

# Meetings & Conferences of the AMS

**IMPORTANT INFORMATION REGARDING MEETINGS PROGRAMS:** AMS Sectional Meeting programs do not appear in the print version of the *Notices*. However, comprehensive and continually updated meeting and program information with links to the abstract for each talk can be found on the AMS website. See <http://www.ams.org/meetings/>. Programs and abstracts will continue to be displayed on the AMS website in the Meetings and Conferences section until about three weeks after the meeting is over. Final programs for Sectional Meetings will be archived on the AMS website in an electronic issue of the *Notices* as noted below for each meeting.

## Nashville, Tennessee

*Vanderbilt University*

**October 16–17, 2004**

*Saturday–Sunday*

### Meeting #999

Southeastern Section

Associate secretary: John L. Bryant

Announcement issue of *Notices*: August 2004

Program first available on AMS website: September 2, 2004

Program issue of electronic *Notices*: October 2004

Issue of *Abstracts*: Volume 25, Issue 4

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:

Expired

For abstracts: Expired

### Invited Addresses

**Ruth M. Charney**, Brandeis University, *Artin groups, mapping class groups, and automorphism groups*.

**Peter S. Ozsvath**, Columbia University, *Holomorphic disks and low-dimensional topology*.

**Sorin T. Popa**, University of California Los Angeles, *Deformation, rigidity, and the classification of  $II_1$  factors*.

**Rudi Weikard**, University of Alabama at Birmingham, *Inverse problems for Sturm-Liouville equations*.

### Special Sessions

*Algebraic Geometry and Commutative Algebra*, **Juan C. Migliore**, University of Notre Dame, and **Uwe Nagel**, University of Kentucky.

*Biomathematics*, **Laurent Pujo-Menjouet** and **Glenn F. Webb**, Vanderbilt University.

*Geometry of Hyperbolic Manifolds*, **John G. Ratcliffe** and **Steven T. Tschantz**, Vanderbilt University.

*Graph Theory and Matroid Theory*, **Mark N. Ellingham** and **Michael D. Plummer**, Vanderbilt University.

*Index Theory and the Topology of Manifolds*, **Bruce Hughes** and **Guoliang Yu**, Vanderbilt University.

*Inverse Problems*, **Maeve L. McCarthy**, Murray State University, and **Rudi Weikard**, University of Alabama at Birmingham.

*Local and Homological Algebra*, **Florian Enescu**, University of Utah, and **Adela N. Vraciu**, University of South Carolina.

*Nonlinear Partial Differential Equations and Applications*, **Gieri Simonett**, Vanderbilt University.

*Operator Theory on Function Spaces*, **Dechao Zheng**, Vanderbilt University.

*Semigroup Theory*, **Matthew I. Gould**, Vanderbilt University, and **Karen Ann Linton**, California State Polytechnic University, Pomona.

*Topological Aspects of Group Theory*, **Michael L. Mihalik** and **Mark V. Sapir**, Vanderbilt University.

*Universal Algebra and Lattice Theory*, **Ralph N. McKenzie**, Vanderbilt University, and **George F. McNulty**, University of South Carolina.

*Von Neumann Algebras and Noncommutative Ergodic Theory*, **Dietmar Bisch**, Vanderbilt University, and **Sorin T. Popa**, University of California Los Angeles.

*Wavelets, Frames, and Sampling*, **Akram Aldroubi** and **Douglas P. Hardin**, Vanderbilt University, and **Qiyu Sun**, University of Central Florida.

# Albuquerque, New Mexico

University of New Mexico

October 16–17, 2004

Saturday–Sunday

## Meeting #1000

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: August 2004

Program first available on AMS website: September 3, 2004

Program issue of electronic *Notices*: October 2004

Issue of *Abstracts*: Volume 25, Issue 4

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
Expired

For abstracts: Expired

## Invited Addresses

**Sara C. Billey**, University of Washington, Seattle, *A combinatorial approach to solving Schubert problems on the flag manifold.*

**Peter Ebenfelt**, University of California San Diego, *Analytic and geometric properties of CR manifolds and their mappings.*

**Theodore Stanford**, New Mexico State University, *Knots modulo braids.*

**Craig A. Tracy**, University of California Davis, *The universality of the distribution functions of random matrix theory.*

## Special Sessions

*Algebraic Geometry*, **Hirotschi Abo** and **Chris Peterson**, Colorado State University.

*Analysis and Geometry in Carnot-Carathéodory Spaces*, **Luca Capogna**, University of Arkansas, and **Robert Smits**, New Mexico State University.

*Arithmetic Geometry*, **Alexandru Buium** and **Michael J. Nakamaye**, University of New Mexico.

*Braids and Knots*, **Theodore Stanford**, New Mexico State University.

*Categories and Operads in Topology, Geometry, Physics, and Other Applications*, **Hanna Ewa Makaruk** and **Robert Michal Owczarek**, Los Alamos National Laboratory, and

**Zbigniew Oziewicz**, Universidad Nacional Autónoma de México.

*Financial Mathematics: The Mathematics of Derivative Securities*, **Maria Cristina Mariani**, New Mexico State University, and **Osvaldo Mendez**, University of Texas at El Paso.

*Interactions in Riemannian Geometry*, **Charles P. Boyer** and **Krzysztof Galicki**, University of New Mexico.

*Mathematical Methods in Turbulence*, **Monika Nitsche** and **Vachtang Poutkaradze**, University of New Mexico.

*Mathematics for Secondary Teachers: Curriculum and Assessment*, **Adriana Aceves** and **Kristin Umland**, University of New Mexico.

*Multiscale Methods and Sampling in Time-Frequency Analysis*, **Jeffrey Andrew Hogan**, University of Arkansas, and **Joseph D. Lakey**, New Mexico State University.

*Nonlinear Partial Differential Equations Applied to Materials Science*, **Patricia Bauman**, Purdue University, and **Tiziana Giorgi**, New Mexico State University.

*Probabilistic and Geometric Methods in Learning Theory*, **Vladimir Koltchinskii**, University of New Mexico.

*Random Matrix Theory and Growth Processes*, **Craig A. Tracy**, University of California Davis.

*Regularity in PDEs and Harmonic Analysis*, **Marianne Kortten** and **Charles Nelson Moore**, Kansas State University, and **Maria C. Pereyra**, University of New Mexico.

*Several Complex Variables and CR Geometry*, **Peter Ebenfelt**, University of California San Diego, and **Marshall A. Whittlesey**, California State University, San Marcos.

*Spectral Geometry*, **Ivan G. Avramidi**, New Mexico Institute of Mining and Technology, and **Thomas Patrick Branson**, University of Iowa.

# Evanston, Illinois

Northwestern University

October 23–24, 2004

Saturday–Sunday

## Meeting #1001

Central Section

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: August 2004

Program first available on AMS website: September 9, 2004

Program issue of electronic *Notices*: October 2004

Issue of *Abstracts*: Volume 25, Issue 4

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
Expired

For abstracts: Expired

**Invited Addresses**

**Ian Agol**, University of Illinois at Chicago, *Title to be announced*.

**Robert W. Ghrist**, University of Illinois at Urbana-Champaign, *Title to be announced*.

**Yuri Manin**, Northwestern University, *Title to be announced*.

**Paul Seidel**, Imperial College-London and University of Chicago, *Title to be announced*.

**Special Sessions**

*Algebraic Representations and Deformations*, **Stephen R. Doty** and **Anthony Giaquinto**, Loyola University of Chicago.

*Algebraic Topology: Interactions with Representation Theory and Algebraic Geometry*, **Paul G. Goerss**, Northwestern University, **Jesper Kragh Grodal**, University of Chicago, and **Brooke E. Shipley**, University of Illinois at Chicago.

*Applications of Motives*, **Eric M. Friedlander**, Northwestern University, **Alexander Goncharov**, Brown University, **Mikhail Kapranov**, Yale University, and **Yuri Manin**, Max Planck Institute for Mathematics.

*Codes and Applications*, **William C. Huffman**, Loyola University of Chicago, and **Vera S. Pless**, University of Illinois at Chicago.

*Computability Theory and Applications*, **Robert I. Soare** and **Denis R. Hirschfeldt**, University of Chicago.

*Differential Geometry*, **Anders Ingemar Linner** and **Hongyou Wu**, Northern Illinois University.

*Extremal Combinatorics*, **Dhruv Mubayi** and **Yi Zhao**, University of Illinois at Chicago.

*Fluid Dynamics, Diffusion and Reaction*, **Peter S. Constantin** and **Leonid V. Ryzhik**, University of Chicago.

*Geometric Aspects of the Langlands Program*, **Edward Frenkel**, University of California Berkeley, **Dennis Gaitsgory**, University of Chicago, **Mark Goresky**, Institute for Advanced Study, and **Kari Vilonen**, Northwestern University.

*Geometric Partial Differential Equations*, **Gui-Qiang Chen** and **Jared Wunsch**, Northwestern University.

*Hopf Algebras at the Crossroads of Algebra, Category Theory, and Topology*, **Louis H. Kauffman** and **David E. Radford**, University of Illinois at Chicago, and **Fernando J. O. Souza**, University of Iowa.

*Index Theory, Morse Theory, and the Witten Deformation Method*, **Igor Prokhorov** and **Ken Richardson**, Texas Christian University.

*Iterated Function Systems and Analysis on Fractals*, **Ka-Sing Lau**, Chinese University of Hong Kong, and **Stephen S.-T. Yau**, University of Illinois at Chicago.

*Low-Dimensional Topology and Kleinian Groups*, **Ian Agol**, **John Holt**, and **Saul Schleimer**, University of Illinois at Chicago.

*Mathematical Problems in Robotics*, **Robert W. Ghrist**, University of Illinois at Urbana-Champaign.

*Mathematical Techniques in Musical Analysis*, **Judith Baxter**, University of Illinois at Chicago, **Richard Cohn**, University of Chicago, and **Robert Peck**, Louisiana State University.

*Modern Schubert Calculus*, **Ezra Miller**, University of Minnesota, and **Frank Sottile**, University of Massachusetts.

*Nonlinear Partial Differential Equations and Applications*, **Gui-Qiang Chen**, Northwestern University, and **Mikhail Feldman**, University of Wisconsin at Madison.

*Nonlinear Waves*, **Jerry L. Bona**, University of Illinois at Chicago, **Shuming Sun**, Virginia Polytechnic Institute and State University, and **Bingyu Zhang**, University of Cincinnati.

*Representation Theory of Reductive Groups*, **Jeffrey D. Adler**, University of Akron, and **Ju-Lee Kim**, University of Illinois at Chicago.

*Solving Polynomial Systems*, **Anton Leykin** and **Jan Verschelde**, University of Illinois at Chicago.

*Special Functions, Orthogonal Polynomials, and their Applications*, **George Gasper**, Northwestern University, and **Ahmed I. Zayed**, DePaul University.

*Spectral Problems of Differential Operators*, **Qingkai Kong**, **Hongyou Wu**, and **Anton Zettl**, Northern Illinois University.

*Stability Issues in Fluid Dynamics*, **Susan J. Friedlander** and **Roman Shvydkoy**, University of Illinois at Chicago.

# Pittsburgh, Pennsylvania

*University of Pittsburgh*

**November 6–7, 2004**

*Saturday–Sunday*

**Meeting #1002**

Eastern Section

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: September 2004

Program first available on AMS website: September 23, 2004

Program issue of electronic *Notices*: November 2004

Issue of *Abstracts*: Volume 25, Issue 4

**Deadlines**

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
Expired

For abstracts: September 14, 2004

**Invited Addresses**

**Jeffrey F. Brock**, Brown University, *Title to be announced*.

**Der-Chen Chang**, Georgetown University, *Geometric analysis on a class of degenerate elliptic operators*.

**Robert Schapire**, Princeton University, *Title to be announced.*

**Ofer Zeitouni**, University of Minnesota, Minneapolis, *Homogenization in asymmetrical random media: Recent results and challenges.*

### Special Sessions

*Convexity and Combinatorics* (Code: SS 2A), **James F. Lawrence** and **Valeriu Soltan**, George Mason University.

*Geometric Analysis and Partial Differential Equations in Subelliptic Structures* (Code: SS 12A), **Cristian E. Gutierrez**, Temple University, **Guozhen Lu**, Wayne State University, and **Juan J. Manfredi**, University of Pittsburgh.

*Graph Polynomials* (Code: SS 8A), **E. Glen Whitehead Jr.**, University of Pittsburgh.

*Invariants of Knots and 3-Manifolds* (Code: SS 1A), **Marta M. Asaeda**, University of Maryland, **Jozef H. Przytycki**, George Washington University, and **Adam S. Sikora**, SUNY at Buffalo.

*Knots and Macromolecules* (Code: SS 7A), **Kenneth C. Millett**, University of California Santa Barbara, and **Eric J. Rawdon**, Duquesne University.

*Mathematical Biology* (Code: SS 13A), **Jonathan E. Rubin** and **Bard Ermentrout**, University of Pittsburgh.

*Mathematical Finance* (Code: SS 11A), **David Saunders** and **John Chadam**, University of Pittsburgh.

*Mathematical Modeling of Nonlinear Phenomena in Biology and Mechanics* (Code: SS 6A), **Anna Vainchtein** and **William C. Troy**, University of Pittsburgh.

*Modularity of Galois Representations and Serre's Conjecture* (Code: SS 14A), **Mark E. T. Dickinson**, University of Pittsburgh.

*Multiscale Algorithms in Computational Fluid Dynamics* (Code: SS 5A), **William J. Layton**, University of Pittsburgh, and **Anastasios Liakos**, U.S. Naval Academy.

*Multivariate Hypergeometric Functions: Combinatorial and Algebro-Geometric Aspects* (Code: SS 9A), **Eduardo Cattani**, University of Massachusetts, Amherst, **Alicia M. Dickenstein**, Universidad de Buenos Aires, and **Laura Felicia Matusevich**, Harvard University.

*PDE-Based Methods in Imaging and Vision* (Code: SS 15A), **Stacey E. Levine**, Duquesne University, and **Yunmei Chen**, University of Florida.

*Partial Differential Equations and Applications* (Code: SS 4A), **Xinfu Chen** and **Dehua Wang**, University of Pittsburgh.

*The History of Mathematics* (Code: SS 3A), **Robert E. Bradley**, Adelphi University, and **Lawrence A. D'Antonio**, Ramapo College of New Jersey.

*Trends in Operator Theory and Banach Spaces* (Code: SS 10A), **Christopher J. Lennard** and **Thomas A. Metzger**, University of Pittsburgh.

# Atlanta, Georgia

*Atlanta Marriott Marquis and Hyatt Regency Atlanta*

**January 5–8, 2005**  
Wednesday–Saturday



### Meeting #1003

*Joint Mathematics Meetings, including the 111th Annual Meeting of the AMS, 88th Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association of Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), the winter meeting of the Association of Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: October 2004

Program first available on AMS website: November 1, 2004

Program issue of electronic *Notices*: January 2005

Issue of *Abstracts*: Volume 26, Issue 1

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
Expired

For abstracts: October 5, 2004

For summaries of papers to MAA organizers: September 14, 2004

### Joint AMS-MAA Invited Addresses

**Andrea L. Bertozzi**, University of California Los Angeles, *Processing images using nonlinear PDEs*, Wednesday, 11:10 a.m.

**Bernd Sturmfels**, University of California Berkeley, *Algebraic statistics*, Friday, 11:10 a.m.

**AMS Committee on Science Policy-MAA Science Policy Committee Government Speaker**, Friday, 5:00 p.m., Speaker and title to be announced

### Joint Prize Session

**Prize Session and Reception:** In order to showcase the achievements of the recipients of various prizes, the AMS and MAA are cosponsoring this event at 4:25 p.m. on Thursday. A cash bar reception will immediately follow. All participants are invited to attend. The AMS, MAA, and SIAM will award the Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student. The MAA will award the Chauvenet Prize, Certificates of Meritorious Service, the Deborah and Franklin Haimo Awards for Distinguished College or University Teaching of Mathematics, the Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics, and JPBM Communications Award. The AMS will announce the winners of the AMS Book Prize, Bôcher Memorial Prize, Levi L. Conant Prize, Frank Nelson Cole Prize in Number Theory, Ruth Lyttle Satter Prize in Math-

ematics, Albert Leon Whitman Memorial Prize, and the Leroy P. Steele Prizes. The AWM will present the Louise Hay Award for Contributions to Mathematics Education and the Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman. This session will also be the venue to announce the winner of the Leonard M. and Eleanor B. Blumenthal Award for the Advancement of Research in Pure Mathematics.

## 111th Annual Meeting of the AMS

### AMS Invited Addresses

**Ingrid Daubechies**, Princeton University, *The Interplay between Analysis and Algorithms* (Josiah Willard Gibbs Lecture), Wednesday, 8:30 p.m.

**Eleny Ionel**, University of Wisconsin, *Embedded curves and Gromov-Witten invariants*, Thursday, 2:15 p.m.

**Bruce A. Kleiner**, University of Michigan, Ann Arbor, *Title to be announced*, Wednesday, 10:05 a.m.

**Robert K. Lazarsfeld**, University of Michigan, *How polynomials vanish: Singularities, integrals, and ideals* (Colloquium Lectures), Wednesday, Thursday, and Friday, 1:00 p.m.

**Gunther Uhlmann**, University of Washington, *Recent developments in inverse problems*, Friday, 9:00 a.m.

**Avi Wigderson**, Institute for Advanced Study, *The power and weakness of randomness (when you are short on time)*, Thursday, 3:20 p.m.

**Steven M. Zelditch**, Johns Hopkins University, *Title to be announced*, Friday, 10:05 a.m.

### AMS Special Sessions

Some sessions are cosponsored with other organizations. These are noted within the parentheses at the end of each listing, where applicable. Time frames are tentative.

*Algebraic Geometry Codes* (Code: SS 13A), **Shuhong Gao** and **Gretchen L. Matthews**, Clemson University; Friday afternoon.

*Algorithmic Algebraic and Analytic Geometry* (Code: SS 34A), **Saugata Basu**, Georgia Institute of Technology, **Victoria A. Powers**, Emory University, **Mika K. Sepälä**, Florida State University, **Tanush T. Shaska**, University of Idaho, and **Emil J. Volcheck**, National Security Agency; Friday and Saturday mornings and Saturday afternoon.

*Analysis and Applications in Nonlinear Partial Differential Equations* (Code: SS 27A), **Michael T. Lacey**, **Jason L. Metcalfe**, **Gerd Mockenhaupt**, **Ronghua Pan**, and **Andrzej J. Swiech**, Georgia Institute of Technology (AMS-SIAM); Saturday morning and afternoon.

*Analysis Problems in Modern Physics* (Code: SS 30A), **Steven M. Zelditch**, Johns Hopkins University; Wednesday and Thursday mornings and Thursday afternoon.

*Arithmetic Algebraic Geometry* (Code: SS 32A), **Matthew H. Baker** and **Dino J. Lorenzini**, University of Georgia; Friday morning and Saturday afternoon.

*Commutative Algebra* (Code: SS 20A), **Srikanth B. Iyengar**, University of Missouri, **Sean M. Sather-Wagstaff**, University of Illinois at Urbana-Champaign, **Anurag K. Singh**, Georgia Institute of Technology, and **Carolyn A. Yackel**, Mercer University; Wednesday and Thursday mornings and Wednesday afternoon.

*Complex and Functional Analysis* (Code: SS 25A), **Mihaly Bakonyi**, Georgia State University, and **Imre Patyi**, University of California San Diego; Saturday morning and afternoon.

*Current Events* (Code: SS 1A), **David Eisenbud**, Mathematical Sciences Research Institute and University of California Berkeley; Friday afternoon.

