
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.

Columbus, Ohio

Ohio State University

September 21–23, 2001

Meeting #969

Central Section

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: June 2001

Program first available on AMS website: August 9, 2001

Program issue of electronic *Notices*: October 2001

Issue of *Abstracts*: Volume 22, Issue 3

Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: Expired

Invited Addresses

Alex Eskin, University of Chicago, *Billiards in rational polygons*.

Dennis Gaitsgory, Harvard University, *On the geometric Langlands conjecture*.

Yakov B. Pesin, Pennsylvania State University, *"Fubini's nightmare" in smooth ergodic theory*.

Thaleia Zariphopoulou, University of Texas at Austin, *Pricing and risk management in incomplete markets*.

Special Sessions

L² Methods in Algebraic and Geometric Topology, **Dan Burghelea** and **Michael Davis**, Ohio State University.

Algebraic Cycles, Algebraic Geometry, **Roy Joshua**, Ohio State University.

Coding Theory and Designs, **Tom Dowling**, Ohio State University, and **Dijen Ray-Chaudhuri**.

Commutative Algebra, **Evan Houston**, University of North Carolina, Charlotte, and **Alan Loper**, Ohio State University.

Cryptography and Computational and Algorithmic Number Theory, **Eric Bach**, University of Wisconsin-Madison, and **Jonathan Sorenson**, Butler University.

Differential Geometry and Applications, **Andrzej Derdzinski** and **Fangyang Zheng**, Ohio State University.

Fractals, **Gerald Edgar**, Ohio State University.

Group Theory, **Koichiro Harada**, **Surinder Sehgal**, and **Ronald Solomon**, Ohio State University.

Multivariate Generating Functions and Automatic Computation, **Robin Pemantle**, Ohio State University.

Proof Theory and the Foundations of Mathematics, **Timothy Carlson**, Ohio State University.

Quantum Topology, **Thomas Kerler**, Ohio State University.

Rings and Modules, **S. K. Jain**, Ohio University, and **Tariq Rizvi**, Ohio State University.

Spectral Theory of Schrödinger Operators, **Boris Mityagin**, Ohio State University, and **Sergei Novikov**, University of Maryland.

Stochastic Modeling in Financial Mathematics, **Ronnie Sircar**, Princeton University.

Chattanooga, Tennessee

University of Tennessee, Chattanooga

October 5–6, 2001

Meeting #970

Southeastern Section

Associate secretary: John L. Bryant

Announcement issue of *Notices*: August 2001

Program first available on AMS website: August 23, 2001

Program issue of electronic *Notices*: November 2001

Issue of *Abstracts*: Volume 22, Issue 3

Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: Expired

Invited Addresses

Susanne C. Brenner, University of South Carolina, Columbia, *Additive multigrid theory*.

Edward B. Saff, University of South Florida, *Logarithmic potentials with external fields*.

Joel H. Spencer, New York University, *Erdős magic*.

Roberto Triggiani, University of Virginia, *Differential geometric methods in the control of partial differential equations*.

Special Sessions

Applications of Partial Differential Equations in Geometric Analysis (Code: AMS SS N1), **Bo Guan** and **Changyou Wang**, University of Tennessee, Knoxville.

Asymptotic Behavior of Solutions of Differential and Difference Equations (Code: AMS SS B1), **John R. Graef**, University of Tennessee, Chattanooga, and **Chuanxi Qian**, Mississippi State University.

Commutative Ring Theory (Code: AMS SS A1), **David F. Anderson** and **David E. Dobbs**, University of Tennessee, Knoxville.

Differential Geometric Methods in the Control of Partial Differential Equations (Code: AMS SS L1), **Walter Littman**, University of Minnesota, and **Roberto Triggiani**, University of Virginia.

Mathematical and Numerical Aspects of Wave Propagation (Code: AMS SS F1), **Boris P. Belinskiy** and **Yongzhi Xu**, University of Tennessee, Chattanooga.

New Directions in Combinatorics and Graph Theory (Code: AMS SS C1), **Teresa Haynes** and **Debra J. Knisley**, East Tennessee State University.

Numerical Analysis and Approximation Theory (Code: AMS SS G1), **Tian-Xiao He**, Illinois Wesleyan University, and **Don Hong**, Eastern Tennessee State University.

Numerical Methods for PDEs (Code: AMS SS J1), **Susanne C. Brenner**, University of South Carolina, and **Craig C. Douglas**, University of Kentucky.

Real Analysis (Code: AMS SS D1), **Paul D. Humke**, Saint Olaf College, **Harry I. Miller**, University of Tennessee, Chattanooga, and **Clifford E. Weil**, Michigan State University.

Recent Advances in Optimization Methods (Code: AMS SS H1), **Jerald P. Dauer** and **Aniekan Ebiefung**, University of Tennessee, Chattanooga.

Sphere-Related Approximation and Applications (Code: AMS SS M1), **Edward B. Saff**, University of South Florida, and **Larry L. Schumaker**, Vanderbilt University.

Topics in Geometric Function Theory (Code: AMS SS E1), **Lelia Miller-Van Wieren**, Penn State Berks Campus, and **Bruce P. Palka**, University of Texas at Austin.

Variational Problems for Free Surface Interfaces (Code: AMS SS K1), **John E. McCuan**, Georgia Institute of Technology, **Thomas I. Vogel**, Texas A&M University, and **Henry C. Wente**, University of Toledo.

Williamstown, Massachusetts

Williams College

October 13–14, 2001

Meeting #971

Eastern Section

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: August 2001

Program first available on AMS website: August 30, 2001

Program issue of electronic *Notices*: November 2001

Issue of *Abstracts*: Volume 22, Issue 4

Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: Expired

Invited Addresses

Hubert Bray, Massachusetts Institute of Technology, *Title to be announced*.

Robin Forman, Rice University, *Title to be announced*.

Emma Previato, Boston University, *Theta functions, old and new*.

Yisong Yang, Polytechnic University, *Harmonic maps, gauge fields, and magnetic vortices*.

Special Sessions

Abelian Varieties (Code: AMS SS K1), **Alexander Polishchuk** and **Emma Previato**, Boston University.

Algebraic and Topological Combinatorics (AMS SS D1), **Eva Maria Feichtner**, ETH, Zürich, Switzerland, and **Dmitry N. Kozlov**, KTH, Stockholm, Sweden.

Commutative Algebra (Code: AMS SS C1), **Susan R. Loepf**, Williams College, and **Graham J. Leuschke**, University of Kansas.

Diophantine Problems (Code: AMS SS F1), **Edward B. Burger**, Williams College, and **Jeffrey D. Vaaler**, University of Texas at Austin.

Ergodic Theory (Code: AMS SS H1), **Cesar Silva**, Williams College.

Geometry and Topology of the Universe (Code: AMS SS E1), **Colin C. Adams**, Williams College, **Glenn Starkmann**, Case Western Reserve University, and **Jeffrey R. Weeks**, Canton, New York.

Harmonic Analysis Since the Williamstown Conference of 1978 (Code: AMS SS G1), **Janine E. Wittwer**, Williams College, and **David Cruz-Urbe**, Trinity College.

History of Mathematics (Code: AMS SS A1), **Glen R. Van Brummelen**, Bennington College, **Della D. Fenster**, Richmond University, **James J. Tattersall**, Providence College, and **Shawnee L. McMurrin**, California State University, San Bernardino.

Integrable Systems and Quantum Groups (Code: AMS SS L1), **Pavel I. Etingof**, Massachusetts Institute of Technology, and **Emma Previato**, Boston University.

Nonlinear PDEs and Calculus of Variations (Code: AMS SS J1), **Yisong Yang**, Polytechnic University, and **Fanghua Lin** and **Nader Masmoudi**, Courant Institute, New York University.

Number Theory, Holomorphic Dynamics, and Algebraic Dynamics (Code: AMS SS B1), **Robert L. Benedetto**, University of Rochester, **John W. Milnor**, IMS and SUNY at Stony Brook, and **Kevin M. Pilgrim**, University of Missouri at Rolla.

Irvine, California

University of California Irvine

November 10–11, 2001

Meeting #972

Western Section

Associate secretary: Bernard Russo

Announcement issue of *Notices*: September 2001

Program first available on AMS website: September 27, 2001

Program issue of electronic *Notices*: December 2001

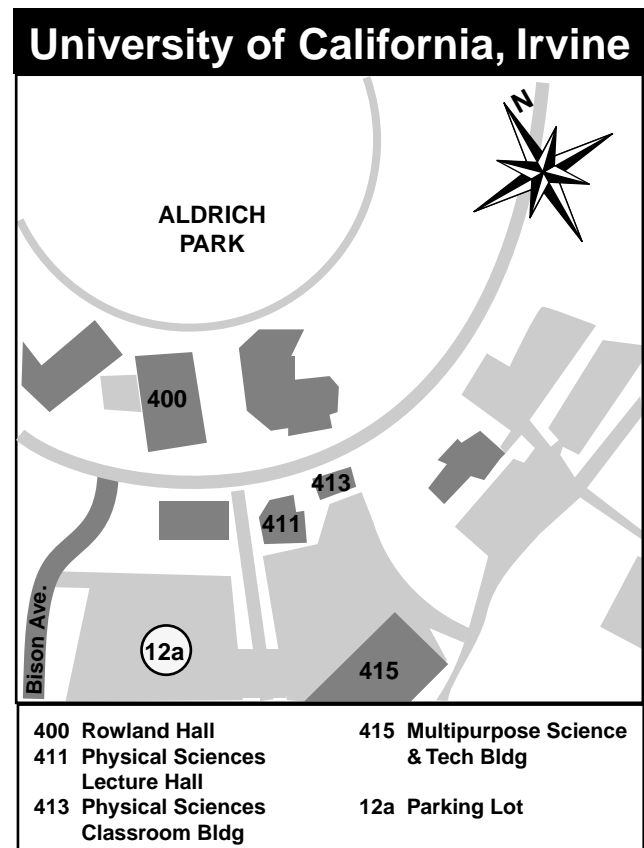
Issue of *Abstracts*: Volume 22, Issue 4

Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: September 18, 2001



Invited Addresses

William Duke, University of California Los Angeles, *Title to be announced.*

Grigory Mikhalkin, University of Utah, *Title to be announced.*

Gigliola Staffilani, Stanford University, *Title to be announced.*

Jonathan Weitsman, University of California Santa Cruz, *Title to be announced.*

Special Sessions

Dynamical Systems of Billiard Type (Code: AMS SS L1), **Marek Rychlik**, University of Arizona.

Extremal Metrics and Moduli Spaces (Code: AMS SS F1), **Steven Bradlow**, University of Illinois, Urbana-Champaign, **Claude LeBrun**, State University of New York, Stony Brook, and **Yat Sun Poon**, University of California Riverside.

Groups and Covering Spaces in Algebraic Geometry (Code: AMS SS D1), **Michael Fried**, University of California Irvine, and **Helmut Voelklein**, University of Florida.

Harmonic Analyses and Partial Differential Equations (Code: AMS SS H1), **Gustavo Ponce**, University of California Santa Barbara, and **Gigliola Staffilani**, Stanford University.

Harmonic Analysis and Complex Analysis (Code: AMS SS G1), **Xiaojun Huang**, Rutgers University, and **Song-Ying Li**, University of California Irvine.

Operator Spaces, Operator Algebras, and Applications (Code: AMS SS J1), **Marius Junge**, University of Illinois, Urbana-Champaign, and **Timur Oikhberg**, University of Texas and University of California Irvine.

Partial Differential Equations and Applications (Code: AMS SS C1), **Edriss S. Titi**, University of California Irvine.

Quantum Topology (Code: AMS SS A1), **Louis Kauffman**, University of Illinois at Chicago, **Jozef Przytycki**, George Washington University, and **Fernando Souza**, University of Waterloo.

Random and Deterministic Schrödinger Operators (Code: AMS SS E1), **Svetlana Jitomirskaya** and **Abel Klein**, University of California Irvine.

Symplectic Geometry (Code: AMS SS M1), **Jonathan Weitsman**, University of California San Diego.

Topology of Algebraic Varieties (Code: AMS SS B1), **Eriko Hironaka**, Florida State University, and **Grigory Mikhalkin**, University of Utah.

San Diego, California

San Diego Convention Center

January 6–9, 2002

Meeting #973

Joint Mathematics Meetings, including the 108th Annual Meeting of the AMS, 85th Meeting of the Mathematical Association of America (MAA), with minisymposia and other special events contributed by the Society for Industrial and Applied Mathematics (SIAM), the 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 2001

Program first available on AMS website: November 1, 2001

Program issue of electronic *Notices*: January 2002

Issue of *Abstracts*: Volume 23, Issue 1

Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: October 2, 2001

For summaries of papers to MAA organizers: September 14, 2001

Joint MAA-AMS Invited Addresses

Dennis DeTurck, University of Pennsylvania, *Helicity of vector fields in geometry, biology, and plasma physics*, Sunday, 11:10 a.m.

Hendrik W. Lenstra Jr., University of California Berkeley, *Harmonic numbers and the ABC-conjecture*; Tuesday, 11:10 a.m.

AMS Committee on Science Policy-MAA Science Policy Committee Government Speaker, Tuesday, 4:20 p.m. Speaker to be announced.

Joint Special Sessions

History of Mathematics (Code: AMS SS A1), **Thomas Archibald**, Acadia University, and **David E. Zitarelli**, Temple University (AMS-MAA); Tuesday and Wednesday mornings and afternoons.

Mathematics and Education Reform (Code: AMS SS Q1), **William H. Barker**, Bowdoin College, **Jerry L. Bona**, University of Texas at Austin, **Naomi D. Fisher**, University of Illinois at Chicago, and **Kenneth C. Millett**, University of California Santa Barbara (AMS-MAA); Sunday and Monday mornings and afternoons.

Set Theory and Classification Problems (Code: AMS SS DD1), **Simon R. Thomas**, Rutgers University (AMS-ASL); Sunday morning and Sunday and Monday afternoons.

Other Joint Sessions

Research on TAs: Background, Beliefs, Attitude, and Practice, Monday, 1:00 p.m.–2:30 p.m., organized by **Bruce Reznick**, University of Illinois at Urbana-Champaign. Over the past decade, many models for TA preparation and development have been described and discussed. Programs based on these models have had a positive impact on the experience of graduate teaching assistants and on their students. More recently, researchers in mathematics education have been studying the way that TA attitudes towards mathematics and its teaching affect their instruction. Researchers have gained a deeper understanding of how new TAs view teaching and learning, and what is needed to help new TAs become effective teachers. This research has the potential to suggest modifications and adaptations of existing models as well as the design of the next generation of programs. The panelists will present relevant research findings and lead a discussion about what the results may mean for TA preparation and development programs. The session is sponsored by the AMS-MAA Committee on Teaching Assistants and Part-Time Instructors (TA/PTI).

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 Monday. 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 prizes include the Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics, the Chauvenet Prize, the Beckenbach Book Prize, and Certificates of Meritorious Service. The AMS will announce the winners of the Bôcher Memorial Prize, Frank Nelson Cole Prize in Number Theory, Levi L. Conant Prize, the Award for Distinguished Public Service, 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 also will be the venue for the announcement of the Joint Policy Board for Mathematics Communication Award.

108th Annual Meeting of the AMS

AMS Invited Addresses

Michael V. Berry, Bristol University, *Title to be announced* (AMS Josiah Willard Gibbs Lecture), Sunday, 8:30 p.m.

