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.

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*: March 2002
Program first available on AMS website: Not applicable
Program issue of electronic *Notices*: Not applicable
Issue of *Abstracts*: Not applicable

Deadlines

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

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, Politecnico 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.*

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

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

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

Special Sessions

Advances in Complex, Contact and Symplectic Geometry, **Paolo De Bartolomeis**, University of Firenze, **Yakov Eliashberg**, Stanford University, **Gang Tian**, MIT, and **Giuseppe Tomassini**, Scuola Normale Superiore, Pisa.

Advances in Differential Geometry of PDEs and Applications, **Valentin Lychagin**, New Jersey Institute of Technology, and **Agostino Prastaro**, University of Roma, La Sapienza.

Algebraic Logic and Universal Algebra, **Paolo Agliano**, University of Siena, **Keith A. Kearnes**, University of Colorado, **Franco Montagna**, University of Siena, **Don Pigozzi**, Iowa State University, and **Aldo Ursini**, University of Siena.

Algebraic Vector Bundles, **Vincenzo Ancona**, University of Firenze, **Mohan Kumar**, Washington University, **Giorgio Maria Ottaviani**, University of Firenze, **Christopher Peterson**, Colorado State University, and **Prabhakar Rao**, University of Missouri.

Analytic Aspects of Convex Geometry, **Stefano Campi**, University of Modena, **Richard Gardner**, Western Washington University, **Erwin Lutwak**, Polytechnic University Brooklyn, and **Alijosa Volcic**, University of Trieste.

Classification Theory and Topology of Algebraic Varieties, **Fabrizio Catanese**, University of Gottingen, **Janos Kollar**, Princeton University, and **Shing-Tung Yau**, Harvard University.

Commutative Algebra and the Geometry of Projective Varieties, **Ciro Ciliberto**, University of Roma II, **Anthony Geramita**, University of Genova, **Rick Miranda**, Colorado State University, and **Ferruccio Orecchia**, University of Napoli.

Commutative Algebra: Hilbert Functions, Homological Methods and Combinatorial Aspects, **Aldo Conca**, University of Genova, **Anna Guerrieri**, University of L'Aquila, **Claudia Polini**, University of Oregon, and **Bernd Ulrich**, Michigan State University.

Commutative Rings and Integer-valued Polynomials, **Stefania Gabelli**, University of Roma III, and **Thomas G. Lucas**, University of North Carolina Charlotte.

Complex, Contact and Quaternionic Geometry, **David E. Blair**, Michigan State University, and **Stefano Marchiafava**, University of Roma, La Sapienza.

Contemporary Developments in Partial Differential Equations and in the Calculus of Variations, **Irene Fonseca**, Carnegie Mellon University, and **Paolo Marcellini**, University of Firenze.

Didattica della Dimostrazione, **Ferdinando Arzarello**, University of Torino, **Guershon Harel**, Purdue University, and **Vinicio Villani**, University of Pisa.

Dynamical Systems, **Antonio Giorgilli**, University of Milano-Bicocca, **Stefano Marmi**, Scuola Normale Superiore, Pisa, and **John Norman Mather**, Princeton University.

Elliptic Partial Differential Equations, **Angelo Alvino**, University of Napoli, **Luis Caffarelli**, University of Texas, **Giorgio Talenti**, University of Firenze, and **Vladimir Oliker**, Emory University.

Equazioni di Evoluzione Nonlineari, **Alberto Tesei**, University of Roma, La Sapienza, and **Wei-Ming Ni**, University of Minnesota, Minneapolis.

Free Boundary Problems, **Ricardo Horacio Nochetto**, University of Maryland, College Park, and **Augusto Visintin**, University of Trento.

Geometric Properties of Solutions to PDEs, **Donatella Danielli**, Purdue University, and **Sandro Salsa**, Politecnico of Milano.

Harmonic Analysis, **Fulvio Ricci**, Scuola Normale Superiore, Pisa, and **Elias M. Stein**, Princeton University.

Higher Dimensional Algebra, **John Baez**, University of California, Riverside, and **Giuseppe Rosolini**, University of Genova.

History of Mathematics, **Piers Bursil-Hall**, Cambridge University, **Enrico Giusti**, University of Firenze, and **James J. Tattersall**, Providence College.

Hyperbolic Equations, **Sergiu Klainerman**, Princeton University, and **Sergio Spagnolo**, University of Pisa.

Hyperbolic Systems of Conservation Laws, **Alberto Bressan**, SISSA, Trieste, and **Shi Jin**, University of Wisconsin.

Inverse Boundary Problems and Applications, **Giovanni Alessandrini**, University of Trieste, and **Gunther Uhlmann**, University of Washington.

Jump Processes in Option Pricing Theory, **Claudio Albanese**, University of Toronto, and **Marco Isopi**, University of Bari.

Kolmogorov Equations, **Giuseppe Da Prato**, Scuola Normale Superiore, Pisa, and **Nicolai V. Krylov**, University of Minnesota.

Logarithmic De Rham Cohomology and Dwork Cohomology, **Alan Adolphson**, Oklahoma State University, Stillwater, **Francesco Baldassarri**, University of Padova, **Arthur Ogus**, University of California Berkeley, and **Steven Sperber**, University of Minnesota, Minneapolis.

Mathematical Problems in Soft Matter Modelling, **Eugene C. Gartland**, Kent State University, and **Epifanio Virga**, University of Pavia.

Mathematical Problems in Transport Theory, **Carlo Cercignani**, Politecnico of Milano, and **Irene Gamba**, University of Texas.

Mathematical Schools: Italy and the United States at the Turn of the Twentieth Century, **Umberto Bottazzini**, University of Palermo, and **Karen Hunger Parshall**, University of Virginia.

Mathematics in Polymer Science, **Antonio Fasano**, University of Firenze, and **Kumbakonam R. Rajagopal**, Texas A&M University.

Microlocal Analysis and Applications to PDE, **Daniele Del Santo**, University of Trieste, **M. K. Venkatesha Murthy**, University of Pisa, and **Daniel Tataru**, Northwestern University.

Nonlinear Analysis, **Antonio Ambrosetti**, SISSA, Trieste, **Vieri Benci**, University of Pisa, **Haim Brezis**, Rutgers University, and **Paul Rabinowitz**, University of Wisconsin.

Nonlinear Elliptic and Parabolic Equations and Systems, **Gary Lieberman**, Iowa State University, and **Antonio Maugeri**, University of Catania.

Nonstandard Methods and Applications in Mathematics, **Alessandro Berarducci**, University of Pisa, **Nigel Cutland**, University of Hull, **Mauro Di Nasso**, University of Pisa, and **David Ross**, University of Hawaii.

Operator Algebras, **Sergio Doplicher**, University of Roma, La Sapienza, and **Edward George Effros**, University of California Los Angeles.

Optimization and Control, **Roberto Triggiani**, University of Virginia, and **Tullio Zolezzi**, University of Genova.

Partial Differential Equations of Mixed Elliptic-Hyperbolic Type and Applications, **Daniela Lupo**, Politecnico of Milano, **Cathleen S. Morawetz**, Courant Institute, and **Kevin R. Payne**, University of Milano.

Periodic Solutions of Differential and Difference Equations, **Massimo Furi**, University of Firenze, and **Mario Umberto Martelli**, Claremont McKenna College.

Poisson Geometry and Integrable Systems, **Franco Magri**, University of Milano, and **Ping Xu**, Pennsylvania State University.

Quantum Cohomology and Moduli Spaces, **Angelo Vistoli**, University of Bologna, and **Aaron Bertram**, University of Utah.

