FOCUS

Contents

Cover photograph of New Orleans sign by Carl Purcell/New Orleans Convention Bureau.

JOINT INVITED ADDRESSES

Bryna R. Kra
Northwestern University
Dynamics of integer sets
Friday, 11:10 a.m.

Persi W. Diaconis
Stanford University
Statistics for smart people who don't know anything about statistics
Sunday, 11:10 a.m.

GOVERNMENT SPEAKER
MAA SCIENCE POLICY COMMITTEE-AMS
COMMITTEE ON SCIENCE POLICY
Sunday, 4:20 p.m.
Speaker and title to be announced.

JOINT SPECIAL SESSIONS

MATH CIRCLES AND SIMILAR PROGRAMS FOR STUDENTS AND TEACHERS

Morris Kalka, Tulane University, Hugo Rossi, Mathematical Sciences Research Institute, Tatiana Shubin, San Jose State University, Zvezdelina E. Stankova, Mills College, Daniel H. Ullman, George Washington University, and Paul A. Zeitz, University of San Francisco (MAA-AMS)
Friday morning and afternoon

HISTORY OF MATHEMATICS

Joseph W. Dauben, Lehman College, Patti Hunter, Westmont College, Victor J. Katz, University of the District of Columbia, and Karen H. Parshall, University of Virginia (MAA-AMS)
Sunday and Monday mornings and afternoons

MATHEMATICS AND EDUCATION REFORM

William H. Barker, Bowdoin College, Dale R. Oliver, Humboldt State University, Bonnie S. Saunders, University of Illinois at Chicago, and Michael Starbird, University of Texas, Austin (MAA-AMS-MER)
Monday morning and afternoon

RESEARCH IN MATHEMATICS BY UNDERGRADUATES

Darren Narayan, Carl V. Lutzer, Bernard Brooks, and Tamas I. Wiandt, Rochester Institute of Technology; and Michael J. Fisher, California State University, Fresno (MAA-AMS-SIAM)
Monday morning and afternoon

JOINT PRIZE SESSION

PRIZE SESSION AND RECEPTION
Saturday, 4:25 p.m to 5:25 p.m.
In order to showcase the achievements of the recipients of various prizes, the MAA and AMS are cosponsoring this event at 4:25 p.m. on Saturday. A cash bar reception will immediately follow. All participants are invited to attend. The MAA, AMS, and SIAM will award the Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student. The MAA will award the Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics, Certificates of Meritorious Service, Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics, Euler Book Prize, Chauvenet Prize, and the Beckenbach Book Prize. The AMS will announce the winners of the Levi L. Conant Prize, Award for an Exemplary Program or Achievement in a Mathematics Department, JPBM Communications Award, E. H. Moore Research Article Prize, David P. Robbins Prize, Ruth Lyttle Satter Prize in Mathematics, Oswald Veblen Prize in Geometry, Norbert Wiener Prize in Applied Mathematics, and the Leroy P. Steele Prizes. The AWM will present the Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman.

MAA Invited Addresses

BIG WAVES IN DEEP WATER
Jerry L. Bona
University of Illinois at Chicago
Monday, 10:05 a.m.

GEOMETRIC TOPOLOGY AND TOPOLOGICAL GEOMETRY IN DIMENSION THREE
Jeffrey Brock
Brown University
Sunday, 9:00 a.m.

BASEBALL, SHAKESPEARE, AND MODERN STATISTICAL THEORY
Bradley Efron
Stanford University
Friday, 3:20 p.m.

MATHEMATICS: A QUESTION OF HISTORY (STUDENT LECTURE)
Della Fenster
University of Richmond
Sunday, 1:00 p.m.

FORMING COMMITTEES
Penny Haxell
University of Waterloo
Friday, 2:15 p.m.

THE BERNOULLI BROTHERS IN THE ARENA OF THE EARLY CALCULUS
Jan van Maanen
Utrecht University
Saturday, 10:05 a.m.

PRESENTATIONS BY TEACHING AWARD RECIPIENTS
Sunday, 2:30 p.m. - 4:00 p.m.
Organized by MAA Secretary, Martha J. Siegel, Towson University, and moderated by MAA President, Carl Cowen, Indiana University Purdue University, Indianapolis, MAA President. Winners of the 2006 Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching Jennifer Quinn, AWM; Michael Starbird, University of Texas at Austin; and Gil Strang, Massachusetts Institute of Technology will give presentations on the secrets of their success.

Jennifer Quinn   *Michael Starbird*

Gil Strang

MAA Minicourses

Minicourses are open only to persons who register for the Joint Meetings and pay the Joint Meetings Registration fee in addition to the appropriate minicourse fee. The MAA reserves the right to cancel any minicourse that is undersubscribed.

MINICOURSE #1
INTRODUCTION TO THE MATHEMATICS OF MODERN CRYPTOGRAPHY
Organized by Colm K. Mulcahy, and Jeffrey Ehme
Spelman College
Part A: Friday, 9:00 a.m. to 11:00 a.m.
Part B: Sunday, 9:00 a.m. to 11:00 a.m.
The mathematics of modern cryptography is for anyone with an interest in mathematics today, especially if that person also registers for classes (or submits grades) online, or pays bills or shops on the Internet. Since that includes most of our students and most of us, it is a perfect subject for adding to the standard undergraduate curriculum, either in a regular or special topics course, or as a subject for directed research. There can be no better way of illustrating the application to everyday life of abstract mathematics and clever modern ideas. This minicourse will focus on the basics, assuming only a rudimentary knowledge of number theory and abstract algebra (e.g., Fermat's Little Theorem and the concept of an abelian group), and cover topics ranging from 1970s breakthroughs such as Diffie Hellman key exchange and RSA cryptography, to the more recent methods of ElGamal, elliptic curves, and Groebner bases. Participants will have a chance to cement and deepen their understanding of several aspects of the material covered with directed Maple explorations. A CD containing all of the notes/transparencies, associated Maple worksheets and an annotated bibliography will be distributed. Cost is US $95; enrollment limit is 30.

MINICOURSE #2
SOME DETERMINISTIC MODELS IN MATHEMATICAL BIOLOGY AND THEIR SIMULATIONS
Organized by James F. Selgrade, North Carolina State University, Cammey E. Cole, Meredith College, and Hüseyin Koçak, University of Miami, Coral Gables
Part A: Friday, 2:15 p.m. to 4:15 p.m.
Part B: Sunday, 1:00 p.m. to 3:00 p.m.
This course will present and analyze discrete and continuous models from physiology (e.g., the Hodgkin-Huxley model), pharmacokinetics, and population biology (e.g., the chemostat model). The class will be conducted in a computer lab where participants will use the software Phaser to simulate model behavior. Each of the four topics will be discussed for 30 minutes followed by 30 minutes of computer experimentation. The participants will be provided electronic copies of the Web-based notes, simulations, and the software. Familiarity with the material in undergraduate courses in ordinary differential equations and linear algebra will be helpful. Cost is US $95; enrollment limit is 30.

MINICOURSE #3
A TOOL TO IMPLEMENT QUANTITATIVE LITERACY (QL): SPREADSHEETS ACROSS THE CURRICULUM
Organized by Semra Kiliç-Bahi, Colby-Sawyer College, Gary T. Franchy, Davenport University, and Cheryl Coolidge and William A. Thomas, Colby-Sawyer College
Part A: Friday, 4:45 p.m. to 6:45 p.m.
Part B: Sunday, 3:30 p.m. to 5:30 p.m.
In this minicourse, participants will explore a wide range of spreadsheet modules centered on quantitative literacy concepts and skills. These modules were developed with the support of an NSF grant, Spreadsheets Across the Curriculum; Principal Investigator: Len Vacher, University of South Florida, and Project Director: Emily Lardner, The Washington Center. Each module aims to have students explore one or more problems in disciplinary contexts by building their own spreadsheets. These modules are tested and ready to be used in the classroom along with classroom assessment suggestions. The necessary support and guidance will be given to participants to start developing their own spreadsheet modules. This minicourse is designed for people who are at the initial stages of implementing QL as well as for people who would like to enhance their existing QL courses by integrating the use of spreadsheets. Cost is US $95; enrollment limit is 30.

MINICOURSE #4
CREATING VISUAL MATHEMATICS APPLETS USING FLASH PROGRAMMING
Organized by Douglas E. Ensley, Shippensburg University, and Barbara Kaskosz, University of Rhode Island
Part A: Saturday, 8:00 a.m. to 10:00 a.m.
Part B: Monday, 9:00 a.m. to 11:00 a.m.
Due to its intuitive authoring environment and the ubiquitous, free Flash Player, Macromedia Flash is a superior product for the creation of interactive material on the Web. This course will teach essential Flash programming in the context of mathematics classes developed by the presenters through NSF DUE 0535327. These freely available classes allow for the easy construction of webpages that graph functions, surfaces, and even slope fields. Participants will receive a thirty-day trial version of the Flash product for use with this material. No previous experience with Flash is required, but participants should have some familiarity with computer programming. Cost is US $95; enrollment limit is 30.

MINICOURSE #5
WAVELETS AND APPLICATIONS: A MULTI-DISCIPLINARY UNDERGRADUATE COURSE WITH EMPHASIS ON SCIENTIFIC COMPUTING
Organized by Patrick J. Van Fleet, University of St. Thomas
Part A: Saturday, 10:30 a.m. to 12:30 p.m.
Part B: Monday, 1:00 p.m. to 3:00 p.m.
This minicourse provides a basic introduction to wavelets and applications. The wavelet transform is developed in an ad hoc manner. It is then used in applications such as data compression. Participants develop the necessary software and are encouraged to bring their own digital images or audio files to use. Our

construction is easy to understand but is limited in applications. Thus we have the motivation for developing wavelets in a general context. The minicourse content provides an excellent template for an undergraduate class in wavelets and applications. We discuss how the course can be offered to undergraduates. Participants receive software and lecture materials that can be used to offer the course at their home institution. For more information, please visit http://cam.mathlab.stthomas.edu/wavelets. Cost is US $95; enrollment limit is 30.

MINICOURSE #6
WEBWORK 2: AN INTERNET-BASED SYSTEM FOR GENERATING AND DELIVERING HOMEWORK
Organized by Arnold K. Pizer, Michael E. Gage, and Vicki Roth, University of Rochester
Part A: Saturday, 1:00 p.m. to 3:00 p.m.
Part B: Monday, 3:30 p.m. to 5:30 p.m.
This minicourse introduces participants to WeBWorK 2, the new version of the open software system for presenting and grading homework problems. Supported by grants from NSF, WeBWorK has already been adopted by over 100 colleges and universities. WeBWorK can handle most homework problems found in a typical calculus text and is distributed with an extensive library of over 4,000 problems covering college algebra and trigonometry, precalculus, single and multivariable calculus, differential equations, linear algebra, statistics, and probability. There is also a larger national library of problems. It's easy to modify current WeBWorK problems or to write new ones. Participants will actively participate in using WeBWorK to select and edit problems, set up and administer a course, etc. More information about WeBWorK is available at http://webwork.rochester.edu/. Cost is US $95; enrollment limit is 30.

MINICOURSE #7
DIRECTING UNDERGRADUATE RESEARCH
Aparna W. Higgins, University of Dayton
Part A: Friday, 9:00 a.m. to 11:00 a.m.
Part B: Sunday, 1:00 p.m. to 3:00 p.m.
This course will cover many aspects of facilitating research by undergraduates, such as getting students involved in research, finding appropriate problems, deciding how much help to provide, and presenting and publishing the results. Similarities and differences between research conducted during summer programs and research that can be conducted during the academic year will be discussed. Although the examples used will be primarily in the area of discrete mathematics, the strategies discussed can be applied to any area of mathematics. Cost is $60; enrollment limit is 50.

MINICOURSE #8
MATHEMATICS AND GEOMETRY OF VOTING
Organized by Donald G. Saari, University of California Irvine
Part A: Friday, 2:15 p.m. to 4:15 p.m.
Part B: Sunday, 9:00 a.m. to 11:00 a.m.
By now, most of us know that voting rules can cause unexpected outcomes and delicious paradoxes. It is possible for the stan-dard plurality ranking, for instance, to be Alice >Barb >Connie while the "vote for two" outcome is precisely the opposite. The mathematical issues—which constitute the theme of this course—are to identify everything that can possibly happen and the mathematical reasons why they occur, how to construct any number of illustrating examples, how to identify which voting rule is the "best," and to learn how to convert portions of this recent research into rich course offerings for our undergraduates. Cost is US $60; enrollment limit is 50.

MINICOURSE #9
EVALUATING STUDENT PRESENTATIONS IN MATHEMATICS
Organized by Suzanne Dorée, Augsburg College, Richard J. Jardine, Keene State College, and Thomas J. Linton, Central College
Part A: Friday, 4:45 p.m. to 6:45 p.m.
Part B: Sunday, 3:30 p.m. to 5:30 p.m.
Do your students give in-class presentations or present their undergraduate research project at a conference or senior seminar? While most mathematics professors can tell a great mathematics talk from a truly horrible one, when it comes to grading student presentations we are often at a loss. In this course we'll examine what makes a good student mathematics talk, offer concrete advice on helping students prepare to speak, discuss the use of rubrics for evaluating presentations, and explore the role of presentations in departmental curriculum and assessment. Participants will practice using rubrics to evaluate presentations on video and at the meetings themselves. Sponsored by the MAA Committee on Teaching Undergraduate Mathematics (CTUM). Cost is US $60; enrollment limit is 50.

MINICOURSE #10
A BEGINNER'S GUIDE TO THE SCHOLARSHIP OF TEACHING AND LEARNING (SOTL) IN MATHEMATICS
Organized by Curtis D. Bennett and Jacqueline M. Dewar, Loyola Marymount University
Part A: Saturday, 9:00 a.m. to 11:00 a.m.
Part B: Monday, 9:00 a.m. to 11:00 a.m.
This course will introduce participants to the scholarship of teaching and learning in mathematics. We will present a framework that illustrates the similarities between disciplinary research and SoTL work, offer examples of SoTL projects in mathematics at varying stages of development, discuss methods for investigation, and help participants begin projects of their own. Participants will be guided in transforming a teaching problem of their own into a problem for scholarly investigation. Suggestions for how to make this work public will also be given. Cost is US $60; enrollment limit is 50.

MINICOURSE #11
ORIGAMI IN UNDERGRADUATE MATHEMATICS COURSES
Organized by Thomas C. Hull, Merrimack University
Part A: Saturday, 1:00 p.m. to 3:00 p.m.
Part B: Monday, 1:00 p.m. to 3:00 p.m.
Those who have studied origami may have unfolded their creations and marveled at the pattern of creases in the paper that result. Lovely mathematics lurks behind these creases, incorpo-

rating topics throughout the entire undergraduate mathematics curriculum. This material is easily understood by undergraduate majors, leads to numerous open questions, and offers a great opportunity for hands-on, discovery-based learning. This workshop will offer participants hands-on experience with the main areas of "origami-math" (including modular origami, geometric constructions, and combinatorial modeling) to incorporate into their own classes. Requests will also be solicited from participants for topics they'd like to see applied to origami. This version of the minicourse will include new material from previous years. Experience either in paper folding or in teaching geometry, algebra, or combinatorics, would be useful. Cost is US $70; enrollment limit is 30.

MINICOURSE #12
COMBINATORIALLY THINKING
Organized by Arthur T. Benjamin, Harvey Mudd College, and Jennifer J. Quinn, Association for Women in Mathematics
Part A: Friday, 9:00 a.m. to 11:00 a.m.
Part B: Sunday, 9:00 a.m. to 11:00 a.m.
Faced with an identity, how do you create a combinatorial proof? This hands-on minicourse will provide you with some useful combinatorial interpretations, well-selected examples, and the challenge of finding your own combinatorial proofs. Along with numbers that are defined through counting (binomial coefficients, Stirling numbers, Catalan numbers), you will acquire a combinatorial appreciation for quantities like harmonic numbers, continued fractions, determinants, Fibonacci numbers, and the golden ratio. An extensive list of identities—some with known interpretations and others without—will serve as the basis for your exploration. Of course, you are welcome to bring along your personal favorites to add to the excitement. Cost is $60; enrollment limit is 50.

MINICOURSE #13
TEACHING A COURSE IN THE HISTORY OF MATHEMATICS
Organized by Victor J. Katz, University of the District of Columbia, and V. Frederick Rickey, U. S. Military Academy
Part A: Friday, 2:15 p.m. to 4:15 p.m.
Part B: Saturday, 1:00 p.m. to 3:00 p.m.
Many schools are introducing courses in the history of mathematics and asking faculty who may never have taken such a course to teach them. This minicourse will assist those teaching history by introducing participants to numerous resources, discussing differing approaches and sample syllabi, providing suggestions for student projects and assessments, and giving those teaching such courses for the first time the confidence to master the subject themselves and to present the material to their students. Cost is US $60; enrollment limit is 50.

MINICOURSE #14
CONTEMPORARY COLLEGE ALGEBRA: A REFOCUSED COLLEGE ALGEBRA COURSE
Organized by Donald B. Small, U. S. Military Academy, and Laurette B. Foster, Prairie View A&M University
Part A: Friday, 4:45 p.m. to 6:45 p.m.
Part B: Sunday, 3:30 p.m. to 5:30 p.m.

The "refocused" aspect of the course refers first to developing students to become exploratory learners, and second to preparing students for the quantitative needs they will encounter in school, the work place, and society. Elementary data analysis, functions, and problem solving/modeling are the major components of the course. Participants will engage in small-group class activities, small-group projects, modeling (graphically, recursive sequences), and discussions on pedagogy, content (What are the basic skills for college algebra?), and assessment. Participants will receive a collection of small-group activities and projects. Familiarity with a graphics calculator will be helpful, but is not a prerequisite. See http://contemporarycollegealgebra.org for more information. Cost is US $60; enrollment limit is 50.

MINICOURSE #15
GEOMETRY WITH HISTORY FOR TEACHING TEACHERS
Organized by David W. Henderson and Daina Taimina
Cornell University
Part A: Sunday, 1:00 p.m. to 3:00 p.m.
Part B: Monday, 1:00 p.m. to 3:00 p.m.
This minicourse will facilitate a hands-on cooperative experience of the geometries of various surfaces (cones, cylinders, spheres, and hyperbolic planes) and studying the intrinsic geometry of these surfaces. We will also explore the interactions (both ways) between geometry and mechanical motions. We will use four historical strands to organize our reflection on the basic geometric notions of Euclidean and non-Euclidean geometry. These explorations enhance our understandings of Euclidean geometry and help to demonstrate a non-axiomatic, non-formal view of mathematics and mathematics learning. Appropriate for all mathematicians teaching teachers. Teaching materials and references to Web and paper resources will be provided. Cost is US $60; enrollment limit is 50.

MINICOURSE #16
MORE MUSIC AND MATHEMATICS
Organized by Leon Harkleroad, Wilton, Maine
Part A: Saturday, 9:00 a.m. to 11:00 a.m.
Part B: Monday, 9:00 a.m. to 11:00 a.m.
An all new set of topics from the interface of math and music will be explored including subjects such as historical geometric methods to approximate equal tempering in instrument design, group theory in contradancing, and music from space-filling curves and fractals. This minicourse will not repeat material from the previous one (held in Atlanta, GA, in January 2005), and it will not assume that participants attended that earlier installment. Cost is US $60; enrollment limit is 50.

MAA Contributed Paper Sessions

The MAA Committee on Contributed Paper Sessions solicits contributed papers pertinent to the sessions listed below. Contributed paper session organizers generally limit presentations to ten or fifteen minutes. Please note that the dates and times scheduled for these sessions remain tentative. Overhead projectors and screens will be supplied. Full descriptions of these sessions, including instructions on the criteria for requesting additional audiovisual equipment and organizers' email addresses for correspondence, may be found in the May/June issue of FOCUS, p. 23, or see www.maa.org/meetings/052306cpsneworleans.html.

