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# Program of the Sessions

Madison, Wisconsin, October 12–13, 2002

## Saturday, October 12

### Meeting Registration

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7:30 AM – 4:30 PM Lobby, Van Vleck Hall

### AMS Exhibit and Book Sale

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7:30 AM – 4:30 AM Room B227, Van Vleck Hall

### Special Session on Arithmetic Algebraic Geometry, I

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9:00 AM – 11:25 AM Room B113, Van Vleck Hall

Organizers: **Ken Ono**, University of Wisconsin-Madison  
**Tonghai Yang**, University of Wisconsin-Madison

- 9:00AM *Jung-Hirzebruch resolution for arithmetic surfaces.*  
(1) **Brian Conrad**, University of Michigan (980-14-64)
- 9:30AM *Kummer theory of abelian varieties and reductions of Mordell-Weil groups.*  
(2) **Tom Weston**, University of California, Berkeley (980-11-58)
- 10:00AM *Euler systems of CM cycles.*  
(3) **Ye Tian**, Columbia University (980-11-191)
- 10:30AM *Modularity of Galois representations.*  
(4) **Chandrashekar B Khare**, University of Utah (980-11-46)
- 11:00AM *Limits of crystalline modular eigenforms.*  
(5) **Frank D Calegari**, Harvard (980-11-124)

### Special Session on Several Complex Variables, I

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9:00 AM – 10:40 AM Room B317, Van Vleck Hall

Organizers: **Pat Ahern**, University of Wisconsin-Madison  
**Xianghong Gong**, University of Wisconsin-Madison

**Alex Nagel**, University of Wisconsin-Madison  
**Jean-Pierre Rosay**, University of Wisconsin-Madison

- 9:00AM Discussion
- 10:00AM *Plurisubharmonic functions on  $\mathbb{C}^n$  with logarithmic poles in a finite set.*  
(6) **Dan Coman**, Syracuse University (980-32-102)

### Special Session on Harmonic Analysis, I

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9:00 AM – 11:25 AM Room B341, Van Vleck Hall

Organizers: **Alex Ionescu**, University of Wisconsin-Madison  
**Andreas Seeger**, University of Wisconsin-Madison

- 9:00AM *Singular integrals and decoupled domains.*  
(7) **Elias M. Stein**, Princeton University (980-32-199)
- 10:00AM *On the classical Carleson-Hunt theorem in Fourier analysis.* Preliminary report.  
(8) **Xiaochun Li** and **Camil Muscalu\***, University of California at Los Angeles (980-42-155)
- 10:30AM *Nonlinear wave equations outside of obstacles.*  
(9) **Christopher D Sogge**, Johns Hopkins University (980-35-171)
- 11:00AM  *$L^p$  bounds for Riesz Transforms associated to divergence form elliptic operators.*  
(10) **Steve Hofmann\***, University of Missouri-Columbia, and **J. M. Martell**, University of Missouri (980-42-40)

### Special Session on Partial Differential Equations and Geometry, I

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9:00 AM – 11:20 AM Room B309, Van Vleck Hall

Organizers: **Sigurd Angenent**, University of Wisconsin-Madison  
**Mikhail Feldman**, University of Wisconsin-Madison

**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 23, 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.

- 9:00AM *Number of minimal graphs with disjoint support.*  
(11) **Peter Li**, UC, Irvine, and **Jiaping Wang\***, University of Minnesota (980-58-122)
- 10:00AM *Motion of small bubbles by normalized mean curvature in Riemannian manifolds.*  
(12) **N. D. Alikakos**, University of Athens (Greece), and **A. S. Freire\***, University of Tennessee, Knoxville (980-35-212)
- 10:30AM Discussion
- 11:00AM Discussion

- 11:00AM *The  $p$ -punctual space of a finite group scheme (Preliminary Report).* Preliminary report.  
(22) **Eric M. Friedlander\***, Northwestern University, and **Julia Pevtsova**, Institute for Advanced Study (980-16-101)

***Special Session on Geometric Methods in Differential Equations, I***

9:00 AM – 11:25 AM Room B305, Van Vleck Hall

Organizers: **Gloria Mari Beffa**, University of Wisconsin-Madison  
**Peter Olver**, University of Minnesota

- 9:00AM *Canonical regularization of the Lie algebra of pseudodifferential operators.* Preliminary report.  
(23) **Thierry P Robart\***, Howard University, and **Enrique G Reyes**, University of Oklahoma (980-35-284)
- 9:30AM *Charts for analytic Lie pseudogroups of infinite type.*  
(24) **Niky Kamran**, McGill University (980-53-87)
- 10:00AM Discussion
- 10:30AM *Sub-Finsler geometry in dimension 3.* Preliminary report.  
(25) **Jeanne N. Clelland\***, University of Colorado, Boulder, and **Christopher G. Moseley**, U.S. Military Academy (980-58-241)
- 11:00AM *Geometry of Parametric Backlund Transformations.* Preliminary report.  
(26) **Thomas A. Ivey\***, College of Charleston, and **Jeanne Nielsen Clelland**, University of Colorado, Boulder (980-53-141)

***Special Session on Effectiveness Questions in Model Theory, I***

9:00 AM – 11:20 AM Room B203, Van Vleck Hall

Organizers: **Charles McCoy**, University of Wisconsin-Madison  
**Reed Solomon**, University of Wisconsin-Madison  
**Patrick Speissegger**, University of Wisconsin-Madison

- 9:00AM *Effectiveness questions in arithmetic.*  
(27) **Andrew P Arana**, Stanford University (980-03-252)
- 9:30AM  *$\Delta^0_1$ -categoricity in Abelian  $p$ -groups.* Preliminary report.  
(28) **Douglas Cenzer**, University of Florida (980-03-215)
- 10:00AM Discussion
- 10:30AM *Bounding prime, homogeneous, and saturated models.* Preliminary report.  
(29) **Barbara F. Csima**, University of Chicago (980-03-240)
- 11:00AM *Bounding prime, homogeneous, and saturated models II.* Preliminary report.  
(30) **Denis R. Hirschfeldt**, University of Chicago (980-03-267)

***Special Session on Ring Theory and Related Topics, I***

9:00 AM – 11:20 AM Room B105, Van Vleck Hall

Organizer: **Don Passman**, University of Wisconsin-Madison

- 9:00AM *Maximal torsion radicals in  $\sigma[M]$  and minimal prime  $M$ -ideals.*  
(31) **John A. Beachy**, Northern Illinois University (980-16-233)

***Special Session on Arrangements of Hyperplanes, I***

9:00 AM – 11:20 AM Room B219, Van Vleck Hall

Organizers: **Daniel C. Cohen**, Louisiana State University  
**Peter Orlik**, University of Wisconsin-Madison  
**Anne Shepler**, University of California Santa Cruz

- 9:00AM *The Hodge filtration and the contact-order filtration of derivations of Coxeter arrangements.*  
(13) **Hiroaki Terao**, Tokyo Metropolitan University (980-32-118)
- 9:30AM *Cohomology of wonderful compactifications and intersection theory on toric varieties.*  
(14) **Eva-Maria E. Feichtner\***, ETH Zurich, and **Sergey Yuzvinsky**, University of Oregon (980-51-156)
- 10:00AM *Torsion in homology of Milnor fibres.* Preliminary report.  
(15) **D C Cohen**, Louisiana State University, **G C Denham\***, University of Western Ontario, and **A I Suci**, Northeastern University (980-55-270)
- 10:30AM *Bernstein-Sato polynomials and Milnor fibres of generic arrangements.*  
(16) **Uli Walther**, Purdue University / MSRI (980-14-49)
- 11:00AM *The  $\ell^2$ -cohomology of hyperplane complements.* Preliminary report.  
(17) **Michael W. Davis\***, The Ohio State University, **Tadeusz Januszkiewicz**, Wroclaw University and IM PAN, and **Ian J. Leary**, University of Southampton (980-57-103)

***Special Session on Group Cohomology and Homotopy Theory, I***

9:00 AM – 11:20 AM Room B235, Van Vleck Hall

Organizers: **Alejandro Adem**, University of Wisconsin-Madison  
**Jesper Grodal**, Institute for Advanced Study

- 9:00AM *The classification of quasithin groups (and of finite simple groups).*  
(18) **Stephen D Smith**, University of Illinois at Chicago (980-20-52)
- 9:30AM *Finite Loop Spaces are Manifolds.*  
(19) **Nitu R Kitchloo\***, Johns Hopkins University, and **Dietrich Notbohm**, University of Leicester (980-55-113)
- 10:00AM *On fusion category algebras of  $p$ -blocks of finite groups.* Preliminary report.  
(20) **Markus Linckelmann**, Ohio State University (980-20-318)
- 10:30AM *On stacks, 2-theories and conformal field theory.*  
(21) **Po Hu**, Wayne State University (980-18-256)

## Program of the Sessions – Madison, WI, Saturday, October 12 (cont'd.)

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- 9:30AM *Delta Methods in Enveloping Rings.*  
(32) **Jeffrey Bergen**, DePaul University (980-16-147)
- 10:00AM *Finitary Groups and Rings.*  
(33) **Richard E. Phillips** and **Jeanne Wald\***, Michigan State University (980-16-127)
- 10:30AM *Lie algebras with few centralizer dimensions.*  
(34) **Yiftach D. Barnea\*** and **I. M. Isaacs**, University of Wisconsin - Madison (980-17-73)
- 11:00AM *CS-Matrix Rings over Local Rings.*  
(35) **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 (980-16-56)

### Special Session on Lie Algebras and Related Topics, I

9:00 AM – 10:45 AM Room B129, Van Vleck Hall

- Organizers: **Georgia Benkart**, University of Wisconsin-Madison  
**Arun Ram**, University of Wisconsin-Madison
- 9:00AM *Multiplicity-free products of Weyl characters.*  
(36) **John R Stemberge**, University of Michigan (980-17-88)
- 10:00AM *Kazhdan-Lusztig polynomials and character formulae for the supergroups  $GL(m|n)$  and  $Q(n)$ .*  
(37) **Jonathan Brundan**, University of Oregon (980-22-224)