*Design Theory and Graph Theory* (Code: SS 24A), **Mike Daven**, Mount Saint Mary College, and **Atif A. Abueida**, University of Dayton; Wednesday morning and afternoon.

*D-Modules* (Code: SS 14A), **Steven Sperber**, University of Minnesota, Minneapolis, and **Uli Walther**, Purdue University; Wednesday morning and afternoon.

*Dynamic Equations on Time Scales: Integer Sequences and Rational Maps* (Code: SS 26A), **Martin J. Bohner**, University of Missouri-Rolla, **Marc A. Chamberland**, Grinnell College, **Billur Kaymakcalan**, Georgia Southern University, **Ilan C. Peterson**, University of Nebraska-Lincoln, and **Diana M. Thomas**, Montclair State University (AMS-SIAM); Wednesday and Thursday mornings and afternoons.

*Dynamics of Mapping Class Groups on Moduli Spaces* (Code: SS 10A), **Richard J. Brown**, American University; Friday morning and Saturday afternoon.

*History of Mathematics* (Code: SS 3A), **Joseph W. Dauben**, Lehman College (CUNY), **Patti Hunter**, Westmont College, and **Karen H. Parshall**, University of Virginia (AMS-MAA); Friday and Saturday afternoons and Saturday morning.

*Integrable Systems and Special Functions* (Code: SS 31A), **Andras Balogh**, University of Texas-Pan American, **Mourad E. H. Ismail**, University of Central Florida, **Wen-Xiu Ma**, University of South Florida, and **Zhijun Qiao**, Los Alamos National Laboratory. (AMS-SIAM); Friday and Saturday mornings and Saturday afternoon.

*Inverse Spectral Geometry* (Code: SS 16A), **Carolyn S. Gordon**, Dartmouth University, and **Ruth Gornet** and **Peter A. Perry**, University of Kentucky; Friday and Saturday mornings and Saturday afternoon.

*In the Wake of Jacobi and Hamilton 200 Years Later* (Code: SS 37A), **Maria-Clara Nucci**, University of Perugia, and **Pavel Winternitz**, Centre de Recherches Mathématiques, Université de Montréal; Wednesday morning and Thursday afternoon.

*Mathematical Image Processing* (Code: SS 36A), **Jianhong Shen**, University of Minnesota, Minneapolis, and **Tony F. Chan**, University of California Los Angeles (AMS-SIAM); Wednesday morning and afternoon.

*Mathematical Sciences Contributions to the Biomedical Sciences* (Code: SS 29A), **Peter D. March**, Ohio State University, **De Witt L. Sumners**, Florida State University, and

**John Whitmarsh**, The National Institutes of Health; Thursday morning and afternoon.

*Mathematical Sciences Research for the Department of Energy's Computational Biology Needs* (Code: SS 7A), **Jennifer R. Slimowitz**, Board on Mathematical Sciences and Their Applications; Wednesday afternoon.

*Mathematicians' Work on Mathematics Education* (Code: SS 19A), **William G. McCallum**, University of Arizona; Friday afternoon.

*Mathematics and Education Reform* (Code: SS 2A), **William H. Barker**, Bowdoin College, **Jerry L. Bona** and **Naomi Fisher**, University of Illinois at Chicago, **Kenneth C. Millett**, University of California Santa Barbara, and **Bonnie Saunders**, University of Illinois at Chicago (AMS-MAA-MER); Wednesday and Thursday mornings and afternoons.

*Mathematics and Mathematics Education in Fiber Arts* (Code: SS 21A), **Sarah-Marie Belcastro**, Xavier University, and **Carolyn A. Yackel**, Mercer University; Friday afternoon.

*Modular Representation Theory of Finite and Algebraic Groups* (Code: SS 8A), **David J. Hemmer**, University of Toledo, and **Cornelius Pillen**, University of South Alabama; Friday and Saturday mornings and Saturday afternoon.

*Nonsmooth Analysis in Variational and Imaging Problems* (Code: SS 17A), **M. Zuhair Nashed**, University of Central Florida, and **Otmar Scherzer**, University of Innsbruck. (AMS-SIAM); Friday and Saturday mornings and Saturday afternoon.

*Orthogonal Polynomials—Random Matrices—Integrable Systems: Interdisciplinary Aspects* (Code: SS 38A), **Jinho Baik**, University of Michigan, Ann Arbor, **Steven B. Damelin**, Georgia Southern University, and **Peter D. Miller**, University of Michigan, Ann Arbor (AMS-SIAM); Thursday morning and afternoon.

*Quantum Topology* (Code: SS 15A), **Stavros Garoufalidis** and **T. T. Q. Le**, Georgia Institute of Technology; Thursday morning and afternoon.

*Radon Transform and Inverse Problems* (Code: SS 5A), **Adel Faridani**, Oregon State University, **Gestur Olafsson**, Louisiana State University, and **Todd Quinto**, Tufts University; Wednesday and Thursday mornings and afternoons.

*Reaction Diffusion Equations and Applications* (Code: SS 28A), **Xu-Yan Chen**, Georgia Institute of Technology, **Yuanwei Qi**, University of Central Florida, **Junping Shi**, The College of William and Mary, and **Ratnasingham Shivaji**, Mississippi State University (AMS-SIAM); Friday morning and afternoon.

*Recent Advances in Mathematical Ecology* (Code: SS 18A), **Semen Koksals**, Florida Institute of Technology, **Sebastian Schreiber**, The College of William and Mary, and **Robert van Woesik**, Florida Institute of Technology (AMS-SIAM); Friday morning and afternoon.

*Representations of Lie Algebras* (Code: SS 23A), **Brian D. Boe**, University of Georgia, **Ben L. Cox**, College of Charleston, **Vyacheslav M. Futorny**, Universidade de Sao

Paulo, **William A. Graham**, University of Georgia, **Duncan J. Melville**, St. Lawrence University, and **Daniel K. Nakano**, University of Georgia; Wednesday and Thursday afternoons and Thursday morning.

*Research in Mathematics by Undergraduates* (Code: SS 9A), **Darren A. Narayan** and **Tamara A. Burton**, Rochester Institute of Technology, **Michael J. Fisher**, California State University, Fresno, and **Carl V. Lutzer**, Rochester Institute of Technology (AMS-MAA-SIAM); Friday and Saturday afternoons and Saturday morning.

*Reverse Mathematics* (Code: SS 6A), **Jeff L. Hirst**, Appalachian State University, and **Reed Solomon**, University of Connecticut (AMS-ASL); Wednesday and Thursday mornings and Thursday afternoon.

*Riemannian Geometry* (Code: SS 11A), **Igor Belegradek**, Georgia Institute of Technology, and **Mohammad Ghomi**, Georgia Institute of Technology and Pennsylvania State University; Wednesday and Thursday mornings and Wednesday afternoon.

*Spaces of Vector-Valued Functions* (Code: SS 22A), **Terje Höim**, Florida Atlantic University, and **David A. Robbins**, Trinity College; Friday morning and afternoon.

*Stochastic, Large-Scale, and Hybrid Systems* (Code: SS 12A), **A. S. Vatsala**, University of Louisiana at Lafayette, and **G. S. Ladde**, University of Texas at Arlington (AMS-SIAM); Thursday morning and afternoon.

*Theoretical and Computational Aspects of Inverse Problems* (Code: SS 4A), **Gunther Uhlmann**, University of Washington, and **David L. Colton**, University of Delaware (AMS-SIAM); Wednesday and Thursday mornings and afternoons.

*Topics in Geometric Function Theory* (Code: SS 33A), **Abdelkrim Farouk Brania**, Morehouse College, **David A. Heron**, University of Cincinnati, and **Shanshuang Yang**, Emory University; Friday afternoon and Saturday morning.

*Tropical Geometry* (Code: SS 35A), **Michael Develin** and **Bernd Sturmfels**, University of California Berkeley (AMS-MAA); Thursday morning and afternoon.

### AMS Contributed Papers

There will be sessions for contributed papers of ten minutes' duration. Contributed papers will be grouped by related Mathematics Subject Classification into sessions insofar as possible. The author(s) and their affiliation(s) and the title of each paper accepted will be listed in the program along with the date and time of presentation. Abstracts will be published in *Abstracts Presented to the American Mathematical Society* and should be submitted electronically. See [www.ams.org/meetings/abstracts/](http://www.ams.org/meetings/abstracts/) for the form. Select AMS CP 1 as the event code. See the beginning of this announcement for pertinent deadlines.

### Other AMS Sessions

**Do the Math!** Thursday, 10:00 a.m. to 11:00 a.m., organized by **Michael A. Breen** and **Annette W. Emerson**, AMS; and **William T. Butterworth**, Barat College of DePaul University. This is an updated version of the popular game **Who Wants To Be A Mathematician**. This year, eight high-

school students from Atlanta and the surrounding region will have a chance to win \$4,000 by answering questions about mathematics. Contestants can ask for help from anyone in the audience, so the more people in the audience who know mathematics, the better it is for the contestants. You are invited to come and take part in this educational and fun presentation.

**Hilbert's First Problem**, Thursday, 10:30 p.m. to 12:00 noon, moderated by **Keith Devlin**, Stanford University. Presenters include **Paul J. Cohen**, Stanford University; **Donald A. Martin**, University of California Los Angeles; and **W. Hugh Woodin**, University of California Berkeley. This panel is cosponsored by the Association for Symbolic Logic.

**T. A. Development Using Case Studies: A Workshop for Faculty**, Friday, 9:30 a.m.-10:55 a.m. and 1:00 p.m.-2:30 p.m. **Solomon Friedberg**, Boston University, will guide workshop participants in the effective use of the case studies method as a tool in preparing Teaching Assistants for their important roles as classroom instructors. The faculty edition of the publication *Teaching Mathematics in Colleges and Universities: Case Studies for Today's Classroom* will be provided to workshop participants at no charge, compliments of the AMS. For more information on the publication, visit the AMS Bookstore ([www.ams.org/bookstore](http://www.ams.org/bookstore)) and enter "CBMATH/10.F" in the QuickSearch window. There is a separate registration fee of \$20 to participate; see the registration and housing form. There are also modest travel grants for this workshop available on a very limited basis. For the application process and other details see [www.ams.org/amsmtgs/2091\\_amswork.html](http://www.ams.org/amsmtgs/2091_amswork.html)

**AMS Committee on Science Policy Panel Discussion**: Friday, 2:30 p.m. to 4:00 p.m.

**AMS Committee on Education Panel Discussion**: Saturday, 8:30 a.m. to 10:00 a.m.

### Other AMS Events

**Council**: Tuesday, 1:00 p.m.

**Business Meeting**: Saturday, 11:10 a.m.

The secretary notes the following resolution of the Council: Each person who attends a business meeting of the Society shall be willing and able to identify himself or herself as a member of the Society. In further explanation, it is noted that each person who is to vote at a meeting is thereby identifying himself or herself as and claiming to be a member of the American Mathematical Society. The Society has a Committee on the Agenda for Business Meetings. The purpose is to make business meetings orderly and effective. The committee does not have legal or administrative power. It is intended that the committee consider what may be called "quasipolitical" motions. The committee has several possible courses of action on a proposed motion, including but not restricted to:

- (a) doing nothing,
- (b) conferring with supporters and opponents to arrive at a mutually accepted amended version to be circulated in advance of the meeting,
- (c) recommending and planning a format for debate to suggest to a business meeting,

(d) recommending referral to a committee, and

(e) recommending debate followed by referral to a committee.

There is no mechanism that requires automatic submission of a motion to the committee. However, if a motion has not been submitted through the committee, it may be thought reasonable by a business meeting to refer it rather than to act on it without benefit of the advice of the committee.

In order that a motion for this business meeting receive the service offered by the committee in the most effective manner, it should be in the hands of the AMS Secretary by December 8, 2004.

### AMS Short Course

This two-day course on *The Radon Transform and Applications to Inverse Problems* is organized by **Gestur Olafsson**, Louisiana State University, and **Todd Quinto**, Tufts University, and takes place on Monday and Tuesday, January 3 and 4. Please see the complete article on pages 1128-1130. Speakers are **Todd Quinto**, *An introduction to tomography and Radon transforms*; **Adel Faridani**, Oregon State University, *Tomography and sampling theory*; **Alfred Louis**, Universitaet des Saarlandes, *Development of algorithms in CT*; **Peter Kuchment**, Texas A&M University, *Generalized transforms of Radon type and their applications*; **Liliana Borcea**, Rice University, *Coherent interferometric array imaging in random media*; and **Peter Massopust**, Tuboscope Pipeline Services, *Inverse problems in pipeline inspection*. There are separate registration fees to participate. See the fee schedule on the registration form at the back of this issue.

## 88th Annual Meeting of the MAA

### MAA Invited Addresses

**Georgia Benkart**, University of Wisconsin, Madison, *Square ice is very nice, but can you put a match to it?*, Saturday, 9:00 a.m.

**Erik D. Demaine**, Massachusetts Institute of Technology, *Origami, linkages, and polyhedra: folding with algorithms*, Thursday, 10:05 a.m.

**Fernando Q. Gouvêa**, Colby College, *What are  $p$ -adic numbers and what are they for?*, Wednesday, 2:15 p.m.

**Steven G. Krantz**, Washington University, *Symmetry in complex analysis*, Saturday, 10:05 a.m.

**Ravi D. Vakil**, Stanford University, *Given four lines in space, how many other lines meet all four?: The geometry, topology, and combinatorics behind linear algebra*, Wednesday, 3:20 p.m.

**Robin J. Wilson**, The Open University, *Victorian combinatorics* (Student Lecture), Friday, 1:00 p.m.

### MAA Minicourses

Minicourses are open only to persons who register for the Joint Meetings and pay the Joint Meetings Registration fee in addition to the appropriate minicourse fee. The

MAA reserves the right to cancel any minicourse that is undersubscribed.

**Minicourse #1:** *Visual linear algebra*, organized by **Eugene A. Herman**, Grinnell College; **Michael D. Pepe**, Seattle Central Community College; and **Eric P. Schulz**, Walla Walla Community College; Part A: Wednesday, 9:00 a.m.–11:00 a.m. and Part B: Friday, 9:00 a.m.–11:00 a.m. This minicourse will introduce participants to a new, visual approach to teaching linear algebra. The primary objective is to create a dynamic learning environment in which students are actively engaged in learning the central concepts of linear algebra. Course materials stress the development of visualization skills to acquire strong geometric intuition. The materials, taken as a whole, provide everything needed to teach a comprehensive first course in linear algebra. Versions of the materials have been developed for use with Maple and Mathematica. Participants will have the option of working with the materials on either of these platforms. Cost is \$95; enrollment limit is 30.

**Minicourse #2:** *Teaching a Galois theory for undergraduates*, organized by **John R. Swallow**, Davidson College; Part A: Wednesday, 2:15 p.m.–4:15 p.m. and Part B: Friday, 1:00 p.m.–3:00 p.m. Participants explore Galois theory from an undergraduate perspective, gaining materials and technological tools for use teaching an undergraduate course. The course outlines the theory from a concrete, computational point of view, assuming only one semester of abstract algebra. The course also introduces AlgFields: a package for use with Maple or Mathematica, facilitating computation in number fields. Participants study examples, solve exercises, and pose new problems, all built around the concept of an algebraic number with complex approximation. Only basic facility with one of the symbolic computation systems is necessary. Handouts and web links to the freely available package will be distributed. Cost is \$95; enrollment limit is 30.

**Minicourse #3:** *Creating interactive workbooks using MS Excel*, organized by **Sarah L. Mabrouk**, Framingham State College; Part A: Wednesday, 4:30 p.m.–6:30 p.m. and Part B: Friday, 3:15 p.m.–5:15 p.m. Using the control toolbox, one can create interactive workbooks containing scroll bars, buttons, and graphs that can be used for course demonstrations and for course assignments/projects, as well as workbooks that allow students to explore concepts. Creating interactive workbooks using MS Excel requires only basic knowledge of graph and data creation, and students need only MS Excel to use these workbooks; no specialized knowledge is needed to create them, and the Internet is not required in order to use them. Participants will create interactive workbooks containing graph and data components. Sample topics include analysis of spring-mass system and numerical integration. Cost is \$95; enrollment limit is 30.

**Minicourse #4:** *Java applets in teaching mathematics*, organized by **Joe Yanik**, Emporia State University, and **David M. Strong**, Pepperdine University; Part A: Thursday, 8:00 a.m.–10:00 a.m. and Part B: Saturday, 9:00 a.m.–11:00 a.m. This minicourse will introduce the participants to

the Java programming language and its use in creating mathematical activities. No previous experience in Java programming will be assumed. Through the use of a Visual Development Environment and a MathToolkit that was developed with the support of an NSF grant, this hands-on workshop will lead the participants through the creation of some sample applets and introduce them to the MathToolkit. In addition, they will be provided with a more complete tutorial that they can take home that will teach them the Java programming language and its use in creating mathematical applets. Cost is \$95; enrollment limit is 30.

**Minicourse #5:** *Hands-on discrete mathematics with technology*, organized by **Douglas E. Ensley**, and **Katherine G. McGivney**, Shippensburg University; Part A: Thursday, 10:15 a.m.–12:15 p.m. and Part B: Saturday, 1:00 p.m.–3:00 p.m. Discrete math is a course that primarily serves students studying math and computer science. This minicourse will focus on three major areas of discrete math (sets/relations/graphs, combinatorics/probability, and writing mathematical proofs) that are common to most discrete math courses and on how computer technology can be used to make these courses more student centered. We will use Maple for the first day and pre-designed Flash movies for the second day, and in each case we will spend some time on special features of the software and some time on design issues for effective classroom use. The minicourse participants will come away with new ideas and customized material for their own discrete math courses. Some familiarity with Maple syntax is expected, but no experience with Flash will be assumed. Cost is \$95; enrollment limit is 30.

**Minicourse #6:** *WeBWork, an Internet-based system for generating and delivering homework problems to students*, organized by **Arnold K. Pizer**, **Michael E. Gage**, and **Vicki Roth**, University of Rochester; Part A: Thursday, 1:00 p.m.–3:00 p.m. and Part B: Saturday, 3:15 p.m.–5:15 p.m. This minicourse introduces participants to WeBWork, a freely available system for checking and grading homework problems. WeBWork won the 1999 ICTCM Award for Excellence and Innovation with the Use of Technology in Collegiate Mathematics. Supported by grants from NSF, WeBWork has already been adopted by a large number of colleges and universities. WeBWork can handle most homework problems found in a typical calculus text and is distributed with an extensive library of over 4,000 problems covering college algebra and trigonometry, precalculus, single and multivariable calculus, differential equations, linear algebra, statistics, and probability. There is also a larger national library of problems. It's easy to modify current WeBWork problems or to write new ones. Participants will actively participate in using WeBWork and writing WeBWork problems. Readers can learn more about WeBWork by connecting to <http://www.math.rochester.edu/webwork>. Cost is \$95; enrollment limit is 30.

**Minicourse #7:** *Developing your department's assessment plan*, organized by **William A. Marion**, Valparaiso University; and **Bonnie Gold**, Monmouth University; Part A: Wednesday, 9:00 a.m.–11:00 a.m. and Part B: Friday, 9:00

a.m.–11:00 a.m. Most universities and, thus, individual departments are under pressure from accrediting agencies to develop and implement assessment plans to assess student learning. During the minicourse, pairs (or larger groups) of members of a mathematical sciences department will develop in workshop format, a proposed departmental mission statement and the skeleton of its individualized assessment plan. Sample assessment programs (developed by teams of mathematics faculty under the auspices of the MAA's NSF-funded assessment project, Supporting Assessment in Undergraduate Mathematics) will be discussed and participants will share ideas with groups from similar departments to develop their own programs. Cost is \$60; enrollment limit is 50.

