junfeng Liu**, University of Connecticut (990-62-231)
- 9:05AM *Generalized Likelihood Ratio Tests for Additive Models*.
(30) **Jianqing Fan**, Princeton University (990-62-187)
- 9:40AM *On Likelihood Ratio Analysis Under Non-standard Conditions*.
(31) **Yongzhao Shao**, New York University (990-62-158)
- 10:15AM *The large deviation principle for M -estimators*. Preliminary report.
(32) **Miguel A Arcones**, Binghamton University (990-62-34)

Special Session on Inverse Problems and Tomography, I

8:30 AM – 10:55 AM Room 7, Lecture Hall

Organizers: **Peter Kuchment**, Texas A&M University
Leonid A. Kunyansky, University of Arizona
Eric Todd Quinto, Tufts University

- 8:30AM *A Physicist's Perspective on Mathematical Issues in SPECT and Other Tomographic Imaging*.
(33) **Xiaochuan Pan**, The University of Chicago (990-44-129)
- 9:00AM *3D Exponential X-ray and Radon Transforms and the RSH SPECT Application*.
(34) **Rolf Clackdoyle***, University of Utah, **Jean-Marc Wagner**, University of Liege, and **Frederic Noo**, University of Utah (990-45-236)
- 9:30AM *Improved 2D rebinning of helical cone-beam CT data using John's equation*.
(35) **Frederic Noo***, University of Utah, **Michel Defrise**, Vrije Universiteit Brussels, and **Hiroyuki Kudo**, University of Tsukuba (990-41-228)
- 10:00AM *Inversion of the 3-D exponential parallel-beam transform and the Radon transform with angle-dependent attenuation*. Preliminary report.
▶ (36) **Leonid A Kunyansky**, University of Arizona (990-44-62)
- 10:30AM *Electrical Impedance Imaging*.
(37) **David Isaacson**, RPI (990-35-83)

Special Session on Manifold Theory, I

8:30 AM – 10:20 AM Room 9, Lecture Hall

Organizers: **Erik K. Pedersen**, Binghamton University
Ian Hambleton, McMaster University

- 8:30AM *Propagation and actions on a product of spheres.*
(38) **Alejandro Adem**, University of Wisconsin, **James F Davis***, Indiana University, and **Ozgun Unlu**, University of Wisconsin (990-57-276)
- 9:00AM *Virtual manifolds.*
(39) **Frank Quinn**, Virginia Tech (990-57-262)
- 9:30AM *Resolving Homology Manifolds.* Preliminary report.
(40) **J. Bryant***, Tallahassee, FL, **S. Ferry**, Rutgers University, **W. Mio**, Florida State University, and **S. Weinberger**, University of Chicago (990-57-71)
- 10:00AM *On the stable homology of $Aut(F_n)$.* Preliminary report.
(41) **Daniel K. Biss**, IAS & CMI (990-55-227)

Special Session on Noncommutative Ring Theory, I

8:30 AM – 10:50 AM Room 331, Student Wing

Organizers: **Howard E. Bell**, Brock University
Yuanlin Li, Brock University

- 8:30AM *Generalized Rational Identities with Automorphisms, Antiautomorphisms, and Derivations.*
(42) **Gordon A Swain**, Ashland University (990-16-141)
- 9:00AM *Multiplicative semiprimeness of skew Lie algebras.*
(43) **W. S. Martindale***, Wyndmoor PA, **J. C. Cabello**, **M. Cabrera** and **G. Lopez**, Universidad de Granada (990-16-54)
- 9:30AM *Schur superalgebras in small characteristics.*
(44) **Frantisek Marko***, Pennsylvania State University, and **Alexandr N. Zubkov**, Omsk State Pedagogical University (990-16-127)
- 10:00AM *An application of equivalence of G -algebras to the Schur indices of simple skew group algebras.* Preliminary report.
(45) **Allen Herman**, University of Regina (990-16-80)
- 10:30AM *On a Class of Separable Hopf Galois Extensions.* Preliminary report.
(46) **George Szeto*** and **Larry Lianyong Xue**, Bradley University (990-16-66)

Special Session on Boundary Value Problems on Singular Domains, I

9:00 AM – 10:50 AM Room 325, Student Wing

Organizers: **Juan B. Gil**, Penn State Altoona
Paul A. Loya, Binghamton University

- 9:00AM *Symbolic Hierarchies of Operators on Manifolds with Singularities.*
(47) **B. W. Schulze**, University of Potsdam (990-58-243)
- 9:40AM *Layer potentials for manifolds with cylindrical ends.*
(48) **Victor Nistor***, Pennsylvania State Univ., and **Marius Mitrea**, University of Missouri (990-35-138)
- 10:20AM *A Fréchet algebra of pseudodifferential boundary value problems on manifolds with cylindrical ends.*
(49) **Thomas Krainer**, Institute of Mathematics, University of Potsdam, Germany (990-35-190)

Special Session on Lie Algebras, Conformal Field Theory, and Related Topics, I

9:00 AM – 10:50 AM Room 231, Student Wing

Organizers: **Chongying Dong**, University of California Santa Cruz
Alex J. Feingold, Binghamton University
Gaywalee Yamskulna, Binghamton University

- 9:00AM *On the structure and characters of weight modules of Lie algebras and superalgebras.*
(50) **Dimitar V. Grantcharov**, University of California, Riverside (990-17-107)
- 9:40AM *Intermediate Wakimoto modules for Affine $\mathfrak{sl}(n+1)$.* Preliminary report.
(51) **Ben L Cox**, College of Charleston (990-17-49)
- 10:20AM *Demazure crystals for quantum affine algebras.* Preliminary report.
(52) **Kailash C. Misra**, North Carolina state University (990-17-157)

Special Session on Finite Solvable Groups and Their Representations, I

9:00 AM – 10:50 AM Room 4, Lecture Hall

Organizers: **Ben Brewster**, SUNY at Binghamton
Arnold Feldman, Franklin & Marshall College

- 9:00AM *Finite groups with subgroups subnormal or supersoluble.* Preliminary report.
(53) **John Cossey***, Australian National University, and **A. Ballester Bolinches**, Universitat de Valencia (990-20-225)
- 9:30AM *Kirillov Theory for Finite Groups.*
(54) **Dikran B Karagueuzian***, SUNY-Binghamton, and **I Martin Isaacs**, University of Wisconsin-Madison (990-20-213)
- 10:00AM *Classification of the finite p -subgroups of $GL(p, C)$ up to isomorphism.* Preliminary report.
(55) **Jeffrey M Riedl**, University of Akron (990-20-204)
- 10:30AM Discussion

Special Session on Character Theory of Finite Groups and Algebraic Combinatorics, I

9:00 AM – 10:50 AM Room 5, Lecture Hall

Organizers: **Kenneth W. Johnson**, Pennsylvania State University
Eirini Poimenidou, New College of Florida