### Special Session on Dynamical Systems, I

9:00 AM – 11:25 AM Room B215, Van Vleck Hall

- Organizers: **Sergey Bolotin**, University of Wisconsin-Madison  
**Paul Rabinowitz**, University of Wisconsin-Madison
- 9:00AM *Dynamics of Lie algebras and Lie groups on low dimensional real and complex manifolds.*  
(38) **Morris W. Hirsch**, U. Calif., Berkeley. & U. Wisc., Madison (980-37-26)
- 9:30AM *Periodic Points of Hamiltonian Surface Diffeomorphisms.* Preliminary report.  
(39) **John Franks\***, Northwestern University, and **Michael Handel**, Lehman College (CUNY) (980-37-65)
- 10:00AM *Growth of the number of periodic points of a smooth map.*  
(40) **Vadim Kaloshin**, MIT (980-37-91)
- 10:30AM *Partial hyperbolicity, Lyapunov exponents and stable ergodicity.*  
(41) **Keith Burns\***, Northwestern University, **Dmitry Dolgopyat**, University of Maryland, and **Yakov Pesin**, Pennsylvania State University (980-37-166)
- 11:00AM *Rigorous Computation of Low Dimensional Structures in Infinite Dimensional Dynamical Systems.*  
(42) **Konstantin Mischaikow**, Georgia Institute of Technology (980-37-90)

### Special Session on Probability, I

9:00 AM – 10:45 AM Room B313, Van Vleck Hall

- Organizers: **David Griffeath**, University of Wisconsin-Madison  
**Timo Seppalainen**, University of Wisconsin-Madison

- 9:00AM *Some rigorous results for the NK model.*  
(43) **Vlada Limic**, University of British Columbia (980-60-98)
- 10:00AM *Scaling Limit for a Fleming-Viot Type System.*  
(44) **Ilie Grigorescu\***, University of Miami, and **Min Kang**, North Carolina State University (980-60-226)

### Special Session on Biological Computation and Learning in Intelligent Systems, I

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9:00 AM – 11:20 AM Room B329, Van Vleck Hall

- Organizers: **Shun-ichi Amari**, RIKEN  
**Amir Assadi**, University of Wisconsin-Madison  
**Tomaso Poggio**, Massachusetts Institute of Technology
- 9:00AM *On the computing power of a single neuron with dendritic structure.*  
(45) **Gerhard X. Ritter\***, University of Florida, and **Gonzalo Urcid**, INAOE (980-68-110)
- 10:00AM *Dynamical systems analysis of turtle visual cortex.* Preliminary report.  
(46) **Philip Ulinski**, University of Chicago (980-92-285)
- 10:30AM *Neural engineering: Computation, representation, and dynamics in neurobiological systems.*  
(47) **Charles H. Anderson**, Washington University (980-20-320)
- 11:00AM *Likelihood approaches to neural coding in auditory cortex.*  
(48) **Rick L Jenison**, University of Wisconsin-Madison (980-92-286)

### Special Session on Combinatorics and Special Functions, I

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9:00 AM – 11:20 AM Room B321, Van Vleck Hall

- Organizers: **Richard Askey**, University of Wisconsin-Madison  
**Paul Terwilliger**, University of Wisconsin-Madison
- 9:00AM *New Formulas for Ramanujan's Tau Function and the Leech Lattice.* Preliminary report.  
(49) **Stephen C Milne**, The Ohio State University (980-11-305)
- 9:30AM *Special Functions Related to Representations of High Dimension Lie Groups.*  
(50) **Alexander Rozenblyum**, New York City College of Technology, CUNY (980-33-45)
- 10:00AM *Fifth Order Mock Theta Functions.*  
(51) **Boon P Yeap**, University of Illinois at Urbana-Champaign (980-11-308)
- 10:30AM *A proof of Askey-Wilson relations for Leonard pairs.*  
(52) **Raimundas Vidunas**, University of Antwerp (980-33-266)
- 11:00AM *The pseudo cosine sequences of a distance-regular graph.* Preliminary report.  
(53) **A A Pascasio\***, De La Salle University, and **Paul M Terwilliger**, University of Wisconsin (980-05-311)

### Special Session on Characters and Representations of Finite Groups, I

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9:00 AM – 11:20 AM Room B119, Van Vleck Hall

- Organizers: **Martin Isaacs**, University of Wisconsin, Madison  
**Mark Lewis**, Kent State University

- 9:00AM *Canonical bases of a small Hecke algebra.*  
(54) Preliminary report.  
**J L Alperin**, University of Chicago (980-20-08)
- 9:30AM *Linear Limits of Simple Modules over Twisted Group Algebras.*  
(55) **Everett C. Dade**, University of Illinois (980-20-188)
- 10:00AM *More on the McKay conjecture.*  
(56) **Gabriel Navarro**, University of Valencia (980-20-92)
- 10:30AM *Systems of Character Isometries.* Preliminary report.  
(57) **Harvey I. Blau**, Northern Illinois University (980-20-162)
- 11:00AM *Reduction theorems for Clifford classes.* Preliminary report.  
(58) **Alexandre Turull**, University of Florida (980-20-211)

**Special Session on Lie Groups and Their Representations, I**

9:00 AM – 11:20 AM Room B131, Van Vleck Hall

Organizers: **R. Michael Howe**, University of Wisconsin, Eau Claire  
**Gail D. Ratcliff**, East Carolina University

- 9:00AM *Representation theory, spectral geometry, and length spectra .*  
(59) **Ruth Gornet**, University of Texas at Arlington (980-53-232)
- 9:30AM *A Paley-Wiener Property for the Fourier Transform on an Exponential Solvable Lie Group.*  
(60) **Bradley N. Currey**, Saint Louis University (980-22-152)
- 10:30AM *The Hua system on a Hermitian symmetric space.*  
(61) **Chal Benson**, East Carolina University (980-22-34)
- 11:00AM *Representations of an Extension of  $SL(3, R)$  by an outer automorphism.*  
(62) **Shayan Sen**, Drexel University, and **Maria G Fung\***, Western Oregon Univeristy (980-22-262)

**Special Session on Hyperbolic Differential Equations and Kinetic Theory, I**

9:30 AM – 11:20 AM Room B325, Van Vleck Hall

Organizers: **Shi Jin**, University of Wisconsin-Madison  
**Marshall Slemrod**, University of Wisconsin-Madison  
**Athanassios Tzavaras**, University of Wisconsin-Madison

- 9:00AM Discussion
- 9:30AM *Kinetic Formulation and Well-Posedness for Non-Isotropic Degenerate Parabolic-Hyperbolic Equations.*  
(63) **Gui-Qiang G Chen\***, Northwestern University, and **Benoit Perthame**, Ecole Normale Superieure (Paris) (980-35-13)
- 10:00AM *Transition to Instability in Hyperbolic Conservation Laws.*  
▶ (64) **Robin Young\*** and **Walter Szeliga**, University of Massachusetts (980-35-242)
- 10:30AM *Global existence for the full multi-dimensional compressible Navier-Stokes equations with with large, symmetric data.*  
(65) **David Hoff** and **Helge Kristian Jenssen\***, Indiana University (980-76-10)
- 11:00AM Discussion

**Special Session on Optimal Geometry of Curves and Surfaces, I**

10:00 AM – 11:20 AM Room B337, Van Vleck Hall

Organizers: **Jason H. Cantarella**, University of Georgia  
**John M. Sullivan**, University of Illinois, Urbana

- 10:00AM *Analytic aspects of the ropelength problem.*  
▶ (66) Preliminary report.  
**Joseph H.G. Fu**, University of Georgia (980-53-312)
- 10:30AM *Examples and candidates for the ropelength problem.* Preliminary report.  
(67) **Nancy C. Wrinkle**, University of Georgia (980-51-315)
- 11:00AM *Optimal shapes of curves with finite thickness.*  
▶ (68) **Oscar Gonzalez**, Mathematics/UT-Austin (980-49-299)

**Session for Contributed Papers, I**

10:00 AM – 11:25 AM Room B333, Van Vleck Hall

- 10:00AM *Phragmen-Lindelof Type Results for Wave Equations Concerning  $p$ -Laplacian.* Preliminary report.  
(69) **Yalcin Yilmaz**, Sakarya University (980-35-30)
- 10:15AM *On some subclass of the Malcev algebras.*  
(70) Preliminary report.  
**Ramiro Carrillo**, Instituto de Matematicas, UNAM, and **Liudmila Sabinina\***, Facultad de Ciencias, UAEM (980-17-259)
- 10:30AM *Coherent families of weight modules of Lie superalgebras.*  
(71) **Dimitar V Grantcharov**, University of California, Riverside (980-16-196)
- 10:45AM *The subword complexity of infinite binary words whose gap function is either strictly increasing or one-to-one.*  
▶ (72) **Irina Gheorghiciuc**, University of Pennsylvania (980-05-306)
- 11:00AM *Array computable degrees and blanketing functions.* Preliminary report.  
(73) **Stephen M Walk**, St. Cloud State University (980-03-217)
- 11:15AM *Asymptotic stability of solutions of the system for heat propagation with second sound.*  
(74) **Salim A. Messaoudi**, King Fahd University of Petroleum and Minerals (980-35-12)

**Invited Address**

11:40 AM – 12:30 PM Room B102, Van Vleck Hall

- (75) *Relations Between Gromov-Witten Invariants.*  
**Eleny Ionel**, University of Wisconsin

**Special Session on Arithmetic Algebraic Geometry, II**

2:00 PM – 4:55 PM Room B113, Van Vleck Hall

- Organizers: **Ken Ono**, University of Wisconsin-Madison  
**Tonghai Yang**, University of Wisconsin-Madison
- 2:00PM *Supercongruences Between Truncated  ${}_2F_1$  Hypergeometric Functions and Their Gaussian Analogs.*  
(76) **Eric T Mortenson**, University of Wisconsin Madison (980-11-130)

