

THE NEWSLETTER OF THE MATHEMATICAL ASSOCIATION OF AMERICA

FOCUS

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On the cover: The San Antonio Riverwalk

*Photograph courtesy of the San Antonio Convention
and Visitors Bureau.*

Joint MAA-AMS Invited Addresses and Joint Sessions

JOINT INVITED ADDRESSES

Svetlana Y. Jitomirskaya
University of California Irvine
Title to be announced
Saturday, 11:10 a.m.



László Lovász
Microsoft
Title to be announced
Thursday, 11:10 a.m.

GOVERNMENT SPEAKER MAA COMMITTEE ON SCIENCE POLICY-AMS COMMITTEE ON SCIENCE POLICY

Saturday, 4:20 p.m.
Speaker and title to be announced.

JOINT SPECIAL SESSIONS

ANCIENT AND NONWESTERN MATHEMATICS

Duncan J. Melville, St. Lawrence University (MAA-AMS)
Thursday, 2:15 p.m. to 6:05 p.m.
Friday, 1:00 p.m. to 3:50 p.m.

HISTORY OF MATHEMATICS

Joseph W. Dauben, Herbert H. Lehman College (CUNY), Patti Hunter, Westmont College, and Karen H. Parshall, University of Virginia (MAA-AMS)
Saturday, 1:00 p.m. to 5:50 p.m.
Sunday, 1:00 p.m. to 5:50 p.m.

MATHEMATICS AND EDUCATION REFORM

Bonnie S. Saunders, University of Illinois at Chicago, William H. Barker, Bowdoin College, Dale R. Oliver, Humboldt State University, and Kenneth Millet, University of California Santa Barbara (MAA-AMS-MER)
Thursday, 8:00 a.m. to 10:50 a.m. and 2:15 p.m. to 6:05 p.m.
Friday, 8:00 a.m. to 11:50 a.m.

MATHEMATICAL RESULTS AND CHALLENGES IN LEARNING THEORY

Cynthia Rudin, Courant Institute, NYU
(MAA-AMS-AWM)
Sunday, 8:00 a.m. to 11:50 a.m.

RESEARCH IN MATHEMATICS BY UNDERGRADUATES

Darren Narayan, Carl V. Lutzer, Bernard Brooks, and Tamas I. Wiandt, Rochester Institute of Technology, Michael J. Fisher, California State University, Fresno (MAA-AMS-SIAM)
Saturday, 1:00 p.m. to 5:50 p.m.
Sunday, 1:00 p.m. to 5:50 p.m.

RECENT ADVANCES IN MATHEMATICAL BIOLOGY AND EPIDEMIOLOGY

Sophia Jang, University of Louisiana at Lafayette, and Linda Allen and Lih-Ing Roeger, Texas Tech University
(MAA-AMS-SIAM)
Sunday, 8:00 a.m. to 10:50 a.m. and 1:00 p.m. to 5:50 p.m.

OTHER JOINT SESSIONS

PRIZE SESSION AND RECEPTION

Friday, 4:25 p.m. to 5:45 p.m.
Prize Session and Reception: 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 Friday. 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, Chauvenet Prize, and the Beckenbach Book Prize. The AMS will announce the winners of the George David Birkhoff Prize in Applied Mathematics, Frank Nelson Cole Prize in Algebra, Levi L. Conant Prize, Award for an Exemplary Program or Achievement in a Mathematics Department, JPBM Communications Award, Award for Distinguished Public Service, and the Leroy P. Steele Prizes. The AWM will present the Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman.

89th Annual Meeting of the MAA

MAA Invited Addresses

THE MANY FACES OF PI (STUDENT LECTURE)

Marc Chamberland
Grinnell College
Saturday, 1:00 p.m.



PREFERENCE SETS, GRAPHS, AND VOTING IN AGREEABLE SOCIETIES

Francis Edward Su
Harvey Mudd College
Thursday, 2:15 p.m.



THE MATHEMATICS OF EVERYDAY LANGUAGE

Keith J. Devlin
Center for the Study of Language
and Information
Stanford University
Friday, 10:05 a.m.

PRESENTATIONS BY TEACHING AWARD RECIPIENTS

Saturday, 2:30 p.m. - 4:00 p.m.

Winners of the Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching will give presentations on the secrets of their success.

MATHEMATICIANS AND EDUCATION REFORM: A CAUTIONARY TALE

Naomi Fisher
University of Illinois at Chicago
Sunday, 9:00 a.m.



Jacqueline Dewar



Keith Stroyan



Judy Walker Levitt

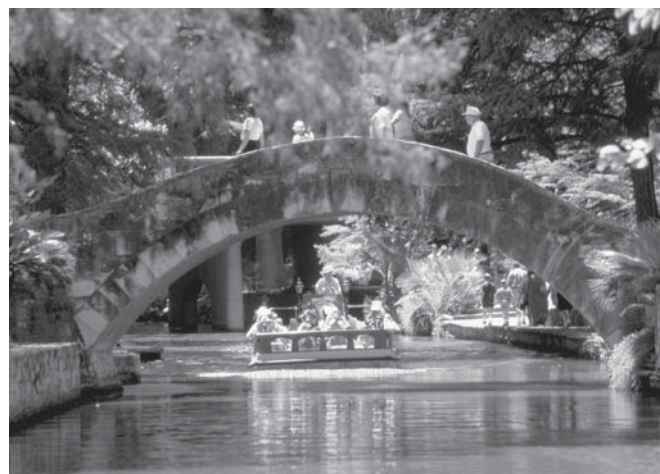
PATTERNS OF PRIMES

Ben Green
University of Bristol
Sunday, 10:05 a.m.



PARTICIPATION IN MATHEMATICS BY AMERICAN INDIANS: A CASE STUDY IN UNDERREPRESENTATION

Robert E. Megginson
University of Michigan, Ann Arbor
Thursday, 3:20 p.m.



Riverboat Tour

MAA Invited Paper Sessions

THE ROLE OF ON-LINE TECHNOLOGY COURSES FOR TEACHERS OF PRESERVICE MATHEMATICS TEACHERS

Organized by Judy O'Neal, North Georgia College & State University, and Franklin D. Demana, Ohio State University
Thursday, 9:00 a.m. to 10:55 a.m

ASSESSMENT OF LEARNING IN THE MATHEMATICS MAJOR

Organized by Bernard L. Madison, University of Arkansas, and William E. Haver, Virginia Commonwealth University
Thursday, 2:15 p.m. to 5:15 p.m.

The papers in this session will be descriptions of assessment programs aimed at learning in the major. The invitees will be teams of faculty who are currently participants in an MAA PREP/SAUM workshop that assists faculty in these programs. The workshop began in March 2004 and will conclude just before the 2006 Joint Mathematics Meetings. The session is part of the MAA-NSF Supporting Assessment in Undergraduate Mathematics (SAUM) project.

ENVIRONMENTAL MODELING

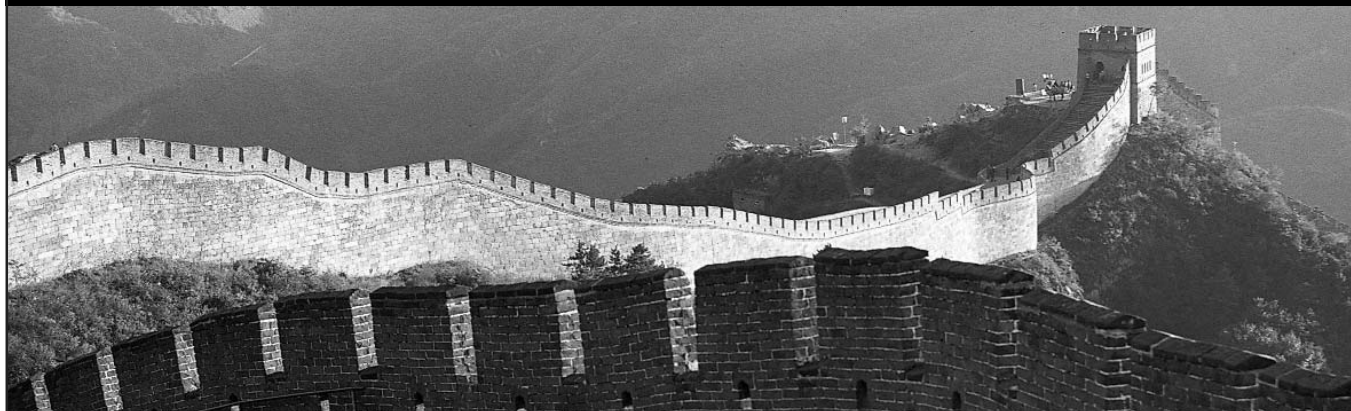
Organized by Ben A. Fusaro, Florida State University

Thursday, 2:15 p.m. to 4:15 p.m.

This session provides a spectrum of environmental modeling. It begins with a modification of the classical predator-prey equations and then moves on to factors associated with the likelihood of extinction of a species. The third presentation looks at the challenge of managing a natural resource. The last talk deals with algorithms for models of flows in porous media and the numerical solutions of these models. Speakers include Michael Olinick, Middlebury College, *Modeling the predator-prey relationship*; Roland H. Lamberson, Humboldt State University, *A mathematical look at extinction*; Catherine A. Roberts, College of the Holy Cross, *White water rafting in the Grand Canyon*; and Shuyu Sun and Mary Wheeler, Institute for Computational Engineering & Science, University of Texas at Austin, *Algorithms for modeling flow and reactive transport in porous media*. The session is sponsored by the MAA SIGMAA on Environmental Mathematics.



the MAA's 4th Annual Mathematical Study Tour



Journey to CHINA

June 6 - June 21, 2006

Travel to the Land of Cathay and
Explore Its Ancient and Modern Culture

Contact Information:

Lisa Kolbe
Development Manager
lkolbe@maa.org
202-293-1170

Full details, itinerary, and registration form will be available September 1, 2005 on MAA Online www.maa.org

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

DESIGNING AND EVALUATING ASSESSMENTS FOR INTRODUCTORY STATISTICS

Organized by Beth L. Chance, California Polytechnic State University, San Luis Obispo; Robert C. Delmas, University of Minnesota; Allan J. Rossman, California Polytechnic State University, San Luis Obispo

Part 1: Thursday, 9:00 a.m. to 11:00 a.m.

Part 2: Saturday, 9:00 a.m. to 11:00 a.m.

Statistics teachers find it challenging to construct student assessments that focus on conceptual understanding, allow consistent scoring, and provide informative feedback. Participants will be involved in constructing assessment instruments for use in introductory courses using an online assessment resource, ARTIST, and in evaluating the results. We will discuss guidelines of effective assessment, resources for assessment material categorized by concept and level of difficulty, suggestions for evaluating student performance through examinations and performance assessments, and use of a comprehensive first-course exam. Participants will be invited to pilot items, contribute new items, and share outcome data for comparison across institutions through ARTIST. Cost is \$95; enrollment limit is 30.

MINICOURSE #2

JAVA APPLETS IN TEACHING MATHEMATICS

Organized by Joe Yanik, Emporia State University, and Michael E. Mays, West Virginia University

Part 1: Thursday, 2:15 p.m. to 4:15 p.m.

Part 2: Saturday, 1:00 p.m. to 3:00 p.m.

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

MINICOURSE #3

USING AND ADAPTING ONLINE MATERIALS

Organized by David A. Smith and Lang Moore, Duke University

Part 1: Thursday, 4:45 p.m. to 6:45 p.m.

Part 2: Saturday, 3:30 p.m. to 5:30 p.m.

After a general introduction, the minicourse will begin with a discussion and demonstration of the use of Math Gateway and MathDL to identify, explore, and evaluate online mathematics materials. We will also discuss current trends in online mathematics, e.g., writing in MathML, for the presentation and use of mathematical content, and the increasing use of Flash as a way to create mathlets. Participants will be able to experiment with searching for online materials. At the end of the first session, we will collect suggestions for issues to be discussed in the second session. In the second session, we will respond to these issues with more time for participant exploration. The course will conclude with a general summary. Cost is \$95; enrollment limit is 30.

MINICOURSE #4

CREATING INTERACTIVE WORKBOOKS USING MS EXCEL

Organized by Sarah L. Mabrouk, Framingham State College

Part 1: Friday, 8:00 a.m. to 10:00 a.m.

Part 2: Sunday, 9:00 a.m. to 11:00 a.m.

Using the Control Toolbox, one can create interactive workbooks containing scrollbars, buttons, and graphs that can be used for course demonstrations and for course assignments/projects as well as workbooks that allow students to explore concepts. Creating interactive workbooks using MS Excel requires only basic knowledge of graph and data creation, and students need only MS Excel to use these workbooks; no specialized knowledge is needed to create them and the Internet is not required in order to use them. Participants will create interactive workbooks containing graph and data components. Sample topics include analysis of spring-mass system and numerical integration. Cost is \$95; enrollment limit is 30.

MINICOURSE #5

FINITE GROUP BEHAVIOR: WINDOWS SOFTWARE FOR TEACHING BEGINNING GROUP THEORY

Organized by Edward C. Keppelmann, University of Nevada Reno, and Ellen J. Maycock, Depauw University

Part 1: Friday, 10:30 a.m. to 12:30 p.m.

Part 2: Sunday, 1:00 p.m. to 3:00 p.m.

In providing the ability to calculate with examples, FGB allows an instructor to teach beginning group theory in a more effective way than would be possible by the traditional theorem/proof based approach. The software is free from <http://unr.edu/homepage/keppelma/fgb.html>. This minicourse will provide an overview of the software along with a series of collaborative activities that show the pedagogical power of the program. Users of the FGB are able to construct and visualize subgroups, homomorphisms, cosets and factor groups among other features. Participants will receive a handbook of materials along with a limited release superpowered beta version of the program which provides enhanced pedagogical possibilities. Cost is \$95; enrollment limit is 30.

MINICOURSE #6

TECHNOLOGY TOOLS FOR DISCRETE MATHEMATICS

Organized by Douglas E. Ensley and Katherine G. McGivney, Shippensburg University

Part 1: Friday, 1:00 p.m. to 3:00 p.m.

Part 2: Sunday, 3:30 p.m. to 5:30 p.m.

Discrete math courses primarily serve students studying math and computer science. This minicourse will focus on three major areas of discrete math (sets/relations/graphs, combinatorics/probability, and writing mathematical proofs) and how computer technology can be used to make these courses more student centered. We will use Maple for the first day and pre-designed Flash movies for the second day, and in each case we will spend some time on special features of the software and some time on design issues for effective classroom use. The minicourse participants will come away with new ideas and customized material for their own discrete math courses. Some familiarity with basic Maple syntax is expected, but no experience with Flash will be assumed. Cost is \$95; enrollment limit is 30.

MINICOURSE #7

GEOMETRY WITH HISTORY FOR TEACHING TEACHERS

Organized by David W. Henderson and Daina Taimina, Cornell University

Part 1: Thursday, 9:00 a.m. to 11:00 a.m.

Part 2: Saturday, 9:00 a.m. to 11:00 a.m.

This workshop will facilitate a hands-on cooperative experience of the geometries of various surfaces (cones, cylinders, spheres, and hyperbolic planes), 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 nonaxiomatic, nonformal 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 \$60; enrollment limit is 50.

MINICOURSE #8

MATHEMATICAL AND STATISTICAL MODELING IN BIOLOGY: COMPETITIVE EXCLUSION, COEXISTENCE, ESTIMATION, AND CONTROL

Organized by Azmy S. Ackleh, University of Louisiana at Lafayette, and H. Thomas Banks, North Carolina State University

Part 1: Thursday, 2:15 p.m. to 4:15 p.m.

Part 2: Saturday, 1:00 p.m. to 3:00 p.m.

The participants will learn about differential equation models which validate the competitive exclusion principle and others

where coexistence between competing species occurs. Furthermore, we will discuss some aspects of current HIV modeling research including basic multiscale mathematical modeling (cellular to individual to population), the importance of qualitative properties of models, statistical modeling including inverse problem formulations for estimation of distributions, treatment of censored data in both estimation and control, and computational methodology for both open loop and closed loop control in nonlinear systems. No particular background in modeling, inverse problems or control theory will be assumed of participants. The participants will work on short projects which provide them with hands-on experience in using these tools. Cost is \$60; enrollment limit is 50.

MINICOURSE #9

DISCRETE DYNAMICAL SYSTEMS AND PROBLEM SOLVING

Organized by Steve Horton, Rodney Sturdivant, and Gary W. Krahn, U.S. Military Academy

Part 1: Thursday, 4:45 p.m. to 6:45 p.m.

Part 2: Saturday, 3:30 p.m. to 5:30 p.m.

Discrete dynamical systems describe changing behavior in the forms of growth, decay, oscillation, velocity, acceleration, and accumulation. Studying and analyzing these changing phenomena is important for undergraduates. In this minicourse, the concepts of dynamical systems are explored and used to solve problems that connect mathematics to other subjects. Important mathematical concepts such as equilibria, stability, and long-term behavior are covered along with an introduction to numerical, graphical, and analytical solution methods. Cost is \$60; enrollment limit is 50.