Scaling Limits and Homogenization Problems in Physics and Applied Sciences, **Mario Pulvirenti**, University of Roma, and **George Papanicolaou**, Stanford University.

Semigroups of Operators and Applications, **Francesco Altomare**, University of Bari, and **Frank Neubrander**, Louisiana State University.

Semigroups, Automata and Formal Languages, **Alessandra Cherubini**, Politecnico of Milano, and **John Meakin**, University of Nebraska-Lincoln.

Some Mathematics Around Composites, **Robert V. Kohn**, Courant Institute, and **Vincenzo Nesi**, University of Roma, La Sapienza.

Structured Matrix Analysis with Applications, **Dario Andrea Bini**, University of Pisa, and **Thomas Kailath**, Stanford University.

The Topology of 3-manifolds, **Ricardo Benedetti** and **Carlo Petronio**, University of Pisa, **Dale Rolfsen**, University of British Columbia, Vancouver, and **Jeffrey Weeks**, Canton, New York.

Variational Analysis and Applications, **Franco Giannessi**, University of Pisa, **Boris S. Mordukhovich**, Wayne State University, Detroit, **Biagio Ricceri**, University of Catania, and **R. Tyrrell Rockafellar**, University of Washington.

Viscosity Methods in PDEs and Applications, **Piermarco Cannarsa**, University of Roma II, **Italo Capuzzo Dolcetta**, University of Roma, La Sapienza, and **Panagiotis Souganidis**, University of Texas, Austin.

White Noise Theory and Quantum Probability, **Luigi Accardi**, University of Roma, Tor Vergata, and **Hui-Hsiung Kuo**, Louisiana State University.

Portland, Oregon

Portland State University

June 20–22, 2002

Meeting #978

Meeting held in conjunction with the Pacific Northwest Section of the Mathematical Association of America.
Western Section
Associate secretary: Bernard Russo
Announcement issue of *Notices*: April 2002
Program first available on AMS website: May 9, 2002
Program issue of electronic *Notices*: June 2002
Issue of *Abstracts*: Volume 23, Issue 2

Deadlines

For organizers: Expired
For consideration of contributed papers in Special Sessions: Expired
For abstracts: Expired
For summaries of papers to MAA organizers: Various

Joint Invited Addresses

Kenneth A. Ribet, University of California Berkeley, *Title to be announced* (AMS-MAA Invited Address).

AMS Invited Addresses

Richard W. Montgomery, University of California Santa Cruz, *Variational methods for the N-body problem.*

Edriss S. Titi, University of California Irvine, *The Navier–Stokes and Other Related Equations.*

Michael Wolf, Rice University, *Minimal surfaces, flat structures, and moduli spaces.*

MAA Invited Addresses

Edward B. Burger, Williams College, *Innovative Experiments...and How I Survived Them.*

Tina H. Straley, Mathematical Association of America, *The MAA's Role in the Future of Undergraduate Mathematics.*

Jim H. Valerio, Intel Desktop Architecture Labs, *Improving PC Graphics.*

AMS Special Sessions

Algebraic Geometry and Combinatorics, **Eric Babson** and **Rekha Thomas**, University of Washington, and **Sergey Yuzvinsky**, University of Oregon.

Association Schemes and Distance-Regular Graphs, **John S. Caughman**, Portland State University, and **Paul M. Terwilliger**, University of Wisconsin.

Flat Structures, Moduli Spaces, and Minimal Surfaces, **Matthias Weber**, Indiana University, and **Michael Wolf**, Rice University.

Low Dimensional Homotopy and Combinatorial Group Theory, **F. Rudolf Beyl** and **Paul Latiolais**, Portland State University, **William A. Bogley**, Oregon State University, and **Micheal N. Dyer**, University of Oregon.

Mathematical Biology, **Richard S. Gomulkiewicz**, Washington State University, and **Sebastian Schreiber**, Western Washington University.

Matroid Theory, **Jennifer M. McNulty**, University of Montana, and **Nancy Ann Neudauer**, Pacific University.

Qualitative Properties and Applications of Functional Equations, **Theodore A. Burton**, Southern Illinois University.

Quantum Topology, **Douglas G. Bullock**, **Joanna M. Kania-Bartoszynska**, and **Uwe Kaiser**, Boise State University.

The Quintic Equation: Algebra and Geometry, **Jerry Shurman**, Reed College, and **Scott Crass**, California State University, Long Beach.

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*: October 2002
Issue of *Abstracts*: Volume 23, Issue 4

Deadlines

For organizers: Expired
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.*

Hillel Furstenberg, Einstein Institute of Mathematics, *Title to be announced* (Erdős Memorial Lecture).

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.*

Special Sessions

Convex Geometry (Code: AMS SS N1), **Daniel A. Klain**, University of Massachusetts, Lowell, and **Elisabeth Werner**, Case Western Reserve University.

Developments and Applications in Differential Geometry (Code: AMS SS C1), **Chuu-Lian Terng**, Northeastern University, and **Xiaobo Liu**, University of Notre Dame.

Elliptic Operators on Noncompact Manifolds (Code: AMS SS M1), **Maxim Braverman**, Northeastern University, **Victor Nistor**, Pennsylvania State University, and **Mikhail A. Shubin**, Northeastern University.

Ergodic Theory and Dynamical Systems (Code: AMS SS B1), **Stanley J. Eigen**, Northeastern University, and **Vidhu S. Prasad**, University of Massachusetts, Lowell.

Hilbert Schemes (Code: AMS SS G1), **Mark De Cataldo**, SUNY at Stony Brook, and **Anthony A. Iarrobino**, Northeastern University.

Modern Schubert Calculus (Code: AMS SS A1), **Frank Sottile**, University of Massachusetts, Amherst, and **Christopher T. Woodward**, Rutgers University.

Number Theory and Arithmetic Geometry (Code: AMS SS D1), **Matthew A. Papanikolas**, Brown University, and **Siman Wong**, University of Massachusetts, Amherst.

Quantum Information Theory (Code: AMS SS J1), **Christopher K. King**, Northeastern University, and **Mary Beth Ruskai**, University of Massachusetts, Lowell.

Quivers and Their Generalizations (Code: AMS SS E1), **Alex Martsinkovsky**, **Gordana G. Todorov**, **Jerzy M. Weyman**, and **Andrei V. Zelevinsky**, Northeastern University.

Recent Developments in the Orbit Method for Real and p-adic Groups (Code: AMS SS F1), **Donald R. King**, Northeastern University, and **Alfred G. Noel**, University of Massachusetts, Boston.

Singularities in Algebraic and Analytic Geometry (Code: AMS SS H1), **Terence Gaffney** and **David B. Massey**, Northeastern University, and **Caroline Grant Melles**, U. S. Naval Academy.

The Mathematics of Water Waves (Code: AMS SS K1), **Diane Henderson**, Pennsylvania State University, and **Gene Wayne**, Boston University.

The History of Mathematics (Code: AMS SS L1), **Adrian C. Rice**, Randolph-Macon College, and **Amy E. Shell-Gellasch**, U. S. Military Academy.

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*: October 2002
Issue of *Abstracts*: Volume 23, Issue 4

Deadlines

For organizers: Expired
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**, Massachusetts Institute of Technology.

Characters and Representations of Finite Groups (Code: AMS SS U1), **Martin Isaacs**, University of Wisconsin, Madison, and **Mark Lewis**, Kent State University.

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.

Lie Groups and Their Representations (Code: AMS SS W1), **Michael Howe**, University of Wisconsin, Eau Claire, and **Gail D. L. Ratcliff**, University of Missouri, St. Louis.