CONTENT COURSES FOR THE MATHEMATICAL EDUCATION OF MIDDLE SCHOOL TEACHERS
Laurie Burton, Maria G. Fung, and Klay Kruczek, Western Oregon University
Friday morning

EULER IN THE CLASSROOM
Robert E. Bradley, Adelphi University, and Amy Shell-Gellasch, Pacific Lutheran University
This session is sponsored by the History of Mathematics Special Interest Group of the MAA (HOMSIGMAA)
Friday morning

INTEGRATING MATHEMATICS AND BIOLOGY IN UNDERGRADUATE EDUCATION
Glenn W. Ledder, University of Nebraska-Lincoln, Yajun Yang, Farmingdale State University of New York, Jack Bookman, Duke University, and James P. Fulton, Suffolk County Community College
Friday morning

TEACHING MATHEMATICS COURSES ONLINE
Cheryl Olsen and Kate McGivney, Shippensburg University
Friday morning

USE OF TECHNOLOGY IN ABSTRACT ALGEBRA AND NUMBER THEORY
Byungchul Cha, Hendrix College and Bo-Hae Im University of Utah
Friday morning

CHAOS AND FRACTALS
Denny Gulick, University of Maryland, and Jon W. Scott, Montgomery College
Friday afternoon

ENTERTAINING WITH MATH
Timothy P. Chartier, Davidson College
Friday afternoon

MATHLETS FOR TEACHING AND LEARNING MATHEMATICS
David Strong, Pepperdine University, Thomas Leathrum, Jacksonville State University, and Joe Yanik, Emporia State University
Friday afternoon

RESEARCH AND OTHER MATHEMATICAL EXPERIENCES FOR STUDENTS OUTSIDE THE CLASSROOM
Sarah Spence Adams, Franklin W. Olin College of Engineering, James A. Davis, University of Richmond, and Susan E. Morey, Texas State University, San Marcos
Friday afternoon

GETTING STUDENTS TO DISCUSS AND TO WRITE ABOUT MATHEMATICS
Martha Ellen (Murphy) Waggoner, Simpson College, Charlotte Knotts-Zides, Wofford College, and Harrison W. Straley, Wheaton College
Saturday morning and afternoon

INNOVATIVE AND EFFECTIVE WAYS TO TEACH LINEAR ALGEBRA
David Strong, Pepperdine University, and Gilbert Strang, Massachusetts Institute of Technology
Saturday morning

MATHEMATICS AND BIOLOGY 2010: BUILDING CONNECTIONS
G. Elton Graves, Rose-Hulman Institute of Technology, and Catherine M. Murphy, Purdue University
Saturday morning

RESEARCH ON THE TEACHING AND LEARNING OF UNDERGRADUATE MATHEMATICS
David E. Meel, Bowling Green State University, Michael Oehrtman, Arizona State University, and Chris Rasmussen, San Diego State University
Saturday morning

PHILOSOPHY OF MATHEMATICS
Bonnie Gold, Monmouth University, and Charles R. Hampton, The College of Wooster
This session is sponsored by the SIGMAA for the Philosophy of Mathematics.
Saturday morning and afternoon

COMMUNICATION THEORY IN UNDERGRADUATE COURSES
Tim McDevitt, Elizabethtown College
Saturday afternoon

RECONCEPTUALIZING CONTENT COURSES FOR PROSPECTIVE HIGH SCHOOL MATHEMATICS TEACHERS
Jean McGivney-Burelle, University of Hartford, and Neil Portnoy, Stony Brook University
Saturday afternoon

THE SCHOLARSHIP OF TEACHING AND LEARNING IN MATHEMATICS
Curtis D. Bennett and Jacqueline M. Dewar, Loyola Marymount University
Saturday afternoon

BUILDING DIVERSITY IN ADVANCED MATHEMATICS: MODELS THAT WORK

Patricia Hale, California State Polytechnic University, Pomona, and Abbe H. Herzig, University at Albany, SUNY
Sunday morning

HOW TO START AND DEVELOP UNDERGRADUATE LEVEL FINANCIAL MATHEMATICS PROGRAMS

Youngna Choi, Montclair State University
Sunday morning

THE MATHEMATICS OF SUDOKU AND OTHER PUZZLES

Laura A. Taalman, James Madison University
Sunday morning

TEACHING OPERATIONS RESEARCH IN THE UNDERGRADUATE CLASSROOM

Gerald Kobylski and Steve Horton, United States Military Academy, Christopher J. Lacke, Rowan University, and William Fox, Francis Marion University
Sunday morning

COUNTERING "I CAN'T DO MATH": STRATEGIES FOR TEACHING UNDER-PREPARED, MATH-ANXIOUS STUDENTS

Winston Crawley and Kim Presser, Shippensburg University
Sunday afternoon

INNOVATIVE EXAMPLES OF USING GRAPHS IN STATISTICS

Christopher J. Lacke, Rowan University, and Ginger Holmes Rowell, Middle Tennessee State University
Presenters in the session will be considered for the SIGMAA on Statistics Education's Best Contributed Paper Award.
Sunday afternoon

MATHEMATICS EXPERIENCES IN BUSINESS, INDUSTRY AND GOVERNMENT

Philip E. Gustafson**,** Mesa State College, and Michael Monticino, University of North Texas

This session is sponsored by the MAA Business, Industry and Government Special Interest Group (BIG SIGMAA).
Sunday afternoon

TEACHING INNOVATIONS IN REAL ANALYSIS

Robert W. Vallin, Slippery Rock University, and Erik O. Talvila, University College of the Fraser Valley
Sunday afternoon

APPLICATIONS OF DISCRETE MATHEMATICS

Thomas Koshy, Framingham State College, and Thomas Moore, Bridgewater State College
Monday morning

ASSESSMENT OF STUDENT LEARNING IN UNDERGRADUATE MATHEMATICS

William Martin, North Dakota State University, and Bernard L. Madison, University of Arkansas
Monday morning

COLLEGE ALGEBRA: CONCEPTS, DATA, AND MODELS

Florence S. Gordon**,** New York Institute of Technology, Mary Robinson, University of New Mexico Valencia Campus, Norma Agras, Miami Dade Community College, and Laurette Foster, Prairie View A&M University
Monday morning

MATHEMATICS OF CHEMISTRY

George Rublein, The College of William and Mary
Monday morning

GENERAL SESSION

Eric S. Marland, Appalachian State University, and Jay A. Malmstrom, Oklahoma City Community College. Papers may be presented on any mathematical topic. Papers that fit into one of the other sessions should be sent to that session and not this one.
Friday morning and afternoon; Saturday morning and afternoon; Sunday morning and afternoon; and Monday morning and afternoon

Panels and Poster Sessions

KEEPING YOUR RESEARCH ALIVE
Organized by Brian Birgen, Wartburg College, William M. Higdon, University of Indianapolis, and James E. Hamblin, Shippensburg University
Friday, 9:30 a.m. to 10:50 a.m.
The session is cosponsored by MAA and the Young Mathematicians Network.

NATIONAL SCIENCE FOUNDATION PROGRAMS SUPPORTING LEARNING AND TEACHING IN THE MATHEMATICAL SCIENCES
Organized by Camille McKayle, NSF/Directorate for Education and Human Resources, Lloyd E. Douglas, NSF/Division of Mathematical Sciences, Elizabeth J. Teles and Lee L. Zia, NSF/Division of Undergraduate Education, and David C. Royster, NSF.
Friday, 9:30 a.m. to 10:50 a.m.
A number of NSF divisions offer a variety of grant programs that support innovations in learning and teaching in the mathematical sciences. These programs will be discussed along with examples of successful projects. Anticipated budget highlights and other new initiatives for the next fiscal year will also be presented.

ETHICS IN THE MATHEMATICAL SCIENCES
Organized by Susan C. Geller, Texas A&M University
Friday, 2:15 p.m. to 3:35 p.m.
The MAA is in the process of writing ethics guidelines. This panel will present the guidelines of some other organizations in the mathematical sciences and a draft version of guidelines for the MAA. Then there will be an open discussion about the draft. We really want input from a diverse group so please come and help. Panelists include Donald L. Bentley, Pomona College, John D. Fulton, Clemson University, Linda Keen, Herbert H. Lehman College CUNY, and Henry Walker, Grinnell University. The session is sponsored by the MAA Committee on the Profession.

YOUNG MATHEMATICIANS' NETWORK/MAA-PROJECT NEXT POSTER SESSION
Organized by Kevin E. Charlwood, Washburn University, and Kenneth A. Ross, University of Oregon
Friday, 2:15 p.m. to 4:15 p.m.
Junior mathematicians who are no more than five years beyond their PhD are invited by Project NExT and the Young Mathematicians' Network to submit abstracts for the session. The poster size will be 48" (length) by 36" (height). Posters and materials for posting pages on the posters will be provided onsite. Applications should be submitted to Kevin Charlwood, kevin.charlwood@washburn.edu, or Kenneth Ross, ross@math.uoregon.edu, by Friday, December 8, 2006.

THE ROLE OF ASSESSMENT IN HELPING STUDENTS LEARN
Organized by Catherine M. Murphy, Purdue University Calumet, and Daniel P. Maki, Indiana University
Friday, 2:15 p.m. to 3:35 p.m.
Assessment of student learning in courses and programs focuses on outcomes not inputs. What is needed for an effective assessment process that helps us accomplish our goals and provides evidence of student learning required by accrediting bodies? The panelists, who have many years of experience working with assessment of students learning outcomes in the mathematical sciences, will provide overviews and models addressing the issues raised by the previous question. Specific examples will be given. Come! Ask questions, share successes! Panelists include Bernard L. Madison, University of Arkansas, Fayetteville, William A. Marion, Jr., Valparaiso University, and Barbara Moskal, Colorado School of Mines.

HOW TO INTERVIEW FOR A JOB IN THE MATHEMATICAL SCIENCES
Organized by David C. Manderscheid, University of Iowa
Friday, 3:50 p.m. to 5:10 p.m.
This session is aimed at PhD students and recent PhDs. An overview of the employment process will be given with ample opportunity for participants to ask questions. The emphasis will be on the portion of the employment process from interviewing through accepting an offer. Questions that will be addressed include: How do employers conduct interviews? How can you best prepare for these interviews? How do employers choose to whom they will make offers? How do you negotiate once you have an offer? How do you choose among competing offers? Panelists will include Allen Butler, Daniel H. Wagner Associates, Inc. Sharon M. Clarke, Pepperdine University, James H. Freeman, Cornell College, David T. Kung, St. Mary's College of Maryland, and David C. Manderscheid. The session is cosponsored by the MAA Committee on Graduate Students and The Young Mathematicians Network.

MATHEMATICS AND MATHEMATICIANS IN EMERGING NATIONS
Organized by M. Leigh Lunsford, Longwood University, and Lisa Elaine Marano, West Chester University of Pennsylvania
Friday, 3:50 p.m. to 5:40 p.m.
Have you ever wondered about how mathematics is taught, perceived, and practiced in emerging countries? An "emerging" country will be rather loosely defined for this discussion and will thus include China and other Asian countries as well as South American and African nations. What can we learn from these countries and what do we have to offer? Panelists will discuss their first-hand experiences with research mathematicians as well as mathematics educators in emerging nations. Opportunities for interaction with mathematicians from these countries will also be discussed. This panel discussion is sponsored by the MAA Study Abroad Tours Subcommittee. Panelists include Joel K. Haack, University of Northern Iowa, Aihua

Li, Montclair State University, Kate McGivney, Shippensburg University of Pennsylvania, Claudio H. Morales, University of Alabama, Huntsville, and Miranda I. Teboh-Ewungkem, Lafayette College.

CURRENT ISSUES IN ACTUARIAL SCIENCE EDUCATION
Organized by Robert E. Buck, Slippery Rock University, Bettye Anne Case, Florida State University, Matthew J. Hassett, Arizona State University, and Steve Paris, Florida State University
Friday, 4:45 p.m. to 6:45 p.m.
A diverse group of working actuaries, publishers, and actuarial educators bring new information from professional society committees, specialized publications initiatives, and academic department experience. The pace of change in the profession is faster than in most academic areas, and the session helps faculty adjust as quickly as possible not only to educate their students generally, but give the students good professional information and to determine upcoming curriculum change which may be necessary.

EULER'S CONTINUING INFLUENCE
Organized by Edward Sandifer, Western Connecticut State University
Saturday, 8:30 a.m. to 9:50 a.m.
On the occasion of the 300th anniversary of Euler's birth, this panel looks at the influence Euler's mathematical work has had on not only the course of mathematics over the years, but also his influence in areas such as science, religion, philosophy, and education. Scholars with backgrounds in Euler will give short presentations then the presenters will answer questions from the audience. This panel will complement the MAA Short Course on Euler. Panelists will include William W. Dunham, Muhlenberg College, *Euler's mathematics*; Charles R. Hampton, College of Wooster, *Philosophy and religion*; and June E. Barrow-Green, The Open University, *Education*.

STRATEGIC THINKING ABOUT NONLADDER FACULTY
Organized by Judith L. Baxter, University of Illinois at Chicago, Kevin E. Charlwood, Washburn University, and Natasha M. Speer, Michigan State University
Saturday, 9:00 a.m. to 10:20 a.m.
Departments of Mathematics are under increasing pressure to teach more of our courses using nontenure-track faculty. This creates concerns on many levels. From the perspective of the tenure-track faculty, is the tenure system being eroded? Are our courses being taught well? Are the nontenure-track faculty being properly supervised? From the perspective of the non-tenure-track faculty, are they treated well by the department? Are they included in textbook decisions and exam committees for the courses that they teach, as well as in departmental activities and seminars? Do they have health insurance and/or other benefits? Do they have to cobble together a job by teaching

at several different institutions? The session is sponsored by the Joint MAA/ AMS Committee on Teaching Assistants and Part-Time Instructors (TA/PTI).

USING STUDENT PORTFOLIOS FOR ASSESSMENT
Organized by Alex J. Heidenberg, and Michael D. Phillips, U.S. Military Academy
Saturday, 10:00 a.m. to 11:20 a.m.
In its simplest form, assessment is the process of gathering information about student learning. More important than collecting and analyzing this information is searching for meaning with respect to the learning goals and acting on what is discovered. When the course ends and we have finished with our assessment tools, we need to reflect back on our goals. Are the goals appropriate? Did we meet the course goals? What changes, if any, do we need to make to improve the educational experience? How do we know that we have adequately captured student learning? An assessment program should be comprehensive and multi-faceted. Many assessment programs use student portfolios to capture elements of student growth and learning. Now that portfolios are in vogue, how do you implement this assessment strategy effectively? The purpose of this session is to bring together a panel to discuss issues involved with using portfolios as an assessment tool. Panelists include Connie S. Schrock, Emporia State University, Dennis Kern, Texas A&M University at Texarkana, Cathy Liebars, College of New Jersey, and Archie Wilmer III, U.S. Military Academy.

PROPOSAL WRITING WORKSHOP FOR GRANT APPLICATIONS TO THE NSF DIVISION OF UNDERGRADUATE EDUCATION
Organized by Elizabeth J. Teles and Lee L. Zia, National Science Foundation Division of Undergraduate Education
Saturday, 10:30 a.m. to 11:50 a.m.
Presenters will describe the general NSF grant proposal process and consider particular details relevant to programs in the Division of Undergraduate Education. This interactive session will feature a series of "read/think/share/report" exercises built around a series of short excerpts from sample proposals.

ENGAGING STUDENTS IN RESEARCH, CLUBS, STUDENT CHAPTERS, AND INTERNSHIPS
Organized by Kay B. Somers, Moravian University, and Jody Sorenson, Augsburg College
Saturday, 1:00 p.m. to 2:20 p.m.
The panelists' discussion will focus on ways in which we can engage students in a variety of learning activities outside the usual classroom experiences. The four speakers will share their experiences and describe activities that allow students to gain valuable mathematics-related research and work experience, communicate mathematics, build community among their peers, and have fun. These activities include independent and group research experiences, student conferences, and MAA Student Chapter events. In addition, panelists will discuss internships, field study projects, and service projects. Panelists include Gary Gordon, Lafayette College, Deanna B. Haunsperger, Carleton College, Angela Spalsbury, Youngstown State University, and

Richard A. Zang, University of New Hampshire, Manchester. The session is sponsored by the MAA Committee on Undergraduate Student Activities and Chapters (CUSAC).

PLACEMENT: FRIEND OR FOE?

Organized by Susan L. Forman, Bronx Community College; Reginald K. U. Luke, Middlesex County College; and Stephen B. Rodi, Austin Community College
Saturday, 1:00 p.m. to 2:20 p.m.

Accurately placing students in a first mathematics course in college is a perennial problem for mathematics departments, whether the placement is a choice between precalculus and calculus I or between elementary and intermediate algebra. The purpose of this panel is to share the expertise of three individuals who have been deeply involved in placement issues, either on their own campuses or in the larger context of articulation among area schools. They will alert you to unexpected stumbling blocks in the placement process and share their thoughts on placement tools and procedures that have worked for them. They also will address issues such as: What kinds of and how much information should departments provide incoming students concerning the placement procedures they will encounter? How do departments deal with discrepancies between placement scores and a student's previous academic background? How can a department track the effectiveness of its placement program? What are the strengths and weaknesses of various placement instruments or strategies? Ample time will be allowed to address additional questions from the floor. Panelists include Geoffrey Akst, Borough of Manhattan College, Steve Newman, Northern Kentucky University, and Gordon S. Woodward, University of Nebraska-Lincoln. The session is co-sponsored by the MAA Committee on Two-Year Colleges and the MAA Committee on Articulation and Placement.

RESHAPING UNDERGRADUATE MATHEMATICS FOR BIOLOGY-RELATED DISCIPLINES: IDEAS AND INNOVATIONS

Organized by Jenna P. Carpenter, Louisiana Tech University
Saturday, 1:00 p.m. to 2:20 p.m.

The mathematical needs of biology-related disciplines have undergone dramatic changes in recent years, spurring the need to reshape the traditional undergraduate mathematics training for these majors to focus on topics such as data analysis, modeling and selected topics from calculus and beyond. This session will feature four successful projects featured in the MAA publication *Math and Bio 2010: Linking Undergraduate Disciplines* to explore how they are meeting these needs. Panelists will summarize their projects, highlighting challenges and successes. This will be followed by a question-and-answer session to allow interested attendees the opportunity to explore how they might implement similar learning experiences at their own institutions. Examination copies and/or handouts of project overviews, sample curricular materials, web sites and other dissemination products will be made available for attendees. Panelists will include Eric S. Marland, Appalachian State University, Debra L. Hydorn, University of Mary Washington, Ami Radunskaya, Pomona College, and Kathy Taylor, Duquesne University. The

session is sponsored by the MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years (CRAFTY).

PROJECTS SUPPORTED BY THE NSF DIVISION OF UNDERGRADUATE EDUCATION

Organized by Jon W. Scott
Montgomery Community College
Saturday, 2:00 p.m. to 4:00 p.m.

This poster session will feature principal investigators (PIs) presenting progress and outcomes from various projects funded totally by the NSF Division of Undergraduate Education (DUE) or cooperatively with other NSF divisions. This format will permit ample opportunity for attendees to engage in small group discussions with the PIs and to network with each other. Information about presenters and their projects will appear in the program.

ELECTRONIC STUDENT ASSESSMENT SYSTEMS

Organized by Michael D. Hvidsten, Gustavus Adolphus College, and Bruce W. Yoshiwara, Los Angeles Pierce College
Saturday 2:30 p.m. to 3:50 p.m.

Panelists will discuss the current state and the possible future of various electronic/online student assessment systems, such as ALEKS, MyMathLab, and Thomson Now!. Topics of discussion will include problem/question/task types, product costs, hardware/software requirements, ease of use, integration with textbooks, and data on the impact on learning. Panelists include David P. Bell, Florida Community College, Michael E. Gage, University of Rochester, Jolene Rhodes, Valencia Community College, and Phoebe B. Rouse, Louisiana State University. The session is sponsored by the MAA Committee on Technologies in Mathematics Education (CTME).

CALCULUS, LIBERAL ARTS, AND QUANTITATIVE LITERACY

Organized by Richard A. Gillman, Valparaiso University
Sunday 9:00 a.m. to 10:20 a.m.

In a recent survey of quantitative literacy programs, three points became clear: (a) there seems to be a consensus on the requisite mathematical skills, (b) it is assumed that any student taking calculus becomes quantitatively literate and (c) there is no clear role for the traditional liberal arts "great ideas" course in QL. Starting with the consensus answer to the first point, this panel will begin a discussion of the following questions: Are calculus students quantitatively literate? Can a liberal arts course teach quantitative literacy? In John Paulo's initial works on numeracy, he suggests that many scientists are quantitatively illiterate; are we addressing this concern? Similarly, does a course in the history of math or on fun geometric topics prepare a student to deal with their everyday world? The panelists will respond to these questions from their various perspectives in their presentations and in response to the audience's questions. Panelists include William E. Briggs, University of Colorado, Denver; Deborah Hughes-Hallett, University of Arizona, Michael Starbird, University of Texas at Austin, and Richard A. Gillman.

Panels and Poster Sessions

THE TOP TEN THINGS YOU SHOULD KNOW IF YOU INTEND TO IMPLEMENT THE STANDARDS OF *BEYOND CROSSROADS*

Organized by Richelle (Rikki) Blair
Lakeland Community College
Sunday, 9:00 a.m. to 10:20 a.m.

The American Mathematical Association of Two-Year Colleges (AMATYC) unveiled its second standards document *Beyond Crossroads* and its accompanying electronic resources in November 2006. *Beyond Crossroads* presents a new set of implementation standards building on the standards for intellectual development, content, and pedagogy from the 1995 *Crossroads*. The standards address student learning and the learning environment, assessment of student learning, curriculum and program development, instructional strategies, and professionalism. In this session panelists will discuss implementing standards-based mathematics teaching and the need to embrace change and continuous improvement as professionals. They will give examples of how these standards and accompanying electronic resources can be used to improve student learning. Panelists include Kathy Mowers, Owensboro Community and Technical College, Robert L. Kimball Jr., Wake Technical Community College, Bradford I. Chin, West Valley College, and Rikki Blair.

THE "BRIDGE" COURSE

Organized by George R. Exner, Bucknell University
Sunday, 1:00 p.m. to 2:30 p.m.

The "bridge" or "transitions" course has become a standard gateway course in the undergraduate mathematics major in the past decade and a half. However, the course and its issues remain relatively unstudied by mathematics education researchers; further, those teaching the course are largely unaware of what relevant research there is. As well, these courses tend to be developed in isolation, with little cross-fertilization from successful versions at other institutions, and we lack resources analyzing or recording goals, approaches, and techniques. The panel will consider some directions for research to engage both researchers and practitioners, and widen the conversation to the audience to jump start ongoing activities. How can we study the course in ways both feasible and of interest to all concerned (using the complementary strengths of researchers and teachers), communicate findings usefully and broadly, assemble and publish both best practice and research based techniques, and find support for this effort? The session will be moderated by George R. Exner. Panelists include David M. Bressoud, Macalester College, Amy Cohen, Rutgers University, Barbara E. Edwards, Oregon State University, and Annie Selden, New Mexico State University. The session is sponsored by the MAA Committee on the Undergraduate Program in Mathematics (CUPM).

ATTRACTING UNDERREPRESENTED STUDENTS TO GRADUATE STUDY THROUGH RESEARCH

Organized by William Hawkins Jr., MAA and the University of the District of Columbia, and Robert E. Megginson, University of Michigan
Sunday, 2:30 p.m. to 3:50 p.m.

The MAA supported student research programs consisting of small research teams of a faculty member and four minority undergraduates at twelve sites in the summers of 2005 and 2006 with funds from NSF, NSA, and the Moody's Foundation. An initiative of the MAA National Research Experiences for Undergraduates Program (NREUP), this is one of several efforts to attract underrepresented students to graduate study through research. Dennis Davenport, Miami University of Ohio, Lloyd E. Douglas, NSF, Herbert A. Medina, Loyola Marymount University, Ivelisse M. Rubio, University of Puerto Rico, Michelle D. Wagner, NSA, and Robert Megginson will discuss their programs to address this issue of national concern. There will be ample time for questions.

ALGEBRA: GATEWAY TO A TECHNOLOGICAL FUTURE

Organized by Michael Pearson, MAA
Monday, 9:00 a.m. to 10:20 a.m.

There is widespread concern that the U.S. is losing its competitive edge in areas of research and innovation that are critical to our economic well-being. The National Mathematics Advisory Panel is already working to identify ways to improve the mathematical education of students in K through 12 in order to better prepare them to pursue more advanced topics, and in particular will offer suggestions to improve preparation for and success in algebra. The NSF has supported projects designed to improve student learning of algebra at all levels, ranging from studies of cognitive issues in pre-algebra to abstract algebra for teachers. Now is a good time to take stock of past efforts and look toward the future. In November 2006 the MAA will bring together representatives from mathematics and mathematics education from across the entire K to 16 spectrum to survey what has been learned about algebra and to identify common principles that can serve as models for improvement. This session is a preliminary report on the project.