MINICOURSE #10

A BEGINNER'S GUIDE TO THE SCHOLARSHIP OF TEACHING AND LEARNING IN MATHEMATICS

Organized by Curtis D. Bennett and Jacqueline M. Dewar, Loyola Marymount University; Thomas F. Banchoff, Brown University; and John P. Holcomb, Cleveland State University

Part 1: Friday, 9:00 a.m. to 11:00 a.m.

Part 2: Sunday, 9:00 a.m. to 11:00 a.m.

The Scholarship of Teaching and Learning (SoTL) encompasses the work done when a faculty member uses disciplinary knowledge and a scholarly frame of mind to investigate questions about student learning in order to better understand how students learn disciplinary knowledge and to share this new understanding with others. 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, and discuss methods for investigation and publication. Participants will be guided in transforming a teaching problem of their own into a problem for scholarly investigation. Cost is \$60; enrollment limit is 50.

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MINICOURSE #11

TEACHING A COURSE IN THE HISTORY OF MATHEMATICS

Organized by V. Frederick Rickey, U.S. Military Academy, and Victor J. Katz, University of the District of Columbia

Part 1: Friday, 1:00 p.m. to 3:00 p.m.

Part 2: Sunday, 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 \$60; enrollment limit is 50.

MINICOURSE #12

GETTING STUDENTS INVOLVED IN UNDERGRADUATE RESEARCH

Organized by Aparna W. Higgins, University of Dayton, and Joseph A. Gallian, University of Minnesota Duluth

Part 1: Thursday, 9:00 a.m. to 11:00 a.m.

Part 2: Saturday, 9:00 a.m. to 11:00 a.m.

This course will cover many aspects of facilitating research by undergraduates, such as finding appropriate problems, deciding how much help to provide, and presenting and publishing the results. Examples will be presented of research in summer programs and research that can be conducted during the academic year. Although the examples used will be primarily in the area of discrete mathematics, the strategies discussed can be applied to any area of mathematics. Cost is \$60; enrollment limit is 50.

MINICOURSE #13

THE FIBONACCI AND CATALAN NUMBERS

Organized by Ralph P. Grimaldi, Rose-Hulman Institute of Technology

Part 1: Thursday, 2:15 p.m. to 4:15 p.m.

Part 2: Saturday, 1:00 p.m. to 3:00 p.m.

In introductory courses in discrete or combinatorial mathematics one encounters the Fibonacci numbers and sometimes the Catalan numbers. This minicourse will review and then extend this first encounter as it examines some of the properties these numbers exhibit as well as applications where these sequences arise. A survey of applications dealing with chemistry, physics, computer science, linear algebra, set theory, graph theory, and number theory will show why these sequences are of interest and importance. Cost is \$60; enrollment limit is 50.

MINICOURSE #14

TEACHING LINEAR ALGEBRA WITH APPLICATIONS

Organized by Gilbert Strang, Massachusetts Institute of Technology

Part 1: Thursday, 4:45 p.m. to 6:45 p.m.

Part 2: Saturday, 3:30 p.m. to 5:30 p.m.

Linear algebra is a crucial subject in the teaching and applications of mathematics. We hope to suggest new ideas in its presentation. Among those ideas is a range of problems whose exploration (by hand and mind, not by computer) will lead us to the central ideas of linear algebra. The pure and applied parts of this subject will be intertwined in the minicourse, as they are in reality. In a way, the minicourse itself will try to show the fascination of teaching and learning and using linear algebra. The problems will be distributed (with some solutions!), and we describe our use of the course page. Cost is \$60; enrollment limit is 50.

MINICOURSE #15

A NOVEL APPROACH TO PROBLEM SOLVING

Organized by Andrew C.-F. Liu, University of Alberta

Part 1: Friday, 9:00 a.m. to 11:00 a.m.

Part 2: Sunday, 9:00 a.m. to 11:00 a.m.

At the University of Alberta, we have designed a very successful sophomore course on problem solving, using as an innovative text a mathematical novel in which the main character, a mathematical version of Sherlock Holmes, solves important, instructive, and interesting problems for his clients. In this minicourse, we will run a simulated class and examine suitable problems from various sources. We will also provide a brief history and discuss the basic philosophy of our course. There are no prerequisites, and sample notes and problems will be distributed to the participants. Cost is \$60; enrollment limit is 50.

MINICOURSE #16

FAIR DIVISION: FROM CAKE-CUTTING TO DISPUTE RESOLUTION

Organized by Steven J. Brams, New York University

Part 1: Friday, 1:00 p.m. to 3:00 p.m.

Part 2: Sunday, 1:00 p.m. to 3:00 p.m.

Cutting a cake, dividing up the property in an estate, determining the borders in an international dispute—such problems of fair division are ubiquitous. Rigorous procedures for allocating goods (or “bads” like chores), or deciding who wins on what issues in disputes, will be analyzed, starting with the well-known cake-cutting procedure of “I cut, you choose.” Particular attention will be given to procedures that produce “envy-free” allocations, in which everybody thinks he or she received the largest portion and hence does not envy anybody else. Results obtained in the last five years will be highlighted. Applications to real-life conflicts, from interpersonal to international, will be discussed. Cost is \$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. Each session room contains an overhead projector and screen; blackboards will not be available. Speakers needing additional audio-visual equipment should contact, as soon as possible but prior to September 28, 2005, the session organizer whose name is followed by an asterisk (*). Organizers have been advised that the majority of speakers in a session must require the use of additional audio-visual equipment in order to justify the expenditure. Please note that the dates and times scheduled for these sessions remain tentative. Full descriptions of these sessions may be found in the May/June issue of FOCUS, p. 40, or see <http://www.maa.org/meetings/cfp06.html>.

PHILOSOPHY OF MATHEMATICS

Roger A. Simons*, Rhode Island College
Satish C. Bhatnagar, University of Nevada
This session is sponsored by the SIGMAA for the Philosophy of Mathematics.
Thursday 8:00 a.m. - 10:55 a.m.

POST-SECONDARY MATHEMATICS ASSESSMENT: NEEDS AND CHALLENGES

Gloria S. Dion*
Daryl Ezzo and Luis E. Saldivia, Educational Testing Service
Thursday 8:00 a.m. - 10:55 a.m.

PROFESSIONAL DEVELOPMENT PROGRAMS FOR K-12 TEACHERS

Zsuzsanna Szaniszló*, Valparaiso University
Laurie Burton, Western Oregon University
Judith L. Covington, Louisiana State University Shreveport
Patricia Hale, California State Polytechnic University, Pomona
Thursday 8:00 a.m. - 10:55 a.m.

NUMBER-THEORETIC APPLICATIONS

Thomas Koshy*, Framingham State College
Thomas Moore, Bridgewater State College
Thursday 2:15 p.m. - 6:00 p.m.

TEACHING MATHEMATICS COURSES ONLINE

Kate McGivney* and Cheryl L. Olsen, Shippensburg University
Thursday 2:15 p.m. - 6:00 p.m.

TEACHING AND ASSESSING MODELING AND PROBLEM SOLVING

Mike Huber* and Alex J. Heidenberg, U.S. Military Academy
Thursday 2:15 p.m. - 6:00 p.m.

MATHLETS FOR TEACHING AND LEARNING MATHEMATICS

David M. Strong*, Pepperdine University
Thomas E. Leathrum, Jacksonville State University

Joe Yanik, Emporia State University
Thursday 8:00 a.m. - 10:55 a.m.
Friday 8:00 a.m. - 11:55 a.m.

GETTING STUDENTS TO DISCUSS AND TO WRITE ABOUT MATHEMATICS

Martha Ellen Murphy Waggoner*, Simpson College
Charlotte A. Knotts-Zides, Wofford College
Harrison W. Straley, Wheaton College
Thursday 2:15 p.m. - 6:00 p.m.
Friday 1:00 p.m. - 4:10 p.m.

INNOVATIVE TEACHING/LEARNING IDEAS USING TECHNOLOGY IN THE TEACHING OF COURSES BEFORE COLLEGE ALGEBRA

Ed Laughbaum*, The Ohio State University
Mohammad H. Ahmadi, University of Wisconsin-Whitewater
Friday 8:00 a.m. - 11:55 a.m.

RESEARCH AND OTHER MATHEMATICAL EXPERIENCES FOR STUDENTS OUTSIDE THE CLASSROOM

Kay B. Somers*, Moravian College
Susan E. Morey, Texas State University
Sivaram K. Narayan, Central Michigan University
Jody Sorensen, Grand Valley State University
This session is organized by the MAA Committee on Undergraduate Student Activities and Chapters and by the CUPM Subcommittee on Undergraduate Research.
Friday 8:00 a.m. - 11:55 a.m.

USING HISTORY OF MATHEMATICS IN YOUR MATHEMATICS COURSES

Richard J. Jardine*, Keene State College
Amy Shell-Gellasch, Grafenwoer, Germany
Friday 8:00 a.m. - 11:55 a.m.

MATHEMATICAL CONNECTIONS IN THE ARTS

Douglas E. Norton*, Villanova University
Reza Sarhangi, Towson University
Nathaniel A. Friedman, State University of New York, Albany
Friday 1:00 p.m. - 4:10 p.m.

MATHEMATICS OF SPORTS AND GAMES

Sean L. Forman*, Saint Joseph's University
Douglas Drinen, Sewanee: University of the South
Friday 1:00 p.m. - 4:10 p.m.

RESEARCH ON THE TEACHING AND LEARNING OF UNDERGRADUATE MATHEMATICS

William O. Martin*, North Dakota State University
Barbara E. Edwards, Oregon State University
Michael Oehrtman, Arizona State University
Friday 1:00 p.m. - 4:10 p.m.

COURSES BELOW CALCULUS: A CONTINUING FOCUS

Mary Robinson*, University of New Mexico-Valencia Campus
Florence S. Gordon, New York Institute of Technology

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Laurette Foster, Prairie View A&M University
Arlene Kleinstein, Farmingdale State University of New York
Norma Agras, Miami Dade Community College
Linda Martin, Albuquerque T-VI

This session is cosponsored by the CUPM Subcommittee on Curriculum Renewal Across the First Two Years, the Committee on Two-Year Colleges, and the Committee on Service Courses.

Friday 8:00 a.m. - 11:55 a.m.

Saturday 8:00 a.m. - 10:55 a.m.

MATHEMATICS EXPERIENCES IN BUSINESS, INDUSTRY, AND GOVERNMENT

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

This session is sponsored by the SIGMAA on Business, Industry and Government.

Saturday 8:00 a.m. - 10:55 a.m.

MATHEMATICS OF CHEMISTRY

George Rublein*, College of William and Mary

Saturday 8:00 a.m. - 10:55 a.m.

MY FAVORITE DEMO: INNOVATIVE STRATEGIES FOR MATHEMATICS INSTRUCTORS

David R. Hill*, Temple University
Lila F. Roberts, Georgia College & State University

Saturday 8:00 a.m. - 10:55 a.m. and 1:00 p.m. - 5:55 p.m.

TEACHING OPERATIONS RESEARCH IN THE UNDERGRADUATE CLASSROOM

Christopher J. Lacke*, Rowan University
Paul E. Fishback, Grand Valley State University

Saturday 8:00 a.m. - 10:55 a.m.

ACHIEVING QUANTITATIVE LITERACY

Aaron Montgomery*, Central Washington University
Stuart Boersma, Central Washington University
Semra Kilic-Bahi, Colby Sawyer College

Saturday 1:00 p.m. - 4:00 p.m.

FIRST STEPS FOR IMPLEMENTING THE RECOMMENDATIONS OF THE GUIDELINES FOR ASSESSMENT AND INSTRUCTION IN STATISTICS EDUCATION (GAISE) COLLEGE REPORT

Ginger Holmes Rowell*, Middle Tennessee State University
Thomas L. Moore, Grinnell College

Presenters in this session will be considered for the SIGMAA on Statistics Education's Best Contributed Paper Award.

Saturday 1:00 p.m. - 5:55 p.m.

HANDHELD TECHNOLOGY IN CONTENT AND METHODS COURSES FOR PROSPECTIVE TEACHERS WITH A SPECIAL INTEREST STRAND DEVOTED TO TEACHING AND LEARNING GEOMETRY

Charles Vonder Embse*, Central Michigan University
Deborah A. Crocker, Appalachian State University

Gregory D. Foley, The Liberal Arts and Science Academy of Austin at Lyndon B. Johnson High School
Stephen F. West, SUNY Geneseo
Saturday 1:00 p.m. - 5:55 p.m.

MATHEMATICS AND POPULAR CULTURE

Sarah J. Greenwald*, Appalachian State University
Christopher Goff, University of the Pacific

Saturday 1:00 p.m. - 5:55 p.m.

MY THREE FAVORITE ORIGINAL CALCULUS PROBLEMS

J. D. Phillips*, Wabash College
Timothy J. Pennings, Hope College

Saturday 1:00 p.m. - 5:55 p.m.

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

Bonnie Gold*, Monmouth University
Suzanne Dorée, Augsburg College
and Richard Jardine, Keene State College

Saturday 8:00 a.m. - 10:55 a.m.

Sunday mornings 8:00 a.m. - 10:55 a.m.

INTRODUCTORY ACTUARIAL SCIENCE PROGRAMS

Robert E. Buck*, Slippery Rock University

Sunday 8:00 a.m. - 10:55 a.m.

MODELS THAT WORK: BUILDING DIVERSITY IN ADVANCED MATHEMATICS

Abbe H. Herzig*, University at Albany, SUNY
Patricia Hale, California State Polytechnic University, Pomona
This session is jointly sponsored by the MAA Committee on the Participation of Women and the MAA Committee on the Participation of Minorities.

Sunday 8:00 a.m. - 10:55 a.m.

STRATEGIES TO ENCOURAGE PERSISTENCE IN MATHEMATICS

David C. Carothers*, James Madison University
Ahmed I. Zayed, DePaul University
Keith E. Mellinger, University of Mary Washington

This session is sponsored by the MAA Committee on the Teaching of Undergraduate Mathematics (CTUM).

Sunday 8:00 a.m. - 10:55 a.m.

GENERAL SESSION

Stephen Davis*, Davidson College
Eric Marland, Appalachian State University
Papers may be presented on any mathematical topic. Papers that fit into one of the other sessions should be sent to that organizer and not to this session.

Thursday, Friday, Saturday, Sunday mornings and afternoons

Other MAA Sessions

PERMANENT USE OF TEMPORARY FACULTY: THE STATUS OF NONLADDER FACULTY IN DEPARTMENTS OF MATHEMATICS

Organized by Judith L. Baxter, University of Illinois-Chicago; Kevin E. Charlwood, Washburn University; and Natasha M. Speer, Michigan State University

Thursday, 8:00 a.m. to 9:20 a.m.

Invited speakers with experience in the selection, evaluation, and retention of nonladder stream faculty in the mathematical sciences will share details of the particular institutional difficulties they face and how they solve these problems; similarly, temporary faculty will address issues from their standpoint. Invited speakers will come from a variety of institutions (Research I, four-year comprehensive, two-year colleges), and include at least one adjunct. Typical presentations might address important statistical information regarding an institution's adjunct pool, how to integrate temporary faculty into the intellectual life of a department, and strategies for survival while holding multiple part-time appointments. The session is sponsored by the Joint Committee on Teaching Assistants and Part-Time Instructors (TA/PTI).

WORKSHOP ON TRAINING T.A.S

Organized by David Manderscheid, University of Iowa

Thursday, 8:30 a.m. to 10:55 a.m.

How are T.A. training sessions set up? What are the similarities and differences between such sessions? How can case studies be used to support T.A. training? How might T.A. training compare with preparing your faculty? These issues and others will be discussed. Participants should bring T.A. training materials they might have to this interactive workshop. Panelists will include Solomon Friedberg, Boston College, and Maria S. Terrell, Cornell University. The session is sponsored by the Committee on Graduate Students.

REQUIRING STATISTICS OF EVERY MATHEMATICS MAJOR: MODEL COURSES

Organized by Thomas L. Moore, Grinnell College, and Harriet S. Pollatsek, Mount Holyoke College

Thursday, 9:30 a.m. to 10:50 a.m.

The CUPM Guide 2004 recommends that "every mathematical sciences major should study statistics or probability with an emphasis on data analysis." For many years the only course offered for credit toward the major in mathematics was a probability and mathematical statistics course that traditionally taught little, if any, data analysis. While this remains the only option at many schools, there now are courses that can serve as models of what the CUPM recommendation envisions. For this panel discussion, we have invited four innovators to speak about four such courses. This collection of courses will indicate the wide range of course topics that can fit into the CUPM recommendation. Each speaker will describe his or her course and its place within the mathematical sciences curriculum. We will leave ample time for audience discussion. Panelists will be George W. Cobb, Mount Holyoke College, Robin Lock, St.