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

Optimal Geometry of Curves and Surfaces (Code: AMS SS V1), **Jason H. Cantarella**, University of Georgia, and **John M. Sullivan**, University of Illinois, Urbana.

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

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

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.

Salt Lake City, Utah

University of Utah

October 26–27, 2002

Meeting #981

Western Section
Associate secretary: Michel L. Lapidus
Announcement issue of *Notices*: September 2002
Program first available on AMS website: September 16, 2002
Program issue of electronic *Notices*: October 2002
Issue of *Abstracts*: Volume 23, Issue 4

Deadlines

For organizers: Expired
For consideration of contributed papers in Special Sessions: July 10, 2002
For abstracts: September 4, 2002

Invited Addresses

Yakov Eliashberg, Stanford University, *Title to be announced.*

Hart F. Smith, University of Washington, *Title to be announced.*

Michael Ward, University of British Columbia, *Title to be announced.*

Amie Wilkinson, Northwestern University, *Title to be announced.*

Special Sessions

Analytic Number Theory (Code: AMS SS B1), **Roger Baker**, **Xian-Jin Li**, and **Andrew D. Pollington**, Brigham Young University.

Area-Minimization and Minimal Surfaces (Code: AMS SS A1), **Michael Dorff**, **Denise Halverson**, and **Gary R. Lowler**, Brigham Young University.

Geometry and Topology (Code: AMS SS F1), **Mladen Bestvina**, **Michael Kapovich**, and **Grigory Mikhalkin**, University of Utah.

Nonlinear Partial Differential Equations (Code: AMS SS C1), **David A. Hartenstine**, University of Utah, and **Jon T. Jacobsen**, Pennsylvnia State University.

Recent Trends in Algebraic Geometry (Code: AMS SS E1), **Aaron J. Bertram**, University of Utah, and **Christopher Derek Hacon**, University of California Riverside.

Representation Theory of Semisimple Lie Groups (Code: AMS SS D1), **Dragan Milicic** and **Peter Trapa**, University of Utah.

Time Series, Heavy Tails, and Applications (Code: AMS SS G1), **Davar Khoshnevisan**, University of Utah, and **Piotr Kokozska**, Utah State University.

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*: November 2002
Issue of *Abstracts*: Volume 23, Issue 4

Deadlines

For organizers: Expired
For consideration of contributed papers in Special Sessions: July 23, 2002
For abstracts: September 17, 2002

Invited Addresses

Steven J. Cox, Rice University, *Title to be announced.*

James Haglund, University of Pennsylvania, *Title to be announced.*

Marius Mitrea, University of Missouri-Columbia, *Title to be announced.*

Ricardo H. Nochetto, University of Maryland, College Park, *Title to be announced.*

Special Sessions

Algebraic and Enumerative Combinatorics (Code: AMS SS A1), **James Haglund**, University of Pennsylvania, and **Jeff Remmel**, University of California San Diego.

Commutative Algebra (Code: AMS SS B1), **Heath Martin**, University of Central Florida, and **Stephanie Fitchett**, Florida Atlantic University.

Computational Mathematics (Code: AMS SS C1), **Ricardo Nochetto**, University of Maryland, and **Bernardo Cockburn**, University of Minnesota.

Financial Mathematics (Code: AMS SS D1), **Craig Nolder** and **Alec Kercheval**, Florida State University.

Function Spaces, Singular Integrals and Applications to PDE (Code: AMS SS N1), **Marius Mitrea**, University of Missouri.

Functional and Harmonic Analysis of Wavelets, Frames and their Applications (Code: AMS SS E1), **Deguang Han**, University of Central Florida, and **Manos Papadakis**, University of Houston.

Graph Theory (Code: AMS SS F1), **Robert Brigham**, University of Central Florida, **Cun-Quan Zhang**, West Virginia University, and **Yue Zhoa**, University of Central Florida.

Homotophy Theory and Geometric Topology (Code: AMS SS J1), **Alexander Dranishnikov**, **James Keesling**, and **Yuli B. Rudyak**, University of Florida.

Invariants of Knots and Low-Dimensional Manifolds (Code: AMS SS H1), **J. Scott Carter**, University of South Alabama, and **Masahico Saito**, University of South Florida.

Mathematical Neuroscience (Code: AMS SS G1), **Steve Cox**, Rice University, and **Richard Bertram**, Florida State University.

Nonlinear Waves (Code: AMS SS L1), **Min Chen**, Purdue University, and **Roy Choudhury** and **David Kaup**, University of Central Florida.

Riemann-Hilbert Problem and Related Topics (Code: AMS SS M1), **Ken McLaughlin**, University of North Carolina at Chapel Hill and University of Arizona, and **Alexander Tovbis**, University of Central Florida.

The Likelihood Inferences in Statistics (Code: AMS SS K1), **Jian-Jian Ren**, University of Central Florida.

Baltimore, Maryland

Baltimore Convention Center

January 15–18, 2003

Meeting #983

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), the winter meeting of the Association for Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).
Associate secretary: Susan J. Friedlander
Announcement issue of *Notices*: October 2002
Program first available on AMS website: November 1, 2002
Program issue of electronic *Notices*: January 2003
Issue of *Abstracts*: Volume 24, Issue 1

Deadlines

For organizers: Expired
For consideration of contributed papers in Special Sessions: August 6, 2002
For abstracts: October 1, 2002
For summaries of papers to MAA organizers: September 10, 2002

Joint AMS-MAA Invited Addresses

Noam D. Elkies, Harvard University, *Title to be announced.*

Edward R. Scheinerman, Johns Hopkins University, *Title to be announced.*

Joint Special Sessions

Interactions Between Logic, Group Theory and Computer Science (Code: AMS SS Q1), **Alexandre Borovik**, UMIST, and **Alexei Myasnikov**, City College of CUNY. (AMS-ASL)

Mathematics and Education Reform (Code: AMS SS N1), **Naomi Fisher**, University of Illinois at Chicago, **William Barker**, Bowdoin College, **Jerry Bona**, University of Illinois

at Chicago, and **Kenneth Millett**, University of California Santa Barbara. (AMS-MAA-MER)

Research in Mathematics by Undergraduates (Code: AMS SS P1), **Darren A. Narayan**, **Carl V. Lutzer**, and **Tamara A. Burton**, Rochester Institute of Technology. (AMS-MAA-SIAM)

The History of Mathematics (Code: AMS SS S1), **Joseph W. Dauben**, Lehman College, and **David E. Zitarelli**, Temple University. (AMS-MAA)

AMS Invited Addresses

Weinan E, Princeton University, *Title to be announced.*

Andrei Okounkov, University of California Berkeley, *Title to be announced.*

Dana Randall, Georgia Institute of Technology, *Title to be announced.*

Peter Sarnak, Princeton University, *Title to be announced* (Colloquium Lectures).

Vladimir Voevodsky, Institute for Advanced Study, *Title to be announced.*

AMS Special Sessions

Advances in Spherical Designs and Codes (Code: AMS SS A1), **Béla Bajnok**, Gettysburg College, and **Neil J. A. Sloane**, AT&T Shannon Labs.

Algebraic Topology Based on Knots (Code: AMS SS F1), **Mark Kidwell**, U.S. Naval Academy, and **Jozef H. Przytycki** and **Yongwu Rong**, The George Washington University.

Banach Space Theory and Convex Geometry (Code: AMS SS L1), **Teck-Cheong Lim**, Mason University, and **Mikhail Ostrovskii**, The Catholic University of America.