- 9:00AM *Commutative Integral Table Algebras Generated by Elements of Degree Two.* Preliminary report.
(56) **Zvi Arad**, **Elsa Fisman**, Bar-Ilan University, **Mikhail Muzychuk**, Netanya Academic College, and **Harvey I. Blau***, Northern Illinois University (990-20-215)
- 9:30AM *A combinatorial building for Chevalley groups over finite local rings.*
(57) **Peter S Campbell**, University of Alberta (990-20-31)
- 10:00AM *A Two-Parameter Chromatic Symmetric Function.*
(58) **Ellison-Anne Williams**, North Carolina State University (990-05-79)
- 10:30AM *Kronecker product of characters of $(Z/rZ)wrS_n$ and centralizer algebras.*
(59) **Rosa C Orellana**, Dartmouth College (990-05-180)

Special Session on Dowling Lattices: The 30th Anniversary, I

9:30 AM – 10:50 AM Room 3, Lecture Hall

Organizer: **Thomas Zaslavsky**, Binghamton University of SUNY

- 9:30AM *Dowling lattices and poset fiber theorems.*
(60) Preliminary report.
Michelle L Wachs, University of Miami (990-05-249)
- 10:00AM *On the homology of the h, k -equal Dowling lattice.*
(61) **Eric I. Gottlieb**, Rhodes College (990-06-196)
- 10:30AM *The Homology Character of the Automorphism Group of a Dowling Lattice.*
(62) **Gary K Schwartz**, Northern Illinois University (990-06-147)

Invited Address

11:00 AM – 11:50 AM Room 1, Lecture Hall

- (63) *Holomorphic disks and Floer homology for knots.*
Zoltan Szabo, Princeton University (990-57-03)

Invited Address

1:30 PM – 2:20 PM Room 1, Lecture Hall

- (64) *Symmetric pairs.* Preliminary report.
Jeb F. Willenbring, University of Wisconsin at Milwaukee (990-20-01)

Special Session on Biomolecular Mathematics, II

2:30 PM – 4:50 PM Room 12, Lecture Hall

Organizers: **Thomas J. Head**, Binghamton University
Dennis G. Pixton, Binghamton University
Mitsunori Ogihara, University of Rochester
Carlos Martin-Vide, Universitat Rovira i Virgili

- 2:30PM *Solving the Fisher-Wright and coalescence problems with a discrete Markov chain analysis.* Preliminary report.
(65) **Peter G Clote**, Boston College (990-92-220)
- 3:30PM *On the construction and properties of bond-free DNA languages.*
(66) **Lila Kari**, **Petr Sosik***, University of Western Ontario, and **Stavros Konstantinidis**, Saint Mary's University (990-68-144)
- 4:00PM *Formal Models of DNA Test-tube Computing: Single and Multiple Tubes.*
(67) **P. Sullivan**, Binghamton University (990-68-166)
- 4:30PM *Computing with Cells.*
(68) **P. Andrei Paun**, Louisiana Tech University (990-92-167)

Special Session on Geometric Group Theory, II

2:30 PM – 5:20 PM Room 10, Lecture Hall

Organizers: **Zlil Sela**, Einstein Institute of Mathematics
Ross Geoghegan, Binghamton University

- 2:30PM *Upper distortion functions and the membership problem.*
(69) **Stuart W Margolis**, Bar-Ilan University, Israel, **John Meakin**, University of Nebraska - Lincoln, and **Zoran Sunik***, Texas A&M University (990-20-88)
- 3:00PM *Forest Diagrams for Elements of Thompson's Group F.*
▶ (70) **James M Belk*** and **Kenneth S Brown**, Cornell University (990-20-258)
- 3:30PM *Picture Groups: Homological and CAT(0) properties.*
(71) Preliminary report.
Daniel S. Farley, University of Illinois at Urbana-Champaign (990-20-260)
- 4:00PM *On bilipschitz imbeddings into a product of trees.*
(72) Preliminary report.
Alexander Dranishnikov*, University of Florida, and **Viktor Schroeder**, University of Zurich (990-51-131)
- 5:00PM *Extensions of surface groups by irreducible groups of mapping classes.*
(73) **Lee Mosher**, Rutgers University, Newark (990-20-229)

Special Session on Boundary Value Problems on Singular Domains, II

2:30 PM – 5:00 PM Room 325, Student Wing

Organizers: **Juan B. Gil**, Penn State Altoona
Paul A. Loya, Binghamton University

- 2:30PM *Regularity of the Heat Operator on a Cone.*
(74) **Thalia D. Jeffres***, Universidad Michoacana, and **Paul Loya**, SUNY Binghamton (990-35-175)
- 3:10PM *Green formulae for cone differential operators.*
(75) **Ingo Witt**, University of Potsdam (990-35-188)
- 3:50PM *Exact Solutions: Subelliptic, Degenerate Elliptic, Transversally Elliptic.*
(76) **Richard Beals**, Yale University (990-35-195)
- 4:30PM *Szegő projections on Grauert tubes of small radius.*
(77) Preliminary report.
Grigore Raul Tataru, Purdue University (990-58-234)

Special Session on Infinite Groups and Group Rings, II

2:30 PM – 5:20 PM Room 14, Lecture Hall

Organizers: **Luise-Charlotte Kappe**, Binghamton University
Derek J. S. Robinson, University of Illinois, Urbana-Champaign

- 2:30PM *The Nonabelian Tensor Square of the Free 2-Engel Group of Rank n .*
(78) **Russell D Blyth***, Saint Louis University, **Robert Fitzgerald Morse** and **Joanne L Redden**, University of Evansville (990-20-143)
- 3:00PM *Computing homological functors of the free 2-Engel groups.* Preliminary report.
(79) **Robert Fitzgerald Morse**, University of Evansville (990-20-75)
- 3:30PM *The Residual Finiteness of Ascending HNN-Extensions of Certain Soluble Groups.*
(80) **A. H. Rhemtulla*** and **M. Shirvani**, University of Alberta (990-20-101)
- 4:00PM *Profinite topologies in free products of groups.*
(81) **Luis Ribes***, Carleton University, and **Pavel Zalesskii**, University of Brasilia (990-20-22)
- 4:30PM *The distribution of the genus of groups.* Preliminary report.
(82) **Jay J Zimmerman**, Towson University (990-20-151)

5:00PM *Separability properties of certain polygonal products.*
(83)
G. Kim, Yeungnam University, Korea, and **Francis C. Y. Tang***, University of Waterloo (990-20-165)

Special Session on Lie Algebras, Conformal Field Theory, and Related Topics, II

2:30 PM – 5:00 PM Room 231, Student Wing

Organizers: **Chongying Dong**, University of California Santa Cruz
Alex J. Feingold, Binghamton University
Gaywalee Yamskulna, Binghamton University

- 2:30PM *Automorphism groups of certain rank 2 lattice type vertex operator algebras.*
(84)
Chongying Dong, University of California Santa Cruz, and **Robert L. Jr. Griess***, University of Michigan (990-17-270)
- 3:10PM *Rationality and regularity of vertex operator algebras.*
(85)
Geoffrey W Buhl, Rutgers University (990-17-174)
- 3:50PM *The space of graded traces for holomorphic $c = 24$ vertex operator algebras.* Preliminary report.
(86)
Katherine L Hurley, Penn State University (990-17-256)
- 4:30PM *Certain Lie algebras and vertex algebras associated with Lie algebroids.* Preliminary report.
(87)
Haisheng Li*, Rutgers University, and **Gaywalee Yamskulna**, Binghamton University (990-17-211)