Felix E. Browder, Rutgers University, *Reflections on the future of mathematics* (AMS Retiring Presidential Address), Sunday, 10:05 a.m.

L. Craig Evans, University of California Berkeley, *Titles to be announced* (AMS Colloquium Lectures), Sunday, Monday, and Tuesday, 1:00 p.m.

John M. Franks, Northwestern University, *The role of rotation numbers in dynamical systems*, Tuesday, 9:00 a.m.

Jeffrey C. Lagarias, AT&T Laboratories Research, *Computational problems in topology: The complexity of unknotting*, Monday, 3:20 p.m.

Fanghua Lin, Courant Institute, New York University, *Analytical and topological issues concerning Sobolev mappings*, Wednesday, 2:15 p.m.

John Preskill, California Institute of Technology, *Putting weirdness to work: Quantum information and quantum computation*, Monday, 2:15 p.m.

Richard L. Taylor, Harvard University, *Meromorphic continuation of L -functions*, Tuesday, 10:05 a.m.

AMS Special Sessions

Algebraic Coding Theory (Code: AMS SS D1), **Marcus Grefrath**, **Michael E. O'Sullivan**, and **Roxana N. Smarandache**, San Diego State University; Monday morning and Monday and Tuesday afternoons.

Algebraic Combinatorics (Code: AMS SS E1), **Rosa C. Orellana**, Dartmouth College, and **Michael Zabrocki**, York University; Wednesday morning and afternoon.

Algebras, Forms, and Algebraic Groups (Code: AMS SS F1), **R. Skip Garibaldi**, University of California Los Angeles, **David J. Saltman**, University of Texas at Austin, and **Adrian R. Wadsworth**, University of California San Diego; Monday and Tuesday mornings and Monday afternoon.

Analysis and Application of Quasilinear Partial Differential Equations (Code: AMS SS G1), **Sunčica Čanić** and **Eun Heui Kim**, University of Houston; Sunday morning and Sunday and Monday afternoons.

Chaos, Stability, and Asymptotics in Difference Equations (Code: AMS SS H1), **Saber N. Elaydi**, Trinity University, **Gerasimos Ladas**, University of Rhode Island, and **Donald A. Lutz**, San Diego State University; Tuesday and Wednesday mornings and Wednesday afternoon.

Commutative Algebra and Algebraic Geometry (Code: AMS SS BB1), **Paul C. Roberts** and **Anurag K. Singh**, University of Utah; Sunday and Monday mornings and afternoons.

Computability Theory with Applications (Code: AMS SS J1), **Douglas Cenzer**, University of Florida, and **Jeffrey B.**

Remmel, University of California San Diego; Sunday and Monday mornings and Sunday afternoon.

Computational Commutative Algebra and Algebraic Geometry (Code: AMS SS CC1), **Elizabeth Arnold**, Texas A&M University, and **Amelia Taylor**, Rutgers University; Tuesday and Wednesday afternoons and Wednesday morning.

Computational Topology (Code: AMS SS EE2), **Jeffrey C. Lagarias**, AT&T Research Laboratories, and **William H. Jaco**, Oklahoma State University; Tuesday morning and afternoon.

Dynamic Equations on Time Scales (Code: AMS SS B1), **Martin J. Bohner**, University of Missouri, Rolla, and **Billur Kaymakcalan**, Georgia Southern University; Monday and Tuesday afternoons and Tuesday morning.

Fractal Geometry and Applications: A Jubilee of Benoit Mandelbrot (Code: AMS SS L1), **Michel L. Lapidus**, University of California Riverside, and **Machiel van Frankenhuysen**, Rutgers University; Sunday and Monday mornings and afternoons.

Graph Theory (Code: AMS SS M1), **Andre Kundgen** and **K. Brooks Reid**, California State University, San Marcos; Sunday and Monday mornings and Sunday afternoon.

Hybrid Systems (Code: AMS SS N1), **Elena Litsyn**, Ben-Gurion University, and **A. S. Vatsala**, University of Louisiana at Lafayette; Tuesday and Wednesday afternoons and Wednesday morning.

Low Dimensional Topology (Code: AMS SS Z1), **Tim D. Cochran**, Rice University; Sunday and Monday mornings and afternoons.

Nonlinear Elliptic Partial Differential Equations (Code: AMS SS R1), **Maya Chhetri**, University of North Carolina at Greensboro, and **Jon T. Jacobsen**, Pennsylvania State University; Sunday and Monday mornings and Sunday afternoon.

Partial Differential Equations and Their Applications (Code: AMS SS S1), **Reza Malek-Madani** and **Peter A. McCoy**, United States Naval Academy, and **John W. Neuberger**, University of North Texas; Tuesday and Wednesday morning and Tuesday afternoon.

Probabilistic Methods in Combinatorics and the Internet (Code: AMS SS C1), **Fan Chung Graham** and **Van Vu**, University of California San Diego; Tuesday and Wednesday mornings and Wednesday afternoon.

Quantum Computation and Information (Code: AMS SS T1), **Philip L. Bowers** and **Washington Mio**, Florida State University, and **John Preskill**, California Institute of Technology; Sunday and Monday mornings and Sunday afternoon.

Recent Developments in Analysis and Numerics of Fluid Problems (in memory of Jacques-Louis Lions) (Code: AMS SS K1), **Jie Shen**, Pennsylvania State University and University of Central Florida, **Shouhong Wang**, Indiana University, and **Xiaoming Wang**, Iowa State University; Tuesday and Wednesday mornings and Wednesday afternoon.

Research in Mathematics by Undergraduates (Code: AMS SS U1), **Carl V. Lutzer** and **Darren A. Narayan**, Rochester Institute of Technology; Wednesday morning and afternoon.

Stochastic Processes and Functional Analysis (in honor of M. M. Rao) (Code: AMS SS V1), **Alan C. Krinik** and **Randall J. Swift**, California State Polytechnic University Pomona; Tuesday and Wednesday afternoons and Wednesday morning.

Symbolic Dynamics (Code: AMS SS AA1), **Aimee S. A. Johnson**, Swarthmore College, and **Kathleen M. Madden**, Drew University; Sunday and Monday mornings and afternoons.

The Many Lives of Lattice Theory and the Theory of Ordered Sets, with Connections to Combinatorics (Code: AMS SS P1), **Jonathan D. Farley**, University of Oxford and Vanderbilt University; Monday and Tuesday afternoons and Tuesday morning.

The Theory and Applications of Symmetric Functions (Code: AMS SS W1), **Adriano Garsia** and **Jeffrey B. Remmel**, University of California San Diego; Sunday and Monday mornings and Sunday afternoon.

Topology and Its Applications (Code: AMS SS X1), **Alexander Arhangelskii**, Ohio University, **Melvin Henriksen**, Harvey Mudd College, **James E. Keesling**, University of Florida, **Ralph D. Kopperman**, City College of CUNY, and **John C. Mayer**, University of Alabama at Birmingham; Tuesday morning and Tuesday and Wednesday afternoons.

Wavelets for Undergraduates (Code: AMS SS Y1), **Edward F. Aboufadel** and **Steven J. Schlicker**, Grand Valley State University; Monday 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. Send a blank message to `abs-submit@ams.org` and type `help` as the subject to see your electronic options. See the beginning of this announcement for pertinent deadlines.

Other AMS Sessions

How the World Sees Mathematicians, Sunday, 4:30 p.m.–6:00 p.m., organized by **Allyn Jackson**, AMS. In recent years there has been a surge of popular interest in mathematics and mathematicians, spurred by such works as Sylvia Nasar's acclaimed biography of John Nash, *A Beautiful Mind*; David Auburn's Pulitzer Prize- and Tony Award-winning play *Proof*; and Simon Singh's book and BBC program about Andrew Wiles's proof of Fermat's Last Theorem.

But consider also the recent study finding that British and American schoolchildren believe "mathematicians are fat, scruffy and have no friends" (*London Times*, January 3, 2001). Perceptions of mathematicians may be changing, but stereotypes die hard.

How does the public perceive mathematicians? Are those perceptions changing as a result of the increased popular interest in mathematics? What more can be done to give the public a more realistic view of mathematics and mathematicians?

A major motion picture based on *A Beautiful Mind* is scheduled to be released three weeks before the Joint Mathematics Meetings, providing an excellent occasion for a panel discussion on this topic.

Panelists include: **Dave Bayer** of Columbia University, who served as the mathematics consultant for the movie *A Beautiful Mind*; **K. C. Cole**, a science reporter for the *Los Angeles Times* and author, most recently, of *The Hole in the Universe: How Scientists Peered over the Edge of Emptiness and Found Everything*; and **Keith J. Devlin** of Stanford University, prolific mathematics popularizer and regular NPR commentator. This panel discussion is sponsored by the AMS Committee on the Profession.

Committee on Science Policy Panel Discussion, Tuesday, 2:30 p.m.–4:00 p.m.

Committee on Education Panel Discussion, Wednesday, 8:30 a.m.–10:00 a.m.

Other AMS Events

Council Meeting, Saturday, 1:00 p.m.–10:00 p.m.

Business Meeting, Wednesday, 11:45 a.m.–12:15 p.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 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 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 receives the service offered by the committee in the most effective manner, it should be in the hands of the secretary by December 13, 2001.

AMS Short Course

This two-day course on *Symbolic Dynamics* organized by **Susan Williams**, University of South Alabama, takes place on Friday and Saturday, January 4 and 5. Please see the complete article beginning on page 1086.

85th Annual Meeting of the MAA

MAA Invited Addresses

Thomas F. Banchoff, Brown University, *The down side of the trapezoid: An immediate past president surveys the Internet*, Wednesday, 10:05 a.m. (MAA Retiring Presidential Address).

Manuel P. Berriozábal, University of Texas at San Antonio, *Reforms in mathematics education: Best practices and malpractices*, Wednesday, 9:00 a.m.

Persi W. Diaconis, Stanford University, *From shuffling cards to the roots of randomness*, Tuesday, 2:15 p.m.

Andrew J. Granville, University of Georgia, *Probability, combinatorics and physics in analytic number theory*, Monday, 10:05 a.m.

Susan Landau, Sun Microsystems, *Old math, new math: Using polynomials to gain insight into the design of cryptosystems*, Sunday, 2:15 p.m.

M. Elisabeth Pate-Cornell, Stanford University, *Finding and fixing systems' weaknesses: The art and science of engineering risk analysis*, Tuesday, 7:30 p.m. (Student Lecture).

David J. Pengelley, New Mexico State University, *Sophie Germain's grand plan for proving Fermat's Last Theorem*, Sunday, 3:20 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. If the only reason for registering for the Joint Meetings is to gain admission to a minicourse, please make a notation on your registration form. If the minicourse is fully subscribed or cancelled, a full refund of the Joint Meetings advance registration fee (otherwise subject to the 50% rule) will be made. The MAA reserves the right to cancel any minicourse that is undersubscribed. Minicourses #1 and #2 are scheduled before the Joint Mathematics Meetings actually begin, so those interested **must register in advance**; there will be no on-site registration for #1 and #2.

Minicourse #1: Using interactive labs to explore abstract algebra topics, organized by **Allen C. Hibbard**, Central College, and **Kenneth M. Levasseur**, University of Massachusetts at Lowell. Part A: Saturday, 8:00 a.m. to 10:00 a.m.; Part B: Saturday, 1:00 p.m. to 3:00 p.m. Using Mathematica, participants will become engaged in examining interactive laboratory activities focusing on groups, rings, and morphisms. The notebooks, designed for exploration and

investigation of these structures, are intended to expand upon or motivate classroom discussions. No programming with Mathematica is necessary, since packages are read in that define the required functionality. (Minimal familiarity using the software is helpful, however.) A CD with our packages and notes will be distributed. For more information, go to <http://www.central.edu/eaam.html>. Cost is \$90; enrollment limit is 30. N.B. Those interested must register in advance; there is no on-site registration for this minicourse.

Minicourse #2: Mathematical algorithms, models, and graphic representations using spreadsheets, organized by **Robert S. Smith**, Miami University, **Deane E. Arganbright**, University of Tennessee at Martin, and **Erich Neuwirth**, University of Vienna. Part A: Saturday, 10:30 a.m. to 12:30 p.m.; Part B: Saturday, 3:30 p.m. to 5:30 p.m. This minicourse will draw on examples from calculus, precalculus, finite mathematics, numerical analysis, statistics, geometry, number theory, and discrete dynamical systems to illustrate a variety of mathematical concepts. We will use the spreadsheet's graphical power to design interactive mathematical displays that illustrate algorithms and to create classical curves, tessellations, and elementary fractal patterns. The course will also briefly demonstrate how other mathematical packages can be integrated into spreadsheets. Spreadsheet experience is desirable but not necessary. Cost is \$90; enrollment limit is 30. N.B. Those interested must register in advance; there is no on-site registration for this minicourse.

Minicourse #3: Optimal use of technology in teaching geometry at the college-university level, organized by **Subhash C. Saxena**, Coastal Carolina University, and **Nick Jackiw**, Key Curriculum Press. Part A: Sunday, 8:00 a.m. to 10:00 a.m.; Part B: Tuesday, 8:00 a.m. to 10:00 a.m. The latest version of Dynamic Geometry software empowers us to teach a lot more geometry in an enhanced pedagogical environment. This minicourse will provide hands-on experience to participants in the optimal use of technology in diverse college geometry classrooms. We will discuss plane isometries, dilations, affine transformations, inversions, non-Euclidean models, fractals, and various custom tools with this technology. An abbreviated guide for its Windows version with emphasis on specific topics will be available to participants. Cost is \$90; enrollment limit is 30.

Minicourse #4: Environmental mathematics, organized by **Ben Fusaro**, Florida State University. Part A: Sunday, 2:15 p.m. to 4:15 p.m.; Part B: Tuesday, 1:00 p.m. to 3:00 p.m. The goal of this Web-assisted minicourse is to acquaint teachers with a method for modeling environmental problems suitable for a liberal arts course. The prerequisite is Algebra II, yet nonlinear flow problems (such as the logistic) can be solved. A five-model solution pattern starts with a simple visual. This is used to construct a qualitative graphical model and a flow equation (a DE in disguise). The equation is solved computationally with a calculator or spreadsheet. These numerical results are used to plot a graph on a coordinate system. Cost is \$90; enrollment limit is 30.

Minicourse #5: *Using physical and computerized puzzles as models of permutation groups in teaching abstract algebra*, organized by **John O. Kiltinen**, Northern Michigan University. Part A: Sunday, 4:30 p.m. to 6:30 p.m.; Part B: Tuesday, 3:15 p.m. to 5:15 p.m. Concrete models are helpful for students learning abstract algebra. This minicourse offers ideas on using physical models (an egg carton with numbered compartments and numbered markers or the familiar “15” puzzle) and computerized puzzles for learning permutation groups. The computerized puzzles are developed by the presenter. Participants will explore using models to illuminate the concepts of parity, cycle structure, conjugates and commutators. They will learn to use Maple’s group theory package for exploring puzzles. Cost is \$90; 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: Monday, 8:00 a.m. to 10:00 a.m.; Part B: Wednesday, 8:00 a.m. to 10:00 a.m. This minicourse introduces participants to WeBWork, a freely available system that comes with an extensive library of problems. WeBWork won the 1999 ICTCM Award for Excellence and Innovation with the Use of Technology in Collegiate Mathematics. Supported by a grant from NSF, WeBWork has already been adopted by a number of colleges and universities. 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 \$90; enrollment limit is 30.