**Minicourse #8:** *Mathematical finance*, organized by **Walter R. Stromquist**, Bryn Mawr College; Part A: Wednesday, 2:15 p.m.–4:15 p.m. and Part B: Friday, 1:00 p.m.–3:00 p.m. We will begin by introducing the “standard model” for stock prices, geometric Brownian motion, and we will examine market price statistics to test the validity of this model. We will then cover two main ideas of modern finance: portfolio optimization and option valuation. Portfolio optimization means allocating a fixed investment fund among various risky assets; we will see how this is turned into a quadratic programming problem and how it leads to the capital asset pricing model. Option valuation includes the well-known Black-Scholes formula, which we will cover thoroughly. The presenter will draw on practical examples from his consulting work and from his financial mathematics class at Bryn Mawr College. Cost is \$60; enrollment limit is 50.

**Minicourse #9:** *Infusing connections into core courses for future secondary teachers*, organized by **Steve R. Benson** and **Al Cuoco**, Education Development Center; **Karen J. Graham**, University of New Hampshire; and **Neil Portnoy**, Stony Brook University; Part A: Wednesday, 4:30 p.m.–6:30 p.m. and Part B: Friday, 3:15 p.m.–5:15 p.m. National recommendations call for content courses for prospective teachers that make explicit connections between the mathematics that teachers learn and the mathematics that they will use as teachers. Most content courses for preservice secondary teachers are core courses for the mathematics major, and texts for these courses do not typically address these connections. Minicourse participants will work with materials that contain the mathematical rigor of an upper division course and help prospective teachers build connections to secondary mathematics, discuss implementation issues with colleagues who have used such materials, and begin to adapt these materials for the courses they teach. Cost is \$60; enrollment limit is 50.

**Minicourse #10:** *Bridging the gap between mathematics and the physical sciences*, organized by **Tevian Dray**, Oregon State University; Part A: Thursday, 9:00 a.m.–11:00 a.m. and Part B: Saturday, 9:00 a.m.–11:00 a.m. There is a surprisingly large gap between the way mathematicians on the one hand, and physical scientists and engineers on the other, do mathematics. The key to bridging this gap between mathematics and the physical sciences is geometric reasoning. This minicourse will introduce participants

to the art of teaching geometric reasoning, emphasizing, but not limited to, vectors and vector calculus. Participants will use and discuss open-ended group activities intended to foster geometric reasoning, which have been developed as part of the NSF-funded Vector Calculus Bridge Project at Oregon State University. These materials have been used successfully by several instructors at a variety of institutions. More information on this project is available online at <http://www.math.oregonstate.edu/bridge>. Cost is \$60; enrollment limit is 40.

**Minicourse #11:** *Fair enough? Mathematics of equity*, organized by **John C. Maceli** and **Stanley E. Seltzer**, Ithaca College; Part A: Thursday, 1:00 p.m.–3:00 p.m. and Part B: Saturday, 1:00 p.m.–3:00 p.m. Topics of fairness make terrific subject matter for contemporary mathematics courses. This minicourse introduces some fairness topics—apportionment, voting power, elections, fair allocation and equity, the census—with the goals of helping participants learn about these topics, see and use activities that support a course in fairness, and prepare to teach such a course. We will provide sample activities, projects, and a list of resources, including original papers accessible to undergraduates. Active participation is expected. Cost is \$60; enrollment limit is 50.

**Minicourse #12:** *Getting students involved in undergraduate research*, organized by **Aparna W. Higgins**, University of Dayton; and **Joseph A. Gallian**, University of Minnesota, Duluth; Part A: Wednesday, 9:00 a.m.–11:00 a.m. and Part B: Friday, 9:00 a.m.–11:00 a.m. This course will cover many aspects of facilitating research by undergraduates, such as finding appropriate problems, deciding how much help to provide, and presenting and publishing the results. Examples will be presented of research in summer programs and research that can be conducted during the academic year. Although the examples used will be primarily in the area of discrete mathematics, the strategies discussed can be applied to any area of mathematics. Cost is \$60; enrollment limit is 50.

**Minicourse #13:** *Origami in undergraduate mathematics courses*, organized by **Thomas C. Hull**, Merrimack College; Part A: Wednesday, 2:15 p.m.–4:15 p.m. and Part B: Saturday, 1:00 p.m.–3:00 p.m. Those who have studied origami may have unfolded their creations and marveled at the pattern of creases in the paper that result. Lovely mathematics lurks behind these creases, from geometry, combinatorics, and algebra. This material is easily understood by undergraduate majors, leads to numerous open questions, and offers a great opportunity for hands-on, discovery-based learning. This workshop will offer participants hands-on experience with the main areas of “origami-math” (modular origami, geometric constructions, and combinatorial modeling) to incorporate into their own classes. Experience either in paper folding or in teaching geometry, algebra, or combinatorics would be useful. Cost is \$70; enrollment limit is 30.

**Minicourse #14:** *Euler*, organized by **William W. Dunham**, Muhlenberg College, and **Edward C. Sandifer**, Western Connecticut State University; Part A: Wednesday, 4:30

p.m.–6:30 p.m. and Part B: Friday, 3:15 p.m.–5:15 p.m. Euler wrote and published over 850 books and papers. They form the basis for huge segments of modern mathematics. We will survey his many contributions and take a close look at a few of them. We will demonstrate how to use Euler's eighteenth-century mathematics in a twenty-first-century environment, and we will show by example why Laplace was giving good advice when he said, "Read Euler, read Euler. He is the master of us all." Cost is \$60; enrollment limit is 50.

**Minicourse #15: *ConcepTests and Peer Instruction: Active learning in the calculus classroom***, organized by **Deborah Hughes Hallett** and **David O. Lomen**, University of Arizona; and **Maria Robinson**, Seattle University; Part A: Thursday, 9:00 a.m.–11:00 a.m. and Part B: Saturday, 9:00 a.m.–11:00 a.m. ConcepTests and Peer Instruction—powerful tools for improving student learning—were originally developed by Eric Mazur at Harvard to teach introductory physics and are now used in biology and astronomy. ConcepTests have now been written for calculus, in which they have shown the same impressive results as in the sciences. Starting with an overview of the use and effectiveness of ConcepTests, this workshop will give participants hands-on experience with their use in mathematics classrooms. Cost is \$60; enrollment limit is 50.

**Minicourse #16: *Music and mathematics***, organized by **Leon Harkleroad**, Wilton, ME; Part A: Thursday, 1:00 p.m.–3:00 p.m. and Part B: Friday, 1:00 p.m.–3:00 p.m. Over the years people have used mathematics in various ways to describe, analyze, and create music. This minicourse will explore the applications of mathematical areas such as number theory, probability, and group theory to musical topics such as tuning systems, bell ringing, and twentieth-century compositional technique. Emphasis will be placed on how minicourse participants can incorporate this material into their classes or even design a service course on music and mathematics. Cost is \$60; enrollment limit is 50.

### MAA Invited Paper Sessions

*Modeling Problems of the Environment*, Friday, 1:00 p.m.–3:00 pm, organized by **Ben Fusaro**, Florida State University. The speakers are **Sherry Brandt-Williams**, Atlantic Ecology Division of the EPA, *Using energy systems language to diagram and stimulate a complex biological model*; **Daniel E. Campbell**, Atlantic Ecology Division of the EPA, *Stability and renewal in heavily exploited populations*; **Lothar S. Dohse**, UNC-Asheville, A cooperative modeling initiative between industry and academia; and **Donald E. Miller**, Saint Mary's College, *Modeling the spread and control of oil spills*.

*Symmetry in Analysis*, Saturday, 1:00 p.m.–3:00 p.m., organized by **Steve Krantz**, Washington University in St. Louis. Speakers are **Robert E. Greene**, UCLA; **Kang-Tae Kim**, Pohang University of Science and Technology (Korea); **Jeffery McNeal**, Ohio State University; and **Harold Parks**, Oregon State University.

*Worlds of Interactive Mathematics, Part I: The Legacy of Elias Deeba*, Saturday, 9:00 a.m.–10:55 a.m.; *Part II: The*

*Legacy of James E. White*, Saturday, 3:15 p.m.–5:10 p.m., organized by **Ananda Gunawardena**, Carnegie Mellon University; **Dan Kalman**, American University; and **Gerald J. Porter**, University of Pennsylvania. One of the initial authoring environments for the creation of interactive texts was the Mathkit language developed by Jim White. White's work led to the creation of the MAA's Interactive Mathematical Text Project (IMTP), funded by IBM and the NSF. White not only provided much of the intellectual material for this project but he also, through this project and the subsequent Project Welcome, provided hands-on training in the use of the tools. Elias Deeba was both a participant in these endeavors and the director of the IMTP at the University of Houston, Downtown. We take this opportunity to honor them for their leadership and to continue the work that they have begun. In these sessions we will highlight some of their contributions, as well as showcasing recent developments in the field which bear the stamp of their influence. Speakers include **Ananda Gunawardena**, *Elias Deeba's work*; **Zuhair Nashed**, University of Central Florida, *Some paradigms in elementary linear algebra which Elias liked*; **Dan Kalman** and **Gerald J. Porter**, *James White's work*; **Samad Mortabit**, Metropolitan State University, *Mathwright activities*; and **Margie A. Hale**, Stetson University, *Interactive investigation of geometry through light rays*.

### MAA Contributed Paper Sessions

The organizers listed below solicit contributed papers pertinent to their sessions. Sessions generally limit presentations to ten minutes, but selected participants may extend their contributions up to twenty minutes. A proposal should not be sent to more than one organizer. If your paper cannot be accommodated in the session for which it was submitted, it will be automatically considered for the general contributed paper session. In scheduling talks in the general session, preference will be given to authors who have not had a paper accepted in another session.

Each session room contains an overhead projector and screen; blackboards will not be available. Persons needing additional equipment should contact as soon as possible but prior to September 14, 2004, the session organizer whose name is followed by an asterisk (\*). Please note that the dates and times scheduled for these sessions remain tentative.

*Getting Students to Discuss and to Write about Mathematics* (MAA CP A1), Wednesday morning and Thursday afternoon; **Sarah L. Mabrouk\***, Framingham State College (mabrouk@frc.mass.edu).

*My Favorite Demo: Innovative Strategies for Mathematics Instructors* (MAA CP B1), Wednesday morning and Thursday afternoon; **David R. Hill\***, Temple University (hill@math.temple.edu), and **Lila F. Roberts**, Georgia College and State University.

*Courses below Calculus: A New Focus* (MAA CPC1), Wednesday morning and Friday afternoon; **Mary Robinson\***, University of New Mexico-Valencia Campus (maryrobn@unm.edu); **Florence S. Gordon**, New York Institute of Technology; **Laurette B. Foster**, Prairie View A&M University;

**Arlene H. Kleinstein**, Farmingdale State University of New York; **Norma M. Agras**, Miami Dade Community College; and **Linda Martin**, Albuquerque T-VI.

*Mathematics and Sports* (MAA CP D1), Wednesday morning and Friday afternoon; **Douglas Drinen\***, University of the South (ddrinen@sewanee.edu); **Sean L. Forman**, St. Joseph's University; **Howard L. Penn**, U.S. Naval Academy.

*Mathematics in the Islamic World* (MAA CP E1), Wednesday afternoon; **Glen Van Brummelen\***, Bennington College (gvanbrum@bennington.edu), and **Victor J. Katz**, University of the District of Columbia.

*Mathlets for Teaching and Learning Mathematics* (MAA CP F1), Wednesday afternoon; **David M. Strong\***, Pepperdine University (David.Strong@pepperdine.edu); **Thomas E. Leathrum**, Jacksonville State University; and **Joe Yanik**, Emporia State University.

*Drawing on Our Students' Thinking to Improve the Mathematical Education of Teachers* (MAA CP G1), Wednesday afternoon; **Dale R. Oliver\***, Humboldt State University (dale.oliver@humboldt.edu), and **Mary Kay Abbey**, Montgomery College.

*History of Undergraduate Mathematics in America, 1900–2000* (MAA CP H1), Thursday morning; **Jack Winn\***, SUNY Farmingdale (winnja@farmingdale.edu); **Walter J. Meyer**, Adelphi University; **Joseph Malkevitch**, York College of CUNY; and **Amy E. Shell-Gellasch**, Grafenwoehr, Germany.

*Initializing and Sustaining Undergraduate Research Projects and Programs* (MAA CP I1), Thursday morning; **Margaret M. Robinson\***, Mount Holyoke College (robinson@mtholyoke.edu), and **Suzanne M. Lenhart**, University of Tennessee.

*Projects and Demonstrations That Enhance a Differential Equations Course* (MAA CP J1), Thursday morning; **Richard J. Marchand\***, Slippery Rock University (Richard.Marchand@SRU.edu), and **Shawnee L. McMurrin**, California State University, San Bernardino.

*Countering "I Can't Do Math"; Strategies for Teaching Underprepared, Math-Anxious Students* (MAA CP K1), Thursday morning; **Suzanne Dorée\***, Augsburg College (doree@augsburg.edu); **Bonnie Gold**, Monmouth University; and **Richard J. Jardine**, Keene State College.

*Using Real-World Data to Illustrate Statistical Concepts* (MAA CP L1), Thursday afternoon and Friday morning; **Thomas L. Moore\***, Grinnell College (mooret@grinnell.edu), and **John D. McKenzie Jr.**, Babson College.

*Environmental Mathematics and the Interdisciplinary* (MAA CP M1), Friday morning; **Karen Bolinger\***, Clarion University (kbolinge@mail.clarion.edu); **Ben Fusaro**, Florida State University; and **William Stone**, New Mexico Institute of Mining & Technology.

*Teaching Visualization Skills* (MAA CP N1), Friday morning; **Mary L. Platt\***, Salem State College (mplatt@salemstate.edu); **Catherine A. Gorini**, Maharishi University of Management; and **Sarah J. Greenwald**, Appalachian State University.

*Teaching and Assessing Problem Solving* (MAA CP O1), Friday morning; **Alex J. Heidenberg\***, U.S. Military Academy (alex.heidenberg@usma.edu), and **Michael Huber**, U.S. Military Academy.

*Philosophy of Mathematics* (MAA CP P1), Friday afternoon; **Charles R. Hampton\***, The College of Wooster (hampton@wooster.edu), and **Bonnie Gold**, Monmouth University. This session will be followed by the Philosophy of Mathematics SIGMAA Business Meeting and Reception. Everyone interested in the philosophy of mathematics is invited to attend.

*Using Handheld Technology to Facilitate Student-Centered Teaching/Learning Activities at the Developmental Algebra Level* (MAA CP Q1), Friday afternoon; **Ed Laughbaum\***, The Ohio State University (e1aughba@math.ohio-state.edu), and **Maria DeLucia**, Middlesex County College.

*My Three Favorite Original Calculus Problems* (MAA CP R1), Saturday morning; **J. D. Phillips\***, Wabash College (philipj@wabash.edu), and **Timothy J. Pennings**, Hope College.

*Meeting the Challenge: Relationship between Mathematics and Biology in the 21st Century* (MAA CP S1), Saturday morning; **Catherine M. Murphy\***, Purdue University Calumet (murphycm@calumet.purdue.edu); **G. Elton Graves**, Rose-Hulman Institute of Technology; and **David A. Smith**, Duke University.

*Mathematics Experiences in Business, Industry, and Government* (MAA CP T1), Saturday morning; **Philip E. Gustafson\***, Mesa State College (pgustafs@mesastate.edu), and **Michael G. Monticino**, University of North Texas.

*Mathematical Experiences for Students outside the Classroom* (MAA CP U1), Saturday afternoon; **Kay B. Somers\***, Moravian College (somersk@moravian.edu), and **Jody M. Sorensen**, Grand Valley State University.

*Research on the Teaching and Learning of Undergraduate Mathematics* (MAA CP V1), Saturday afternoon; **William O. Martin\***, North Dakota State University (william.martin@ndsu.nodak.edu); **Barbara E. Edwards**, Oregon State University; and **Draga D. Vidakovic**, Georgia State University.

*In-Service Training Programs for K–12 Mathematics Teachers* (MAA CP W1), Saturday afternoon; **Zsuzsanna Szaniszló\***, Valparaiso University (zsuzsanna.szaniszló@valpo.edu); **Judith L. Covington**, Louisiana State University, Shreveport; and **Tamas Szabo**, Weber State University.

*General Contributed Paper Session* (MAA CP X1), Wednesday, Thursday, Friday, Saturday mornings and afternoons; **Daniel E. Otero\***, Xavier University (otero@xavier.xu.edu). Papers may be presented on any mathematical topic. Papers that fit into one of the other sessions should be sent to that organizer, not to this session.

### Submission Procedures for MAA Contributed Papers

Send your abstract directly to the AMS. At the same time, send a detailed one-page summary of your paper directly via email to the organizer, indicated with an asterisk (\*). To enable the organizer to evaluate the appropriateness of your paper, include as much detailed information as possible within the one-page limitation. The summary need not duplicate the information in the abstract. Participants may speak in at most two MAA contributed paper sessions. If your paper cannot be accommodated in the session for which it was submitted, it will be automatically considered

for the general session. Speakers may give only one presentation in the general session because of time/space limitations. A proposal should not be sent to more than one organizer. The summary must reach the organizer by Tuesday, September 14, 2004. Abstracts must reach the AMS by Tuesday, October 5, 2004.

The AMS will publish abstracts for the talks in the MAA sessions. Abstracts must be submitted electronically to the AMS. No knowledge of  $\text{\LaTeX}$  is necessary; however,  $\text{\LaTeX}$  and  $\mathcal{A}_{MS}\text{-}\text{\LaTeX}$  are the only typesetting systems that can be used if mathematics is included or special formatting is desired. The abstracts submission page is at [www.ams.org/cgi-bin/abstracts/abstract.pl](http://www.ams.org/cgi-bin/abstracts/abstract.pl). Simply fill in each field as instructed. Submitters will be able to view their abstracts before final submission.

All questions concerning the submission of abstracts should be addressed to [abs-coord@ams.org](mailto:abs-coord@ams.org).

### Other MAA Sessions

**Training T. A.s in Departments and at Section Meetings**, Wednesday, 8:30 a.m.–10:55 a.m., organized by **Louise A. Raphael**, Howard University. The presenters will be **Diane L. Herrmann**, University of Chicago, and **Maria S. Terrell** and **Thomas W. Rishel**, Cornell University. How are T. A. training sessions set up? What are the similarities and differences between such sessions? How can case studies be used in support of T. A. training? How might T. A. training compare with preparing your faculty? We will provide a skeleton outline of possible training approaches for individual institutions, as well as for section-level training programs. The session is sponsored by the MAA Committee on Graduate Students.

**Doctoral Programs in Mathematics Education: Their Nature and How to Find Them**, Wednesday, 9:30 a.m.–10:50 a.m., organized by **Robert E. Reys**, University of Missouri. Since the year 2000 more than 120 different institutions in the United States have awarded doctorates with a major emphasis in mathematics education. These programs vary greatly in structure as well as visibility. The Association of Mathematics Teacher Educators has developed a tool to collect and disseminate information about doctoral programs in mathematics education. This session will showcase this tool and highlight some ways it might be used by faculty and students looking for doctoral programs in mathematics education.