- 2:30PM *Modular forms for noncongruence subgroups.*  
(77) Preliminary report.  
**Wen-Ching Winnie Li\***, Penn State University, **Ling Long**, Institute for Advanced Study, and **Zifong Yang**, Penn State University (980-11-219)
- 3:00PM *Exceptional congruences for the coefficients of certain eta-product newforms.*  
(78) **Matthew Boylan**, University of Illinois (980-11-249)
- 3:30PM Discussion
- 4:00PM *Extensions of elliptic curves and congruences between modular forms.*  
(79) **Matthew Papanikolas\***, Brown University, and **Niranjana Ramachandran**, University of Maryland (980-11-117)
- 4:30PM *1-Motives and Iwasawa Theory.* Preliminary report.  
(80) **Cristian D. Popescu**, Johns Hopkins University (980-11-128)

### Special Session on Several Complex Variables, II

2:00 PM – 4:40 PM Room B317, Van Vleck Hall

- Organizers: **Pat Ahern**, University of Wisconsin-Madison  
**Xianghong Gong**, University of Wisconsin-Madison  
**Alex Nagel**, University of Wisconsin-Madison  
**Jean-Pierre Rosay**, University of Wisconsin-Madison
- 2:00PM *On CR manifolds embedded in a hyperquadric.*  
(81) Preliminary report.  
**Peter F. Ebenfelt\***, U. California, San Diego, **Xiaojun Huang**, Rutgers U., and **Dmitri Zaitsev**, U. Tübingen (980-32-263)
- 3:00PM *On manifolds that are peak-interpolation sets for  $A(\Omega)$  for convex domains in  $\mathbb{C}^n$ .*  
(82) **Gautam Bharali**, University of Michigan (980-32-89)
- 4:00PM  *$L^2$  cohomology of some complete Kähler manifolds.*  
(83) **Jeffery D. McNeal**, Ohio State University (980-32-107)

### Special Session on Harmonic Analysis, II

2:00 PM – 4:55 PM Room B341, Van Vleck Hall

- Organizers: **Alex Ionescu**, University of Wisconsin-Madison  
**Andreas Seeger**, University of Wisconsin-Madison
- 2:00PM *Regularity of degenerate Monge-Ampere equations in two dimensions.*  
(84) **Eric T. Sawyer**, McMaster University (980-35-198)
- 2:30PM *Analysis on manifolds with a Lie structure at infinity.*  
(85) **Bernd Ammann**, Hamburg U., **Robert Lauter**, Mainz U., **Victor Nistor\***, Penn State U., and **Andras Vasy**, MIT (980-58-44)
- 3:00PM *A Restriction Theorem for a 2-surface in  $\mathbb{R}^5$ .*  
(86) Preliminary report.  
**Daniel M Oberlin**, Florida State University (980-42-112)
- 3:30PM *Averages over rotations of curves.* Preliminary report.  
(87) **Luca Brandolini**, University of Bergamo, **Allan Greenleaf\***, University of Rochester, and **Giancarlo Travaglini**, University of Milan-Bicocca (980-42-176)

- 4:00PM *Hankel Forms on the Dirichlet Space and Related Operators.*  
(88) **Richard Rochberg**, Washington University (980-46-235)
- 4:30PM *Recovering The Jump in Fourier Analysis and Summability Theory.*  
(89) **Mark A. Pinsky**, Northwestern University (980-42-19)

### Special Session on Partial Differential Equations and Geometry, II

2:00 PM – 4:50 PM Room B309, Van Vleck Hall

- Organizers: **Sigurd Angenent**, University of Wisconsin-Madison  
**Mikhail Feldman**, University of Wisconsin-Madison
- 2:00PM *A gradient flow approach quasi-periodic solutions for P.D.E's and  $\Psi$ -D.E.'s.*  
(90) **Rafael de la Llave**, University of Texas at Austin (980-35-109)
- 3:00PM *Interfaces between free boundaries and fixed boundaries.*  
(91) **Ivan Blank\***, Rutgers University, and **Henrik Shahgholian**, Royal Institute of Technology (980-35-253)
- 4:00PM *Regularity and blow-up analysis for J-holomorphic maps.* Preliminary report.  
(92) **Changyou Wang**, University of Kentucky (980-35-207)
- 4:40PM Discussion

### Special Session on Arrangements of Hyperplanes, II

2:00 PM – 4:50 PM Room B219, Van Vleck Hall

- Organizers: **Daniel C. Cohen**, Louisiana State University  
**Peter Orlik**, University of Wisconsin-Madison  
**Anne Shepler**, University of California Santa Cruz
- 2:00PM *Topological robotics and arrangement complements.*  
(93) **Michael Farber**, Tel Aviv University, and **Sergey Yuzvinsky\***, University of Oregon (980-55-104)
- 2:30PM *A-Theory and real linear hyperplane arrangements.*  
(94) Preliminary report.  
**Eric Babson**, University of Washington, **Helene Barcelo\***, Arizona State University, and **Reinhard Laubenbacher**, Virginia Institute of Technology (980-05-302)
- 3:00PM *The line geometry of resonance varieties.*  
(95) **Michael J Falk**, Northern Arizona University (980-51-204)
- 3:30PM *Generating functions whose denominator is a hyperplane arrangement.* Preliminary report.  
(96) **Robin Pemantle**, Ohio State University (980-05-173)
- 4:00PM *Properties of arrangement groups.* Preliminary report.  
(97) **Richard Randell**, University of Iowa (980-57-213)
- 4:30PM *A simplified CW-Complex with the Homotopy-Type of the Complement of a Complexified Real Hyperplane Arrangement.* Preliminary report.  
(98) **Ken Jewell**, Edgewood College (980-55-310)

**Special Session on Group Cohomology and Homotopy Theory, II**

2:00 PM – 4:50 PM Room B235, Van Vleck Hall

Organizers: **Alejandro Adem**, University of Wisconsin-Madison  
**Jesper Grodal**, Institute for Advanced Study

- 2:00PM *Stable homotopy theory of G-modules*. Preliminary report. (99)  
**Jeffrey H Smith**, Purdue University (980-55-245)
- 2:30PM *Phantom Spaces*. (100)  
**Wojciech Chacholski\***, University of Minnesota, **William G Dwyer**, University of Notre Dame, and **Michele Intermet**, Kalamazoo College (980-55-244)
- 3:00PM *Loop orbifolds*. Preliminary report. (101)  
**Ernesto Lupercio\***, Univ. of Wisconsin, Madison, and **Bernardo Uribe**, MPI, Bonn (980-55-149)
- 3:30PM *The Bockstein Spectral Sequence of  $\eta$* . (102)  
**Robert R. Bruner**, Wayne State University (980-55-121)
- 4:00PM *T and the cohomology of mapping spaces*. (103)  
**Jaume Aguadé**, UAB, Barcelona, Spain (980-55-66)
- 4:30PM *Equivariant Universal Coefficient and Kunnet Spectral Sequences*. Preliminary report. (104)  
**L G Lewis**, Syracuse University, and **M A Mandell\***, University of Chicago (980-55-216)

**Special Session on Geometric Methods in Differential Equations, II**

2:00 PM – 4:55 PM Room B305, Van Vleck Hall

Organizers: **Gloria Mari Beffa**, University of Wisconsin-Madison  
**Peter Olver**, University of Minnesota

- 2:00PM *Second-order type-changing evolution PDE with first-order intermediate equations*. (105)  
**Marek Kossowski**, University of South Carolina, and **George R Wilkens\***, University of Hawaii at Manoa (980-53-62)
- 2:30PM *Generalized Symmetries and Local Conservation Laws of Massless Free Fields on Minkowski Space*. (106)  
**Juha Pohjanpelto**, Oregon State University (980-35-261)
- 3:00PM Discussion
- 3:30PM *Generalised Goursat Normal Form*. Preliminary report. (107)  
**Peter J. Vassiliou**, University of Canberra (980-58-257)
- 4:00PM *The Classification of Darboux Integrable Equations*. Preliminary report. (108)  
**Matthew Biesecker**, Utah State University (980-35-248)
- 4:30PM *Group actions on jet spaces and Darboux integrable PDE*. (109)  
**Mark Eric Fels**, Utah State University (980-35-246)

**Special Session on Effectiveness Questions in Model Theory, II**

2:00 PM – 4:50 PM Room B203, Van Vleck Hall

Organizers: **Charles McCoy**, University of Wisconsin-Madison  
**Reed Solomon**, University of Wisconsin-Madison

**Patrick Speissegger**, University of Wisconsin-Madison

- 2:00PM *Limit sets and the complexity of quantifier elimination for Pfaffian expressions*. Preliminary report. (110)  
**Andrei Gabrielov**, Purdue University (980-03-94)
- 2:30PM *A Normalization Algorithm*. Preliminary report. (111)  
**Daniel J. Miller**, University of Wisconsin - Madison (980-03-272)
- 3:00PM *Effective Completeness Theorems for Modal Logics*. (112)  
**Suman Ganguli\***, University of Michigan, and **Anil Nerode**, Cornell University (980-03-182)
- 3:30PM *Principal Filters of the Lattice of Computably Enumerable Vector Spaces*. (113)  
**Valentina S. Harizanov**, The George Washington University (980-03-82)
- 4:00PM *The Computational Complexity of Computable Saturation*. (114)  
**Walker M. White**, University of Dallas (980-03-313)
- 4:30PM Discussion