Minicourse #7: *Creating and exporting computer animations to the Web*, organized by **William D. Emerson**, **Louis A. Talman**, and **Bradford Kline**, Metropolitan State College of Denver. Part A: Monday, 10:15 a.m. to 12:15 p.m.; Part B: Wednesday, 1:00 p.m. to 3:00 p.m. Minicourse participants will use Mathematica to develop animations that illustrate concepts from the undergraduate curriculum and will learn to export these animations to the Web via QuickTime. A modest familiarity with Mathematica or other computer algebra systems is assumed. We will conduct this minicourse in a computer laboratory, but participants are welcome to supply their own laptops equipped with Mathematica (≥ 3.0). Cost is \$90; enrollment limit is 30.

Minicourse #8: *Real-world problem solving using technology and student projects*, organized by **Bruce Pollack-Johnson** and **Audrey Borchardt**, Villanova University. Part A: Monday, 1:00 p.m. to 3:00 p.m.; Part B: Wednesday, 3:15 p.m. to 5:15 p.m. Looking for a better way to teach business calculus? Want to learn how to use math modeling and technology to teach real-world problem solving and motivate your students using projects from their own lives? Participants will acquire technological, pedagogical, and organizational skills to implement these ideas. They will participate in the project experience and receive hands-on technology training. Experience with TI-83/82 or Excel helpful, but not necessary. Participants will receive Excel templates and technology booklets. Cost is \$90; enrollment limit is 30.

Minicourse #9: *The Fibonacci and Catalan numbers*, organized by **Ralph P. Grimaldi**, Rose-Hulman Institute of Technology. Part A: Sunday, 8:00 a.m. to 10:00 a.m.; Part B: Tuesday, 8:00 a.m. to 10:00 a.m. In introductory courses in discrete or combinatorial mathematics one encounters the Fibonacci numbers—and sometimes the Catalan numbers. This minicourse will review and then extend this first encounter as it examines some of the properties these numbers exhibit as well as applications where these sequences arise. A survey of applications dealing with chemistry, physics, computer science, linear algebra, set theory, graph theory, and number theory will show why these sequences are of interest and importance. Cost is \$60; enrollment limit is 60.

Minicourse #10: *A dynamical systems approach to the differential equations course*, organized by **Paul A. Blanchard** and **Robert L. Devaney**, Boston University. Part A: Sunday, 2:15 p.m. to 4:15 p.m.; Part B: Tuesday, 1:00 p.m. to 3:00 p.m. This minicourse will give an overview of the Boston University Differential Equations Project, originally funded by the National Science Foundation. The BU project involves a complete redesign of the sophomore-level ODE course. It includes more emphasis on qualitative and geometric methods as well as the incorporation of technology and numerical methods throughout. This minicourse will be useful to college instructors wishing to restructure their ODE courses. Cost is \$60; enrollment limit is 60.

Minicourse #11: *Incorporating discrete mathematics in the preparation of K-12 mathematics teachers*, organized by **Lolita Alvarez**, New Mexico State University. Part A: Monday, 8:00 a.m. to 10:00 a.m.; Part B: Wednesday, 8:00 a.m. to 10:00 a.m. More than a fixed set of topics, discrete mathematics is really a way of thinking that deals with important and interesting problems in contemporary mathematics. We will start by picking up some simple situations from art, biology, social psychology, and computer science, just to name a few. We will expose, at different levels of sophistication, the mathematics related to each situation. We will emphasize the interplay between mathematical content and methods of teaching and learning. Each course participant will receive a collection of materials, including an extensive list of resources. Cost is \$60; enrollment limit is 60.

Minicourse #12: *Introduction to mathematical card tricks*, organized by **Colm K. Mulcahy** and **Jeffrey A. Ehme**, Spelman College. Part A: Monday, 1:00 p.m. to 3:00 p.m.; Part B: Wednesday, 1:00 p.m. to 3:00 p.m. Card tricks liven up any gathering—including mathematics classes—and can help to convince people that math is fun and that there is a rational explanation for some seemingly impossible events. This interactive introduction to mathematical card tricks will survey applications of permutations, binary and ternary numbers, probability, and more and will feature classic tricks based on the Gilbreath principle and faro shuffle. Cost is \$60; enrollment limit is 60.

Minicourse #13: *Getting students involved in undergraduate research*, organized by **Aparna W. Higgins**, University of Dayton, **Joseph A. Gallian**, University of Minnesota, Duluth, and **Stephen G. Hartke**, Rutgers

University. Part A: Sunday, 8:00 a.m. to 10:00 a.m.; Part B: Tuesday, 8:00 a.m. to 10:00 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 of research in summer programs and research that can be conducted during the academic year will be presented. 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 40.

Minicourse #14: *Viewing mathematics via interrelations for undergraduate courses*, organized by **Simon R. Quint**, Stockton College of New Jersey. Part A: Sunday, 2:15 p.m. to 4:15 p.m.; Part B: Tuesday, 1:00 p.m. to 3:00 p.m. Generally unknown to undergraduates, interrelations are a wondrous, prevalent and powerful feature of contemporary mathematics. This minicourse interactively presents material from a manuscript for a capstone course Mathematical Interrelations and for interrelational companion pieces to courses. Minicourse aspects: via calculus and linear algebra, introductions to multifaceted elliptic curves, Lie algebras and groups as interconnectors among algebra, analysis, number theory, geometry; MSC2000 scheme; relations with Mathematical Challenges of the 21st Century conference; Why view mathematics via interrelations? Cost is \$60; enrollment limit is 60.

Minicourse #15: *Mathematical finance*, organized by **Walter R. Stromquist**, Berwyn, PA. Part A: Monday, 8:00 a.m. to 10:00 a.m.; Part B: Wednesday, 8:00 a.m. to 10:00 a.m. We will examine market price statistics to test the validity of the "standard model" for stock prices (Geometric Brownian Motion). Then we will cover two main ideas of modern finance: portfolio optimization and option valuation. Portfolio optimization uses matrix algebra and quadratic programming to balance risk and reward. We will extend option valuation from stock options (Black-Scholes) to oil field valuation. The presenter will draw on practical examples from his consulting work. Cost is \$60; enrollment limit is 60.

Minicourse #16: *Developing the ability to write proofs in high school students and college mathematics majors*, organized by **Daniel M. Fendel**, San Francisco State University. Part A: Monday, 1:00 p.m. to 3:00 p.m.; Part B: Wednesday, 1:00 p.m. to 3:00 p.m. The focus of this minicourse is on ways to help both high school students and college mathematics majors develop the ability to write meaningful proofs, that is, convincing arguments. A key element of the approach is to have students work from their own conjectures, gradually attaining greater rigor. Participants will work with activities from the presenter's high school and college texts, will see student work, and will discuss the controversies that arise from this approach. Cost is \$60; enrollment limit is 60.

MAA Contributed Paper Sessions

See the complete descriptions and instructions on how to participate in these sessions beginning on page 22 in the May/June issue of *FOCUS* or at <http://www.ams.org/>

amsmtgs/2049_maacall.html. Please note that the days and times listed are tentative.

Best Practices in Undergraduate Statistics Education, Tuesday morning; **Mary M. Sullivan**, Rhode Island College, and **Carolyn M. Cuff**, Westminster College.

Changing Student Views Regarding the Usefulness of Mathematics in Order to Increase the Number of Mathematics Majors, Sunday afternoon; **Sarah L. Mabrouk**, Framingham State College.

Classroom Demonstrations and Course Projects That Make a Difference, Tuesday and Wednesday afternoons; **David R. Hill**, Temple University, **Sarah L. Mabrouk**, Framingham State College, and **Lila F. Roberts**, Georgia Southern University.

Computational Mathematics in Linear Algebra and Differential Equations, Sunday and Monday afternoons; **Richard J. Marchand**, SUNY at Fredonia, **Elias Y. Deeba**, University of Houston-Downtown, and **Timothy J. McDevitt**, Millersville University.

Deep Understanding of School Mathematics Needed by Teachers, Monday afternoon; **Albert D. Otto**, Illinois State University, **Catherine M. Murphy**, Purdue University-Calumet, and **Philip Quartararo**, Southern University.

Environmental Mathematics in the Classroom, Tuesday and Wednesday afternoons; **Ben Fusaro**, Florida State University, and **Marty E. Walter**, University of Colorado.

General Contributed Paper Session, Sunday and Monday afternoons; **Shawnee L. McMurrin**, California State University, San Bernardino, **Emelie Kenney**, Siena College, and **Sarah L. Mabrouk**, Framingham State College.

History of Mathematics in the Second Millennium, Sunday and Monday mornings; **Janet L. Beery**, University of Redlands, and **C. Edward Sandifer**, Western Connecticut State University.

Initiating and Sustaining Undergraduate Research Projects and Programs, Sunday and Monday afternoons; **John R. Swallow**, Davidson College, **Suzanne M. Lenhart**, University of Tennessee, and **Daniel J. Schaal**, South Dakota State University.

Innovative Outcome Assessment in Statistics Education, Tuesday afternoon; **Robert del Mas**, University of Minnesota, Minneapolis, and **Carolyn M. Cuff**, Westminster College.

Innovative Uses of the World Wide Web in Teaching Mathematics, Sunday and Monday mornings; **Marcelle Bessman**, Jacksonville University, and **Brian E. Smith**, McGill University.

Integrating Mathematics and Other Disciplines, Sunday and Monday mornings; **William G. McCallum** and **Deborah Hughes Hallett**, University of Arizona, Tucson, and **Yajun Yang**, SUNY, Farmingdale.

Learning to Prove in Cooperative Learning and Technology-Supported Environments, Sunday afternoon; **G. Joseph Wimbish**, Huntingdon College, **Connie M. Campbell**, Millsaps College, and **Draga D. Vidakovic**, Georgia State College.

Mathematics Courses for Teachers, K-12, Sunday and Monday mornings; **Ira J. Papick**, University of Missouri, Columbia, **Duane Porter**, University of Wyoming, and **Diane M. Spresser**, National Science Foundation.

Redefining What a Modern "College Algebra" Experience Means, Tuesday and Wednesday mornings; **Sheldon P. Gordon**, SUNY at Farmingdale, **Florence S. Gordon**, New York Institute of Technology, **Arlene H. Kleinstein**, SUNY at Farmingdale, **Mary Robinson**, University of New Mexico, Valencia Campus, **Linda H. Boyd**, Georgia Perimeter College, and **Richard A. Gillman**, Valparaiso University.

SIGMAA on RUME Contributed Paper Session, Tuesday and Wednesday mornings; **Julie Morrisett Clark**, Hollins University.

Strategies for Increasing the Diversity of Students in Mathematics, Tuesday morning; **William Yslas Velez**, University of Arizona, Tucson, **Marjorie Enneking**, Portland State University, **William A. Hawkins**, SUMMA, **Michael B. Freeman**, University of Kentucky, **Robert E. Megginson**, University of Michigan, **Wade Ellis**, West Valley College.

Using Examples from Sports to Enhance the Teaching of Mathematics, Tuesday morning; **Robert E. Lewand**, Goucher College, and **Howard L. Penn**, U.S. Naval Academy.

Who Needs Algebra! Alternative Introductory Mathematics Courses, Tuesday afternoon; **Judy E. Ackerman**, Montgomery College, **Susan L. Forman**, Bronx Community College, and **Kathie A. Yoder**, L. A. Pierce College.

Other MAA Sessions

Teaching at Two-Year Colleges: Rewards, Research, Resources, and Recommendations, Sunday, 9:00 a.m.–10:30 a.m., organized by **Jay A. Malmstrom**, Oklahoma City Community College, and **Janet P. Ray**, Seattle Central Community College. A quick glance at the *Chronicle of Higher Education* will leave one with the impression that there are quite a few jobs available in mathematics—at the two-year college level. The current emphasis on developing a technically literate work force along with initiatives to improve the mathematical preparation of elementary school teachers has led to increased enrollments in mathematics courses that are typically taken during the first two years of college. A significant percentage of these courses are being taught at two-year colleges. With increased enrollments and retirements, the opportunities for employment at a two-year institution are expanding. But what is that environment like? These schools have cultures different from that experienced by most graduate students. What is professional life like at a two-year college? What resources are available? How does one qualify to teach there? Do two-year faculty engage in mathematical research? This panel will address these issues from a variety of perspectives. Panelists include **Susan S. Wood**, J. Sargeant Reynolds Community College, **Curtis C. McKnight**, University of Oklahoma, **Sandy Gokey**, Greenfield Community College, and **Stephen B. Rodi**, Austin Community College. The panel will be moderated by **Jay A. Malmstrom**. The panel is sponsored by the MAA Committee on Two-Year Colleges (CTYC).

New CUPM Curriculum Guide, Sunday, 9:00 a.m.–10:30 a.m., organized by **Harriet S. Pollatsek**, Mount Holyoke College. Draft portions of the new CUPM Curriculum Guide (scheduled for publication late in 2002) will be available on MAA Online before the Joint Mathematics Meeting. Members of CUPM will briefly summarize

key elements and then invite audience comments, questions, and suggestions. The panel is sponsored by the MAA Committee on the Undergraduate Program in Mathematics (CUPM).

AP Calculus: Bridges and Bumps between School and College, Sunday, 9:00 a.m.–10:30 a.m., organized by **Judith E. Broadwin**, and **Susan Kornstein**, The College Board. Panelists will consider issues in the transition from school to college mathematics involving Advanced Placement Calculus, including dual enrollment, use of technology, level of rigor, appropriate placement of students, and use of the Internet and other resources to enhance the teaching and learning of mathematics at all levels. These issues will be discussed from the perspective of both high school and college faculty with the goal of improving communication and cooperation. Panelists include **Ray Cannon**, Baylor University, **Thomas P. Dick**, Oregon State University, **Bernard L. Madison**, MAA, **Lawrence H. Riddle**, Agnes Scott College, **Jane L. Wortman**, Beverly Hills High School, **Judith E. Broadwin**, and **Susan Kornstein**.

A Comprehensive Department-Based Program for the Preparation and Professional Development of Graduate Teaching Assistants (GTAs) in Mathematics, Sunday, 2:15 p.m.–3:45 p.m., organized by **Eileen T. Shugart**, Virginia Polytechnic Institute and State University. GTAs, the undergraduates they teach, the graduate program, the department, the university itself—everyone benefits when mathematics GTAs are well prepared for their assistantship duties. This session provides a model for an effective department-based program to provide strong support and training for graduate students both as GTAs and as future college faculty. We will describe a two-phase teaching preparation process; computing and teaching orientations; regular graduate issues seminars; and a progressive support system for teachers that includes faculty and peer mentors, course coordinators, formative evaluation, and classroom observations. We will discuss the resources and financial commitment such a program requires and will share the department manual and teaching handbook developed specifically for our GTAs. In addition, we will present a model for leadership opportunities for qualified GTAs and discuss activities designed to give graduate students a preview of their future role as a college or university faculty member. Panelists include **Eileen T. Shugart**, **Eric Sorensen**, **Gregory Hartman**, and **Brian Camp**, all from Virginia Polytechnic Institute and State University.