KNOWING MATHEMATICS FOR TEACHING ISSUES IN ASSESSMENT AND TEACHER PREPARATION

Organized by Joan Ferrini-Mundy and Raven McCrory
Michigan State University
Monday, 1:00 p.m. to 2:20 p.m.

Special Interest Groups of the MAA (SIGMAAS)

SIGMAAs will be hosting a number of interesting activities, sessions, and guest lecturers. There are currently nine such focus groups offering members opportunities to interact not only at meetings but throughout the year via newsletters and email-based communications. For more information visit www.maa.org/SIGMAA/SIGMAA.html.

SIGMAA OFFICERS MEETING
Chaired by Stephen C. Carlson
Rose-Hulman University
Saturday, 8:00 a.m. to 10:00 a.m.

SIGMAA ON BUSINESS, INDUSTRY, AND GOVERNMENT

RECEPTION
Saturday, 5:45 p.m. to 6:45 p.m.
(see the "Social Events" section).

MATHEMATICS EXPERIENCES IN BUSINESS, INDUSTRY AND GOVERNMENT
Sunday 1:00 p.m. to 5:00 p.m.
(see the "MAA Contributed Paper Sessions" section).

SIGMAA ON ENVIRONMENTAL MATHEMATICS

BUSINESS MEETING AND GUEST LECTURE
Organized by Ben A. Fusaro, Florida State University
Friday, 4:00 p.m. to 5:30 p.m.

NEW ORLEANS AND THE ENVIRONMENT
Organized by Ben A. Fusaro, Florida State University
Sunday, 1:30 p.m. to 4:30 p.m.
We will acquaint ourselves with some of the hydrological and other features that exacerbated the Katrina hit.

SIGMAA ON THE HISTORY OF MATHEMATICS

EULER IN THE CLASSROOM
Friday 8:00 a.m. to 11:00 a.m.
(see the "MAA Contributed Paper Sessions" section).

THE PRACTICE OF MATH HISTORY
Organized by William Branson, St. Cloud State University, and Amy E. Shell-Gellasch, Pacific Lutheran University
Friday, 3:50 p.m. to 5:40 p.m.
Many mathematicians are beginning to show an interest in the history of mathematics; either as a new research focus, as recreational research, or as adding context to the traditional curriculum. This session is aimed at mathematicians interested in conducting research in the history of mathematics. A panel of experienced math historians will discuss issues that concern newcomers to the field. Questions to be addressed include how to conduct research, how to follow correct historiography, how to write the history of mathematics and how to find resources.

Other questions from the audience will be discussed, and mathematicians will leave the session with the basic set of tools needed to get started in math history. Panelists include V. Frederick Rickey, U.S. Military Academy, Karen H. Parshall, University of Virginia, and Joseph W. Dauben, Herbert H. Lehman College CCNY.

ANNUAL MEETING AND GUEST LECTURE
Friday, 6:00 p.m. to 8:00 p.m.
Please join us for our annual business meeting and guest lecture, beginning with light snacks and a cash bar. The guest lecturer is Robin Wilson, The Open University, on *Sylvester to Hardy: 50 years of mathematics at Oxford*. For more information on HOM SIGMAA events, contact Amy Shell-Gellasch, programs chair, amy-shellgellasch.us.army.mil.

SPECIAL GUEST LECTURE
Saturday, 5:45 p.m. to 6:30 p.m.
In honor of the tercentenary of Euler's birth Edward Sandifer, Western Connecticut State University, will speak on *Euler and his word problems*.

SIGMAA ON THE PHILOSOPHY OF MATHEMATICS

ANNUAL MEETING AND GUEST LECTURE
Organized by Bonnie Gold, Monmouth University, and Kevin M. Iga, Pepperdine University
Saturday, 5:45 p.m. to 7:15 p.m.
The lecture will be given by Klaus and Alice Peters, AK Peters, Ltd.

PHILOSOPHY OF MATHEMATICS
All day Saturday
(See the "MAA Contributed Paper Sessions" section).

SIGMAA ON QUANTITATIVE LITERACY

ANNUAL BUSINESS MEETING AND RECEPTION
Organized by Maura B. Mast, University of Massachusetts Boston
Saturday, 5:45 p.m. to 6:30 p.m.

CURRENT PRACTICES IN QUANTITATIVE LITERACY: AN INTERDISCIPLINARY PERSPECTIVE
Organized by Maura B. Mast, University of Massachusetts Boston
Saturday, 2:30 p.m. to 3:50 p.m.
The issue of achieving quantitative literacy (QL) is one that spans disciplines. This panel will take a closer look at how very different institutions have used a cross-disciplinary approach to teach QL. Faculty at Farmingdale State University, a state university with a focus on technology, participated in a regional project on interconnected learning in the quantitative disciplines. As a result, mathematics and QL have been incorporated into many courses in other disciplines. At North Dakota State University, a comprehensive doctoral-granting institution, QL is assessed in interdisciplinary settings by reviewing experiences in subsequent courses. The Quantitative Literacy Center at

Special Interest Groups of the MAA (SIGMAAS)

Hamilton College, a small liberal arts school with a focus on teaching effective writing and speaking, provides peer tutoring and support for students in introductory level courses containing a mathematics/QL component. Each of these programs was featured in the recently published *MAA Notes* book *Current Practices in Quantitative Literacy*. Panelists include John A. Winn Jr., SUNY Farmingdale. William O. Martin and Dogan Comez, North Dakota State University. and Robert Kantrowitz and Mary O'Neill, Hamilton College.

SIGMAA ON RESEARCH IN UNDERGRADUATE MATHEMATICS EDUCATION (RUME)

FEATURED PRESENTATIONS FROM THE NINTH CONFERENCE ON RESEARCH IN UNDERGRADUATE MATHEMATICS EDUCATION

Organized by Chris Rasmussen, San Diego State University, and David E. Meel, Bowling Green State University
Saturday, 2:30 p.m. to 4:10 p.m.
The RUME SIGMAA holds an annual conference attended mostly by active researchers in undergraduate mathematics education. We have selected three presentations that received widespread acclaim from our most recent conference that we also anticipate will be of widespread interest to participants at the Joint Meetings. The panel members will give brief presentations on research related to (1) the application of a data analysis technique inspired by quantum mechanics to research on undergraduate mathematics student thinking and learning, (2) calculus and introductory analysis students' understanding of formal limit definitions and proofs, and (3) shifts in undergraduate students' knowledge and beliefs about mathematical justification and pedagogical factors that impact them. Panelists include Michael Oehrtman, Arizona State University, Susan Nickerson, San Diego State University, and Kyeong Hah Roh, Arizona State University.

RESEARCH ON THE TEACHING AND LEARNING OF UNDERGRADUATE MATHEMATICS

Saturday, 8:00 a.m. to 12:00 p.m.
(see the "MAA Contributed Paper Sessions" section).

BUSINESS MEETING AND PRESENTATION OF THE 2006 RUME BEST PAPER AWARD

Organized by Chris Rassmussen, San Diego State University, David E. Meel, Bowling Green State University, and Michael Oehrtman, Arizona State University.
Saturday, 5:45 p.m. to 8:15 p.m.

SIGMAA ON STATISTICS

INNOVATIVE EXAMPLES OF USING GRAPHS IN STATISTICS
Sunday, 1:00 p.m. to 5:00 p.m.
(see the "MAA Contributed Paper Sessions" section).

SIGMAA ON STATISTICS EDUCATION

PREPARING MAJORS FOR THE NONACADEMIC WORKFORCE: PROJECTS AND INTERNSHIPS IN APPLIED MATHEMATICS AND STATISTICS

Organized by Thomas L. Moore, Grinnell College, and Harriet S. Pollatsek, Mount Holyoke College
Friday, 2:15 p.m. to 3:35 p.m.
More than 90% of mathematical sciences majors go directly into the workforce after graduation. In the *Curriculum Guide 2004*, CUPM recommends that, "in addition to the general recommendations for majors, programs for students preparing to enter the nonacademic workforce should include a project involving contemporary applications of mathematics or an internship in a related work area." (In the *Guide*, "mathematics" is shorthand for the mathematical sciences, including statistics.) This panel, moderated by Thomas L. Moore, will include representatives of departments at varied institutions offering their majors interesting and valuable opportunities that satisfy this recommendation. The session is sponsored by CUPM and the SIGMAA on Statistics Education.

INNOVATIVE AND EFFECTIVE WAYS TO TEACH LINEAR ALGEBRA

Saturday, 8:00 a.m. to 12:00 p.m.
(see the "MAA Contributed Paper Sessions" section).

SIGMAA ON THE TEACHING OF ADVANCED HIGH SCHOOL MATHEMATICS

WHAT MATHEMATICAL CONTENT SHOULD FUTURE MATHEMATICS MAJORS LEARN WHILE IN HIGH SCHOOL?

Organized by Daniel J. Teague, North Carolina School of Science and Mathematics
Friday, 9:30 a.m. to 10:50 a.m.
This SIGMAA would like to continue discussing the mathematical preparation of talented high school students with a Town Hall Meeting on the essential mathematical content in high schools for future majors in mathematics. In our session on AP Calculus last January, the issue of students bypassing important mathematics (combinatorics, probability, 3-dimensional geometry, vectors, etc.) to insure they reach AP Calculus before leaving high school was central to the discussion. At MathFest we discussed what future mathematics majors should learn about proof in high school. In this session we would like the membership to consider the content of high school mathematics for the future mathematics major. What content would the membership of the MAA recommend talented students learn while in high school. Are combinations more important than differentiation? Are matrix operations more important than techniques of integration at this stage of the student's development? Where do data analysis and mathematical modeling fit into the preparation of future mathematicians? Panelists include Ben Klein, Davidson College, Susan S. Wildstrom, Walt Whitman High School, and Daniel J. Teague.

SIGMAA ON MATHEMATICS INSTRUCTION USING THE WEB

BEST PRACTICES FOR EXPOSITORY MATHEMATICS IN THE DIGITAL AGE

Organized by Kyle T. Siegrist, University of Alabama, Huntsville
Saturday, 10:00 a.m. to 11:20 a.m.

In the age of the Internet, expository mathematics no longer means just text on a printed page, but increasingly hyper-linked and "non-linear" web-based text with embedded graphics, audio, video, interactive mathlets, data sets, worksheets, and other elements. Authors of expository mathematics are no longer just those who publish commercially, but increasingly ordinary teachers and students. Best practices for general exposition (widely accepted by experts but largely unknown by ordinary authors) include the separation of presentation and content, attention to accessibility and reusability, and the use of standard, open-source formats when possible. Specific best practices related to mathematical exposition (such as mathlet design and document structure) have yet to be formulated. This panel will discuss and debate best practices for expository mathematics, and the tradeoffs involved in implementing these practices. The discussion will increase the awareness of general best practices, and encourage further debate on best practices specific to mathematics. Panelists will include Thomas E. Leathrum, Jacksonville State University, Douglas E. Ensley, Shippensburg State University, Franklin A. Wattenberg, U.S. Military Academy, David A. Smith, Duke University (retired), and Kyle T. Siegrist. The session is cosponsored by the MAA Committee on Technologies in Mathematics Education (CTME) and WEBSIGMAA.

MAA Meetings

BOARD OF GOVERNORS
Thursday, 8:30 a.m. to 4:00 p.m.

SECTION OFFICERS
Friday, 2:30 p.m. to 5:00 p.m.

DEPARTMENT LIAISONS BREAKFAST MEETING
Saturday, 7:00 a.m. to 8:30 a.m.

JOINT PME AND MAA STUDENT CHAPTER ADVISORS' BREAKFAST
Sunday, 7:00 a.m. to 8:00 a.m.

BUSINESS MEETING
Monday, 11:45 a.m. to 12:15 p.m.
Organized by MAA Secretary Martha J. Siegel, Towson University, and moderated by MAA President Carl C. Cowen, Indiana University-Purdue University Indianapolis.

MINORITY CHAIRS BREAKFAST MEETING
Monday, 7:00 a.m. to 8:45 a.m.

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

Project NExT

Project NExT (New Experiences in Teaching) is the MAA's professional development program for new and recent Ph.D.'s in the mathematical sciences. Each year about sixty new faculty are selected as Project NExT Fellows; application materials for 2007-08 will be available at the Project NExT booth in the meetings exhibit area. In addition Project NExT has organized these sessions to which it invites all meetings participants.

GETTING YOUR FIRST BOOK PUBLISHED
Organized by T. Christine Stevens, St. Louis University, Aparna W. Higgins, University of Dayton, and Joseph A. Gallian, University of Minnesota Duluth
Saturday, 8:30 a.m. to 9:50 a.m.
The panel features authors and acquisitions editors who will discuss topics such as reasons for writing a book, current market trends in math books at various levels, writing proposals for a book, the editorial process, what editors look for when evaluating a proposal and promotion and tenure issues related to publishing a book. There will be ample time for questions from the audience. Panelists include Thomas C. Hull, Merrimack College, Donald J. Albers, MAA, Laura A. Taalman, James Madison University, and Ruth Baruth, W. H. Freeman. The session is sponsored by Project NExT.

The following sessions were organized by the 1994-2002 Project NExT Fellows to address the concerns of faculty who have four to ten years of teaching experience.

BECOMING A LEADER IN YOUR DEPARTMENT
Organized by Edwin P. Herman, University of Wisconsin, Stevens Point, and J. Lyn Miller, Slippery Rock University
Friday, 3:00 p.m to 5:00 p.m.
What does it take to become a leader in your department? This session includes panelists from a wide variety of backgrounds who will offer advice on the do's and don'ts of taking on leadership roles in a department. While many are chairs of their departments, other forms of leadership will be addressed as well. Panelists include Stuart Boersma, Central Washington University, Linda Braddy, East Central University, Duff Campbell, Hendrix College, Jill E. Guerra, University of Arkansas-Fort Smith, Thomas C. Ratliff, Wheaton College, and Judy L. Walker, University of Nebraska-Lincoln.

UPDATING THE UNDERGRADUATE MATHEMATICS MAJOR
Organized by Timothy R. Ray, Southeast Missouri State University, and John W. Thompson, University of Pittsburgh, Johnstown
Saturday, 2:00 p.m. to 3:30 p.m.
Changing Core Mathematics (MAA Notes #61, 2002) addresses how the mathematical core should change over the ensuing five to ten years to adapt to the modern uses of mathematics within our society. The article suggests a closer cooperation with other disciplines, the incorporation of technology, the readjustment of goals and curriculum content, and instructional techniques that will be utilized. It is the goal of this panel to consider real-world applications of change within the mathematics major. As such, panelists from institutions that have recently reviewed and revised their mathematics major will briefly discuss their original and revised programs, and explain why they made their changes. Panelists include William H. Barker, Bowdoin College, Laurette B. Foster, Prairie View A&M University, David O. Lomen, University of Arizona, and Paul Zorn, St. Olaf College.

PUBLISHING UNDERGRADUATE RESEARCH AND EXPOSITORY ARTICLES
Organized by Chawne M. Kimber, Lafayette College and Kimberly A. Roth, Wheeling Jesuit University
Sunday, 9:00 a.m. to 10:30 a.m.
Panelists in this session will address the issues related to publication of articles that are expository in nature and articles that are the work of undergraduates. We hope to emphasize a discussion of viable journals and the mechanics of successfully writing these articles. Panelists include Ezra A. Brown, Virginia Polytechnic Institute and State University, Paul J. Campbell, Beloit College, Clifford A. Reiter, Lafayette College, and Jody Sorensen, Augsburg College.

Raffle for New Orleans Recovery

All participants are invited to take part in a special raffle with the proceeds going to several charities in New Orleans to help with the recovery efforts from Katrina. Participants will have a chance to win prizes such as a MacKichan software package (over $800 value), an Apple iPod with video capabilities ($300 value), four free nights at the San Diego Marriott Hotel & Marina for the 2008 meetings (over $500 value), a TI-89 Titanium graphing calculator from Texas Instruments ($160 value), and many more.

Participants can also purchase a special New Orleans Joint Meetings t-shirt and the proceeds will go to the same charities.

Look for the raffle counter on the second floor of the Marriott hotel. For more information and a listing of all the prizes and the charities, see http://www.ams.org/amsmtgs/2098_faq.html.

MAA Student Activities

STUDENT LECTURE

MATHEMATICS: A QUESTION OF HISTORY
Della Fenster, **University of Richmond**
Sunday, 1:00 p.m.

UNDERGRADUATE STUDENT POSTER SESSION

Organized by Diana M. Thomas
Montclair State University
Sunday, 3:30 p.m. to 5:30 p.m.
The session is reserved for undergraduates and first-year graduate students submitting posters on work done while undergraduates. Submit abstracts early since space is limited. Interested students can submit abstracts online at http://www.maa.org/students/undergrad/poster06.htm beginning August 1, 2006. Students are encouraged to apply early. Examples of poster topics include a new result, a different proof of a known theorem, an innovative solution of a Putnam problem, a new mathematical model or method of solution of an applied problem. Purely expository posters cannot be accepted. Prizes will be awarded to the top-rated posters with funds provided by the MAA, AMS, AWM, CUR, PME, and the Moore Foundation. Trifold, self-standing 48" by 36" tabletop posters will be provided. Additional material or equipment is the responsibility of the presenters. Questions regarding the 2006 Undergraduate Student Poster Session may be directed to Diana Thomas at thomasdia@mail.montclair.edu. The deadline for proposals is Friday, December 8, 2006. The session is sponsored by the MAA-CUPM Subcommittee on Undergraduate Research and the MAA Committee on Undergraduate Student Activities and Chapters (CUSAC).

UNDERGRADUATE CAREER PATHS IN MATHEMATICS

Organized by Dov Chelst, DeVry University, and Vanessa Garcia, Texas State University-San Marcos
Monday, 9:00 a.m. to 10:20 a.m.
A wealth of career options is open to undergraduates who major in mathematics. This session's panelists will speak about their personal experiences using mathematics outside of the university. They will offer their personal thoughts on what it takes to succeed in a business environment. There will be plenty of time for questions and discussion. Panelists include Ellen Pierce, Casualty Actuarial Consultants, Inc., Robert J. Frey, Stony Brook University, and Kathy Lange, SAS Institute Inc.

Students may also find the session on **Publishing Undergraduate Research and Expository Articles**, Sunday, 9:00 a.m., of interest in the "Project NExT" section.

Also see the "Social Events" section for the open hours of the **Student Hospitality Center** and the **Reception for Undergraduates**.

MAA Short Course

LEONHARD EULER: LOOKING BACK AFTER 300 YEARS

Organized by Edward Sandifer, Western Connecticut State University, and Robert E. Bradley, Adelphi University
Wednesday and Thursday, January 3 and 4
9:00 a.m. to 5:00 p.m.
In 2007 we celebrate the 300th anniversary of Euler's birth. As the preparation and publication of more than 70 volumes of his works and correspondence in the Opera Omnia begins to wind down, this is a fitting occasion to take an in-depth look at what Euler did and how it fit in the context of his own times. Seven historians of mathematics will describe their recent work on Euler, his life, times, science and mathematics.

The program includes the following lectures: *A mathematical life in the enlightenment*, Ronald S. Calinger, Catholic University of America, *Leonhard Euler and the function concept*, Ruediger Thiele, University of Leipzig; *D'Alembert, Clairaut and Lagrange: Euler and the French mathematical community*, Robert E. Bradley; *Enter, stage center: The early drama of hyperbolic functions in the age of Euler*, Janet Barnett, Colorado State University at Pueblo, *Euler and classical physics*, Stacy G. Langton, University of San Diego, *Elliptic integrals, mechanics and differential equations*, Lawrence A. D'Antonio, Ramapo College, and *Euler's great theorems*, Edward Sandifer. Abstracts and a program of the lectures can be found at http://www.profbradley.com/MAAEulerCourse2007.

Please note there is a separate registration fee for this short course. To register in advance, please use the Advance Registration/Housing Form found on page of this issue, or see http://www.ams.org/amsmtgs/2098_registration.html. Advance registration fees are US $125/member; US $175/nonmember; and $50/student, unemployed, emeritus. On-site registration fees are US $140/member; US $190/nonmember; and US $60/student, unemployed, emeritus.

AMS Invited Addresses

**AMS COLLOQUIUM LECTURES
LIMIT SHAPES, REAL AND IMAGINED**
Andrei Okounko, Princeton University
Friday, Saturday, and Sunday, 1:00 p.m.

DIFFRACTION BY EDGES
Andras Vasy, **Stanford University**
Friday, 10:05 a.m.

**JOSIAH WILLARD GIBBS LECTURE
MATHEMATICS AND PHYSICS**
Peter D. Lax, **New York University-Courant Institute**
Friday, 8:30 p.m.

TITLE TO BE ANNOUNCED
Manjul Bhargava, **Princeton University**
Saturday, 2:15 p.m.

A TALE OF THREE COMPLEXITIES: THE WORST OF TIMES, THE BEST OF TIMES, THE SPRING OF HOPE
Margaret H. Wright
New York University-Courant Institute
Saturday, 3:20 p.m.

THE ABC CONJECTURE
Bjorn Poonen, **University of California Berkeley**
Sunday, 10:05 a.m.

NEW COMBINATORICS FROM THE INVARIANT THEORY OF REFLECTION GROUPS
Victor S. Reiner, **University of Minnesota, Minneapolis**
Monday, 9:00 a.m.