**Special Session on Ring Theory and Related Topics, II**

2:00 PM – 4:50 PM Room B105, Van Vleck Hall

Organizer: **Don Passman**, University of Wisconsin-Madison

- 2:00PM *Representation type of commutative noetherian rings IV: global structure*. Preliminary report. (115)  
**Lawrence Sherwin Levy\***, University of Wisconsin, Madison, and **Lee Klingler**, Florida Atlantic University (980-13-85)
- 2:30PM *Representation Type of Commutative Noetherian Rings III: Global Wildness*. Preliminary report. (116)  
**Lee C. Klingler\***, Florida Atlantic University, and **Lawrence S. Levy**, University of Wisconsin (980-13-81)
- 3:00PM *Properties of Down-Up Algebras from Trees*. Preliminary report. (117)  
**Ellen Kirkman** and **James Kuzmanovich\***, Wake Forest University (980-16-37)
- 3:30PM *Simple modules for Noetherian Down-Up Algebras*. (118)  
**Georgia Benkart**, University of Wisconsin, Madison, and **Ellen Kirkman\***, Wake Forest University (980-16-160)
- 4:00PM *Grade Periodic Algebras*. Preliminary report. (119)  
**E L Green\***, Virginia Tech, **E N Marcos**, University of São Paulo, **R. Martinez-Villa**, UNAM, and **Pu Zhang**, University of Science and Technology of China (980-16-32)
- 4:30PM *Representations of Koszul algebras*. Preliminary report. (120)  
**Dan Zacharia**, Syracuse University (980-16-126)

**Special Session on Lie Algebras and Related Topics, II**

2:00 PM – 4:45 PM Room B129, Van Vleck Hall

Organizers: **Georgia Benkart**, University of Wisconsin-Madison  
**Arun Ram**, University of Wisconsin-Madison

- 2:00PM *Ideals in the nilradical of a Borel subalgebra*. Preliminary report. (121)  
**Eric N Sommers**, UMass-Amherst (980-17-140)

- 3:00PM *Cayley Maps for Algebraic Groups*. Preliminary report. (122)  
**Nicole Lemire\***, University of Western Ontario, **Vladimir L. Popov**, Steklov Mathematical Institute, and **Zinovy Reichstein**, University of British Columbia (980-14-269)
- 4:00PM *The restricted nullcone*.  
 ▶ (123) **Jon F. Carlson**, University of Georgia, **Zongzhu Lin**, Kansas St. University, **Daniel K. Nakano\***, University of Georgia, and **Brian J. Parshall**, University of Virginia (980-17-125)

**Special Session on Dynamical Systems, II**

2:00 PM – 4:55 PM Room B215, Van Vleck Hall

Organizers: **Sergey Bolotin**, University of Wisconsin-Madison  
**Paul Rabinowitz**, University of Wisconsin-Madison

- 2:00PM *Arnold Diffusion*. (124)  
**John Mather**, Princeton University (980-37-137)
- 2:30PM *A symplectic fixed point theorem and its applications*. Preliminary report. (125)  
**Zhihong Jeff Xia**, Northwestern University (980-37-77)
- 3:00PM *Geometric mechanisms for instability in Hamiltonian dynamical systems*.  
 ▶ (126) **A. Delshams**, Univ. Polit. Catalunya, **Rafael de la Llave\***, Univ. Of Texas at Austin, and **Teresa M. Seara**, Univ. Polit. Catalunya (980-37-108)
- 4:00PM *Lagrangian minimizers and computing periodic orbits*. Preliminary report. (127)  
**Philip L Boyland**, University of Florida (980-37-138)
- 4:30PM *Applications of a Nash-Moser implicit function theorem with Whitney regularity to KAM theory*.  
**John Andrew Vano**, University of Wisconsin at Madison (980-37-29)

**Special Session on Probability, II**

2:00 PM – 4:45 PM Room B313, Van Vleck Hall

Organizers: **David Griffeath**, University of Wisconsin-Madison  
**Timo Seppalainen**, University of Wisconsin-Madison

- 2:00PM *Approximating the effect of advantageous mutations by coalescents with multiple collisions*. Preliminary report. (129)  
**Jason R. Schweinsberg\*** and **Rick Durrett**, Cornell University (980-92-25)
- 3:00PM *Max-plus linearity for growth models*. (130)  
**Min Kang\***, North Carolina State University, and **Ilie Grigorescu**, University of Miami (980-60-227)
- 4:00PM *Large Deviations of the Asymmetric Exclusion Process*. (131)  
**Leif H. Jensen**, Columbia University (980-60-293)

**Special Session on Biological Computation and Learning in Intelligent Systems, II**

2:00 PM – 4:50 PM Room B329, Van Vleck Hall

Organizers: **Shun-ichi Amari**, RIKEN  
**Amir Assadi**, University of Wisconsin-Madison  
**Tomaso Poggio**, Massachusetts Institute of Technology

- 2:00PM *DNA Packing in Viral Capsids*. Preliminary report. ▶ (132)  
**De Witt Sumners**, Florida State University (980-92-276)
- 3:00PM *CAD/CAM Biology*. Preliminary report. ▶ (133)  
**David C Schwartz**, University of Wisconsin-Madison (980-92-274)
- 3:30PM *Information Geometry of Protein Fold Space*. Preliminary report. (134)  
**Hamid Eghbalnia**, University of Wisconsin-Madison (980-92-287)
- 4:00PM *Computational elements of robot learning by imitation*. Preliminary report. (135)  
**Aude G Billard\*** and **Stefan K Schaal**, University of Southern California (980-93-206)
- 4:30PM *Computational Mechanisms of Object Recognition in Cortex*. (136)  
**Maximilian Riesenhuber**, MIT (980-92-50)

**Special Session on Combinatorics and Special Functions, II**

2:00 PM – 4:50 PM Room B321, Van Vleck Hall

Organizers: **Richard Askey**, University of Wisconsin-Madison  
**Paul Terwilliger**, University of Wisconsin-Madison

- 2:00PM *On the Generalized Rogers-Ramanujan Continued Fraction*. (137)  
**Bruce C. Berndt\*** and **Ae Ja Yee**, University of Illinois at Urbana-Champaign (980-33-161)
- 2:30PM *An indeterminate moment problem involving the Al-Salam-Chihara polynomials*. Preliminary report. (138)  
**Jacob Stordal Christiansen\***, University of Copenhagen, and **Mourad E. H. Ismail**, University of South Florida (980-33-209)
- 3:00PM *Zeta Functions of Graphs: When Number Theory Meets Graph Theory*. Preliminary report. (139)  
**Audrey A. Terras**, U.C.S.D. (980-11-258)
- 3:30PM *Eigenvalue and Dual Eigenvalue Sequences for Three Mutually Adjacent Leonard Pairs*. Preliminary report. (140)  
**Brian L Hartwig**, University of Wisconsin (980-05-300)
- 4:00PM *A transformation on the space of rational functions*. Preliminary report. ▶ (141)  
**Victor H Moll**, Department of Mathematics, Tulane University (980-33-150)
- 4:30PM *On Ramanujan's Continued Fraction for  $(q^2; q^3)_\infty / (q; q^3)_\infty$* . (142)  
**George E Andrews**, Pennsylvania State University, **Bruce C Berndt**, University of Illinois, **Jaebum Sohn\***, Ohio State University, **Ae Ja Yee** and **Alexandru Zaharescu**, University of Illinois (980-33-139)

**Special Session on Characters and Representations of Finite Groups, II**

2:00 PM – 4:50 PM Room B119, Van Vleck Hall

Organizers: **Martin Isaacs**, University of Wisconsin, Madison  
**Mark Lewis**, Kent State University

2:00PM *Maximal subgroups of classical groups and representation theory*. Preliminary report. (143)  
**K Magaard**, Wayne State University (980-20-167)

- 2:30PM *Block theory, branching rules, and centralizer algebras*. Preliminary report.  
(144) **Harald Ellers\***, Northern Illinois University, and **John Murray**, National University of Ireland, Maynooth (980-20-279)
- 3:00PM *Modular spin representations of symmetric and alternating groups that are irreducible over subgroups*. Preliminary report.  
(145) **Alexander S. Kleshchev**, University of Oregon, and **Pham Huu Tiep\***, University of Florida (980-20-95)
- 3:30PM *Finite  $p$ -subgroups of  $GL(p, C)$  and their automorphism groups*. Preliminary report.  
(146) **Jeffrey Mark Riedl**, University of Akron (980-20-164)
- 4:00PM *An analogue of the Steinberg character for the general linear group over the integers modulo a prime power*.  
(147) **Peter S Campbell**, University of Alberta (980-20-27)
- 4:30PM *Weil representations of symplectic and unitary groups over finite local rings*.  
▶ (148) **Gerald Cliff**, University of Alberta, **Roderick Gow**, University College Dublin, **David McNeilly**, University of Alberta, and **Fernando Szechtman\***, University of Waterloo (980-20-55)

**Special Session on Optimal Geometry of Curves and Surfaces, II**

2:00 PM – 4:50 PM Room B337, Van Vleck Hall

Organizers: **Jason H. Cantarella**, University of Georgia  
**John M. Sullivan**, University of Illinois, Urbana

- ▶ 2:00PM *The convex hull property of noncompact hypersurfaces with positive curvature*.  
(149) **Stephanie Alexander\***, University of Illinois at Urbana-Champaign, and **Mohammad Ghomi**, University of South Carolina (980-53-283)
- ▶ 2:30PM *Surfaces with connected shades*. Preliminary report.  
(150) **Mohammad Ghomi**, University of South Carolina (980-53-205)
- 3:00PM *Displacement estimates for curves with curvature bounds in  $CAT(K)$  spaces*. Preliminary report.  
(151) **Stephanie B Alexander** and **Richard L Bishop\***, Univ. of Illinois at Urbana-Champaign (980-53-243)
- ▶ 3:30PM *Projecting  $(n - 1)$ -cycles to zero on  $n$ -planes in  $R^{n+1}$* .  
(152) **Bruce Solomon**, Indiana University (980-51-273)
- 4:00PM *A variational method to include surface diffusion with non-volume-conserving motion by mean curvature*. Preliminary report.  
(153) **Jean E Taylor**, Rutgers University (980-35-165)
- ▶ 4:30PM *Roulades and variational problems*. Preliminary report.  
(154) **J. McCuan**, Georgia Tech (980-53-148)