C-Algebras, Quantization, and Noncommutative Geometry: A Tribute to the Memory of Irving Segal* (Code: AMS SS U1), **Robert S. Doran**, Texas Christian University.

C-Extensions and Classifications of C*-algebras* (Code: AMS SS C1), **Shuang Zhang**, University of Cincinnati, and **Huaxin Lin**, University of Oregon.

Computability and Models (Code: AMS SS T1), **Douglas Cenzer**, University of Florida, and **Valentina S. Harizanov**, The George Washington University.

Computational Algebraic and Analytic Geometry for Low-Dimensional Varieties (Code: AMS SS G1), **Mike Seppälä**, Florida State University, and **Emil Volcheck,** Baltimore, Maryland.

Discrete Dynamics and Difference Equations (Code: AMS SS D1), **Saber Elaydi**, Trinity University, and **Gerasimos Ladas**, University of Rhode Island.

Discrete Models (Code: AMS SS K1), **Cris Moore**, University of New Mexico and Santa Fe Institute, and **Dana Randall**, Georgia Institute of Technology.

Dynamical Systems and Oceanography (Code: AMS SS H1), **Reza Malek-Madani** and **Peter A. McCoy**, U.S. Naval Academy.

Dynamics, Physics, and Probability: The Work of the 2002 Nemmers Prize Winner, Yakov Sinai (Code: AMS SS W1), **John M. Franks**, Northwestern University, and **Jeff Xia**, Northwestern University.

Homotopy Theory (Code: AMS SS E1), **Kristine Baxter Bauer**, **J. Michael Boardman**, **Nitu Kitchloo**, **Jean-Pierre Meyer**, **Jack Morava**, and **W. Stephen Wilson**, Johns Hopkins University.

Interactions Between Logic, Group Theory and Computer Science (Code: AMS SS Q1), **Alexandre V. Borovik**, UMIST, and **Alexei Myasnikov**, City College of CUNY.

Modular Forms, Elliptic Curves, and Related Topics (Code: AMS SS J1), **Cristina Ballantine** and **Sharon Frechette**, College of the Holy Cross, and **Holly Rosson**, St. Mary's College of Maryland.

Nonstandard Models of Arithmetic and Set Theory (Code: AMS SS X1), **Ali Enayat**, American University, and **Roman Kossak**, CUNY Graduate Center.

Operator Algebras, Quantization, and Noncommutative Geometry: A Centennial Celebration in Honor of J. v. Neumann and M. H. Stone (Code AMS SS U1), **Robert S. Doran**, Texas Christian University, and **R. V. Kadison**, University of Pennsylvania.

Recent Advances in Riemannian and Lorentzian Geometries (Code: AMS SS M1), **Krishan L. Duggal**, University of Windsor, and **Ramesh Sharma**, University of New Haven.

Wavelets, Frames and Operator Theory (Code: AMS SS B1), **Christopher Heil**, Georgia Tech, **Palle Jorgensen**, University of Iowa, and **David Larson**, Texas A&M University.

Preliminary Announcement of MAA Contributed Paper Sessions

The organizers listed below solicit contributed papers pertinent to their sessions. Sessions generally limit presentations to ten minutes, but selected participants may extend their contributions up to twenty minutes. Each session room contains an overhead projector and screen; blackboards will not be available. Persons needing additional equipment should contact, as soon as possible, but prior to September 10, 2002, the session organizer whose name is followed by an asterisk (*). Please note that the dates and times scheduled for these sessions remain tentative.

Submission Procedures for MAA Contributed Papers

Submit your abstract directly to the AMS. Concurrently, send a more detailed one-page summary of your paper directly to the organizer indicated with an (*). In order to enable the organizer(s) to evaluate the appropriateness of your paper, include as much detailed information as possible within the one-page limitation. The summary need not duplicate the information in the abstract. **Your summary must reach the AMS and the organizer by Tuesday, September 10, 2002.**

The AMS will publish abstracts for the talks in the MAA sessions. Abstracts must be submitted on the appropriate

AMS form. Electronic submission is available via the Internet or e-mail. No knowledge of LaTeX is necessary, however, LaTeX and $\mathcal{A}\mathcal{M}\mathcal{S}$-LaTeX can be accommodated. These are the only typesetting systems that can be used if mathematics is included. To see descriptions and to view the electronic templates available, visit the abstracts submission page on the Internet at http://www.ams.org/abstracts/instructions.html, or send e-mail to: abs-submit@ams.org, typing HELP as the subject line. Completed e-mail templates must be sent to abs-submit@ams.org with SUBMISSION as the subject line. Abstracts submitted electronically are quickly either acknowledged, with a unique abstract number assigned to the presentation, or rejected, with a short message on what information is missing or inappropriate. All questions concerning the submission of abstracts should be addressed to: abs-coord@ams.org.

Here are the codes you will need: Meeting Number: 983; Event Code: is the seven characters appearing before the title of the sessions shown below, e.g., (MAA CP A1); Subject Code: is the last two-character letter/number combination from the event code list, i.e., A1, B1.

Innovative Uses of the World Wide Web in Teaching Mathematics (MAA CP A1), Wednesday morning and Thursday afternoon. **Brian E. Smith***, Faculty of Management, McGill University, 1001 Sherbrooke St. W., Montreal, QC H3A 1G5, Canada; 514-398-4038; fax: 514-398-3876; smithb@management.mcgill.ca; **Marcelle Bessman**, Jacksonville University; **Marcia P. Birken**, Rochester Institute of Technology; **Thomas E. Leathrum**, Jacksonville State University; **David M. Strong**, Pepperdine University; and **Joe Yanik**, Emporia State University. This session seeks to highlight innovative teaching strategies in mathematics that emphasize the use of the World Wide Web as a learning tool. These strategies could include the construction of teaching materials or creative use of existing or standardly available materials. This session will include Java Applets and other Mathlets used in teaching mathematics.

Classroom Demonstrations and Course Projects That Make a Difference (MAA CP B1) Wednesday morning and Thursday afternoon. **David R. Hill***, Mathematics Department, Temple University, Philadelphia, PA 19122; 215-204-1654; fax: 215-204-6433; hill@math.temple.edu; **Sarah L. Mabrouk**, Framingham State College; and **Lila F. Roberts**, Georgia Southern University. The use of course projects and classroom demonstrations enables instructors to show students that mathematics is meaningful and applicable in a variety of real-life situations. Demos, important tools for instruction in any class format, enable instructors to engage the students on a level beyond that created by lectures. Projects are useful in helping students to apply the course material and to make connections between mathematics and the real world. This session invites papers about favorite instructional demos and course projects appropriate for any level in the undergraduate curriculum designed to engage students and to enable them to gain insight into mathematics. Presenters of demos are encouraged to give the demonstration, if time and equipment allow, and to discuss how to use it in a classroom setting. Presenters of projects are encouraged to discuss the specifics of how the project was conducted and how it was evaluated. Proposals should describe how the demo/project fits into a course, the use of technology or technology requirements, if any, and the effect of the demo/project on student attitudes toward mathematics.

The History of Mathematics in the Americas (MAA CP C1), Wednesday afternoon. **Amy E. Shell***, Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996-1905; 845-938-2413; aa7423@usma.edu; and **Daniel E. Otero**, Xavier University. This session invites papers on the history of mathematics, mathematicians, or ethno-mathematics of both North and South America. Special consideration will be given to mathematics in countries other than the United States.