AMS Special Sessions

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

ARITHMETIC GEOMETRY
Matthew H. Baker, Georgia Institute of Technology, and Bjorn Poonen, University of California Berkeley
Monday morning and afternoon

ARITHMETIC OF FUNCTION FIELDS
Allison M. Pacelli, Williams College, and Michael J. Rosen, Brown University
Sunday morning and afternoon

ARRANGEMENTS AND RELATED TOPICS
Daniel C. Cohen, Louisiana State University, and Anne V. Shepler, University of North Texas
Friday morning and Friday and Saturday afternoons

CALCULUS OF VARIATIONS AND NONLINEAR PDES: THEORY AND APPLICATIONS
Marian Bocea and Cristina M. Popovici, North Dakota State University
Saturday morning and afternoon

CODING THEORY AND ITS APPLICATIONS
Roxana N. Smarandache, University of Notre Dame and San Diego State University, and Pascal O. Vontobel, Massachusetts Institute of Technology
Friday morning and afternoon

COHOMOLOGY AND REPRESENTATION THEORY
Jon F. Carlson and Daniel K. Nakano, University of Georgia, and Julia Pevtsova, University of Washington
Friday and Saturday mornings and Friday afternoon

COMMUTATIVE ALGEBRA AND ALGEBRAIC GEOMETRY
Paul C. Roberts, Anurag K. Singh, and Oana Veliche, University of Utah
Monday morning and afternoon

COMPUTATIONAL ALGEBRAIC AND ANALYTIC GEOMETRY FOR LOW-DIMENSIONAL VARIETIES
Mika K. Seppälä, Florida State University, Tanush T. Shaska, Oakland University, and Emil J. Volcheck, Association for Computing Machinery
Monday morning and afternoon

CONTINUOUS AND DISCRETE INTEGRABLE SYSTEMS AND THEIR APPLICATIONS
Wen-Xiu Ma, University of South Florida, Taixi Xu, Southern Polytechnic State University, and Bao-Feng Feng and Zhijun Qiao, University of Texas-Pan American
Sunday morning and afternoon

DYNAMIC PROGRAMMING
Gerald C. Kobylski and Randal Hickman, United States Military Academy
Saturday morning and afternoon

EXPERIMENTAL MATHEMATICS IN ACTION
**Victor H. Moll and Tewodros Amdeberhan
Tulane University**
Friday morning and afternoon

FINANCIAL MATHEMATICS
Jean-Pierre Fouque, University of California Santa Barbara, Craig A. Nolder, Florida State University, Knut Solna, University of California Irvine, and Thaleia Zariphopoulou, University of Texas Austin
Friday and Saturday mornings and Friday afternoon

FIXED POINT THEORY, DYNAMICS, AND GROUP THEORY
Michael R. Kelly, Loyola University, and Peter N. Wong, Bates College
Friday morning and afternoon

FRAMES AND WAVELETS IN HARMONIC ANALYSIS, GEOMETRY, AND APPLICATIONS

Palle E. T. Jorgensen, University of Iowa, David R. Larson, Texas A&M University, Peter R. Massopust, Institute of Biomathematics and Biometry, Neuherberg, and Technical University of Munich, and Gestur Olafsson, Louisiana State University

Sunday morning and afternoon

FREE DISCONTINUITY PROBLEMS: FROM IMAGE PROCESSING TO MATERIALS SCIENCE

Blaise Bourdin, Louisiana State University, and Christopher J. Larsen, Worcester Polytechnic Institute

Saturday morning and afternoon

GEOMETRIC GROUP THEORY

Ruth M. Charney, Brandeis University, and Karen Vogtmann, Cornell University

Friday and Saturday afternoons and Friday morning (AMS-AWM)

GROUP REPRESENTATIONS, ERGODIC THEORY, AND MATHEMATICAL PHYSICS: HONORING THE MEMORY OF GEORGE W. MACKEY

Robert S. Doran, Texas Christian University, Calvin C. Moore, University of California Berkeley, and Robert J. Zimmer, The University of Chicago

Sunday and Monday mornings and afternoons

HISTORY OF MATHEMATICS

Joseph W. Dauben, Lehman College, Patti Hunter, Westmont College, Victor J. Katz, University of the District of Columbia, and Karen H. Parshall, University of Virginia

Sunday and Monday mornings and afternoons (MAA -AMS)

INFINITE DIMENSIONAL ANALYSIS, HONORING H.-H. KUO

Ambar N. Sengupta and P. Sundar, Louisiana State University

Sunday morning and afternoon

INITIAL- AND BOUNDARY-VALUE PROBLEMS, SOLVABILITY, AND STABILITY FOR SOME NONLINEAR PDES: THEOREM, COMPUTATION, AND APPLICATION

Jerry L. Bona, University of Illinois at Chicago, and Laihan Luo, Stockton College of New Jersey

Saturday morning and afternoon

INVARIANT THEORY

Mara D. Neusel, Texas Tech University, and Frank D. Grosshans, West Chester University

Saturday morning and afternoon

KNOTS, 3-MANIFOLDS, AND THEIR INVARIANTS

Oliver T. Dasbach, Louisiana State University, and Xiao-Song Lin, University of California Riverside

Friday and Saturday afternoons and Friday morning

LOGICAL METHODS IN COMPUTATIONAL MATHEMATICS

Saugata Basu, Georgia Institute of Technology, and Charles N. Delzell, Louisiana State University

Friday and Saturday mornings and Friday afternoon. (AMS-ASL)

MAPPING CLASS GROUPS AND HANDLEBODIES

Tara E. Brendle, Louisiana State University, and William R. Vautaw, Southeastern Louisiana University

Monday morning and afternoon

MATH CIRCLES AND SIMILAR PROGRAMS FOR STUDENTS AND TEACHERS

Morris Kalka, Tulane University, Hugo Rossi, Mathematical Sciences Research Institute, Tatiana Shubin, San Jose State University, Zvezdelina E. Stankova, Mills College, Daniel H. Ullman, George Washington University, and Paul A. Zeitz, University of San Francisco

Friday morning and afternoon

MATHEMATICAL TECHNIQUES IN MUSICAL ANALYSIS

Robert W. Peck, Louisiana State University, Julian Hook, Indiana University-Bloomington, and Rachel W. Hall, Saint Joseph's University

Saturday morning and afternoon

MATHEMATICS AND EDUCATION REFORM

William H. Barker, Bowdoin College, Dale R. Oliver, Humboldt State University, Bonnie S. Saunders, University of Illinois at Chicago, and Michael Starbird, University of Texas, Austin

Monday morning and afternoon (MAA-AMS-MER)

MICROLOCAL ANALYSIS AND SINGULAR SPACES

Paul A. Loya, Binghamton University, and Andras Vasy, Massachusetts Institute of Technology

Sunday morning and afternoon

NONLINEAR VARIATIONAL INCLUSION PROBLEMS AND OPTIMIZATION THEORY

Ram U. Verma, University of Toledo, and International Publications

Sunday morning and afternoon

NONSMOOTH ANALYSIS IN INVERSE AND VARIATIONAL PROBLEMS

M. Zuhair Nashed, University of Central Florida, and Otmar Scherzer, University of Innsbruck

Sunday morning and afternoon

NUMERICAL RELATIVITY

Alexander M. Alekseenko, California State University Northridge, and Arup Mukherjee, Montclair State University

Sunday morning and afternoon

RADON TRANSFORMS, CONVEX GEOMETRY, AND GEOMETRIC ANALYSIS

Eric L. Grinberg, University of New Hampshire, Peter Kuchment, Texas A&M University, Gestur Olafsson, Louisiana State University, Eric Todd Quinto, Tufts University, and Boris S. Rubin, Louisiana State University
Saturday morning and afternoon

RECENT ADVANCES IN MATHEMATICAL BIOLOGY, ECOLOGY, AND EPIDEMIOLOGY

Lih-Ing Roeger and Linda J. Allen, Texas Tech University, and Sophia Jang, University of Louisiana at Lafayette
Monday morning and afternoon

RECENT DEVELOPMENTS IN ANALYSIS AND NUMERICS OF GEOPHYSICAL FLUID DYNAMICS PROBLEMS

Jie Shen, Purdue University, and Shouhong Wang, Indiana University
Friday morning and afternoon

RECENT DEVELOPMENTS IN FLOER HOMOLOGY

Scott J. Baldridge, Louisiana State University, Ronald A. Fintushel, Michigan State University, Thomas E. Mark, Southeastern Louisiana University, and Brendan E. Owens, Louisiana State University
Monday morning and afternoon

REPRESENTATION THEORY AND THE THETA CORRESPONDENCE

Wee Teck Gan, University of California San Diego, Hongyu He, Louisiana State University, and Annegret Paul, Western Michigan University
Monday morning and afternoon

STRUCTURE THEORY FOR MATROIDS AND GRAPHS

Joseph P. Kung, University of North Texas, and Bogdan S. Oporowski and James G. Oxley, Louisiana State University
Monday morning and afternoon

TIME SCALES: DYNAMIC EQUATIONS WITH APPLICATIONS

Martin J. Bohner, University of Missouri-Rolla, and Allan C. Peterson, University of Nebraska-Lincoln
Monday morning and afternoon

RESEARCH IN MATHEMATICS BY UNDERGRADUATES

Darren Narayan, Carl V. Lutzer, Bernard Brooks, and Tamas I. Wiandt, Rochester Institute of Technology; and Michael J. Fisher, California State University, Fresno
Monday morning and afternoon (MAA-AMS-SIAM)

UNIVERSAL ALGEBRA AND ORDER

John W. Snow, Sam Houston State University, and Japheth Wood, Bard College
Sunday morning and afternoon

AMS Short Course

This two-day course on *Aspects of Statistical Learning* is organized by Cynthia Rudin, Center for Neural Science and Courant Institute, New York University; and Miroslav Dudík, Department of Computer Science, Princeton University, and takes place on Wednesday and Thursday, January 3 and 4. Please see the complete article at http://www.ams.sorg/meetings/shcourse. html. Speakers are Robert Schapire, Princeton University; Lisa Hellerstein**,** Polytechnic University, Brooklyn; Adam Tauman Kalai, Weizmann Institute of Science and Toyota Technilogical Institute*;* and Lawrence Saul, University of Pennsylvania, There are separate registration fees to participate. See the fee schedule on the registration form on page of this issue or visit http://www.ams.org/amsmtgs/2098_registration.html.

AMS Contributed Papers

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

Other AMS Sessions

DEPARTMENT CHAIRS WORKSHOP

This annual one-day workshop for chairs and leaders of departments of mathematical sciences will be held a day before the start of the Joint Meetings on Thursday, 8:00 a.m. to 6:30 p.m. The workshop format is intended to stimulate discussion among attending chairs and workshop leaders. Sharing ideas and experiences with peers provides a form of department chair therapy, creating an environment that enables attending chairs to address departmental matters from new perspectives.

Past workshop sessions have focused on a range of issues facing departments today, including personnel issues (staff and faculty), long-range planning, hiring, promotion and tenure, budget management, assessments, outreach, stewardship, junior faculty development, communication, and departmental leadership.

There is a registration fee for the workshop, which is in addition to and separate from the Joint Meetings registration. An invitation to attend the workshop will be sent to department chairs this fall. Information will also be posted on the AMS website.

For further information, please contact the AMS Washington Office at 202-588-1100 or amsdc@ams.org.

AMS COUNCIL MEETING
Thursday, 1:30 p.m.

REPORT ON THE FINDINGS OF THE 2005 CBMS SURVEY OF UNDERGRADUATE MATHEMATICAL AND STATISTICAL SCIENCES IN THE U.S.
Organized and moderated by James W. Maxwell, AMS
Friday, 9:30 a.m. to 10:55 a.m.
Presentations will by made by David Lutzer, College of William and Mary; Ellen E. Kirkman, Wake Forest University; and Stephen B. Rodi, Austin Community College; highlighting enrollment, faculty demographics, and academic issues revealed by CBMS2005.

WHO WANTS TO BE A MATHEMATICIAN
Organized by Michael A. Breen, AMS, and William T. Butterworth, DePaul University
Friday, 10:00 a.m. to 10:55 a.m.
Come watch eight of the area's top high school students compete for cash and prizes by answering questions about mathematics. You are invited to come and take part in this educational and fun presentation.

COMMITTEE ON THE PROFESSION PRESENTATION
Friday, 4:30 p.m. to 6:00 p.m.

CONTEMPORARY PERSPECTIVES ON HILBERT'S SECOND PROBLEM AND THE GÖDEL INCOMPLETENESS THEOREMS
Saturday, 1:00 p.m. to 2:30 p.m.
Akihiro Kanamori, Boston University, will serve as moderator, and panelists are Harvey M. Friedman, Ohio State University, and Michael Rathjen, University of Leeds. This panel discussion is cosponsored by the AMS and the ASL.

CURRENT EVENTS BULLETIN
Organized by David Eisenbud, Mathematical Sciences Research Institute
Sunday, 1:00 p.m. to 6:00 p.m.
This session follows the model of the Bourbaki Seminars in that mathematicians with strong expository skills speak on work not their own. Written versions of the talks will be distributed at the session.

COMMITTEE ON SCIENCE POLICY PANEL DISCUSSION
Sunday, 2:30 p.m. to 4:00 p.m.

COMMITTEE ON EDUCATION PANEL DISCUSSION
Monday, 8:30 a.m. to 10:00 a.m.

AMS BUSINESS MEETING
Monday, 11:10 a.m.

Networking at the Joint Mathematics Meetings

Activities of Other Organizations

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

Association for Symbolic Logic (ASL)

This two-day program on Sunday and Monday will include sessions of contributed papers and Invited Addresses.

See also these events in the AMS program listings cosponsored by the ASL: Special Session on *Logical Methods in Computational Mathematics* (Friday and Saturday*)* and the panel discussion on *Contemporary Perspectives on Hilbert's Second Problem and the Gödel Incompleteness Theorems* (1:00 p.m. Saturday).

Association for Women and Mathematics (AWM)

TWENTY-EIGHTH ANNUAL EMMY NOETHER LECTURE
Karen Vogtmann, **Cornell University**
Automorphisms of free groups, outer space, and beyond
Saturday, 9:00 a.m. to 9:50 a.m.
A luncheon will be given in her honor; see the "Social Events" section for details. Also see the related Special Session on *Geometric Group Theory* jointly sponsored by the AWM listed under the "AMS Special Sessions" heading.

PANEL DISCUSSION
Friday, 2:15 p.m. to 3:40 p.m.
Topic and panelists to be announced. Just before the panel discussion, AWM will recognize the Alice T. Schafer award honorees. Note that formal prizewinner announcements are made at the Joint Prize Session on Saturday afternoon.

BUSINESS MEETING
Friday, 3:45 p.m. to 4:15 p.m.

WORKSHOP
Monday, 8:20 a.m. to 4:20 p.m.
With funding from the Office of Naval Research and the National Security Agency, 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 are selected in advance of this workshop to present their research; graduate students will present posters, and the recent Ph.D.'s will give 20-minute talks. The workshop opens with a dinner on a previous evening to introduce workshoppers and mentors, and includes a panel discussion on career issues. 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 other meeting sessions. The deadline for applications for presenting and fund-

ing has expired. Updated information about the Workshop is available at http://www.awm-math.org/workshops.html. AWM seeks volunteers to lead discussion groups and to act as mentors for workshop participants. If you are interested, please contact the AWM office; inquiries regarding future workshops may be made to the office at awm@awm-math.edu.

RECEPTION
Friday, 9:30 p.m. to 11:00 p.m.
See the listing in the "Social Events" section of this announcement.

National Association of Mathematicians (NAM)

GRANVILLE-BROWN-HAYNES SESSION OF PRESENTATIONS BY RECENT DOCTORAL RECIPIENTS IN THE MATHEMATICAL SCIENCES
Sunday, 2:15 p.m. to 4:00 p.m.

COX-TALBOT ADDRESS
To be given Sunday after the banquet; speaker and title to be announced.

PANEL DISCUSSION
Monday, 9:00 a.m. to 9:50 a.m.

BUSINESS MEETING
Monday, 10:00 a.m. to 10:50 a.m.

CLAYTOR-WOODARD LECTURE
Monday, 1:00 p.m.
Speaker and title to be announced.

See details about the banquet on Sunday 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
Sunday, 8:00 a.m. to 11:00 a.m.

Activities of Other Organizations

Rocky Mountain Mathematics Consortium (RMMC)

BOARD OF DIRECTORS MEETING
Sunday, 2:15 p.m. to 4:10 p.m.

Society for Industrial and Applied Mathematics (SIAM)

This two-day program on Friday and Saturday will include an Invited Address and six minisymposia. The Invited Address will be given by Tony DeRose, Pixar, *Geometry in the movies,* at 11:10 a.m. on Saturday. Minisymposia and their organizers are listed below.

EDUCATION
William L. Briggs, University of Colorado at Denver
Friday, 2:15 p.m. to 6:00 p.m.

PHYLOTAXIS
Pau Atela and Christophe Gole, **Smith College**
Friday, 8:00 a.m. to 10:55 a.m.

MATHEMATICAL MODELING OF COMPLEX SYSTEMS IN BIOLOGY
Lisa J. Fauci, Louisiana State University
Saturday, 8:00 a.m. to 10:55 a.m. and *1:00 p.m. to 4:10 p.m.*

MATHEMATICS AND MATERIALS SCIENCE
Robert P. Lipton, **Louisiana State University**
Friday, 8:00 a.m. to 10:55 a.m.

RECENT ADVANCES IN COMPUTATIONAL SCATTERING
Jie Shen, **Purdue University**
Friday, 2:15 p.m. to 6:00 p.m.

STRUCTURE AND TOPOLOGY IN GRAPH THEORY
Mark N. Ellingham, **Vanderbilt University, and Chris Stephens and Xiaoya Zha, Middle Tennessee State University**
Saturday, 8:00 a.m. to 10:55 a.m. and *1:00 p.m. to 4:10 p.m.*

Young Mathematicians Network (YMN)

CONCERNS OF YOUNG MATHEMATICIANS: A TOWN MEETING
Organized by David T. Kung, St. Mary's College of Maryland
Saturday, 7:30 p.m. to 8:30 p.m.
This panel discussion will focus on the current primary concerns of young mathematicians, from undergraduates to newly-tenured professors, with emphasis on audience participation.

Also see details about the poster session (Friday at 2:15 p.m.) cosponsored by the YMN under the "Other MAA Sessions" section.

Others

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

MATHEMATICAL ART EXHIBIT
Organized by Robert Fathauer, Tesselations Company, Nathaniel A. Freidman, ISAMA and SUNY Albany, and Reza Sarhangi, Bridges Conference, Towson University
A popular feature at the last Joint Mathematics Meetings in San Antonio, this exhibit provides a break in your day. On display are works in various media by artists who are inspired by mathematics and by mathematicians who use visual art to express their findings. Fractals, symmetry, and tiling are some of the ideas at play here. Don't miss this unique opportunity for a different perspective on mathematics. The exhibit will be open during the regular exhibit hours.

TETRAHEDRAL VARIATIONS
Presented by Arthur Silverman, New Orleans, LA.
Saturday, 6:00 p.m
Silverman graduated from Tulane Medical School in 1947 and pursued a highly successful career as a surgeon in New Orleans. He retired from his medical practice while in his fifties in order to concentrate on an earlier passion for sculpture. He was attracted to geometric sculpture and became infatuated with the tetrahedron. He has produced more than 300 sculptures based on the tetrahedron, predominately in stainless steel or aluminum (see http://www.artsilverman.com). His signature work is a pair of tetrahedrons, each 10 ft. by 60 ft. in front of the Energy Center in downtown New Orleans. There are twenty of his sculptures in public buildings and outdoor areas in New Orleans. A map showing locations of the sculptures will be available at the Art Exhibit. A studio visit is also being planned for Sunday at 6:00 p.m. If you plan to visit the studio, please contact Nat Friedman, artmath@math.albany.edu.

Social Events

All events listed are open to all registered participants. It is strongly recommended that events requiring tickets be purchased through advance registration. Only a very limited number of tickets, if any, will be available for sale on site. If you must cancel your participation in a ticketed event, you may request a 50% refund by returning your ticket(s) to the Mathematics Meetings Service Bureau (MMSB) **by December 22**. 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
Friday to Sunday, 9:00 a.m. to 5:00 p.m.,
and Monday, 9:00 a.m. to 3:00 p.m.
Organized by Richard and Araceli Neal, American Society for the Communication of Mathematics. A Reception for Undergraduates will be held here on Friday, 4:00 p.m. to 5:00 p.m.

RECEPTION FOR GRADUATE STUDENTS AND FIRST-TIME PARTICIPANTS
Friday, 5:30 p.m. to 6:30 p.m.
The MAA and the AMS cosponsor this social hour. Graduate students and first-timers are especially encouraged to come and meet some old-timers to pick up a few tips on how to survive the environment of a large meeting. Refreshments will be served.

MATHEMATICAL INSTITUTES OPEN HOUSE
Friday, 5:30 p.m. to 8:00 p.m.
Participants are warmly invited to attend this open house cosponsored by several North American mathematical institutes.

NEBRASKA CONFERENCE FOR UNDERGRADUATE WOMEN OPEN HOUSE REUNION
Friday, 6:00 p.m. to 7:00 p.m.

CARLETON COLLEGE SUMMER MATHEMATICS PROGRAM FOR WOMEN REUNION
Friday, 7:00 p.m. to 11:00 p.m.
All former participants and friends are invited.

AWM RECEPTION
Friday 9:30 p.m to 11:00 p.m.
There is an open reception on Friday at 9:30 p.m. after the AMS Gibbs Lecture. This has been a popular, well-attended event in the past.

LUNCHEON TO HONOR AWM'S NOETHER LECTURER
All participants are invited to a luncheon to honor AWM's Noether Lecturer, Karen Vogtmann. Those interested may email awm@awm-math.org; a sign-up sheet for those interested will also be located at the AWM table in the exhibit area and also at the AWM panel discussion and Business Meeting.

MICHIGAN MATHEMATICS ALUMNI AND FRIENDS RECEPTION
Saturday, 5:30 p.m. to 7:00 p.m.
Those interested should send email to fussman@umich.edu.

RECEPTION FOR MATHEMATICIANS IN BUSINESS, INDUSTRY, AND GOVERNMENT
Saturday, 5:45 p.m. to 6:45 p.m.
Organized by Michael Monticino, University of North Texas. This welcome reception is open to all conference participants and in particular those interested in the mathematics of business, industry, and government (BIG). The reception provides a great opportunity to interact with BIG mathematicians and learn more about BIG mathematics. The reception is sponsored by the BIG SIGMAA.

ASSOCIATION OF LESBIAN, GAY, BISEXUAL, AND TRANSGENDERED MATHEMATICIANS RECEPTION
Saturday, 5:45 p.m. to 7:00 p.m.
Everyone is welcome to attend this open reception. Meet some new friends or get together with some old friends. Please join us!

UNIVERSITY OF IOWA MATHEMATICS DEPARTMENT RECEPTION
Saturday, 5:45 p.m. to 7:00 p.m.
This event features snacks and a cash bar.