**Special Session on Lie Groups and Their Representations, II**

2:00 PM – 4:20 PM Room B131, Van Vleck Hall

Organizers: **R. Michael Howe**, University of Wisconsin, Eau Claire  
**Gail D. Ratcliff**, East Carolina University

- 2:00PM *A cocycle formula for the quaternionic discrete series*.  
(155) **Robert W Donley**, University of North Texas (980-22-231)

- 2:30PM *Representations with scalar  $K$ -types and the theta correspondence*.  
(156) **Annegret Paul**, Western Michigan University (980-22-75)
- 3:30PM *Induced representations and derived functor modules*. Preliminary report.  
(157) **Paul D Friedman**, Union College (980-22-290)
- 4:00PM *Comparing Schmid's differential operator to the Penrose differential operator*. Preliminary report.  
(158) **Jodie D. Novak**, University of Northern Colorado (980-22-154)

**Session for Contributed Papers, II**

2:00 PM – 4:25 PM Room B333, Van Vleck Hall

- 2:00PM *Restricted Symmetric Spaces*. Preliminary report.  
(159) **Terrell L. Hodge\***, Western Michigan University, and **Brian J. Parshall**, University of Virginia (980-17-31)
- 2:15PM *Character formulas and realizations for some simple highest weight  $gl_n$ -modules*.  
(160) **Victor Protsak**, University of Minnesota (980-17-195)
- 2:30PM *On the automorphism group of free nilpotent groups and Kazhdan property T*. Preliminary report.  
(161) **Martin D Kassabov**, Yale University (980-20-220)
- 2:45PM *Wildly ramified Galois representations and a generalization of Serre's Conjecture*. Preliminary report.  
(162) **Darrin M Doud**, Brigham Young University (980-11-277)
- 3:00PM *Noncommutative localizations and quotients for coactions of Hopf algebras*.  
(163) **Zoran Skoda**, Indiana University, Bloomington (980-16-17)
- ▶ 3:15PM *Conditional Fuzzy Convergence of Sequences and Numerical Computations*. Preliminary report.  
(164) **M. Burgin\***, UCLA, and **M. Kalina**, Slovak University of Technology (980-65-16)
- 3:30PM *On the Denseness of Jacobi Polynomials*.  
(165) **Sarjoo Prasad Yadav**, Govt. Model Science College, Rewa (M. P.), India (980-41-09)
- ▶ 3:45PM *Failure Functions*.  
(166) **Devaraj Kandadai**, Mumbai, INDIA (980-11-05)
- 4:00PM *The Camassa-Holm hierarchy, finite integrable system, and algebro-geometric solution*. Preliminary report.  
(167) **Zhijun Qiao\*** and **Darryl Holm**, Los Alamos National Lab (980-35-36)
- 4:15PM *On Some Results In Noetherian Rings*. Preliminary report.  
(168) **C.L. Wagneo**, University of Jammu (980-00-321)

**Special Session on Hyperbolic Differential Equations and Kinetic Theory, II**

3:00 PM – 4:50 PM Room B325, Van Vleck Hall

Organizers: **Shi Jin**, University of Wisconsin-Madison  
**Marshall Slemrod**, University of Wisconsin-Madison  
**Athanasios Tzavaras**, University of Wisconsin-Madison

- 2:00PM Discussion  
2:30PM Discussion

- 3:00PM *Qualitative Behavior of Solutions to Systems of Conservation Laws.*  
(169) **Konstantina Trivisa**, University of Maryland (980-35-189)
- 3:30PM *Concentration and Cavitation of Density in Inviscid Compressible Fluid Flow.*  
▶ (170) **Chen Guiqiang**, Northwestern University, and **Liu Hailiang\***, Iowa State University (980-35-192)
- 4:00PM *Decay of solutions to the three-dimensional Euler equations with damping.*  
(171) **Dehua Wang**, University of Pittsburgh (980-35-187)
- 4:30PM *Smoothness indicator for adaptive algorithms.*  
(172) **Smadar Karni**, University of Michigan, **Alexander Kurganov**, Tulane University, and **Guergana Petrova\***, Texas A&M University (980-65-304)

**Invited Address**

- 5:10 PM – 6:00 PM **Room B102, Van Vleck Hall**  
(173) *Singularities Of Pairs And Birational Geometry.*  
**Lawrence Ein**, University of Illinois at Chicago

**Department of Mathematics Reception**

- 6:00 PM – 7:00 PM **Lobby, Memorial Union**

## Sunday, October 13

**Meeting Registration**

- 8:00 AM – NOON **Lobby, Van Vleck Hall**

**Special Session on Group Cohomology and Homotopy Theory, III**

- 8:00 AM – 11:20 AM **Room B235, Van Vleck Hall**  
Organizers: **Alejandro Adem**, University of Wisconsin-Madison  
**Jesper Grodal**, Institute for Advanced Study
- 8:00AM *HKR Theorem for Smooth S-algebras.*  
(174) **Randy McCarthy** and **Vahagn Minasian\***, University of Illinois (980-55-35)
- 8:30AM *A cohomological approach to automorphism group rings.* Preliminary report.  
(175) **John R. Martino**, Western Michigan University, and **Stewart B. Priddy\***, Northwestern University (980-20-93)
- 9:00AM *The Module Structure of Rings and Cohomology of Groups.* Preliminary report.  
(176) **Dikran B. Karagueuzian**, SUNY Binghamton (980-20-228)
- 9:30AM *The p-chain spectral sequence.*  
(177) **James F. Davis\***, Indiana University, and **Wolfgang Lueck**, University of Muenster (980-55-33)
- 10:00AM *Localizations of Groups.* Preliminary report.  
(178) **Mark Feshbach\***, University of Minnesota, and **Bernard Badzioch**, University of Minnesota (980-55-181)
- 10:30AM *Steenrod operations on  $H^*(Map.(X, S^n))$  for surfaces X.* Preliminary report.  
(179) **Craig C Westerland**, University of Michigan (980-55-61)
- 11:00AM *Minimal Atomic Complexes.*  
(180) **A. J. Baker**, Glasgow University, and **J. P. May\***, The University of Chicago (980-55-255)

**Special Session on Ring Theory and Related Topics, III**

- 8:00 AM – 11:20 AM **Room B105, Van Vleck Hall**  
Organizer: **Don Passman**, University of Wisconsin-Madison
- 8:00AM *Row and column finite matrices.*  
(181) **Victor P. Camillo\***, University of Iowa, **J. J. Simon** and **F. J. Costa-Cano**, University of Murcia (980-16-39)
- 8:30AM *Classical Simple Lie Superalgebras, Clifford Algebras and Induced Modules.* Preliminary report.  
(182) **Ian M. Musson**, UW-Milwaukee (980-16-111)
- 9:00AM *Euler classes of crystallographic groups and Hopf algebras.*  
(183) **Martin Lorenz**, Temple University (980-16-23)
- 9:30AM *Noetherianity of the Space of Irreducible Representations.*  
(184) **Edward S Letzter**, Temple University (980-16-119)
- 10:00AM *Hochschild cohomology and representations of crossed products.*  
(185) **Sarah Witherspoon**, Amherst College (980-16-180)
- 10:30AM *The correspondence between groups and their restricted Lie algebras for some classes of groups.*  
(186) **A I Lichtman**, University of Wisconsin - Parkside (980-20-291)
- 11:00AM *On centralizers in the quantum plane algebra.*  
(187) **Leonid Makar-Limanov**, Wayne State University (980-16-63)

**AMS Exhibit and Book Sale**

- 8:00 AM – NOON **Room B227, Van Vleck Hall**

**Special Session on Arithmetic Algebraic Geometry, III**

- 8:30 AM – 11:25 AM **Room B113, Van Vleck Hall**  
Organizers: **Ken Ono**, University of Wisconsin-Madison  
**Tonghai Yang**, University of Wisconsin-Madison
- 8:30AM *Vanishing of L-functions and ranks of Selmer groups.* Preliminary report.  
(188) **Chris Skinner**, University of Michigan (980-11-317)
- 9:00AM *Cubic structures and lattices of cusp forms.* Preliminary report.  
(189) **Ted Chinburg**, University of Pennsylvania, **Georgios Pappas\***, Michigan State University, and **Martin Taylor**, UMIST (980-11-237)
- 9:30AM *Central Values for Twisted L-Functions.*  
(190) **Hui Xue**, Dept. of Math, Columbia University (980-11-123)
- 10:00AM *On certain unitary group Shimura varieties.* Preliminary report.  
(191) **Elena Mantovan**, Miller Institute, UC Berkeley (980-11-145)
- 10:30AM *Rational points on Drinfeld modular curves.* Preliminary report.  
(192) **Imin Chen**, Simon Fraser University (980-11-238)
- 11:00AM *Arithmetic of anticyclotomic L-functions and theta functions.* Preliminary report.  
(193) **Tobias Finis**, University of California, Los Angeles (980-11-303)

**Special Session on Several Complex Variables, III**

- 8:30 AM – 11:10 AM **Room B317, Van Vleck Hall**  
Organizers: **Pat Ahern**, University of Wisconsin-Madison

**Xianghong Gong**, University of Wisconsin-Madison

**Alex Nagel**, University of Wisconsin-Madison

**Jean-Pierre Rosay**, University of Wisconsin-Madison

- 8:30AM *Rational Proper Mappings between Balls.*  
(194) **John P. D'Angelo**, University of Illinois, Urbana (980-32-15)
- 9:30AM *Sampling and Interpolation on Riemann Surfaces.*  
(195) Preliminary report.  
**Dror Varolin**, University of Illinois (980-32-316)
- 10:30AM *Analyticity of CR mappings.*  
(196) **Sergey I. Pinchuk**, Indiana University (980-32-76)