Special Session on Statistics, II

2:30 PM – 5:55 PM Room 323, Student Wing

Organizers: **Miguel A. Arcones**, Binghamton University
Anton Schick, Binghamton University
Qiqing Yu, Binghamton University

- 2:30PM *Another approach to asymptotics and bootstrap of randomly trimmed means.*
(88)
Zhiqiang Chen*, William Paterson University, and **Evarist Gin**, University of Connecticut (990-62-69)
- 3:05PM *Bootstrap and Central Limit Theorem, when they are in tune and when they are not.*
(89)
Dragan Radulovic, Florida Atlantic University (990-62-60)
- 3:40PM *Nearly universal location and scatter parameters.* Preliminary report.
(90)
Richard M. Dudley, Massachusetts Institute of Technology (990-62-102)
- 4:15PM *Estimating Default Risk Premia from Default Swap and EDF Data.* Preliminary report.
(91)
Antje Berndt*, Cornell University, **Rohan Douglas**, New York, NY, **Darrell Duffie**, Stanford University, **Mark Ferguson** and **David Schranz**, New York, NY (990-62-259)
- 4:50PM *A Martingale Approach to Scan Statistics.*
(92)
Vladimir Pozdnyakov*, **Joseph Glaz**, University of Connecticut, **Martin Kulldorff**, Harvard Medical School, and **Michael Steele**, University of Pennsylvania (990-62-120)
- 5:25PM *On the Number of Signals.*
▶ (93)
Pinyuen Chen, Syracuse University (990-62-40)

Special Session on Inverse Problems and Tomography, II

2:30 PM – 4:55 PM Room 7, Lecture Hall

Organizers: **Peter Kuchment**, Texas A&M University
Leonid A. Kunyansky, University of Arizona
Eric Todd Quinto, Tufts University

- 2:30PM *Tomographic operators in the complex plane.*
▶ (94)
Eric Clarkson, University of Arizona (990-44-217)
- 3:00PM *Spherical Means and Thermoacoustic Tomography.*
(95)
David V. Finch*, Oregon State University, **S. K. Patch**, GE Medical Systems, and **Rakesh**, University of Delaware (990-44-183)
- 3:30PM *Stationary Sets for the Wave Equation on Crystallographic domains.*
(96)
Mark Agranovsky, Bar Ilan University, and **Eric Todd Quinto***, Tufts University (990-44-64)
- 4:00PM *Sonar transforms.*
▶ (97)
Aleksei I Beltukov, Tufts University (990-44-68)
- 4:30PM *On injectivity of a circular Radon Transform.*
▶ (98)
Preliminary report.
Gaik Ambartsoumian* and **Peter Kuchment**, Texas A&M University (990-44-233)

Special Session on Homotopy Theory: Honoring Peter Hilton on his Eightieth Birthday, II

2:30 PM – 3:50 PM Room 8, Lecture Hall

Organizers: **Martin Bendersky**, Hunter College (CUNY)
Joseph Roitberg, Hunter College (CUNY)

- 2:30PM *Finite dimensional G-spaces.* Preliminary report.
(99)
William Browder, Princeton University (990-55-155)
- 3:00PM *On the degree 2 map for a sphere.* Preliminary report.
(100)
Fred Cohen and **Inga Johnson***, University of Rochester (990-55-241)
- 3:30PM *On (Non-)Cancellation of Certain Cell Complexes.*
▶ (101)
Preliminary report.
Imre Bokor, University of New England (990-57-126)

Special Session on Finite Solvable Groups and Their Representations, II

2:30 PM – 4:50 PM Room 4, Lecture Hall

Organizers: **Ben Brewster**, SUNY at Binghamton
Arnold Feldman, Franklin & Marshall College

- 2:30PM *Products of C-connected Finite Soluble Groups.*
(102)
Peter Hauck, Universitaet Tuebingen (990-20-255)
- 3:00PM *Modularity in the lattice of Σ -permutable subgroups.*
(103)
Thomas W Kimber, SUNY Morrisville (990-20-139)
- 3:30PM Discussion
- 4:00PM *Solvable Permutation Groups and Partitions.*
(104)
Tom Wolf, Ohio Univ (990-20-263)
- 4:30PM *Modularity, Permutability and the Cover-Avoidance Property.*
(105)
Joseph A. Petrillo, Franklin & Marshall College (990-20-153)

Special Session on Noncommutative Ring Theory, II

2:30 PM – 4:50 PM Room 331, Student Wing

Organizers: **Howard E. Bell**, Brock University
Yuanlin Li, Brock University

- 2:30PM (106) *When is every module with essential socle a direct sum of quasi-injectives?*
K I Beidar, National Cheng- Kung University, and **S K Jain***, Ohio University (990-16-43)
- 3:00PM (107) *Some decomposition theory of pure-projective modules.*
Philipp S Rothmaler, OSU Lima (990-16-137)
- ▶ 3:30PM (108) *A semilocal ring with a strange decomposition theory of projective modules.*
Gena Puninski, The Ohio State University at Lima (990-16-21)
- 4:00PM (109) *On Pseudo-injective Modules.*
Hai Quang Dinh, North Dakota State Univ (990-16-145)
- 4:30PM (110) *On some Semi-Artinian Rings.*
Hai Quang Dinh, North Dakota University, and **Dinh Van Huynh***, Ohio University, Athens (990-16-173)

Special Session on Dowling Lattices: The 30th Anniversary, II

2:30 PM – 4:50 PM Room 3, Lecture Hall

Organizer: **Thomas Zaslavsky**, Binghamton University of SUNY

- 2:30PM (111) *The structure of biased expansion graphs and multary quasigroups.* Preliminary report.
Thomas Zaslavsky, Binghamton University (SUNY) (990-05-221)
- 3:00PM (112) *Complete Principal Truncations of Dowling Lattices.*
Hongxun Qin, The Ohio State University (990-05-160)
- 3:30PM (113) *Dowling lattices, supersolvability, and line-closure.*
Joseph E. Bonin, The George Washington University (990-05-142)
- 4:00PM (114) *Reconstructibility of Dowling Lattices.*
William P. Miller, Susquehanna University (990-05-96)
- ▶ 4:30PM (115) *The critical problem and Dowling Lattices.* Preliminary report.
Irasema Sarmiento, Cinvestav, Mexico (990-05-95)

Special Session on Character Theory of Finite Groups and Algebraic Combinatorics, II

2:30 PM – 5:20 PM Room 5, Lecture Hall

Organizers: **Kenneth W. Johnson**, Pennsylvania State University
Eirini Poimenidou, New College of Florida

- ▶ 2:30PM (116) *Spectral properties of circulant graphs via S-ring theory.* Preliminary report.
Andrew J Woldar*, Villanova University, **Mikhail H Klin**, Ben-Gurion University of the Negev and University of Delaware, and **Milhail E Muzychuk**, Netanya Academic College (990-05-164)
- 3:00PM (117) *Chromatic polynomials and coherent configurations.* Preliminary report.
Mikhail H. Klin*, University of Delaware, Newark and Ben-Gurion Univ, and **Christian Pech**, Technological University Dresden (990-05-191)