Lawrence University, Deborah Nolan, University of California Berkeley; and Allan J. Rossman, California Polytechnic State University, San Luis Obispo. The session is co-sponsored by CUPM and the SIGMAA on Statistics Education.

NATIONAL SCIENCE FOUNDATION PROGRAMS SUPPORTING LEARNING AND TEACHING IN THE MATHEMATICAL SCIENCES

Organized by Elizabeth J. Teles, John R. Haddock, and Lee L. Zia, NSF Division of Undergraduate Education; John S. Bradley, NSF Division of Elementary, Secondary, and Informal Education; and Lloyd E. Douglas, NSF Division of Mathematical Sciences

Thursday, 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. In addition, anticipated budget highlights and other new initiatives for the next fiscal year will be presented.

HOW TO INTERVIEW FOR YOUR FIRST JOB

Organized by David C. Manderscheid, University of Iowa

Thursday, 2:15 p.m. to 3:35 p.m.

This session is aimed at Ph.D. students and at recent Ph.D.'s. 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 schools 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 include Sharon M. Clarke, Pepperdine University; James H. Freeman, Cornell College; David C. Manderscheid; and John A. Vano, University of Wisconsin. The session is cosponsored by the MAA Committee on Graduate Students and the Young Mathematicians Network.

ADVICE AND ADMONITIONS FOR NSF PROJECTS: WHAT WORKED, WHAT DID NOT, AND WHAT LESSONS WERE LEARNED

Organized by Tingxiu Wang, Joe Kotowski and Gloria E. Liu, Oakton Community College; and Elizabeth J. Teles, NSF Division of Undergraduate Education

Thursday, 2:15 p.m. to 3:35 p.m.

Each year many colleges receive grants from the National Science Foundation for undergraduate projects. Project principal investigators (PIs), coprincipal investigators (co-PIs), and project personnel must have successful stories, as well as failures or cautions when they implemented the projects. This session is to share their experiences. Panelists will discuss how they implemented their projects, what worked, what did not, and what lessons they learned. An NSF officer will talk about grant opportunities and project management. This session specially welcomes audience participants who have implemented or are implementing NSF projects and others who are inter-

Other MAA Sessions

ested in applying for NSF and other grants. Panelists include Shirley B. Gray, California State University-Los Angeles; Deborah Hughes-Hallett, University of Arizona; David A. Smith, Duke University; Ignatios E. Vakalis, Capital University; Sharon Cutler Ross, Georgia Perimeter College; and Philip D. Wagreich, University of Illinois-Chicago.

YOU HAVE A JOB, NOW WHAT? PROFESSIONAL DEVELOPMENT OPPORTUNITIES

Organized by Kimberly A. Roth, Wheeling Jesuit University; Joshua D. Laison Colorado College; and Sarah Ann Stewart, Belmont University

Thursday, 3:50 p.m. to 5:10 p.m.

Once you start at a new job, it is important to keep professionally active. Panelists will discuss how to find professional development activities and the particular ones they are involved with. The session will be useful to both people starting jobs and people who hope to find one soon. The goal is to alert individuals of the wealth of opportunities available to help recent graduates in their professional development. Cosponsored by the Young Mathematicians' Network.

THE GREAT P/E DEBATE

Organized by Colin C. Adams and Thomas Garrity
Williams College

Thursday, 4:00 p.m. to 4:45 pm

We will settle once and for all the burning question that has plagued mathematics from time immemorial: "Which is the more important number, e or π ?" In this gloves off no-holds-barred debate, the adversaries will use any means, legal or otherwise, to prove their point. Moderated by Edward B. Burger, Williams College, this event could have the historical significance of the Edict of Nantes, the Yalta conference, the Kennedy-Nixon debates, or possibly, the invention of microwave popcorn. Or perhaps not, but just in case, you don't want to miss it.

GETTING STARTED IN MATHEMATICAL BIOLOGY

Organized by T. Christine Stevens, St. Louis University; Joseph A. Gallian, University of Minnesota Duluth; and Aparna W. Higgins, University of Dayton

Friday, 8:30 a.m. to 10:00 a.m.

This panel focuses on how early career faculty can get started in research in mathematical biology. The panelists will address issues such as how to switch fields and still meet tenure requirements, how to develop a new course in mathematical biology, and opportunities in mathematical biology available to visiting faculty. Panelists include Laurie J. Heyer, Davidson College; Janet L. Anderson, Hope College; Carl C. Cowen, Indiana University-Purdue University Indianapolis; and Jonathan E. Rubin, University of Pittsburgh. The session is sponsored by MAA-Project NEXt.

UNDERGRADUATE CAREER PATHS IN MATHEMATICS

Organized by James E. Hamblin, Shippensburg University, and John A. Vano, University of Wisconsin, Madison

Friday, 9:00 a.m. to 10:20 a.m.

What good is an undergraduate mathematics degree in the job marketplace? What kinds of mathematical careers are there? What should you do now to increase your chances of getting the best job when you graduate? The panelists will discuss the various careers and options available to today's undergraduate students. Cosponsored by the Young Mathematicians' Network.

INTEGRATING MATH WITH OTHER DISCIPLINES

Organized by Jenna P. Carpenter

Louisiana Technical University

Friday, 10:45 a.m. to 12:05 p.m.

There is a growing interest in integrating mathematics content and concepts in other disciplines in an effort to enhance students' ability to grasp the inherent connections. This panel session will feature four successful NSF-funded programs that have developed modules, courses, and even entire sequences of math courses, which focus on the integration of math and a variety of other disciplines. Panelists will summarize their programs 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 integrated learning experiences at their own institutions. Examination copies and/or handouts of project overviews, sample curricular materials, websites and other dissemination products will be made available for participants. Panelists include Sheldon P. Gordon, SUNY at Farmingdale; Gary W. Krahn, U.S. Military Academy; Eric S. Marland, Appalachian State University; and Bernd S. Schroeder, Louisiana Technical University.

PROPOSAL WRITING WORKSHOP FOR GRANT APPLICATIONS TO THE NSF DIVISION OF UNDERGRADUATE EDUCATION

Organized by Elizabeth J. Teles, John R. Haddock, and Lee L. Zia, NSF Division of Undergraduate Education

Friday, 10:45 a.m. to 12:05 p.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.

TEACHING A COURSE ON WOMEN AND/OR MINORITIES IN MATHEMATICS

Organized by Therese L. Bennett, Southern Connecticut State University, and Sarah J. Greenwald, Appalachian State University

Friday, 1:00 p.m. to 2:20 p.m.

Courses about women and minorities in mathematics can be taught in a variety of ways. The content level ranges from including a great deal of mathematics, to critical studies of the available statistical research, to historical, sociological, and feminist perspectives. The interdisciplinary nature of these courses

lends itself to offerings in mathematics, philosophy, women's studies, and education departments. In this session, panelists who have themselves created and taught such a course will discuss the content, structure, and methods of student evaluation, and will give suggestions for successful implementation. Panelists include Sarah J. Greenwald; John H. Kellermeier, Tacoma Community College; Helen Moore, American Institute of Mathematics; and Bonnie J. Shulman, Bates College. The session is cosponsored by the Association for Women in Mathematics.

SCHOLARSHIP SCENARIOS

Organized by David J. Lutzer, The College of William and Mary
Friday, 1:00 p.m. to 2:20 p.m.

By reviewing faculty handbooks of various colleges and universities, one finds that the broad areas of activities for faculty participation is often teaching, scholarship, and service instead of the more traditional triad of teaching, research, and service. This panel discussion will focus upon several models of defining scholarship. The session is sponsored by the 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, 2:00 p.m. to 4:00 p.m.

Junior mathematicians who are no more than five years beyond their Ph.D. are invited to submit abstracts for this session. The poster size will be 48" (length) by 36" (height). Posterboard and materials for posting pages on the posters will be provided on site. Applications should be submitted to Kevin E. Charlwood, kevin.charlwood@washburn.edu, or Kenneth A. Ross, ross@math.uoregon.edu, by Friday, December 9, 2005.

AMATYC'S BEYOND CROSSROADS: IMPLEMENTING STANDARDS-BASED MATHEMATICS INSTRUCTION

Organized by Susan S. Wood, J. Sargeant Reynolds Community College

Friday, 2:30 p.m. to 3:50 p.m.

A primary focus of the new *Beyond Crossroads* document from the American Mathematical Association of Two-Year Colleges (AMATYC) is implementation. A new set of implementation standards in *Beyond Crossroads* builds on the standards for intellectual development, content, and pedagogy from the 1995 *Crossroads* to guide the professional practice of mathematics faculty. The implementation standards address: student learning and the learning environment, assessment of student learning, curriculum and program development, instructional strategies, and professionalism. Throughout the review, response, and revision cycles of the various drafts of *Beyond Crossroads* (in which MAA has played a significant role), the theme of embracing change by faculty, departments, and institutions has emerged. This theme is key to implementing standards for the teaching and learning of mathematics. At this session, panelists will discuss standards-based mathematics teaching, imple-

menting the standards, and the change process. Connections will be made between *Beyond Crossroads* and the *CUPM Curriculum Guide*. Panelists include Susan S. Wood; Richelle M. Blair, Lakeland Community College; Kathy A. Mowers, Owensboro Community and Technical College; and William E. Haver, Virginia Commonwealth University.

WHAT BUSINESS LOOKS FOR IN NEW HIRES

Organized by Donald B. Small, U.S. Military Academy
Friday, 2:30 p.m. to 3:50 p.m.

The city of San Antonio recognized that college algebra was a key barrier to residents obtaining a college degree. (City-wide, approximately 55% of the college and university students either fail or withdraw from college algebra.) In 2003, at the urging of the Economic Council, the mayor of San Antonio formed a San Antonio College Algebra Consortium with representatives from the city's nine colleges/universities. The goal was to set goals and priorities for college algebra courses to increase student success. An outgrowth of this effort was the establishment of Project BRIDGE (Bringing together Resources from Industry, Development, Government, and Education) to build and sustain dialogue between the business and education communities toward improving the mathematics and science education for the city's emerging work force. The panelists, business/community participants in San Antonio's Project BRIDGE, will discuss the mathematical skills and attitudes that are important to their businesses, e.g., problem solving, communications, willingness to take risks, ability to learn on their own, and comfort in facing new situations. Panelists include Anthony Edwards, San Antonio City Public Service, Vice President of Community Programs; Sandra Martinez, Kelly Aviation Center; Steve Bryant, Zachry Construction Company; and Frances Gonzalez, Assistant City Manager of the City of San Antonio.

CURRENT ISSUES IN ACTUARIAL EDUCATION

Organized by Bettye Anne Case and Steve P. Paris, Florida State University, and Matthew J. Hassett, Arizona State University

Friday, 5:45 p.m. to 7:15 p.m.

Several actuaries and actuarial educators will speak. In addition to information about helping students meet the requirements of the new 2005 exams, there will be information about accreditation considerations followed by a question session. Refreshments will be provided.

SESSION FOR CHAIRS: BUILDING BRIDGES

Organized by Catherine M. Murphy, Purdue University Calumet, and Daniel P. Maki, Indiana University

Saturday, 9:00 a.m. to 10:20 a.m.

Building interdisciplinary programs/courses requires knowledge of the needs of the partner disciplines. The Curriculum Foundations Project, Voices of the Partner Disciplines, provides significant amounts of such information. Susan L. Ganter, Clemson University, and William E. Haver, Virginia Commonwealth University, will talk to chairs about ways to use such information at the local level and about a new initiative to expand the project to social science disciplines.

89th Annual Meeting of the MAA

Other MAA Sessions

ELECTRONIC HOMEWORK SYSTEMS

Organized by Michael D. Hvidsten, Gustavus Adolphus College, and Bruce W. Yoshiwara, Los Angeles Pierce College

Saturday, 9:00 a.m. to 10:20 a.m.

Panelists will discuss the current state and the possible future of various electronic homework grading systems, including Drill, WeBWorK, MapleTA, and MyMathLab. Topics of discussion will include costs, hardware/software requirements, course management, authoring of new problems, and standards for exercise databases. Panelists include Irene Doo, Austin Community College; Vadim V. Ponomarenko, Trinity University; Amelia Taylor, St. Olaf College; and John W. Jones, Arizona State University. The session is sponsored by the Committee on Technologies in Mathematics Education.

TRANSITIONING INTO GRADUATE SCHOOL

Organized by Dov N. Chelst, DeVry University, and Heather Ames Lewis, Nazareth College

Saturday, 9:00 a.m. to 10:20 a.m.

Entering graduate school can be an exciting time but it can also be difficult. You may know many of your fellow students, only a few, or none at all. You may be unsure what classes to take, how the classes will be run, and what you need to do to keep up. You may have an advisor in mind, or you may have no idea and not even be sure when you should start looking. This panel discussion will look at what you can expect when you start graduate school and what you can do to make the change from undergraduate to graduate student as smooth as possible. Cosponsored by the Young Mathematicians' Network.

SPECIAL MATHEMATICAL OUTREACH PROGRAMS

Organized by Elizabeth G. Yanik, Emporia State University; Jennifer Hontz, Meredith College; and Kathleen A. Sullivan, Seattle University

Saturday, 9:00 a.m. to 11:00 a.m.

This poster session is designed to highlight successful programs which encourage underrepresented populations in mathematics. It is expected that posters representing a wide variety of programs will be displayed. Possible programming formats include after-school clubs, special conferences, mentoring programs, and summer camps. Recipients of Tensor Foundation grants as well as the NSF's Research on Gender in Science and Engineering grantees might be particularly interested in sending in a poster proposal. Those who are in the process of constructing an outreach program are also welcome to submit a poster proposal. Applications should be submitted to Betsy Yanik, yanikeli@emporia.edu, by Tuesday, December 5, 2005.

MATHEMATICS AND BIOLOGY 2010: BUILDING CONNECTIONS

Organized by Elton Graves, Rose-Hulman Institute of Technology, and John R. Birge, University of Chicago

Saturday, 1:00 p.m. to 2:20 p.m.

This session will consist of a panel discussion by two sets of innovators who have worked to integrate courses in mathematics and biology. The session is intended to help mathematicians and biologists find ways to interact and create courses which meet the needs of both biology and mathematics undergraduate students. Each group of panelists will present ideas they have developed and used to integrate the two fields of study. An extended question and answer period will follow the presentations to allow ample time for attendees to ask questions and discuss the ideas presented by the panelists. We strongly encourage mathematicians to invite their biologist colleagues to attend this session. Panelists include John R. Jungck, Beloit College; Lisette de Pillis and Steve Adolph, Harvey Mudd College; and Daniel P. Maki, Indiana University.

TOPICS OF ETHICS IN MATHEMATICS

Organized by Brian Birgen, Wartburg College; Karrolyne Fogel, California Lutheran University; and Walter Whiteley, York University

Saturday, 1:00 p.m. to 2:20 p.m.

Increasingly, mathematics departments in colleges and universities are tasked with introducing students to ethical issues in our profession. At the same time, mathematicians are increasingly working in interdisciplinary teams, where professional ethics are an essential aspect of the work. Yet when pressed, many mathematicians and mathematics educators refer only to issues of plagiarism and the use of mathematics in military situations. This panel discussion aims to start a conversation about a larger collection of ethical issues concerning the professional lives of mathematicians and the use of mathematics. Panelists include Mariah Birgen, Wartburg College; Lee Lorch, York University; and Walter Whiteley.

ALGEBRA AT VARIOUS LEVELS: HOW DOES IT DIFFER?

Organized by Bernard L. Madison, University of Arkansas, and Susan L. Forman, CUNY Bronx Community College

Saturday, 1:00 p.m. to 2:20 p.m.

The study of algebra occurs throughout U.S. education, from elementary school through graduate school. In particular, several courses in algebra span the high school to college years, and enrollments in these courses constitute a major fraction of all enrollments in U.S. secondary and collegiate education. In addition to this large presence, student difficulties with school and college algebra and the uncertain role of technology have prompted increased scrutiny of why and how algebra is taught. This session, sponsored by the MAA Committee on Articulation and Placement (CAP) and led by a panel representing K to 12 schools and two- and four-year colleges, will explore how and why algebra differs at the various levels in school and college. Panelists include Bonnie Gold, CAP member, Monmouth University; Cathy L. Seeley, NCTM President, University of Texas at Austin; Bernard L. Madison, CAP chair; Sheldon P. Gordon, CAP member, SUNY at Farmingdale.

PROJECTS SUPPORTED BY THE NSF DIVISION OF UNDERGRADUATE EDUCATION

Organized by Jon W. Scott, Montgomery Community College
Saturday, 1:00 p.m. to 3:00 p.m.

This session will feature principal investigators (PIs) presenting progress and outcomes from various NSF funded projects in the Division of Undergraduate Education. The poster session format will permit ample opportunity for attendees to engage in small group discussions with the PIs and to network with each other.