### **Special Session on Harmonic Analysis, III**

8:30 AM – 11:25 AM Room B341, Van Vleck Hall

Organizers: **Alex Ionescu**, University of Wisconsin-Madison

**Andreas Seeger**, University of Wisconsin-Madison

- 8:30AM *Unique continuation for non-linear dispersive equations.*  
(197) **Carlos E. Kenig**, University of Chicago (980-35-120)
- 9:30AM *Geometric inequalities on hyperbolic space and  $SL(2, R)$ .* Preliminary report.  
(198) **William Beckner**, University of Texas at Austin (980-58-84)
- 10:00AM *On the distribution of lattice points on spheres and  $k$ -spheres.*  
(199) **Akos Magyar**, University of Georgia (980-42-297)
- 10:30AM *Distribution of lattice points in random ellipsoids.*  
(200) **Steve Hofmann** and **Alex Iosevich\***, University of Missouri (980-11-190)
- 11:00AM *Dispersive estimates for principally normal pseudodifferential operators.*  
(201) **Daniel Tataru**, UC Berkeley (980-35-80)

### **Special Session on Partial Differential Equations and Geometry, III**

8:30 AM – 11:20 AM Room B309, Van Vleck Hall

Organizers: **Sigurd Angenent**, University of Wisconsin-Madison

**Mikhail Feldman**, University of Wisconsin-Madison

- 8:30AM Discussion
- 9:00AM *Stable 3d vortex solutions of the Ginzburg-Landau system.*  
(202) **Alberto Montero**, **Peter J Sternberg\*** and **William Ziemer**, Indiana University (980-35-172)
- 9:30AM *Counterexamples for Local Isometric Embedding.*  
▶ (203) **Nikolai Nadirashvili**, University of Chicago, and **Yu Yuan\***, University of Washington (980-53-168)
- 10:30AM *On singularities of the Kaehler-Ricci flow.*  
(204) **Huai-Dong Cao**, IPAM and TAMU (980-53-116)
- 11:00AM *An example of neck pinching for the Ricci flow on  $S^n$ .* Preliminary report.  
(205) **Sigurd Angenent**, University of Wisconsin - Madison, and **Dan F Knopf\***, University of Iowa (980-53-301)

### **Special Session on Geometric Methods in Differential Equations, III**

8:30 AM – 11:25 AM Room B305, Van Vleck Hall

Organizers: **Gloria Mari Beffa**, University of Wisconsin-Madison  
**Peter Olver**, University of Minnesota

- 8:30AM *On pseudo-potentials, nonlocal symmetries and integrability of some shallow water equations.* Preliminary report.  
(206) **Enrique G. Reyes**, University of Oklahoma (980-35-247)
- 9:00AM Discussion
- 9:30AM Discussion
- 10:00AM *Orbit reduction and Gauge Theory.*  
(207) **Vladimir Itskov**, Max-Planck-Institut für Mathematik (980-53-222)
- 10:30AM *Equivariant Isometric Immersion of Riemannian Manifolds with Symmetries.*  
(208) **Daniel Grossman**, University of Chicago (980-53-314)
- 11:00AM Discussion

### **Special Session on Hyperbolic Differential Equations and Kinetic Theory, III**

8:30 AM – 11:20 AM Room B325, Van Vleck Hall

Organizers: **Shi Jin**, University of Wisconsin-Madison  
**Marshall Slemrod**, University of Wisconsin-Madison  
**Athanasios Tzavaras**, University of Wisconsin-Madison

- 9:00AM Discussion
- 9:30AM Discussion
- 10:00AM *A hydrodynamic theory for mixtures of polymer-liquid crystal polymer system.* Preliminary report.  
(209) **Qi Wang**, Florida State University (980-35-142)
- 10:30AM *An Eulerian Method for Multiphase Computations of the Schrödinger Equation.*  
(210) **Shi Jin**, UW-Madison, and **Xiantao Li\***, Princeton University (980-65-193)
- 11:00AM *Kinetic Decomposition of Approximate Solutions to Conservation Laws.*  
(211) **Seok Hwang**, University of Southern California (980-35-60)

### **Special Session on Lie Algebras and Related Topics, III**

8:30 AM – 11:15 AM Room B129, Van Vleck Hall

Organizers: **Georgia Benkart**, University of Wisconsin-Madison  
**Arun Ram**, University of Wisconsin-Madison

- 8:30AM *Twisted quantum toroidal algebras.* Preliminary report.  
(212) **Yun Gao\***, York University, and **Naihuan Jing**, North Carolina State University (980-17-208)
- 9:30AM *A Hecke theoretic shadow of tensoring the crystal of the basic representation with a level 1 perfect crystal.*  
(213) **Monica J Vazirani**, Caltech (980-05-264)
- 10:30AM *Virtual Kleber algorithm.*  
(214) **Masato Okado**, Osaka University, **Anne Schilling\***, UC Davis, and **Mark Shimozono**, Virginia Tech (980-05-234)

**Special Session on Dynamical Systems, III**

8:30 AM – 11:25 AM Room B215, Van Vleck Hall

Organizers: **Sergey Bolotin**, University of Wisconsin-Madison  
**Paul Rabinowitz**, University of Wisconsin-Madison

- 8:30AM *Isolating Blocks for the Three-Body Problem.* (215) **Richard B. Moeckel**, University of Minnesota (980-70-69)
- 9:00AM *Some variational aspects of the Newtonian N-body problem.* (216) **Kuo-Chang Chen**, University of Arizona (980-37-67)
- 9:30AM *Zero entropy, nonintegrable geodesic flows and a non-commutative rotation vector.* (217) **Leo T Butler**, Northwestern University (980-37-48)
- 10:30AM *Forcing in parabolic flows via braids.* (218) **Robert Ghrist\***, University of Illinois, Urbana, and **Robert Vandervorst**, VU Amsterdam (980-37-68)
- 11:00AM *Bifurcations and stability analysis of a three-dimensional non-autonomous model of molecular systems.* (219) **Ufuk Taneri**, Department of Mathematics, Eastern Mediterranean University (980-37-309)

**Special Session on Biological Computation and Learning in Intelligent Systems, III**

8:30 AM – 11:20 AM Room B329, Van Vleck Hall

Organizers: **Shun-ichi Amari**, RIKEN  
**Amir Assadi**, University of Wisconsin-Madison  
**Tomaso Poggio**, Massachusetts Institute of Technology

- 8:30AM *Singularities in the geometry of statistical inference.* (220) **Kenji Fukumizu**, Institute of Statistical Mathematics (980-62-179)
- 9:30AM *Algebraic Geometry of Neural Network Learning.* (221) **Sumio Watanabe**, Tokyo Institute of Technology (980-68-99)
- 10:30AM *Physiological evidence of 1st order phase transitions by mesoscopic populations in neocortex.* (222) **Walter J Freeman**, University of California at Berkeley (980-92-185)
- 11:00AM *Analysis and modeling of sensory systems with Rate Distortion Theory.* Preliminary report. (223) **Alexander G Dimitrov**, Montana State University (980-92-288)

**Special Session on Combinatorics and Special Functions, III**

8:30 AM – 11:20 AM Room B321, Van Vleck Hall

Organizers: **Richard Askey**, University of Wisconsin-Madison  
**Paul Terwilliger**, University of Wisconsin-Madison

- 8:30AM *Sign Variations on the Macdonald Identities.* (224) Preliminary report. **David M Bressoud**, Macalester College (980-05-53)
- 9:00AM *New Ramanujan-Kolberg Type Partition Identities.* (225) **Heekyoung Hahn\***, UIUC, **Heng Huat Chan**, National University of Singapore, **Richard P Lewis**, University of Sussex, and **Siew Lian Tan**, Singapore (980-11-175)

- 9:30AM *Asymptotics of Krawtchouk polynomials and the covering radius of linear codes.* (226) **A. Ashikhmin** and **A. Barg\***, Bell Labs, Lucent Technologies (980-94-260)
- 10:00AM *Determinants of Period Matrices and Applications to Multidimensional Beta Integrals.* (227) **Qifu Zheng**, The College of New Jersey (980-33-129)
- 10:30AM *Some derivative identities and applications.* (228) **Warren P Johnson**, Bates College (980-05-100)
- 11:00AM *Generalized Frobenius partitions with k colors and Generalized Frobenius partitions with k repetitions.* (229) **Ae Ja Yee**, University of Illinois at Urbana-Champaign (980-05-281)

**Special Session on Characters and Representations of Finite Groups, III**

8:30 AM – 11:20 AM Room B119, Van Vleck Hall

Organizers: **Martin Isaacs**, University of Wisconsin, Madison  
**Mark Lewis**, Kent State University

- 8:30AM *Applications of algebraic group methods to finite p-groups.* (230) **George Glauberman**, University of Chicago (980-20-18)
- 9:00AM *Recent Progress on the k(GV) Problem.* (231) **David H. Gluck\*** and **Kay Magaard**, Wayne State University (980-20-70)
- 9:30AM *Product of characters and derived length.* (232) **Edith Adan-Bante**, UIUC (980-20-57)
- 10:00AM *On the number of conjugacy classes of zeros of characters.* Preliminary report. (233) **Alexander Moretó**, Mathematics Department, University of Wisconsin, Madison, WI, and **Josu Sangroniz\***, Departamento de Matemáticas, Universidad del País Vasco, Bilbao, Spain (980-20-133)
- 10:30AM *On the Existence and Uniqueness of Thompson's Sporadic Simple Group.* (234) **Michael Weller**, Institute for Experimental Mathematics, University of Essen, Germany (980-20-114)
- 11:00AM *Dimensions of G-sets, sharp characters and the Burnside ring.* (235) **Kenneth W Johnson\***, Penn State University, Abington College, and **Eirini Poimenidou**, New College, Sarasota (980-20-210)