LEHIGH UNIVERSITY RECEPTION
Saturday, 5:45 p.m. to 7:00 p.m.
All friends and graduates of the Lehigh Math Program are invited to attend.

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

CLAREMONT COLLEGES RECEPTION
Saturday, 6:00 p.m. to 8:00 p.m.
All alumni and friends of the Claremont Colleges are invited.

ASSOCIATION OF CHRISTIANS IN THE MATHEMATICAL SCIENCES (ACMS) RECEPTION AND BANQUET
Saturday, 6:00 p.m. to 9:00 p.m.
This annual dinner will be followed by an after-dinner talk. Tickets must be purchased by December 1; to do so, please visit www.acmsonline.org.

MER BANQUET
Saturday, 6:30 p.m.
The Mathematicians and Education Reform (MER) Forum welcomes all mathematicians who are interested in precollege, undergraduate, and/or graduate educational reform to attend the MER banquet on Saturday 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 US $46 each, including tax and gratuity.

KNITTING CIRCLE
Saturday, 8:15 p.m. to 9:45 p.m.
Bring a project (knitting/crochet/tatting/beading/etc.) and chat with other mathematical crafters!

ACMS WORSHIP SERVICE
Sunday, 7:00 a.m. to 7:50 a.m.
This nondenominational service will be conducted by ACMS members and is open to all meeting participants.

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

NAM BANQUET
Sunday, 6:00 p.m.
The National Association of Mathematicians will host a banquet on Friday evening. A cash bar reception will be held at 6:00 p.m., and dinner will be served at 6:30 p.m. Tickets are US $46 each, including tax and gratuity.

MAA-PROJECT NEXT RECEPTION
Sunday, 8:30 p.m. to 10:30 p.m.
Organized by T. Christine Stevens, St. Louis University, Joseph A. Gallian, University of Minnesota Duluth, and Aparna W. Higgins, University of Dayton. All Project NExT Fellows, consultants, and other friends of Project NExT are invited.
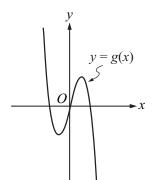
AMS BANQUET
Monday, 6:30 p.m.
As a fitting culmination to the meetings, the AMS banquet provides an excellent opportunity to socialize with fellow participants in a relaxed atmosphere. The participant who has been a member of the Society for the greatest number of years will be recognized and will receive a special award. The banquet will be held on Monday, with a cash bar reception at 6:30 p.m. and dinner at 7:30 p.m. Tickets are US $49.50, including tax and gratuity.

Other Events of Interest

AMS Information Booth

All meetings participants are invited to visit the AMS Information Booth during the meetings. A special gift will be available for participants, compliments of the AMS. AMS staff will be at the booth to answer questions about AMS programs and membership.

Book Sales and Exhibits

All participants are encouraged to visit the book, education media, and software exhibits from 12:15 p.m. to 5:30 p.m. on Friday, 9:30 a.m. to 5:30 p.m. on Saturday and Sunday, and 9:00 a.m. to 1:00 p.m. on Monday. Books published by the MAA and AMS 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 are required to display their meetings badge in order to enter the exhibit area.

The MAA and the AMS cordially invite all registered participants to enjoy complimentary tea and coffee (available at noon and 2:00 p.m. on Friday; 9:00 a.m., noon, and 2:00 p.m. on Saturday and Sunday; and 9:00 a.m. on Monday) while perusing the associations' booths.

Mathematical Sciences Employment Center

Those wishing to participate in the Mathematical Sciences Employment Center should read carefully the important article about the center at http://www.ams.org/emp-reg/.

Networking Opportunities

There are many opportunities to meet new friends and greet old acquaintances in addition to the vast array of scientific sessions offered at these meetings. These opportunities are listed on the newcomers page at http://www.ams.org/amsmtgs/2098_newcomers.html. Newcomers may want to investigate the many receptions listed in the "Social Events" section, the Student Hospitality Center, and the Employment Center. On site a Networking Center featuring casual seating and lists of registered participants sorted by school and math subject classification will be available for your perusal. This is a great place to relax between sessions and forge new friendships.

Advanced Registration

The MAA and AMS make every effort to keep participant expenses at meetings and registration fees for meetings as low as possible. We work hard to negotiate the best hotel rates and to make the best use of your registration dollars to keep the meetings affordable for you. The MAA and the AMS encourage all participants to register for the meetings. When you pay the registration fee, you are helping to support a wide range of activities associated with planning, organizing, and running a major meeting of this size.

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

EMAIL ADVANCE REGISTRATION:

This service is available for advance registration and housing arrangements by requesting the forms via email from meetreg-request@ ams.org or by visiting http://www.ams.org/amsmtgs/2098_reghsg.html. VISA, MasterCard, Discover, and American Express are the only methods of payment which can be accepted for email advance registration, and charges to credit cards will be made in U.S. funds. Completed email forms should be sent to meetreg-submit@ams.org. 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/2098_reghsg.html. VISA, MasterCard, Discover, and American Express 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 December 29 (the deadline for refunds for banquet tickets is December 22) will receive a 50% refund of fees paid. No refunds will be issued after this date.

FULL-TIME STUDENTS:

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

EMERITUS:

Any person who has been a member of the MAA or AMS 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, 2007, and who is actively seeking employment.

NONMATHEMATICIAN GUEST:

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

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

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

JOINT MATHEMATICS MEETINGS REGISTRATION FEES

	by Dec. 13	at meeting
Member of AMS, ASL, Canadian Mathematical Society, MAA, SIAM	$208	$271
Emeritus Member of MAA, AMS; Graduate Student; Unemployed; Librarian; High School Teacher; Developing Countries Special Rate	$42	$52
Undergraduate Student	$21	$27
Temporarily Employed	$167	$194
Nonmember	$323	$419
High School Student	$3	$6
Nonmathematician Guest	$15	$15
One-Day Nonmember	n/a	$231
One-Day Member of MAA, AMS, ASL, CMS, SIAM	n/a	$149
MAA Minicourses		
Minicourses #1- 6 (computers)	$95	$95*
Minicourse #7-16	$60	$60*
Minicourse #11 (origami)	$70	$70
*if space is available		
MAA Short Course		
MAA Member	$125	$140
Nonmember	$170	$190
Student/Unemployed/Emeritus	$50	$60
AMS Short Course		
Member of AMS or MAA	$90	$120
Nonmember	$120	$151
Student/Unemployed/Emeritus	$40	$60
Employment Center		
Employer (first table, computer or self-scheduled)	$235	$315
Employer (each additional table, computer or self-scheduled)	$85	$115
Employer Posting Fee	$50	N/A
Applicants (all services)	$44	$82
Applicants (Winter List & message center only)	$22	$22

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 MAA and AMS Book Sales, and to cash a check with the Joint Meetings cashier.

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

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

If you wish to be included in a **list of individuals sorted by mathematical interest**, please provide the one mathematics subject classification number of your major area of interest on the Advance Registration/Housing Form. (A list of these numbers is available by sending an empty email message to abs-submit@ams.org; include the number 1023 as the subject of the message.) Copies of this list will be available for your perusal in the Networking Center.

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

ADVANCE REGISTRATION DEADLINES

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

EMPLOYMENT CENTER
Advance registration (inclusion in the *Winter Lists*):
October 27

EARLY MEETINGS ADVANCE REGISTRATION
(room lottery and raffle)   **October 31**

ORDINARY MEETINGS ADVANCE REGISTRATION
(hotel reservations, materials mailed):
November 14

FINAL MEETINGS ADVANCE REGISTRATION
(advance registration, Short Courses, Employment Center, MAA Minicourses, banquets):
December 13

EMPLOYMENT CENTER ADVANCE REGISTRATION:
Applicant and employer forms must be received by October 27 in order to appear in the publications distributed to all participants. For detailed information on the Employment Center, see the separate article at http://www.ams.org/emp-cen/.

Early Advance Registration: Those who register by the **early** deadline of October 31 will be included in a random drawing to select winners of complimentary hotel rooms in New Orleans. 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 18. So register early! Also, applicant and employer forms must be received by October 27 in order to be reproduced in the *Winter Lists* for the Employment Center.

Ordinary Advance Registration: Those who register after October 31 and by the **ordinary** deadline of November 14 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 14 and by the **final** deadline of December 13 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 13 deadline is firm**; any forms received after that date will be returned and full refunds issued. Please come to the Meetings Registration Desk in the La Galerie Rooms 5&6, on the second floor of the Marriott.

Hotel Accomodations

HOTEL RESERVATIONS

Participants should be aware that the MAA and AMS 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 12. However, after that date the MMSB can no longer guarantee availability of rooms or special convention rates. Participants should be aware that most hotels are starting to charge a penalty fee to guests for departure changes made before or after guests have checked into their rooms. These hotels are indicated on the hotel page at http://www.ams.org/amsmtgs/2098_hotelpage.html. Participants should also inquire about this at check-in and make their final plans accordingly.

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

If you hold a guaranteed reservation at a hotel but are informed upon arrival that there is no room for you, there are certain things you can request the hotel do. First, they should provide for a room at another hotel in town for that evening at no charge. (You already paid for the first night when you made your deposit.) They should pay for taxi fares to the other hotel that evening and back to the meetings the following morning. They should also pay for one telephone toll call so that you can let people know you are not at the hotel you expected. They should make every effort to find a room for you in their hotel the following day and, if successful, pay your taxi fares to and from the second hotel so that you can pick up your baggage and bring it to the first hotel. Not all hotels in all cities follow this practice, so your request for these services may bring mixed results or none at all.

Importance of Staying in the Official Meetings Hotels: Your patronage of the official headquarters hotels enables the JMM to secure the meeting space at a greatly reduced cost which helps to keep the cost of the meeting and your registration fees down. Also, networking events will be held at the Marriott and the Sheraton for the convenience of our participants.

Headquarters Raffle: Win a stay in a hotel suite! Participants who register and reserve a room at the Marriott or the Sheraton by October 31, 2006, will automatically be entered into this drawing. One participant will win a free one-bedroom suite in the Sheraton for their stay at the meeting. Multiple occupancy is permissible but there will only be one king-sized bed in the suite. Winners will be drawn at random from the Sheraton and Marriott reservation lists and notified by email or phone prior to December 18, 2006.

Room Lottery: Win FREE room nights at our official hotels as listed on the hotel pages. Multiple winners! Participants who register and reserve a room at any of the meeting hotels listed by October 31, 2006, will automatically be included in a random drawing to select a winner of free room nights in that hotel. The number of drawings to be made will be based on the number of complimentary room nights available in the various hotels. Multiple occupancy is permissible. The winners will be drawn at random from the hotel reservation lists and notified by email or phone prior to December 18, 2006.

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 and a laptop projector; AMS Special Sessions are provided with the standard equipment and a laptop projector.) Blackboards are not available. Organizers of sessions that by their nature demand additional equipment (e.g., VCR and monitor or laptop projection device) 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 email 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 Mathematical Association of America and the American Mathematical Society will again offer childcare services for the Joint Mathematics Meetings to registered participants.

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

The childcare services provided at the JMM are for children ages 6 months through 12 years old. Space per day will be limited and is on a space available basis. The dates and times for the program are January 5 to 8, 2007, 8:00 a.m. to 5:00 p.m. each

day. It will be located at the Sheraton New Orleans, Canal St., New Orleans. Parents are encouraged to bring snacks and beverages for their children but items such as juice boxes, cheerios, and crackers will be provided. KiddieCorp can arrange meals for children at cost plus 15% or parents can be responsible for meals for their children.

Registration starts in September. The registration fee is US \$30 per family (nonrefundable). Additional cost will be US \$9 per hour per child or US \$7 per hour per child for graduate students. These reduced child care rates are made possible to the meeting participant by the Mathematical Association of America and the American Mathematical Society. Parents must be registered for the JMM to participate. Full payment is due at the time of registration with KiddieCorp. Deadline for registering is December 8, 2006.

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

Cancellations must be made to KiddieCorp prior to December 8, 2006 for a full refund. Cancellations made after that date will be subject to a 50% cancellation fee. Once the program has begun, no refunds will be issued.

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

EMAIL SERVICES

Limited email access for all Joint Meetings participants will be available. The hours of operation will be published in the program.

INFORMATION DISTRIBUTION

Tables are set up in the exhibit area for dissemination of general information of possible interest to the members and for 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 US \$58 (posters are slightly higher) per item. Please contact the exhibits manager, MMSB, P.O. Box 6887, Providence, RI 02940, for further details.

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

LOCAL INFORMATION

For information about the city see http://www.experienceneworleans.com and for complete restaurant information, including maps and menus, see http://www.neworleansrestaurants.com.

WEATHER

January weather in New Orleans is generally mild. Normal daily maximum and minimum temperatures are about 64sˇF to 43sˇF. Average precipitation in January is six inches. Visit your favorite weather site for up-to-the-minute forecasts, or see http://asp.usatoday.com/weather/weatherfront.aspx.

PETITION TABLE

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

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 Monday, any material on the table will be discarded, so individuals placing petitions on the table should be sure to remove them prior to the close of exhibits.

TELEPHONE MESSAGES

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

DISCOUNTED AIR TRAVEL

New Orleans is on Central Standard Time. Louis Armstrong New Orleans International Airport (MSY) http://flymsy.com in Kenner, Louisiana, is located about 15 miles north of the French Quarter in New Orleans and is served by all major airlines.

The official airline for the meetings is **American Airlines**. Book your flight with American Airlines and enjoy a 5% discount off the lowest possible fare for travel on American Airlines, American Eagle®, American Connection®, oneworld Alliance, and codeshare partners from anywhere to New Orleans. Given the volatility in airfares because of "fare wars," we

cannot guarantee that these will be the lowest fares when you make your arrangements. (Note: Some fares are not valid for the discount.) However, we strongly urge participants to make use of this special deal if at all possible, since the MAA and AMS 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.

Book your flight on line at http://www.aa.com. After you have selected your flight(s), go to the "AA.com Discount Code" field and enter **A1317AA**. Or, call the American Airlines Meeting Services Desk, or have your travel professional call 1-800-433-1790 from anywhere in the United States or Canada, seven days a week, from 5:00 a.m. to 12:00 midnight (Central Time), and reference the **authorization number A1317AA** (also called STARFILE number). Reservations for the hearing and speech impaired are also available at 1-800-543-1586. There is a US $10 reservations service fee for tickets issued through AA reservations, and a US $15 ticketing fee for tickets issued at the airport.

Traveling from the airport: To depart the New Orleans airport, head to the lower level baggage claim area. The Airport Shuttle, car rental agencies, the airport limousine service, and the taxicabs all depart from this location.

Airport Shuttle: Shuttle service (http://www.airportshuttleneworleans.com/)is available from the airport to the hotels for US$13 (per person, one-way), US$26 (per person, round-trip), or US$24 (per person, round-trip for two or more people when purchased at the airport). The preferred maximum amount of bags per person is three. Call 1-866-596-2699 or (504) 522-3500 for more details, or to make a reservation. Advance reservations are required 48 hours prior to travel for all ADA accessible transfers, so please call well enough in advance for the specially-equipped shuttle to be reserved. For group reservations of 10 or more people, please dial 1-888-432-7651. Ticket booths are located on the lower level in the baggage claim area. The shuttle waits outside baggage claim entrance #6.

Special Deal! Sign up for the shuttle online in advance by going to http://www.ams.org/amsmtgs/2098_travel.html#shuttle and save US $2 on a round-trip ticket.

Taxicabs: A cab ride to the Central Business District or the French Quarter costs approximately US $28 for one or two persons and US $12 (per passenger) for three or more passengers. There may be an additional charge for extra baggage. Pick-up is on the lower level, outside the baggage claim area.

Buses: The Airport-Downtown Express (E-2) Bus picks up outside airport Entrance #7 on the upper level. The airport bus stop is on the second level of the airport, near the Delta counter, in the median (look for the sign and bench). Take the E-2 Bus to Carrollton at Tulane. At Carrollton and Tulane, on the corner by the Burger King, transfer to the #39 Tulane Bus. The #39 will take you to Canal Street. Once on Canal Street, you transfer

to the #42 Canal Bus or #47-48 Canal Streetcar going toward the river, and get off along Canal Street at Canal and Chartres (or Canal and Decatur) for the New Orleans Marriott and the Sheraton New Orleans. (The Marriott, the Sheraton, the Astor Crowne Plaza, and the Doubletree hotels are on Canal Street. Check the appropriate cross streets.) For further information and schedules: E-2 Bus: http://www.jeffersontransit.org/. New Orleans city bus routes: http://www.norta.com, tel: 504-248-3900 or send email to rideline@norta.com. Bus fares: The fare for Airport-Downtown Express (E-2) is US $1.10. The fareboxes will accept US $1, US $5, US $10, US $20 dollar bills and all U.S. coins. The fareboxes will provide change in the form of a value card that can be used for future fares. The New Orleans city bus fares are undetermined for January.

Driving Directions: From the airport to the New Orleans Marriott and Sheraton hotels: Go east on Jerome S. Glazer Airport Access Road toward Airport Access Road (Jerome S. Glazer Airport Access Road turns into Airport Access Road). Take the ramp onto I-10 E. At exit 234 take the left lane toward Poydras St./Superdome. Stay straight to go onto Poydras St. Take a left on Camp Street, and then take a right onto Canal Street; the Sheraton is straight ahead on your right. You must make a small U-turn on Canal to get to the Marriott hotel garage.

TRAVEL INFORMATION FOR INTERNATIONAL PARTICIPANTS
International participants should view the important information about traveling to the United States at http://www7.nationalacademies.org/visas/Traveling_to_US.html.

Because of increased scrutiny of visa applicants, many potential attendees of scientific meetings in the United States have experienced unusual delays in obtaining travel visas. If you need a letter of invitation from the AMS and have not yet requested it, please send email to meet@ams.org and an invitation will be forwarded as soon as possible. In order to compose and send your letter, we will need your document number, email address, and your complete mailing address. Also see this very informative document from the U.S. Department of State which lists answers to frequently asked questions about the processing of visas (http://www.ams.org/amsmtgs/FAQ-Bus-1-Visa.pdf). You should also be aware that this meeting has been registered with the U.S. Department of State.

Machine Readable Passports Required by June 26, 2005: The Department of Homeland Security reminds travelers from the 27 Visa Waiver Program (VWP) countries (see the website cited above for a list) that as of June 26, 2005, they must have a machine-readable passport to enter the United States without a visa. Beginning June 26, 2005, transportation carriers will be fined US $3,300, per violation, for transporting any VWP traveler to the United States without a machine-readable passport. Similarly, VWP travelers arriving in the United States on that date without a machine-readable passport should not anticipate being granted one-time entry into the country. As an alternative for persons with immediate travel plans who are unable to obtain a machine-readable passport in time, the individual may apply for a U.S. visa at a U.S. Consulate or Embassy abroad.

Discounted Car Rental

Avis Rent A Car is the official car rental company for the meetings. All car rentals include unlimited free mileage and are available to renters 25 years and older. Avis offers special convention rental rates effective December 29, 2006 to January 15, 2007:

Car Type	Daily	Weekly	Weekend Daily
Subcompact	$39	$147	$24
Compact	$44	$163	$27
Intermediate	$48	$179	$29
Full-Size 2-Door	$50	$194	$35
Full-Size 4-Door	$54	$210	$37
Premium	$59	$221	$42
Luxury	$74	$312	$67
Minivan	$74	$312	$67
Convertible	$74	$312	$67
Sport Utility	$74	$312	$67

These rates are guaranteed. Return to the same rental location or additional surcharges may apply. Weekend daily rates are available from noon Thursday until 11:59 p.m. Monday. Should a lower qualifying rate become available, Avis is pleased to present a 5% discount off the lower qualifying rate or the meetings rate, whichever is lowest. Rates do not include any state or local surcharges, tax, optional coverages, or gas refueling charges. Renters must meet Avis's age, driver, and credit requirements. Reservations can be made by calling 800-331-1600 or online at http://www.avis.com; cite **group ID number J098887**.

Director of Publications for Journals and Communications

The Mathematical Association of America seeks a highly qualified person for the position of Director of Publications for Journals and Communications. The primary responsibilities of the position are to oversee journals and other periodicals and content and resources on the MAA website. In addition, the Director will perform other duties related to communications of the MAA to our members, the public, and other specific constituencies.

A candidate should have a PhD in the mathematical sciences. Requirements include editorial experience, writing articles for journals, periodicals, and the web, and experience with creating web content. The candidate should be familiar with the MAA, have a strong interest in writing and publication, and express a vision for MAA publications in print and online.

The Director oversees publication of the Association's three journals, three magazines (two online), the Association's newsmagazine, a variety of columns and articles, the MAA Mathematical Sciences Digital Library (MathDL) and the new MAA Gateway site to other digital libraries. In addition, the Director will oversee mathematical and professional resources on the MAA website and will develop content for new resources to serve our members and the public. The Director will be responsible for communications of the MAA such as reports, news articles, and public awareness pieces.

The Director will oversee a staff of three located in the headquarters office and numerous editors and editorial boards. Duties include administration of the department and grant proposal development and management. The Director reports to the Executive Director and is a key member of the MAA's staff leadership team. S/he will work closely with other members of the staff, national and sectional officers, committees and editors, and others in strategic planning and program development.

The mission of the MAA is to advance the mathematical sciences. The MAA, with nearly 30,000 members, is the largest association in the world with a focus on mathematics accessible at the undergraduate level. Membership includes college and university faculty and students, high school teachers, individuals from business, industry, and government, and others who enjoy mathematics.

The Director is responsible for ensuring that publications encompass the interests of all major constituencies of the MAA, embrace all areas of mathematics, and are easily available to all of our members and the larger community who are interested in mathematics, especially for expository mathematics and materials for faculty and students.

Applications will be accepted and reviewed as received, but it is expected that the position will begin between January 1, 2007 and July 2007. The position is located at the national headquarters of the MAA in Washington, DC.

Candidates should send a resume and letter of interest to:

Ms. Calluna Euving
Chief of Staff
Mathematical Association of America
1529 18th Street, NW
Washington, DC 20036

Applications may be submitted electronically to ceuving@maa.org. References will be requested after review of applications. Applications from individuals from underrepresented groups are encouraged. Additional information about the MAA and its programs and services may be found on MAA's website: http://www.maa.org. AA/EOE.