**A Problem-Based Core Program**, Wednesday, 9:30 a.m.–10:50 a.m., organized by **Donald B. Small**, U.S. Military Academy. In 2003, the U.S. Military Academy refocused its core program to emphasize problem solving and modeling. First semester focuses on problems from management science using concepts from data analysis, matrix algebra, network theory, and Markov chains. The second semester emphasizes analyzing continuous change (differentiation of functions of one and several variables), and the third semester treats integration of one and several variables, along with differential equations. The fourth semester focuses on probability and statistics. Several program threads, such as data analysis, serve to unify the four-semester core program. **Gary W. Krahn** and **Alex J. Heidenberg** of the U.S. Military Academy have been in-

involved in the development and implementation of the re-focused program. **Michael E. Moody**, Olin University, will address the transportability issues of this program to other schools.

**Developing Undergraduate Research Projects That Are Not in Discrete Mathematics**, Wednesday, 2:15 p.m.–3:45 p.m., organized by **Edwin P. Herman**, University of Wisconsin at Stevens Point. Are you looking for research ideas to give to your undergraduate students? This session includes panelists from a variety of fields who will offer advice on how to develop research topics at a level appropriate for the undergraduate. They will discuss how to identify suitable topics and how to keep your students on track, as well as how to give the students sufficient background to tackle an interesting problem. This session was organized by the 1994–2000 Project NEXT Fellows to address issues of concern to faculty who have four to ten years of teaching experience. Panelists include **Carl C. Cowen**, Indiana University-Purdue University at Indianapolis; **David W. Farmer**, American Institute of Mathematics; **Mario U. Martelli**, Claremont McKenna College; **Bruce Reznick**, University of Illinois at Urbana-Champaign; and **Patrick J. Van Fleet**, University of St. Thomas. The session is sponsored by Project NEXT.

**Career Paths for Undergraduates in Mathematics**, Wednesday, 2:15 p.m.–3:35 p.m., organized by **James E. Hamblin**, Shippensburg University; **John A. Vano**, University of Wisconsin at Madison; and **John A. Kuchenbrod**, The MITRE Corp. A common question asked by undergraduates is: What can I do with a degree in mathematics? In this session, the panelists will discuss the many varied careers that an undergraduate degree can lead toward. The session is sponsored by the Young Mathematicians Network.

**Ph.D. Programs in Research in Undergraduate Mathematics**, Wednesday, 2:15 p.m.–3:35 p.m., organized by **John Selden**, New Mexico State University. A number of mathematics departments have granted, and some may be considering granting, Ph.D.s whose research specialty is mathematics education. This panel will discuss examples of specific Ph.D. programs in research in undergraduate mathematics education (RUME) housed in mathematics departments. There will also be a brief description of the SIGMAA on RUME guidelines for such programs. Thus the panel will describe both commonalities (the guidelines) and variations (the examples) among such programs. Panelists include **Shandy Hauk**, University of Northern Colorado; **Michael Oehrtman**, Arizona State University; **Karen J. Graham**, University of New Hampshire; and **John Selden**. The session is sponsored by the SIGMAA on RUME Guidelines Committee.

**Dealing with the Two-Body Problem**, Wednesday, 3:50 p.m.–5:10 p.m., organized by **Kimberly A. Roth**, Wheeling Jesuit University, and **Karolyne Fogel**, California Lutheran University. Finding a job for one mathematician is hard enough, but what if you need jobs for two? Panelists who have searched for a personal solution to a two-body problem will discuss their attempts at a solution, the compromises and logistics involved, and their degree of satisfaction with each “solution” they tried. The session is

sponsored by the Young Mathematicians' Network and Project NEXT.

**How to Interview for Your First Job**, Wednesday, 3:30 p.m.–4:50 p.m., organized by **Louise A. Raphael**, Howard University. The presenters will be **David Manderschied**, University of Iowa, and **Thomas W. Rishel**, Cornell University. The session is sponsored by the MAA Committee on Graduate Students.

**Refocused College Algebra: A Basis for QL Programs**, Wednesday, 3:50 p.m.–5:10 p.m., organized by **Donald B. Small**, U.S. Military Academy. Faculty in quantitative disciplines urge mathematics departments to send them students having experience with elementary data analysis, plotting and interpreting plots, problem solving in the modeling sense, small-group work, and the use of technology. These aspects are basic to refocused college algebra programs. In addition, college algebra is the largest gateway course (in terms of student enrollment) and is thus well positioned to provide a basis for QL programs. Panelists include **Norma M. Agras**, Miami-Dade College; **Dora C. Ahmadi**, Morehead State University; **Laurette B. Foster**, Prairie View A&M University; and **Bernard L. Madison**, University of Arkansas. The panel will be moderated by **Harriet S. Pollatsek**, Mount Holyoke College, and is sponsored by the MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years (CRAFTY).

**What Faculty Can Do to Promote Diversity in Mathematics**, Thursday, 8:30 a.m.–10:00 a.m., organized by **T. Christine Stevens**, St. Louis University; **Joseph A. Gallian**, University of Minnesota Duluth; and **Aparna W. Higgins**, University of Dayton. This panel focuses on concrete steps that faculty can take, alone or in small groups, to promote diversity in mathematics. Topics include running summer programs for women or minorities; promoting the success of underrepresented groups in classes; organizing a Sonja Kovalevsky Day for middle or high school girls; successful programs that attract minorities to major in mathematics; resources that are available to assist in promoting diversity in mathematics; promoting diversity in such a way that it will further one's career and increase one's chance for tenure. Panelists include **Deanna B. Haunsperger**, Carleton College; **Nathaniel Dean**, Texas Southern University; **Robert E. Megginson**, Mathematical Sciences Research Institute; and **Stephanie Fitchett**, Florida Atlantic University. The session is sponsored by Project NEXT.

**Emerging Technologies in Undergraduate Mathematics**, Thursday, 8:30 a.m.–11:30 a.m., organized by **Jack Picciuto**, U.S. Military Academy. This session and future sessions will focus on the use or proposed use of emerging technologies that could improve the learning of undergraduate mathematics. We want to begin now to examine how we can effectively use technologies that are expected to become widespread and affordable over the next five years. This year's session will focus on the use of true three-dimensional displays. Increasingly affordable three-dimensional display technologies range from the old-fashioned colored glasses used in such movies as *Spy Kids 3D* and *Shrek 3D* to the new Sharp notebook computer (\$3K) that displays brilliant 3D without the need for special glasses and the inexpensive (\$10K) GeoWall 3D pro-

jection system (<http://geowall.geo.lsa.umich.edu/>) that is commonly used in the GeoScience community. This session will demonstrate or introduce some of those technologies and resources for undergraduate mathematics that exploit them. We also invite speakers to discuss lessons already learned as well as address the big questions: Are these true 3D technologies just a gimmick? Can they enhance learning? Could my school ever afford this?

**National Science Foundation Programs Supporting Learning and Teaching in the Mathematical Sciences**, Thursday, 9:00 a.m.–10:20 a.m., organized by **John R. Hadlock**, **Elizabeth J. Teles**, and **Lee L. Zia**, NSF/Division of Undergraduate Education; **John S. Bradley**, NSF/Division of Elementary, Secondary, and Informal Education; **James H. Lightbourne**, Senior Advisor for Planning, Analysis, and Policy; and **Lloyd E. Douglas**, NSF/Division of Mathematical Sciences. A number of NSF divisions offer a variety of grant programs that support innovations in learning and teaching in the mathematical sciences. These programs will be discussed, along with examples of successful projects. In addition, anticipated budget highlights and other new initiatives for the next fiscal year will be presented.

**Recruiting Students for Mathematics Departments**, Thursday, 10:30 a.m.–noon, organized by **Brian Birgen**, Wartburg College, and **Mary D. Shepherd**, Northwest Missouri State University. The job opportunities for college graduates with degrees in mathematics are just about unlimited, yet the percentage of students who seek degrees in mathematics is quite small. Somehow we must do a better job recruiting students into mathematics. The members of this panel are from departments that have been able to consistently recruit large numbers of students into their mathematics programs. They will describe what they and other members of their faculty do to help recruit students into mathematics. This session was organized by the 1994–2000 Project NEXT Fellows to address issues of concern to faculty who have four to ten years of teaching experience. Panelists include **Genevieve M. Knight**, Coppin State University; **Joel S. Foisy**, State University of New York-College at Potsdam; **Jim Lewis**, University of Nebraska; and **Matthew P. Richey**, St. Olaf College. The session is sponsored by Project NEXT.

**How Changes in High School Mathematics Could Influence Collegiate Mathematics**, Thursday, 10:45 a.m.–12:05 p.m., organized by **Bernard L. Madison**, University of Arkansas. Recent changes in high school mathematics, largely influenced by the NCTM standards, have not been matched by comparable changes throughout college mathematics. The presidents of AMATYC and NCTM, an award-winning high school teacher, and the Chair of the MAA Committee on Articulation and Placement will discuss the resulting differences and implications of these differences for student learning. Panelists include **Judy E. Ackerman**, Montgomery College, President of AMATYC; **Dan Kennedy**, Baylor School; **Cathy L. Seeley**, University of Texas at Austin, President of NCTM; and **Bernard L. Madison**. The session is sponsored by the MAA Committee on Articulation and Placement.

**Using the *CUPM Curriculum Guide 2004* to Get Grants to Facilitate Change**, Thursday, 10:45 a.m.–12:05 p.m., organized by **Janet L. Andersen**, Hope College, and **David M. Bressoud**, Macalester College. One of the underutilized sources of NSF funding is the Adaptation and Implementation (A&I) component of the Course, Curriculum, and Laboratory Instruction (CCLI) program. This session will explain how the *CUPM Curriculum Guide 2004* and its supplement, the *CUPM Illustrative Resources*, can be used to identify programs at other institutions that can be adapted and implemented to meet significant needs at your own institution. It will also address how to put together a CCLI-A&I grant proposal that is attractive to NSF. Panelists will include: **Dennis Davenport**, U.S. Military Academy; **Wade Ellis**, West Valley College; and **Stephanie Fitchett**, Florida Atlantic University.

**Using *CUPM Curriculum Guide 2004*: Assessing and Improving the Program for the Major in Mathematics**, Thursday, 1:00 p.m.–2:20 p.m., organized by **William E. Haver**, Virginia Commonwealth University, and **Harriet S. Pollatsek**, Mount Holyoke College. *CUPM Guide 2004* was approved by the MAA Committee on Reports in September 2003. It has been available on MAA Online since then. Copies were mailed to all mathematical sciences departments in March 2004. The panel will describe ways departments can use *CUPM Guide 2004* to develop, refine, and/or implement an assessment plan for the major program. Indeed, the first recommendation in *CUPM Guide 2004* directs departments to (1) understand the strengths, weaknesses, career plans, and aspirations of their students; (2) determine the extent to which the goals of courses and programs offered are aligned with the needs of students, as well as the extent to which these goals are achieved; and (3) strengthen courses and programs to better align with student needs and assess the effectiveness of such efforts. Panelists will discuss efforts at a range of institutions and serving a variety of departmental missions. They include **Richard M. Grassl**, University of Northern Colorado; **Matthew P. Richey**, St. Olaf College; and **R. Bruce Mattingly**, SUNY Cortland. The panel will be moderated by **William E. Haver**.

**Learning to Prove: Strategies to Improve Students' Proof Writing Skills**, Thursday, 1:00 p.m.–2:20 p.m., organized by **Annie Selden**, New Mexico State University; **Barbara E. Edwards**, Oregon State University; **Nancy L. Hagelgans**, Ursinus College; and **Ahmed I. Zayed**, DePaul University. This session will focus on what works. There will be brief descriptions from several presenters and then participants will choose from several small group discussions. The topics addressed will include outlining the proof; the genre of proof; getting students to use definitions; and assessment of proofs, including the use of multiple drafts and peer review. The session is sponsored by the MAA Committee on the Teaching of Undergraduate Mathematics (CTUM).

**Undergraduate Mathematics and NSDL: the National Science Technology Engineering and Mathematics Education Digital Library**, Thursday, 1:00 p.m.–4:00 p.m., organized by **Franklin A. Wattenberg**, U.S. Military Academy. In addition to the resources in the MAA's MathDL, the

NSDL has a wide variety of scientifically and pedagogically outstanding resources that can be used in undergraduate mathematics courses. This session will look at resources from collections ranging across all the sciences. The emphasis is on very interactive resources that excite and engage students and that demonstrate the power and usefulness of mathematics. Speakers will include mathematicians, scientists, and engineers.

**Environmental Mathematics SIGMAA Invited Address, Council Meeting, and Business Meeting**, Thursday, 1:00 p.m.–3:00 p.m., organized by **Ben Fusaro**, Florida State University. This session will begin with an Invited Address by **Benoit Mandelbrot**, Yale University.

**Young Mathematicians' Network-MAA Project NExT Poster Session**, Thursday, 2:00 p.m.–4:00 p.m., organized by **Kevin E. Charlwood**, Washburn University, and **Kenneth A. Ross**, University of Oregon. Junior mathematicians who are no more than five years beyond their Ph.D. are invited by MAA Project NExT and the Young Mathematicians' Network to submit abstracts for the session. The poster size will be 48" (length) by 36" (height). Posterboard and materials for posting pages on the posters will be provided on site. Applications should be submitted to Kevin E. Charlwood, [kevin.charlwood@washburn.edu](mailto:kevin.charlwood@washburn.edu), and Kenneth A. Ross, [ross@math.uoregon.edu](mailto:ross@math.uoregon.edu), by December 7, 2004.

**Speaking of Mathematics**, Thursday, 2:30 p.m.–3:50 p.m., organized by **Jon T. Jacobsen**, Harvey Mudd College, and **Lewis D. Ludwig**, Denison College. The purpose of this panel is to share techniques for improving students' oral communication skills. Communication is an integral part of mathematics and professional life. Students have ample opportunities to communicate with their professors and peers but are often challenged when it comes to communicating to the nonspecialist. This is particularly relevant in mathematics, with its many special symbols and notations. Panelists **Joseph A. Gallian**, University of Minnesota at Duluth, **Jon T. Jacobsen**, and **Lewis D. Ludwig** will share their curricular and extended efforts developed to hone these skills. For example, panelist Jacobsen has developed a course in which students give expository talks of varying lengths and provide peer feedback. Some talks are videotaped for their benefit. Panelist Ludwig has integrated oral communication into Denison's "Introduction to Proofs" course in a novel way. Panelist Gallian is also a well-recognized expert in communication. We hope to provide a forum for the exchange of ideas toward improving this fundamental skill in our nation's undergraduate mathematics education.

**The Senior Seminar or "Capstone" Experience for Undergraduate Mathematics Majors**, Thursday, 2:30 p.m.–3:50 p.m., organized by **Padraig M. McLoughlin**, Morehouse College. More and more faculty and mathematics departments seem to indicate that part of an undergraduate mathematics program should include some undergraduate research. However, although it seems that the "capstone" experience has been adopted, there are several versions of a senior seminar at colleges and universities. This session is designed to compare or contrast programs or to propose a model for the senior seminar.

A panel of faculty from various departments will describe their undergraduate capstone, thesis, or senior seminar programs. Then a discussion will focus on innovations that support or create sustainable end-of-program experiences for undergraduates. The panel will discuss techniques used in the program, appropriate problems, how the experience is assessed, whether it is a one-term or full-year experience, the amount of writing required or expected, amount of faculty involvement in the program, whether the capstone experience has been an attractor for more majors, and successes or limitations of the programs. Panelists include **Colin L. Starr**, Willamette University; **Xinxin Jiang**, Rhodes College; **John W. Emert**, Ball State University; **Carol S. Schumacher**, Kenyon College; **David Brown**, Ithaca College; **Abdelkrim Brania**, Morehouse College; and **Michael Johnson**, U.S. Military Academy.

**Moore Method Calculus by Those Who Do It**, Thursday, 3:15 p.m.–4:35 p.m., organized by **James P. Ochoa**, Hardin-Simmons University, and **William T. Mahavier**, Lamar University. This panel discussion addresses the use of the Moore Method in the teaching of calculus. Each panelist has numerous years of experience using the Moore Method in calculus courses. Panelists will discuss how they have adapted the Moore Method to calculus courses. Cooperative learning, inquiry-based learning, and problem-based learning will also be discussed. Materials are available for those who are interested in using the Moore Method. Panelists will talk about these materials. This session will be the fourth in a series of highly successful panel sessions offered in 1999, 2001, and 2003. Previous sessions were well attended, videotaped, and archived for their historical significance. Panelists include: **Charles S. Allen**, Drury University; **Gregory D. Foley**, Appalachian State University; **Tom Ingram**, Baylor University; and **William T. Mahavier**.

**History of Mathematics SIGMAA Annual Meeting and Guest Lecture**, Thursday, 6:00 p.m.–8:00 p.m., organized by **Amy Shell-Gellasch**, Grafenwoer, Germany. **Thomas Archibald**, Dibner Institute at MIT and Arcadia University, will speak on *John Charles Fields: A career in mathematics*. For more information, please go to the HOM SIGMAA website, accessible from the MAA website, or contact **Amy Shell-Gellasch** at amy.shellgellasch@us.army.mil.

**Proposal Writing Workshop for Grant Applications to the NSF Division of Undergraduate Education**, Friday, 9:00 a.m.–10:20 a.m., organized by **John R. Haddock**, **Elizabeth J. Teles**, and **Lee L. Zia**, NSF/Division of Undergraduate Education. Presenters will describe the general NSF grant proposal process and consider particular details relevant to programs in the Division of Undergraduate Education. Attendees of this session will have an opportunity to read sample proposals and take part in a “mock” panel review of proposals.

**Long-Term Mathematics Faculty Outside of the Tenure Track: Possibilities, Pitfalls, and Practicalities**, Friday, 9:00 a.m.–10:20 a.m., organized by **David J. Lutzer**, College of William and Mary. Panel members will discuss issues associated with long-term mathematics faculty outside of the tenure track who focus primarily on teaching. The CBMS2000 report and the lead story in the April 16,

2004, *Chronicle of Higher Education* show that such faculty members are more and more common in mathematics departments. The panel’s focus is not on whether a department should use such faculty but rather on options for long-term job security in case a department decides to use non-tenure-track faculty to cover its courses. Such job security allows these faculty members to enter more fully into the department’s advising and curriculum planning (especially at the lower division), thereby addressing issues in the MAA Board of Governor’s resolution on non-tenure-track teaching faculty, available at [www.mathsci.appstate.edu/~sjg/maasciencepolicycommittee/res2.html](http://www.mathsci.appstate.edu/~sjg/maasciencepolicycommittee/res2.html). Panel members will present the perspectives of department chairs and of long-term non-tenure-track faculty in mathematics departments. Panelists include **Susan C. Geller**, Texas A&M University; **Joel K. Haack**, University of Northern Iowa; **David R. Morrison**, Duke University; and **David J. Lutzer**. The session is sponsored by the MAA Committee on the Profession.

**Just the Facts: Profiles and Inferences from Data on Permanently Temporary Faculty**, Friday, 1:00 p.m.–2:20 p.m., organized by **Kevin Charlwood**, Wabash University; **Judith L. Baxter**, University of Illinois at Chicago; and **Betty Anne Case**, Florida State University. Panelists will provide a description of the non-tenure-stream faculty and the perceptions and realities of the contributions they make to undergraduate education in the mathematical sciences. Despite their critical and varied roles in mathematics departments, they typically operate in a separate fiefdom from the rest of their colleagues. Discussion will center on data available from AMS Annual Surveys, the CBMS Survey (2000), and NRC/NAS data and on some important inferences from this data as to the impact on departments of full-time lecturers, adjuncts, and other faculty members who are employed for long periods of time but who are not in the professorial ranks. Panelists include **Mary W. Gray**, American University; **Pat Shure**, University of Michigan; **Stephen B. Rodi**, Austin Community College; **James W. Maxwell**, AMS; and **Betty Anne Case**. The panel will be moderated by **Kevin Charlwood** and is sponsored by the AMS/MAA Joint Committee on Teaching Assistants and Part-Time Instructors (TA/PTI).