Getting Students to Discuss and to Write about Mathematics (MAA CP D1), Wednesday afternoon. **Sarah L. Mabrouk***, Mathematics Department, Framingham State College, 100 State Street, P.O. Box 9101, Framingham, MA 01701-9101; 508-626-4785; fax: 508-626-4003; smabrouk@frc.mass.edu. Many students, especially in lower level courses, tend to view mathematics as incomprehensible equations and calculations rather than as meaningful and applicable in a variety of disciplines. This view of mathematics as meaningless affects the student's ability to verbally communicate mathematics just as it affects the student's understanding of and ability to apply mathematics. When students are required to use the language of mathematics and to explain the meaning of the mathematics that they are applying or analyzing, they learn to understand and to communicate mathematics. This session invites papers about assignments and projects that require students to communicate mathematics through in-class oral presentations that they make, or in-class discussions that they must lead and motivate, and through written assignments and papers. These assignments can include analysis and applications of mathematics, presentations of and analysis of proofs, presentations about famous mathematicians and the mathematics that they studied, and assignments/projects that utilize creative writing. Each presenter is encouraged to discuss how the use of the assignment/project helped students to improve their understanding of mathematics and their ability to communicate mathematics. Of particular interest is the effect of such projects/assignments/presentations throughout the course on the students' understanding of mathematics, their communication of mathematics, and their attitude toward mathematics.

Quantitative Literacy in Practice: What Is It and What Works? (MAA CP E1), Wednesday afternoon. **Richard A. Gillman***, Department of Mathematics and Computer Science, 219 Gellersen Hall, Valparaiso University, Valparaiso IN, 46383; 219-464-5067; fax: 219-464-5065; rick.gillman@valpo.edu. Quantitative literacy can be defined as the ability to use elementary mathematics in authentic contexts from an individual's personal, economic, and social life. Colleges and universities across the country are reasonably expected to deepen and expand the quantitative literacy of all of the students that arrive on their campuses. This session seeks papers that will illustrate how

the presenters and their institutions have operationalized the definition given above. These papers may include discussions of requirements in particular courses or at a general curriculum level, lists of student learning competencies established by the institution, and assessment methods and results at both the student and institutional levels. Of particular interest are discussions of the placement process, articulation agreements with other institutions, and credit transfer issues.

Environmental Mathematics in the Classroom (MAA CP F1), Wednesday afternoon. **Karen D. Bolinger***, Department of Mathematics, Clarion University, Clarion PA 16214; 814-393-2360; fax 814-393-2735; kbolinge@clarion.edu; and **Ben Fusaro**, Florida State University. We invite papers that deal with all aspects of applying mathematics to solve problems of the environment and that are suitable for classroom use at grade levels 12-15. Also invited are papers that address the issue of infusing environmental awareness into the teaching community. Papers dealing with exposition, pedagogy or modeling are as welcome as those about successful experiences with getting this intrinsically interdisciplinary subject into the curriculum. This session is sponsored by the MAA Committee for Mathematics and the Environment.

Incorporating History of Mathematics in the Mathematics Classroom (MAA CP G1), Thursday morning. **Victor J. Katz***, Mathematics Department, University of the District of Columbia, 4200 Connecticut Ave. N.W., Washington, DC 20008; 202-274-5374; fax: 301-592-0061; vkatz@udc.edu; **Edith Prentice Mendez**, Sonoma State University; and **Eisso J. Atzema**, University of Maine. One of the purposes of the History of Mathematics Special Interest Group of the MAA (HOM SIGMAA) is to support the use of the history of mathematics in the teaching of mathematics. Therefore, we are soliciting contributed papers on innovative ways to incorporate the history of secondary and undergraduate mathematics into the mathematics classroom. Presentations describing student projects or classroom activities are especially encouraged, as are those dealing with curriculum development which promotes the use of history by prospective secondary teachers.

Helping Students Give Effective Mathematics Presentations (MAA CP H1), Thursday morning. **Suzanne Dorée***, Augsburg College, Campus Box #61, 2211 Riverside Avenue, Minneapolis, MN 55454; 612-330-1059; fax: 612-330-1649; doree@augsburg.edu; and **Thomas Linton**, Central College. Do you have courses that include student speaking assignments? Is your undergraduate research student presenting a paper at an upcoming conference? Are your future K–12 teachers giving practice teaching demonstrations? Is your advisee preparing for a job interview? Whatever the reason, many of us are faced with the challenge of helping our students be prepared to speak about mathematics. Proposals are sought that describe characteristics of high-quality student presentations, processes used to help students prepare to speak, methods of evaluating student presentations, or innovative uses of student presentations in mathematics programs.

Mathematics Experiences in Business, Industry and Government (MAA CP I1), Thursday morning. **Philip E. Gustafson***, Department of Computer Science, Mathematics and Statistics, Mesa State College, 1100 North Avenue, Grand Junction, CO 81501-3122; 970-248-1176; fax: 970-248-1324; pgustafs@mesastate.edu. This contributed paper session will provide a forum for mathematicians with experience in Business, Industry and Government (BIG) to present papers or discuss projects involving the application of mathematics to BIG problems. BIG mathematicians as well as faculty and students in academia who are interested in learning more about BIG practitioners, projects, and issues, will find this session of interest. This session is sponsored by the MAA Business, Industry and Government Special Interest Group (BIG SIGMAA).

Applications of Abstract Algebra (MAA CP J1), Thursday morning. **Robert E. Lewand***, Department of Mathematics and Computer Science, Goucher College, 1021 Dulaney Valley Road, Baltimore, MD 21204; 410-337-6239; fax: 410-337-6408; rlewand@goucher.edu; and **George Mackiw**, Loyola College, Maryland. The methods and tools of abstract algebra have been used successfully in many areas of endeavor and study. Cryptography, coding theory, and digital signal processing are examples of areas where algebraic methods are currently prominent. Abstract algebra has also interacted fruitfully with geometry, combinatorics, number theory, logic and other fields of study. Applications can certainly enhance and enliven presentations of the subject, since they provide motivation and can stimulate student interest. This session seeks contributions that present applications of the theory of groups, rings, and fields that would be suitable for use in an undergraduate course. Of particular interest are topics that might not ordinarily be encountered in the standard curriculum and ones that are not readily available in popular texts.

The Special Interest Group of the MAA on Research in Undergraduate Mathematics Education (MAA CP K1), Friday and Saturday mornings. **James F. Cottrill***, Illinois State University, Campus Box 4520, Normal, IL 61790-4520; 309-438-7830; fax: 309-438-5866; jfcottr@math.ilstu.edu; and **Anne E. Brown**, Indiana University South Bend. The Special Interest Group of the MAA on Research in Undergraduate Mathematics Education (SIGMAA on RUME) aims to foster a professional atmosphere for quality research in the teaching and learning of undergraduate mathematics through contributed paper sessions for mathematics educators and mathematicians interested in research on undergraduate mathematics education. Research papers that address issues concerning the teaching and learning of undergraduate mathematics are invited. Theoretical and empirical investigations using qualitative and quantitative methodologies are appropriate. These should be set within established theoretical frameworks and should further existing work. Reports on completed studies are especially welcome.

Best Statistics Projects/Activities (MAA CP L1), Friday and Saturday mornings. **Carolyn K. Cuff***, Westminster College, New Wilmington, PA 16172-0001; 724-946-7291; fax: 724-946-7158; ccuff@westminster.edu; and **Mary M. Sullivan**, Rhode Island College. Successful statistical

education requires that the student not only be exposed to real data but also actively participate in the analysis of the data and effectively communicate the results. Faculty who teach statistics and include activities and projects in their courses are invited to contribute papers that describe creative projects or activities that they have used in their classes. Activities will be demonstrated during the session. These projects and activities can be from introductory to advanced courses in statistics or from courses that are only partially devoted to statistics.