Schedule of Events

8:00 a.m.- 5:00 p.m.	AMS Short Course Aspects of Statistical Learning, I
9:00 a.m.- 5:00 p.m.	MAA Short Course Leonhard Euler: Looking Back after 300 Years, I

THURSDAY, JANUARY 4TH

8:00 a.m.- 6:30 p.m.	AMS Department Chairs Workshop
8:30 a.m.- 4:00 p.m.	MAA Board of Governors
9:00 a.m.- 5:00 p.m.	AMS Short Course Aspects of Statistical Learning, II
9:00 a.m.- 5:00 p.m.	MAA Short Course Leonhard Euler: Looking Back after 300 Years, II
1:30 p.m.-10:00 p.m.	AMS Council Meeting
3:00 p.m.- 8:00 p.m.	Joint Meetings Registration

FRIDAY, JANUARY 5TH

7:30 a.m.- 6:00 p.m.	Joint Meetings Registration
7:30 a.m.- 6:00 p.m.	Employment Center
8:00 a.m.-10:55 a.m.	MAA-AMS Special Session Math Circles and Similar Programs for Students and Teachers, I
8:00 a.m.-10:55 a.m.	AMS-ASL Special Session Logical Methods in Computational Mathematics, I
8:00 a.m.-10:55 a.m.	AMS-AWM Special Session Geometric Group Theory, I

AMS SPECIAL SESSIONS

8:00 a.m.-10:55 a.m.	AMS Special Session Fixed Point Theory, Dynamics, and Group Theory, I
8:00 a.m.-10:55 a.m.	AMS Special Session Knots, 3-Manifolds, and Their Invariants, I
8:00 a.m.-10:55 a.m.	AMS Special Session Arrangements and Related Topics, I
8:00 a.m.-10:55 a.m.	AMS Special Session Recent Developments in Analysis and Numerics of Geophysical Fluid Dynamics Problems, I
8:00 a.m.-10:55 a.m.	AMS Special Session Coding Theory and Its Applications, I

8:00 a.m.-10:55 a.m.	AMS Special Session Cohomology and Representation Theory, I
8:00 a.m.-10:55 a.m.	AMS Special Session Experimental Mathematics in Action, I
8:00 a.m.-10:55 a.m.	AMS Special Session Financial Mathematics, I
8:00 a.m.-10:55 a.m.	AMS Sessions for Contributed Papers
8:00 a.m.-10:55 a.m.	SIAM Minisymposium Phylotaxis
8:00 a.m.-10:55 a.m.	SIAM Minisymposium Mathematics and Materials Science

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-11:00 a.m.	Content Courses for the Mathematical Education of Middle School Teachers
8:00 a.m.-11:00 a.m.	Euler in the Classroom
8:00 a.m.-11:00 a.m.	Integrating Mathematics and Biology in Undergraduate Education
8:00 a.m.-11:00 a.m.	Teaching Mathematics Courses Online
8:00 a.m.-11:00 a.m.	Use of Technology in Abstract Algebra and Number Theory
8:00 a.m.-11:00 a.m.	MAA General Contributed Paper Session, I
9:00 a.m.-11:00 a.m.	**MAA Minicourse #12: Part A** Combinatorially thinking
9:00 a.m.-11:00 a.m.	**MAA Minicourse #1: Part A** Introduction to the mathematics of modern cryptography
9:00 a.m.-11:00 a.m.	**MAA Minicourse #7: Part A** Directing undergraduate research
9:00 a.m.- 5:00 p.m.	Student Hospitality Center
9:30 a.m.-10:50 a.m.	MAA-YMN Panel Discussion Keeping your research alive
9:30 a.m.-10:50 a.m.	MAA Special Presentation National Science Foundation programs supporting learning and teaching in the mathematical sciences
9:30 a.m.-10:50 a.m.	SIGMAA on the Teaching of Advanced High School Mathematics Panel Discussion What mathematical content should future mathematics majors learn while in high school?
9:30 a.m.-10:55 a.m.	AMS Special Presentation Report on the findings of the 2005 CBMS survey of undergraduate mathematical and statistical sciences in the U.S.

10:00 a.m.-10:55 a.m.	AMS Special Presentation Who wants to be a mathematician?
10:05 a.m.-10:55 a.m.	AMS Invited Address Andras Vasy Diffraction by edges
11:10 a.m.-12:00 p.m.	MAA-AMS Invited Address Bryna R. Kra Dynamics of integer sets
12:15 p.m.- 5:30 p.m.	Exhibits and Book Sales
1:00 p.m.- 2:00 p.m.	AMS Colloquium Lecture: Lecture I Andrei Okounkov Limit shapes, real and imagined (Part 1)
2:00 p.m.- 5:00 p.m.	Math on the Web, I
2:15 p.m.- 3:05 p.m.	MAA Invited Address Penny Haxell Forming committees
2:15 p.m.- 3:35 p.m.	MAA Committee on the Profession Panel Discussion Ethics in the mathematical sciences
2:15 p.m.- 3:35 p.m.	MAA Committee on the Undergraduate Program in Mathematics and the SIGMAA on Statistics Education Panel Discussion Preparing majors for the nonacademic workforce: Projects and internships in applied mathematics and statistics
2:15 p.m.- 3:35 p.m.	MAA Panel Discussion The role of assessment in helping students learn
2:15 p.m.- 3:40 p.m.	AWM Panel Discussion
2:15 p.m.- 4:15 p.m.	**MAA Minicourse #13: Part A** Teaching a course in the history of mathematics
2:15 p.m.- 4:15 p.m.	**MAA Minicourse #2: Part A** Some deterministic models in mathematical biology and their simulations
2:15 p.m.- 4:15 p.m.	**MAA Minicourse #8: Part A** Mathematics and geometry of voting
2:15 p.m.- 4:15 p.m.	Project NExT-YMN Poster Session
2:15 p.m.- 5:55 p.m.	AMS Sessions for Contributed Papers

MAA CONTRIBUTED PAPER SESSIONS

2:15 p.m.- 6:00 p.m.	Chaos and Fractals
2:15 p.m.- 6:00 p.m.	Entertaining With Math
2:15 p.m.- 6:00 p.m.	Mathlets for Teaching and Learning Mathematics
2:15 p.m.- 6:00 p.m.	Research and Other Mathematical Experiences for Students Outside the Classroom

2:15 p.m.- 6:00 p.m.	MAA General Contributed Paper Session, II
2:15 p.m.- 6:00 p.m.	SIAM Minisymposium Recent Advances in Computational Scattering
2:15 p.m.- 6:00 p.m.	SIAM Minisymposium on Education
2:15 p.m.- 6:10 p.m.	AMS-ASL Special Session Logical Methods in Computational Mathematics, II
2:15 p.m.- 6:10 p.m.	AMS-AWM Special Session Geometric Group Theory, II

AMS SPECIAL SESSIONS

2:15 p.m.- 6:10 p.m.	AMS Special Session Fixed Point Theory, Dynamics, and Group Theory, II
2:15 p.m.- 6:10 p.m.	AMS Special Session Knots, 3-Manifolds, and Their Invariants, II
2:15 p.m.- 6:10 p.m.	AMS Special Session Arrangements and Related Topics, II
2:15 p.m.- 6:10 p.m.	AMS Special Session Recent Developments in Analysis and Numerics of Geophysical Fluid Dynamics Problems, II
2:15 p.m.-6:10 p.m.	AMS Special Session Coding Theory and Its Applications, II
2:15 p.m.-6:10 p.m.	AMS Special Session Cohomology and Representation Theory, II
2:15 p.m.-6:10 p.m.	AMS Special Session Experimental Mathematics in Action, II
2:15 p.m.- 6:10 p.m.	AMS Special Session Financial Mathematics, II
2:15 p.m.- 6:15 p.m.	Entertaining with Math
2:15 p.m.- 7:00 p.m.	MAA–AMS Special Session Math Circles and Similar Programs for Students and Teachers, II
2:30 p.m.- 5:00 p.m.	MAA Section Officers
3:00 p.m.- 5:00 p.m.	Project NExT Panel Discussion Becoming a leader in your department
3:20 p.m.- 4:10 p.m.	MAA Invited Address Bradley Efron Baseball, Shakespeare, and modern statistical theory
3:45 p.m.- 4:15 p.m.	AWM Business Meeting
3:50 p.m.- 5:10 p.m.	MAA Committee on Graduate Students-YMN Panel Discussion How to interview for a job in the mathematical sciences

Schedule of Events

3:50 p.m.- 5:40 p.m.	SIGMAA on the History of Mathematics Panel Discussion The practice of math history
3:50 p.m.- 5:40 p.m.	MAA Study Abroad Tours Subcommittee Panel Discussion Mathematics and mathematicians in emerging nations
4:00 p.m.- 5:30 p.m.	SIGMAA on Environmental Mathematics Business Meeting and Guest Lecture
4:30 p.m.- 6:00 p.m.	AMS Committee on the Profession Presentation
4:45 p.m.- 6:45 p.m.	**MAA Minicourse #14: Part A** Contemporary college algebra: A refocused college algebra course
4:45 p.m.- 6:45 p.m.	**MAA Minicourse #3: Part A** A tool to implement quantitative literacy (QL): Spreadsheets Across the Curriculum
4:45 p.m.- 6:45 p.m.	**MAA Minicourse #9: Part A** Evaluating student presentations in mathematics
4:45 p.m.- 6:45 p.m.	MAA Information Session Current issues in actuarial science education
5:30 p.m.- 6:30 p.m.	Reception for Graduate Students and First-Time Participants
5:30 p.m.- 8:00 p.m.	Mathematical Institutes Open House
6:00 p.m.-7:00 p.m.	Nebraska Conference for Undergraduate Women Open House Reunion
6:00 p.m.- 8:00 p.m.	SIGMAA on the History of Mathematics Annual Meeting and Guest Lecture
6:00 p.m.- 8:00 p.m.	Claremont Colleges Reception
7:00 p.m.-11:00 p.m.	Carleton Summer Mathematics Program for Women Reunion
8:30 p.m.- 9:30 p.m.	AMS Josiah Willard Gibbs Lecture Peter D. Lax Mathematics and physics
9:30 p.m.-11:00 p.m.	AWM Reception

7:00 a.m.- 8:30 a.m.	MAA Department Liaisons Breakfast Meeting
7:30 a.m.- 4:00 p.m.	Joint Meetings Registration
7:00 a.m.-7:30 p.m.	Employment Center
8:00 a.m.-10:00 a.m.	**MAA Minicourse #4: Part A** Creating visual mathematics applets using flash programming
8:00 a.m.-10:00 a.m.	SIGMAA Officers Meeting
8:00 a.m.-10:55 a.m.	SIAM Minisymposium Mathematical Modeling of Complex Systems in Biology, I
8:00 a.m.-10:55 a.m.	SIAM Minisymposium Structure and Topology in Graph Theory, I
8:00 a.m.-11:55 a.m.	AMS-ASL Special Session Logical Methods in Computational Mathematics, III

AMS SPECIAL SESSIONS

8:00 a.m.-11:55 a.m.	AMS Special Session Free Discontinuity Problems: From Image Processing to Materials Science, I
8:00 a.m.-11:55 a.m.	AMS Special Session Initial-and Boundary-Value Problems, Solvability, and Stability for some Nonlinear PDEs: Theorem, Computation, and Application, I
8:00 a.m.-11:55 a.m.	AMS Special Session Invariant Theory, I
8:00 a.m.-11:55 a.m.	AMS Special Session Mathematical Techniques in Musical Analysis, I
8:00 a.m.-11:55 a.m.	AMS Special Session Radon Transforms, Convex Geometry, and Geometric Analysis, I
8:00 a.m.-11:55 a.m.	AMS Special Session Calculus of Variations and Nonlinear PDEs: Theory and Applications, I
8:00 a.m.-11:55 a.m.	AMS Special Session Cohomology and Representation Theory, III
8:00 a.m.-11:55 a.m.	AMS Special Session Dynamic Programming, I
8:00 a.m.-11:55 a.m.	AMS Special Session Financial Mathematics, III
8:00 a.m.-11:55 a.m.	AMS Sessions for Contributed Papers

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-12:00 p.m.	Mathematics and Biology 2010: Building Connections
8:00 a.m.-12:00 p.m.	Getting Students to Discuss and to Write about Mathematics, I
8:00 a.m.-12:00 p.m.	Philosophy of Mathematics, I
8:00 a.m.-12:00 p.m.	Innovative and Effective Ways to Teach Linear Algebra

8:00 a.m.-12:00 p.m.	Research on the Teaching and Learning of Undergraduate Mathematics
8:00 a.m.-12:00 p.m.	MAA General Contributed Paper Session, III
8:30 a.m.- 9:50 a.m.	MAA Panel Discussion Euler's continuing influence
8:30 a.m.- 9:50 a.m.	Project NExT Panel Discussion Getting your first book published
9:00 a.m.- 9:50 a.m.	AWM Emmy Noether Lecture Karen Vogtmann Automorphisms of free groups, outer space, and beyond
9:00 a.m.-10:20 a.m.	Joint MAA–AMS Committee Teaching Assistants and Part-Time Instructors Panel Discussion Strategic thinking about nonladder faculty
9:00 a.m.-11:00 a.m.	**MAA Minicourse #10: Part A** A beginner's guide to the scholarship of teaching and learning (SOTL) in mathematics
9:00 a.m.-11:00 a.m.	**MAA Minicourse #16: Part A** More music and mathematics
9:00 a.m.- 5:00 p.m.	Student Hospitality Center
9:30 a.m.- 5:30 p.m.	Exhibits and Book Sales
10:00 a.m.-11:20 a.m.	MAA Panel Discussion Using student portfolios for assessment
10:00 a.m.-11:20 a.m.	MAA Committee on Technologies in Mathematics Education and WEBSIGMAA Panel Discussion Best practices for expository mathematics in the digital age
10:00 a.m.- 5:00 p.m.	Math on the Web, II
10:05 a.m.-10:55 a.m.	MAA Invited Address Jan van Maanen The Bernoulli brothers in the arena of the early calculus
10:30 a.m.-11:50 a.m.	MAA Special Presentation Proposal writing workshop for grant applications to the NSF Division of Undergraduate Education
10:30 a.m.-12:30 p.m.	**MAA Minicourse #5: Part A** Wavelets and applications: A multi-disciplinary undergraduate course with emphasis on scientific computing
11:10 a.m.-12:00 p.m.	SIAM Invited Address Tony DeRose Geometry in the movies

1:00 p.m.- 2:00 p.m.	AMS Colloquium Lecture: Lecture II Andrei Okounkov Limit shapes, real and imagined (Part 2)
1:00 p.m.- 2:20 p.m.	MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years Panel Discussion Reshaping undergraduate mathematics for biology-related disciplines: Ideas and innovations
1:00 p.m.- 2:20 p.m.	MAA Committee on Two-Year Colleges and Committee on Articulation and Placement Panel Discussion Placement: Friend or Foe?
1:00 p.m.- 2:20 p.m.	MAA Committee on Undergraduate Student Activities and Chapters Panel Discussion Engaging students in research, clubs, student chapters, and internships
1:00 p.m.- 2:30 p.m.	AMS-ASL Panel Discussion Contemporary perspectives on Hilbert's Second Problem and the Gödel Incompleteness Theorems
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #11: Part A** Origami in undergraduate mathematics courses
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #13: Part B** Teaching a course in the history of mathematics
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #6: Part A** WeBWorK 2: An Internet-based system for generating and delivering homework
1:00 p.m.- 3:55 p.m.	AMS-AWM Special Session Geometric Group Theory, III

AMS SPECIAL SESSIONS

1:00 p.m.- 3:55 p.m.	AMS Special Session Free Discontinuity Problems: From Image Processing to Materials Science, II
1:00 p.m.- 3:55 p.m.	AMS Special Session Initial- and Boundary-Value Problems, Solvability, and Stability for some Nonlinear PDEs: Theorem, Computation, and Application, II
1:00 p.m.- 3:55 p.m.	AMS Special Session Invariant Theory, II
1:00 p.m.- 3:55 p.m.	AMS Special Session Knots, 3-Manifolds, and Their Invariants, III
1:00 p.m.- 3:55 p.m.	AMS Special Session Arrangements and Related Topics, III

Schedule of Events

1:00 p.m.- 3:55 p.m.	AMS Special Session Mathematical Techniques in Musical Analysis, II
1:00 p.m.- 3:55 p.m.	AMS Special Session Radon Transforms, Convex Geometry, and Geometric Analysis, II
1:00 p.m.- 3:55 p.m.	AMS Special Session Calculus of Variations and Nonlinear PDEs: Theory and Applications, II
1:00 p.m.- 3:55 p.m.	AMS Special Session Dynamic Programming, II

MAA CONTRIBUTED PAPER SESSIONS

1:00 p.m.- 4:00 p.m.	Communication Theory in Undergraduate Courses
1:00 p.m.- 4:00 p.m.	Getting Students to Discuss and to Write about Mathematics, II
1:00 p.m.- 4:00 p.m.	Philosophy of Mathematics, II
1:00 p.m.- 4:00 p.m.	Reconceptualizing Content Courses for Prospective High School Mathematics Teachers
1:00 p.m.- 4:00 p.m.	The Scholarship of Teaching and Learning in Mathematics
1:00 p.m.- 4:00 p.m.	MAA General Contributed Paper Session, IV
1:00 p.m.- 4:10 p.m.	AMS Sessions for Contributed Papers
1:00 p.m.- 4:10 p.m.	SIAM Minisymposium Mathematical Modeling of Complex Systems in Biology, II
1:00 p.m.- 4:10 p.m.	SIAM Minisymposium Structure and Topology, II
2:00 p.m.- 3:30 p.m.	Project NExT Panel Discussion Updating the undergraduate mathematics major
2:00 p.m.- 4:00 p.m.	MAA Poster Session Projects Supported by the NSF Division of Undergraduate Education
2:00 p.m.- 4:00 p.m.	Summer Program for Women in Mathematics (SPWM) Reunion
2:15 p.m.- 3:05 p.m.	AMS Invited Address Manjul Bhargava Title to be announced
2:30 p.m.- 3:50 p.m.	MAA Committee on Technologies in Mathematics Education Panel Discussion Electronic student assessment systems
2:30 p.m.- 3:50 p.m.	SIGMAA on Quantitative Literacy Panel Discussion Current practices in quantitative literacy: An interdisciplinary perspective
2:30 p.m.- 4:10 p.m.	SIGMAA on Research in Undergraduate Mathematics Education Panel Discussion Featured presentations from the Ninth Conference on Research in Undergraduate Mathematics Education
3:20 p.m.- 4:10 p.m.	AMS Invited Address Margaret H. Wright A tale of three complexities: The worst of times, the best of times, the spring of hope
4:25 p.m.- 5:25 p.m.	Joint Prize Session
5:25 p.m.- 6:25 p.m.	Joint Prize Session Reception
5:30 p.m.- 7:00 p.m.	Michigan Mathematics Alumni and Friends Reception
5:45 p.m.- 6:30 p.m.	SIGMAA on the History of Mathematics Special Guest Lecture
5:45 p.m.- 6:30 p.m.	SIGMAA on Quantitative Literacy Annual Business Meeting and Reception
5:45 p.m.- 6:45 p.m.	SIGMAA on Business, Industry, and Government Reception
5:45 p.m.- 7:00 p.m.	Association of Lesbian, Gay, Bisexual, and Transgendered Mathematicians Reception
5:45 p.m.- 7:00 p.m.	MAA Two-Year College Reception
5:45 p.m.- 7:00 p.m.	University of Iowa Mathematics Department Reception
5:45 p.m.- 7:00 p.m.	Lehigh University Reception
5:45 p.m.- 7:15 p.m.	SIGMAA on the Philosophy of Mathematics Annual Meeting and Guest Lecture
5:45 p.m.- 8:15 p.m.	SIGMAA on Research in Undergraduate Mathematics Education Business Meeting and Presentation of the 2006 RUME Best Paper Award
6:00 p.m.- 6:45 p.m.	Mathematics in Art Presentation Tetrahedral variations
6:00 p.m.- 8:00 p.m.	Claremont Colleges Reception
6:00 p.m.- 9:00 p.m.	Association of Christians in the Mathematical Sciences Banquet
6:30 p.m.- 9:00 p.m.	MER Banquet
7:30 p.m.- 8:30 p.m.	Young Mathematicians' Network Town Meeting
8:15 p.m.- 9:45 p.m.	Knitting Circle

7:00 a.m.- 7:50 a.m.	Association for Christians in the Mathematical Sciences Nondenominational Worship Service
7:00 a.m.- 8:00 a.m.	Joint Pi Mu Epsilon and MAA Student Chapter Advisors' Breakfast
7:30 a.m.- 4:00 p.m.	Joint Meetings Registration
7:30 a.m.- 7:30 p.m.	Employment Center
8:00 a.m.-10:55 a.m.	MAA-AMS Special Session on History of Mathematics, I
8:00 a.m.-11:00 a.m.	PME Council Meeting

AMS SPECIAL SESSIONS

8:00 a.m.-10:55 a.m.	AMS Special Session Frames and Wavelets in Harmonic Analysis, Geometry, and Applications, I
8:00 a.m.-10:55 a.m.	AMS Special Session Group Representations, Ergodic Theory, and Mathematical Physics: Honoring the Memory of George W. Mackey, I
8:00 a.m.-10:55 a.m.	AMS Special Session Infinite Dimensional Analysis Honoring H.-H. Kuo, I
8:00 a.m.-10:55 a.m.	AMS Special Session Nonlinear Variational Inclusion Problems and Optimization Theory, I
8:00 a.m.-10:55 a.m.	AMS Special Session Nonsmooth Analysis in Inverse and Variational Problems, I
8:00 a.m.-10:55 a.m.	AMS Special Session Numerical Relativity, I
8:00 a.m.-10:55 a.m.	AMS Special Session Arithmetic of Function Fields, I
8:00 a.m.-10:55 a.m.	AMS Special Session Universal Algebra and Order, I
8:00 a.m.-10:55 a.m.	AMS Special Session Microlocal Analysis and Singular Spaces, I
8:00 a.m.-10:55 a.m.	AMS Special Session Continuous and Discrete Integrable Systems and Their Applications, I
8:00 a.m.-10:55 a.m.	AMS Sessions for Contributed Papers
8:00 a.m.-10:55 a.m.	ASL Invited Addresses and Contributed Papers