PRESENTATIONS BY TEACHING AWARD RECIPIENTS

Organized by MAA Secretary, Martha J. Siegel, Towson University, and moderated by MAA President, Carl C. Cowen, Indiana University Purdue University Indianapolis, MAA President.

Saturday, 2:30 p.m. to 4:00 p.m.

Winners of the Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching Jacqueline Dewar, Loyola Marymount University, Keith Stroyan, University of Iowa, and Judy Leavitt Walker, University of Nebraska, will give presentations on the secrets of their success.

MATHEMATICAL CIRCLES: A DEMONSTRATION

Organized by Zsuzsanna Szaniszló, Valparaiso University
Saturday, 2:30 p.m. to 4:50 p.m.

Gifted and talented students are in need of mathematics programs geared to their level and curiosity. In order to attract these students to the profession mathematicians have to take a leading role in developing and organizing such programs. This session is aimed at popularizing the practice of mathematical circles to the community. In mathematical circles interested middle school or high school students learn about topics not traditionally covered in the classroom. The gatherings are lively discussions of mathematical ideas, where the students discover new areas of mathematics. These high-quality programs could be easily duplicated all over the country. This session will be a demonstration of such a program. Local high school students will participate in a discussion lead by Paul A. Zeitz, University of San Francisco. The demonstration will last for about 90 minutes; a discussion, and question and answer session will follow. Panelists include Paul A. Zeitz and Zsuzsanna Szaniszló.

MATHEMATICIANS INVOLVED IN SCHOOL MATHEMATICS

Organized by Roger E. Howe, Yale University, and Alan C. Tucker, SUNY Stony Brook

Saturday, 2:30 p.m. to 3:50 p.m.

This panel discussion by prominent activists in the field focuses on several efforts underway nationally and at the state level to involve mathematicians in school mathematics reforms. Other panelists include Richard J. Schaar, Texas Instruments, R. James Milgram, Stanford University, Johnny W. Lott, University of Montana.

MODELS FOR A ONE-SEMESTER COURSE IN DISCRETE MATHEMATICS

Organized by William A. Marion, Valparaiso University
Saturday, 2:30 p.m. to 3:50 p.m.

In June 2003 a SIGCSE Committee on the Implementation of a Discrete Mathematics Course was formed. The charge to the committee was to provide models for a one-semester course that will meet the basic needs of undergraduates in a computer science program: CC2001 Task Force Report. After preliminary discussions and surveys sent to math and computer science faculty were analyzed, the committee has developed two models: one, a math-focused model and the other, a computer science-focused model. The emphasis is on building a coherent one-semester course rather than covering all of the topics recommended in the report. Included are goals for the course, core topics covered with number of hours to be devoted to each, a sampling of appropriate textbooks, and topics to be covered elsewhere. Panelists include William A. Marion; Susanna S. Epp, DePaul University; and Gerald W. Kruse, Juniata College. The session is sponsored by the MAA Committee on Math Across the Disciplines.

DEVELOPING STANDARDS FOR COLLEGE ALGEBRA

Organized and moderated by Norma M. Agras, Miami Dade College, and William C. Bauldry, Appalachian State University
Sunday, 9:00 a.m. to 10:20 a.m.

The moderators will discuss the draft *Standards for College Algebra* that is being developed by CRAFTY. The current draft calls for an applications/modeling approach, problem solving, communication skills, and use of technology. Copies of the draft will be distributed to those in attendance. Comments, suggestions, and concerns will be solicited. The session is sponsored by the MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years (CRAFTY).

CALCULUS FOR THOSE STUDENTS WHO HAVE HAD CALCULUS

Organized by Jack A. Picciuto and Barbra Melendez
U.S. Military Academy

Sunday, 1:00 p.m. to 2:20 p.m.

Many students arrive at college having already received credit for a year of calculus in high school. These students are potentially our best mathematics students. Through standardized testing or onsite validation methods, many of them are placed in a traditional calculus II or III or in some form of advanced/accelerated calculus. Unfortunately, due to a variety of factors, the majority of these placements do not lead students into SMET programs. Can we do better? Can we develop programs that will encourage students to expand on rather than just repeating their high school calculus backgrounds? Our panel will moderate an open dialogue of ideas on this and other related topics. Panelists include Bernard L. Madison, University of Arkansas; Mike Huber, U.S. Military Academy; Michael Starbird, University of Texas; and David M. Bressoud, McAlester College.

Other MAA Sessions

EVALUATING CURRICULAR EFFECTIVENESS: JUDGING THE QUALITY OF K TO 12 MATHEMATICS EVALUATIONS

Organized by Vicki Stohl and David Mandel, Mathematical Sciences Education Board, The National Academies

Sunday, 1:00 p.m. to 2:20 p.m.

The Mathematical Sciences Education Board has completed a comprehensive review of evaluations of nineteen mathematics curriculum materials. An interdisciplinary committee of mathematicians, mathematics educators, and methodologists was charged to:

* Evaluate the quality of the evaluations of thirteen NSF-supported and six commercially generated mathematics curriculum materials;

* Determine whether the currently available data are sufficient for evaluating the efficacy of these materials, and if not

* Develop recommendations about the design of a project that could result in the generation of more reliable and valid data for evaluating these materials.

The committee collected almost 700 studies, reached a determination on the quality of the available evidence, identified the weaknesses in much of the current work, and advanced a framework for conducting rigorous studies and reaching scientifically valid findings. A synthesis of these findings and their implications for the field will be the focus of this symposium. Panelists include Jere Confrey, Committee Chair, Washington University in St. Louis; Carlos Castillo-Chavez, Arizona State

University; and Donald G. Saari, University of California, Irvine. The session will be moderated by David Mandel.

MAA STUDENT RESEARCH PROGRAMS

Organized by William Hawkins, Jr., MAA and University of the District of Columbia, and Robert E. Megginson, University of Michigan

Sunday, 1:00 p.m. to 2:20 p.m.

The MAA supported small research teams of a faculty member and four minority undergraduates at twelve sites in the summer of 2005 with funds from NSF, NSA, and the Moody's Foundation. Grant recipients will give presentations about their projects and their students' work. There will be ample time for discussion and questions. More information about the MAA National Research Experience for Undergraduates Program (NREUP) can be found at <http://www.maa.org/nreup>. Sponsored by MAA-SUMMA (Strengthening Underrepresented Minority Mathematics Achievement).

REUNION OF PARTICIPANTS IN REFOCUSSED COLLEGE ALGEBRA PROGRAMS

Organized by Donald B. Small, U.S. Military Academy

Sunday 2:30 p.m. to 3:50 p.m.

Participants will describe their experiences in refocusing their college algebra courses including grade results and student reactions. Participants will describe small group activities/projects they assigned and how they incorporated developing communication skills into their program. All who are interested in college algebra reform are invited to participate. Panelists include Laurette B. Foster, Prairie View A&M University, and William E. Haver, Virginia Commonwealth University. The session is sponsored by the MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years.



Torch of Friendship

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 <http://www.maa.org/SIGMAA/SIGMAA.html>.

SIGMAA OFFICERS MEETING

Chaired by Stephen C. Carlson
Rose-Hulman Institute of Technology
Friday, 8:00 a.m. to 10:00 a.m.

SIGMAA ON BUSINESS, INDUSTRY, AND GOVERNMENT

RECEPTION

Friday, 5:45 p.m. to 6:45 p.m.
(see the “Social Events” section)

MATHEMATICS EXPERIENCES IN BUSINESS, INDUSTRY, AND GOVERNMENT

Saturday, 8:00 a.m. to 10:55 a.m.
(see the “Contributed Paper Session” section).

SIGMAA ON ENVIRONMENTAL MATHEMATICS

ENVIRONMENTAL MODELING

Thursday, 2:15 p.m. to 4:15 p.m.
(see the “Invited Paper Session” section).

BUSINESS MEETING AND SPECIAL INVITED PRESENTATION

Organized by Ben A. Fusaro, Florida State University
Thursday, 4:15 p.m. to 6:15 p.m.
Guest lecturer Bruce Herbert, TAMU Geology Department, will speak on *Complex earth and environmental systems*.

SIGMAA ON THE HISTORY OF MATHEMATICS

USING HISTORY OF MATHEMATICS IN YOUR MATHEMATICS COURSES

Friday, 8:00 a.m. to 11:55 a.m.
(see the “Contributed Paper Session” section).

ANNUAL MEETING AND GUEST LECTURE

Organized by Amy Shell-Gellasch, Grafenwoer, Germany
Friday, 6:00 p.m. to 8:00 p.m.

The annual business meeting will begin with light snacks and a cash bar. The annual invited lecture will follow the meeting. This year Kim L. Plofker, University of Utrecht, will speak on *History of mathematics and original sources in India: A field-work report*. For more information, please go to the HOM

SIGMAA website, accessible from the MAA website, or contact Amy Shell-Gellasch at amy.shellgellasch@us.army.mil.

SIGMAA ON THE PHILOSOPHY OF MATHEMATICS

ANNUAL MEETING, RECEPTION, AND GUEST LECTURE

Organized by Bonnie Gold, Monmouth University
Saturday, 6:00 p.m. to 8:00 p.m.

The meeting will be chaired by Roger A. Simons, Rhode Island College. The guest lecture will be given by Paul Humphreys, University of Virginia.

SIGMAA ON QUANTITATIVE LITERACY

BUSINESS MEETING AND RECEPTION

Organized by Caren L. Diefenderfer, Hollins University; Judith F. Moran, Trinity College; and Maura B. Mast, University of Massachusetts Boston
Saturday, 4:00 p.m. to 5:00 p.m.

SIGMAA ON RESEARCH IN UNDERGRADUATE MATHEMATICS

RESEARCH ON THE TEACHING AND LEARNING OF UNDERGRADUATE MATHEMATICS

Friday, 1:00 p.m. to 4:10 p.m.
(see the “Contributed Paper Session” section).

BUSINESS MEETING AND GUEST LECTURER

Organized by Barbara E. Edwards, Oregon State University
Friday, 5:45 p.m. to 7:45 p.m.

AN MAA NOTES SAMPLER

Organized by Barbara E. Edwards, Oregon State University, and William O. Martin, North Dakota State University
Sunday, 9:00 a.m. to 10:20 a.m.

The panel will discuss several chapters from an upcoming *MAA Notes* volume on research in undergraduate mathematics education, with emphasis on the implications of that research in the teaching of undergraduate mathematics courses. The volume will include papers written by mathematics education researchers and by mathematicians discussing topics in the undergraduate curriculum as well as overarching issues in undergraduate mathematics education. Panelists are Chris Rasmussen, San Diego State University; and Marilyn P. Carlson and Michael Oehrtman, Arizona State University.

SIGMAA ON STATISTICS

FIRST STEPS FOR IMPLEMENTING THE RECOMMEN- DATIONS OF THE GUIDELINES FOR ASSESSMENT AND INSTRUCTION IN STATISTICS EDUCATION (GAISE) COLLEGE REPORT

Saturday afternoon, 1:00 p.m. to 5:00 p.m.
(see the “Contributed Paper Session” section).

89th Annual Meeting of the MAA

Special Interest Groups of the MAA (SIGMAAs)

SIGMAA ON STATISTICS EDUCATION

IMPLICATIONS OF THE NEW ASA (GAISE) GUIDELINES FOR TEACHING STATISTICS

Organized by Thomas L. Moore, Grinnell College, and Christopher J. Lacke, Rowan University

Thursday, 8:00 a.m. to 9:20 a.m.

Participants in the Guidelines for Assessment and Instruction in Statistics Education (GAISE) project have created two reports of recommendations for introductory statistics courses (college level) and statistics education in preK to 12 years. These committees were commissioned by the American Statistical Association, which recently approved the recommendations of both GAISE committees.

This panel will explore implications of the college-level GAISE recommendations on how we teach introductory statistics and implications of the preK to 12 GAISE recommendations on how we prepare elementary, middle grade, and secondary teachers as well as implications for college statistics teachers on serving students who enter college having studied statistics. We will hear two panelists from each GAISE committee, one of whom will discuss the history and context of the committee's work and the other of whom will discuss the current state of their recommendations within their respective domains of college-level statistics and preK to 12 level statistics. Panelists include Robin H. Lock, St. Lawrence University; Roxy Peck, California Polytechnic State University, San Luis Obispo; Mike Perry, Appalachian State University; and Jessica Utts, University of California Davis. The session will be moderated by Carolyn K. Cuff, Westminster College.

REQUIRING STATISTICS OF EVERY MATHEMATICS MAJOR: MODEL COURSES

Thursday, 9:30 a.m. to 10:50 a.m.

(see "MAA Other Sessions" section).

BUSINESS MEETING

Organized by Thomas L. Moore, Grinnell College

Friday, 5:45 p.m. to 7:45 p.m.

There will be refreshments, prizes, and a chance to network with statistics educators from around the country.

SIGMAA ON THE TEACHING OF ADVANCED HIGH SCHOOL MATHEMATICS

AP CALCULUS: FRIEND OR FOE?

Organized by Daniel J. Teague, North Carolina School of Science and Mathematics

Saturday, 9:00 a.m. to 10:20 a.m.

It is estimated that as many as 500,000 students are taking calculus in high school this year, the majority of them through an AP course. Does AP calculus serve the needs of these students for a strong foundation in mathematics or has the rush to cal-

culus weakened the students' background in precalculus mathematics? Is AP calculus the best preparation for future mathematicians? How are we addressing the 200,000 students who have taken calculus in high school but are repeating the course in college because they either did poorly on the AP exam, or took calculus for college admissions with no expectation of advanced placement? What can the MAA community of mathematicians offer AP teachers to insure that AP calculus continues to be a friend to quality mathematics education rather than a foe? Panelists include David M. Bressoud, Macalaster College; Susan Schwartz Wildstrom, Walt Whitman High School; and Daniel Kennedy, The Baylor School.

WEB SIGMAA

BUSINESS MEETING AND GUEST LECTURES

Organized by Murray Eisenberg, University of Massachusetts

Friday, 6:00 p.m. to 7:30 p.m.

The guest speakers are Thomas F. Banchoff, Brown University, and Douglas A. Quinney, University of Keele.

SERIOUS DATA AND SERIOUS TOOLS ON THE WEB FOR A SERIOUS PROBLEM

Organized by Franklin A. Wattenberg, U.S. Military Academy

Saturday, 2:30 p.m. to 3:50 p.m.

In 1972 the authors of *Limits to Growth* said, "If present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next 100 years. The most probable result will be a rather sudden and uncontrolled decline in both population and industrial capacity." Julian Symon responded, "The material conditions of life will continue to get better for most people, in most countries, most of the time, indefinitely." Thirty-three years later the debate rages on. Besides being an important problem, this is an excellent venue for mathematical modeling. At the U.S. Military Academy this topic is a theme in the mathematics program from the first semester of the two-year core mathematics sequence through the senior-level capstone course. This session emphasizes model-building, and analyzing and using data obtained largely from the Web, rather than completed models.

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 2005-06 are available at the Project NExT booth in the exhibit area. In addition, Project NExT has organized several sessions to which it invites all meeting participants.

The following sessions were organized by the 1994 to 2001 Project NExT Fellows to address issues of concern to faculty who have four to ten years of teaching experience.

FIREFIGHTING, PAPER TRAILING, AND CAT HERDING: EVERYTHING YOU NEED TO KNOW TO BE AN ADMINISTRATOR BUT WERE AFRAID TO ASK

Organized by Linda Braddy, East Central University, and Rebekah Dupont, Augsburg College
Thursday, 2:15 p.m. to 3:45 p.m.

This session focuses on issues of interest to faculty at all points of their careers who are interested in serving in administrative positions. It seeks to answer questions such as: Is it possible to be department chair and still have time for research? How does one respond to student grievances? What are some tips for dealing with conflicts among faculty? What best supports a colleague going up for tenure or promotion? What are some strategies a department chair can use to deal with the difficulties of being "caught in the middle" between the dean (and higher administration) and the faculty members in his/her department? What communication skills, political savvy, and management skills are beneficial, and how can one acquire them? We will discuss the associated challenges and rewards and provide encouragement and resources for faculty taking on these administrative roles. Panelists include Charlotte J. Chell, Carthage College; Amy Cohen, Rutgers University; Susan C. Geller, Texas A&M University; Dennis M. Luciano, Western New England College; Mickey McDonald, Occidental College; and Jack Narayan, SUNY Oswego.

THE MATHEMATICS PROFESSION IN 2016: WHERE ARE WE GOING?

Organized by John F. Bukowski, Juniata College; Dale R. Buske, St. Cloud State University; and Kenneth L. Price, University of Wisconsin Oshkosh
Friday, 1:00 p.m. to 2:30 p.m.