**Using Mathematically Rich Activities to Develop K–12 Curricula: Part I**, Friday 9:00 a.m.–10:55 a.m., organized by **Robert P. Moses**, Cambridge, MA; **Robert E. Megginson**, Mathematical Sciences Research Institute; and **Ed Dubinsky**, Kent State University. Many early elementary mathematics curricula make extensive use of manipulatives to introduce the basic arithmetic of rational numbers. By the time pre-algebra and algebra classes are taught, drawing on physical experience to motivate the underlying mathematical concepts is rarely done. The purpose of this special presentation is to introduce and explore the ideas inherent in employing mathematically rich activities to develop curricula, especially at the late middle/early high school level. The “Road Coloring Problem”, an example of such a “mathematically rich activity”, will be introduced. Participants in the session will work through a portion of the ninth-grade curriculum, developed under an NSF grant to the Algebra Project, surrounding this unsolved problem

that is still under active investigation. This hands-on activity will be used to initiate discussion of the usefulness of the approach and to discuss other mathematically rich activities that could possibly be developed in the same manner. The Algebra Project demonstration will be led by **Gregory M. Budzban**, Southern Illinois University, and **Robert P. Moses**. This will be followed by brief presentations of alternative approaches in a similar spirit by **David W. Henderson**, Cornell University; **William G. McCallum**, University of Arizona; and **Ed Dubinsky**. Part II of the presentation is scheduled for Saturday, 1:00 p.m.–3:00 p.m.

**The Great Divide: Graphing Calculators in Secondary and College Education**, Friday, 1:00 p.m.–2:20 p.m., organized by **Thomas W. Tucker**, Colgate University. A major, perhaps the major, articulation problem between secondary and college mathematics education is the use of graphing calculators. Nearly all secondary teachers have probably operated a graphing calculator in the last month, whereas the majority of college teachers haven't operated one in many years, if ever. The debates about the uses of technology in mathematics education ended for computers years ago, with acceptance at both the secondary and college level, but for graphing calculators the debates ended with different conclusions: widespread and whole-hearted adoption at the secondary level and sporadic support, benign neglect, or outright antipathy at the college level. Worse, this state of affairs seems to be news to both camps. At the least, dialogue is needed, which this panel will provide. Panelists include **Gail F. Burrill**, Michigan State University, former President NCTM; **Raymond J. Cannon**, Baylor University, College Board Advanced Placement Program; **Richard H. Escobales**, Canisius College; and **Thomas Tucker**. The session is sponsored by the MAA Committee on Articulation and Placement.

**Planning a Sabbatical**, Friday, 1:00 p.m.–2:30 p.m., organized by **Jeffrey T. Barton**, **Bernadette Mullins**, and **Barry S. Spieler**, Birmingham-Southern College. Do you want to spend your sabbatical doing research, writing a textbook, working for a government agency, or something entirely different? Our panelists will discuss their varied experiences and answer questions about every step of the process, from generating ideas to writing a proposal to working out the logistics, and funding your sabbatical. This session was organized by the 1994–2000 Project NEX T Fellows to address issues of concern to faculty who have four to ten years of teaching experience. Panelists include **William A. Marion**, Valparaiso University; **Neil Portnoy**, Stony Brook University; and **Barbara Reynolds**, Cardinal Stritch University. The session is sponsored by Project NEX T.

**Projects Supported by the NSF Division of Undergraduate Education**, Friday, 1:00 p.m.–3:00 p.m., organized by **Jon W. Scott**, Montgomery College. This session will feature principal investigators (PIs) presenting progress and outcomes from various NSF-funded projects in the Division of Undergraduate Education. The poster session format will permit ample opportunity for attendees to engage in small-group discussions with the PIs and to network with each other. Information about presenters and their projects will appear in the program.

**Classroom Networks for Developing Mathematical Understanding**, Friday, 2:30 p.m.–3:50 p.m., organized by **Franklin D. Demana**, The Ohio State University, and **Jeremy Roschelle**, SRI International. In this session, we will explore the range of new possibilities that classroom networks bring to teaching and learning mathematics. Classroom networks connect student graphing calculators to a central computer and a project display, enabling the teacher to more quickly distribute and harvest student work. In one application, students can each graph a target function that fits some criteria (e.g., find a curve that fits these data points). The lecturer can then explore students' differing mathematical solutions to these problems. Possible generalizations can thus emerge from students' work. Presenters will discuss their applications of classroom network technology and how this technology improves classroom teaching and learning. Panelists will include **James J. Kaput**, University of Massachusetts, Dartmouth; **Walter Stroup**, University of Texas, Austin; and **Louis Abrahamson**, Better Education, Inc.

**Presentations by Teaching Award Recipients**, Friday, 2:30 p.m.–4:00 p.m. Winners of the Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching will give presentations on the secrets of their success.

**Information Session on Actuarial Education**, Friday 2:45 p.m.–4:45 p.m., organized by **Bettye Anne Case** and **Steve Paris**, Florida State University; **Matthew J. Hassett**, Arizona State University; and **Krzysztof M. Ostaszewski**, Illinois State University. There will be a presentation by **Richard London**, University of Connecticut, on the dramatic changes in the professional actuarial education system effective in 2005, followed by an open information discussion. Refreshments will be provided.

**WEB SIGMAA Business Meeting**, Friday 4:00 p.m.–5:00 p.m., organized by **Kirby A. Baker**, University of California Los Angeles.

**System-Wide Quantitative Literacy Initiatives**, Friday, 4:00 p.m.–5:20 p.m., organized by **Judith F. Moran**, Trinity College, **Caren L. Diefenderfer**, Hollins University. Representatives from Washington, Illinois, and Georgia will discuss efforts in their states to implement statewide QL standards and programs. Joined by a national leader in the QL effort, they will be discussing issues of definitions, standards, assessment, articulation agreements, and political hurdles. Panelists include: **Linda R. Sons**, Northern Illinois University; **Kathleen B. Burk**, Pensacola Junior College; **Kimberly M. Vincent**, Washington State University; and **Bernard L. Madison**, University of Arkansas. A reception will follow the panel discussion. The session is sponsored by the SIGMAA for Quantitative Literacy.

**Revisiting Crossroads: The Teaching and Learning of Mathematics in Two-Year Colleges**, Saturday, 9:00 a.m.–10:20 a.m., organized by **Susan S. Wood**, J. Sargeant Reynolds Community College. Panelists will update attendees on the progress of the project to revisit the 1995 AMATYC Standards with attention to the student and learning, faculty and teaching, mathematics content challenges, assessment, and connections with outside communities. A written document that emphasizes imple-

mentation and builds on the 1995 Crossroads will be released in fall 2006 with supporting digital products that use a variety of media. Connections to MAA's *CUPM Curriculum Guide 2004* will be discussed, as well as strategies for implementing change. The goals of the session are to inform attendees about the project to revisit the 1995 AMATYC Standards, *Crossroads in Mathematics: Standards for Introductory College Mathematics Before Calculus*, and to engage attendees in dialogue about recommendations for teaching, learning, and assessing mathematics in the first two years of college. Audience participation and feedback will be used by the writing team for the AMATYC Crossroads Revisited Project. Panelists include: **Judy E. Ackerman**, Montgomery College; **Susan L. Ganter**, Clemson University; and **Susan S. Wood**.

**MAA/RUME Panel Discussion on the ICME-10 Meeting**, Saturday, 9:00 a.m.–10:20 a.m., organized by **Martha J. Siegel**, Towson University, and **Andy R. Magid**, University of Oklahoma. Panelists will report on international perspectives on mathematics education gleaned from the ICME-10 meeting in Copenhagen.

**First-Semester Calculus: Meeting the Needs of Our Students**, Saturday, 1:00 p.m.–2:20 p.m., organized by **David M. Bressoud**, Macalester College, and **William E. Haver**, Virginia Commonwealth University. Once upon a time mainstream first-semester calculus was the first exposure to calculus for students going into mathematically intensive majors. It presupposed its students were among the strongest in mathematics, had not studied calculus before college, and would continue in calculus beyond this course. In many colleges and universities, the course has not changed, but the student audience has. Many of the strongest students do not take first-semester calculus in college. Many of the students who start with this course and want to pursue a full year of calculus need more help to succeed in it. Many students, especially those in the biological or life sciences, take it with no intention of taking a second course in calculus. The *CUPM Curriculum Guide 2004* calls on departments to “determine the extent to which the goals of courses and programs offered are aligned with the needs of students.” This panel will suggest ways to recast this course so that it meets actual student needs.

**Faculty Development for Adjuncts and New Faculty**, Saturday, 1:00 p.m.–2:20 p.m., organized by **Donald B. Small**, U.S. Military Academy. Adjuncts teach the majority of sections of beginning-level courses in many two-year colleges and universities. For the most part, these people only have responsibility for their own sections and are not integrated into the workings of their department, thus making it more difficult for beginning-level courses to act as a pump for upper-level courses. The panelists will discuss successful faculty development programs for adjunct and new faculty. Panelists include **Michael D. Phillips**, U.S. Military Academy; **William E. Haver**, Virginia Commonwealth University; **Robert Kimball**, Wake Tech Community College; and **Pat Shure**, University of Michigan. The panel will be moderated by **Philip H. Mahler**, Middlesex Community College, and is sponsored by the MAA CUPM

Subcommittee on Curriculum Renewal Across the First Two Years (CRAFTY).

**Using Mathematically Rich Activities to Develop K–12 Curricula, Part II**, Saturday, 1:00 p.m.–3:00 p.m., organized by **Robert P. Moses**, Cambridge, MA; **Robert E. Megginson**, Mathematical Sciences Research Institute; and **Ed Dubinsky**, Kent State University. Many early elementary mathematics curricula make extensive use of manipulatives to introduce the basic arithmetic of rational numbers. By the time pre-algebra and algebra classes are taught, drawing on physical experience to motivate the underlying mathematical concepts is rarely done. The purpose of this presentation is to introduce and explore the ideas inherent in employing mathematically rich activities to develop curricula, especially at the late middle/early high school level. Discussion of the “Road Coloring Problem”, the example of such a “mathematically rich activity” introduced in Part I will be continued. Participants in the session will work through a portion of the ninth grade curriculum, developed under an NSF grant to the Algebra Project, surrounding this unsolved problem that is still under active investigation. This hands-on activity will be used to continue discussion of the usefulness of the approach, after which there will be a panel discussion of the ideas presented in this special session. The panelists will be: **William G. McCallum**, University of Arizona, **Judith Roitman**, University of Kansas, and **Robert P. Moses**. (Part I of this discussion was scheduled on Friday, 9:00–10:55am.)

**Mathematical Outreach and the Environment**, Saturday, 2:30 p.m.–3:50 p.m., organized by **Patricia Clark Kenschaft**, Montclair State University. The panel will focus on how environmental issues can be used as a vehicle for mathematicians' outreach into the community. Three forms of this outreach will be explored, followed by audience discussion. Speakers include **James M. Wright**, Green Mountain College, “Media, Mathematics, and the Environment”; **Michael P. Cohen**, Assistant Director for Survey Programs, Bureau of Transportation Statistics, “Government Careers in Mathematics and the Environment”; and **William Dean Stone**, New Mexico Tech, “Earth Day Talks: High School Outreach”. The session is sponsored by the MAA Committee on Mathematics and the Environment.

**Open Discussion on Refocusing the Courses Before Calculus**, Saturday, 2:30 p.m.–3:50 p.m., organized by **Donald B. Small**, U.S. Military Academy. The moderator, **Jack Bookman**, Duke University, and panelists **Nancy Baxter Hastings**, Dickinson College, and **Bruce Crowder**, Oklahoma State University, are active members of the combined MAA/AMATYC/NCTM committee that is leading a national movement to refocus college algebra/precalculus courses. They will address the activities of this committee, as well as CRAFTY's Position Paper on courses below calculus. The session is sponsored by the MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years (CRAFTY).

### MAA Student Activities

**Robin J. Wilson**, The Open University, *Victorian combinatorics*, Friday, 1:00 p.m. (Student Lecturer).

**Undergraduate Student Poster Session**, Friday, 4:00 p.m.–6:30 p.m., organized by **Mario Martelli**, Claremont McKenna College and sponsored by the Committee on Undergraduate Student Activities and Chapters (CUSAC). Send title and abstract (not longer than one-half page) by email to [mmartelli@mckenna.edu](mailto:mmartelli@mckenna.edu), or by regular mail to Mario Martelli, Mathematics Department, Claremont McKenna College, Claremont, CA 91711 by December 7, 2004. Include author's name, address, phone number, email, affiliation, name and affiliation of faculty advisor, name of the sponsoring program (NSF-REU, NSA, etc), and request for an electronic outlet if needed for the presentation. When the poster is authored by more than one student, please indicate the one who will communicate with the organizer. Notification of acceptance will be emailed two weeks after the abstract has been received. Apply early! Space is limited. The session is reserved to undergraduates and first-year graduate students submitting posters on work done while undergraduates. Each poster will be evaluated by at least three judges and the best posters will receive monetary awards provided by the MAA, AMS, AWM, The Moore Foundation, and CUR. Trifold, self-standing 48" by 36" tabletop posterboard will be provided. Additional material or equipment is the responsibility of the presenters.

### MAA Short Course

*Eight lectures on random graphs*, Monday and Tuesday, January 3 and 4, organized by **Alan M. Frieze**, Carnegie Mellon University.

The subject began properly with a sequence of seminal papers in the 1960s by Paul Erdős and Alfred Rényi. Erdős had already used randomly generated graphs as a tool for showing the existence of various structures, but these papers began the study of random graphs as objects in their own right. Since that time there has been much research establishing the likely structure of various models of random graph and finding uses for this knowledge. In this course we provide some of the basic results and tools used in the area. Presenters include **Thomas A. Bohman**, Carnegie Mellon University, *Evolution of  $G_{n,m}$* ; **Oleg Pikhurko**, Carnegie Mellon University, *Thresholds for some basic properties*; **Benny Sudakov**, Princeton University, *Probabilistic Method*; **Andrzej Ruciński**, Adam Mickiewicz University, *Small subgraphs*; **Nick Wormald**, University of Waterloo, *Random regular graphs*; **Dimitris Achlioptas**, Microsoft Research, *Graph coloring and random  $k$ -SAT*; **Michael Molloy**, University of Toronto, Title to be announced; and **Alan M. Frieze**, Carnegie Mellon University, *Web graphs*.

Please note that there is a separate registration fee for this Short Course. To register in advance, please use the Advance Registration/Housing Form found at the back of this issue, or see [http://www.ams.org/amsmtgs/2091\\_registration.html](http://www.ams.org/amsmtgs/2091_registration.html). Advance registration fees are \$125/member; \$175/nonmember; and \$50/student, unemployed, emeritus. On-site registration fees are \$140/member; \$190/nonmember; and \$60/student, unemployed, emeritus.

### Other MAA Events

**Board of Governors**, Tuesday, 8:30 a.m.–4:00 p.m.

**Section Officers**, Wednesday, 2:30 p.m.–5:00 p.m.

**Business Meeting**, Saturday, 11:45 a.m.–12:15 a.m.

See the listings for various receptions in the "Social Events" section.

### Activities of Other Organizations

Several organizations or special groups are having receptions or other social events. Please see the "Social Events" section of this announcement for details.

### Association for Symbolic Logic (ASL)

This two-day program on Friday and Saturday will include sessions of contributed papers and Invited Addresses by: **Mathias Aschenbrenner**, University of Illinois at Chicago, *Asymptotic differential algebra*; **Andres Caicedo**, Institut für formale Logik (Vienna), *Projective well-orderings of the reals*; **Tetsuya Ishii**, University of Kansas, Lawrence, *The nonstationary ideal and club guessing ideals*; **Olivier Lessman**, University of Oxford, *A survey of excellence*; **Joseph Mileti**, University of Illinois at Urbana-Champaign, *Partition theorems and computability theory*; **Bjorn Poonen**, University of California Berkeley, *Extensions of Hilbert's Tenth Problem*; and **W. Hugh Woodin**, University of California Berkeley, *Structural equivalences for the determinacy of real games*. See also the Special Session jointly sponsored by the ASL in the "AMS Special Sessions" section, as well as a cosponsored panel discussion on *Hilbert's First Problem* listed in the "Other AMS Sessions" section.

### Association for Women in Mathematics (AWM)

**Twenty-Sixth Annual Emmy Noether Lecture**, Thursday, 9:00 a.m.–9:50 a.m., will be given by **Lai-Sang Young**, Courant Institute, New York University, *From limit cycles to strange attractors*.

A dinner in honor of the lecturer will be held on Wednesday evening. See the "Social Events" section for details on how to participate.

**Achieving Diversity in Graduate Programs, Part I: The Challenge to Retain Women**, Wednesday, 3:20 p.m.–4:20 p.m., organized by **Suzanne M. Lenhart**, University of Tennessee, and **Sylvia T. Bozeman**, Spelman College. This panel discussion is cosponsored by the National Association of Mathematicians; see the description of Part II of this presentation on Saturday at 9:00 a.m. under NAM's listing of events.

Just before the panel discussion, AWM will recognize the Alice T. Schafer prizewinner, runner-up, and honorable-mention honorees. Note that formal prizewinner announcements are made at the Joint Prize Session on Thursday afternoon (see the AWM inclusion in the "Joint Sessions" section at the beginning of this announcement).

**Business Meeting**, Wednesday, 4:20 p.m.–4:50 p.m.

**Focus: Future**, Wednesday, 4:50 p.m.–5:30 p.m. At the conclusion of the business meeting, members and others interested in the AWM are invited to come and share ideas at this session organized by the AWM Long-Range Planning

Committee. **Helen Moore**, American Institute of Mathematics, will serve as moderator.

**Workshop**, Saturday, 8:30 a.m.–5:00 p.m. With funding from the Office of Naval Research and the National Security Agency (pending final funding approval), AWM will conduct its workshop for women graduate students and women who have received the Ph.D. within the last five years. Organizers are **Dawn A. Lott**, New Jersey Institute of Technology, **Judy L. Walker**, University of Nebraska, and **Claudia Polini**, University of Notre Dame.

Twenty women mathematicians have been selected in advance of this workshop to present their research. The selected graduate students will present posters, and the recent Ph.D.'s will give 20-minute talks. Travel funds are provided to the twenty selected presenters. The workshop will also include a panel discussion on issues of career development. Participants will have the opportunity to meet with other women mathematicians at all stages of their careers. All mathematicians (female and male) are invited to attend the entire program. Departments are urged to help graduate students and recent Ph.D.'s who do not receive funding to obtain some institutional support to attend the workshop and the associated meetings. The deadline for applications for presenting and funding has expired. Inquiries regarding future workshops may be made to AWM by telephone: 301-405-7892, by email: [awm@math.umd.edu](mailto:awm@math.umd.edu), or by visiting <http://www.awm-math.org/>.

AWM seeks volunteers to lead discussion groups and to act as mentors for workshop participants. If you are interested in volunteering, please contact the AWM office.

**Reception**, Wednesday, 9:30 p.m.–11:00 p.m. See the listing in the “Social Events” section of this announcement.

**National Association of Mathematicians (NAM) Granville-Brown-Haynes Session of Presentations by Recent Doctoral Recipients in the Mathematical Sciences**, Friday, 2:15 p.m.–4:00 p.m.

**Cox-Talbot Address**, to be given Friday after the banquet; speaker and title to be announced.

**Achieving Diversity in Graduate Programs, Part II: The Challenge to Retain Underrepresented Groups**, Saturday, 9:00 a.m.–9:50 a.m., organized by **Nathaniel Dean**, Texas Southern University, and **Rhonda J. Hughes**, Bryn Mawr College. This panel discussion is cosponsored by the Association of Women in Mathematics; see the description of Part I of this presentation on Wednesday at 3:20 p.m. under AWM's listing of events.