- 3:30PM (118) *Character tables of certain commutative association schemes.*
Sung Yell Song, Iowa State University (990-05-152)
- 4:00PM (119) *Tridiagonal pairs, association schemes, and the quantum affine algebra $U_q(\widehat{sl}_2)$.*
Paul M. Terwilliger*, University of Wisconsin, and **Tatsuro Ito**, Kanazawa University (990-05-113)
- 4:30PM (120) *The Generalized Terwilliger Algebra of a Finite Group.* Preliminary report.
Eric S Egge, Gettysburg College (990-16-159)
- 5:00PM (121) *Basic structure theory of association schemes.* Preliminary report.
Paul-Hermann Zieschang, University of Brownsville (990-05-278)

Special Session on Topological Combinatorics, II

2:30 PM – 5:20 PM Room 2, Lecture Hall

Organizers: **Laura M. Anderson**, Binghamton University
Edward B. Swartz, Cornell University

- ▶ 2:30PM (122) *Stokes Theorem and the Minkowski Problem: A combinatorial perspective.*
Daniel A Klain, University of Massachusetts Lowell (990-52-224)
- 3:00PM (123) *The homotopy types of Alexander duals.*
Xun Dong, University of Miami (990-05-261)
- ▶ 3:30PM (124) *Reflexive polytopes in dimension 2 and 3: the numbers 12, 24, and onion skins.*
Christian Haase, Duke University (990-05-92)
- 4:00PM (125) *(The category of?) CD manifolds.* Preliminary report.
Daniel K. Biss, IAS & CMI (990-57-226)
- 4:30PM (126) *On Configurations of flats; manifolds of points in the projective line.*
Javier Bracho*, **Jorge Arocha** and **Luis Montejano**, UNAM (990-52-275)
- 5:00PM (127) *Configuration of 4 lines in affine 3-space.* Preliminary report.
Luis Montejano*, **Jorge Arocha** and **Javier Bracho**, National University of Mexico (990-52-274)

Special Session on Quasigroups and Loops

2:30 PM – 5:00 PM Room 327, Student Wing

Organizers: **Tuval S. Foguel**, North Dakota State University
J. D. Phillips, Wabash College

- 2:30PM (128) *Simple Power Associative Loops With Exactly One Covering.*
Tuval S. Foguel, Auburn University Montgomery (990-20-13)
- 3:10PM (129) *Dedekind quasigroups and the connection with loops.* Preliminary report.
Kenneth W Johnson*, Penn State University, and **Petr Vojtechovsky**, University of Denver (990-20-50)
- 3:50PM (130) *Analytic loops and generalized fibre bundles.* Preliminary report.
Alexander I Nesterov, Guadalajara University (990-53-28)
- 4:30PM (131) *On loops with abelian inner mapping group.*
J. D. Phillips, Wabash College (990-20-26)

Session for Contributed Papers

2:45 PM – 4:40 PM **Room 329, Student Wing**

- 2:45PM *Do Normal Subgroups Have Straight Tails?*
▶ (132) *Representation questions from a combinatorics classroom.*
Paul E Becker, Penn State University - Erie (990-20-207)
- 3:00PM *A characterization of non-minimal tree actions.*
(133) Preliminary report.
Lisa Carbone and **Laura I Ciobanu***, Rutgers University, NJ (990-20-235)
- 3:15PM *Topological p-groups.* Preliminary report.
(134) **Peter Loth**, Sacred Heart University (990-22-103)
- 3:30PM *The conditions on the ordinary differential equation: $(1)y^{(n)} + f(y) = g(x)$, to get real solutions where $y^{(n)}$ means the derivative number n of $y(x)$.*
(135) Preliminary report.
Fady A Gusin, Cleveland State University (990-34-09)
- 3:45PM *Linear Operators on R Sequences.* Preliminary report.
(136) **Andrew B. Perry**, Springfield College (990-46-181)
- 4:00PM *On some spectral properties of abstract multi-interval boundary value problems.*
▶ (137) **Maksim S. Sokolov**, National University of Uzbekistan (990-47-10)
- 4:15PM *Uniform 1-Cochains and Genuine Laminations.*
(138) **Baris Coskunuzer**, Princeton University (990-57-273)
- 4:30PM *Using Online Quizzes: A Report on the Efficacy of a "Repeat Until Satisfied" Model of Using the Internet to Enhance Mathematics Education.*
▶ (139) **Jeff A. Suzuki**, Bard College (990-97-253)

Special Session on Manifold Theory, II

3:00 PM – 4:50 PM **Room 9, Lecture Hall**

- Organizers: **Erik K. Pedersen**, Binghamton University
Ian Hambleton, McMaster University
- 3:00PM *Higher Reidemeister Torsion.*
(140) **Edward Bruce Williams**, U. of Notre Dame (990-57-134)
 - 3:30PM *Some non-diffeomorphic harmonic cellular maps.*
(141) Preliminary report.
F. T. Farrell*, Binghamton University, and **P. Ontaneda**, Univ. Federal de Pernambuco (990-53-133)
 - 4:00PM *On the classification of simply connected 7-manifolds.* Preliminary report.
(142) **Diarmuid J Crowley**, Penn State (990-57-184)
 - 4:30PM *A rational criminal.*
(143) **Kasper K. S. Andersen**, Aarhus University, **Tilman Bauer**, SFB 478 Munster, **Jesper Grodal***, University of Chicago, and **Erik K. Pedersen**, Binghamton University (990-55-240)

Special Session on Probability Theory, II

3:05 PM – 5:20 PM **Room 321, Student Wing**

- Organizers: **Miguel A. Arcones**, Binghamton University
Evarist Gine, University of Connecticut
- 3:05PM *Old and New Results on the Asymptotic Distribution of Self-Normalized Sums.* Preliminary report.
(144) **David M Mason**, University of Delaware (990-60-162)

- 3:40PM *Self-Normalized Processes In Dependent Variables.*
(145) **Victor H de la Pena***, Columbia University, **Michael J Klass**, UC Berkeley, and **Tze-Leung Lai**, Stanford University (990-60-44)
- 4:15PM *Central limit theorems in geometric probability.*
(146) **Joseph E. Yukich**, Lehigh University (990-60-45)
- 4:50PM *Don't Be Fooled By Regular or Empirical Central Limit Theorems for Exchangeable Sequences vs I.I.D. Sequences.*
(147) **Xinxin Jiang***, Rhodes College, and **Marjorie Hahn**, Tufts University (990-60-99)

Binghamton University Department of Mathematical Sciences Reception in Honor of the 80th Birthday of Peter Hilton

5:30 PM – 7:30 PM **Chenango Room, Science 1 Building**

Sunday, October 12

Meeting Registration

8:00 AM – NOON **Room 13, Lecture Hall**

AMS Exhibit and Book Sale

8:00 AM – NOON **Room 13, Lecture Hall**

Special Session on Biomolecular Mathematics, III

8:00 AM – 10:45 AM **Room 12, Lecture Hall**

- Organizers: **Thomas J. Head**, Binghamton University
Dennis G. Pixton, Binghamton University
Mitsunori Ogihara, University of Rochester
Carlos Martin-Vide, Universitat Rovira i Virgili