Rethinking the Courses below Calculus (MAA CP M1), Friday and Saturday mornings. **Mary Robinson***, University of New Mexico, Valencia Campus, 280 La Entrada, Los Lunas, NM 87031; 505-925-8622; fax: 505-925-8697; maryrobn@unm.edu; **Sheldon P. Gordon**; SUNY at Farmingdale; **Florence S. Gordon**; New York Institute of Technology; and **Arlene H. Kleinstein**; SUNY at Farmingdale. The MAA and several groups of mathematicians have recently launched a number of related major curriculum initiatives all of which are addressing the changing needs of the students who take courses below calculus. These initiatives include efforts to rethink college algebra and precalculus courses, to increase quantitative reasoning among all students, and to provide better mathematical support to the partner disciplines. Enrollment in these courses is on the order of about 2,000,000 students a year and represents about 2/3 of all mathematics enrollments. Yet, the available evidence indicates that the traditional courses at this level do not work, in terms of preparing students for subsequent math courses, of preparing them for quantitative courses in the other disciplines, or of motivating them to continue on in mathematics. In this session, we specifically seek to address all of the courses below calculus outside of QL programs, with particular emphasis on offerings in College Algebra and Precalculus. In particular, we seek presentations that: present new visions for such courses, describe implementations of such courses, discuss the results of analysis of data on student performance and student tracking information coming out of these courses, discuss the issues involved in smoothing the transitions between mathematics in high school and in college and between different collegiate institutions, discuss the needs of other disciplines from courses at this level. This session is cosponsored by the MAA Task Force on the First College Level Mathematics Course, the Committee on Curriculum Renewal Across the First Two Years (CRAFTY), the Committee on Two Year Colleges, and the Committee on Articulation and Placement.

Assessment of Student Learning: Models and Methodology (MAA CP N1), Friday and Saturday mornings. **Jay A. Malmstrom***, Oklahoma City Community College, 7777 S. May Ave, Oklahoma City, OK 73159; 405-682-1611 x7365; fax: 405-682-7805; malmstrm@qns.com; **Linda Martin**, Albuquerque-TVI; and **Mercedes A. McGowen**, William Rainey Harper College. Accrediting agencies, boards of regents, and government agencies are placing an increased emphasis on the assessment of student outcomes. As a result of this, mathematics departments need to look at their offerings from a variety of viewpoints in order to assess the effectiveness of their courses. These include (but are not limited to): student readiness for college level work, student readiness for upper division work, student readiness for work in their major, and quantitative literacy. Papers in this session will emphasize: methodology used in the evaluation, lessons learned from the evaluation (which tools worked and which did not), and the impact of the evaluation on the department (how did the department change as a result of the evaluation).

Encouraging Underrepresented Groups of Students in Math Contests (MAA CP P1), Friday afternoon. **Harold B. Reiter***, Department of Mathematics, UNC Charlotte, Charlotte, NC 28223; 704-687-4561; fax: 704-687-6415; hbreiter@email.uncc.edu. **Ruth G. Favro**, Lawrence Technological University; **David M. Wells**, Pennsylvania State University; **Susan Schwartz Wildstrom**, Walt Whitman High School; and **Jeff J. Dodd**, Jacksonville State University. Mathematics competitions at the high school and university levels in the United States have traditionally been dominated by white and Asian males. Females compete successfully in contests for younger students, but do not do very well in middle school years and later. Black and Hispanic Americans also do less well than others, in general, in local, regional, and national math contests. Recruiting these underrepresented groups to math competitions is a vexing problem whose solutions we would like to explore in the session. The Committee on Local and Regional Competitions (CLARC) solicits papers discussing how some have tackled this representation problem. Some possibilities to consider may include: coaching students for competitions, preparing teachers to be coaches for competitions, writing problems for competitions, encouraging participation in competitions, communicating effectively with coaches and participants, competition formats and styles, and social aspects, follow-up of participants or mentoring, interesting uses of technology in conducting competitions (for example, conducting competitions on the Web).

Strategies for Increasing the Diversity of Students in Mathematics (MAA CP Q1), Friday morning. **Marjorie Enneking***, Department of Mathematical Sciences, Portland State University, Portland, OR 97207-0751; 503-725-3643; fax: 503-725-3661; marj@mth.pdx.edu; **Wade Ellis**, West Valley College; **William Hawkins**, SUMMA; **Robert E. Megginson**, University of Michigan; **Kenneth C. Millett,** University of California, Santa Barbara; and **William Y. Velez**, University of Arizona. This session will present strategies for recruiting students from diverse backgrounds into mathematics; programs to support high success rates and level of achievement by these students; and faculty development initiatives which help faculty and departments initiate such programs. Presenters will present methods for evaluating such programs and evidence of the success of their programs.

Mathematical Modeling in and out of the Classroom (MAA CP R1), Friday afternoon. **Brian J. Winkel***, United States Military Academy, West Point NY 10996; 845-938-3200; fax: 845-938-2409; Brian-Winkel@usma.edu; **Tanya L. Leise**, Rose-Hulman Institute of Technology; and **Amy E. Radunskaya,** Pomona College. Modeling is still a buzzword in mathematics education circles. For some it

is just that, a buzzword, without comprehension, certainly without concrete examples. We propose a contributed paper session that will help attendees understand the process of mathematical modeling as well as the process of teaching mathematical modeling. Specifically, we ask each presenter to offer the attendees (1) details of a modeling activity (or several)—how, why, what, where, and when, with attention to both mathematics and content area of application; and (2) a discussion on how to implement the activity. We require from each presenter something specific that can be done in a mathematical modeling course or a general course, be it high school mathematics or graduate level course work. Additionally, we shall ask the presenters to prepare an annotated bibliography on five modeling sources/activities materials they have used or found appropriate. This set of annotated bibliographies will be combined into an electronic file for Web access as well as a hard copy for meeting distribution to session attendees. Certainly activities including data collection, modeling lessons/classes, modeling studios/activities, and class consulting are but a few of the appropriate areas discussed.

Philosophy of Mathematics (MAA CP S1), Friday afternoon. **Bonnie Gold***, Mathematics Department, Monmouth University, 400 Cedar Avenue, West Long Branch, NJ 07764-1898, 732-571-4451; fax: 732-263-5378; bgold@monmouth.edu.This session invites papers on any topic in the philosophy of mathematics except logic and set theory. Possible topics include the nature of mathematics, the nature of mathematical objects, the nature of mathematical knowledge, the relation between mathematics and the physical world, the role of esthetics in the development of mathematics; philosophical implications of logic and set theory are also acceptable. Talks should be addressed to a mathematical audience, not an audience of philosophers (in terms of background), but should attempt to meet the same level of precision used in mathematical presentations.

Integrating Undergraduate Research with the Mathematics Curriculum (MAA CP T1), Friday afternoon. **David Brown***, Ithaca College, Department of Mathematics and Computer Science, 1212 Williams Hall, Ithaca NY 14850-7284; 607-274-7375; fax: 607-274-1588; dabrown@ithaca.edu; and **Osman Yurekli**, Ithaca College. In this session, we focus on efforts to incorporate the mathematics research experience within the curriculum. We encourage the submission of papers that demonstrate creative ways of involving undergraduates in mathematical exploration. Ideas ranging from projects within established courses to courses specifically designed to conduct research are welcomed. We also look for discussion of how the models used for sustaining undergraduate research have affected the rest of the curriculum and how valuable such experiences have been. Some questions that we would like to see addressed include: In what way have departments been able to incorporate undergraduate research projects within the curriculum? Have these efforts been successful? What types of research have students completed? What students have had these opportunities (i.e., is the experience only for the most talented)? Has there been any follow-up for students? What has been the reaction of colleagues? Have such experiences affected the department's curriculum? How have these research experiences been assessed?