**Special Session on Arrangements of Hyperplanes, III**

9:00 AM – 11:20 AM Room B219, Van Vleck Hall

Organizers: **Daniel C. Cohen**, Louisiana State University  
**Peter Orlik**, University of Wisconsin-Madison  
**Anne Shepler**, University of California Santa Cruz

- 9:00AM *On braid groups, free groups, and the loop space of the 2-sphere.* (236) **Frederick R. Cohen\***, University of Rochester, and **Jie Wu**, National University of Singapore (980-55-184)
- 9:30AM *Discrete models for algebraic invariants of spaces of polynomials.* (237) **Dmitry N Kozlov**, U. Bern / KTH Stockholm (980-57-106)

- 10:00AM *Chen Lie algebras and combinatorics of arrangements.* (238)  
**Stefan Papadima**, Institute of Mathematics, Romanian Academy, and **Alexander I Suciu\***, Northeastern University (980-20-170)
- 10:30AM *Reflection Groups, Mysterious Numerology, and the Coinvariant Algebra.* (239)  
**Anne V Shepler**, University of North Texas (980-20-294)
- 11:00AM *Discriminantal arrangements, critical points, and resonant local systems.* Preliminary report. (240)  
**Daniel C. Cohen\***, Louisiana State University, and **Alexander Varchenko**, University of North Carolina (980-32-307)

**Special Session on Probability, III**

9:00 AM – 10:45 AM Room B313, Van Vleck Hall

Organizers: **David Griffeath**, University of Wisconsin-Madison  
**Timo Seppalainen**, University of Wisconsin-Madison

- 9:00AM *Refinement of Wigner semicircle law in a neighborhood of the spectrum edge for random symmetric matrices with distribution of matrix elements decaying polynomially at infinity.* (241)  
**Anastasia A Ruzmaikina**, Purdue University (980-60-83)
- 10:00AM *The Fluid Limit of an Overloaded Processor Sharing Queue.* (242)  
**Amber L. Puh\***, Cal State San Marcos, **Alexander L. Stolyar**, Bell Laboratories, and **Ruth J. Williams**, UCSD (980-60-146)

**Special Session on Lie Groups and Their Representations, III**

9:00 AM – 11:20 AM Room B131, Van Vleck Hall

Organizers: **R. Michael Howe**, University of Wisconsin, Eau Claire  
**Gail D. Ratcliff**, East Carolina University

- 9:00AM *Orbit duality for flag manifolds.* (243)  
**John D Lorch**, Ball State University (980-22-43)
- 9:30AM *Flag domains, cycle spaces, and the Akhiezer-Gindikin domain.* Preliminary report. (244)  
**Ralph J Bremigan**, Ball State University (980-22-42)
- 10:30AM *Noncrystallographic Springer correspondences.* Preliminary report. (245)  
**C. Krilloff\***, Idaho State University, and **A. Ram**, University of Wisconsin (980-20-251)
- 11:00AM *Centralizer Algebras.* (246)  
**Cheryl Grood**, Swarthmore College (980-16-96)

**Special Session on Effectiveness Questions in Model Theory, III**

9:30 AM – 11:20 AM Room B203, Van Vleck Hall

Organizers: **Charles McCoy**, University of Wisconsin-Madison  
**Reed Solomon**, University of Wisconsin-Madison  
**Patrick Speissegger**, University of Wisconsin-Madison

- 9:30AM *Extracting syntactic proofs from model-theoretic arguments.* Preliminary report. (247)  
**Jeremy Avigad**, Carnegie Mellon University (980-03-157)

- 10:00AM *A positive perspective on computable analysis.* (248)  
**Joseph S. Miller**, Indiana University (980-03-295)
- 10:30AM *A model completeness result arising from recursive model theory.* (249)  
**Michael C. Laskowski**, University of Maryland (980-03-271)
- 11:00AM *On decidable prime models.* Preliminary report. (250)  
**Jessica Millar Young**, Harvard (980-03-280)

**AMS Special Presentation: Part I**

9:30 AM – 11:30 AM Room B211, Van Vleck Hall

*TA development using case studies: A workshop for faculty.*

Organizer: **Diane Herrmann**, University of Chicago

**Special Session on Optimal Geometry of Curves and Surfaces, III**

10:00 AM – 11:20 AM Room B337, Van Vleck Hall

Organizers: **Jason H. Cantarella**, University of Georgia  
**John M. Sullivan**, University of Illinois, Urbana

- 9:30AM *The Honeycomb Conjecture And Its Generalizations.* Preliminary report. (251)  
**Thomas C. Hales**, University of Pittsburgh (980-51-319)
- 10:00AM *Deformations of Minimal Surfaces in Euclidean Space.* (252)  
**Matthias Weber**, Indiana University (980-53-74)
- 10:30AM *Unstable periodic discrete minimal surfaces.* (253)  
**Konrad Polthier**, Technical University Berlin (980-53-221)
- 11:00AM *Bifurcation Analysis for Constant Mean Curvature Spanners of Annular Type.* Preliminary report. (254)  
**Henry C Wente**, University of Toledo (980-49-203)

**Invited Address**

11:40 AM – 12:30 PM Room B102, Van Vleck Hall

- (255) *General properties of solutions to second order elliptic and parabolic equations*  
**Mikhail Safonov**, University of Minnesota

**Invited Address**

2:00 PM – 2:50 PM Room B102, Van Vleck Hall

- (256) *Optimal Geometry in Topology.* Preliminary report.  
**John M Sullivan**, Univ. of Illinois, Urbana (980-53-194)

**Special Session on Arithmetic Algebraic Geometry, IV**

3:00 PM – 5:25 PM Room B113, Van Vleck Hall

Organizers: **Ken Ono**, University of Wisconsin-Madison  
**Tonghai Yang**, University of Wisconsin-Madison

- 3:00PM Discussion  
3:30PM *Modular Form Congruences and Selmer Groups.* (257)  
**William J McGraw\*** and **Ken Ono**, University of Wisconsin (980-11-47)

- 4:00PM *Explicit Structures of Siegel Modular Forms and Differential Operators.*  
(258) **Tomoyoshi Ibukiyama**, Osaka University (980-11-135)
- 4:30PM *Optimal elliptic curves and their  $j$ -invariants.*  
(259) **Mihran Papikian**, University of Michigan (980-11-250)
- 5:00PM Discussion

**Special Session on Several Complex Variables, IV**

3:00 PM – 5:50 PM Room B317, Van Vleck Hall

Organizers: **Pat Ahern**, University of Wisconsin-Madison  
**Xianghong Gong**, University of Wisconsin-Madison  
**Alex Nagel**, University of Wisconsin-Madison  
**Jean-Pierre Rosay**, University of Wisconsin-Madison

- 3:00PM *Rational Approximation on the Unit Sphere in  $C^2$ .*  
(260) **John T Anderson\***, College of the Holy Cross, **Alexander J Izzo**, Bowling Green State University, and **John Wermer**, Brown University (980-32-22)
- 3:30PM *Interpolating between a theorem of Čirka and a theorem of Axler and Shields.* Preliminary report.  
(261) **Alexander J. Izzo**, Bowling Green State University (980-30-24)
- 4:00PM *Holomorphic Line Bundles on the Loop Space of the Riemann Sphere.*  
(262) **Ning Zhang**, Purdue University (980-58-59)
- 4:30PM *Plurisubharmonic Lyapunov functions.* Preliminary report.  
(263) **Malgorzata S. Stawiska**, Purdue University (980-32-292)
- 5:00PM *Practical tests for  $H^\infty$  optima.*  
(264) **J William Helton**, University of California San Diego, and **Marshall A Whittlesey\***, California State University San Marcos (980-32-254)
- 5:30PM *The existence of universal inner functions on the unit ball of  $C^n$ .*  
(265) **Paul M. Gauthier\***, Université de Montréal, and **Jie Xiao**, Concordia University (980-32-07)

**Special Session on Harmonic Analysis, IV**

3:00 PM – 3:55 PM Room B341, Van Vleck Hall

Organizers: **Alex Ionescu**, University of Wisconsin-Madison  
**Andreas Seeger**, University of Wisconsin-Madison

- 3:00PM *Bellman functions, self-improvement of quadratic forms, and asymptotic estimates of the Ahlfors-Beurling transform in  $L^p$ ,  $p \rightarrow \infty$ .*  
(266) **Alexander Volberg**, Michigan State University (980-42-143)
- 3:30PM *Some minimum problems for hyperbolic metrics.*  
(267) **Albert II Baernstein\***, Washington University, **A. Eremenko**, Purdue University, **A. Fryntov**, Ottawa, Ontario, and **A. Solynin**, Steklov Institute, St.Petersburg, Russia (980-30-163)

**Special Session on Geometric Methods in Differential Equations, IV**

3:00 PM – 5:55 PM Room B305, Van Vleck Hall

Organizers: **Gloria Mari Beffa**, University of Wisconsin-Madison

- Peter Olver**, University of Minnesota
- 3:00PM *Symmetry reductions via moving frame method.*  
(268) **Irina A Kogan**, Yale University (980-53-202)
- 3:30PM *Moving frames for pseudo-groups.*  
(269) **Peter J. Olver**, University of Minnesota (980-22-72)
- 4:00PM *Dynamics of Groups on Lorentz Manifolds.*  
(270) **Scot R Adams**, University of Minnesota (980-37-78)
- 4:30PM Discussion
- 5:00PM *Variational Principles For The Canonical Connection On A Lie Group.*  
▶ (271) **Ryad A Ghanam**, University of Wisconsin-Rock County (980-53-282)
- 5:30PM *New potential symmetries for some diffusion equations.*  
(272) **Maria Gandarias**, University of Cadiz (980-35-201)

**Special Session on Effectiveness Questions in Model Theory, IV**

3:00 PM – 4:20 PM Room B203, Van Vleck Hall

Organizers: **Charles McCoy**, University of Wisconsin-Madison  
**Reed Solomon**, University of Wisconsin-Madison  
**Patrick Speissegger**, University of Wisconsin-Madison