- 8:00AM *DNA codes for biological computing and assays.*
▶ (148) **Anthony J. Macula***, **Wendy Knapp Pogozelski**, SUNY Geneseo, and **Vyacheslav V. Rykov**, University Nebraska Omaha (990-92-130)
- 8:30AM *Structure Free Sequences for Biomolecular Computing.*
(149) **Satoshi Kobayashi**, Dept. of Computer Science, Univ. of Electro-Communications (990-68-125)
- 9:00AM *Genome Rearrangement, Random Walks on the Permutation Group, and Phase Transitions in Random Graphs.*
(150) **Nathanael Berestycki**, Cornell U and U. Pierre and Marie Curie, and **Rick Durrett***, Cornell U. (990-60-105)
- 10:00AM *Modelling Genetic Gymnastics: The mathematics of gene scrambling in ciliates.*
(151) **Mark Daley**, University of Saskatchewan (990-68-98)

Special Session on Geometric Group Theory, III

8:00 AM – 10:50 AM **Room 10, Lecture Hall**

- Organizers: **Zlil Sela**, Einstein Institute of Mathematics
Ross Geoghegan, Binghamton University

- 8:00AM *Simplicial nonpositive curvature*. Preliminary report.
(152) **Tadeusz Januszkiewicz***, The Ohio State University,
and **Jacek Swiatkowski**, Wroclaw University
(990-51-197)
- 8:30AM *Relatively hyperbolic groups and almost convexity*.
(153) Preliminary report.
Inna Bumagin, McGill University (990-20-245)
- 9:00AM *Periodic rank one geodesics in foldable cubical
(154) complexes*. Preliminary report.
Xiangdong Xie, Washington University (990-53-17)
- 9:30AM *Relative hyperbolicity of limit groups*.
(155) **Emina Alibegovic**, University of Michigan
(990-51-109)
- 10:00AM *Rapid Decay and Geometry - Part I*. Preliminary
(156) report.
Indira Chatterji, Cornell University (990-20-194)
- 10:30AM *Rapid Decay and Geometry - Part II*. Preliminary
(157) report.
Kim E. Ruane, Tufts University (990-20-192)

- 8:30AM *A New Look at an Old Result of Smith and Keinert
(165) on the Inversion of the k - Plane Transform*.
Preliminary report.
Andrew Markoe, Rider University (990-44-140)
- 9:00AM *Analysis of a family of exact inversion formulas for
(166) cone beam transform*.
Alexander Katsevich* and **Alexander Zamyatin**,
University of Central Florida (990-44-156)
- 9:30AM *Reconstruction of the convection term via a
(167) Riemann-Hilbert problem*. Preliminary report.
Alexandru C Tamasan, University of Toronto
(990-35-182)
- 10:00AM *An eigensystem decomposition method for an
(168) inverse medium problem in a waveguide*.
Preliminary report.
Sava Dediu* and **Joyce R McLaughlin**, Rensselaer
Polytechnic Institute (990-35-212)

Special Session on Homotopy Theory: Honoring Peter Hilton on his Eightieth Birthday, III

Special Session on Infinite Groups and Group Rings, III

8:00 AM – 10:50 AM Room 14, Lecture Hall

Organizers: **Luise-Charlotte Kappe**, Binghamton University
Derek J. S. Robinson, University of Illinois, Urbana-Champaign

- 8:00AM *The maximal and minimal conditions for normal
(158) subgroups of infinite order or index*.
F de Giovanni, University of Naples, **D H Paek**,
Busan Normal University, **Derek J.S. Robinson***,
University of Illinois, and **A Russo**, University of
Lecce (990-20-19)
- 8:30AM *Groups with the maximal condition on
(159) non-FC-subgroups*.
Martyn R. Dixon*, University of Alabama,
and **Leonid A. Kurdachenko**, University of
Dnepropetrovsk (990-20-41)
- 9:00AM *Embedding in simple locally (soluble-by-finite)
(160) groups*. Preliminary report.
Martin J Evans, Universtiy of Alabama (990-20-222)
- 9:30AM *Uncountably many basic sequences of
(161) commutators*.
David A Jackson, Saint Louis University (990-20-24)
- 10:00AM *Recent developments in the theory of Fuchsian and
▶ (162) Kleinian groups*.
Gerhard Rosenberger, Dortmund/University
(990-20-20)
- 10:30AM *Most recent results on test ranks of free nilpotent
(163) groups*.
C K Gupta*, University of Manitoba, **V A
Romankov**, Omsk State University, and **E I
Timoshenko**, Novosibirsk University (990-20-242)

Special Session on Inverse Problems and Tomography, III

8:00 AM – 10:25 AM Room 7, Lecture Hall

Organizers: **Peter Kuchment**, Texas A&M University
Leonid A. Kunyansky, University of Arizona
Eric Todd Quinto, Tufts University

- 8:00AM *Anisotropic Inverse Problems in Two Dimensions*.
(164) **Ziqi Sun**, Wichita State University (990-35-35)

8:00 AM – 10:50 AM Room 8, Lecture Hall

Organizers: **Martin Bendersky**, Hunter College (CUNY)
Joseph Roitberg, Hunter College (CUNY)

- 8:00AM *Geometric applications of the Berstein-Hilton Hopf
(169) invariant*.
Octavian Cornea, University of Montreal
(990-55-121)
- 8:30AM *Also on Systems of Interlocking Exact Sequences*.
(170) **C. Joanna Su**, Providence College (990-55-58)
- 9:00AM *Recent advances in v_1 periodic homotopy theory*.
(171) **Martin Bendersky**, CUNY/ Hunter College
(990-55-46)
- 9:30AM *3-local H -spaces of rank 2*.
(172) **John R Harper**, University of Rochester (990-55-90)
- 10:00AM *Implications of the Equation $\text{cat}(X \times A) = \text{cat}(X)$* .
(173) Preliminary report.
Donald Stanley, University of Ottawa, and **Jeffrey
Strom***, Western Michigan University (990-55-185)
- 10:30AM *The Genus and SNT Sets of Certain Connective
(174) Covering Spaces: Work of Huale Huang*.
Joseph Roitberg, Hunter College (CUNY)
(990-55-76)

Special Session on Character Theory of Finite Groups and Algebraic Combinatorics, III

8:00 AM – 10:50 AM Room 5, Lecture Hall

Organizers: **Kenneth W. Johnson**, Pennsylvania State University
Eirini Poimenidou, New College of Florida

- 8:00AM *Characters of large degree*.
(175) **Tom Wolf**, Ohio U. (990-20-265)
- 8:30AM *Automorphism groups of finite monolithic
(176) p -groups*. Preliminary report.
Jeffrey M Riedl, University of Akron (990-20-206)
- 9:00AM *Products of Charactes of Finite p -groups*.
(177) **Edith Adan-Bante**, University of Southern
Mississippi Gulf Coast (990-20-16)
- 9:30AM *Sylow subgroups and the number of conjugacy
(178) classes of p -elements*. Preliminary report.
Alexandre Turull, University of Florida
(990-20-238)

Program of the Sessions – Binghamton, NY, Sunday, October 12 (cont'd.)