Courses and Projects Addressing the Shortage of K–12 Teachers (MAA CP U1), Saturday afternoon. **Harel Barzilai***, Department of Mathematics, Salisbury University, Salisbury MD 21801; 410-543-6472; fax: 410-548-5559; hxbarzilai@salisbury.edu; **Maria G. Fung**, Western Oregon University; and **Jay M. Jahangiri**, Kent State University. As highlighted by the Glenn Commission report "Before It's Too Late", the shortage of well-prepared K–12 mathematics teachers is a serious and growing national concern. Resources such as the NCTM Principles and Standards for School Mathematics and the CBMS Report on the Mathematical Education of Teachers provide valuable insights on where we want to be in teacher education. Nevertheless, creatively implementing change which helps us "get there" is a formidable challenge and will remain so for the foreseeable future. Contributed presentations are invited which address this national shortage of qualified mathematics school teachers through innovative courses, programs, or projects effecting better recruitment, preparation, retention, and professional development for mathematics teachers. Of particular interest are creative efforts which help strengthen the mathematical preparation of preservice and inservice middle school teachers, those teaching on a temporary certification or out of their certification, teachers teaching out of field, and teachers who otherwise lack sufficient background. Additional important elements can include: community outreach; professional networking, mentoring and development of and by teachers; strengthening diversity; collaborations among faculty in mathematics and education departments and between faculty and school system personnel; efforts to help teachers meet the increasing demands of assessment standards from multiple sources; and innovative ways of institutionalizing support systems for teachers and for professional standards in mathematics teaching.

Creative Visualization Labs (MAA CP V1), Saturday afternoon. **Sarah J. Greenwald***, Department of Mathematics, Appalachian State University, Boone, NC 28608; 828-262-2363; fax: 828-265-8617; sjg@math. appstate.edu; **Catherine A. Gorini**, Maharishi University of Management; and **Mary L. Platt**, Salem State College. Effective projects that help students develop visualization skills are important for success in many courses. There are many resources for incorporating such activities into the K–12 geometry classroom, but few are aimed at college level courses. This session invites papers describing a complete lab or series of labs using computers, technology, dynamic software and/or manipulatives aimed at increasing visualization skills. Activities designed for use in college level geometry, topology, or visualization courses are especially encouraged. Presentations detailing student reactions, educational benefits and difficulties encountered, and the effect of the lab on teaching and learning are desired. The organizers are developing a website of college labs, and contributions to this session will be considered for inclusion.

Linking Mathematics with Other Disciplines (MAA CP W1), Saturday afternoon. **Stephanie A. Fitchett***, Honors College, Florida Atlantic University, 5353 Parkside Drive, Jupiter, FL 33458; 561-799-8613; fax: 561-799-8602; sfitchet@fau.edu; **Blake Mellor**, Honors College, Florida Atlantic University; and **Gavin P. LaRose**, University of Michigan. This session will explore the linking and integration of mathematics with other disciplines by inviting contributions, from both mathematicians and instructors in other disciplines, on the following themes: strategies or environments that encourage instructors, as well as students, to take an integrated and interdisciplinary approach to teaching and learning mathematics; the incorporation of realistic applications in mathematics courses in a way that enhances mathematical understanding; examples of how mathematics is used or taught in courses offered by other disciplines (natural science, social science, humanities, business, etc.); and exemplary courses, projects, or collections of activities.

Mathematical Connections in Art, Music, and Science (MAA CP X1), Saturday afternoon. **John M. Sullivan***, Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 W Green St., Urbana IL 61801; 217-244-5930; fax: 217-333-9576; jms@math. uiuc.edu; **Douglas E. Norton**, Villanova University; and **Reza Sarhangi**, Towson University. Mathematics can be defined as the study of patterns. Patterns have always been used in artistic creation: in music, the visual arts, and architecture. This was particularly evident, for example, in antiquity, during the flourishing of Islamic art and in the Renaissance in Europe. Patterns lending themselves to mathematical interpretation arise across the disciplinary spectrum: in the chain of evolution, in the histories of cultures and civilizations, in the extreme complexities encountered in high-speed computations. These patterns are the topics of ever deepening mathematics created to help understand them. Numerous mathematicians are developing curricular materials linking mathematics to the arts and other cultural branches of our civilization. By using attractive and accessible examples to show the presence of and benefit from mathematics in art, music, humanities, and sciences, these materials can help reduce the aversion to mathematics too often found in the general public, fostering new linkages and new appreciation of things mathematical. Objectives of the session include: present new findings relating mathematics to its artistic and aesthetic presentations; demonstrate the use of new technology to illustrate connections between mathematics and the arts; and introduce innovative techniques promoting interdisciplinary work in the fields of mathematics, science, art, and music.

Computation Mathematics in Linear Algebra and Differential Equations (MAA CP Y1), Saturday afternoon. **Richard J. Marchand***, Department of Mathematics and Computer Science, SUNY Fredonia, Fredonia, NY 14063; 716-673-3871; fax: 716-673-3804; marchand@cs.fredonia.edu; **Elias Deeba**, University of Houston-Downtown; and **Timothy J. McDevitt**, Millersville University. Computer algebra systems, spreadsheets and graphing calculators have become popular tools for facilitating numerical investigations of many meaningful problems in linear algebra and differential equations. Such investigations lead to better students' understanding of mathematical concepts while empowering them with the capabilities to analyze more realistic problems. This session invites papers describing novel projects from these disciplines in which technology is required. Outstanding papers may be considered for publication as part of an MAA collection.

General Contributed Paper Session (MAA CP Z1), Wednesday, Thursday, Friday, and Saturday mornings. **Michael A. Jones**, Montclair State University, 1 Normal Avenue, Upper Montclair, NJ 07043; 973-655-5448; fax 973-655-7686; jonesma@pegasus.montclair.edu; **Jill Dietz**, St. Olaf College; **Steven M. Hetzler**, Salisbury University; and **Shawnee L. McMurran**, California State University at San Bernardino. This session is designed for papers that do not fit into one of the other sessions. Papers may be presented on any mathematical topic. Papers that fit into one of the other sessions should be sent to that organizer, not to this session. Papers should not be sent to more than one organizer. E-mail submissions are preferred.

Baton Rouge, Louisiana

Louisiana State University

March 14–16, 2003

Meeting #984

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

Meeting #985

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

New York, New York

Courant Institute

April 12–13, 2003

Meeting #986

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: September 12, 2002
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

Invited Addresses

Matthias Aschenbrenner, University of California at Berkeley, *Title to be announced*.

John Etnyre, University of Pennsylvania, *Title to be announced*.

Hans Foellmer, Humboldt University Berlin, *Title to be announced*.

Wilfrid Gangbo, Georgia Institute of Technology, *Title to be announced*.

San Francisco, California

San Francisco State University

May 3–4, 2003

Meeting #987

Western Section
Associate secretary: Michel L. Lapidus
Announcement issue of *Notices*: To be announced
Program first available on AMS website: To be announced
Program issue of electronic *Notices*: To be announced
Issue of *Abstracts*: To be announced

Deadlines

For organizers: August 3, 2002
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced

Seville, Spain

June 18–21, 2003

Meeting #988

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: Not applicable
Program issue of electronic *Notices*: Not applicable
Issue of *Abstracts*: Not applicable

Deadlines

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

Invited Addresses

Xavier Cabre, Universidad Politécnica de Cataluña, Barcelona, *Title to be announced*.