**Business Meeting**, Saturday, 10:00 a.m.–10:50 a.m.

**Claytor-Woodard Lecture**: Saturday, 1:00 p.m., speaker and title to be announced.

See details about the banquet on Friday in the “Social Events” section.

### National Science Foundation (NSF)

The NSF will be represented at a booth in the exhibit area. NSF staff members will be available to provide counsel and information on NSF programs of interest to mathematicians. The booth is open the same days and

hours as the exhibits. Times that staff will be available will be posted at the booth.

### Pi Mu Epsilon (PME)

**Council Meeting**, Friday, 8:00 a.m.–11:00 a.m.

### Rocky Mountain Mathematics Consortium (RMMC)

**Board of Directors Meeting**, Friday, 2:15 p.m.–4:10 p.m.

### Society for Industrial and Applied Mathematics (SIAM)

A two-day program on Wednesday and Thursday will include an Invited Address and minisymposia. The Invited Address will be given by **Pavel Pevzner**, University of California San Diego, *Transforming men into mice (and into chimpanzees, dogs, chickens, etc.)* at 11:10 a.m. on Thursday. Minisymposia and their organizers include *Undergraduate Linear Algebra and Differential Equations: Projects, Problems, and Issues*, **William Briggs**, University of Colorado at Denver; *Discontinuous Galerkin Methods*, **Paul Castillo**, University of Puerto Rico; and *Error-Correcting Codes*, **Vera Pless**, University of Illinois at Chicago. See also the Special Sessions jointly sponsored by SIAM in the “AMS Special Sessions” section.

### Young Mathematicians Network (YMN)

**Concerns of Young Mathematicians: A Town Meeting**, Wednesday, 7:15 p.m.–8:15 p.m., organized by **David Kung**, St. Mary's College of Maryland. This panel discussion will focus on the current primary concerns of young mathematicians, from undergraduates to newly tenured professors, with emphasis on audience participation.

Also see details about the poster session (Thursday at 2:00 p.m.) and panel discussions (Wednesday at 2:15 p.m. and 3:50 p.m.) cosponsored by YMN under the “Other MAA Sessions” section.

### Others

**Math on the Web**, Wednesday–Saturday, various times. The problem of communicating Math on the Web is really no different from communicating math via other media. Namely, authoring and displaying mathematical notation is difficult. On top of that, the Web is a dynamic medium, where users can interact with rich media documents in sophisticated ways. This introduces a whole new layer of challenges and possibilities for engaging, interactive communication between authors and readers. There will be several presentations on the exhibit hall floor throughout the meeting.

**Summer Program for Women in Mathematics (SPWM)**, Thursday, 2:00 p.m.–4:00 p.m., organized by **Murli Gupta**, George Washington University. SPWM participants will describe their experiences from past programs.

### Ancillary Conferences

**American Statistical Association (ASA)**: A one-day course will be offered January 4 preceding the Joint Mathematics Meetings in Atlanta. Visit the LearnSTAT site at <http://www.amstat.org/education/learnstat.html>

for more details as they are developed. Inquiries can be directed to [learnstat@amstat.org](mailto:learnstat@amstat.org).

## Social Events

It is strongly recommended for any event requiring a ticket, that tickets be purchased through advance registration. Only a very limited number of tickets, if any, will be available for sale on site. If you must cancel your participation in a ticketed event, you may request a 50% refund by returning your ticket(s) to the Mathematics Meetings Service Bureau (MMSB) by **December 27**. After that date no refunds can be made. Special meals are available at banquets upon advance request, but this must be indicated on the Advance Registration/Housing Form.

**Student Hospitality Center**, Wednesday–Friday, 9:00 a.m.–5:00 p.m., and Saturday, 9:00 a.m.–3:00 p.m., organized by **Richard Neal**, University of Oklahoma. A **reception for undergraduates** will be held here on Wednesday, 4:00 p.m.–5:00 p.m.

**Reception for First-Time Participants**, Wednesday, 5:00 p.m.–6:00 p.m. The AMS and the MAA Committee on Membership are cosponsoring this social hour. All participants (especially first-timers) are encouraged to come and meet some old-timers and pick up a few tips on how to survive the environment of a large meeting. Refreshments will be served.

**Graduate Student Reception**, Wednesday, 6:00 p.m.–7:00 p.m., organized by **Betty Mayfield**, Hood College, and **Shawnee McMurrin**, California State University San Bernardino. Mathematicians representing a wide range of disciplines will join interested graduate students at an informal reception. Complimentary food and beverages will be served. NOTE: This event is only for students who sign up on the Advance Registration/Housing Form.

**Mathematical Sciences Institutes Open House**, Wednesday, 5:30 p.m.–8:00 p.m. Participants are warmly invited to attend this open house sponsored by several of the mathematical institutes in North America.

All participants are invited to a **dinner to honor AWM's Noether Lecturer** on Wednesday. A sign-up sheet for those interested will be located at the AWM table in the exhibit area and also at the AWM panel discussion.

**AWM Reception**: There is an open reception on Wednesday at 9:30 p.m. after the AMS Gibbs Lecture. This has been a popular, well-attended event in the past.

**MAA Two-Year College Reception**, Thursday, 5:45 p.m.–7:00 p.m., is open to all meeting participants, particularly two-year faculty members. This is a great opportunity to meet old friends and make some new ones. There will be hot and cold refreshments and a cash bar. Sponsored by Addison Wesley Longman.

**Lehigh University Reception**, Thursday, 5:45 p.m.–7:00 p.m. All friends and graduates of the Lehigh Math Program are invited to attend.

**Association of Lesbian, Gay, Bisexual, and Transgendered Mathematicians Reception**, Thursday, 6:00 p.m.–8:00 p.m. Everyone is welcome to attend this open recep-

tion. Meet some new friends or get together with some old friends. Please join us!

**University of Chicago Department of Mathematics Alumni Reception**, Thursday, 6:00 p.m.–7:00 p.m.

**MER Banquet**: The Mathematicians and Education Reform (MER) Forum welcomes all mathematicians who are interested in precollege, undergraduate, and/or graduate educational reform to attend the MER banquet on Thursday evening. This is an opportunity to make or renew contacts with other mathematicians who are involved in education projects and to engage in lively conversation about educational issues. The after-dinner discussion is an open forum for participants to voice their impressions, observations, and analyses of the current education scene. There will be a cash bar beginning at 6:30 p.m. Dinner will be served at 7:30 p.m. Tickets are \$45 each, including tax and gratuity.

**Knitting Circle**, Thursday, 8:15 p.m.–9:45 p.m. Bring a project (knitting/crochet/tatting/beading/etc.) and chat with other mathematical crafters.

**Joint PME and MAA Student Chapter Advisors' Breakfast**, Friday, 7:00 a.m. to 8:00 a.m.

**Reception for Mathematicians in Business, Industry, and Government**, Friday, 5:00 p.m.–6:00 p.m., organized by **Michael Monticino**, University of North Texas. This welcome reception is open to all conference participants and in particular those interested in the mathematics of business, government, and industry (BIG). The reception will be a great opportunity to interact with BIG mathematicians and learn more about BIG mathematics. The reception is sponsored by the BIG SIGMAA.

**New Mexico State University Mathematics Association Reception**, Friday, 5:30 p.m.–7:30 p.m. All members and friends are invited; there will be a no-host bar available.

**NAM Banquet**, Friday, 5:30 p.m.–9:00 p.m. The National Association of Mathematicians will host a banquet on Friday evening. A cash bar reception will be held at 5:30 p.m., and dinner will be served at 6:00 p.m. Tickets are \$48 each, including tax and gratuity.

**Mathematical Reviews Reception**, Friday, 6:00 p.m.–7:00 p.m. All friends of *Mathematical Reviews* (MR) are invited to join reviewers and MR editors and staff (past and present) for a reception in honor of all the efforts that go into the creation and publication of the *Mathematical Reviews* database. Refreshments will be served.

**Budapest Semesters in Mathematics (BSM) Reunion**, Friday, 6:30 p.m. to 8:30 p.m. All BSM alums are invited to attend. Please stop by the BSM booth in the exhibit area for more details.

**MAA Project NEXt Reception**, Friday, 8:30 p.m.–10:30 p.m. All MAA Project NEXt national and Section NEXt Fellows, consultants, and other friends of MAA Project NEXt are invited.

**Notices Tenth Anniversary Reception**, Saturday, 5:00 p.m.–6:00 p.m. All meeting participants are invited to join *Notices* Editorial Board members and AMS staff for a reception in honor of the tenth anniversary of the *Notices* transition into its present magazine-style format and wider-ranging expository content. Refreshments will be served.

**AMS Banquet:** As a fitting culmination to the meetings, the AMS banquet provides an excellent opportunity to socialize with fellow participants in a relaxed atmosphere. The participant who has been a member of the Society for the greatest number of years will be recognized and will receive a special award. The banquet will be held on Saturday, with a cash bar reception at 6:30 p.m. and dinner at 7:30 p.m. Tickets are \$44, including tax and gratuity.

## Other Events of Interest

**AMS Information Booth:** All meeting participants are invited to visit the AMS Information Booth during the meeting. Complimentary coffee and tea will be served. A special gift will be available for participants, compliments of the AMS. AMS staff will be at the booth to answer questions about AMS programs and membership.

**Book Sales and Exhibits:** All participants are encouraged to visit the book, education media, and software exhibits from 12:15 p.m. to 5:30 p.m. on Wednesday, 10:00 a.m. to 6:00 p.m. on Thursday, 9:30 a.m. to 5:30 p.m. on Friday, and 9:00 a.m. to noon on Saturday. Books published by the AMS and MAA will be sold at discounted prices somewhat below the cost for the same books purchased by mail. These discounts will be available only to registered participants wearing the official meetings badge. Most major credit cards will be accepted for book sale purchases at the meetings. Also, AMS electronic products and the AMS website will be demonstrated. Participants visiting the exhibits will be asked to display their meetings badge in order to enter the exhibit area.

**Mathematical Sciences Employment Center:** Those wishing to participate in the Mathematical Sciences Employment Center should read carefully the important article about the center beginning on page 1117 in this issue of *Notices* or at <http://www.ams.org/emp-reg/>.

**Networking Opportunities:** There are many opportunities to meet new friends and greet old acquaintances, in addition to the vast array of scientific sessions offered at these meetings. These opportunities are listed on the newcomers page at [http://www.ams.org/amsmtgs/2091\\_newcomers.html](http://www.ams.org/amsmtgs/2091_newcomers.html). Newcomers may want to investigate the many receptions listed in the "Social Events" section, the Student Hospitality Center, and the Employment Center. On site a Networking Center featuring casual seating and lists of registered participants sorted by school and math subject classification will be available for your perusal. This is a great place to relax between sessions and forge new friendships.

## Registering in Advance and Obtaining Hotel Accommodations

**How to Register in Advance:** The importance of advance registration cannot be overemphasized. Advance registration fees are considerably lower than the fees that will be charged for registration at the meeting. Participants registering by November 5 will receive their badges,

programs, and tickets purchased in advance by mail approximately three weeks before the meetings, unless they check the appropriate box to the contrary on the Advance Registration/Housing Form. Because of delays that occur in U.S. mail to Canada, advance registrants from Canada must pick up their materials at the meetings. Because of delays that occur in U.S. mail to overseas, materials are never mailed overseas. There will be a special Registration Assistance Desk at the Joint Meetings to assist individuals who either do not receive this mailing or who have a problem with their registration. Please note that a \$5 replacement fee will be charged for programs and badges that are mailed but not taken to Atlanta. Acknowledgments of registrations will be sent by email to the email addresses given on the Advance Registration/Housing Form. If you do not wish your registration acknowledged by email, please mark the appropriate box on the form.

**Email Advance Registration:** This service is available for advance registration and housing arrangements by requesting the forms via email from [meetreg-request@ams.org](mailto:meetreg-request@ams.org) or by visiting [http://www.ams.org/amsmtgs/2091\\_reghsg.html](http://www.ams.org/amsmtgs/2091_reghsg.html). VISA, MasterCard, Discover, and American Express are the only methods of payment that can be accepted for email advance registration, and charges to credit cards will be made in U.S. funds. Completed email forms should be sent to [meetreg-submit@ams.org](mailto:meetreg-submit@ams.org). All advance registrants will receive acknowledgment of payment prior to the meetings.

**Internet Advance Registration:** This service is available for advance registration and housing arrangements at [http://www.ams.org/amsmtgs/2091\\_reghsg.html](http://www.ams.org/amsmtgs/2091_reghsg.html). VISA, MasterCard, Discover, and American Express are the only methods of payment that are accepted for Internet advance registration, and charges to credit cards will be made in U.S. funds. All Internet advance registrants will receive acknowledgment of payment upon submission of this form.

**Cancellation Policy:** Those who cancel their advance registration for the meetings, MAA Minicourses, or Short Courses by December 31 (the deadline for refunds for banquet tickets is December 27) will receive a 50% refund of fees paid. No refunds will be issued after this date.

### Joint Mathematics Meetings Registration Fees

	by Dec. 10	at meeting
Member of AMS, ASL, Canadian Mathematical Society, MAA, SIAM	\$199	\$259
Emeritus Member of AMS, MAA; Graduate Student; Unemployed; Librarian; High School Teacher; Developing Countries Special Rate	39	49
Undergraduate Student	21	27
Temporarily Employed	158	181
Nonmember	308	401
High School Student	2	5
One-Day Member of AMS, ASL, CMS, MAA, SIAM	n/a	142
One-Day Nonmember	n/a	220
Nonmathematician Guest	10	10

## Meetings & Conferences

### MAA Minicourses

Minicourses #1-6 (computers)	\$95	\$95*
Minicourses #7-12, 14-16	60	60*
Minicourse #13	70	70*

\*if space is available

**Employment Center** (please note that earlier deadlines apply for inclusion in the *Winter Lists*)

Employer (first table, computer or self-scheduled)	\$225	\$305
Employer (each additional table, computer or self-scheduled)	75	105
Employer Posting Fee	50	N/A
Applicants (all services)	42	80
Applicants ( <i>Winter List</i> & message center only)	21	21

### AMS Short Course

Member of AMS or MAA	\$85	\$115
Nonmember	108	140
Student/Unemployed/Emeritus	37	55

### MAA Short Course

MAA Member	\$125	\$140
Nonmember	175	190
Student/Unemployed/Emeritus	50	60

**Full-Time Students:** Those currently working toward a degree or diploma. Students are asked to determine whether their status can be described as graduate (working toward a degree beyond the bachelor's), undergraduate (working toward a bachelor's degree), or high school (working toward a high school diploma) and to mark the Advance Registration/Housing Form accordingly.

**Emeritus:** Any person who has been a member of the AMS or MAA for twenty years or more and who retired because of age or long-term disability from his or her latest position.

**Librarian:** Any librarian who is not a professional mathematician.

**Unemployed:** Any person currently unemployed, actively seeking employment, and not a student. It is not intended to include any person who has voluntarily resigned or retired from his or her latest position.

**Developing Country Participant:** Any person employed in developing countries where salary levels are radically noncommensurate with those in the U.S.

**Temporarily Employed:** Any person currently employed but who will become unemployed by June 1, 2005, and who is actively seeking employment.

**Nonmathematician Guest:** Any family member or friend who is not a mathematician and who is accompanied by a participant in the meetings. These official guests will receive a badge and may attend all sessions and the exhibits.

**Participants Who Are Not Members of the AMS** and who register for the meetings as nonmembers will receive mailings after the meetings are over with a special membership offer.

Advance registration and on-site registration fees only partially cover the expenses of holding meetings. All

mathematicians who wish to attend sessions are expected to register and should be prepared to show their badges if so requested. Badges are required to enter the exhibit area, to obtain discounts at the AMS and MAA Book Sales, and to cash a check with the Joint Meetings cashier.

Advance registration forms accompanied by insufficient payment will be returned, thereby delaying the processing of any housing request, or a \$5 charge will be assessed if an invoice must be prepared to collect the delinquent amount. Overpayments of less than \$5 will not be refunded.

For each invalid check or credit card transaction that results in an insufficient payment for registration or housing, a \$5 charge will be assessed. Participants should check with their tax preparers for applicable deductions for education expenses as they pertain to these meetings.

If you wish to be included in a **list of individuals sorted by mathematical interest**, please provide the one mathematics subject classification number of your major area of interest on the Advance Registration/Housing Form. (A list of these numbers is available by sending an empty email message to [abs-submit@ams.org](mailto:abs-submit@ams.org); include the number 983 as the subject of the message.) Copies of this list will be available for your perusal in the Networking Center.

If you do not wish to be included in any mailing list used for promotional purposes, please indicate this in the appropriate box on the Advance Registration/Housing Form.

### Advance Registration Deadlines

There are four separate advance registration deadlines, each with its own advantages and benefits.

**EMPLOYMENT CENTER** advance registration (inclusion in the *Winter Lists*) **October 25**

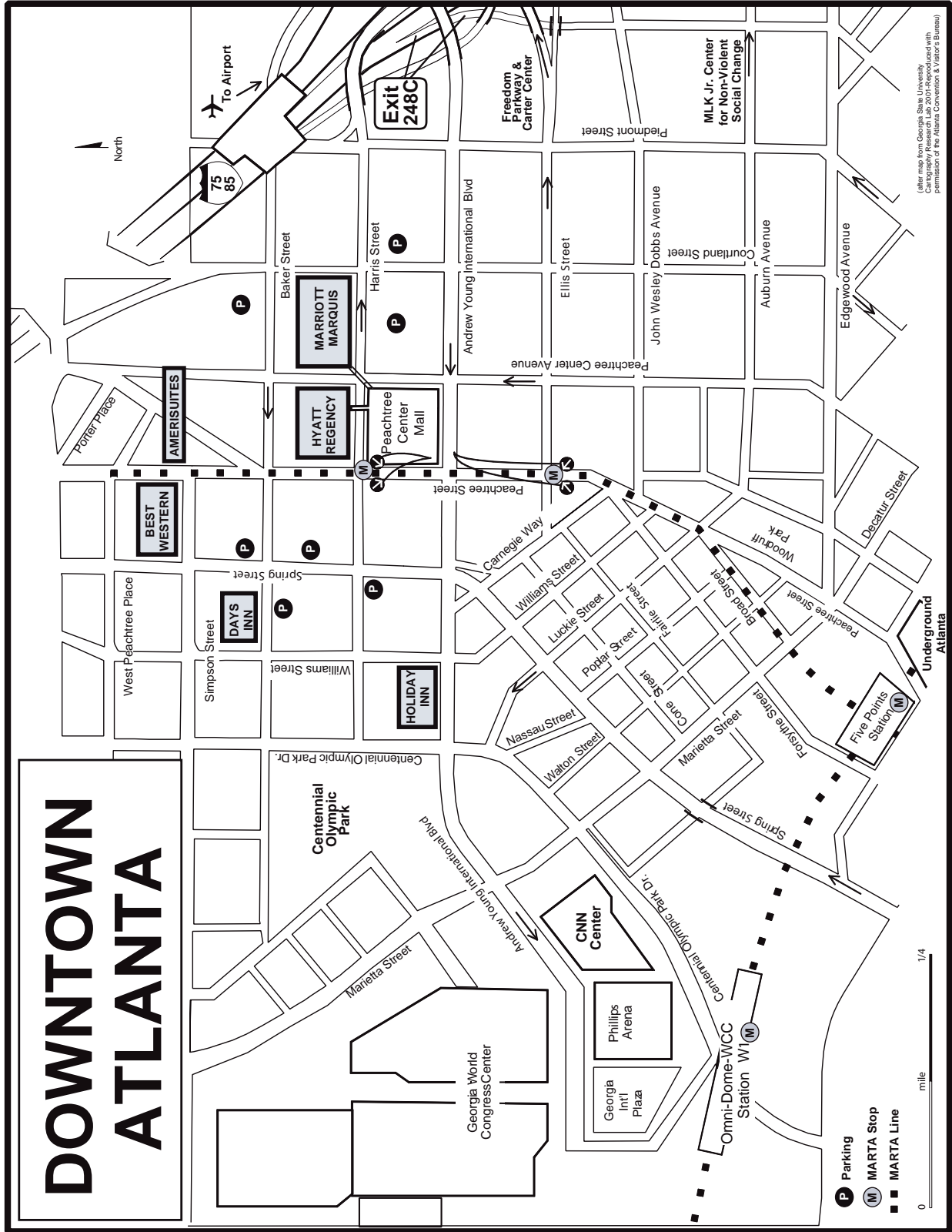
**EARLY** meetings advance registration (room lottery) **October 29**

**ORDINARY** meetings advance registration (hotel reservations, materials mailed) **November 5**

**FINAL** meetings advance registration (advance registration, Short Courses, Employment Center, MAA Minicourses, banquets) **December 10**

**Employment Center Advance Registration:** Applicant and employer forms must be received by October 25 in order to appear in the publications distributed to all participants. For detailed information on the Employment Center, see the separate article on page 1117.