- 10:00AM *Diameters of Degree Graphs of Nonsolvable Groups, Part I.*
(179) **Mark L Lewis** and **Donald L White***, Kent State University (990-20-59)
- 10:30AM *Diameters of Degree Graphs of Nonsolvable Groups, Part II.*
(180) **Mark L. Lewis*** and **Donald L. White**, Kent State University (990-20-15)

Special Session on Lie Algebras, Conformal Field Theory, and Related Topics, III

8:20 AM – 10:50 AM **Room 231, Student Wing**

Organizers: **Chongying Dong**, University of California Santa Cruz
Alex J. Feingold, Binghamton University
Gaywalee Yamskulna, Binghamton University

- 8:20AM *On radical of vertex algebras.*
(181) **Michael Roitman**, University of Michigan at Ann Arbor (990-17-282)
- 9:00AM *Dual pairs and primitive quotients of enveloping algebras.*
(182) **Victor Protsak**, Cornell University (990-17-199)
- 9:40AM *Cohomology of Borchers Lie algebras.*
(183) **Elizabeth G Jurisich**, The College of Charleston (990-17-161)
- 10:20AM *Representations of quantum toroidal algebras.*
(184) Preliminary report.
Naihuan Jing, North Carolina State University (990-17-186)

Special Session on Probability Theory, III

8:30 AM – 10:45 AM **Room 321, Student Wing**

Organizers: **Miguel A. Arcones**, Binghamton University
Evarist Gine, University of Connecticut

- 8:30AM *The extremal dependence measure, hidden regular variation and asymptotic independence.*
(185) **Sidney I Resnick**, Cornell University (990-60-91)
- 9:05AM *Density dependent Markov chains generated by iteration of iid random maps on \mathbb{R}^+ .*
(186) **Krishna B. Athreya**, School of ORIE, Cornell University (990-60-97)
- 9:40AM *Natural wavelet expansions for Gaussian-Markov processes.*
(187) **Vladimir Dobric*** and **Francisco M. Ojeda**, Lehigh University (990-60-271)
- 10:15AM *Wonham Filters with random parameters.*
▶ (188) **Xin Guo**, School of ORIE, Cornell University (990-60-219)

Special Session on Statistics, III

8:30 AM – 10:45 AM **Room 323, Student Wing**

Organizers: **Miguel A. Arcones**, Binghamton University
Anton Schick, Binghamton University
Qiqing Yu, Binghamton University

- 8:30AM *Poissonization of Statistical Experiments.*
(189) **Mark G Low***, Department of Statistics, University of Pennsylvania, **Michael Nussbaum**, Cornell University, **Sara Van de Geer**, University of Leiden, and **Harrison H Zhou**, Cornell University (990-62-193)

- 9:05AM *Statistical Equivalence and Stochastic-Process Limit Theorems.*
(190) **Lawrence D. Brown**, University of Pennsylvania (990-62-122)
- 9:40AM *Combining Information From Independent Sources Through Confidence Distributions.*
(191) **Kesar Singh***, **Minge Xie** and **William E Strawderman**, Rutgers Univ. (990-62-48)
- 10:15AM *Asymptotic equivalence of spectral density estimation and Gaussian white noise.*
(192) **Michael Nussbaum*** and **Harrison H. Zhou**, Cornell University (990-62-202)

Special Session on Manifold Theory, III

8:30 AM – 10:50 AM **Room 9, Lecture Hall**

Organizers: **Erik K. Pedersen**, Binghamton University
Ian Hambleton, McMaster University

- 8:30AM *Periodic Methods and Finiteness.*
(193) **Alejandro Adem***, University of Wisconsin, **Jim Davis**, Indiana University, and **Ozgun Unlu**, University of Wisconsin (990-57-82)
- 9:00AM *Thickenings of Z/nZ manifolds and applications.*
(194) Preliminary report.
Laurence R Taylor, University of Notre Dame (990-57-78)
- 9:30AM *Splitting With Continuous Control in Algebraic K-theory.*
(195) **David Rosenthal**, McMaster University (990-57-112)
- 10:00AM *Controlled exact categories.* Preliminary report.
(196) **Manuel Cardenas**, Universidad de Sevilla (Spain) (990-19-30)
- 10:30AM *Obstructions to transversality for exotic homology manifolds.*
(197) **Heather M Johnston**, Vassar College (990-57-257)

Special Session on Noncommutative Ring Theory, III

8:30 AM – 10:50 AM **Room 331, Student Wing**

Organizers: **Howard E. Bell**, Brock University
Yuanlin Li, Brock University

- 8:30AM *Bilinear spaces with unimodular automorphism group.*
▶ (198) **Dragomir Djokovic**, University of Waterloo, and **Fernando Szechtman***, University of Regina (990-20-244)
- 9:00AM *Extensions of Generalized Armendariz Rings.*
(199) Preliminary report.
Chan Y. Hong, Kyung Hee University, **Tae Keun Kwak**, Daejin University, and **S. Tariq Rizvi***, The Ohio State University (990-16-237)
- 9:30AM *Baer And Quasi-Baer Modules.*
(200) **S. Tariq Rizvi** and **Cosmin S Roman***, The Ohio State University (990-16-232)
- 10:00AM *Associative algebras related to the representations of Lie algebras.*
(201) **Vlastimil Dlab**, Carleton University (990-16-280)
- 10:30AM *Properly stratified endomorphism algebras.*
(202) **Xueqing Chen***, University of Ottawa, and **Vlastimil Dlab**, Carleton University (990-16-171)

Special Session on Dowling Lattices: The 30th Anniversary, III

8:30 AM – 10:50 AM Room 3, Lecture Hall

Organizer: **Thomas Zaslavsky**, Binghamton University of SUNY

- 8:30AM (203) *Asymptotic results for the WDVV ring of physics.*
Margaret A. Readdy, University of Kentucky (990-05-252)
- 9:00AM (204) *Inequalities for Zonotopes.*
Richard Ehrenborg, University of Kentucky (990-05-254)
- 9:30AM (205) *Modularly Contractible Representable Matroids.* Preliminary report.
Kenneth P Bogart*, Dartmouth College, and **David L Neel**, Seattle University (990-05-246)
- 10:00AM (206) *Hyperplane arrangements and graph orientations.*
Daniel C Slilaty, Wright State University (990-05-272)
- 10:30AM (207) *Cographic Excluded Minors for Gain-Graphic Matroids.*
Thomas Dowling* and **Hongxun Qin**, The Ohio State University (990-05-203)

Special Session on Topological Combinatorics, III

8:30 AM – 10:50 AM Room 2, Lecture Hall

Organizers: **Laura M. Anderson**, Binghamton University
Edward B. Swartz, Cornell University