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-11:00 a.m.	Building Diversity in Advanced Mathematics: Models that Work
8:00 a.m.-11:00 a.m.	How to Start and Develop Undergraduate Level Financial Mathematics Programs
8:00 a.m.-11:00 a.m.	Teaching Operations Research in the Undergraduate Classroom
8:00 a.m.-11:00 a.m.	The Mathematics of Sudoku and Other Puzzles
8:00 a.m.-11:00 a.m.	MAA General Contributed Paper Session, V
8:00 a.m.-11:00 a.m.	PME Council
9:00 a.m.- 9:50 a.m.	MAA Invited Address Jeffrey Brock Geometric topology and topological geometry in dimension three
9:00 a.m.-10:20 a.m.	MAA Panel Discussion The top ten things you should know if you intend to implement the standards of *Beyond Crossroads*
9:00 a.m.-10:20 a.m.	MAA Panel Discussion Calculus, liberal arts, and quantitative literacy
9:00 a.m.-10:30 a.m.	Project NExT Panel Discussion Publishing undergraduate research and expository articles
9:00 a.m.-11:00 a.m.	**MAA Minicourse #12: Part B** Combinatorially thinking
9:00 a.m.-11:00 a.m.	**MAA Minicourse #1: Part B** Introduction to the mathematics of modern cryptography
9:00 a.m.-11:00 a.m.	**MAA Minicourse #8: Part B** Mathematics and geometry of voting
9:00 a.m.- 5:00 p.m.	Student Hospitality Center
9:30 a.m.- 5:30 p.m.	Exhibits and Book Sales
10:00 a.m.- 5:00 p.m.	Math on the Web, III
10:05 a.m.-10:55 a.m.	AMS Invited Address Bjorn Poonen The abc conjecture
11:10 a.m.-12:00 p.m.	MAA–AMS Invited Address Persi W. Diaconis Statistics for smart people who don't know anything about statistics
1:00 p.m.-1:50 p.m.	MAA Student Lecture Della Fenster Mathematics: A question of history
1:00 p.m.- 2:00 p.m.	AMS Colloquium Lecture: Lecture III Andrei Okounkov Limit shapes, real and imagined (Part 3)
1:00 p.m.- 2:30 p.m.	MAA Committee on the Undergraduate Program in Mathematics Panel Discussion The "bridge" course

Schedule of Events

1:00 p.m.- 3:00 p.m.	**MAA Minicourse #15: Part A** Geometry with history for teaching teachers
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #2: Part B** Some deterministic models in mathematical biology and their simulations
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #7: Part B** Directing undergraduate research

MAA CONTRIBUTED PAPER SESSIONS

1:00 p.m.- 5:00 p.m.	Teaching Innovations in Real Analysis
1:00 p.m.- 5:00 p.m.	Mathematics Experiences in Business, Industry and Government
1:00 p.m.- 5:00 p.m.	Countering "I Can't Do Math": Strategies For Teaching Under-Prepared, Math-Anxious Students
1:00 p.m.- 5:00 p.m.	Innovative Examples of Using Graphs in Statistics
1:00 p.m.- 5:00 p.m.	MAA General Contributed Paper Session, VI
1:00 p.m.- 5:00 p.m.	ASL Invited Addresses and Contributed Papers
1:00 p.m.- 5:55 p.m.	MAA-AMS Special Session History of Mathematics, II

AMS SPECIAL SESSIONS

1:00 p.m.- 5:55 p.m.	AMS Special Session Frames and Wavelets in Harmonic Analysis, Geometry, and Applications, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Group Representations, Ergodic Theory, and Mathematical Physics: Honoring the Memory of George W. Mackey, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Infinite Dimensional Analysis Honoring H.-H. Kuo, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Nonlinear Variational Inclusion Problems and Optimization Theory, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Nonsmooth Analysis in Inverse and Variational Problems, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Numerical Relativity, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Arithmetic of Function Fields, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Universal Algebra and Order, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Microlocal Analysis and Singular Spaces, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Continuous and Discrete Integrable Systems and Their Applications, II
1:00 p.m.- 5:55 p.m.	AMS Sessions for Contributed Papers
1:00 p.m.- 6:00 p.m.	AMS Current Events Bulletin
1:30 p.m.- 4:30 p.m.	SIGMAA on Environmental Mathematics Special Presentation New Orleans and the environment
2:15 p.m.- 4:00 p.m.	NAM Granville-Brown-Haynes Session of Presentations by Recent Doctoral Recipients in the Mathematical Sciences
2:15 p.m.- 4:10 p.m.	RMMC Board of Directors
2:30 p.m.- 3:50 p.m.	MAA Panel Discussion Attracting underrepresented students to graduate study through research
2:30 p.m.- 4:00 p.m.	MAA Presentations by Teaching Award Recipients
2:30 p.m.- 4:00 p.m.	AMS Committee on Science Policy Panel Discussion
3:30 p.m.- 5:30 p.m.	**MAA Minicourse #14: Part B** Contemporary college algebra: A refocused college algebra course
3:30 p.m.- 5:30 p.m.	**MAA Minicourse #3: Part B** A tool to implement quantitative literacy (QL): Spreadsheets Across the Curriculum
3:30 p.m.- 5:30 p.m.	**MAA Minicourse #9: Part B** Evaluating student presentations in mathematics
3:30 p.m.- 5:30 p.m.	MAA Undergraduate Poster Session
4:20 p.m.- 5:10 p.m.	MAA Science Policy Committee-AMS Committee on Science Policy Government Speaker
6:00 p.m.- 7:00 p.m.	AMS Mathematical Reviews Reception
6:00 p.m.- 9:30 p.m.	NAM Reception and Banquet
8:30 p.m.- 9:15 p.m.	NAM Cox-Talbot Address
8:30 p.m.-10:30 p.m.	MAA-Project NExT Reception

7:00 a.m.- 8:45 a.m.	MAA Minority Chairs Breakfast Meeting
7:30 a.m.- 4:00 p.m.	Joint Meetings Registration
8:00 a.m.-10:55 a.m.	MAA-AMS-SIAM Special Session Research in Mathematics by Undergraduates, I
8:00 a.m.-10:55 a.m.	MAA-AMS- MER Special Session Mathematics and Education Reform, I
8:00 a.m.-10:55 a.m.	MAA-AMS Special Session History of Mathematics, III

AMS SPECIAL SESSIONS

8:00 a.m.-10:55 a.m.	AMS Special Session Group Representations, Ergodic Theory, and Mathematical Physics: Honoring the Memory of George W. Mackey, III
8:00 a.m.-10:55 a.m.	AMS Special Session Mapping Class Groups and Handlebodies, I
8:00 a.m.-10:55 a.m.	AMS Special Session Recent Advances in Mathematical Biology, Ecology, and Epidemiology, I
8:00 a.m.-10:55 a.m.	AMS Special Session Recent Developments in Floer Homology, I
8:00 a.m.-10:55 a.m.	AMS Special Session Representation Theory and the Theta Correspondence, I
8:00 a.m.-10:55 a.m.	AMS Special Session Structure Theory for Matroids and Graphs, I
8:00 a.m.-10:55 a.m.	AMS Special Session Time Scales: Dynamic Equations with Applications, I
8:00 a.m.-10:55 a.m.	AMS Special Session Arithmetic Geometry, I
8:00 a.m.-10:55 a.m.	AMS Special Session Computational Algebraic and Analytic Geometry for Low-Dimensional
8:00 a.m.-10:55 a.m.	AMS Special Session Commutative Algebra and Algebraic Geometry, I
8:00 a.m.-10:55 a.m.	AMS Sessions for Contributed Papers
8:00 a.m.-10:55 a.m.	ASL Invited Addresses and Contributed Papers

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-10:55 a.m.	Applications of Discrete Mathematics
8:00 a.m.-10:55 a.m.	Assessment of Student Learning in Undergraduate Mathematics
8:00 a.m.-11:00 a.m.	Mathematics of Chemistry
8:00 a.m.-11:00 a.m.	College Algebra: Concepts, Data, and Models
8:00 a.m.-11:00 a.m.	MAA General Contributed Paper Session, VII
8:20 a.m.- 4:30 p.m.	AWM Workshop
8:30 a.m.-10:00 a.m.	AMS Committee on Education Panel Discussion
8:30 a.m.-10:20 a.m.	AWM Workshop: Research Presentations by Recent PhDs, I
9:00 a.m.- 9:50 a.m.	AMS Invited Address Victor S. Reiner New combinatorics from the invariant theory of reflection groups
9:00 a.m.- 9:50 a.m.	NAM Panel Discussion
9:00 a.m.-10:20 a.m.	MAA Panel Discussion Undergraduate career paths in mathematics
9:00 a.m.-10:20 a.m.	MAA Special Report Algebra: Gateway to a technological future
9:00 a.m.-11:00 a.m.	**MAA Minicourse #10: Part B** A beginner's guide to the scholarship of teaching and learning (SOTL) in mathematics
9:00 a.m.-11:00 a.m.	**MAA Minicourse #16: Part B** More music and mathematics
9:00 a.m.-11:00 a.m.	**MAA Minicourse #4: Part B** Creating visual mathematics applets using flash programming
9:00 a.m.-12:00 p.m.	Employment Center
9:00 a.m.-1:00 p.m.	Exhibits and Book Sales
9:00 a.m.- 3:00 p.m.	Student Hospitality Center
9:30 a.m.-12:00 p.m.	Math on the Web, IV
10:00 a.m.-10:50 a.m.	NAM Business Meeting
10:05 a.m.-10:55 a.m.	MAA Invited Address Jerry L. Bona Big waves in deep water
10:30 a.m.-11:00 a.m.	AWM Workshop: Poster Session with Presentations from Women Recent PhDs and Graduate Students

11:10 a.m.-11:40 a.m.	AMS Business Meeting
11:45 a.m.-12:15 p.m.	MAA Business Meeting
1:00 p.m.-1:50 p.m.	NAM Claytor-Woodard Lecture
1:00 p.m.- 2:20 p.m.	MAA Panel Discussion Knowing mathematics for teaching: Issues in assessment and teacher preparation
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #11: Part B** Origami in undergraduate mathematics courses
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #15: Part B** Geometry with history for teaching teachers
1:00 p.m.- 3:00 p.m.	**MAA Minicourse #5: Part B** Wavelets and applications: A multi-disciplinary undergraduate course with emphasis on scientific computing
1:00 p.m.- 5:00 p.m.	MAA General Contributed Paper Session, VIII
1:00 p.m.- 5:00 p.m.	ASL Invited Addresses and Contributed Papers
1:00 p.m.- 5:55 p.m.	MAA-AMS-SIAM Special Session Research in Mathematics by Undergraduates, II
1:00 p.m.- 5:55 p.m.	MAA-AMS-MER Special Session Mathematics and Education Reform, II
1:00 p.m.- 5:55 p.m.	MAA-AMS Special Session History of Mathematics, IV

AMS SPECIAL SESSIONS

1:00 p.m.- 5:55 p.m.	AMS Special Session Group Representations, Ergodic Theory, and Mathematical Physics: Honoring the Memory of George W. Mackey, IV
1:00 p.m.- 5:55 p.m.	AMS Special Session Mapping Class Groups and Handlebodies, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Recent Advances in Mathematical Biology, Ecology, and Epidemiology, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Recent Developments in Floer Homology, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Representation Theory and the Theta Correspondence, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Structure Theory for Matroids and Graphs, II

1:00 p.m.- 5:55 p.m.	AMS Special Session Time Scales: Dynamic Equations with Applications, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Arithmetic Geometry, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Computational Algebraic and Analytic Geometry for Low-Dimensional Varieties, II
1:00 p.m.- 5:55 p.m.	AMS Special Session Commutative Algebra and Algebraic Geometry, II
1:00 p.m.- 5:55 p.m.	AMS Sessions for Contributed Papers
2:30 p.m.- 4:20 p.m.	AWM Workshop: Research Presentations by Recent PhDs, II
3:30 p.m.- 5:30 p.m.	**MAA Minicourse #6: Part B** WeBWorK 2: An Internet-based system for generating and delivering homework
6:30 p.m.- 7:30 p.m.	AMS Banquet Reception
7:30 p.m.- 10:30 p.m.	AMS Banquet

Associate Director for Student Activities

The Mathematical Association of America (MAA) seeks an Associate Director to oversee a wide range of activities for both undergraduate and graduate students and to develop new initiatives to advance the MAA in the area of student services and programs.

The Associate Director will provide both programmatic and administrative supervision to ongoing activities, such as the MAA Student Chapter Program, undergraduate student paper/poster sessions and poster sessions and workshops for graduate students at national meetings. Working with the Committee on Undergraduate Student Activities and Chapters and the Committee on Graduate Students, the Associate Director will seek to identify successful programs currently in place in MAA's Sections that are suitable for expansion, and develop new programs such as establishing a national network for student chapters.

The Associate Director will oversee externally-funded programs for students and will develop proposals to continue existing programs and to establish new programs. The Associate Director will lead MAA efforts to develop a comprehensive collection of web-based resources for students, and work with other MAA staff and member volunteers to build an MAA student website that will be the primary web destination for students of mathematics at the undergraduate and graduate levels.

The Associate Director for Student Activities will report to the Director of Programs and Services. The successful candidate will have an advanced degree in one of the mathematical sciences, and experience working with students both in and outside of the classroom through math clubs and/or mentoring undergraduate research. Experience using on-line instruction or development of web content is a plus. Though this is a continuing position, we welcome applications from faculty members who wish to take a leave of absence from their current position.

The mission of the MAA is to advance the mathematical sciences. The MAA, with almost 30,000 members, is the largest professional association with a focus on mathematics that is accessible at the undergraduate level. Membership includes college and university faculty and students, high school teachers, individuals from business, industry and government, and others who appreciate mathematics.

Applications will be accepted and reviewed as received, but it is expected that the position will begin July 1, 2007, though a January 2007 start date will be considered. The position is located at the national headquarters of the MAA in Washington, DC. Salary will be based upon the candidate's credentials or current salary for a reassignment position. The MAA offers a generous benefits package.

Candidates should send a resume and letter of interest to:

Ms. Calluna Euving
Chief of Staff
Mathematical Association of America
1529 18th Street, NW
Washington, DC 20036

Applications may be submitted electronically to ceuving@maa.org. References will be requested after review of applications. Applications from individuals from underrepresented groups are encouraged. Additional information about the MAA and its programs and services may be found on MAA's website: http://www.maa.org. AA/EOE.

You do the math.

The Newton Fellowship Program is looking for mathematically sophisticated individuals to teach in NYC public high schools. Newton Fellows earn competitive starting salaries on par with scientists, engineers and architects. The Fellowship provides an aggregate $90,000 in stipends, full tuition scholarship for a master's, mentoring, coaching, and professional development.

Nobody goes into teaching for the money. The best teachers do it out of love for the subject and a passion to inspire. As a Newton Fellow, you can have it all. So who better to teach math than you?

For a more rewarding future, apply for the Newton Fellowship at mathforamerica.org/newton

The infinite possibilities of mathematical literacy.

NEW ORLEANS

AIRPORT

LOUISIANA SUPERDOME

↑ Rt. 10

FRENCH QUARTER

M I S S I S S I P P I

N ▼

❶ New Orleans Marriott (co-hqtrs)

❷ Sheraton New Orleans (co-hqtrs)

❸ Renaissance Pere Marquette

❹ Chateau Sonesta

❼ Omni Royal Orleans

❺ Astor Crowne Plaza

❻ Doubletree Hotel

How to Obtain Hotel Accommodations

Room Raffle/Lottery / Rates	General Instructions / General Information	Deadlines / Guarantee Requirements
Room Raffle/Lottery: For this meeting, we are offering a special raffle for anyone who reserves a room at the Marriott or Sheraton. We are also offering the Room Lottery again for anyone who reserves a room at any of the hotels listed. See *How To Register in Advance* for details.	**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 12**, at which time rooms and rates will be based on availability. **A higher rate will be applied to any rooms reserved directly with any of the hotels before December 12.** **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 14. Sorry, reservations cannot be taken by phone.** Participants interested in reserving suites should contact the MMSB for further information.	**Deadlines:** • Raffle and Room Lottery qualification: **October 31, 2006** • Reservations through MMSB: **November 14, 2006** • Changes/cancellations through MMSB: **December 4, 2006**
Rates: • Subject to 13% state tax plus occupancy tax (US $1.00/night for Chateau Sonesta and Renaissance; US $2.00/night for Crowne Plaza, Omni Royal, and Doubletree; US $3.00/night for Sheraton and Marriott) • Only certified students or unemployed mathematicians qualify for student rates. • See ARH Form for detailed rate structure of each property.	**General Information:** • Check-in 3:00 p.m./checkout 12:00 p.m. – all hotels except for the Crowne Plaza and Omni (check-in 4:00 p.m./checkout 12:00 p.m.) • **Windows do not open in any sleeping rooms.** • Children at different ages are free in existing beds only. • Limited availability of cribs, free of charge • All hotels have a limited environmental policy regarding linens where all requests for a limited change of linens will be honored. • Distance from hotels to Marriott and Sheraton is indicated in each listing. • Airport shuttles to hotels are provided Airport Express. Go to http://hudsonltd4.com/cgi-bin/asno1/res?LOGON=GO&USFRIDENTRY=AMS010307 for special discount offered for this meeting. • Wireless is available in most hotels at a cost. Wireless is free in sleeping rooms and lobby of the Omni Royal and in the lobby of the Doubletree. Please see descriptions below. • Some hotels will only send confirmations upon request. Please see descriptions below. • All hotels are in acceptable compliance with ADA. All hotels have TTYs/TDDs text telephones on the premises or can rent them by request.	**Guarantee Requirements/Cancellation Policy:** • One night deposit by check, or • Credit cards accepted: VISA, MC, AMEX, and Diners • **72-hour cancellation policy** for all hotels • **Please note that early departure penalties may be added at some of the other hotels before the meeting.** Please ask at check-in.

Chateau Sonesta Hotel New Orleans
(2 blocks – in French Quarter)
800 Iberville Street
New Orleans, LA 70112-3143
504-586-0800
Regular single/double – US $109
Student single/double – US $99

Restaurants; Bar; Fitness center; Outdoor heated pool; Business center; Parking per day - $25 (valet) ; All rooms have full amenities including safes, data ports and high speed internet access at a cost of US $10.95 per day plus tax; Children under 18 years free; Wireless is available in lobby and Clock Bar – cost will show up on laptop screen; Confirmations will be sent.

Renaissance Pere Marquette
(2.5 blocks)
817 Common Street
New Orleans, LA 70112
504-525-1111
Single/Double – US $110

Restaurant; Lounge; Fitness center; Outdoor heated pool; Parking per day - $28 (valet); All rooms have full amenities including safes, robes, CD players, two phone lines, data ports, and high speed internet access and unlimited long distance at a cost of US $9.95 per day plus tax; Children under 13 years free; Confirmations will be sent.

Doubletree Hotel New Orleans
(2 blocks)
300 Canal Street
New Orleans, LA 70130
504-581-1300
Regular single/double – US $99
Student single/double – US $89

Restaurant; Café; Lounge; Fitness center; Outdoor pool; Business center; Parking per day – US $28 (valet); Self parking at garage across the street – US $10 per day (no in/out); All rooms have full amenities including two phone lines and high speed internet access at a cost of US $9.95 per day plus tax; Children under 13 years free; Wireless is free in the lobby. Confirmations will be sent.

New Orleans Marriott
(co-headquarters)
(Location of Registration, Exhibits, Art Exhibit, Employment Center, Email Center, and Miscellaneous Sessions)
(directly across street from Sheraton)
555 Canal Street
New Orleans, LA 70130
504-581-1000
Regular single – US $140
Regular double– US $150
Student single/double – US $108

All Non-Smoking Hotel; Restaurants; Lounge; Health club; Outdoor pool; Business center; Parking per day – US $30 (valet with in/out); All rooms have full amenities including 2 phone lines and unlimited high speed internet and long distance at a cost of $9.95 per day plus tax; Children under 15 years free; Wireless is available in the lobby at a cost of US $2.95 plus tax per 15 minutes or US $9.95 per day plus tax; Confirmations provided by email – email addresses required

---

Sheraton New Orleans
(co-headquarters)
(Location of Invited Addresses, Miscellaneous Sessions, and Child Care)
(directly across street from Marriott)
500 Canal Street
New Orleans, LA 70130
504-525-2500
Regular single – US $140
Regular double – US $160
Student single/double – US $108

Restaurant; Bar; Starbucks; Fitness center; Outdoor pool; Business center; Parking per day – US $14 (valet - day only) and US $28 (valet - overnight); Self parking provided in garage behind hotel at cost of US $5 – US $7 (with no in/out); All rooms have full amenities including safes and high speed internet OR wireless at a cost of $14.95 per day plus tax (effective for 24 hours and can be used in your room, club lounge, lobby, and bar); Children under 13 years free; Wireless is available in the lobby at a cost of US $14.95 per day plus tax (see above); Confirmations will be sent.

Omni Royal Orleans
(4 blocks – in heart of French Quarter)
621 St. Louis Street
New Orleans, LA 70140
504-529-5333
Single/Double – US $104

Restaurant; Bar; Fitness center; Business center; Outdoor heated pool; Beauty Salon, Barber Shop; Parking per day - $28 (valet); All rooms have full amenities including safes, umbrellas, two phone lines, and complimentary high speed internet access and wireless; Children under 18 years free; Complimentary high speed wireless available in lobby. Confirmations provided by email – email addresses required – **Please note that some rooms with two beds have twin sized beds. If you prefer double sized beds, please indicate on your reservation request.**

Astor Crowne Plaza
(1.5 blocks)
739 Canal Street @ Bourbon Street
New Orleans, LA 70130
504-962-0500
Single/Double – US $107

Restaurant; Bar; Fitness center; Outdoor pool; Business center; Spa; Parking per day – US $24.95 (valet with in/out); Self parking provided in garages near the hotel at cost of US $5 – US $7 (with no in/out); All rooms have full amenities including safes, special gifts, two phone lines, and high speed internet access at a cost of US $9.95 per day plus tax; Wireless available in lobby and public areas at a cost of US $9.95 per day plus tax; Children under 18 years free; Confirmations will **not** be sent.

Travel to the land of the

ancient
MAYA

On the MAA's

5th
MATHEMATICAL
STUDY TOUR

December 26, 2006–January 2, 2007

Full details, itinerary, and application, are available on MAA Online (www.maa.org).