This session is intended to help relatively new faculty members prepare for their post-tenure careers by identifying some of the biggest upcoming changes and opportunities to the mathematics teaching profession. This may include topics currently receiving a lot of attention: assessment, course management systems and/or online courses, curriculum (college and high school), interdisciplinary programs, quantitative literacy courses, and use of temporary faculty. Panelists include David M. Bressoud, Macalester College; Michael Starbird, University

of Texas at Austin; Tina H. Straley, Mathematical Association of America; and Paul Zorn, St. Olaf College.

MAKING THE MOST OF YOUR SABBATICAL

Organized by Blair F. Madore, SUNY at Potsdam, and Pamela B. Pierce, College of Wooster
Saturday, 9:30 a.m. to 11:00 a.m.

A good sabbatical involves careful planning, a productive period of work, and an appropriate follow up. Our panelists will share their diverse experiences with sabbaticals and answer your questions. Panelists include Jennifer R. Galovich, St. John's University; Charles R. Hampton, College of Wooster; Judy A. Holdener, Kenyon College; William A. Marion, Valparaiso University; and Thomas Q. Sibley, St. John's University.

See also these sessions/events cosponsored by Project NExT under "MAA Other Sessions" or the "Social Events" section:

GETTING STARTED IN MATHEMATICAL BIOLOGY

Friday, 8:30 a.m. to 10:00 a.m.

YOUNG MATHEMATICIANS' NETWORK/PROJECT NExT POSTER SESSION

Friday, 2:00 p.m. to 4:00 p.m.

RECEPTION

Saturday, 8:30 p.m. to 10:30 p.m.



The Alamo

89th Annual Meeting of the MAA

MAA Student Activities

STUDENT LECTURE

THE MANY FACES OF PI

Marc A. Chamberland, Grinnell College
Saturday, 1:00 p.m. to 1:50 p.m.

UNDERGRADUATE STUDENT POSTER SESSION

Organized by Mario U. Martelli, Claremont McKenna College, and Diana M. Thomas, Montclair State University
Saturday, 4:00 p.m. to 6:30 p.m.

The session is reserved for undergraduates and first-year graduate students submitting posters on work done while undergraduates. Interested students can submit abstracts online at <http://www.maa.org/students/undergrad/poster06.html> beginning August 1. 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 to 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 by the Moore Foundation. Trifold, self-standing 48" by 36" tabletop posterboard and mounting materials will be provided. Additional material or equipment is the responsibility of the presenters. Questions may be directed to Diana Thomas at thomasdia@mail.montclair.edu. The session is sponsored by the CUPM Subcommittee on Undergraduate Research and the Committee on Undergraduate Student Activities and Chapters (CUSAC).

MAA Meetings

BOARD OF GOVERNORS

Wednesday, 8:30 a.m. to 4:00 p.m.

SECTION OFFICERS

Thursday, 2:30 p.m. to 5:00 p.m.

DEPARTMENT CHAIRS LIAISON BREAKFAST MEETING

Sunday, 7:00 a.m. to 8:30 a.m.

MINORITY CHAIRS BREAKFAST MEETING

Sunday, 7:00 a.m. to 8:30 a.m.

BUSINESS MEETING

Sunday, 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.

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

MAA Short Course

EXPERIMENTAL MATHEMATICS IN ACTION

Organized by Jonathan M. Borwein, Dalhousie University
Tuesday and Wednesday, January 10 and 11
9:00 a.m. to 5:00 p.m.

The last twenty years have been witness to a fundamental shift in the way mathematics is practiced. With the continued advance of computing power and accessibility, the view that "real mathematicians don't compute" no longer has any traction for a newer generation of mathematicians that can really take advantage of computer aided research, especially given the modern computational packages such as Maple, Mathematica, and Matlab. While a working knowledge of some mathematical computing package is an advantage, it is certainly not a prerequisite. Additionally, the course will be "hands on" for those who wish to follow along using their laptops, via a wireless Internet connection.

The goal of this course is to present a coherent variety of accessible examples of modern mathematics where intelligent computing plays a significant role and in doing so to highlight some of the key algorithms and to teach some of the key experimental approaches. The program includes the following lectures: *What is experimental mathematics?*, Jonathan M. Borwein; *Case Study I: Integrals and series using mathematica*, Victor H. Moll, Tulane University; *Algorithms for experimental mathematics, I*, David H. Bailey, Lawrence Berkeley National Laboratory; *Case Study II: Discrete math and number theory in Maple and C++*, Neil J. Calkin, Clemson University; *Case Study III: Inverse scattering on Matlab*, D. Russell Luke, University of Delaware; *Case Study IV: Analysis and probability on the computer*, Roland Girgensohn, Bundeswehr Medical Office; *Algorithms for experimental mathematics, II*, David H. Bailey; *Concluding examples. Putting everything together*, Jonathan M. Borwein.

Abstracts and program of the lectures can be found at <http://www.cs.dal.ca/~jborwein/maa06.pdf>.

Please note there is a separate registration fee for this short course. To register in advance, please use the Advance Registration/Housing Form found at the back of this issue, or see http://www.ams.org/amsmtgs/2095_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.

112th Annual Meeting of the AMS

AMS Invited Addresses

COLLOQUIUM LECTURES TITLE TO BE ANNOUNCED

Hendrik W. Lenstra Jr., Universiteit Leiden
Thursday, Friday, and Saturday, 1:00 p.m.

TITLE TO BE ANNOUNCED

Mikhail Kapranov, Yale University
Thursday, 10:05 a.m.

JOSIAH WILLARD GIBBS LECTURE ENTANGLED RADICALS

Michael Savageau, University of California Davis
Thursday, 8:30 p.m.

RECENT DEVELOPMENTS IN SYMPLECTIC TOPOLOGY

Dusa McDuff, SUNY at Stony Brook
Friday, 2:15 p.m.

THREADS FROM MY LIFE: LINEAR (GOOD) RESOLUTIONS AND SMALL (SEDUCTIVE) VARIETIES

David Eisenbud, Mathematical Sciences Research Institute
Friday, 3:20 p.m.

WHITNEY'S EXTENSION PROBLEMS

Charles L. Fefferman, Princeton University
Saturday, 9:00 a.m.

PERSISTENT HOMOLOGY, DIAGRAMS, AND VINEYARDS

Herbert Edelsbrunner, Duke University
Saturday, 10:05 a.m.

AMS Special Sessions

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

ALGEBRAIC AND ENUMERATIVE COMBINATORICS

Catherine H. Yan and Marcelo Aguiar, Texas A&M University, Joseph P. Kung, University of North Texas, and Laura F. Matusevich, University of Pennsylvania
Friday, Saturday, and Sunday mornings

ALGEBRAIC GROUPS, SYMMETRIC SPACES, AND INVARIANT THEORY

Aloysius G. Helminck, North Carolina State University, and Dan Gagliardi, St. Lawrence University
Saturday afternoon

ALGEBRAIC STATISTICS: THEORY AND PRACTICE

Seth M. Sullivant, University of California Berkeley, and Elizabeth S. Allman, University of Southern Maine
Thursday and Friday mornings, and Friday afternoon

ANALYSIS AND IMPLEMENTATION OF FINITE ELEMENT METHODS

Atife Caglar, University of Wisconsin-Green Bay (AMS-SIAM) *Saturday afternoon*

ARITHMETIC GEOMETRY AND MODULAR FORMS

Matthew A. Papanikolas and Ahmad M. El-Guindy
Texas A&M University
Friday, Saturday, and Sunday mornings

BOUNDARY VALUE PROBLEMS FOR ORDINARY DIFFERENTIAL EQUATIONS

John R. Graef, University of Tennessee at Chattanooga, and Johnny L. Henderson, Baylor University (AMS-SIAM)
Sunday morning and afternoon

COMMUTATIVE RINGS AND MONOIDS

Scott T. Chapman, Trinity University, and James B. Coykendall, North Dakota State University
Thursday and Saturday mornings, and Thursday afternoon

CONTEMPORARY DYNAMICAL SYSTEMS

Dmitry Zenkov, University of Michigan, Youngna Choi, Montclair State University, Anthony M. Bloch, University of Michigan, Todd L. Fisher, University of Maryland, Melvin Leok, University of Michigan, David S. Richeson, Dickenson College, and James S. Wiseman, Swarthmore College (AMS-SIAM)
Thursday and Sunday afternoons, and Saturday morning

CONTINUED FRACTIONS

Nancy Wyshinski and James G. McLaughlin, Trinity College
Friday and Saturday mornings, and Saturday afternoon

CURRENT EVENTS

David Eisenbud, Mathematical Sciences Research Institute
Saturday afternoon

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.

DIVISION ALGEBRAS, GALOIS THEORY, COHOMOLOGY AND GEOMETRY

Kelly L. McKinnie and David J. Saltman
University of Texas at Austin
Thursday morning, and Thursday and Friday afternoons

DYNAMIC EQUATIONS WITH APPLICATIONS

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

EXTENSION OF FUNCTIONS

Alvario Arias, University of Denver, Charles L. Fefferman, Princeton University, Edward W. Odell, University of Texas Austin, and Thomas Slumprecht, Texas A&M University
Thursday morning, and Thursday and Friday afternoons

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FIELD EXTENSIONS AND ALGORITHMS

Peter Stevenhagen and H. W. Lenstra Jr., Universiteit Leiden
Saturday and Sunday mornings, and Saturday afternoon

FRAMES AND OPERATOR THEORY IN ANALYSIS AND SIGNAL PROCESSING

Peter R. Massopust, Tuboscope Vetco Pipeline Services, David R. Larson, Texas A&M University, Manos I. Papadakis, University of Houston, Zuhair Nashed, University of Central Florida, Ahmed I. Zayed, DePaul University, and Minh Chuong Nguyen, Institute of Mathematics, Hanoi, Vietnam (AMS-SIAM)
Thursday, Saturday, and Sunday mornings, and Friday afternoon

INTERDISCIPLINARY RESEARCH INVOLVING ANALYSIS AND LOGIC

Su Gao, University of North Texas, Jose N. Iovino, University of Texas at San Antonio, and Itay Ben-Yacov, University of Wisconsin-Madison (AMS-ASL)
Thursday and Friday mornings

INVARIANT THEORY

Mara D. Neusel, Texas Tech University, and David L. Wehlau, Royal Military College
Sunday afternoon

MAHLER MEASURE AND HEIGHTS

Michael J. Mossinghoff, Davidson College, and Jeffrey D. Vaaler, University of Texas at Austin
Thursday morning, and Thursday and Friday afternoons

THE MANY LIVES OF LATTICE THEORY, THE THEORY OF ORDERED SETS, AND UNIVERSAL ALGEBRA

Japheth L. M. Wood, Chatham College, John W. Snow, Sam Houston State University, Jonathon D. Farley, Harvard University, Stefan E. Schmidt, Phoenix Math Systems Modeling, Inc., and Anthony A. Harkin, Harvard University
Friday morning, and Friday and Saturday afternoons

NEW DEVELOPMENTS IN SYMPLECTIC TOPOLOGY

Dusa McDuff, SUNY at Stony Brook, Aleksey Zinger, SUNY at Stony Brook and Stanford University, Ely Kerman, University of Illinois at Urbana-Champaign, and Margaret F. Symington, Georgia Institute of Technology and Mercy College
Saturday afternoon and Sunday morning

NONAUTONOMOUS DISCRETE DYNAMICS

Saber N. Elaydi, Trinity University, and Jim M. Cushing, University of Arizona
Friday, Saturday, and Sunday mornings

NONLINEAR DYNAMICAL SYSTEMS

Zhijun Qiao, Andras Balogh, and Zhaosheng Feng, University of Texas Pan American, Guihua Fei, University of Minnesota-Duluth, (AMS-SIAM)
Friday and Saturday mornings, and Saturday afternoon

QUANTUM INVARIANTS OF KNOTS AND 3-MANIFOLDS

Patrick M. Gilmer, Louisiana State University, and Charles D. Frohman, University of Iowa
Saturday and Sunday afternoons

RECENT TRENDS IN CONVEX AND DISCRETE GEOMETRY

Valeriu Soltan, George Mason University, Tibor Bisztriczky, University of Calgary, and Paul Goodey, University of Oklahoma
Friday and Saturday mornings, and Friday afternoon

RESEARCH IN MATHEMATICS BY UNDERGRADUATES

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

STOCHASTIC, LARGE SCALE AND HYBRID SYSTEMS WITH APPLICATIONS

Aghalaya S. Vatsala, University of Louisiana at Lafayette, and Gangaram S. Ladde, University of Texas at Arlington (AMS-SIAM)
Saturday and Sunday afternoons

SYMBOLIC-NUMERIC COMPUTATION AND APPLICATIONS

Agnes Szanto, North Carolina State University, Jan Verschelde, University of Illinois at Chicago, and Zhonggang Zeng, Northeastern Illinois University (AMS-SIAM)
Sunday morning and afternoon

SYZYGIES IN COMMUTATIVE ALGEBRA AND GEOMETRY

Irena Peeva, Cornell University, Sorin E. Popescu, SUNY at Stony Brook, and Gregory G. Smith, Queen's University
Thursday and Saturday mornings, and Thursday afternoon

THEORY AND APPLICATION OF STOCHASTIC DIFFERENTIAL EQUATIONS

Armando Arciniega, University of Texas at San Antonio, and Edward J. Allen, Texas Tech University (AMS-SIAM)
Sunday morning and afternoon

TIME REVERSAL METHODS: ANALYSIS AND APPLICATIONS

Peter A. McCoy and Reza Malek-Madani, U.S. Naval Academy (AMS-SIAM)
Saturday and Sunday afternoons

TOPOLOGICAL SPACES ASSOCIATED WITH $C(X)$

Chawne M. Kimber, Lafayette College, and Warren Wm. McGovern, Bowling Green State University
Thursday morning, and Thursday and Friday afternoons

VALUE DISTRIBUTION IN CLASSICAL AND P-ADIC FUNCTIONS THEORY

Alain Escassut, University Blaise Pascal, Chung-Chun Yang, Hong Kong University of Science and Technology, and Ilpo Laine, University of Joensuu

Thursday morning, and Thursday and Friday afternoons

AMS Short Course

This two-day course on *Modeling and Simulation of Biological Networks* is organized by Reinhard Laubenbacher, Virginia Polytechnic Institute and State University, and takes place on Tuesday and Wednesday, January 10 and 11. Speakers are Elizabeth Allman, University of Southern Maine, *Phylogenetics*; Suzanne M. Lenhart, University of Tennessee, *Optimal control of population and disease models*; Madhav Marathe, Virginia Bioinformatics Institute, *Interaction-based computing approach to modeling and simulations of large biological and socio-technical systems*; Pedro Mendes, Virginia Bioinformatics Institute, *Modeling and simulation of biochemical networks*; Lior Pachter, University of California Berkeley, *Title to be announced*; and Brandilyn Stigler, Virginia Polytechnic Institute and State University, *A computational algebra approach to systems biology*. There are separate registration fees to participate. See the fee schedule on the registration form at the back of this issue.

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 <http://www.ams.org/meetings/abstracts/> for the form. Select AMS CP 1 as the event code. See the beginning of this announcement for pertinent deadlines.

Other AMS Sessions

DEPARTMENT CHAIRS WORKSHOP

Wednesday, 8:00 a.m. to 6:30 p.m.

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. 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 department

matters from new perspectives. There is a registration fee for the workshop, which is in addition to and separate from the Joint Mathematics Meetings registration. An invitation to attend the workshop will be sent to department chairs in the fall. Information will also be posted on the AMS website. For further information please contact the AMS Washington Office at 1-202-588-1100 or amsdc@ams.org

AMS COUNCIL MEETING

Wednesday, 1:00 p.m.

COMMITTEE ON THE PROFESSION PRESENTATION

Thursday, 4:30 p.m. to 6:00 p.m.

WHO WANTS TO BE A MATHEMATICIAN

Organized by Michael A. Breen and Annette W. Emerson, AMS; and William T. Butterworth, DePaul University

Friday, 10:30 a.m. to noon

Come watch seven of the area's top high school students as they compete for cash and prizes by answering questions about mathematics. You are invited to come and take part in this educational and fun presentation.

T.A. DEVELOPMENT USING CASE STUDIES: A WORKSHOP FOR FACULTY

Solomon Friedberg, Boston College, and Diane L. Herrmann, University of Chicago

Friday, 10:30 a.m. to noon and 2:30 p.m. to 4:00 p.m.

Solomon Friedberg and Diane L. Herrmann will guide workshop participants in the effective use of the case studies method as a tool in preparing Teaching Assistants for their important roles as classroom instructors. The faculty edition of the publication *Teaching Mathematics in Colleges and Universities: Case Studies for Today's Classroom* will be provided to workshop participants at no charge, compliments of the AMS. For a recent review of the book, visit <http://www.maa.org/reviews/casestudies.html>. There is a separate registration fee of \$20 to participate; see the registration and housing form. There are also modest travel grants for this workshop available on a very limited basis. For the application process and other details see http://www.ams.org/amsmtgs/2095_amswork.html.