- ▶ 8:30AM (208) *Unfolding convex polyhedral manifolds.*
Ezra Miller*, University of Minnesota, and **Igor Pak**, MIT (990-52-279)
- 9:00AM (209) *On face numbers of manifolds with symmetry.*
Isabella Novik, University of Washington (990-05-114)
- 9:30AM (210) *Inequalities for the h-vector and flag h-vector of geometric lattices.* Preliminary report.
Ed Swartz, Cornell University, and **Kathryn Nyman***, Texas A&M University (990-06-251)
- 10:00AM (211) *Angle Sums of Polytopes: A new proof of Perles' result.* Preliminary report.
Kristin A. Camenga, Cornell University (990-05-214)
- ▶ 10:30AM (212) *The angle defect for odd-dimensional simplicial manifolds.* Preliminary report.
Ethan D. Bloch, Bard College (990-52-148)

Special Session on Boundary Value Problems on Singular Domains, III

9:00 AM – 10:50 AM Room 325, Student Wing

Organizers: **Juan B. Gil**, Penn State Altoona
Paul A. Loya, Binghamton University

- 9:00AM (213) *Zeta functions with nonstandard poles.*
Robert T. Seeley, University of Massachusetts at Boston (990-58-104)
- 9:40AM (214) *Mellin Transform and Global Optimization Techniques for Elliptic Boundary Problems.*
Irina Mitrea, Cornell University (990-45-63)
- 10:20AM (215) *Strictly pseudoconvex b-CR manifolds.*
Gerardo A Mendoza, Temple University (990-32-57)

Invited Address

11:00 AM – 11:50 AM Room 1, Lecture Hall

- (216) *Quantum graphs and their applications.*
Peter Kuchment, Texas A&M University (990-35-04)

Invited Address

1:30 PM – 2:20 PM Room 1, Lecture Hall

- (217) *Diophantine geometry over groups and the elementary theory of free and hyperbolic groups.* Preliminary report.
Zlil Sela, Einstein Institute of Mathematics (990-20-02)

Special Session on Biomolecular Mathematics, IV

2:30 PM – 4:50 PM Room 12, Lecture Hall

Organizers: **Thomas J. Head**, Binghamton University
Dennis G. Pixton, Binghamton University
Mitsunori Ogihara, University of Rochester
Carlos Martin-Vide, Universitat Rovira i Virgili

- ▶ 2:30PM (218) *Mathematics of Giant Hexagonal Bilayer Hemoglobins.*
Leonid G. Hanin, University of Rochester (990-92-51)
- 3:30PM (219) *Biomolecular Computing To Solve Hard Problems.* Preliminary report.
Rani Siromoney*, Chennai Mathematical Institute, and **Bireswar Das**, Institute of Mathematical Sciences (990-68-136)
- ▶ 4:00PM (220) *Stem-Loop Rewrite Rules.* Preliminary report.
Julia Khodor, MIT (990-92-163)
- 4:30PM (221) *Universality and Complexity Aspects in Networks of Evolutionary Processors.*
Erzsebet Csuhaj-Varju, Hungarian Academy of Sciences, **Carlos Martin-Vide*** and **Victor Mitrana**, Rovira i Virgili University (990-68-201)

Special Session on Geometric Group Theory, IV

2:30 PM – 4:50 PM Room 10, Lecture Hall

Organizers: **Zlil Sela**, Einstein Institute of Mathematics
Ross Geoghegan, Binghamton University

- 2:30PM (222) *Garside structures for Artin groups.* Preliminary report.
Jon McCammond, U.C. Santa Barbara (990-20-123)
- 3:00PM (223) *Poly-free constructions for Artin groups.* Preliminary report.
Susan M. Hermiller*, University of Nebraska, and **Zoran Sunik**, Texas A&M University (990-20-248)
- 3:30PM (224) *The Even Isomorphism Theorem for Coxeter Groups.*
Mike Mihalik, Vanderbilt University (990-20-150)
- 4:00PM (225) *Loops in Coxeter diagrams: what do they get us?* Preliminary report.
Patrick Bahls, University of Illinois, Urbana-Champaign (990-20-53)
- 4:30PM (226) *The cohomology of right angled Artin groups with group ring coefficients.* Preliminary report.
John Meier, Lafayette College (990-20-149)

Special Session on Boundary Value Problems on Singular Domains, IV

2:30 PM – 3:40 PM Room 325, Student Wing

Organizers: **Juan B. Gil**, Penn State Altoona
Paul A. Loya, Binghamton University

- 2:30PM *A multi-directional Neumann problem in R^4 .*
(227) **Gregory C Verchota*** and **Andrew L Vogel**,
Syracuse University (990-35-65)
- 3:10PM *Sobolev-Besov estimates for elliptic PDE's in
non-smooth Riemannian manifolds.* Preliminary
report.
▶ (228) **Marius Mitrea**, University of Missouri (990-35-239)

Special Session on Infinite Groups and Group Rings, IV

2:30 PM – 5:20 PM Room 14, Lecture Hall

Organizers: **Luise-Charlotte Kappe**, Binghamton
University
Derek J. S. Robinson, University of
Illinois, Urbana-Champaign

- 2:30PM *Some solvable automaton groups.*
(229) **Laurent Bartholdi**, University of California -
Berkeley, and **Zoran Sunik***, Texas A&M University
(990-20-89)
- 3:00PM *Superrigidity and the classification problem for the
torsion-free abelian groups of finite rank.*
(230) **Simon Thomas**, Rutgers University (990-20-36)
- 3:30PM *One-relator groups with torsion - computing
presentations with SCHEME.* Preliminary report.
(231) **Gilbert Baumslag*** and **Douglas Troeger**, City
College of New York (990-20-200)
- 4:00PM *The Finitary Andrews-Curtis Conjecture.*
▶ (232) **Alexei Myasnikov**, McGill University (990-20-135)
- 4:30PM *Groups Normal in the Unit Groups of Their Group
Rings.*
(233) **Marcin Mazur**, Binghamton University (990-20-116)
- 5:00PM *On finite presentability of some pro-p groups.*
(234) Preliminary report.
Mikhail V. Ershov, Yale University (990-20-117)

Special Session on Lie Algebras, Conformal Field Theory, and Related Topics, IV

2:30 PM – 5:00 PM Room 231, Student Wing

Organizers: **Chongying Dong**, University of
California Santa Cruz
Alex J. Feingold, Binghamton
University
Gaywalee Yamskulna, Binghamton
University

- 2:30PM *On Rigidity of Vertex Tensor Categories.* Preliminary
report.
(235) **Antun Milas**, University of Arizona / Rensselaer
Polytechnic Institute (990-17-266)
- 3:10PM *Open-string vertex algebras.*
(236) **Yi-Zhi Huang** and **Liang Kong***, Rutgers University
(990-17-106)
- 3:50PM *On the Decomposition Rules for E_9 .* Preliminary
report.
(237) **Eric C. Rowell**, Indiana University (990-20-128)
- 4:30PM *Computing type A fusion rules by using S_k -orbits of
 \mathbb{Z}_N^k .*
▶ (238) **Omar D Saldarriaga**, State university of New York
at Binghamton (990-16-172)

Special Session on Probability Theory, IV

2:30 PM – 4:45 PM Room 321, Student Wing

Organizers: **Miguel A. Arcones**, Binghamton
University
Evarist Gine, University of Connecticut