Session for Chairs, Sunday, 2:15 p.m.–3:45 p.m., organized by **Catherine M. Murphy**, Purdue University Calumet, and **Gerald L. Alexanderson**, Santa Clara University. The topic of discussion will be effective teaching and the scholarship of teaching: which aspects coincide, which differ? What evidence is required to support effective teaching? What evidence is required to support teaching as an area of scholarship?

NCTM's Work to Improve Mathematics Education for All Students, Sunday, 2:15 p.m.–3:45 p.m., organized by **Johnny W. Lott**, University of Montana, and **Eric Hart**, Western Michigan University, Maharishi University of Management, and University of Iowa. Since the release of *Principles and Standards for School Mathematics* (April

2000), NCTM continues to try to ensure a high-quality mathematics education for every student. Explore an exciting and growing set of electronic resources such as the E-Standards and Illuminations Web site. Learn about NCTM's Navigations project, a new book series that will contain more than 30 titles when complete and designed to support the implementation of *Principles and Standards*. See how NCTM encourages family involvement in math through the "Figure This!" campaign.

Introduction to the Hiring Process: Preparation, Execution, and Follow-up, Sunday, 2:15 p.m.–3:30 p.m., organized by **Sarah-Marie Belcastro**, University of Northern Iowa and Bowdoin College, and **Dusty E. Sabo**, Southern Oregon University. Many institutions expect to have faculty openings in the near future. At some institutions it has been a long time since there was a search; at other institutions newer faculty are becoming involved in their first hiring committees. Our panel discussion (hopefully with lots of audience participation!) aims to help faculty become aware of the issues involved with hiring new colleagues. We will discuss how the departmental environment and direction can frame a search, spend the bulk of the allotted time discussing the mechanics of a search (from writing the position advertisement to informal interviews to campus interviews), and briefly discuss how to make a search a lasting success by mentoring new department members. This session was organized by the 1994–7 MAA Project NExT Fellows to address issues of concern to faculty who have four to ten years of teaching experience. Panelists include **Tamara B. Veenstra**, University of Redlands, **Carolyn Yackel**, Mercer University, **Dennis M. Luciano**, Western New England College, **Mark J. Nielsen**, University of Idaho, and **Michael E. Boardman**, Pacific University.

Mathematical Preparation and Support of Teachers through Rural Universities, Sunday, 4:00 p.m.–5:30 p.m., organized by **Warren P. Koepf** and **Raymond A. Beaulieu**, Sul Ross State University. Faculty at many rural universities teach courses in mathematics for preservice teachers as a major part of our mission as well as graduate math education courses and workshops for in-service teachers. They face many challenges (many nontraditional students, commuting students, issues surrounding distance education and Web-based courses, computer connectivity, etc.) that are peculiar to this type of school, making the implementation of innovative ideas and programs developed in more urban settings difficult (if not impossible). This panel discussion will address issues peculiar to the training and support of teachers in geographically remote areas. Panelists include **Raymond A. Beaulieu**, **Leslie Garrison**, San Diego State University, and **Harel Barzilai**, Salisbury State University.

Modeling in College Algebra, Sunday, 4:00 p.m.–5:30 p.m., organized by **Donald B. Small**, U.S. Military Academy. Modeling is a major component of reformed college algebra courses. Modeling brings together the problem-solving attributes of developing a mathematical description of a given situation, applying appropriate solution techniques, and interpreting the solution in light of the original setting. The panelists have been involved in

reforming college algebra courses through modeling and/or evaluating the impact of modeling in the curriculum. Panelists include **Benny D. Evans**, Oklahoma State University, **Alexander H. Fluellen**, Clark Atlanta University, **Florence S. Gordon**, New York Institute of Technology, and **Scott Herriott**, Maharishi University of Management. The panel will be moderated by **Della D. Bell**, Texas Southern University, and is sponsored by the MAA CUPM Subcommittee on Calculus Reform and the First Two Years (CRAFTY).

Changing Attitudes in the Elementary Education Mathematics Content Courses: What Works?, Monday, 9:00 a.m.–10:30 a.m., organized by **Bonnie L. Oppenheimer**, Mississippi University for Women, **Sigrid E. Wagner**, Ohio State University, and **Joan S. Morrison**, Goucher College. We offer elementary preservice content courses that are one, two, or even three semesters long at various institutions nationwide. By and large, the students enter these classes with negative attitudes about mathematics in general. Sometimes students leave the content sequence with a true enjoyment of mathematics, looking forward with anticipation to the day they begin teaching mathematics. The panel would like to share some anecdotal and/or research-based numerical data about how this change occurs and possible ways you can make it happen in your own content class. Panelists include **Charles E. Lamb**, Texas A&M University, **Robert B. Brown**, Ohio State University, and **Anne L. Madsen**, University of New Mexico. The panel is sponsored by the MAA Committee on the Mathematical Education of Teachers (COMET).

The Environment: A Context for Learning, Monday, 9:00 a.m.–10:30 a.m., organized by **Marcia Sward Doherty**, Ocean View, DE, and **Ben Fusaro**, Florida State University. Teaching mathematics, science, and other subjects using the environment as a real-world context is proving to be remarkably effective in K–12 schools across the country. **Gerald Lieberman**, coauthor of *Closing the Achievement Gap: Using the Environment As an Integrating Context for Learning*, will speak about his research on environment-based programs at hundreds of schools. He will talk about the implications for mathematics and teacher education. **Nancy E. Zumoff**, Kennesaw State University, and **Lee Seitelman**, Pratt & Whitney (retired) and University of Connecticut, will comment on environment-based education from the faculty point of view. The session is sponsored by the MAA Committee on Mathematics and the Environment.

Opportunities for Mathematically Motivated Youth, Monday, 9:00 a.m.–10:30 a.m., organized by **Richard D. Sommer**, Stanford University. In this session we will examine several opportunities for advanced study in mathematics, mainly for middle school and high school students. These include computer-based distance learning, residential summer programs, after-school and evening programs (math circles), and mathematics competitions (local, national, and international).

The purpose of the session is to increase awareness in the collegiate mathematical community of programs for mathematically-talented K–12 students. Panelists include **Linda Brody**, Johns Hopkins University, **Rafe A. Mazzeo**,

Stanford University, **Raymond Ravaglia**, Stanford University, and **Zvezdelina E. Stankova-Frenkel**, Mills College.

How to Make the Most of Teaching Evaluations, Monday, 9:00 a.m.–10:30 a.m., organized by **T. Christine Stevens**, St. Louis University, **Joseph A. Gallian**, University of Minnesota, Duluth, and **Aparna W. Higgins**, University of Dayton. For faculty at all stages of their careers, student evaluations often play an important role in the assessment of teaching. To assist faculty to make the most of teaching evaluations, this panel will address the following topics: how to read, interpret, and learn from student evaluations; what instructors can do to provide their departments and institutions with a more robust picture of their teaching; how departments and institutions use student evaluations in the review process. Panelists include **Jeffery S. Connor**, Ohio University, **Carl C. Cowen**, Purdue University, **William E. Fenton**, Bellarmine University, and **Pamela B. Pierce**, The College of Wooster.

Life after a Math Sciences Major: Tracking and Using Alumni Career Information, Monday, 10:45 a.m.–12:15 p.m., organized by **John D. Fulton**, Virginia Polytechnic Institute and State University. The career paths of alumnae/alumni of undergraduate mathematics and mathematical sciences programs lead to diverse careers in which mathematical skills are crucial to success. Many of these paths lead to completion of graduate or professional programs in a wide variety of disciplines. Making students aware of the variety of career options can attract many students to programs in the mathematical sciences. Panelist **Andrew Sterrett** will address the variety of careers and graduate programs in which mathematical sciences alumni are involved. Panelists **David J. Lutzer**, **Laura J. Person**, and **Lisa M. Traynor** will describe how they have collected career information from alumnae/alumni of mathematics programs at William and Mary, SUNY at Potsdam, and Bryn Mawr respectively and how that feedback has been used in advising students and in planning and adjusting programs at these colleges and universities. The panel will be moderated by **Michael G. Monticino**, University of North Texas. The session is sponsored by the MAA Committee on the Profession; ASA-MAA Committee on Statistics; Business, Industry and Government SIGMAA; MAA Committee on Industrial and Government Mathematicians; MAA Committee on the Undergraduate Program in Mathematics; and the SIGMAA on Statistics Education.

College Credit by Examination: The Advanced Placement (AP®) and College-Level Examination (CLEP®) Programs, Monday, 10:45 a.m.–12:15 p.m., organized by **Gloria S. Dion**, Educational Testing Service. The College Board offers examinations that enable students to obtain credit for college-level work in high school (AP) or through nontraditional academic experiences (CLEP). Most college and university math departments in the United States have policies for awarding credit and/or placement for AP and CLEP exams in mathematics. How are these exams developed? Who decides on the content of the exams and the passing scores? A panel of faculty members from several test development committees and ETS mathematics test development staff will discuss the programs, the work of the committees, and the processes that ensure the

validity of the exams. The panel, moderated by **Gloria S. Dion**, will include **Chan Jones**, Educational Testing Service, **James R. Choike**, Oklahoma State University, **Jane P. Coffee**, College of Staten Island, CUNY, **Roxy Peck**, California Polytechnic State University, and **Lawrence H. Riddle**, Agnes Scott College.

NSF Funding Opportunities for Learning and Teaching in the Mathematical Sciences, Monday, 10:45 a.m.–12:15 p.m., organized by **Dennis E. Davenport**, **James H. Lightbourne**, **Elizabeth J. Teles**, **Lee L. Zia**, NSF/Division of Undergraduate Education. The NSF Division of Undergraduate Education and sister NSF divisions offer a variety of grant programs to 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. Panelists include **John S. Bradley** and **Diane M. Spresser** from the Division for Elementary, Secondary, and Informal Education and **Lloyd E. Douglas** from the Division of Mathematical Sciences.

Providing and Promoting Opportunities for Undergraduates: A Win-Win Situation, Monday, 1:00 p.m.–2:30 p.m., organized by **Sandra O. Paur**, North Carolina State University. The focus of this panel will be on some of the excellent opportunities available to math undergraduates and how students (and also their departments and institutions) can benefit from them. Each of the four panelists will take 12–15 minutes to discuss their program and the benefits provided for the students as well as the panelist's institution. The remaining 30 minutes will be for questions and comments from the audience. **Colin C. Adams** will discuss REU's and other undergraduate research with specific reference to the SMALL program at Williams College. **Paul D. Humke** will talk about the Budapest Semesters in Mathematics, and **Sergei Tabachnikov** will discuss the MASS Program at Pennsylvania State University. **Sandra Paur** will point out how utilizing these special opportunities has benefited North Carolina State students in terms of national fellowships, acceptance at excellent graduate schools, as well as the procedures she has used to identify and recruit students for these programs. She will also comment briefly on some of the other special programs available for math majors. The panel is sponsored by the MAA CUPM Subcommittee on Undergraduate Research.

Rethinking the Preparation for Calculus, Monday, 1:00 p.m.–2:30 p.m., organized by **Sheldon P. Gordon**, SUNY at Farmingdale, and **Nancy Baxter Hastings**, Dickinson College. Over the last decade most aspects of the mathematics curriculum have been undergoing major changes. The calculus reform movement has brought about changes both in terms of what is taught and how it is taught. The NCTM Standards, which are being widely implemented, likewise have introduced significant changes in both content and pedagogy in high school mathematics. A major MAA initiative has begun to redefine courses in college algebra to better reflect the actual needs of the students who take such courses, not merely to prepare a relative handful for calculus. The courses that emerge may well give students a much broader (but less algebraically

intense) experience in mathematics and how it is used in other disciplines and in the real world. The NSF has arranged, under the direction of Jack Y. Narayan, for a special invited conference to bring together leaders of all of these efforts. The purpose of the conference is to rethink the preparation for calculus, given: (1) that students are having such different mathematical experiences in high school, (2) that calculus in college is placing different expectations on the students, and (3) that technology is providing an ever wider selection of mathematical tools for both the teaching and learning of mathematics. In this session the speakers will discuss the highlights of the conference and share with the mathematics community their insights and experiences in the issues raised during the conference. The panelists include **Nancy Baxter Hastings**, **Steven R. Dunbar**, University of Nebraska, and **Sheldon P. Gordon**. The panel will be moderated by **Jack Y. Narayan**, SUNY at Oswego, and is cosponsored by the MAA CUPM Subcommittee on Calculus Reform and the First Two Years (CRAFTY) and the Task Force on the First College Level Mathematics Course.

Probability and Combinatorics in Analytic Number Theory, Monday, 1:00 p.m.–4:00 p.m. This invited paper session is organized by **Andrew J. Granville**, University of Georgia. Speakers include **Henry L. Cohn**, Microsoft Research, **Brian Conrey**, American Institute for Mathematics, **Ernest S. Croot III**, University of California Berkeley, **William D. Duke**, University of California Los Angeles, **Daniel A. Goldston**, San Jose State University, and **Andrew D. Pollington**, Brigham Young University.

MAA Project NEXt and YMN Poster Session, Monday, 2:00 p.m.–4:00 p.m. organized by **Kenneth A. Ross**, University of Oregon, and **Kevin E. Charlwood**, Washburn University. The session will include exhibits from 15–25 new or recent Ph.D.'s in the mathematical sciences or from those still pursuing graduate study. Applications should be submitted to Kevin Charlwood, zzchar1w@washburn.edu, and Ken Ross, ross@math.uoregon.edu, by December 11, 2001.

Successful Programs That Integrate Mathematics with Other Disciplines, Monday, 2:15 p.m.–3:45 p.m., organized by **Timothy D. Comar**, Benedictine University, and **Michael J. Dorff**, Brigham Young University. The panelists will discuss their successful programs and projects designed to enrich undergraduate education by integrating mathematics with other disciplines and will provide advice for initiating interdisciplinary activities. Panelists include **Mary Garner**, Kennesaw State University, who will discuss her experience team-teaching an interdisciplinary course linking mathematics, philosophy, and the literature of Jorge Borges; **Joan Ferrini-Mundy**, Michigan State University, who is a leader in mathematics education and has experience in working together with mathematicians and mathematics educators to develop programs that prepare future public school teachers; **Agnes M. Rash**, St. Joseph's University, who has worked on developing a calculus software with applications in business and economics and will discuss her experience with team-teaching—organizing, finding a partner, and choosing topics; and **John L. Scharf**, Carroll College, who

will discuss his experiences teaching the integrated curriculum at Carroll College. This session was organized by the 1994-7 MAA-Project NEXt Fellows to address issues of concern to faculty who have four to ten years of teaching experience.

Mathematics Preparation of Doctorates in Mathematics Education, Monday, 2:45 p.m.–4:15 p.m., organized by **Robert E. Reys**, University of Missouri, Columbia. Doctorates in mathematics education pursue many different career options. Is there a core of mathematics that doctorates in mathematics education should possess? If so, what should be the core and how should it be tailored to fit individual career goals? Mathematics cores for different career options will be presented and discussed, as well as results from a survey of doctoral programs and information from recent graduates with doctorates in mathematics education. Time will be allowed for interaction with participants attending the session. Participants include **Glenda Lappan**, Michigan State University, and **Jeremy Kilpatrick**, University of Georgia. **Jim Lewis**, University of Nebraska, will serve as the reactor.