Charles Fefferman, Princeton University, *Title to be announced*.

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

Ignacio Sols, Universidad Complutense, Madrid, *Title to be announced*.

Luis Vega, Universidad del Pais Vasco, Bilbao, *Title to be announced*.

Efim Zelmanov, Yale University, *Title to be announced*.

Special Sessions

Banach Spaces of Analytic Functions, **Daniel Girela**, University of Malaga, and **Michael Stessin**, SUNY at Albany.

Biomolecular Mathematics, **Thomas J. Head** and **Fernando Guzman**, SUNY at Binghamton, **Mario Perez**, Universidad de Sevilla, and **Carlos Martin-Vide**, Rovira i Virgili University.

Classical and Harmonic Analysis, **Nets Katz**, Washington University, **Carlos Perez**, Universidad de Sevilla, and **Ana Vargas**, Universidad Autonoma de Madrid.

Combinatorics, **Joseph E. Bonin**, George Washington University, and **Marc Noy**, Universitat Politecnica de Catalunya.

Commutative Algebra: Geometric, Homological, Combinatorial and Computational Aspects, **Alberto Corso**, University of Kentucky, **Philippe Gimenez**, Universidad de Valladolid, and **Santiago Zarzuela**, Universitat de Barcelona.

Computational Methods in Algebra and Analysis, **Eduardo Cattani**, University of Massachusetts, Amherst, and **Francisco Jesus Castro-Jimenez**, Universidad de Sevilla.

Constructive Approximation Theory, **Antonio Duran**, University de Sevilla, and **Edward B. Saff**, Vanderbilt University.

Control and Geometric Mechanics, **Manuel de Leon**, Instituto de Matemáticas y Física Fundamental, **Alberto Ibort**, Universidad Carlos III, and **Francesco Bullo**, University of Illinois, Urbana.

Differential Structures and Homological Methods in Commutative Algebra and Algebraic Geometry, **Gennady Lyubeznik**, University of Minnesota, and **Luis Narvaez-Macarro**, Universidad de Sevilla.

Discrete and Computational Geometry, **Ferran Hertado**, Universitat Politècnica de Catalunya, and **William Steiger**, Rutgers University.

Geometric Methods in Group Theory, **José Burillo**, Universitat Politècnica de Catalunya, **Jennifer Tayback**, University of Albany, and **Enric Ventura**, Universitat Politècnica de Catalunya.

History of Modern Mathematics—Gauss to Wiles, **Jose Ferreiros**, Universidad de Sevilla, and **David Rowe**, Universitat Mainz.

Interpolation Theory, Function Spaces and Applications, **Fernando Cobos**, University Complutense de Madrid, and **Pencho Petrushev**, University of South Carolina.

Mathematical Fluid Dynamics, **Diego Cordoba**, CSIC, Madrid, and Princeton University, and **Susan Friedlander**, University of Illinois, Chicago.

Nonlinear Dispersive Equations, **Gustavo Ponce**, University of California Santa Barbara, and **Luis Vega**, Universidad del Pais Vascos.

Numerical Linear Algebra, **Lothar Reichel**, Kent State University, and **Francisco Marcellan**, University Carlos III de Madrid.

Operator Theory and Spaces of Analytic Functions, **Jose Bonet**, Universidad Politecnica de Valencia, **Pedro Paul**, Universidad de Sevilla, and **Cora S. Sadosky**, Howard University.

Ring Theory and Related Topics, **Jose Gomez-Torrecillas**, University of Granada, **Pedro Antonio Guil Asensio**, University of Murcia, **Sergio R. Lopez-Permouth**, Ohio University, and **Blas Torrecillas**, University of Almeria.

The Mathematics of Electronmicroscopic Imaging, **Jose-Maria Carazo**, Centro Nacional de Biotecnologia-CSIC, and **Gabor T. Herman**, City University of New York.

Variational Problems for Submanifolds, **Frank Morgan**, Williams College, and **Antonio Ros**, Universidad de Granada.

Boulder, Colorado

University of Colorado, Boulder

October 2–4, 2003

Meeting #989

Joint Central/Western Section
Associate secretaries: Susan J. Friedlander and Michel L. Lapidus
Announcement issue of *Notices*: To be announced
Program first available on AMS website: To be announced
Program issue of electronic *Notices*: To be announced
Issue of *Abstracts*: To be announced

Deadlines

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

Binghamton, New York

SUNY-Binghamton

October 11–12, 2003

Meeting #990

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

Invited Addresses

Zlil Sela, Einstein Institute of Mathematics, *Title to be announced.*

Zoltan Szabo, University of Michigan, Ann Arbor, *Title to be announced.*

Jeb F. Willenbring, Yale University, *Title to be announced.*

Special Sessions

Biomolecular Mathematics (Code: AMS SS A1), **Thomas J. Head** and **Dennis G. Pixton**, SUNY at Binghamton, **Mitsunori Ogihara**, University of Rochester, and **Carlos Martin-Vide**, Universitat Rovira i Virgili.

Goa, India

December 17–20, 2003

First Joint International Meeting with Various Indian Mathematical Societies
Associate secretary: Susan J. Friedlander
Announcement issue of *Notices*: To be announced
Program first available on AMS website: Not applicable
Program issue of electronic *Notices*: Not applicable
Issue of *Abstracts*: Not applicable

Deadlines

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

Phoenix, Arizona

Phoenix Civic Plaza

January 7–10, 2004

Joint Mathematics Meetings, including the 110th Annual Meeting of the AMS, 87th Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).
Associate secretary: Michel L. Lapidus
Announcement issue of *Notices*: October 2003
Program first available on AMS website: To be announced
Program issue of electronic *Notices*: January 2004
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

Atlanta, Georgia

Atlanta Marriott Marquis and Hyatt Regency Atlanta

January 5–8, 2005

Joint Mathematics Meetings, including the 111th Annual Meeting of the AMS, 88th Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association of Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic (ASL).
Associate secretary: Lesley M. Sibner
Announcement issue of *Notices*: October 2004
Program first available on AMS website: To be announced
Program issue of electronic *Notices*: January 2005
Issue of *Abstracts*: To be announced

Deadlines

For organizers: April 5, 2004
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced
For summaries of papers to MAA organizers: To be announced

San Antonio, Texas

Henry B. Gonzalez Convention Center

January 12–15, 2006

Joint Mathematics Meetings, including the 112th Annual Meeting of the AMS, 89th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).
Associate secretary: John L. Bryant
Announcement issue of *Notices*: October 2005
Program first available on AMS website: To be announced
Program issue of electronic *Notices*: January 2006
Issue of *Abstracts*: To be announced

Deadlines

For organizers: April 12, 2005
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced
For summaries of papers to MAA organizers: To be announced

New Orleans, Louisiana

New Orleans Marriott and Sheraton New Orleans Hotel

January 4–7, 2007

Joint Mathematics meetings, including the 113th Annual meeting of the AMS, 90th Annual Meeting of the Mathematical Association of America (MAA), annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL).
Associate secretary: Susan J. Friedlander
Announcement issue of *Notices*: October 2006
Program first available on AMS website: To be announced
Program issue of electronic *Notices*: January 2007
Issue of *Abstracts*: To be announced

Deadlines

For organizers: April 4, 2006
For consideration of contributed papers in Special Sessions: To be announced
For abstracts: To be announced
For summaries of papers to MAA organizers: To be announced