COMMITTEE ON SCIENCE POLICY PANEL DISCUSSION

Saturday, 2:30 p.m. to 4:00 p.m.

COMMITTEE ON EDUCATION PANEL DISCUSSION

Sunday, 8:30 a.m. to 10:00 a.m.

AMS BUSINESS MEETING

Sunday, 11:10 a.m.

Activities of Other Organizations

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

Association for Symbolic Logic (ASL)

This two-day program on Saturday and Sunday will include sessions of contributed papers and Invited Addresses by Douglas Cenzer, University of Florida; C. Ward Henson, University of Illinois at Urbana-Champaign; Michael C. Laskowski, University of Maryland; Alain Louveau, CNRS and Université de Paris 6; Russell Miller, Queens College (CUNY); Itay Neeman, University of California Los Angeles; and Sergei Starchenko, University of Notre Dame.

See also the Special Session jointly sponsored by the ASL on *Interdisciplinary Research Involving Analysis and Logic* in the "AMS Special Sessions" section.

Association for Women in Mathematics (AWM)

TWENTY-SEVENTH ANNUAL EMMY NOETHER LECTURE
Ingrid Daubechies, Princeton University
Mathematical results and challenges in learning theory
Friday, 9:00 a.m. to 9:50 a.m.

Also see the Special Session of the same title jointly sponsored by the AWM and organized by Cynthia Rudin, Courant Institute, New York University, under the "AMS Special Sessions" heading.

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

LAURENCE SUMMERS: ONE YEAR LATER
Organized by Barbara Lee Keyfitz, Fields Institute and University of Houston. Speakers include Richard M. Dudley, M.I.T.; Mary W. Gary, American University; Ellen E. Kirkman, Wake Forest University; M. Beth Ruskai, Tufts University; Alice Silverberg, University of California Irvine; Karen Uhlenbeck, University of Texas at Austin; and others.
Thursday, 3:20 p.m. to 4:35 p.m.

Widely quoted remarks by the President of Harvard University in January 2004 initiated a public discussion of the status of women scientists in research universities; speakers consider aspects of the controversy that are important to the future of women in mathematics.

Just before the panel discussion, AWM will recognize the Alice T. Schafer award honorees. Note that formal prize winner announcements are made at the Joint Prize Session on Friday afternoon (see the AWM inclusion in the "Joint Sessions" section at the beginning of this announcement).

BUSINESS MEETING

Thursday, 4:40 p.m. to 5:10 p.m.

WORKSHOP

Sunday, 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 workshopers 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 funding 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

Thursday, 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
Saturday, 2:15 p.m. to 4:00 p.m.

COX-TALBOT ADDRESS

To be given Saturday after the banquet; speaker and title to be announced.

PANEL DISCUSSION

Sunday, 9:00 a.m. to 9:50 a.m.

BUSINESS MEETING

Sunday, 10:00 a.m. to 10:50 a.m.

CLAYTOR-WOODARD LECTURE

Sunday, 1:00 p.m.

speaker and title to be announced.

See details about the banquet on Saturday in the "Social Events" section.

Activities of Other Organizations

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

Saturday, 8:00 a.m. to 11:00 a.m.

Rocky Mountain Mathematics Consortium (RMMC)

BOARD OF DIRECTORS MEETING

Saturday, 2:15 p.m. to 4:10 p.m.

Society for Industrial and Applied Mathematics (SIAM)

A two-day program on Thursday and Friday will include an Invited Address and six minisymposia. The Invited Address will be given by Thanasis Fokas, Cambridge University, *Integrability, imaging of the brain, and the Dirichlet to Neumann map*, at 11:10 a.m. on Friday. Minisymposia and their organizers are listed below.

GEOMETRIC REPRESENTATIONS OF GRAPHS

Alice M. Dean, Skidmore College

Ellen Gethner, University of Colorado at Denver, and

Joshua D. Laison, Colorado College

Thursday, 2:15 p.m. to 6:00 p.m.

EDUCATION: PREPARING MATHEMATICS STUDENTS FOR INTERDISCIPLINARY RESEARCH

William L. Briggs, University of Colorado at Denver

Thursday, 2:15 p.m. to 6:00 p.m.

NEW TRANSFORM METHODS FOR DIFFERENTIAL EQUATIONS

Beatrice Pelloni, University of Reading, UK, and

Li-yeng Sung, University of South Carolina

Friday, 1:00 p.m. to 4:10 p.m.

INVERSE PROBLEMS: THEORY AND NUMERICS FOR NOVEL APPLICATIONS

Heniz W. Engl, Johannes Kepler University, and

Lothar Reichel, Kent State University

Friday morning, 8:00 a.m. to 10:55 a.m.

Friday afternoon, 1:00 p.m. to 4:00 p.m.

MATHEMATICAL NEUROSCIENCE: FROM EXPERIMENT TO THEORY

Kresimir Josic, University of Houston

Thursday, 8:00 a.m. to 10:55 a.m. and Friday, 8:00 a.m. to 11:00 a.m.

NUMERICAL SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS AND APPLICATIONS TO FLOW IN POROUS MEDIA

Todd J. Arbogast, University of Texas at Austin

Thursday, 8:00 a.m. to 10:55 a.m.

See also the Special Sessions jointly sponsored by SIAM in the "AMS Special Sessions" section.

Young Mathematicians Network (YMN)

CONCERNS OF YOUNG MATHEMATICIANS: A TOWN MEETING

Organized by David Kung, St. Mary's College of Maryland

Friday, 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 2:00 p.m.) and panel discussions (Thursday at 3:50 p.m., Friday at 9:00 a.m., and Saturday at 9:00 a.m.) cosponsored by YMN under the "Other MAA Sessions" section.

Others

MATH ON THE WEB

Thursday to Sunday, 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 Atlanta, 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.

SUMMER PROGRAM FOR WOMEN IN MATHEMATICS (SPWM)

Organized by Murli M. Gupta

George Washington University

Friday, 2:00 p.m. to 4:00 p.m.

SPWM participants will describe their experiences from past programs.

Social Events

It is strongly recommended that for any event requiring a ticket, tickets should be purchased through advance registration. Only a very limited number of tickets, if any, will be available for sale on site. If you must cancel your participation in a ticketed event, you may request a 50% refund by returning your ticket(s) to the Mathematics Meetings Service Bureau (MMSB) by **January 2**. 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

*Thursday-Saturday, 9:00 a.m. - 5:00 p.m.,
and Sunday, 9:00 a.m.-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 Thursday, 4:00 p.m. to 5:00 p.m.

UNDERGRADUATE STUDENT RECEPTION

Thursday, 4:00 p.m. - 5:00 p.m

FRIENDS OF WILLIAMS RECEPTION

Thursday, 5:00 p.m.- 6:00 p.m.

Organized by Frank Morgan, Williams College.

RECEPTION FOR GRADUATE STUDENTS AND FIRST-TIME PARTICIPANTS

Thursday, 5:30 p.m.- 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

Thursday, 5:30 p.m.- 8:00 p.m.

Participants are warmly invited to attend this open house co-sponsored by several North American mathematical institutes. This popular reception precedes the AMS Josiah Willard Gibbs Lecture. Come and hear the latest about programs and research happening among the institute community.

AWM RECEPTION

Thursday, 9:30 p.m - 11:00 p.m.

There is an open reception on Thursday 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

Friday

All participants are invited to a luncheon to honor Ingrid Daubechies, the AWM Noether Lecturere. 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.

RECEPTION FOR MATHEMATICIANS IN BUSINESS, INDUSTRY, AND GOVERNMENT

Friday, 5:45 p.m.- 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, government, and industry (BIG). The reception will be a great opportunity to interact with BIG mathematicians and learn more about BIG mathematics. The reception is sponsored by the BIG SIGMAA.

LEHIGH UNIVERSITY RECEPTION

Friday, 5:45 p.m. - 7:00 p.m.

All friends and graduates of the Lehigh Math Program are invited to attend.

MAA TWO-YEAR COLLEGE RECEPTION

Friday, 5:45 p.m. - 7:00 p.m.

This 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 Longman.

UNIVERSITY OF IOWA MATHEMATICS DEPARTMENT RECEPTION

Friday, 5:45 p.m.- 7:00 p.m.

This event features snacks and a cash bar.

NEW MEXICO STATE UNIVERSITY MATHEMATICS ASSOCIATION RECEPTION

Friday, 5:45 p.m.- 7:30 p.m.

All members and friends are invited. Please join us for refreshments and conversation.

UNIVERSITY OF CHICAGO DEPARTMENT OF MATHEMATICS ALUMNI RECEPTION

Friday, 6:00 p.m. - 7:00 p.m.

ASSOCIATION OF LESBIAN, GAY, BISEXUAL, AND TRANSGENDERED MATHEMATICIANS RECEPTION

Friday, 6:00 p.m.- 8:00 p.m.

Everyone is welcome to attend this open reception. Meet some new friends or get together with some old friends. Please join us!

CLAREMONT COLLEGES RECEPTION

Friday, 6:00 p.m.- 8:00 p.m.

All alumni and friends of the Claremont Colleges are invited.

NAM BANQUET

Saturday, 6:00 p.m.-9:30 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 \$48 each, including tax and gratuity.

MER BANQUET

Friday 6:30 p.m.-9:30 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 Friday evening. This is an opportunity to make or renew contacts with other mathematicians who are involved in education projects and to engage in lively conversation about educational issues. The after-dinner discussion is an open forum for participants to voice their impressions, observations, and analyses of the current education scene. There will be a cash bar beginning at 6:30 p.m. Dinner will be served at 7:30 p.m. Tickets are \$47 each, including tax and gratuity.

KNITTING CIRCLE

Friday, 8:15 p.m. - 9:45 p.m.

Bring a project (knitting/crochet/tatting/beading/etc.) and chat with other mathematical crafters.

JOINT PME AND MAA STUDENT CHAPTER ADVISORS' BREAKFAST

Saturday, 7:00 a.m.- 8:00 a.m.

AMS BANQUET

Sunday, 6:30 p.m. - 10:30 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 Saturday, with a cash bar reception at 6:30 p.m. and dinner at 7:30 p.m. Tickets are \$46, including tax and gratuity.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN DEPARTMENT OF MATHEMATICS, ALUMNI RECEPTION

Saturday, 5:00 p.m.- 7:00 p.m.

Everyone ever connected with the department is encouraged to get together for conversation and to hear about mathematics at UIUC.

MATHEMATICAL REVIEWS RECEPTION

Saturday, 6:00 p.m.- 7:00 p.m.

All friends of *Mathematical Reviews* (MR) are invited to join reviewers and MR editors and staff (past and present) for a reception in honor of all the efforts that go into the creation and publication of the *Mathematical Reviews* database. Refreshments will be served.

ASSOCIATION OF CHRISTIANS IN THE MATHEMATICAL SCIENCES (ACMS) RECEPTION AND BANQUET

Saturday, 6:00 p.m.- 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 <http://www.acmsonline.org>.

BUDAPEST SEMESTERS IN MATHEMATICS (BSM) REUNION

Saturday, 6:30 p.m. - 8:30 p.m.

All BSM alums are invited to attend. Please stop by the BSM booth in the exhibit area for more details.

MAA PROJECT NEXT RECEPTION

Saturday, 8:30 p.m. - 10:30 p.m.

Organized by T. Christine Stevens, St. Louis University; Joseph A. Gallian, University of Minnesota Duluth; and Aparna Higgins, University of Dayton. All MAA Project NExT Fellows, consultants, and other friends of MAA-Project NExT are invited.

ACMS WORSHIP SERVICE

Sunday, 7:00 a.m.- 7:50 a.m.

This nondenominational service will be conducted by ACMS members and is open to all meeting participants.



Institute of Texan Cultures

Other Events of Interest

AMS Information Booth

All meeting participants are invited to visit the AMS Information Booth during the meeting. 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 Thursday, 9:30 a.m. to 5:30 p.m. on Friday and Saturday, and 9:00 a.m. to noon on Sunday. 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 Thursday; 9:00 a.m., noon, and 2:00 p.m. on Friday and Saturday; and 9:00 a.m. on Sunday) while perusing the associations' booths.

Mathematical Sciences Employment Center

Those wishing to participate in the Mathematical Sciences Employment Center should read carefully the important information 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/2095_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.



Henry B. Gonzalez Convention Center

Advanced Registration

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 \$5.00 replacement fee will be charged for programs and badges that are mailed but not taken to San Antonio. 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 meetregrequest@ams.org or by visiting http://www.ams.org/amsmtgs/2095_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 by visiting: http://www.ams.org/amsmtgs/2095_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 January 6 (the deadline for refunds for banquet tickets is January 2) 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, 2006, 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 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 \$5.00 charge will be assessed if an invoice

Advanced Registration

JOINT MATHEMATICS MEETINGS REGISTRATION FEES

	<i>by Dec. 16</i>	<i>at meeting</i>
Member of AMS, ASL, Canadian Mathematical Society, MAA, SIAM	\$203	\$264
Emeritus Member of MAA, AMS; Graduate Student; Unemployed; Librarian; High School Teacher; Developing Countries Special Rate	\$41	\$51
Undergraduate Student	\$21	\$27
Temporarily Employed	\$163	\$189
Nonmember	\$315	\$409
High School Student	\$2	\$5
Nonmathematician Guest	\$15	\$15
One-Day Nonmember	n/a	\$225
One-Day Member of MAA, AMS, ASL, CMS, SIAM	n/a	\$145
MAA Minicourses		
Minicourses #1- 6 (computers)	\$95	\$95*
Minicourse #7-16	\$60	\$60*
*if space is available		
MAA Short Course		
MAA Member	\$125	\$140
Nonmember	\$175	\$190
Student/Unemployed/Emeritus	\$50	\$60
AMS Short Course		
Member of AMS or MAA	\$87	\$118
Nonmember	\$115	\$148
Student/Unemployed/Emeritus	\$38	\$57
Employment Center		
Employer (first table, computer or self-scheduled)	\$230	\$310
Employer (each additional table, computer or self-scheduled)	\$80	\$110
Employer Posting Fee	\$50	N/A
Applicants (all services)	\$42	\$80
Applicants (<i>Winter List</i> & message center only)	\$21	\$21

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 1014 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.

Advanced Registration

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 26

EARLY MEETINGS ADVANCE REGISTRATION

(room lottery)

November 4

ORDINARY MEETINGS ADVANCE REGISTRATION

(hotel reservations, materials mailed)

November 14

FINAL MEETINGS ADVANCE REGISTRATION

(advance registration, Short Courses, Employment Center, MAA Minicourses, banquets)

December 16

EMPLOYMENT CENTER ADVANCE REGISTRATION:

Applicant and employer forms must be received by October 26 in order to appear in the publications distributed to all participants.

Early Advance Registration: Those who register by the **early** deadline of November 4 will be included in a random drawing to select winners of complimentary hotel rooms in San Antonio. 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 21. So register early! (See the list of the winners from the Atlanta meetings on the hotel pages.) Also, applicant and employer forms must be received by October 26 in order to be reproduced in the *Winter Lists* for the Employment Center.

Ordinary Advance Registration: Those who register after November 4 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 16 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 16 deadline is firm; any forms received after that date will be returned and full refunds issued. Please come to the registration desk in the West Registration area on the street level of the San Antonio Convention Center.

Hotel Accommodations

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 22. 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/2095_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 the hotel usually will honor this reservation 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: Special discounted hotel room rates with the San Antonio Marriott Rivercenter, San Antonio Marriott Riverwalk, and other hotels have been negotiated for the Joint Mathematics Meetings. Your patronage of the official meeting hotels enables the MAA and the AMS to secure meeting space at a greatly reduced cost. In addition, if you make your reservations at these hotels by November 4, your name will automatically be entered into a drawing for free stays over the official meeting dates. Winners will be drawn at random from the list of reservations received by that date and notified by December 21.

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 projection panel) and where the majority of speakers in the session require this equipment should contact the audio-visual coordinator for the meetings at the AMS office in Providence at 401-455-4140 or by 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 12-15, 2006, 8:00 a.m. to 5:00 p.m. each day. It will be located at the Hilton Palacio del Rio in San Antonio, TX. Parents are encouraged to bring snacks and beverages for their children but items such as juice boxes, cheerios, and crackers will be provided. KiddieCorp can arrange meals for children at cost plus 15% or parents can be responsible for meals for their children.

Registration starts in September. The registration fee is \$25 per family (nonrefundable). Additional cost will be \$8 per hour per child or \$6 per hour per child for graduate students. These reduced child care rates are made possible 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 22, 2005.

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 \$5 per child for every 15 minutes thereafter.

Cancellations must be made to KiddieCorp prior to December 22, 2005 for a full refund. Cancellations made after that date will be subject to a 50% cancellation fee. Once the program has begun, no refunds will be issued.