**Early Advance Registration:** Those who register by the early deadline of October 29 will be included in a random drawing to select winners of complimentary hotel rooms in Atlanta. Multiple occupancy is permissible. The location of rooms to be used in this lottery will be based on the number of complimentary rooms available in the various hotels. Therefore, the free room may not necessarily be in the winner's first-choice hotel. The winners will be notified by mail prior to December 17. So register early! (See the list of the winners in Phoenix.) Also, applicant and em-



## How to Obtain Hotel Accommodations

<p><b>Room Lottery:</b> (See the <i>How to Register in Advance</i> section to learn how to qualify for this year's room lottery.) Last year's winners were Peter Brooksbank, Bao Qi Feng, J. T. Halbert, Leon Harkleroad, Lili Ju, Rose Marie Kinik, Michael Kozdron, Gerald Kruse, Stephanie Lafortune, Marc Lengfield, Di Liu, John Marafino, Lianwen Wang, and Mahmoud Yousef.</p>	<p><b>General Instructions:</b> Participants must register in advance in order to obtain hotel accommodations through the Mathematics Meetings Service Bureau (MMSB). Special meeting rates have been negotiated at the following hotels. These rates apply exclusively to reservations made through the MMSB. Hotels will start accepting reservations directly after <b>December 13</b>, at which time rooms and rates will be based on availability. <b>A higher rate will be applied to any rooms reserved directly with any of the hotels before December 13.</b></p> <p><b>To make a reservation,</b> please submit a completed housing section of the Advance Registration/Housing (ARH) Form (paper or electronic) with a guarantee by <b>November 5. Sorry, reservations cannot be taken by phone.</b> Participants interested in reserving suites should contact the MMSB for further information.</p>	<p><b>Deadlines:</b></p> <ul style="list-style-type: none"> <li>• Room lottery qualification: <b>October 29, 2004</b></li> <li>• Reservations through MMSB: <b>November 5, 2004</b></li> <li>• Changes/cancellations through MMSB: <b>December 3, 2004</b></li> </ul>
<p><b>Rates:</b></p> <ul style="list-style-type: none"> <li>• Subject to 14% state tax</li> <li>• Only certified students or unemployed mathematicians qualify for student rates.</li> <li>• See ARH Form for detailed rate structure of each property.</li> </ul>	<p><b>General Information:</b></p> <ul style="list-style-type: none"> <li>• Check-in: 4:00 p.m./checkout: noon – Marriott; For all others, check-in is at 3:00 p.m., checkout is noon</li> <li>• <b>Windows do not open</b> in rooms unless otherwise indicated.</li> <li>• Children at different ages are free in existing beds only.</li> <li>• Limited availability of cribs, free of charge</li> <li>• All hotels have a limited environmental policy regarding linens where all requests for a limited change of linens will be honored.</li> <li>• Distance from hotel to Marriott and Hyatt is indicated in each listing.</li> <li>• Airport shuttles to hotels are provided by Atlanta Link Airport Shuttle.</li> <li>• Wireless available in some hotels; Please see descriptions below.</li> <li>• All hotels are in acceptable compliance with ADA. All hotels have TTYs/TDDs text telephones on the premises.</li> </ul> <p><b>To take the handicapped accessible route from the Marriott to the Hyatt,</b> it is necessary to go through the skywalk that connects the Peachtree Center Mall to the Hyatt. There are two lifts: 1) One lift in Peachtree Center Mall, located at the beginning of the skywalk you have to cross on way to the Hyatt; and 2) Once you cross the skywalk, there is another lift located just inside the Hyatt at the bottom of the entry steps. Each lift has a call box directly to the security department who will operate lifts for you. Please allow 2 to 5 minutes for security to show up.</p>	<p><b>Guarantee Requirements/Cancellation Policy:</b></p> <ul style="list-style-type: none"> <li>• One night deposit by check, or</li> <li>• Credit cards accepted: VISA, MC, AMEX, and Diners</li> <li>• AmeriSuites and Marriott will charge one night deposit 72 hours before arrival</li> <li>• <b>72-hour cancellation policy:</b> Hyatt, Marriott, Holiday Inn, AmeriSuites, Days Inn</li> <li>• <b>24-hour cancellation policy:</b> Best Western</li> <li>• <b>Please note that some hotels enforce early departure penalties; see descriptions below.</b></li> </ul> <p><b>Special Lottery:</b> In appreciation for using our housing service, MMSB, we are holding a lottery for anyone that books a hotel room through us by <b>November 5.</b> The winner will receive a new HP 39G+ Graphing Calculator.</p>
<p><b>Questionnaire lottery:</b> Those who turn in their completed questionnaires by noon on Friday, 1/7/05, will be eligible to win a free hotel room at the 2006 Joint Mathematics Meetings in San Antonio. Last year's winner was <b>Luis Saldivia.</b></p>	<p><b>Continued →</b></p>	

<p><b>Hyatt Regency Atlanta (co-headquarters)</b> (across street from Marriott) 265 Peachtree Street, NE Atlanta, GA 30303-1294 404-577-1234 Regular single/double - \$144 Student single/double - \$116</p>	<p><b>Atlanta Marriott Marquis (co-headquarters)</b> (across street from Hyatt) 265 Peachtree Center Avenue Atlanta, GA 30303 404-521-0000 Regular single/double - \$144 Student single/double - \$116</p>	<p><b>AmeriSuites</b> (1 block) 330 Peachtree Street Atlanta, GA 30308 404-577-1980 Single/Double - \$99 All suites; No restaurant – complimentary hot breakfast buffet served and room service provided from restaurant next door; Fitness center; Self-service laundry; Parking \$12/day; Windows open; All suites have full amenities including microwave, refrigerator, VCR, two phone lines, wireless high speed internet access, and data port free. <b>Hotel will charge one night deposit 72 hours before arrival</b></p>	<p><b>Days Inn Atlanta Downtown</b> (1 block) 300 Spring Street Atlanta, GA 30308 404-523-1144 Single/Double - \$99 24-hour Restaurant; Lounge; Exercise facility; Outdoor pool; Parking \$12/day; Self-service laundry; Windows open; All rooms have full amenities including data ports, modem lines, and safes; Microwave, refrigerator and desk in king/queen rooms only; Children under 18 years free; Wireless is not available; <b>All changes to departure dates must be made at check-in to avoid a \$25 penalty charge.</b></p>	<p><b>Holiday Inn Atlanta Downtown</b> (3 blocks) 101 Andrew Young International Blvd. Atlanta, GA 30303 404-524-5555 Single/Double - \$99 Restaurant; Lounge; Fitness center; Outdoor pool; Jacuzzi; Parking \$15/day; Windows open; All rooms have full amenities including data ports and high speed internet access; Children under 18 years free; Wireless is available in the rooms at no charge. <b>All changes to departure dates must be made at check-in to avoid a \$75 penalty charge.</b></p>	<p><b>Best Western Inn at Peachtree</b> (1 block) 330 West Peachtree Street Atlanta, GA 30306 404-577-6970 Single/Double - \$89 No restaurant - complimentary hot breakfast buffet served; Fitness center; Parking \$8/day; Self-service laundry; Windows open; All rooms have full amenities including data ports and high speed internet access; No tubs in rooms; Children under 17 years free; Free wireless is available in most rooms</p>
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**Attention Students**

As an alternative housing choice, Atlanta International Hostel is located in the middle of downtown. The City Bus stops in front of the hostel and the subway (MARTA) is 4 blocks up Ponce de Leon Ave. MARTA goes into the Airport near baggage claim and the Amtrak station is only 2 miles. It is approximately ¾ mile from Hyatt or Marriott.

\$19-\$55/day  
223 Ponce de Leon Avenue  
Atlanta GA, USA  
(404) 875-9449  
fax: (404) 870-0042  
website: <http://www.hostel-atlanta.com/>

Please go online or call directly for further information and reservations.

ployer forms must be received by October 25 in order to be reproduced in the *Winter Lists* for the Employment Center.

**Ordinary Advance Registration:** Those who register after October 29 and by the **ordinary** deadline of November 5 may use the housing services offered by the MMSB but are not eligible for the room lottery. You may also elect to receive your badge and program by mail in advance of the meetings. In appreciation for using our housing service (MMSB), we are holding a lottery for anyone who books a hotel room through us by November 5. The winner will receive a new HP Graphing Calculator.

**Final Advance Registration:** Those who register after November 5 and by the **final** deadline of December 10 must pick up their badges, programs, and any tickets for social events at the meetings. Unfortunately, it is not possible to provide **final** advance registrants with housing. Please note that the **December 10 deadline is firm**; any forms received after that date will be returned and full refunds issued. Please come to the registration desk in the lobby area of the Grand Hall on the exhibit level of the Hyatt Regency Atlanta.

### Hotel Reservations

Participants should be aware that the AMS and MAA contract only with facilities that are working toward being in compliance with the public accommodations requirements of the ADA.

Participants requiring hotel reservations should read the instructions on the hotel pages. Participants who did not reserve a room during advance registration and would like to obtain a room at one of the hotels listed should call the hotels directly after December 15. However, after that date the MMSB can no longer guarantee availability of rooms or special convention rates. Participants should be aware that most hotels are starting to charge a penalty fee to guests for departure changes made before or after guests have checked into their rooms. These hotels are indicated on the hotel page at [http://www.ams.org/amsmtgs/2091\\_hotel-page.html](http://www.ams.org/amsmtgs/2091_hotel-page.html). Participants should also inquire about this at check-in and make their final plans accordingly.

Participants should also be aware that it is general hotel practice in most cities to hold a nonguaranteed reservation until 6:00 p.m. only. When one guarantees a reservation by paying a deposit or submitting a credit card number as a guarantee in advance, however, the hotel usually will honor this reservation up until checkout time the following day. If the individual holding the reservation has not checked in by that time, the room is then released for sale, and the hotel retains the deposit or applies one night's room charge to the credit card number submitted.

If you hold a guaranteed reservation at a hotel but are informed upon arrival that there is no room for you, there are certain things you can request the hotel do. First, they should provide for a room at another hotel in town for that evening at no charge. (You already paid for the first night when you made your deposit.) They should pay for taxi fares to the other hotel that evening and back to the meetings the following morning. They should also pay for one telephone toll call so that you can let people know you are

not at the hotel you expected. They should make every effort to find a room for you in their hotel the following day and, if successful, pay your taxi fares to and from the second hotel so that you can pick up your baggage and bring it to the first hotel. Not all hotels in all cities follow this practice, so your request for these services may bring mixed results or none at all.

### Miscellaneous Information

**Audiovisual Equipment:** Standard equipment in all session rooms is one overhead projector and screen. (Invited 50-minute speakers are automatically provided with two overhead projectors.) Blackboards are not available. Organizers of sessions that by their nature demand additional equipment (e.g., VCR and monitor or projection panel) and in which the majority of speakers in the session require this equipment should contact the audiovisual coordinator for the meetings at the AMS office in Providence at 401-455-4140 or by email at [wsd@ams.org](mailto:wsd@ams.org) to obtain the necessary approvals. Individual speakers must consult with the session organizer(s) if additional equipment or services are needed. If your session has no organizer, please contact the audiovisual coordinator directly. All requests should be received by November 4.

Equipment requests made at the meetings most likely will not be granted because of budgetary restrictions. Unfortunately, no audiovisual equipment can be provided for committee meetings or other meetings or gatherings not on the scientific program.

**Child Care:** The American Mathematical Society and the Mathematical Association of America will be offering child-care services for the Atlanta Joint Mathematics Meetings to registered participants.

The child care will be offered through KiddieCorp Children's Program. KiddieCorp is an organization that has been providing high-quality programs for children of all ages at meetings throughout the United States and Canada since 1986. Read all about them at <http://www.kiddiecorp.com/>.

The child-care services provided at the JMM are for children ages 6 months through 12 years old. Space per day will be limited on a space-available basis. The dates and times for the program are January 5–8, 2005, 8:00 a.m. to 5:00 p.m. each day. It will be located at the Hyatt Regency Atlanta in Atlanta, GA. Parents are encouraged to bring snacks and beverages for their children, but items such as juice boxes, Cheerios, and crackers will be provided. KiddieCorp can arrange meals for children at cost plus 15%, or parents can be responsible for meals for their children.

Registration starts in September. The registration fee is \$25 per family (nonrefundable). Additional cost will be \$8 per hour per child or \$6 per hour per child for graduate students. These reduced child-care rates are made possible for the meeting participant by the American Mathematical Society and the Mathematical Association of America. Parents must be registered for the JMM to participate. Full payment is due at the time of registration with KiddieCorp. Deadline for registering is December 8, 2004.

If parents do not pick up their children at the time scheduled or by the end of the day (no later than 5:00 p.m.), they will be charged a late fee of \$5.00 per child for every 15 minutes thereafter.

Cancellations must be made to KiddieCorp prior to December 8, 2004, for a full refund. Cancellations made after that date will be subject to a 50% cancellation fee. Once the program has begun, no refunds will be issued.

This program is being offered on an experimental basis for the 2005 Atlanta meetings. Its reception at this meeting will help determine the possibility of future programs.

To register, go to <https://www.kiddiecorp.com/jmmkids.htm> or call KiddieCorp at (858) 455-1718 to request a form.

**Email Services:** Limited email access for all Joint Meeting participants will be available. The hours of operation will be published in the program.

**Information Distribution:** Tables are set up in the exhibit area for dissemination of general information of possible interest to the members and for dissemination of information of a mathematical nature not promoting a product or program for sale.

If a person or group wishes to display information of a mathematical nature promoting a product or program for sale, they may do so in the exhibit area at the Joint Books, Journals, and Promotional Materials exhibit for a fee of \$58 (posters are slightly higher) per item. Please contact the exhibits manager, MMSB, P.O. Box 6887, Providence, RI 02940, for further details.

The administration of these tables is in the hands of the AMS-MAA Joint Meetings Committee, as are all arrangements for Joint Mathematics Meetings.

**Local Information:** See [www.atlanta.net/visitors/index.asp](http://www.atlanta.net/visitors/index.asp) for information about the city.

**Petition Table:** At the request of the AMS Committee on Human Rights of Mathematicians, a table will be made available in the exhibit area at which petitions on behalf of named individual mathematicians suffering from human rights violations may be displayed and signed by meetings participants acting in their individual capacities. For details contact the director of meetings in the Providence office at 401-455-4137 or by email at [dms@ams.org](mailto:dms@ams.org).

Signs of moderate size may be displayed at the table but must not represent that the case of the individual in question is backed by the Committee on Human Rights unless it has, in fact, so voted. Volunteers may be present at the table to provide information on individual cases, but notice must be sent at least seven days in advance of the meetings to the director of meetings in the Providence office. Because space is limited, it may also be necessary to limit the number of volunteers present at the table at any one time. The Committee on Human Rights may delegate a person to be present at the table at any or all times, taking precedence over other volunteers.

Any material that is not a petition (e.g., advertisements, résumés) will be removed by the staff. At the end of the exhibits on Saturday, any material on the table will be discarded, so individuals placing petitions on the table should be sure to remove them prior to the close of exhibits.

**Telephone Messages:** The most convenient method for leaving a message is to do so with the participant's hotel. Another method would be to leave a message at the meetings registration desk from January 5 through 8 during the hours that the desk is open. These messages will be posted on the Math Meetings Message Board; however, staff at the desk will try to locate a participant in the event of a bona fide emergency. The telephone number will be published in the program and daily newsletter.

### Discounted Air Travel

Atlanta is on Eastern Standard Time. Hartsfield Atlanta International Airport (ATL) is located about twelve miles south of the Atlanta metropolitan area and is served by all major airlines.

The official airline for the meetings is **Delta**, which uses Atlanta as its major hub. Given the volatility in airfares because of "fare wars", we cannot guarantee that these will be the lowest fares when you make your arrangements. However, we strongly urge participants to make use of this special deal if at all possible, as the AMS and MAA can earn complimentary tickets. These tickets are used to send meetings staff (not officers or other staff) to the Joint Mathematics Meetings, thereby keeping the costs of the meetings (and registration fees) down.

The following specially negotiated rates are available only for these meetings and exclusively to mathematicians and their families for the period December 30, 2004–January 11, 2005. Other restrictions/discounts may apply, and seats are limited.

**Delta** is offering

- the most deeply discounted online fares, available through the meeting homepage at [www.ams.org/amsmtgs/2091\\_intro.html](http://www.ams.org/amsmtgs/2091_intro.html). Click on the Delta icon on the bottom right of the page. Once you select your itinerary, click on "negotiated rate" to see if your flight qualifies for an extra meeting discount.

- a 5% discount off published round-trip fares within the continental U.S., excluding A, D, I, U, and T classes of service.

- a 10% discount off Delta's domestic published unrestricted round-trip coach fare (Y06/YR06) rates. No advance reservations or ticketing is required.

- an additional 5% bonus discount if you purchase your ticket 60 days or more prior to your departure through Meeting Network Reservations (800-241-6760, 8:00 a.m. to 11:00 p.m. Eastern Standard Time, Monday through Sunday; cite **File #205778A**) or your travel agent. This discount is not available for online purchases.

**Ground Transportation from the Airport:** MARTA offers rail service directly from the airport to Peachtree Center, very close to both the Hyatt and Marriott hotels for \$1.75 each way, from 5:00 a.m. until 1:00 a.m. Mondays through Fridays, and 6:00 a.m. until 12:20 a.m. weekends and holidays. Trains run every 10 minutes on weekdays and every 15 minutes on weekends and holidays. The trip takes about 15 minutes. Call 404-848-4711 for personalized help from MARTA to plan your route.

**Taxis** are available outside the baggage claim area. The approximate fare is \$25 to downtown for one person (\$13 each for two people).

**The Atlanta Link** (shuttle service) offers airport-to-door service. Vans usually depart every 15 minutes from 6:00 a.m. to midnight. The fare to downtown is \$16 one way or \$28 round trip. Reservations are not necessary for the downtown area. For details or more information call 404-524-3400.

**Driving directions to the Marriott and Hyatt:** From the South (airport): Go north on I-85 about twelve miles. Take the International Blvd. exit (248C) to Peachtree Center Ave. Turn right and go two blocks; the main Marriott entrance is on the right, and the Hyatt motor lobby entrance is on the left.