COST $2,310 per participant

COST SAVING OPTION Share a room with another participant and pay $2,160

Cost does not include airfare.
Number of travelers is limited to 30.

CONTACT INFORMATION
Lisa Kolbe
Development Manager, MAA
lkolbe@maa.org
202-293-1170

The Mathematical Association of America
1529 18th Street NW
Washington DC 20036
www.maa.org

Registration Form

Joint Meetings Advance Registration/Housing Form

Name _____
(please write name as you would like it to appear on your badge)

Mailing Address _____

_____

Telephone _____ Fax: _____

In case of emergency (for you) at the meeting, call: Day # _____ Evening #: _____

Email Address _____
(Acknowledgment of this registration will be sent to the email address given here, unless you check this box: Send by U.S. Mail ☐)

Badge Information: Affiliation for badge _____

Nonmathematician guest badge name _____
(please note charge below)

☐ **I DO NOT want my program and badge to be mailed to me on 12/08/06.**

Membership
✓ all that apply. First column is eligible for member registration fee

AMS	☐	ASA	☐
MAA	☐	AWM	☐
ASL	☐	NAM	☐
CMS	☐	YMN	☐
SIAM	☐		

Registration Fees

Joint Meetings	by Dec 13	at mtg	Subtotal
☐ Member AMS, ASL, CMS, MAA, SIAM	US $208	US $271	
☐ Nonmember	US $323	US $419	
☐ Graduate Student	US $ 42	US $ 52	
☐ Undergraduate Student	US $ 21	US $ 27	
☐ High School Student	US $ 3	US $ 6	
☐ Unemployed	US $ 42	US $ 52	
☐ Temporarily Employed	US $167	US $194	
☐ Developing Countries Special Rate	US $ 42	US $ 52	
☐ Emeritus Member of AMS or MAA	US $ 42	US $ 52	
☐ High School Teacher	US $ 42	US $ 52	
☐ Librarian	US $ 42	US $ 52	
☐ Nonmathematician Guest	US $ 15	US $ 15	
			$ _____

AMS Short Course: *Aspects of Statistical Learning (1/3–1/4)*

☐ Member of AMS or MAA	US $ 90	US $120	
☐ Nonmember	US $120	US $151	
☐ Student, Unemployed, Emeritus	US $ 40	US $ 60	
			$ _____

MAA Short Course: *Leonhard Euler–Looking back after 300 Years. (1/3–1/4)*

☐ Member of MAA or AMS	US $125	US $140	
☐ Nonmember	US $175	US $190	
☐ Student, Unemployed, Emeritus	US $ 50	US $ 60	
			$ _____

MAA Minicourses (see listing in text)
I would like to attend: ☐ One Minicourse ☐ Two Minicourses
Please enroll me in MAA Minicourse(s) #_____ and/or #_____
In order of preference, my alternatives are: #_____ and/or #_____
Prices: US $95 for Minicourses #1–6; US $60 for #7–10 and #12-16, $70 for #11

$ _____

Employment Center
Applicant résumé forms and employer job listing forms will be on the AMS website and in *Notices* in September and October.

Employer—First Table	US $235	US $315	
☐ Regular ☐ Self-scheduled			
Employer— Each Additional Table	US $ 85	US $115	
☐ Regular ☐ Self-scheduled			
☐ Employer—Posting Only	US $ 50	N/A	
☐ Applicant (all services)	US $ 44	US $ 82	
☐ Applicant (Winter List & Message Ctr only)	US $ 22	US $ 22	
			$ _____

Events with Tickets
MER Banquet (1/6) US $46.00 #____Regular #____Veg #____Kosher
NAM Banquet (1/7) US $46.00 #____Regular #____Veg #____Kosher
AMS Banquet (1/8) US $49.50 #____Regular #____Veg #____Kosher

$ _____

Other Events
☐ Graduate Student/First Time Attendee Reception (1/5) (no charge)

Total for Registrations and Events $ _____

Registration for the Joint Meetings is not required for the Short Courses, but it is required for the Minicourses and the Employment Center

Payment

Registration & Event Total (total from column on left) $ _____

Hotel Deposit (only if paying by check) $ _____

Total Amount To Be Paid $ _____
(Note: A US $5 processing fee will be charged for each returned check or invalid credit card. Debit cards are not accepted.)

Method of Payment
☐ Check. Make checks payable to the AMS. Checks drawn on foreign banks must be in equivalent foreign currency at current exchange rates.
☐ Credit Card. VISA, MasterCard, AMEX, Discover (no others accepted)

Card number: _____

Exp. date: _____ Zipcode of credit card billing address:_____

Signature: _____

Name on card: _____

☐ Purchase order #_____ (please enclose copy)

Other Information

Mathematical Reviews field of interest # _____

How did you hear about this meeting? Check one: ☐ Colleague(s) ☐ *Notices*
☐ *Focus* ☐ Internet

☐ This is my first Joint Mathematics Meeting.
☐ I am a mathematics department chair.
☐ For planning purposes for the MAA Two-year College Reception, please check if you are a faculty member at a two-year college.
☐ **Please do not include my name on any promotional mailing list.**
☐ I would like to receive promotions for future JMM meetings.
☐ Please ✓ this box if you have a disability requiring special services. ♿

Mail to:

Mathematics Meetings Service Bureau (MMSB)
P. O. Box 6887
Providence, RI 02940-6887 Fax: 401-455-4004
Questions/changes call: 401-455-4143 or 1-800-321-4267 x4143; mmsb@ams.org

Deadlines — *Please register by the following dates for:*

Résumés/job descriptions printed in the *Winter Lists*	**Oct. 27, 2006**
To be eligible for the room lottery and all raffles:	**Oct. 31, 2006**
For housing reservations, badges/programs mailed:	**Nov. 14, 2006**
For housing changes/cancellations through MMSB:	**Dec. 4, 2006**
For advance registration for the Joint Meetings, Employment Center, Short Courses, MAA Minicourses, & Tickets:	**Dec. 13, 2006**
For 50% refund on banquets, cancel by:	**Dec. 22, 2006***
For 50% refund on advance registration, Minicourses & Short Courses, cancel by:	**Dec. 29, 2006***
*no refunds after this date	

Register Online at www.maa.org 51

New Orleans Joint Meetings Hotel Reservations

To ensure accurate assignments, please rank hotels in order of preference by writing 1, 2, 3, etc., in the column on the left and by circling the requested room type and rate. If the rate or the hotel requested is no longer available, you will be assigned a room at a ranked or unranked hotel at a comparable rate. Participants are urged to call the hotels directly for details on suite configurations, sizes, and availability; however-er, suite reservations can be made only through the MMSB to receive the convention rates listed. Reservations at the following hotels must be made through the MMSB to receive the convention rates listed. Reservations made directly with the hotels may be changed to a higher rate. All rates are subject to a 13% sales tax plus a small ($1– $3) per night) occupancy tax). **Guarantee requirements: First night deposit by check (add to payment on reverse of form) or a credit card guarantee.**

☐ Deposit enclosed (see front of form)   ☐ Hold with my credit card   Card Number _____   Exp. Date _____ Signature _____

Date and Time of Arrival _____   **Date and Time of Departure** _____

Name of Other Room Occupant _____   **Arrival Date** _____   **Departure Date** _____   **Child (give age(s)** _____

Order of choice	Hotel	Single	Double 1 bed	Double 2 beds	Triple 2 beds	Triple 2 beds w/cot	Triple - king or queen w/cot	Quad 2 beds	Quad 2 beds w/cot	Suites Starting rates
	New Orleans Marriott (co-hqtrs)	US $140	US $150	US $150	US $160	N/A	US $160	US $170	N/A	US $700
	Student	US $108	US $108	US $108	US $128	N/A	US $128	US $148	N/A	N/A
	Sheraton New Orleans (co-hqtrs)	US $140	US $160	US $160	US $185	N/A	US $185	US $210	N/A	US $329
	Club Level	US $170	US $190	US $190	US $215	N/A	US $215	US $240	N/A	US $329
	Student	US $108	US $108	US $108	US $128	N/A	US $128	US $128	N/A	N/A
	Renaissance Pere Marquette	US $110	US $110	US $110	US $130	N/A	US $140	US $150	N/A	US $450
	Chateau Sonesta	US $109	US $109	US $109	US $129	US $149	US $149	US $149	US $169	US $189
	Student	US $99	US $99	US $99	US $119	US $139	US $139	US $139	US $159	N/A
	Astor Crowne Plaza	US $107	US $107	US $107	US $127	N/A	US $147	US $147	N/A	US $275
	Omni Royal Orleans	US $104	US $104	US $104	US $124	N/A	US $144	US $144	N/A	US $180
	Doubletree Hotel New Orleans	US $99	US $99	US $99	US $124	N/A	US $134	US $149	N/A	US $200
	Student	US $89	US $89	US $89	US $114	N/A	US $124	US $139	N/A	N/A

Special Housing Requests:

☐ I have disabilities as defined by the ADA that require a sleeping room that is accessible to the physically challenged. My needs are: _____

☐ Other requests: _____

☐ I am a member of a hotel frequent-travel club and would like to receive appropriate credit.

The hotel chain and card number are: _____

If you are not making a reservation, please check off one of the following:

☐ I plan to make a reservation at a later date.

☐ I will be making my own reservations at a hotel not listed.   Name of hotel: _____

☐ I live in the area or will be staying privately with family or friends.

☐ I plan to share a room with _____, who is making the reservations.

Email address for Marriott & Omni hotel confirmations: _____

Employment Opportunities

ILLINOIS

Southern Illinois University Carbondale

Mathematics Education Position
Department of Mathematics
Applications are invited for a tenure-track position at the rank of associate professor to begin on August 16, 2007, to support the department's programs in mathematics education as part of an on-going Teaching Excellence in Mathematics and Science initiative. The person hired into this position will be expected to seek external funding in the area of mathematics education and to maintain an active research program. Teaching and service duties of the position will involve the training of teachers at the elementary and secondary levels. Applicants must demonstrate a record of established research productivity in an area of pure or applied mathematics and a record of teaching excellence commensurate with the rank of associate professor, have an established record of success in acquiring external grants and/or contracts, and have an interest in and aptitude for educating prospective teachers of mathematics. Ph.D. in pure or applied mathematics required by August 15, 2007. To apply, please send letter of application, curriculum vitae and statements of research and teaching interests, and have three letters of recommendation sent, to: Mathematics Education Position, Department of Mathematics, Mail Code 4408, Southern Illinois University Carbondale, 1245 Lincoln Drive, Carbondale, Illinois 62901. Review of applications will begin November 27, 2006, and continue until position is filled. SIUC is an affirmative action/equal opportunity employer that strives to enhance its ability to develop a diverse faculty and staff and to increase its potential to serve a diverse student population. All applications are welcomed and encouraged and will receive consideration.

University of Illinois at Chicago

Department of Mathematics, Statistics, and Computer Science
The Department has active research programs in centrally important areas of pure mathematics, computational and applied mathematics, combinatorics and computer science, statistics, and mathematics education. See http://www.math.uic.edu for more information.

Applications are invited for the following position, effective August 16, 2007, subject to budgetary approval.

Research Assistant Professorship. This is a non-tenure track position, normally renewable annually to a maximum of three years. This position carries a teaching responsibility of one course per semester, and the expectation that the incumbent play a significant role in the research life of the Department. The salary for AY 2006-2007 for this position is $52,000, the salary for AY 2007-2008 may be higher. Applicants must have a Ph.D. or equivalent degree in mathematics, computer science, statistics, mathematics education or related field, and evidence of outstanding research potential.

Send vita and at least three (3) letters of recommendation, clearly indicating the position being applied for, to: Appointments Committee; Dept. of Mathematics, Statistics, and Computer Science; University of Illinois at Chicago; 851 S. Morgan (m/c 249); Box R; Chicago, IL 60607. Applications through mathjobs. org are encouraged. No e-mail applications will be accepted. To ensure full consideration, materials must be received by November 30, 2006. However, we will continue considering candidates until all positions have been filled. Minorities, persons with disabilities, and women are particularly encouraged to apply. UIC is an AA/EOE.

University of Illinois at Chicago

Department of Mathematics, Statistics, and Computer Science
The Department has active research programs in centrally important areas of pure mathematics, computational and applied mathematics, combinatorics and computer science, statistics, and mathematics education. See http://www.math.uic.edu for more information.

Applications are invited for the following positions, effective August 16, 2007, subject to budgetary approval.

Tenure track positions. Candidates in all areas of interest to the Department will be considered. The position is at the Assistant Professor level. Applicants must have a Ph.D. or equivalent degree in mathematics, computer science, statistics, mathematics education or related field, an outstanding research record, and evidence of strong teaching ability. The salary is negotiable.

Send vita and at least three (3) letters of recommendation, clearly indicating the position being applied for, to: Appointments Committee; Dept. of Mathematics, Statistics, and Computer Science; University of Illinois at Chicago; 851 S. Morgan (m/c 249); Box T; Chicago, IL 60607. Applications through mathjobs. org are encouraged. No e-mail applications will be accepted. To ensure full consideration, materials must be received by November 16, 2006. However, we will continue considering candidates until all positions have been filled. Minorities, persons with disabilities, and women are particularly encouraged to apply. UIC is an AA/EOE.

MICHIGAN

Central Michigan University

Mathematics
Established in 1892, Central Michigan University has grown into the fourth largest public university in Michigan. Central Michigan University is an innovative doctoral/research intensive institution recognized for strong undergraduate education and a range of focused graduate programs and research.

The Department of Mathematics at Central Michigan University, an innovative doctoral/research-intensive institution recognized for strong undergraduate education and a range of focused graduate programs and research, invites applications for two tenure track positions in the areas of (a) Mathematics and (b) Mathematics Education beginning Fall 2007. Appointments are normally at the assistant professor level, although a more senior appointment is possible for candidates with a strong record of research and external funding.

(a) Mathematics. The position is in any area of applied or pure mathematics and all areas are encouraged to apply. Candidates are expected to have Ph. D. in mathematics or a closely related field, have demonstrated excellent communication skills, excellence in teaching, and research. ABD candidates will be considered if degree completion is imminent. Experience after the doctorate is preferred. Preference will be given to applicants who demonstrate the ability to contribute to the department's Ph.D. Program in Mathematics with a Concentration in the Teaching of College Mathematics. Expected duties include undergraduate and graduate teaching, research, service, and submitting competitive external funding proposals.

(b) Mathematics Education. Candidates are expected to have a PhD in Mathematics Education/Mathematics. The successful candidate will be expected to teach a variety of courses in Mathematics Education at the elementary and/or secondary level as well as mathematics courses. Evidence of excellent communication skills, a commitment to teacher education, and high quality teaching skills are required. ABD candidates will be considered if degree completion is imminent. Experience teaching mathematics courses for secondary/elementary pre-service mathematics education students, use of technology in the teaching of mathematics, and/or teaching at the K-12 level is desirable. Preference will be given to applicants who demonstrate the ability to contribute to the department's graduate programs. Expected duties include undergraduate and graduate teaching, research, service, and submitting competitive external funding proposals.

The department offers bachelor's degrees in mathematics, mathematics education and statistics, master's degrees in mathematics and mathematics education, and a PhD in mathematics with a concentration in college teaching. Ph.D. students write dissertations in mathematics education, mathematics, or statistics. Further information is available at **www.cst.cmich. edu/units/mth/**.

Please send a letter of application, resume, copies of transcripts, a statement of teaching philosophy, and a statement of proposed research plans, and have at least three letters of recommendation sent directly to: **Search Committee, Department of Mathematics, Central Michigan University, Mt. Pleasant, MI 48859. Phone: 989 774 3596, fax: 989 774 2414, email: math@cmich.edu, web site: www.cst.cmich.edu/units/ mth/.** Applications will be accepted and considered until the position is filled. Review of applications will begin October 1, 2006.

CMU, an AA/EO institution, strongly and actively strives to increase diversity within its community (see www.cmich. edu/aaeo/).

University of Michigan
Pending authorization, the Department invites applications for a Lecturer III in Mathematics, to begin September 2007. This is not a tenure track position, but may be renewed, annually for up to the first four years, and thereafter for intervals of three to five years. Criteria for renewal are excellence in classroom teaching and participation in administration of the Department's Introductory Program and instructor development. Interest in pedagogical research is encouraged but not essential for reappointment. The successful candidate is likely to have both a doctorate and substantial experience in teaching mathematics. Please submit a curriculum vitae, evidence of teaching excellence, and the names of at least three references. Application materials may be sent to: Personnel Committee, University of Michigan, Department of Mathematics, 2074 East Hall, Ann Arbor MI 48109-1043. Alternatively, applications may be submitted electronically through the AMS website MathJobs.Org. Applications are considered on a continuing basis but candidates are urged to apply by November 1, 2006. Inquiries may be made by e-mail to math-fac-search@ umich.edu More detailed information regarding the Department may be found on our web page: www.math.lsa.umich. edu. Women and minority candidates are encouraged to apply. The University of Michigan is responsive to the needs of dual career couples and is an equal opportunity /affirmative action employer.

NEW HAMPSHIRE

Dartmouth College
John Wesley Young
Research Instructorship
The John Wesley Young Instructorship is a postdoctoral, two- to three-year appointment intended for promising Ph.D. graduates with strong interests in both research and teaching and whose research interests overlap a department member's. Current research areas include applied mathematics, combinatorics, geometry, logic, non-commutative geometry, number theory, operator algebras, probability, set theory and topology. Instructors teach four ten-week courses distributed over three terms, though one of these terms in residence may be free of teaching. The assignments normally include introductory, advanced undergraduate, and graduate courses. Instructors usually teach at least one course in their own specialty. This appointment is for 26 months with a monthly salary of $4650.00, and a possible 12 month renewal. Salary includes two-month research stipend for Instructors in residence during two of the three summer months. To be eligible for a 2007-2009 Instructorship, candidate must be able to complete all requirements for the Ph.D. degree before September, 2007. Applications may be obtained at http:// www.math.dartmouth.edu/recruiting/. Or, submit a letter of application, curriculum vitae, graduate school transcript, thesis abstract, statement of research plans and interests, and at least three, preferably four, letters of recommendation to Annette Luce, Department of Mathematics, Dartmouth College, 6188 Kemeny Hall, Hanover, New Hampshire 03755-3551. At least one referee should comment on applicant's teaching ability; at least two referees should write about applicant's research ability. Applications received by January 5, 2007 receive first consideration; applications will be accepted until position is filled. Dartmouth College is committed to diversity and

strongly encourages applications from women and minorities.

Dartmout College

The Department of Mathematics anticipates a tenure-track opening with initial appointment in the 2007-2008 academic year. In extraordinary cases, an appointment at a higher rank is possible. Preference given to candidates working in discrete or combinatorial mathematics with connections to existing research interests in the department including discrete probability, graph theory, algebraic combinatorics, combinatorial number theory and discrete geometry. Candidates for the position must also be committed to outstanding teaching and interaction with students at all levels of undergraduate and graduate study.

To create an atmosphere supportive of research, Dartmouth offers new faculty members grants for research-related expenses, a quarter of sabbatical leave for each three academic years in residence and flexible scheduling of teaching responsibilities. The teaching responsibility in mathematics is three courses spread over three of four ten-week terms.

Applications may be obtained at http://www.math.dartmouth.edu/recruiting/. Or, send a letter of application, curriculum vitae, and a brief statement of research results and interests, and arrange for four letters of reference, at least one of which specifically addresses teaching, to be sent to Annette Luce, Recruiting Secretary, Department of Mathematics, Dartmouth College, 6188 Kemeny Hall, Hanover, New Hampshire 03755-3551. Applications received by December 15, 2006 will receive first consideration.

Dartmouth College is committed to diversity and strongly encourages applications from women and minorities. Inquiries about the progress of the selection process may be directed to Dana Williams, Recruiting Chair.

NEW YORK

Cornell University

The Department of Mathematics at Cornell University invites applications for two or more half-time visiting positions (rank based on experience) for mathematics professors on sabbatical/other leaves from colleges, universities, and engineering schools for our Teaching Program Visiting Faculty Positions beginning August 16, 2007. Candidates with substantial experience teaching undergraduate mathematics, and with teaching and research interests compatible with current faculty, are sought. Successful candidates are expected to pursue a program of study and/or research at Cornell. The normal duties are to teach two identical courses each semester.

Applicants are strongly encouraged to apply electronically at http://www.mathjobs.org.

For information about these positions and application instructions, see: http://www.math.cornell.edu/Positions/facpositions.html. Deadline December 1, 2006.

Cornell University is an Affirmative Action/Equal Opportunity Employer and Educator.

PENNSYLVANIA

Millersville University

Full-time, tenure-track assistant professorship to begin August 2007. Area of expertise in MATHEMATICS EDUCATION. The department, consisting of 20 faculty members and approximately 220 undergraduate majors, offers B.A. and B.S. degrees in mathematics and B.S.Ed. and M.Ed. degrees in mathematics education. Duties include an annual 24-hour teaching load, including mathematics courses for pre-service elementary and secondary teachers and a variety of undergraduate mathematics service courses, scholarly activity, student advisement, curriculum development in mathematics education at both the undergraduate and graduate levels and committee work. This position may include supervision of secondary student teachers. Doctorate (or completion by time of reappointment to the second year) in mathematics education or in mathematics with a specialization in mathematics education is required, including broad training in mathematics with at least 24 hours of graduate level courses in pure or applied mathematics. Must exhibit evidence of strong commitment to excellence in teaching and continued scholarly activity, and have familiarity with current directions in mathematics education, including technology. Must complete a successful interview and teaching demonstration. Evidence of teaching effectiveness is a primary consideration. Preference will be given to candidates with experience teaching both 7-12 and college-level mathematics. Salary/benefits are competitive. Send application letter, vita, copies of undergraduate and graduate transcripts and three letters of reference (**at least two of which attest to recent teaching effectiveness**) to Dr. Janet A. White, Search Committee/ **FOC1006**, Department of Mathematics, Millersville University of Pennsylvania, P.O. Box 1002, Millersville, PA 17551-0302. Completed application must be received by **January 10, 2007** to assure full consideration. An EO/AA Institution. E-mail applications will not be accepted

The Mathematical Association of America
1529 Eighteenth St., NW
Washington, DC 20036

Periodicals Postage paid at
Washington, DC and
additional mailing offices