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

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

EMAIL SERVICES

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

INFORMATION DISTRIBUTION

Tables are set up in the exhibit area for dissemination of general information of possible interest to the members and for 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 \$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 MAA-AMS Joint Meetings Committee, as are all arrangements for Joint Mathematics Meetings

LOCAL INFORMATION

See <http://www.sanantoniocvb.com> or [heartofsanantonio.com](http://www.heartofsanantonio.com) for information about the city.

WEATHER

January weather in San Antonio is generally mild. Normal daily maximum and minimum temperature are about 62aF to 42aF. Average precipitation in January is 1.5 inches. Visit your favorite weather site for up-to-the-minute forecasts, or check out this website for more information: <http://asp.usatoday.com/weather/CityForecast.aspx?LocationID=USATX1200&ps=L1>.

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

TELEPHONE MESSAGES

The most convenient method for leaving a message is to do so with the participant's hotel. Another method would be to leave a message at the meetings registration desk from January 12 through 15 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

San Antonio is on Central Standard Time. San Antonio International Airport (SAT) <http://www.sanantonio.gov/airport/> is located about 8.5 miles north of the San Antonio Convention Center and is served by all major airlines.

The official airline for the meetings is **Delta**. Given the volatility in airfares because of "fare wars," we cannot guarantee that these will be the lowest fares when you make your arrangements. However, we strongly urge participants to make use of this special deal if at all possible, since the 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.

Take advantage of Delta's new SimpliFares™ and enjoy the following benefits:

- No Saturday-night stay required for more flexibility;
- always affordable; realize up to 50% savings on everyday fares in the contiguous 48 states;
- change fees reduced from \$100 to \$50;
- only eight fares—less guessing and easier planning.

To make immediate reservations, call Delta at 800-221-1212 or visit <http://www.delta.com>. Be sure to reference **US738367060**

as your Sky Bonus number to be recognized as a Joint Mathematics Meetings participant. Your benefits include:

- No service fees.
- 1,000 Sky Mile bonus points.
- Skip the airport lines! Check in on line and print your boarding pass within 24 hours of your flight time.

Ground Transportation from the Airport: Taxis are available outside the baggage claim area. The approximate fare is \$20 to downtown for one person (up to four people may share a cab).

SA TRANS (shuttle service) offers airport-to-door service. Vans depart about every 15 minutes from 7:00 a.m. to 1:30 a.m. The fare to downtown is \$14 one way or \$24 round trip. Buy your ticket at the ticket booth at the ground transportation section of the airport near baggage claim. For details or more information call 210-281-9900 or visit their website <http://www.sairportshuttle.com> (this page sometimes displays a discount coupon).

Metropolitan Transit offers city bus service from the airport to the convention center area for about \$1.10 one way (when this issue went to press).

To find the route best for you, depending upon when you arrive at the airport, visit <http://www.viainfo.net/TripPlan/Tripplanwrapper.aspx> for personal trip planning assistance and guidance. Ground transportation agents at the airport can provide schedules at curbside.

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.

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 \$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

Miscellaneous Information

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.

Driving directions from the airport to the convention center area: Go west on Airport Blvd. toward the airport exit. Turn right onto S. Terminal Dr., then left onto US281 north/McAllister Freeway. Merge onto US281 south on the LEFT ramp and toward Downtown San Antonio. Take the Hemisfair Plaza/Institute of Texan cultures ramp, then a slight right on to E. Commerce St.

Discounted Car Rental

Avis Rent A Car is the official car rental company for the meeting. All car rentals include unlimited free mileage and are available to renters 25 years and older. Avis offers special convention rental rates effective January 5 - 22, 2006:

<i>Car Type</i>	<i>Daily</i>	<i>Weekly</i>	<i>Weekend Daily</i>
Subcompact	\$43	\$176	\$27
Compact	\$47	\$186	\$28
Intermediate	\$51	\$203	\$30
Full-Size 2-Door	\$52	\$216	\$32
Full-Size 4-Door	\$55	\$226	\$33
Premium	\$59	\$236	\$38
Luxury	\$72	\$284	\$72
Minivan	\$72	\$284	\$72
Convertible	\$72	\$284	\$72
Sport Utility	\$72	\$284	\$72

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 meeting rate, whichever is lowest. Rates do not include any state or local surcharges, tax, optional coverages, or gas refueling charges. Renters must meet Avis's age, driver, and credit requirements. Reservations can be made by calling 800-331-1600 or online at <http://www.avis.com>; cite group ID number J098887.

2006 MAA Membership Renewals

**Check the mail for your 2006
MAA Membership renewal notice.**

**We appreciate your continued
support of the MAA.**



Schedule of Events

TUESDAY JANUARY 10, 2006

9:00 a.m.- 5:00 p.m. MAA Short Course
Experimental Mathematics in Action, I

9:00 a.m.-5:00 p.m. AMS Short Course
Modeling and Simulation of
Biological Networks, I

8:00 a.m.-10:50 a.m. AMS Special Session
Commutative Rings and Monoids, I

8:00 a.m.-10:50 a.m. AMS Special Session
Topological Spaces Associated with $C(X)$, I

8:00 a.m.-10:50 a.m. AMS Special Session
Value Distribution in Classical and
 p -adic Functions Theory, I

WEDNESDAY JANUARY 11, 2006

8:00 a.m.-5:00 p.m. MAA Board of Governors

8:00 a.m.-6:30 p.m. AMS Department Chairs Workshop

9:00 a.m.-5:00 p.m. MAA Short Course
Experimental Mathematics in Action, II

9:00 a.m.-5:00 p.m. AMS Short Course
Modeling and Simulation of
Biological Networks, II

1:00 p.m.-10:00 p.m. AMS Council

3:00 p.m.-7:00 p.m. Joint Meetings Registration

8:00 a.m.-10:50 a.m. AMS Special Session
Syzygies in Commutative Algebra
and Geometry, I

8:00 a.m.-10:50 a.m. AMS Special Session
Algebraic Statistics: Theory and Practice, I

8:00 a.m.-10:50 a.m. AMS Special Session
Extension of Functions, I

8:00 a.m.- 6:00 p.m. AMS Contributed Papers Sessions

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-10:55 a.m. Philosophy of Mathematics

8:00 a.m.-10:55 a.m. Mathlets for Teaching and
Learning Mathematics, I

8:00 a.m.-10:55 a.m. Post-Secondary Mathematics Assessment:
Needs and Challenges

8:00 a.m.-10:55 a.m. Professional Development Programs
for K-12 Teachers

8:00 a.m.-10:55 a.m. MAA General Contributed Paper Session, I

8:00 a.m.-10:55 a.m. SIAM Minisymposium
Mathematical Neuroscience: From
Experiment to Theory, I

8:00 a.m.-10:55 a.m. SIAM Minisymposium
Numerical Solution of Partial Differential
Equations and Applications to Flow in
Porous Media

8:30 a.m.-10:55 a.m. MAA Committee on Graduate
Students Presentation
Workshop on training T.A.s

9:00 a.m.-10:55 a.m. MAA Invited Paper Session
The Role of Online Technology Courses for
Teachers of Preservice Mathematics Teachers

9:00 a.m.-11:00 a.m. **MAA Minicourse #12: Part A**
Getting students involved in
undergraduate research

9:00 a.m.-11:00 a.m. **MAA Minicourse #1: Part A**
Designing and evaluating assessments
for introductory statistics

THURSDAY JANUARY 12, 2006

7:30 a.m.-4:00 p.m. Joint Meetings Registration

7:30 a.m.-5:00 p.m. Employment Center

8:00 a.m.-9:20 a.m. MAA-AMS Committee on Teaching Assistants and
Part-time Instructors Panel Discussion
Permanent use of temporary faculty:
The status of nonladder faculty in
departments of mathematics

8:00 a.m.-9:20 a.m. SIGMAA on Statistics Education Panel Discussion
Implications of the new ASA (GAISE)
guidelines for teaching statistics

8:00 a.m.-10:50 a.m. MAA-AMS-MER Special Session
Mathematics Education Reform, I

8:00 a.m.-10:50 a.m. AMS-SIAM Special Session
Frames and Operator Theory in Analysis
and Signal Processing, I

8:00 a.m.-10:50 a.m. AMS-ASL Special Session
Interdisciplinary Research Involving Analysis
and Logic, I

AMS SPECIAL SESSIONS

8:00 a.m.-10:50 a.m. AMS Special Session
Mahler Measure and Heights, I

8:00 a.m.-10:50 a.m. AMS Special Session
Division Algebras, Galois Theory,
Cohomology and Geometry, I

Schedule of Events

THURSDAY JANUARY 12 CONTINUED

9:00 a.m.-11:00 a.m.	MAA Minicourse #7: Part A Geometry with history for teaching teachers.	2:15 p.m.- 5:15 p.m.	MAA Invited Paper Session Assessment of Learning in the Mathematics Major
9:30 a.m.-10:50 a.m.	MAA CUPM and SIGMAA on Statistics Education Panel Discussion Requiring statistics of every mathematics major: Model courses	MAA CONTRIBUTED PAPER SESSIONS	
9:30 a.m.-10:50 a.m.	MAA Panel Discussion National Science Foundation programs supporting learning and teaching in the mathematical sciences.	2:15 p.m.- 6:00 p.m.	Number-Theoretic Applications
10:05 a.m.-10:55 a.m.	AMS Invited Address Mikhail Kapranov Title to be announced	2:15 p.m.- 6:00 p.m.	Teaching Mathematics Courses Online
11:10 a.m.-12:00 p.m.	MAA-AMS Invited Address László Lovász Title to be announced	2:15 p.m.- 6:00 p.m.	Teaching and Assessing Modeling and Problem Solving
12:15 p.m.-5:30 p.m.	Exhibits and Book Sales	2:15 p.m.- 6:00 p.m.	Getting Students to Discuss and to Write about Mathematics, I
12:30 p.m.-5:00 p.m.	Math on the Web, I	2:15 p.m.- 6:00 p.m.	MAA General Contributed Paper Session, II
1:00 p.m.-2:00 p.m.	AMS Colloquium Lectures: Lecture I Hendrik W. Lenstra Jr. Entangled radicals, Part III	2:15 p.m.- 6:00 p.m.	SIAM Minisymposium Geometric Representations of Graphs
2:15 p.m.-3 :05 p.m.	MAA INVITED ADDRESS Francis Edward Su Preference sets, graphs, and voting in agreeable societies	2:15 p.m.- 6:00 p.m.	SIAM Minisymposium Education: Preparing Mathematics Students for Interdisciplinary Research
2:15 p.m.- 3:35 p.m.	MAA Committee on Graduate Students YMN Panel Discussion How to interview for your first job	2:15 p.m.- 6:05 p.m.	MAA-AMS-MER Special Session Mathematics Education Reform, II
2:15 p.m.- 3:35 p.m.	MAA Panel Discussion Advice and admonitions for NSF projects: What worked, what did not, and what lessons were learned	2:15 p.m.- 6:05 p.m.	MAA-AMS Special Session Ancient and Nonwestern Mathematics, I
2:15 p.m.- 3:45 p.m.	Project NExT Panel Discussion Firefighting, paper trailing, and cat herding: Everything you wanted to know to be an administrator but were afraid to ask	2:15 p.m.- 6:05 p.m.	AMS-SIAM Special Session Contemporary Dynamical Systems, I
2:15 p.m.- 4:15 p.m.	MAA Invited Paper Session Environmental Modeling	AMS SPECIAL SESSIONS	
2:15 p.m.- 4:15 p.m.	MAA Minicourse#13: Part A The Fibonacci and Catalan numbers	2:15 p.m.- 6:05 p.m.	AMS Special Session Mahler Measure and Heights, II
2:15 p.m.- 4:15 p.m.	MAA Minicourse #2: Part A Java applets in teaching mathematics	2:15 p.m.- 6:05 p.m.	AMS Special Session Division Algebras, Galois Theory, Cohomology and Geometry, II
2:15 p.m.- 4:15 p.m.	MAA Minicourse #8: Part A Mathematical and statistical modeling in biology: Competitive exclusion, coexistence, estimation, and control	2:15 p.m.- 6:05 p.m.	AMS Special Session Dynamic Equations with Applications, I
		2:15 p.m.- 6:05 p.m.	AMS Special Session Commutative Rings and Monoids, II
		2:15 p.m.- 6:05 p.m.	AMS Special Session Topological Spaces Associated with $C(X)$, II
		2:15 p.m.- 6:05 p.m.	AMS Special Session Value Distribution in Classical and p-adic Functions Theory, II
		2:15 p.m.- 6:05 p.m.	AMS Special Session Syzygies in Commutative Algebra and Geometry, II
		2:15 p.m.- 6:05 p.m.	AMS Special Session Extension of Functions, II

2:30 p.m.- 5:00 p.m. MAA Section Officers

3:20 p.m.- 4:10 p.m. **MAA INVITED ADDRESS**
Robert E. Megginson
 Participation in mathematics by American Indians: A case study in underrepresentation

3:20 p.m.- 4:35 p.m. AWM Panel Discussion
 Laurence Summers: One year later

3:50 p.m.- 5:10 p.m. MAA-YMN Panel Discussion
 You have a job, now what?
 Professional development opportunities

4:00 p.m.- 4:45 p.m. MAA Special Presentation
 The great Pi/e debate

4:15 p.m.- 6:15 p.m. SIGMAA on Environmental Mathematics
 Business Meeting and Special Invited Presentation

4:30 p.m.- 6:00 p.m. AMS Committee on the Profession Presentation

4:40 p.m.- 5:10 p.m. AWM Business Meeting

4:45 p.m.- 6:45 p.m. **MAA Minicourse #14: Part A**
 Teaching linear algebra with applications

4:45 p.m.- 6:45 p.m. **MAA Minicourse #3: Part A**
 Using and adapting online materials

4:45 p.m.- 6:45 p.m. **MAA Minicourse #9: Part A**
 Discrete dynamical systems and problem solving

5:00 p.m.- 6:00 p.m. Friends of Williams Reception

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

8:30 p.m.- 9:30 p.m. AMS Josiah Willard Gibbs Lecture
 Michael Savageau
 Entangled radicals

9:30 p.m.-11:00 p.m. AWM Reception

FRIDAY JANUARY 13, 2006

7:00 a.m.- 7:30 p.m. Employment Center

7:30 a.m.- 4:00 p.m. Joint Meetings Registration

8:00 a.m.-10:00 a.m. SIGMAA Officers Meeting

8:00 a.m.-10:00 a.m. **MAA Minicourse #4: Part A**
 Creating interactive workbooks using MS excel

8:00 a.m.-11:00 a.m. SIAM Minisymposium
 Inverse Problems: Theory and Numerics for Novel Applications, I

8:00 a.m.-11:00 a.m. SIAM Minisymposium
 Mathematical Neuroscience: From Experiment to Theory, II

8:00 a.m.-11:50 a.m. MAA-AMS-MER Special Session
 Mathematics Education Reform, III

8:00 a.m.-11:50 a.m. AMS-SIAM Special Session
 Nonlinear Dynamical Systems, I

8:00 a.m.-11:50 a.m. AMS-ASL Special Session
 Interdisciplinary Research Involving Analysis and Logic, II

AMS SPECIAL SESSIONS

8:00 a.m.-11:50 a.m. AMS Special Session
 Algebraic and Enumerative Combinatorics, I

8:00 a.m.-11:50 a.m. AMS Special Session
 Arithmetic Geometry and Modular Forms, I

8:00 a.m.-11:50 a.m. AMS Special Session
 Recent Trends in Convex and Discrete Geometry, I

8:00 a.m.-11:50 a.m. AMS Special Session
 Dynamic Equations With Applications, II

8:00 a.m.-11:50 a.m. AMS Special Session
 Nonautonomous Discrete Dynamics, I

8:00 a.m.-11:50 a.m. AMS Special Session
 Algebraic Statistics: Theory and Practice, II

8:00 a.m.-11:50 a.m. AMS Special Session
 Continued Fractions, I

8:00 a.m.-11:50 a.m. AMS Special Session
 The Many Lives of Lattice Theory, the Theory of Ordered Sets, and Universal Algebra, I

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-11:55 a.m. Mathlets for Teaching and Learning Mathematics, II

8:00 a.m.-11:55 a.m. Using History of Mathematics in Your Mathematics Courses

8:00 a.m.-11:55 a.m. Innovative Teaching/Learning Ideas Using Technology in the Teaching of Courses before College Algebra

8:00 a.m.-11:55 a.m. Research and Other Mathematical Experiences for Students Outside the Classroom