SUMMA Special Presentation, Monday, 2:45 p.m.–4:15 p.m., organized by **William A. Hawkins Jr.**, MAA and the University of the District of Columbia. Panelists **Eda Davis-Butts**, Oregon State University, **Daniel J. Madden**, University of Arizona at Tucson, and **David L. Pagni**, California State University at Fullerton, will discuss their programs for precollege students. The panel will be moderated by William A. Hawkins Jr., director of the SUMMA program, and is sponsored by the MAA SUMMA (Strengthening Underrepresented Minority Mathematics Achievement) Program and the MAA Committee on Minority Participation in Mathematics.

Integrating Statistics/Data Analysis through the Core Curriculum, Monday, 2:45 p.m.–4:15 p.m., organized by **Donald B. Small**, U.S. Military Academy. The rapid growth of information science and the increasing emphasis on integrating modeling through the core curriculum call for a discussion of how to integrate statistics/data analysis through the core curriculum. The panelists are influential contributors to the growing debate over the role and place of statistics/data analysis in undergraduate curriculums. Panelists include **George W. Cobb**, Mount Holyoke College, **Steve W. Horton**, U.S. Military Academy, **Roxy Peck**, California Polytechnic State University at San Luis Obispo, and **Alan J. Rossman**, Dickinson College. The panel will be moderated by **Gary H. Krahn**, U.S. Military Academy, and is sponsored by the MAA CUPM Subcommittee on Calculus Reform and the First Two Years (CRAFTY).

Time for Your First Sabbatical... Now What?, Tuesday, 9:00 a.m.–10:15 a.m., organized by **Cheri L. Boyd**, Nazareth College, and **Mark R. Parker**, Carroll College. We all look forward to the sabbatical periods in our careers with great anticipation. These opportunities for renewal and invigoration can take on many forms. Research, curricular development, and writing are only a few options. Our panelists will describe a broad array of sabbatical experiences from start to finish: generating worthy ideas, writing successful proposals, garnering support, carrying through and following up. This session was organized

by the 1994–7 MAA Project NExT Fellows to address issues of concern to faculty who have four to ten years of teaching experience. Panelists include **David L. Allen**, Eastern Oregon University, **Thomas H. Barr**, Rhodes College, **Christine L. Kinsey**, Canisius College, **William A. Marion**, Valparaiso University, and **Cynthia J. Woodburn**, Pittsburgh State University.

Successful Mathematics Outreach Programs for Women and Girls, Tuesday, 9:00 a.m.–10:30 a.m., organized by **Elizabeth G. Yanik**, Emporia State University, **Virginia G. Kasten**, General Motors, and **Kathleen A. Sullivan**, Seattle University. This session will highlight mathematics outreach programs for middle school or high school young women. These programs may involve summer camps, one-day conferences, or continuing programs throughout a school year. Topics such as participant selection, program activities, special speakers, funding sources, and program assessment will be discussed. This session is sponsored by the Women and Mathematics Network and the MAA Committee on the Participation of Women.

Mathematics in a Postmodern Age, Tuesday, 9:00 a.m.–10:30 a.m., organized by **Russell W. Howell**, Westmont College, Santa Barbara, and **W. James Bradley**, Calvin College. Conversations these days are loaded with the word “postmodernism”. What exactly is this construct, and how, if at all, might it apply to mathematics? In particular, how do we engage a student culture with cognitive issues when that very culture emphasizes the affective, rejecting as irrelevant anything that deals with the theoretical? What is the proper role of mathematics in our culture? Are the truths of mathematics merely expressions of social agreement, as some postmodernists would claim, or are they universally true? How do we know? What criteria should guide our mathematical pursuits? In society at large mathematics has had an enormous influence. Has it been a proper influence? Should it become stronger? Redirected? These and other questions will be the focus of our panel discussion. Panelists include **W. James Bradley**, and **Calvin Jongsma**, Dordt College. **Russell W. Howell** will moderate the session.

Grant-Writing Workshop for Proposals to the NSF Division of Undergraduate Education, Tuesday, 9:00 a.m.–10:30 a.m., organized by **Dennis E. Davenport**, **James H. Lightbourne**, **Elizabeth J. Teles**, **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.

Discrete Mathematics in the First Two Years, Tuesday, 1:00 p.m.–2:30 p.m., organized by **Donald D. Mills**, **Donald B. Small**, and **Kathleen Snook**, U.S. Military Academy. Our increasingly information-driven society is pressuring undergraduate mathematics departments to integrate discrete topics earlier in the curriculum. This early introduction supports the growing emphasis on discrete modeling as well as courses in computer science and information technology. The study of discrete mathematics at this level could include topics in combinatorics,

recursive relationships, graph theory and networks, discrete probability, and Boolean algebras. The purpose of this panel discussion is to discuss ways to successfully introduce these topics and others into an undergraduate mathematics program. Panelists include **D. Chris Arney**, College of Saint Rose, **Diana M. Thomas**, Montclair State University, and **Marie M. Vanisko**, Carroll College. The panel is sponsored by the MAA CUPM Subcommittee on Calculus Reform and the First Two Years (CRAFTY).

BIG Math: Projects in Business, Industry and Government, Tuesday, 1:00 p.m.–2:30 p.m., organized by **Philip E. Gustafson**, Mesa State College. This panel session will feature mathematicians representing business, industry and government. The panelists will speak on specific projects they have worked on in their jobs, spending about 15–20 minutes outlining a project, their role in it, and the mathematics involved. The panelists will then discuss the similarities/differences between their projects and those of the other panelists, as well as other aspects of their jobs as mathematicians.

The Medium and the Message: Practical Suggestions on Student Reading and Course Efficiency Using a Structured Conversation Format, Tuesday, 1:00 p.m.–3:00 p.m., organized by **Mary Ellen Foley**, Louisiana State University–Shreveport, **Sandra A. Gokey**, Greenfield Community College, **Tom J. Linton**, Central College, and **Kirk E. Weller**, Bethel College. Many faculty struggle with getting their students to read the text, as well as with “covering” enough material when using active learning. The organizers of this session propose that course efficiency is greatly enhanced when students actually read the text. This session, sponsored by the Committee on the Teaching of Undergraduate Mathematics (CTUM), focuses on motivating student reading through course structure, helping students learn how to read a math text, and assessing what students learn by reading. Attendees will generate and evaluate ideas related to these topics by actively participating in a format that models an effective cooperative learning technique. Participants will leave with both newly generated and tried-and-true tools to increase their courses’ efficiency by getting students to read.

Projects Supported by the NSF Division of Undergraduate Education, Tuesday, 1:00 p.m.–3:00 p.m., organized by **Jon W. Scott**, Montgomery Community 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.

Presentations by Teaching Award Recipients, Tuesday, 3:30 p.m.–5:00 p.m. Winners of the Awards for Distinguished College or University Teaching will give presentations on the secrets of their success.

Actuarial Education, Tuesday, 5:00 p.m.–7:00 p.m., organized by **Krzysztof M. Ostaszewski**, Illinois State University. This informal session sponsored by the Actuarial Faculty Forum provides an opportunity for those involved in actuarial education, interested in it, or curious about it to get together to discuss common concerns such

as the major changes in the actuarial exam systems that will have just taken place.

Association for Research on Undergraduate Mathematics Education SIGMAA Reception and Business Meeting, Tuesday, 5:00 p.m.–7:00 p.m., organized by **Julie M. Clark**, Hollins University. ARUME is a group formed for mathematics educators and professional mathematicians interested in research on undergraduate mathematics education. There will be a welcoming address, business meeting, election of officers, an invited address exemplifying research on undergraduate mathematics, followed by a reception.

Closing the Deal: The Campus Interview and Beyond, Tuesday, 5:30 p.m.–7:00 p.m., a panel discussion organized by **Chawne M. Kimber**, Lafayette College, and **David T. Kung**, St. Mary's College of Maryland, and cosponsored by the MAA and the Young Mathematicians Network.

Carroll College Project InterMath Workshop Reunion, Tuesday, 5:30 p.m.–7:00 p.m., organized by **Marie M. Vanisko**, Carroll College. Participants from the Project InterMath Curriculum Workshop at Carroll College in June 2001 will share with the group the curriculum changes they plan to make at their schools. The focus of the discussions will be to further the group's efforts to form a consortium of schools interested in applying for a National Science Foundation Adaptation and Implementation (CCLI-A&I) grant in order to provide funding for curriculum changes at participating schools. Colleges represented include Carroll College, St. Olaf's College, Western Washington University, U. S. Air Force Academy, Salisbury State University, University of Tennessee, Appalachian State University, University of Florida Atlantic Honors College, Montclair State University, Penn State University, LaGrange University, Ohio Northern, University of New Hampshire, University of Connecticut, and University of Colorado, Denver.

Planning Ahead for the Tenure/Promotion Process, Tuesday, 6:00 p.m.–7:00 p.m., organized by **Karolyne Fogel**, California Lutheran University, and **J. Lyn Miller**, Western Kentucky University. Tenure-track positions don't stay that way forever. Hear tips and advice from both sides of the tenure process in this panel discussion designed to help you successfully turn "tenure-track" into "tenured". Cosponsored by MAA Project NExT and the Young Mathematicians Network.

SIGMAA on Statistics Education, 2002 Business Meeting and Lecture, Tuesday, 6:00 p.m.–8:00 p.m., organized by **Dexter C. Whittinghill**, Rowan University. The SIGMAA for Statistics Education will hold its second annual business meeting, including an invited talk. After some necessary formalities, we will hear the chair's report, results of the fall elections, and discuss new business. Topics of discussion will include outreach, membership services, and suggestions from the membership related to statistics education. At 7:00 p.m. **Roxy Peck**, California Polytechnic State University, San Luis Obispo, and current chief faculty consultant for the AP statistics exam, will speak on the AP statistics exam.

Want to Coach a Math Modeling Team? Where to Start and How to Finish, Wednesday, 9:00 a.m.–10:30 a.m.,

organized by **Ben Fusaro**, Florida State University, and **Mark R. Parker**, Carroll College. The purpose of this workshop is to encourage and prepare faculty to become advisors for the Mathematical Contest in Modeling. There will be a ten-minute introduction on the history and purpose of MCM. The main part of the program will consist of successful advisors telling about their experiences and answering questions. The emphasis will be on *how to do it*. We will then have a ten-minute wrap-up from an advisor who has also been an MCM judge. Handouts will have references for print and video materials. We would like to show how easy it is for a faculty member to be the conductor for a great (and likely) unique experience for a team of three students. Participants include **John E. August**, Mount Saint Mary's College, **Robert A. Beezer**, University of Puget Sound, **Thomas O'Neil**, California Polytechnic State University, San Luis Obispo, **Holly Zullo**, Carroll College, **Ben Fusaro**, and **Mark R. Parker**.

Outreach Programs for Women: Assessment Issues, Wednesday, 9:00 a.m.–10:30 a.m., organized by **Carolyn C. Connell**, Westminster College of Salt Lake City. Many outreach programs (for women, minorities, and others) could benefit greatly from devoting more attention to long-range questions of effectiveness. Members of this panel will discuss a variety of ideas that are important in assessment of any intervention program. The panel, moderated by **Susan L. Forman**, Bronx Community College, will include **Carole B. Lacampagne**, senior researcher, RAND, **Charlene Morrow**, SummerMath Program, Mount Holyoke College, and **Florence Fasanelli**, The College Board.

The Mathematics Community and Public Support, Wednesday, 1:00 p.m.–2:30 p.m., organized by **Christopher C. Leary**, SUNY at Geneseo. For mathematics to continue to thrive in our society, we need to ensure that the public understands, appreciates, and supports our profession. Unfortunately, mathematicians tend to compartmentalize their thinking about mathematics, and so we tend to subdivide not only by discipline but also by whether we see ourselves as students, teachers, or researchers. The panelists will discuss ways in which we can bring a greater sense of cohesiveness to our profession and ways in which we can use that cohesiveness to improve directly and indirectly the public's perception of mathematics. The goal of the discussion is to actively engage mathematicians, mathematics students, and those who teach mathematics at any level. Panelists include **Herbert Clemens**, University of Utah, **Daniel L. Goroff**, Harvard University, **Joseph Malkevitch**, York College, City University of New York, **Michael A. Breen**, AMS, and **Daniel N. Rockmore**, Dartmouth College.

Reflections on the West Point Summary Conference for the CRAFTY Curriculum Foundations Workshops, Wednesday, 1:00 p.m.–2:30 p.m., organized by **Donald B. Small**, U.S. Military Academy. The Curriculum Foundations Project (CF) is part of a major MAA review of its recommendations for undergraduate programs in mathematics. The CF project consisted of a series of eleven disciplinary-based workshops conducted by CRAFTY over the past two years and a summary conference held at the U.S. Military Academy at West Point. The purpose of each workshop was

to consider the role of mathematics in their discipline over the next five to ten years and to formulate a description of what students in that discipline needed to learn in their first two years of college mathematics. The West Point Conference consolidated the individual workshop reports into a set of statements and recommendations for the Committee on the Undergraduate Program in Mathematics (CUPM). Panelists **William H. Barker**, Bowdoin College, **William G. McCallum**, University of Arizona, **Harriet S. Pollatsek**, Mount Holyoke College, and **Donald B. Small** will reflect on the disciplinary-based workshops and the West Point Conference. The panel will be moderated by **Kathleen Snook**, U.S. Military Academy, and is sponsored by the MAA CUPM Subcommittee on Calculus Reform and the First Two Years (CRAFTY).

Enhance Undergraduate Mathematics Courses Using Globally Interactive, Live Dynamic Mathematics on the Web, Wednesday, 2:45 p.m.–4:15 p.m., organized by **Joan Bookbinder**, Arlington Heights, IL. Using LiveMath Maker, mathematics educators can create symbolically correct, interactive, dynamic notebooks or “mathlets”, including animations, which can be accessed and interacted with by colleagues and students using a free browser plug-in. No programming, no code to learn—just drag and drop and a few clicks of a mouse. These notebooks also integrate into course management systems such as WebCT or BlackBoard and can be created in over twelve languages.

Reforming College Algebra, Wednesday, 2:45 p.m.–4:15 p.m., organized by **Donald B. Small**, U.S. Military Academy. The college algebra reform movement has focused attention on the largest block of students enrolled in mathematics. In several schools, the enrollment in college algebra is larger than that in all other mathematics courses combined. The panelists will discuss their studies of college algebra students (who are they? how do they fare? where do they go?) and then open up the discussion to participant participation. Panelists include **Steven R. Dunbar**, University of Nebraska, and **Mercedes A. McGowen**, William Rainey Harper College. The panel will be moderated by **Donald B. Small** and is sponsored by the MAA CUPM Subcommittee on Calculus Reform and the First Two Years (CRAFTY).

MAA Student Activities

Information on the special **Student Lecture** on Friday evening is included in the “MAA Invited Address” section.

Undergraduate Student Poster Session, Tuesday, 4:00 p.m.–6:30 p.m., organized by **Mario U. Martelli**, Claremont McKenna College. Send title and one-page abstract including author’s name, address, phone number, e-mail, and the name of the faculty advisor to Mario Martelli, mario_martelli@mckenna.edu, Mathematics Department, Claremont McKenna College, Claremont, CA 91711, by December 10, 2001. Notification of acceptance will be e-mailed two weeks after the abstract has been received. Apply early! Space is limited. The session is reserved to undergraduates. First-year graduate students may submit posters about work done while undergraduates. Posters’ content cannot be purely expository. The best posters will be awarded a monetary prize with funds provided by MAA,

AMS, and CUR. Tri-fold, self-standing 48” x 36” tabletop posters will be provided. Additional material or equipment is the responsibility of each presenter. This session is sponsored by the MAA and the National Security Agency.