- 3:00PM *Complicated relations on computable structures.*  
(273) **S. S. Goncharov**, Novosibirsk State University, **V. S. Harizanov**, George Washington University, **J. F. Knight\***, University of Notre Dame, and **R. A. Shore**, Cornell University (980-03-183)
- 3:30PM *Asymptotic theories of differential fields.*  
(274) **Zoé M Chatzidakis**, CNRS - Université Paris 7 (980-03-278)
- 4:00PM Discussion

**Special Session on Hyperbolic Differential Equations and Kinetic Theory, IV**

3:00 PM – 4:50 PM Room B325, Van Vleck Hall

Organizers: **Shi Jin**, University of Wisconsin-Madison  
**Marshall Slemrod**, University of Wisconsin-Madison  
**Athanasios Tzavaras**, University of Wisconsin-Madison

- 3:00PM *Time reversal of classical waves in random media.*  
(275) **Lenya Ryzhik\***, University of Chicago, and **Guillaume Bal**, Columbia University (980-35-54)
- 3:30PM *Scaling laws for viscous fingering of miscible fluids.*  
(276) **Govind Menon\***, Univ. of Wisconsin, Madison, and **Felix Otto**, University of Bonn (980-35-06)
- 4:00PM *Piecewise Self-similar Solutions and a Numerical Scheme for Scalar Conservation Laws.* Preliminary report.  
(277) **Yong Jung Kim**, Kyunghee University (Korea) (980-35-197)
- 4:30PM  *$L^1$  stability of kinetic equations with collision terms.*  
(278) **Seung-Yeal Ha**, Department of Mathematics/University of Wisconsin-Madison (980-35-97)

**Special Session on Ring Theory and Related Topics, IV**

3:00 PM – 5:20 PM Room B105, Van Vleck Hall

Organizer: **Don Passman**, University of Wisconsin-Madison

- 3:00PM *Lattice Invariants and Noether's problem.*  
(279) **Esther Beneish**, Central Michigan University (980-16-151)
- 3:30PM *Frobenius kernels and their quantum analogs.*  
▶ (280) Preliminary report.  
**Stefan Catoiu**, DePaul University (980-16-144)
- 4:00PM *Spectra of quantized hyperalgebras at roots of 1.*  
(281) **William Chin\*** and **Leonid Krop**, DePaul University (980-16-169)
- 4:30PM *Representations of Drinfeld doubles.* Preliminary report.  
(282) **Declan P Quinn\*** and **Sebastian M Burciu**, Syracuse University (980-16-159)
- 5:00PM *On the Coradical Filtration of Pointed Coalgebras.*  
(283) **Darren B Parker** (980-16-11)

**Tomaso Poggio**, Massachusetts Institute of Technology

- 3:00PM *Synchrony, spike-timing-dependent plasticity and olfactory learning.* Preliminary report.  
(290) **Christiane Linster\*** and **Thomas A. Cleland**, Cornell University (980-92-275)
- 3:30PM *Riemannian Geometry in Psychological Models of Representation: An Infinite-Dimensional Riemannian Face Space.*  
(291) **James T. Townsend**, **Bruce Solomon**, Indiana University, and **Jesse Spencer-Smith\***, Beckman Institute (980-53-229)
- 4:00PM Discussion
- 5:00PM Discussion
- 5:30PM *Neuronal Dynamics and Sparse Coding In The Cortex.* Preliminary report.  
▶ (292) **Amir H Assadi**, University of Wisconsin-Madison (980-92-186)

### Special Session on Lie Algebras and Related Topics, IV

3:00 PM – 5:45 PM Room B129, Van Vleck Hall

Organizers: **Georgia Benkart**, University of Wisconsin-Madison  
**Arun Ram**, University of Wisconsin-Madison

- 3:00PM *Positivity of quiver cycles via deformation.*  
(284) Preliminary report.  
**Allen Knutson**, UC Berkeley, **Ezra Miller**, MSRI, University of Minnesota, and **Mark Shimozono\***, Virginia Polytechnic Institute and State University (980-14-239)
- 4:00PM *A modified signed Brauer algebra as centralizer algebra of the unitary group.* Preliminary report.  
(285) **Alberto Elduque**, University of Zaragoza (980-17-134)
- 5:00PM *Cohomology for Symmetric Groups - Preliminary Report.* Preliminary report.  
(286) **David J Hemmer**, University of Georgia (980-20-177)

### Special Session on Probability, IV

3:00 PM – 5:45 PM Room B313, Van Vleck Hall

Organizers: **David Griffeath**, University of Wisconsin-Madison  
**Timo Seppalainen**, University of Wisconsin-Madison

- 3:00PM *Continuous Processes Have Gaussian Short Term Behavior.*  
(287) **Masanori Hino**, Kyoto University, and **Jose Ramirez\***, Cornell University (980-60-153)
- 4:00PM *A martingale proof of Dobrushin's theorem for non-homogeneous Markov chains.* Preliminary report.  
(288) **Sunder Sethuraman\***, Iowa State University, and **S.R.S. Varadhan**, Courant Institute (980-60-214)
- 5:00PM *Remarks on the homogenization of stochastic Hamilton-Jacobi equations.* Preliminary report.  
(289) **Elena Kosygina\***, Baruch College - CUNY, and **Fraydoun Rezakhanlou**, University of California, Berkeley (980-60-174)

### Special Session on Biological Computation and Learning in Intelligent Systems, IV

3:00 PM – 5:50 PM Room B329, Van Vleck Hall

Organizers: **Shun-ichi Amari**, RIKEN  
**Amir Assadi**, University of Wisconsin-Madison

### Special Session on Combinatorics and Special Functions, IV

3:00 PM – 5:50 PM Room B321, Van Vleck Hall

Organizers: **Richard Askey**, University of Wisconsin-Madison  
**Paul Terwilliger**, University of Wisconsin-Madison

- 3:00PM *Sieved  $q$ -binomial coefficients.* Preliminary report.  
(293) **Dennis Stanton\*** and **Dennis White**, University of Minnesota (980-05-223)
- 3:30PM *Quantum supergroup and  $q$ -polynomials.*  
(294) **Yi Ming Zou**, University of Wisconsin-Milwaukee (980-22-71)
- 4:00PM *Pseudo primitive idempotents and almost 2-homogeneous bipartite distance-regular graphs.* Preliminary report.  
(295) **Michael S Lang**, University of Wisconsin - La Crosse (980-05-298)
- 4:30PM *Elliptic hypergeometric series on root systems.*  
(296) **Hjalmar Rosengren**, Chalmers University (980-33-268)
- 5:00PM *Askey-Wilson type functions, with bound states.*  
(297) **Luc N. Haine\***, University of Louvain, and **Plamen I. Iliev**, University of California at Berkeley (980-33-115)
- 5:30PM *The  $q$ -Difference Operator and the Rogers-Ramanujan Identities.*  
(298) **George E. Andrews**, Penn State University (980-05-178)

### Special Session on Characters and Representations of Finite Groups, IV

3:00 PM – 5:50 PM Room B119, Van Vleck Hall

Organizers: **Martin Isaacs**, University of Wisconsin, Madison  
**Mark Lewis**, Kent State University

- 3:00PM *Divisibility and character degrees of solvable groups.*  
(299) **Alex Moreto**, Universidad del Pais Vasco, and **Thomas R Wolf\***, Ohio University (980-20-289)
- 3:30PM *Non-divisibility among character degrees.* Preliminary report.  
(300) **Mark L Lewis**, Kent State University, and **Alexander Moreto\***, University of Wisconsin, Madison (980-20-158)

- 4:00PM *Bounding graph diameters of solvable groups.*  
(301) **John K. McVey**, Clarion University of Pennsylvania  
(980-20-51)
- 4:30PM *Solvable Groups Satisfying The Two-Prime Hypothesis.*  
(302) **James E. Hamblin**, Shippensburg University  
(980-20-136)
- 5:00PM *Derived length and character degrees of some  $p$ -groups.* Preliminary report.  
▶ (303) **Thomas Michael Keller\***, Southwest Texas State University, **Dustin Ragan**, Trinity University, and **Geoffrey T. Tims**, Drake University (980-20-86)
- 5:30PM *A family of polynomials related to generic degrees.*  
(304) **Dean Alvis**, Indiana University South Bend  
(980-20-132)

***Special Session on Optimal Geometry of Curves and Surfaces, IV***

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3:00 PM – 4:30 PM Room B337, Van Vleck Hall

Organizers: **Jason H. Cantarella**, University of Georgia  
**John M. Sullivan**, University of Illinois, Urbana

3:00PM Discussion

***Special Session on Lie Groups and Their Representations, IV***

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3:00 PM – 5:20 PM Room B131, Van Vleck Hall

Organizers: **R. Michael Howe**, University of Wisconsin, Eau Claire  
**Gail D. Ratcliff**, East Carolina University

3:00PM *On the Supercuspidal Representations of the the two-fold cover of  $SL(2)$  over a 2-adic field.*  
(305) Preliminary report.  
**David Manderscheid**, University of Iowa  
(980-22-79)

3:30PM *The Langlands classification for non-connected groups and applications.*  
(306) **Chris S. Jantzen**, East Carolina University  
(980-22-218)

4:30PM *A brief introduction to modular representation theory of algebraic groups.*  
(307) **Christopher P Bendel**, University of Wisconsin-Stout (980-20-38)

5:00PM *The Representations of  $D1$ .*  
(308) **Manouchehr Misaghian**, JCSU (980-22-105)

***AMS Special Presentation, Part II***

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3:00 PM – 5:00 PM Room B211, Van Vleck Hall

*TA development using case studies: A workshop for faculty.*

Organizer: **Diane Herrmann**, University of Chicago

**Susan J. Friedlander**  
Associate Secretary  
Chicago, Illinois