- 2:30PM *Sample path regularity for Brownian motions on
compact groups.*
(239) **Laurent Saloff-Coste*** and **Alexander Bendikov**,
Cornell University (990-60-205)
- 3:05PM *Stochastic differential equations on
noncommutative L^2 -spaces.*
(240) **Maria Gordina**, University of Connecticut
(990-60-72)
- 3:40PM *Moment characterizing operators.*
▶ (241) **Luigi Accardi**, Centro Vito Volterra, **Hui-Hsiung
Kuo**, Louisiana State University, and **Aurel Iulian
Stan***, University of Rochester (990-60-81)
- 4:15PM *Markov chains, moment problems and discrete
quantum gravity.* Preliminary report.
(242) **Patrick T. McDonald***, New College of Florida, and
Avner Ash, Boston College (990-60-115)

Special Session on Statistics, IV

2:30 PM – 5:55 PM Room 323, Student Wing

Organizers: **Miguel A. Arcones**, Binghamton
University
Anton Schick, Binghamton University
Qiqing Yu, Binghamton University

- 2:30PM *Asymptotic Analysis of A Two-Way Semiparametric
Regression Model for Microarray Data.* Preliminary
report.
(243) **Jian Huang**, University of Iowa, and **Cun-Hui
Zhang***, Rutgers University (990-62-269)
- 3:05PM *On efficient estimation of parameters in functional
partly linear regression models.*
(244) **Hanxiang Peng*** and **Hawking Wang**, University of
Mississippi (990-62-264)
- 3:40PM *Asymptotics of the Theil-Sen estimator in simple
linear regression model with a random covariate.*
(245) **Xueqin Wang**, University of Mississippi (990-62-73)
- 4:15PM *Maximum bias curves for M-estimates of regression
with general scale.* Preliminary report.
(246) **Jose R. Berrendero**, Universidad Autonoma de
Madrid, **Beatriz V.M. Mendes**, Universidade Federal
do Rio Janeiro, **David E. Tyler***, Rutgers, The State
University of New Jersey, and **Ruben H. Zamar**,
University of British Columbia (990-62-210)
- 4:50PM *A probabilistic method for detecting multivariate
outliers.* Preliminary report.
(247) **Shafiu Jibrin**, Northern Arizona University, **Irwin S.
Pressman*** and **Matias Saliban-Barrera**, Carleton
University (990-62-32)
- 5:25PM *Contour regression: a general approach to
dimension reduction.*
(248) **Bing Li***, Dept of Statistics, Pennsylvania State
University, **Hongyuan Zha**, Dept of Computer
Science and Engineering, Pennsylvania State
University, and **Francesca Chiaromonte**, Dept of
Statistics, The Pennsylvania State University
(990-62-84)

Special Session on Finite Solvable Groups and Their Representations, III

2:30 PM – 4:00 PM Room 4, Lecture Hall

Organizers: **Ben Brewster**, SUNY at Binghamton

Arnold Feldman, Franklin & Marshall College

- 2:30PM *Subgroup Containment Properties of Finite Solvable Groups*. Preliminary report.
(249) **Joseph Kirtland**, Marist College (990-20-70)
- 3:00PM *An Overview of Permutability in Direct Products*.
(250) **Joseph Evan**, King's College (990-20-67)
- 3:30PM *Finite minimal non-nilpotent groups*. Preliminary report.
(251) **Adolfo Ballester-Bolinchés**, Universitat de València, **Ramon Esteban-Romero***, Universitat Politècnica de València, and **Derek J. S. Robinson**, University of Illinois at Urbana-Champaign (990-20-124)

Special Session on Manifold Theory, IV

2:30 PM – 3:20 PM Room 9, Lecture Hall

Organizers: **Erik K. Pedersen**, Binghamton University

Ian Hambleton, McMaster University

- 2:30PM *Lipschitz cohomology, coronas, and the Novikov conjecture*. Preliminary report.
(252) **Alexander Dranishnikov**, University of Florida (990-57-132)
- 3:00PM *Hamiltonian Stationary Lagrangian Surfaces in CP^2* . Preliminary report.
(253) **Hui Ma*** and **Franz Pedit**, Dept. of Math. & Stat., GANG, Umass, Amherst (990-51-39)

Special Session on Noncommutative Ring Theory, IV

2:30 PM – 4:50 PM Room 331, Student Wing

Organizers: **Howard E. Bell**, Brock University
Yuanlin Li, Brock University

- ▶ 2:30PM *Rings in which elements are uniquely the sum of a unit and an idempotent*.
(254) **W Keith Nicholson**, The University of Calgary, and **Yiqiang Zhou***, Memorial University of Newfoundland (990-16-77)
- 3:00PM *Duo Rings and Ore Extensions*.
(255) **Greg Marks**, St. Louis University (990-16-11)
- ▶ 3:30PM *Orders in artinian rings*. Preliminary report.
(256) **Vijay Kumar Bhat**, Banasthali VidyapithRajasthan-304022.India. (990-16-05)
- 4:00PM *How distributivity influences commutativity in rings*.
(257) **Mark Farag**, Wagner College (990-16-179)
- 4:30PM *CS-Property and Matrix Rings*.
(258) **K. I. Beidar**, National Cheng-Kung University, **S. K. Jain**, Ohio University, **Pramod Kanwar***, Ohio University-Zanesville, and **J. B. Srivastava**, Indian Institute of Technology (990-16-178)

Special Session on Dowling Lattices: The 30th Anniversary, IV

2:30 PM – 3:20 PM Room 3, Lecture Hall

Organizer: **Thomas Zaslavsky**, Binghamton University of SUNY

- 2:30PM Discussion
- 3:00PM *Extensor Valued P-ported Parametrized Tutte-like Functions and Invariants of Graphs and Oriented Matroids*.
(259) **Seth Chaiken**, Computer Science Dept., Univ. at Albany (990-05-27)

Special Session on Topological Combinatorics, IV

2:30 PM – 4:50 PM

Room 2, Lecture Hall

Organizers: **Laura M. Anderson**, Binghamton University

Edward B. Swartz, Cornell University

- 2:30PM *A $GL_n(q)$ -analogue of the partition lattice*. Preliminary report.
(260) **Phil Hanlon**, **Patricia Hersh***, University of Michigan, and **John Shareshian**, Washington University in St. Louis (990-05-208)
- ▶ 3:00PM *A poset structure on multichains in the noncrossing partition lattice*. Preliminary report.
(261) **Drew D Armstrong**, Cornell University (990-05-218)
- 3:30PM *On the topology of multigraph picture spaces*.
(262) **Jeremy L Martin**, University of Minnesota (990-05-87)
- 4:00PM *Graphs, Syzygies and Multivariate Splines*.
(263) **Lauren L Rose**, Bard College (990-52-267)
- 4:30PM *Abelianizing the Real Permutation Action via Blowups*.
(264) **Eva-Maria E Feichtner***, ETH Zurich, and **Dmitry N Kozlov**, KTH Stockholm (990-51-176)

Lesley M. Sibner
Associate Secretary
Brooklyn, New York