Other student opportunities appear under the “Social Events” section.

MAA Short Course

A Sampler of Applications of Graph Theory, Friday and Saturday, January 4 and 5, organized by **Fred S. Roberts**, Rutgers University.

The Short Course will survey a variety of applications of graph theory. Graph theory is an old subject that has found a vast number of exciting applications in recent years. The speakers will introduce the graph-theoretical topics needed, describe both historical and current applications, and discuss current research topics in graph theory related to the applications. Many of the topics to be covered will be amenable to discussion in the classroom and will make good research topics for both researchers and students. No prior knowledge of graph theory will be required. Speakers and their talks include **Nathaniel Dean**, Rice University, *Applications to network visualization*; **Sridhar Rajagopalan**, IBM Almaden, *The graph structure of the World Wide Web*; **Ramamoorthy Ravi**, Carnegie Mellon University, *Applications to molecular biology*; **K. Brooks Reid**, California State University, San Marcos, *Applications to facility location*; **Fred S. Roberts**, *Social networks*; and **Peter M. Winkler**, Bell Labs, *Applications to statistical physics*.

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/2049_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, Saturday, 8:30 a.m.–4:00 p.m.

Section Officers, Sunday, 4:30 p.m.–6:30 p.m.

Business Meeting, Wednesday, 11:10 a.m.–11:40 a.m.

See the listings for various receptions in the “Social Events” section.

Society for Industrial and Applied Mathematics

Invited Address

Tony F. Chan, University of California Los Angeles and Institute for Pure and Applied Mathematics, *Variational PDE models and algorithms in image processing*, Monday, 11:10 a.m.

Minisymposia

Optimization for modeling and simulation: Theory versus practice, organized by **Juan C. Meza**, Sandia National Laboratories, Sunday morning.

Modeling and simulation for thin films, organized by **Russel Cafilisch**, University of California Los Angeles, Sunday morning.

Applications of symmetry in dynamical systems, organized by **Debra K. Lewis**, University of California Santa Cruz, Sunday afternoon.

Partial differential equations and applications, organized by **Oscar P. Bruno**, California Institute of Technology, Monday morning.

Mathematics and computers in biology and medicine, organized by **Angela Y. Cheer**, University of California Davis, Monday morning.

Mathematical models for image analysis and computer vision, organized by **Luminita Aura Vese**, University of California Los Angeles, Monday afternoon.

Undergraduate programs and research projects in applied and computational mathematics, organized by **Terry L. Herdman**, Virginia Polytechnic Institute and State University, Monday afternoon.

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 Tuesday and Wednesday will include Invited Address and sessions of contributed papers. The following speakers will give invited addresses; titles, days, and times will be listed in the program.

Michael Benedikt, Lucent Technology/Bell Labs (Naperville, IL);

John D. Clemens, California Institute of Technology;

Rodney G. Downey, Victoria University (New Zealand);

Sergey Goncharov, Novosibirsk State University;

Martin Grohe, University of Freiburg;

Leonid Libkin, University of Toronto;

Philipp S. Rothmaler, Wesleyan University;

Moshe Vardi, Rice University; and

Martin Zeman, University of California Irvine.

See also the Special Session jointly sponsored by ASL in the "Joint Special Sessions" section.

Association for Women in Mathematics (AWM)

Twenty-Second Annual Emmy Noether Lecture, Monday, 9:00 a.m.–9:50 a.m., **Lenore C. Blum**, Carnegie Mellon University, *Computing over the Reals: Where Turing Meets Newton*.

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

Mathematics after High School: How to Promote Success for More, Sunday, 3:20 p.m.–4:20 p.m., organized by **Catherine B. Kessel**, University of California Berkeley,

Suzanne M. Lenhart, University of Tennessee and Oak Ridge National Laboratory, and **Teri Jo Murphy**, University of Oklahoma.

At the conclusion of 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 Monday afternoon (see the AWM inclusion in the "Joint Sessions" section at the beginning of this announcement).

Business Meeting, Sunday, 4:20 p.m.–4:50 p.m.

Workshop, Wednesday, 8:30 a.m.–5:00 p.m. With funding from the Office of Naval Research and the National Science Foundation (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.

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 and a luncheon. 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 e-mail: 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, Sunday, 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 Session of Presentations by Recent Doctoral Recipients in the Mathematical Sciences, Tuesday, 1:00 p.m.–5:00 p.m., moderated by **William A. Massey**, Lucent Technologies.

Cox-Talbot Address, to be given by **Gloria C. Hewitt**, University of Montana, Tuesday after the banquet.

Distance Learning, a panel discussion on Wednesday, 9:00 a.m.–9:50 a.m.

Business Meeting, Wednesday, 10:00 a.m.–10:50 a.m.

William W. S. Claytor Lecture: Katherine Okikiolu, University of California San Diego, *Title to be announced*, Wednesday, 1:00 p.m.

See details about the banquet on Tuesday 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, Tuesday, 8:00 a.m.–11:00 a.m.

Rocky Mountain Mathematics Consortium (RMMC)

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

Young Mathematicians Network (YMN)

Concerns of Young Mathematicians: A Town Meeting, Sunday, 7:15 p.m.–8:15 p.m., organized by **Kevin E. Charlwood**, Washburn University. This panel discussion will focus on the current primary concerns of young mathematicians, with emphasis on audience participation.

Also see details about the poster session (Monday afternoon) and two panel discussions (Tuesday afternoon at 5:30 p.m. and 6:00 p.m.) cosponsored by YMN under the “Other MAA Sessions” listings.

Ancillary Conference

American Statistical Association (ASA): Mathematicians and others who teach courses in introductory statistics will be pleased to know that the course Teaching Statistics with Active Learning will again be offered on January 4 and 5 preceding the Joint Mathematics Meetings in San Diego. Presenters for this two-day LearnSTAT course are Beth L. Chance and Allan J. Rossman, California Polytechnic State University. The course is designed for instructors from universities, colleges, junior colleges, and high schools. It will actively involve participants with hands-on investigations that can be adopted for use with students. The course is of particular value to those who teach statistics but have little training in the discipline. Visit the LearnSTAT site at <http://www.amstat.org/education/learnstat.html> for complete course description, registration, hotel information, and course cost. Inquiries can be directed to: learnstat@amstat.org.

Social Events

It is strongly recommended that for any event requiring a ticket, tickets should 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 21**. 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, Sunday–Tuesday, 9:00 a.m.–5:00 p.m., and Wednesday, 9:00 a.m.–3:00 p.m., organized by **Richard Neal**, University of Oklahoma.

Graduate Student Reception, Sunday, 5:00 p.m.–6:00 p.m. 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 Reception, Sunday, 5:30 p.m.–7:30 p.m. CRM, DIMACS, The Fields Institute, IMA, IPAM, MSRI, and PIMS invite you to a reception where you can talk to their representatives and learn about their current and future programs and activities (or reminisce about their past ones). The participating institutes are Centre de Recherches Mathématiques (Montréal), the Center for Discrete Mathematics and Theoretical Computer Science (New Jersey), The Fields Institute (Toronto), the Institute for Mathematics and its Applications (Minneapolis), the Institute for Pure and Applied Mathematics at UCLA (Los Angeles), the Mathematical Sciences Research Institute (Berkeley), and the Pacific Institute for the Mathematical Sciences (Vancouver).

Reception for First-Time Participants, Sunday, 6:00 p.m.–7:00 p.m. The AMS and the MAA Committee on Membership are cosponsoring a social hour on Sunday from 6:00 p.m. to 7:00 p.m. 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. Refreshment will be served.

All participants are invited to a **dinner to honor AWM's Noether Lecturer** on Sunday. 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 Sunday 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, Monday, 5:45 p.m.–7:00 p.m., sponsored by Addison Wesley Longman.

MER Banquet: The Mathematicians and Education Reform (MER) Network welcomes all mathematicians who are interested in precollege, undergraduate, and/or graduate educational reform to attend the MER banquet on Monday 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 \$47 each, including tax and gratuity.

Joint Pi Mu Epsilon and MAA Student Chapter Advisors' Breakfast, Tuesday, 7:00 a.m.–8:00 a.m.; contact Richard Jarvinen, rdjarvinen@vax02.winona.msus.edu.

Welcome Reception for Mathematicians in Business, Industry, and Government, Tuesday, 5:00 p.m.–6:00 p.m., organized by **Phil Gustafson**, Mesa State College. This reception is open to all conference participants and in particular to those interested in the mathematics of business, industry, and government (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.

Mathematical Reviews Reception: Day and time to be announced. All friends of MR are invited to join reviewers

and MR editors and staff (past and present) in celebrating the 60th anniversary of the founding of *Mathematical Reviews*. Refreshments will be served.

NAM Banquet, Tuesday, 5:30 p.m. to 8:00 p.m. The National Association of Mathematicians will host a banquet on Tuesday 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 \$47 each, including tax and gratuity.

MAA Project NExT Reception, Tuesday, 8:30 p.m.–10:30 p.m., organized by **Christine Stevens**, St. Louis University. All MAA Project NExT national and Section NExT Fellows, consultants, and other friends of MAA Project NExT are invited.

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 Wednesday, with a cash bar reception at 6:30 p.m. and dinner at 7:30 p.m. Tickets are \$47, including tax and gratuity.

A special highlight of the evening will be a talk by **Hendrick W. Lenstra Jr.**, University of California Berkeley, on *Pi in de Pieterskerk*. On July 5, 2000, the Dutch crown prince Willem-Alexander unveiled in the historic Pieterskerk in Leiden a stone commemorating the Dutch mathematician Ludolph van Ceulen (1540–1610). Van Ceulen achieved fame for his accurate computation of the number pi. Remarkably, his result was first made public on his tombstone, a unique mathematical monument that was lost in the early nineteenth century. In the lecture the speaker will describe the rediscovery of the original text on the tombstone and his initiative to have a replacement copy made and installed in the Pieterskerk.

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. The membership manager of the Society will be at the booth to answer questions about membership.

Book Sales and Exhibits: All participants are encouraged to visit the book, education media, and software exhibits from noon to 5:30 p.m. on Sunday, 9:30 a.m. to 5:30 p.m. on Monday and Tuesday, and 9:00 a.m. to noon on Wednesday. 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 or acknowledgment of advance registration from the Mathematics Meetings Service Bureau (MMSB) 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 1131 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. 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 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 7 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, it is strongly suggested that advance registrants from Canada choose to 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 San Diego. Acknowledgments of registrations will be sent by e-mail to the e-mail addresses given on the Advance Registration/Housing Form. If you do not wish your registration acknowledged by e-mail, please mark the appropriate box on the form.

E-mail Advance Registration: This service is available for advance registration and housing arrangements by requesting the forms via e-mail from meetreg-request@ams.org, or by visiting http://www.ams.org/amsmtgs/2049_registration.html. VISA, MasterCard, Discover, and American Express are the only methods of payment which can be accepted for e-mail advance registration, and charges to credit cards will be made in U.S. funds. Completed e-mail forms should be sent to 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/2049_registration.html. VISA, MasterCard, Discover, and American Express

Meetings & Conferences

are the only methods of payment which 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 January 2 (the deadline for refunds for banquet tickets is December 21) 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	\$185	\$241
Emeritus Member of AMS, MAA; Graduate Student; Unemployed; Librarian; High School Teacher; Developing Countries Special Rate	35	45
Undergraduate Student	20	26
Temporarily Employed	145	166
Nonmember	287	373
High School Student	2	5
One-Day Member of AMS, ASL, CMS, MAA, SIAM	n/a	132
One-Day Nonmember	n/a	205
Nonmathematician Guest	5	5
Employment Center		
Employer (first table)	\$210	\$300
Employer (each additional table)	60	100
Employer Posting Fee	50	N/A
Applicants (all services)	40	75
Applicants (<i>Winter List</i> & message center only)	20	20
AMS Short Course		
Member of AMS or MAA	\$ 80	\$100
Nonmember	110	130
Student/Unemployed/Emeritus	35	50
MAA Minicourses		
Minicourses #9-16	\$60	\$60*
Minicourses #1-8	90	90*
*if space is available		
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: Persons who qualify for emeritus membership in either the Society or the Association. The emeritus status refers to 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, 2002, 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 of 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/or the MAA will receive mailings after the meetings are over with a special membership offer from AMS and MAA.

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. If a registrant should arrive too late in the day to pick up his/her badge, he/she may show the acknowledgment of advance registration received from the MMSB as proof of registration.

Advance registration forms accompanied by insufficient payment either 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 e-mail message to abs-submit@ams.org; include the number 973 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 three separate advance registration deadlines, each with its own advantages and benefits.

EARLY advance registration

(room lottery, inclusion in the *Winter Lists* for the Employment Center) **October 26**

ORDINARY advance registration
(hotel reservations, materials mailed) **November 7**

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

Early Advance Registration: Those who register by the **early** deadline of October 26 will be included in a random drawing to select winners of complimentary hotel rooms in San Diego. 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 25. So register early! (See the list of the winners in New Orleans on the hotel page.) Also, applicant and employer forms must be received by October 26 in order to be reproduced in the *Winter Lists* for the Employment Center.

Ordinary Advance Registration: Those who register after October 26 and by the **ordinary** deadline of November 7 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.

Final Advance Registration: Those who register after November 7 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 Hall B of the San Diego Convention Center to register on site.

Hotel Reservations

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

Participants requiring hotel reservations should read the instructions on the following 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 on the following pages should call the hotels directly after December 14. 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 after guests have checked into their rooms. Participants should 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

Audio-Visual 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 where the majority of speakers in the session require this equipment should contact the audio-visual coordinator for the meetings at the AMS office in Providence at 401-455-4140 or by e-mail at 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 audio-visual 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 audio-visual equipment can be provided for committee meetings or other meetings or gatherings not on the scientific program.

Childcare: The Marriott Hotel and Marina will provide recommendations for in-room childcare for guests through their concierge desks. Call 619-234-1500 and ask for the concierge desk at least one day in advance. For other hotels you should make inquiries with the front desk. Arrangements represent a contractual agreement between each individual and the child-care provider. The Joint Meetings assumes no responsibility for the services rendered.