From the North: Take I75/85 south. Take the Courtland St./Georgia State University exit (249A). Take a right onto International Blvd. and turn right again onto Peachtree Center Ave. Follow as above.

### Discounted Car Rental

**Avis Rent A Car** is the official car rental company for the meeting. All car rentals include unlimited free mileage and are available to renters 25 years and older. Avis offers special convention rental rates effective December 29, 2004-January 15, 2005:

Car Type	Daily	Weekly	Weekend Daily
Subcompact	\$46	\$194	\$26
Compact	47	204	27
Intermediate	49	216	29
Full-Size 2-Door	51	237	36
Full-Size 4-Door	53	237	36
Premium	58	247	38
Luxury, Minivan, Convertible, or Sport Utility	71	309	72

Should a lower qualifying rate become available, Avis is pleased to present a 5% discount off the lower qualifying rate or the meeting rate, whichever is lowest. Rates do not include any state or local surcharges, tax, optional coverages, or gas refueling charges. Renters must meet Avis's age, driver, and credit requirements. Reservations can be made by calling 800-331-1600; cite **group ID number J098887**. Reservations can also be made online at [www.avis.com](http://www.avis.com).

### Weather

The temperature ranges from a nighttime low of about 33 °F. to a daytime high of about 52 °F. Average precipitation in January is 5 inches, and light snow is a possibility. Visit your favorite weather site for up-to-the-minute forecasts, or see <http://asp.usatoday.com/weather/CityForecast.aspx?LocationID=USAGA0028&ps=L1>.

# Bowling Green, Kentucky

*Western Kentucky University*

**March 18–19, 2005**

*Friday–Saturday*

### Meeting #1004

Southeastern Section

Associate secretary: John L. Bryant

Announcement issue of *Notices*: January 2005

Program first available on AMS website: February 3, 2005

Program issue of electronic *Notices*: March 2005

Issue of *Abstracts*: Volume 26, Issue 2

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
November 30, 2004

For abstracts: January 25, 2005

### Invited Addresses

**Bennett Chow**, University of California San Diego, *Title to be announced*.

**Robert McCann**, University of Toronto, *Title to be announced*.

**Susan Montgomery**, University of Southern California, *Title to be announced*.

### Special Sessions

*Advances in the Study of Wavelets and Multiwavelets* (Code: SS 5A), **Douglas P. Hardin**, Vanderbilt University, and **Bruce Kessler**, Western Kentucky University.

*Commutative Ring Theory* (Code: SS11A), **Michael C. Axtell**, Wabash College, and **Joe Alyn Stickles Jr.**, University of Evansville.

*Dynamic Equations on Time Scales and Applications* (Code: SS 3A), **Ferhan M. Atici** and **Daniel C. Biles**, Western Kentucky University, and **Billur Kaymakçalan**, Georgia Southern University.

*Graph Theory* (Code: SS 2A), **Mustafa Atici**, Western Kentucky University.

*Hopf Algebras and Related Topics*, (Code: SS10A), **David E. Radford**, University of Illinois at Chicago, and **Bettina Richmond**, Western Kentucky University.

*Knot Theory and its Applications* (Code: SS 4A), **Yuanan Diao**, University of North Carolina Charlotte, and **Claus Ernst**, Western Kentucky University.

*L-functions* (Code: SS 9A), **Heather Russell**, **Nilabh Sanat**, and **Dominic Lanphier**, Western Kentucky University.

*Numerical Analysis, Approximation and Computational Complexity: Interdisciplinary Aspects* (Code: SS 1A), **David**

**Benko**, Western Kentucky University, and **Steven B. Damelin**, Georgia Southern University.

*Representation Theory* (Code: SS 6A), **Markus Hunziker**, University of Georgia.

*Semigroups of Operators and Applications* (Code: SS 7A), **Khristo Boyadzhiev**, Ohio Northern University, **Lan Nguyen**, Western Kentucky University, and **Quoc-Phong Vu**, Ohio University.

*Topology, Convergence, and Order, in honor of Darrell Kent* (Code: SS 8A), **Gary Richardson**, University of Central Florida, and **Thomas A. Richmond**, Western Kentucky University.

## Newark, Delaware

*University of Delaware*

**April 2–3, 2005**

*Saturday–Sunday*

**Meeting #1005**

Eastern Section

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: February 2005

Program first available on AMS website: February 17, 2005

Program issue of electronic *Notices*: April 2005

Issue of *Abstracts*: Volume 26, Issue 2

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
December 14, 2004

For abstracts: February 8, 2005

### Invited Addresses

**Xiu Xiong Chen**, University of Wisconsin, *Title to be announced.*

**Anna Gilbert**, AT&T Labs—Research, *Title to be announced.*

**Alex Lubotzky**, Hebrew University of Jerusalem, *Title to be announced.*

**Lorenz Schwachhoefer**, University of Dortmund, *Title to be announced.*

### Special Sessions

*Asymptotic Behavior of Evolution Equations* (Code: SS 4A), **Gaston M. N'Guerekata**, Morgan State University, and **Nguyen Van Minh**, James Madison University.

*Designs, Codes, and Geometries* (Code: SS 5A), **James A. Davis**, University of Richmond, **Keith E. Mellinger**, Mary Washington College, and **Qing Xiang**, University of Delaware.

*Homotopy Theory (in Honor of Donald M. Davis's and Martin Bendersky's 60th Birthdays)* (Code: SS 1A), **Kenneth G. Monks**, University of Scranton, and **W. Stephen Wilson**, Johns Hopkins University.

*Mathematical Methods in Electromagnetic Wave Propagation* (Code: SS 3A), **Fioralba Cakoni** and **Peter B. Monk**, University of Delaware.

*Singular Analysis and Spectral Theory of Partial Differential Equations* (Code: SS 2A), **Juan B. Gil**, Pennsylvania State University, Altoona, and **Gerardo A. Mendoza**, Temple University.

## Lubbock, Texas

*Texas Tech University*

**April 8–10, 2005**

*Friday–Sunday*

**Meeting #1006**

Central Section

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: February 2005

Program first available on AMS website: February 24, 2005

Program issue of electronic *Notices*: April 2005

Issue of *Abstracts*: Volume 26, Issue 3

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
December 21, 2004

For abstracts: February 15, 2005

### Invited Addresses

**Nikolai Ivanov**, Michigan State University, *Title to be announced.*

**Mattias Jonsson**, University of Michigan, *Title to be announced.*

**Nicolas Monod**, University of Chicago, *Title to be announced.*

**Hee Oh**, California Institute of Technology, *Title to be announced.*

### Special Sessions

*Classical and Differential Galois Theory* (Code: SS 3A), **Lourdes Juan** and **Arne Ledet**, Texas Tech University, and **Andy R. Magid**, University of Oklahoma.

*Differential Geometry and Its Applications* (Code: SS 2A), **Josef F. Dorfmeister**, Munich University of Technology, **Magdalena D. Toda**, Texas Tech University, and **Hongyou Wu**, Northern Illinois University.

*Homological Algebra and Its Applications* (Code: SS 4A), **Alex Martsinkovsky**, Northeastern University, and **Mara D. Neusel**, Texas Tech University.

*Real Algebraic Geometry* (Code: SS 6A), **Anatoly Korshagin** and **David Weinberg**, Texas Tech University.

*Recent Advances in Complex Function Theory* (Code: SS 5A), **Brock Williams**, **Roger W. Barnard**, and **Kent Pearce**, Texas Tech University.

*Topology of Continua* (Code: SS 1A), **Wayne Lewis**, Texas Tech University.

*Topology of Dynamical Systems* (Code: SS 7A), **Brian Raines**, Baylor University.

## Santa Barbara, California

*University of California Santa Barbara*

**April 16–17, 2005**

*Saturday–Sunday*

### Meeting #1007

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: February 2005

Program first available on AMS website: March 3, 2005

Program issue of electronic *Notices*: April 2005

Issue of *Abstracts*: Volume 26, Issue 3

### Deadlines

For organizers: September 16, 2004

For consideration of contributed papers in Special Sessions:  
December 28, 2004

For abstracts: February 22, 2005

### Invited Addresses

**Mei-Chu Chang**, University of California Riverside, *Title to be announced*.

**Mischa Kapovich**, University of California Davis, *Title to be announced*.

**Mihai Putinar**, University of California Santa Barbara, *Title to be announced*.

**James Sethian**, University of California Berkeley, *Title to be announced*.

### Special Sessions

*Automorphisms of Surfaces* (Code: SS 4A), **Anthony Weaver**, Bronx Community College of the City University of New York.

*Dynamical Systems in Neuroscience* (Code: SS 1A), **Eugene M. Izhikevich**, The Neurosciences Institute.

*Geometric Methods in Three Dimensions* (Code: SS 6A), **Daryl Cooper**, **David Darren Long**, and **Martin G. Scharlemann**, University of California Santa Barbara.

*History of Mathematics* (Code: SS 2A), **Shawnee L. McMurrin**, California State University San Bernardino, and **James J. Tattersall**, Providence College.

*Noncommutative Geometry and Algebra* (Code: SS 5A), **Kenneth R. Goodearl**, University of California Santa Barbara, **J. T. Stafford**, University of Michigan, and **J. J. Zhang**, University of Washington.

*Recent Advances in Combinatorial Number Theory* (Code: SS 3A), **Mei-Chu Chang**, University of California Riverside, and **Van Ha Vu**, University of California San Diego.

*Representation Theory of Algebras* (Code: SS 7A), **Alex Martsinkovsky**, Northeastern University, **Dan Zacharia**, Syracuse University, and **Birge K. Huisgen-Zimmermann**, University of California Santa Barbara.

## Mainz, Germany

**June 16–19, 2005**

*Thursday–Sunday*

### Meeting #1008

*Joint International Meeting with the Deutsche Mathematiker-Vereinigung (DMV) and the Oesterreichische Mathematische Gesellschaft (OMG)*

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: February 2005

Program first available on AMS website: Not applicable

Program issue of electronic *Notices*: Not applicable

Issue of *Abstracts*: Not applicable

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

### Invited Addresses

**Helene Esnault**, University of Essen, *Title to be announced*.

**Richard Hamilton**, Columbia University, *Title to be announced*.

**Michael J. Hopkins**, Massachusetts Institute of Technology, *Title to be announced*.

**Christian Krattenthaler**, University of Lyon-I, *Title to be announced*.

**Frank Natterer**, University of Muenster, *Title to be announced*.

**Horng-Tzer Yau**, New York University and Stanford University, *Title to be announced*.

### Special Sessions

*Algebraic Combinatorics*, **Patricia Hersh**, University of Michigan, **Christian Krattenthaler**, University of Lyon-I, and **Volkmar Welker**, Philipps University Marburg.

*Algebraic Geometry*, **Yuri Tschinkel**, Georg-August-Universität Göttingen, and **Brendan E. Hassett**, Rice University.

*Discrete Geometry*, **Jacob Eli Goodman**, The City College of New York (CUNY), **Emo Welzl**, Eidgen Technische Hochschule, and **Gunter M. Ziegler**, Technical University of Berlin.

*Functional Analytic and Complex Analytic Methods in Linear Partial Differential Equations*, **R. Meise**, University of

Dusseldorf, **B. A. Taylor**, University of Michigan, and **Dietmar Vogt**, University of Wuppertal.

*History of Mathematics: Mathematics and War*, **Thomas W. Archibald**, Acadia University, **John H. McCleary**, Vassar College, **Moritz Epple**, University of Stuttgart, and **Norbert Schappacher**, Technische Universität Darmstadt.

*Homotopy Theory*, **Paul G. Goerss**, Northwestern University, **Hans-Werner Henn**, Institut de Recherche Mathématique Avancée, Strasbourg, and **Stefan Schwede**, Universität Bonn.

*Hopf Algebras and Quantum Groups*, **Susan Montgomery**, University of Southern California, and **Hans-Jürgen Schneider**, University of Munich.

*Mathematics Education*, **Gunter Torner**, Universität Duisburg-Essen, and **Alan Schoenfeld**, School of Education, Berkeley.

*Nonlinear Waves*, **Herbert Koch**, University of Dortmund, and **Daniel I. Tataru**, University of California Berkeley.

*Stochastic Analysis on Metric Spaces*, **Laurent Saloff-Coste**, Cornell University, **Karl-Theodor Sturm**, University of Bonn, and **Wolfgang Woess**, Graz Technical University.

*Topics in Applied Mathematics and Mechanics: Mathematical Control Theory and Numerical Methods*, **Peter Benner**, Fakultät für Mathematik.

*Topics in Applied Mathematics and Mechanics: Mechanics*, **Friedrich Pfeiffer**, Technical University of Munich.

*Topics in Applied Mathematics and Mechanics: Multiscale Problems, Oscillations in PDEs, and Homogenization*, **Alexander Mielke**, University of Hannover.

*Topics in Applied Mathematics and Mechanics: Numerical PDEs, Equations with Inherent Conditions*, **Rolf Jeltsch**, Eidgen Technische Hochschule, **Maria Lukacova**, Technical University of Brno, and **Mac Hyman**, Los Alamos National Laboratory.

*Topics in Applied Mathematics and Mechanics: Algebraic Approaches to Preconditioning*, **Heike Fassbender**, Technical University of Braunschweig, and **Andreas Frommer**, University of Wuppertal.

*Topology of Manifolds*, **Matthias Kreck**, University of Heidelberg, and **Andrew Ranicki**, University of Edinburgh.

## Annandale-on-Hudson, New York

*Bard College*

**October 8–9, 2005**

*Saturday–Sunday*

**Meeting #1009**

Eastern Section

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: August 2005

Program first available on AMS website: August 25, 2005

Program issue of electronic *Notices*: October 2005

Issue of *Abstracts*: Volume 26, Issue 4

**Deadlines**

For organizers: March 8, 2005

For consideration of contributed papers in Special Sessions:  
June 21, 2005

For abstracts: August 16, 2005

**Invited Addresses**

**Persi Diaconis**, Stanford University, *Title to be announced* (Erdős Memorial Lecture).

## Johnson City, Tennessee

*East Tennessee State University*

**October 15–16, 2005**

*Saturday–Sunday*

**Meeting #1010**

Southeastern Section

Associate secretary: John L. Bryant

Announcement issue of *Notices*: August 2005

Program first available on AMS website: September 1, 2005

Program issue of electronic *Notices*: October 2005

Issue of *Abstracts*: Volume 26, Issue 4

**Deadlines**

For organizers: March 15, 2005

For consideration of contributed papers in Special Sessions:  
June 28, 2005

For abstracts: August 23, 2005

## Lincoln, Nebraska

*University of Nebraska in Lincoln*

**October 21–22, 2005**

*Friday–Saturday*

**Meeting #1011**

Central Section

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: August 2005

Program first available on AMS website: September 8, 2005

Program issue of electronic *Notices*: October 2005

Issue of *Abstracts*: Volume 26, Issue 4

**Deadlines**

For organizers: March 22, 2005

For consideration of contributed papers in Special Sessions:  
July 5, 2005

For abstracts: August 30, 2005

### Invited Addresses

**Howard Masur**, University of Illinois at Chicago, *Title to be announced.*

**Alejandro Uribe**, University of Michigan, *Title to be announced.*

**Judy Walker**, University of Nebraska, *Title to be announced.*

**Jack Xin**, University of Texas, *Title to be announced.*

### Special Sessions

*Algebraic Geometry* (Code: SS 1A), **Brian Harbourne**, University of Nebraska-Lincoln, and **Bangere P. Purnaprajna**, University of Kansas.

## Eugene, Oregon

*University of Oregon*

**November 12–13, 2005**

*Saturday–Sunday*

### Meeting #1012

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: September 2005

Program first available on AMS website: September 29, 2005

Program issue of electronic *Notices*: November 2005

Issue of *Abstracts*: Volume 26, Issue 4

### Deadlines

For organizers: April 12, 2005

For consideration of contributed papers in Special Sessions:  
July 26, 2005

For abstracts: September 20, 2005

## Taiwan

**December 14–18, 2005**

*Wednesday–Sunday*

### Meeting #1013

*First Joint International Meeting between the AMS and the Taiwanese Mathematical Society.*

Associate secretary: John L. Bryant

Announcement issue of *Notices*: May 2005

Program first available on AMS website: Not applicable

Program issue of electronic *Notices*: Not applicable

Issue of *Abstracts*: Not applicable

### Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

## San Antonio, Texas

*Henry B. Gonzalez Convention Center*

**January 12–15, 2006**

*Thursday–Sunday*

*Joint Mathematics Meetings, including the 112th Annual Meeting of the AMS, 89th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), the winter meeting of the Association for Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: John L. Bryant

Announcement issue of *Notices*: October 2005

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: January 2006

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: April 12, 2005

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

For summaries of papers to MAA organizers: To be announced

## Durham, New Hampshire

*University of New Hampshire*

**April 22–23, 2006**

*Saturday–Sunday*

Southeastern Section

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: September 22, 2005

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

# San Francisco, California

*San Francisco State University*

**April 29–30, 2006**

*Saturday–Sunday*  
Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

# New Orleans, Louisiana

*New Orleans Marriott and Sheraton New Orleans Hotel*

**January 4–7, 2007**

*Thursday–Sunday*

*Joint Mathematics Meetings, including the 113th Annual Meeting of the AMS, 90th Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), the winter meeting of the Association for Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: October 2006

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: January 2007

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: April 4, 2006

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

For summaries of papers to MAA organizers: To be announced

# San Diego, California

*San Diego Convention Center*

**January 6–9, 2008**

*Sunday–Wednesday*

*Joint Mathematics Meetings, including the 114th Annual Meeting of the AMS, 91st Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).*

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: October 2007

Program first available on AMS website: November 1, 2007

Program issue of electronic *Notices*: January 2008

Issue of *Abstracts*: Volume 29, Issue 1

## Deadlines

For organizers: April 6, 2007

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

For summaries of papers to MAA organizers: To be announced

# Washington, District of Columbia

*Marriott Wardman Park Hotel and Omni Shoreham Hotel*

**January 7–10, 2009**

*Wednesday–Saturday*

*Joint Mathematics Meetings, including the 115th Annual Meeting of the AMS, 92nd Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).*

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: October 2008

Program first available on AMS website: November 1, 2008

Program issue of electronic *Notices*: January 2009

Issue of *Abstracts*: Volume 30, Issue 1

## Deadlines

For organizers: April 7, 2008

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

For summaries of papers to MAA organizers: To be announced

## San Francisco, California

*Moscone Center West and the San Francisco Marriott*

**January 6–9, 2010**

*Wednesday–Saturday*

*Joint Mathematics Meetings, including the 116th Annual Meeting of the AMS, 93rd Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).*

Associate secretary: John L. Bryant

Announcement issue of *Notices*: October 2009

Program first available on AMS website: November 1, 2009

Program issue of electronic *Notices*: January 2010

Issue of *Abstracts*: Volume 31, Issue 1

### **Deadlines**

For organizers: April 5, 2009

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

For summaries of papers to MAA organizers: To be announced

## New Orleans, Louisiana

*New Orleans Marriott and Sheraton New Orleans Hotel*

**January 3–8, 2011**

*Monday–Saturday*

*Joint Mathematics Meetings including the 117th Annual Meeting of the AMS, 94th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).*

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: October 2010

Program first available on AMS website: November 1, 2010

Program issue of electronic *Notices*: January 2011

Issue of *Abstracts*: Volume 32, Issue 1

### **Deadlines**

For organizers: April 2, 2010

For consideration of contributed papers in Special Sessions:  
To be announced

For abstracts: To be announced

For summaries of papers to MAA organizers: To be announced

MEETINGS AND CONFERENCES