E-mail Services: The AMS and MAA are pleased to announce that Wolfram Research, Inc., makers of Mathematica, will once again sponsor e-mail access for all Joint Meeting participants. The hours of operation will be published in the program. The AMS and MAA

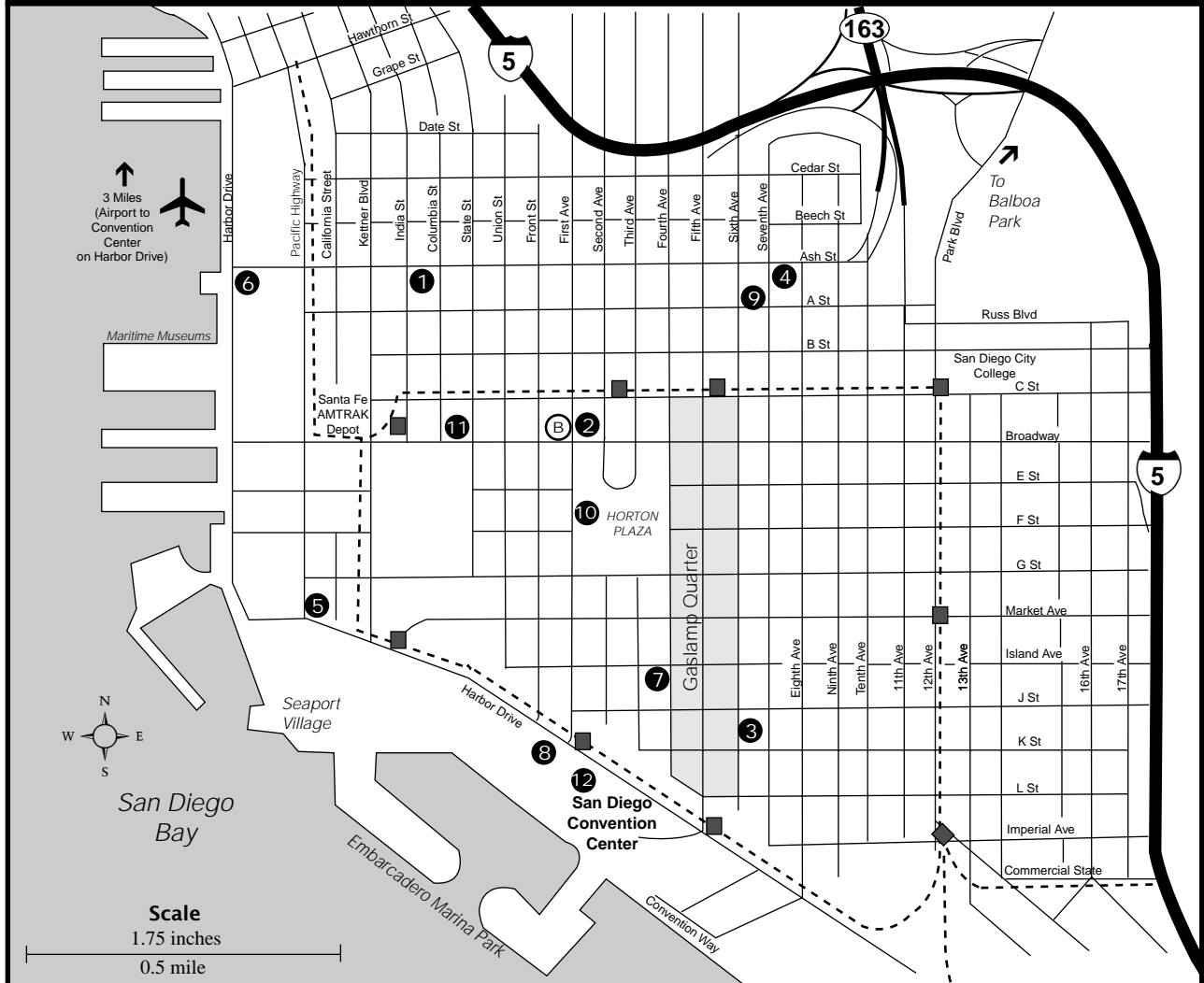


How to Obtain Hotel Accommodations

<p>Room Lottery: (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 Marlow Anderson, Jan Hogendijk, Keith Howard, Stacy Langton, Shayne Redmond, and Rebecca Sparks.</p>	<p>General Instructions: 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 December 14, at which time rooms and rates will be based on availability. A higher rate will be applied to any rooms reserved directly with the hotels before December 14.</p> <p>To make a reservation, please submit a completed housing section of the Advance Registration/Housing (ARH) Form (paper or electronic) with a guarantee by November 7. Sorry, reservations cannot be taken by phone. Participants interested in reserving suites are urged to call hotels directly for capacity and price information before submitting their reservation requests to the MMSB.</p>	<p>Deadlines:</p> <ul style="list-style-type: none"> • Room lottery qualification: October 26, 2001 • Reservations through MMSB: November 7, 2001 • Changes/cancellations through MMSB: December 6, 2001
<p>Rates:</p> <ul style="list-style-type: none"> • Subject to 10.5% state/local tax and a California Commerce fee of \$.13 • Only certified students or unemployed mathematicians qualify for student rates. • See ARH Form for detailed rate structure of each property. • Rates at hotels may be subject to an energy surcharge. Participants are not obligated to pay an energy surcharge and may use their own discretion in this decision. 	<p>General Information:</p> <ul style="list-style-type: none"> • Check-in: 4:00 p.m./checkout: noon – Embassy Suites, Holiday Inn, and Clarion Bay View (For all others, check-in is at 3:00 p.m., checkout is noon.) • Windows do not open in rooms unless otherwise indicated. • Children are free, where appropriate, in existing beds only. • Limited availability of cribs, free of charge 	<p>Guarantee Requirements:</p> <ul style="list-style-type: none"> • One night deposit by check, or • Credit cards accepted: VISA, MC, AMEX, and Diners (Cards may be charged one night deposit.)
<p>San Diego Marriott (Headquarters) (Next door to Convention Center)</p>		
<p>333 W. Harbor Drive San Diego, CA 92101-7700 (619) 234-1500 Bay view - \$176 single/double City view - \$156 single/double Students - \$128 single/double</p> <p>Restaurants; bars; gift shop; heated outdoor pools; health club and exercise room; tennis court; marina; gift shop; parking \$18 (valet), \$14 (self); all rooms have full amenities (no safes or mini bars) in two towers (North Tower and South Tower); Web TV and data ports in all rooms; windows open in most rooms; children under 18 years free</p>	<p>Embassy Suites (.75 mile to Convention Center)</p> <p>601 Pacific Highway San Diego, CA 92101 (800) 362-2779 (619) 239-2400 Regular - \$148 single/double Bay view - \$168 single/double Students - \$138 single/double (Rates include complimentary cooked-to-order breakfast and evening beverages.)</p> <p>Restaurant; lounge; fitness center; indoor pool; gift shop; parking \$14 (self), \$16 (valet); all rooms are suites with parlor rooms and full amenities (no safes) including refrigerator and microwave oven; sleeper sofas in parlors; windows open in rooms; dual phone lines and data ports in all rooms; children under 12 years free</p>	<p>Wyndham San Diego at Emerald Plaza (1 mile to Convention Center)</p> <p>400 West Broadway San Diego, CA 92101 (619) 239-4500 Regular - \$147 single/double Students - \$137 single/double</p> <p>Restaurant; lounge; gift shop; spa; health club; heated outdoor pool; glass elevators; valet parking \$18; complimentary airport shuttle; all rooms have full amenities including mini bars; high speed internet access in all rooms; children under 18 years free</p>
<p>Horton Grand (.38 mile to Convention Center)</p> <p>311 Island Avenue San Diego, CA 92101 (800) 542-1886 (619) 544-1886 Regular - \$145 single/double Students - \$135 single/double</p> <p>Historical hotel; restaurant; bar; parking \$15 (valet); all rooms have full amenities (no safes or mini bars); majority of rooms have one queen bed; balconies in some rooms; windows open in some rooms; children under 10 years free</p>	<p>The Bristol San Diego (.75 mile to Convention Center)</p> <p>1055 First Avenue San Diego, CA 92101 (619) 232-6141 Regular - \$140 single/double Students - \$130 single/double (Rates include complimentary deluxe continental breakfast.)</p> <p>Restaurant; health club; parking \$12 (valet); all rooms have full amenities (no safes); Web TV available in rooms; windows open in rooms; children under 17 in the same room as parents free</p>	<p>Horton Grand (.38 mile to Convention Center)</p> <p>311 Island Avenue San Diego, CA 92101 (800) 542-1886 (619) 544-1886 Regular - \$145 single/double Students - \$135 single/double</p> <p>Historical hotel; restaurant; bar; parking \$15 (valet); all rooms have full amenities (no safes or mini bars); majority of rooms have one queen bed; balconies in some rooms; windows open in some rooms; children under 10 years free</p>
<p>San Diego Marriott (Headquarters) (Next door to Convention Center)</p> <p>333 W. Harbor Drive San Diego, CA 92101-7700 (619) 234-1500 Bay view - \$176 single/double City view - \$156 single/double Students - \$128 single/double</p> <p>Restaurants; bars; gift shop; heated outdoor pools; health club and exercise room; tennis court; marina; gift shop; parking \$18 (valet), \$14 (self); all rooms have full amenities (no safes or mini bars) in two towers (North Tower and South Tower); Web TV and data ports in all rooms; windows open in most rooms; children under 18 years free</p>	<p>Westin Horton Plaza (.5 mile to Convention Center)</p> <p>910 Broadway Circle San Diego, CA 92101 (619) 239-2200 Regular - \$139 single, \$149 double</p> <p>Restaurants; lounges; gift shop; health club and sauna; heated outdoor pool; parking \$18 (valet), \$15 (self); all rooms have full amenities (no safes) including refreshment centers; fax/computer data ports in rooms; children under 18 years free</p>	<p>Westin Horton Plaza (.5 mile to Convention Center)</p> <p>910 Broadway Circle San Diego, CA 92101 (619) 239-2200 Regular - \$139 single, \$149 double</p> <p>Restaurants; lounges; gift shop; health club and sauna; heated outdoor pool; parking \$18 (valet), \$15 (self); all rooms have full amenities (no safes) including refreshment centers; fax/computer data ports in rooms; children under 18 years free</p>
<p>Continued θ</p>		

<p>Holiday Inn on the Bay (1.6 miles to Convention Center) (1 block to trolley)</p> <p>1355 North Harbor Bay San Diego, CA 92101 (800) 877-8920 (619) 232-3861</p> <p>Regular \$138 single, \$148 double Bay view \$158 single, \$168 double</p> <p>Restaurants; lounge; gift shop; fitness room; heated outdoor pool; parking \$13 (self); complimentary airport shuttle; all rooms have full amenities (no safes or mini bars); most rooms have patios; windows open in all rooms; phones with data ports in all rooms; children under 18 years free</p>	<p>Clarion Bay View (.38 mile to Convention Center)</p> <p>660 K Street San Diego, CA 92101 (800) 766-0234 (619) 696-0234</p> <p>Regular \$138 single/double Student \$128 single/double</p> <p>Restaurant; lounge; gift shop; fitness center and spa; parking \$10 (self); all rooms have full amenities; some rooms have mini bars; data ports in all rooms; windows open in rooms; children under 18 years free</p>	<p>Best Western Bayside Inn (1.25 miles to Convention Center) (2 blocks to trolley)</p> <p>555 W. Ash Street San Diego, CA 92101 (800) 341-1818 (619) 233-7500</p> <p>Regular \$119 single/double Student \$109 single/double</p> <p>Restaurant; lounge; outdoor heated pool and spa; complimentary parking; complimentary airport shuttle; all rooms have a private balcony and full amenities (no safes); all rooms have a microwave and refrigerator; some rooms have mini bars; data ports in rooms; children under 12 years free</p>	<p>Quality Inn and Suites (1.8 miles to Convention Center) (2 blocks to trolley)</p> <p>1430 7th Avenue San Diego, CA 92101 (619) 696-0911</p> <p>Regular \$109 single, \$119 double (Rates include complimentary continental breakfast.)</p> <p>Restaurant; exercise room; outdoor heated pool; parking \$6 (self); complimentary airport shuttle; all rooms with full amenities including in-room coffee; data ports in rooms; windows open in rooms; most rooms have balconies; children under 18 years</p>	<p>Comfort Inn (1.8 miles to Convention Center) (3 blocks to trolley)</p> <p>719 Ash Street San Diego, CA 92101 (619) 232-2525</p> <p>Regular \$91 single/double (Rates include complimentary continental breakfast.)</p> <p>Restaurant; fitness room; outdoor heated spa; complimentary parking; complimentary airport shuttle; rooms open from outside; rooms have full amenities including in-room coffee; data ports in rooms; windows open in rooms; children under 18 years</p>	<p>Attention Students</p> <p>As an alternative housing choice, Hostelling International-San Diego Downtown is located on the corner of 5th and Market Street in the soul of the city's Gaslamp Quarter. It is located four blocks from the Convention Center and three blocks from the Bayside Trolley.</p> <p>\$18 - \$19/day 521 Market Street San Diego, CA 92101 (619) 525-1531 http://www.hostelweb.com/sandiego</p> <p>Please call directly for further information and reservations.</p>
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DOWNTOWN SAN DIEGO



Key

- Trolley Line
- ◆ Trolley Station
- Trolley Stop
- ⓑ Bus Station

Hotels and Convention Center

- | | |
|-----------------------------|--|
| 1. Best Western Bayside Inn | 7. Horton Grand |
| 2. Bristol San Diego | 8. Marriott Hotel and Marina (Hqtrs) |
| 3. Clarion Bayview | 9. Quality Inn & Suites Harbor View |
| 4. Comfort Inn | 10. The Westin Horton Plaza |
| 5. Embassy Suites | 11. Wyndham San Diego at Emerald Plaza |
| 6. Holiday Inn on the Bay | 12. San Diego Convention Center |

thank Wolfram Research for its generosity in providing this valuable service.

Information Distribution: Tables are set up in the exhibit area for dissemination of general information of possible interest to the members and for the 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 \$55 (posters are slightly higher) per item. Please contact the exhibits manager, MMSB, P.O. Box 6887, Providence, RI 02940, for further details.

If a person or group would like to display material in the exhibit area separate from the Joint Books table, the proponent must reimburse the AMS and MAA for any extra furnishings requested (tables, chairs, easels, etc.) in addition to payment of the \$55 per item fee. (This latter display is also subject to space availability.)

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 <http://www.sandiego.org/> 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 e-mail at 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. Since 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 Wednesday, 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 6 through 9 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.

Travel

San Diego is on Pacific Standard Time. The San Diego Airport (Lindbergh Field) is located in the city and is served by all major airlines.

Official airlines for the meetings are **US Airways**, **Delta Air Lines**, and **Southwest Airlines**. 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, since 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 January 1-12, 2002. Other restrictions/discounts may apply, and seats are limited.

Delta Air Lines is offering special rates which allow you a 5% discount off Delta's published round-trip fares within the continental U.S., Hawaii, Alaska, Canada, Mexico, Bermuda, San Juan, Nassau, the U.S. Virgin Islands, and the Caribbean.

A 10% discount will be offered on Delta's domestic system based on the published unrestricted round-trip coach (Y06) rates. Applicable restrictions must be met, and seats are limited. Booking classes I and U are not eligible for discounts.

No advance reservation or ticketing is required, but if you purchase your ticket 60 days or more prior to departure, you can receive an additional 5% bonus discount.

Special round-trip zone fares are also available to all cities served by Delta and Delta Express. (Two-day minimum stay; no Saturday night stay is required.) Contact Delta at the number below for details.

These discounts are available **only** through the Delta Meeting Network® Reservations number 1-800-241-6760 by you or your travel agent. Reservations may be made between the hours of 8:00 a.m. and 11:00 p.m. Eastern Standard Time; refer to **File Number 179291A**.

Southwest Airlines is offering a 10% discount on most of its already low fares for air travel to and from the event. You or your travel agent may call Southwest Airlines Group and Meetings Reservations at 1-800-433-5368 and reference the **ID Code R6135**. Reservations sales agents are available 8:00 a.m.-5:00 p.m. Monday-Friday, or 9:30 a.m.-3:30 p.m. Saturday and Sunday. You must make reservations five or more days prior to travel to take advantage of this offer.

US Airways offers a 7% discount off First or Envoy Class and any published US Airways promotional round-trip fare. By purchasing your ticket 60 days or more prior to departure, you can receive an additional 3% bonus discount. Or choose a 12% discount off unrestricted coach fares with seven-day advance purchase. By purchasing your ticket 60 days or more prior to departure, you can receive an additional 3% bonus discount.

For reservations call (or have your travel agent call) the US Airways Group and Meeting Reservation Office toll free

at 1-877-874-7687 between 8:00 a.m. and 9:30 p.m. Eastern Standard Time. Refer to **Gold File number 74671953**.

Official car rental companies for the meeting are **Avis** and **Hertz**. All car rentals include unlimited free mileage and are available to renters 25 years and older.

Avis offers special convention rental rates effective December 28, 2001–January 16, 2002:

Car Type	Daily	Weekly	Weekend Daily
Subcompact	\$34	\$145	\$24
Compact	38	160	25
Intermediate	41	170	26
Full-Size 2-Door	45	180	28
Full-Size 4-Door	48	189	29
Premium	51	200	32
Luxury	63	290	43
Minivan	63	290	42
Convertible	67	303	42
Sport Utility	63	290	42

Should a lower qualifying rate become available, Avis is pleased to present a 5% discount on that rate, or if a car size is selected that is not available above, Avis will discount the best available rate by 5%. 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. The 24-hour toll-free reservation number is 1-800-331-1600; cite **group ID number J098887**. Reservations can also be made online at www.avis.com.

Hertz offers special convention rates effective December 30, 2001–January 16, 2002:

Car Type	Daily	Weekly	Weekend Daily
Economy 2-Door	\$35	\$160	\$25
Compact 4-Door	41	175	28
Midsize 2- or 4-Door	44	181	29
Sporty 2-Door	48	195	31
Full-Size 4-Door	50	204	32
Premium	54	215	35
Towncar	66	305	71
Minivan	60	300	70
Convertible	60	300	70
4-Wheel Drive	60	300	70

Meeting rates are subject to availability. Advance reservations are recommended; blackout dates may apply. Government surcharges, taxes, tax reimbursement, airport related fees, vehicle licensing fees, and optional items such as refueling or additional driver fees are extra. Minimum rental age is 25 (exceptions apply.) Standard rental conditions and qualifications apply. The 24-hour toll-free reservation number in the U.S. is 1-800-654-2240, in Canada is 1-800-263-0600; cite **group ID number 022J0510**.

Ground Transportation from the Airport: For each terminal at Lindbergh Field taxicabs are to be found at the ground level across the one-way street in front of the terminal. The fare to the Convention Center is about \$10.

There are many shuttle buses to various hotels. The fare on the Cloud Nine Shuttle is \$8.90/first fare and \$5/second through seventh persons for those sharing a ride. Reservations can be made by calling 800-974-8885.

Driving Directions: From the airport: Go left on Harbor Drive towards downtown. After you pass Seaport Village, the San Diego Marriott will be on your right, followed by the Convention Center. The trip takes about twelve minutes.

From the north: Take Interstate 5 South. Exit to Front Street and follow for approximately one mile.

From the south: Take Interstate 5 North. Take the Civic Center/Pershing Drive exit. Turn left onto "B" Street, then left onto 8th Avenue. Make a right turn onto Market Street, then a left onto Front Street. Follow Front Street to the Convention Center and Marriott.

From the east: Take Interstate 8 West to Highway 163 South. Follow 163 into the city, where it turns into 10th Avenue. Take a right onto Market Street and then a left onto Front Street.

Weather

The temperature ranges from about 48° F. to 65° F. The sun shines during 72 percent of the daylight hours. Average precipitation in January is 2.2 inches. Visit your favorite weather site for up-to-the-minute forecasts, or see <http://www.usatoday.com/weather/basemaps/usaca/nw722900.htm>.

Ann Arbor, Michigan

University of Michigan

March 1–3, 2002

Meeting #974

Central Section

Associate secretary: Susan J. Friedlander

Announcement issue of *Notices*: January 2002

Program first available on AMS website: January 17, 2002

Program issue of electronic *Notices*: May 2002

Issue of *Abstracts*: To be announced

Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: November 13, 2001

For abstracts: January 8, 2002

Invited Addresses

Lazlo Babai, University of Chicago, *Title to be announced.*

Netts Katz, Washington University, *Title to be announced.*

Alan Reid, University of Texas at Austin, *Title to be announced.*

Lihe Wang, University of Iowa, *Title to be announced.*

Special Sessions

Algebraic Combinatorics (Code: AMS SS H1), **Patricia Hersh**, University of Michigan, Ann Arbor, and **Brian D. Taylor**, Wayne State University.

Algebraic Topology (Code: AMS SS F1), **Robert Bruner**, Wayne State University, and **Igor Kriz**, University of Michigan, Ann Arbor.

Commutative Algebra (Code: AMS SS D1), **Florian Enescu**, University of Michigan, Ann Arbor, **Anurag K. Singh**, University of Utah, and **Karen E. Smith**, University of Michigan, Ann Arbor.

Hyperbolic Manifolds and Discrete Groups (Code: AMS SS E1), **Richard D. Canary**, University of Michigan, Ann Arbor, and **Alan W. Reid**, University of Texas, Austin.

Integrable systems and Poisson geometry (Code: AMS SS C1), **Anthony Block**, University of Michigan, **Philip Foth**, University of Arizona, and **Michael Gekhtman**, University of Notre Dame.

Moduli Spaces (Code: AMS SS G1), **Angela Gibney**, University of Michigan, Ann Arbor.

Quantum Topology in Dimension Three (Code: AMS SS A1), **Charles Frohman**, University of Iowa, and **Joanna Kania-Bartoszyńska**, Boise State University.

Topics in Geometric Function Theory (Code: AMS SS B1), **David A. Herron**, University of Cincinnati, **Nageswari Shanmugalingam**, University of Texas, and **Jeremy T. Tyson**, SUNY at Stony Brook.

Atlanta, Georgia

*Georgia Institute of Technology***March 8–10, 2002****Meeting #975**

Southeastern Section

Associate secretary: John L. Bryant

Announcement issue of *Notices*: January 2002

Program first available on AMS website: January 31, 2002

Program issue of electronic *Notices*: May 2002Issue of *Abstracts*: To be announced**Deadlines**

For organizers: August 8, 2001

For consideration of contributed papers in Special Sessions: November 27, 2001

For abstracts: January 22, 2002

For summaries of papers to MAA organizers: To be announced

AMS Invited Addresses

Nigel J. Kalton, University of Missouri, Columbia, *Title to be announced.*

James G. Oxley, Louisiana State University, *Title to be announced.*

Montréal, Quebec, Canada

*Centre de Recherches Mathématiques, Université de Montréal***May 3–5, 2002****Meeting #976**

Eastern Section

Associate secretary: Lesley M. Sibner

Announcement issue of *Notices*: March 2002

Program first available on AMS website: March 21, 2002

Program issue of electronic *Notices*: July 2002Issue of *Abstracts*: To be announced**Deadlines**

For organizers: October 3, 2001

For consideration of contributed papers in Special Sessions: January 15, 2002

For abstracts: March 12, 2002

Invited Addresses

Nicholas M. Ercolani, University of Arizona, *Title to be announced.*

Lars Hesselholt, Massachusetts Institute of Technology, *Title to be announced.*

Niky Kamran, McGill University, *Title to be announced.*

Rafael de la Llave, University of Texas at Austin, *Title to be announced.*

Special Sessions

Combinatorial and Geometric Group Theory (Code: AMS SS A1), **Olga G. Kharlampovich**, McGill University, **Alexei Myasnikov** and **Vladimir Shpilrain**, City College, New York, and **Daniel Wise**, McGill University.

Combinatorial Hopf Algebras (Code: AMS SS C1), **Marcelo Aguiar**, Texas A&M University, **François Bergeron**, Université du Québec à Montréal, and **Christophe Reutenauer**, Université du Québec à Montréal.

Potential Theory (Code: AMS SS B1), **Paul M. Gauthier**, Université de Montréal, **K. Gowri Sankaran**, McGill University, and **David H. Singman**, George Mason University.

Pisa, Italy

June 12–16, 2002**Meeting #977**

First Joint International Meeting between the AMS and the Unione Matematica Italiana.

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

Invited Addresses

Luigi Ambrosio, Scuola Normale Superiore, *Title to be announced*.

Luis A. Caffarelli, University of Texas at Austin, *Title to be announced*.

Claudio Canuto, University of Torino, *Title to be announced*.

L. Craig Evans, University of California Berkeley, *Title to be announced*.

Giovanni Gallavotti, University of Rome I, *Title to be announced*.

Sergio Klainerman, Princeton University, *Title to be announced*.

Rahul V. Pandharipande, California Institute of Technology, *Title to be announced*.

Claudio Procesi, University of Rome, *Title to be announced*.

Portland, Oregon

Portland State University

June 20–22, 2002

Meeting #978

Western Section
Associate secretary: Bernard Russo
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: November 20, 2001
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

Special Sessions

Algebraic Geometry and Combinatorics (Code: AMS SS B1), **Eric Babson** and **Rekha Thomas**, University of Washington, and **Sergey Yuzvinsky**, University of Oregon.

Qualitative Properties and Applications of Functional Equations (Code: AMS SS A1), **Theodore A. Burton**, Southern Illinois University.

Boston, Massachusetts

Northeastern University

October 5–6, 2002

Meeting #979

Eastern Section
Associate secretary: Lesley M. Sibner
Announcement issue of *Notices*: August 2002
Program first available on AMS website: August 22, 2002
Program issue of electronic *Notices*: December 2002
Issue of *Abstracts*: To be announced

Deadlines

For organizers: March 5, 2002
For consideration of contributed papers in Special Sessions: June 18, 2002
For abstracts: August 13, 2002

Invited Addresses

Lou P. van den Dries, University of Illinois, Urbana-Champaign, *Title to be announced*.

Diane Henderson, Pennsylvania State University, *Title to be announced*.

Christopher K. King, Northeastern University, *Title to be announced*.

Xiaobo Liu, University of Notre Dame, *Title to be announced*.

Madison, Wisconsin

University of Wisconsin-Madison

October 12–13, 2002

Meeting #980

Central Section
Associate secretary: Susan J. Friedlander
Announcement issue of *Notices*: August 2002
Program first available on AMS website: August 29, 2002
Program issue of electronic *Notices*: December 2002
Issue of *Abstracts*: To be announced

Deadlines

For organizers: March 12, 2002
For consideration of contributed papers in Special Sessions: June 25, 2002
For abstracts: August 20, 2002

Invited Addresses

Lawrence Ein, University of Illinois at Chicago, *Title to be announced*.

Eleny Ionel, University of Wisconsin, *Title to be announced*.

Mikhail Safonov, University of Minnesota, *Title to be announced.*

John Sullivan, University of Illinois, Urbana-Champaign, *Title to be announced.*

Special Sessions

Arithmetic Algebraic Geometry (Code: AMS SS A1), **Ken Ono** and **Tonghai Yang**, University of Wisconsin-Madison.

Arrangements of Hyperplanes (Code: AMS SS E1), **Daniel C. Cohen**, Louisiana State University, **Peter Orlik**, University of Wisconsin-Madison, and **Anne Shepler**, University of California Santa Cruz.

Biological Computation and Learning in Intelligent Systems (Code: AMS SS S1), **Shun-ichi Amari**, RIKEN, **Amir Assadi**, University of Wisconsin-Madison, and **Tomaso Poggio**, MIT.

Combinatorics and Special Functions (Code: AMS SS T1), **Richard Askey** and **Paul Terwilliger**, University of Wisconsin-Madison.

Dynamical Systems (Code: AMS SS P1), **Sergey Bolotin** and **Paul Rabinowitz**, University of Wisconsin-Madison.

Effectiveness Questions in Model Theory (Code: AMS SS J1), **Charles McCoy**, **Reed Solomon**, and **Patrick Speissegger**, University of Wisconsin-Madison.

Geometric Methods in Differential Equations (Code: AMS SS H1), **Gloria Mari Beffa**, University of Wisconsin-Madison, and **Peter Olver**, University of Minnesota.

Geophysical Waves and Turbulence (Code: AMS SS M1), **Paul Milewski**, **Leslie Smith**, and **Fabian Waleffe**, University of Wisconsin-Madison.

Group Cohomology and Homotopy Theory (Code: AMS SS G1), **Alejandro Adem**, University of Wisconsin-Madison, and **Jesper Grodal**, Institute for Advanced Study.

Harmonic Analysis (Code: AMS SS C1), **Alex Ionescu** and **Andreas Seeger**, University of Wisconsin-Madison.

Hyperbolic Differential Equations and Kinetic Theory (Code: AMS SS K1), **Shi Jin**, **Marshall Slemrod**, and **Athanassios Tzavaras**, University of Wisconsin-Madison.

Lie Algebras and Related Topics (Code: AMS SS N1), **Georgia Benkart** and **Arun Ram**, University of Wisconsin-Madison.

Multiresolution Analysis and Data Presentation (Code: AMS SS F1), **Amos Ron**, University of Wisconsin-Madison.

Partial Differential Equations and Geometry (Code: AMS SS D1), **Sigurd Angenent** and **Mikhail Feldman**, University of Wisconsin-Madison.

Probability (Code: AMS SS R1), **David Griffeth**, University of Wisconsin-Madison, and **Timo Seppalainen**, Iowa State University.

Ring Theory and Related Topics (Code: AMS SS L1), **Don Passman**, University of Wisconsin-Madison.

Several Complex Variables (Code: AMS SS B1), **Pat Ahern**, **Xianghong Gong**, **Alex Nagel**, and **Jean-Pierre Rosay**, University of Wisconsin-Madison.

Orlando, Florida

University of Central Florida

November 9–10, 2002

Meeting #982

Southeastern Section

Associate secretary: John L. Bryant

Announcement issue of *Notices*: September 2002

Program first available on AMS website: September 26, 2002

Program issue of electronic *Notices*: January 2003

Issue of *Abstracts*: Volume 23, Issue 4

Deadlines

For organizers: April 9, 2002

For consideration of contributed papers in Special Sessions: July 23, 2002

For abstracts: September 17, 2002

Baltimore, Maryland

Baltimore Convention Center

January 15–18, 2003

Joint Mathematics Meetings, including the 109th Annual Meeting of the AMS, 86th 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: Susan J. Friedlander

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: April 15, 2002

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

Baton Rouge, Louisiana

Louisiana State University

March 14–16, 2003

Southeastern Section

Associate secretary: John L. Bryant

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: August 14, 2002
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

Bloomington, Indiana

Indiana University

April 4–6, 2003

Central Section
Associate secretary: Susan J. Friedlander
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 4, 2002
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

Seville, Spain

June 25–28, 2003

First Joint International Meeting between the AMS and the Real Sociedad Matematica Española (RSME).
Associate secretary: Susan J. Friedlander
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

Binghamton, New York

SUNY-Binghamton

October 10–12, 2003

Eastern 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: March 10, 2003
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

Phoenix, Arizona

Phoenix Civic Plaza

January 7–10, 2004

Associate secretary: Bernard Russo
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: April 2, 2003
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

Athens, Ohio

Ohio University

March 26–27, 2004

Central Section
Associate secretary: Susan J. Friedlander
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: August 26, 2003
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