8:00 a.m.-11:55 a.m. Courses Below Calculus: A Continuing Focus, I

8:00 a.m.-11:55 a.m. MAA General Contributed Paper Session, III

Schedule of Events

FRIDAY JANUARY 13 CONTINUED

8:00 a.m.- 4:15 p.m.	Sessions of AMS Contributed Papers	1:00 p.m.- 2:20 p.m.	MAA Committee on the Profession Panel Discussion Scholarship scenarios
8:30 a.m.-10:00 a.m.	MAA-Project NExT Panel Discussion Getting started in mathematical biology	1:00 p.m.- 2:30 p.m.	Project NExT Panel Discussion The mathematics profession in 2016: Where are we going?
9:00 a.m.- 9:50 a.m.	AWM Emmy Noether Lecture Ingrid Daubechies Mathematical results and challenges in learning theory	1:00 p.m.- 3:00 p.m.	MAA Minicourse #11: Part A Teaching a course in the history of mathematics
9:00 a.m.-10:20 a.m.	MAA-YMN Panel Discussion Undergraduate career paths in mathematics	1:00 p.m.- 3:00 p.m.	MAA Minicourse #16: Part A Fair division: From cake-cutting to dispute resolution
9:00 a.m.-11:00 a.m.	MAA Minicourse #10: Part A A beginner's guide to the scholarship of teaching and learning in mathematics	1:00 p.m.- 3:00 p.m.	MAA Minicourse #6: Part A Technology tools for discrete mathematics
9:00 a.m.-11:00 a.m.	MAA Minicourse #15: Part A A novel approach to problem solving	1:00 p.m.- 3:50 p.m.	MAA-AMS Special Session Ancient and Nonwestern Mathematics, II
9:30 a.m.- 5:30 p.m.	Exhibits and Book Sales	1:00 p.m.- 3:50 p.m.	AMS-SIAM Special Session Frames and Operator Theory in Analysis and Signal Processing, II
10:00 a.m.- 4:00 p.m.	Math on the Web, II		
10:05 a.m.-10:55 a.m.	MAA Invited Address Keith J. Devlin The mathematics of everyday language		AMS SPECIAL SESSIONS
10:30 a.m.-12:00 p.m.	AMS Special Presentation Who wants to be a mathematician	1:00 p.m.- 3:50 p.m.	AMS Special Session Mahler Measure and Heights, III
10:30 a.m.-12:00 p.m.	AMS Special Presentation T.A. development using case studies: A workshop for faculty (Part 1)	1:00 p.m.- 3:50 p.m.	AMS Special Session Recent Trends in Convex and Discrete Geometry, II
10:30 a.m.-12:30 p.m.	MAA Minicourse #5: Part A Finite group behavior: Windows software for teaching beginning group theory	1:00 p.m.- 3:50 p.m.	AMS Special Session Division Algebras, Galois Theory, Cohomology and Geometry, III
10:45 a.m.-12:05 p.m.	MAA Panel Discussion Integrating mathematics with other disciplines	1:00 p.m.- 3:50 p.m.	AMS Special Session Topological Spaces Associated with $C(X)$, III
10:45 a.m.-12:05 p.m.	MAA Special Presentation Proposal writing workshop for grant applications to the NSF Division of Undergraduate Education	1:00 p.m.- 3:50 p.m.	AMS Special Session Value Distribution in Classical and p -adic Functions Theory, III
11:10 a.m.-12:00 p.m.	SIAM Invited Address Thanasis Fokas Integrability, imaging of the brain, and the Dirichlet to Neumann map	1:00 p.m.- 3:50 p.m.	AMS Special Session Algebraic Statistics: Theory and Practice, III
1:00 p.m.-2:00 p.m.	AMS Colloquium Lectures: Lecture II Hendrik W. Lenstra Jr. Entangled radicals, Part I	1:00 p.m.- 3:50 p.m.	AMS Special Session Extension of Functions, III
1:00 p.m.-2:20 p.m.	MAA-AWM Panel Discussion Teaching a course on women and/or minorities in mathematics	1:00 p.m.- 3:50 p.m.	AMS Special Session Continued Fractions, II
		1:00 p.m.- 3:50 p.m.	AMS Special Session The Many Lives of Lattice Theory, the Theory of Ordered Sets, and Universal Algebra, II
			MAA CONTRIBUTED PAPER SESSIONS
		1:00 p.m.- 4:10 p.m.	Getting Students to Discuss and to Write about Mathematics, II

1:00 p.m.- 4:10 p.m.	Mathematics of Sports and Games	5:45 p.m.- 7:45 p.m.	SIGMAA on Research in Undergraduate Mathematics
1:00 p.m.- 4:10 p.m.	Mathematical Connections in the Arts		Business Meeting and Guest Lecture
1:00 p.m.- 4:10 p.m.	Research on the Teaching and Learning of Undergraduate Mathematics	5:45 p.m.- 7:45 p.m.	SIGMAA on Statistics Education
1:00 p.m.- 4:10 p.m.	MAA General Contributed Paper Session, IV	6:00 p.m.- 7:00 p.m.	University of Chicago Department of Mathematics Alumni Reception
1:00 p.m.- 4:10 p.m.	SIAM Minisymposium New Transform Methods for Differential Equations	6:00 p.m.- 7:30 p.m.	WEB SIGMAA Business Meeting and Guest Lectures
1:00 p.m.- 4:10 p.m.	SIAM Minisymposium Inverse Problems: Theory and Numerics for Novel Applications, II	6:00 p.m.- 8:00 p.m.	SIGMAA on the History of Mathematics Annual Meeting and Guest Lecture
2:00 p.m.- 4:00 p.m.	MAA Project NEXt-YMN Poster Session	6:00 p.m.- 8:00 p.m.	Association of Lesbian, Gay, Bisexual, and Transgendered Mathematicians Reception
2:00 p.m.- 4:00 p.m.	Summer Program for Women in Mathematics Participants from past programs will describe their experiences	6:00 p.m.- 8:00 p.m.	Claremont Colleges Reception
2:15 p.m.- 3:05 p.m.	AMS Invited Address Dusa McDuff Recent developments in symplectic topology	6:30 p.m.- 9:00 p.m.	MER Banquet
2:30 p.m.- 3:50 p.m.	MAA Panel Discussion What business looks for in new hires	7:30 p.m.- 8:30 p.m.	Young Mathematicians' Network Town Meeting Concerns of young mathematicians
2:30 p.m.- 3:50 p.m.	MAA Panel Discussion AMATYC's Beyond Crossroads: Implementing standards-based mathematics instruction	8:15 p.m.- 9:45 p.m.	Knitting Circle
2:30 p.m.- 4:00 p.m.	AMS Special Presentation T.A. development using case studies: A workshop for faculty (Part 2)	SATURDAY JANUARY 14, 2006	
3:20 p.m.- 4:00 p.m.	AMS Retiring Presidential Address David Eisenbud Threads from My Life: Linear (good) Resolutions and Small (seductive) Varieties	7:00 a.m.- 8:00 a.m.	MAA/PME Student Chapters Advisors Breakfast
4:25 p.m.- 5:45 p.m.	Joint Prize Session	7:30 a.m.- 4:00 p.m.	Joint Meetings Registration
5:45 p.m.- 6:45 p.m.	SIGMAA on Business, Industry, and Government Reception	7:30 a.m.- 7:30 p.m.	Employment Center
5:45 p.m.- 7:00 p.m.	MAA Two-Year College Reception	8:00 a.m.-10:50 a.m.	AMS-SIAM Special Session Nonlinear Dynamical Systems, II
5:45 p.m.- 7:00 p.m.	University of Iowa Reception	8:00 a.m.-10:50 a.m.	AMS-SIAM Special Session Frames and Operator Theory in Analysis and Signal Processing, III
5:45 p.m.- 7:00 p.m.	Lehigh University Reception	8:00 a.m.-10:50 a.m.	AMS-SIAM Special Session Contemporary Dynamical Systems, II
5:45 p.m.- 7:00 p.m.	New Mexico State University Reception	AMS SPECIAL SESSIONS	
5:45 p.m.- 7:00 p.m.	Joint Prize Session Reception	8:00 a.m.-10:50 a.m.	AMS Special Session Algebraic and Enumerative Combinatorics, II
5:45 p.m.- 7:15 p.m.	MAA Information Session Current issues in actuarial education	8:00 a.m.-10:50 a.m.	AMS Special Session Arithmetic Geometry and Modular Forms, II
		8:00 a.m.-10:50 a.m.	AMS Special Session Recent Trends in Convex and Discrete Geometry, III
		8:00 a.m.-10:50 a.m.	AMS Special Session Commutative Rings and Monoids, III

Schedule of Events

SATURDAY JANUARY 14 CONTINUED

8:00 a.m.-10:50 a.m.	AMS Special Session Syzygies in Commutative Algebra and Geometry, III	9:00 a.m.-11:00 a.m.	MAA Minicourse #7: Part B Geometry with history for teaching teachers
8:00 a.m.-10:50 a.m.	AMS Special Session Field Extensions and Algorithms, I	9:00 a.m.-10:20 a.m.	SIGMAA on the Teaching of Advanced High School Mathematics Panel Discussion AP Calculus: Friend or foe?
8:00 a.m.-10:50 a.m.	AMS Special Session Nonautonomous Discrete Dynamics, II	9:00 a.m.-10:20 a.m.	MAA Committee on Technologies in Mathematics Education Panel Discussion Electronic homework systems
8:00 a.m.-10:50 a.m.	AMS Special Session Continued Fractions, III	9:00 a.m.-11:00 a.m.	MAA Poster Session Special mathematical outreach programs
8:00 a.m.- 5:00 p.m.	ASL Invited Addresses and Contributed Papers	9:30 a.m.-11:00 a.m.	Project NEXt Panel Discussion Making the most of your sabbatical
MAA CONTRIBUTED PAPER SESSIONS			
8:00 a.m.-10:55 a.m.	Courses Below Calculus: A Continuing Focus, II	9:30 a.m.- 5:30 p.m.	Exhibits and Book Sales
8:00 a.m.-10:55 a.m.	Mathematics of Chemistry	10:00 a.m.- 5:00 p.m.	Math on the Web, III
8:00 a.m.-10:55 a.m.	Mathematics Experiences in Business, Industry, and Government	10:05 a.m.-10:55 a.m.	AMS Invited Address Herbert Edelsbrunner Persistent homology, diagrams, and vineyards
8:00 a.m.-10:55 a.m.	Countering "I Can't Do Math": Strategies for Teaching Underprepared, Math-Anxious Students, I	11:10 a.m.-12:00 p.m.	MAA-AMS Invited Address Svetlana Y. Jitomirskaya Title to be announced
8:00 a.m.-10:55 a.m.	Teaching Operations Research in the Undergraduate Classroom	1:00 p.m.-1:50 p.m.	MAA Student Lecture Marc Chamberland The many faces of pi
8:00 a.m.-10:55 a.m.	My Favorite Demo: Innovative Strategies for Mathematics Instructors, I	1:00 p.m.-2:00 p.m.	AMS Colloquium Lectures: Lecture III Hendrik W. Lenstra Jr. Entangled radicals, Part II
8:00 a.m.-10:55 a.m.	MAA General Contributed Paper Session, V	1:00 p.m.- 2:20 p.m.	MAA Panel Discussion Topics of ethics in mathematics
8:00 a.m.- 5:00 p.m.	Sessions of AMS Contributed Papers	1:00 p.m.- 2:20 p.m.	MAA Panel Discussion Mathematics and biology 2010: Building connections
8:00 a.m.-11:00 a.m.	PME Council	1:00 p.m.- 2:20 p.m.	MAA Panel Discussion Algebra at various levels: How does it differ?
9:00 a.m.- 9:50 a.m.	AMS Invited Address Charles L. Fefferman Whitney's extension problems	1:00 p.m.- 3:00 p.m.	MAA Minicourse #13: Part B The Fibonacci and Catalan numbers
9:00 a.m.-10:20 a.m.	MAA-YMN Panel Discussion Transitioning into graduate school	1:00 p.m.- 3:00 p.m.	MAA Minicourse #2: Part B Java applets in teaching mathematics
9:00 a.m.-10:20 a.m.	MAA Session for Chairs Building bridges	1:00 p.m.- 3:00 p.m.	MAA Minicourse #8: Part B Mathematical and statistical modeling in biology: Competitive exclusion, coexistence, estimation, and control
9:00 a.m.-11:00 a.m.	MAA Minicourse #12: Part B Getting students involved in undergraduate research	1:00 p.m.- 5:50 p.m.	MAA-AMS-SIAM Special Session Research in Mathematics by Undergraduates, I
9:00 a.m.-11:00 a.m.	MAA Minicourse #1: Part B Designing and evaluating assessments for introductory statistics		

1:00 p.m. - 5:50 p.m.	MAA-AMS Special Session History of Mathematics, I	1:00 p.m. - 5:55 p.m.	MAA General Contributed Paper Session, VI
1:00 p.m. - 5:50 p.m.	AMS-SIAM Special Session Nonlinear Dynamical Systems, III	1:00 p.m. - 3:00 p.m.	MAA Poster Session Projects Supported by the NSF Division of Undergraduate Education
1:00 p.m. - 5:50 p.m.	AMS-SIAM Special Session Analysis and Implementation of Finite Element Methods, I	2:15 p.m. - 4:00 p.m.	NAM Granville-Brown-Haynes Session Presentations by Recent Doctoral Recipients in the Mathematical Sciences
1:00 p.m. - 5:50 p.m.	AMS-SIAM Special Session Time Reversal Methods: Analysis and Applications, I	2:15 p.m. - 4:10 p.m.	RMMC Board of Directors
1:00 p.m. - 5:50 p.m.	AMS-SIAM Special Session Stochastic, Large Scale and Hybrid Systems with Applications, I	2:30 p.m. - 3:50 p.m.	MAA Committee on Mathematics Across the Disciplines Panel Discussion Models for a one-semester course in discrete mathematics

AMS SPECIAL SESSIONS

1:00 p.m. - 5:50 p.m.	AMS Special Session Current Events	2:30 p.m. - 3:50 p.m.	WEB SIGMAA Special Presentation Serious data and serious tools on the web for a serious problem
1:00 p.m. - 5:50 p.m.	AMS Special Session Algebraic Groups, Symmetric Spaces, and Invariant Theory, I	2:30 p.m. - 4:00 p.m.	MAA Presentations by Teaching Award Recipients
1:00 p.m. - 5:50 p.m.	AMS Special Session Quantum Invariants of Knots and 3-Manifolds, I	2:30 p.m. - 4:00 p.m.	AMS Committee on Science Policy Panel Discussion
1:00 p.m. - 5:50 p.m.	AMS Special Session Field Extensions and Algorithms, II	2:30 p.m. - 4:50 p.m.	MAA Demonstration and Discussion Mathematical circles
1:00 p.m. - 5:50 p.m.	AMS Special Session New Developments in Symplectic Topology, I	3:30 p.m. - 5:30 p.m.	MAA Minicourse #14: Part B Teaching linear algebra with applications
1:00 p.m. - 5:50 p.m.	AMS Special Session The Many Lives of Lattice Theory, the Theory of Ordered Sets, and Universal Algebra, III	3:30 p.m. - 5:30 p.m.	MAA Minicourse #3: Part B Using and adapting online materials

MAA CONTRIBUTED PAPER SESSIONS

1:00 p.m. - 4:00 p.m.	Achieving Quantitative Literacy	4:00 p.m. - 5:00 p.m.	SIGMAA on Quantitative Literacy Business Meeting and Reception
1:00 p.m. - 5:55 p.m.	My Favorite Demo: Innovative Strategies for Mathematics Instructors, II	4:20 p.m. - 5:10 p.m.	MAA Science Policy Committee-AMS Committee on Science Policy Government Speaker
1:00 p.m. - 5:55 p.m.	Mathematics and Popular Culture	4:00 p.m. - 6:30 p.m.	MAA Undergraduate Poster Session
1:00 p.m. - 5:55 p.m.	My Three Favorite Original Calculus Problems	5:00 p.m. - 7:00 p.m.	University of Illinois at Urbana-Champaign Reception
1:00 p.m. - 5:55 p.m.	First Steps for Implementing the Recommendations of the Guidelines for Assessment and Instruction in Statistics Education (GAISE) College Report	6:00 p.m. - 7:00 p.m.	AMS Mathematical Reviews Reception
1:00 p.m. - 5:55 p.m.	Handheld Technology in Content and Methods Courses for Prospective Teachers with a Special Interest Strand Devoted to Teaching and Learning Geometry	6:00 p.m. - 8:00 p.m.	SIGMAA on the Philosophy of Mathematics Annual Meeting, Reception, and Guest Lecture
		6:00 p.m. - 9:00 p.m.	Association of Christians in the Mathematical Sciences Banquet

Schedule of Events

6:00 p.m.- 9:30 p.m. NAM Reception and Banquet
The Cox-Talbot Address will be given after the dinner

6:30 p.m.- 8:30 p.m. Budapest Semesters in Mathematics Reunion

8:30 p.m.-10:30 p.m. MAA/Project NExT Reception

8:45 p.m.-9:30 p.m. NAM Cox-Talbot Address

SUNDAY JANUARY 15, 2006

7:00 a.m.- 7:50 a.m. Nondenominational Worship Service

7:00 a.m.- 8:30 a.m. MAA Department Chairs Liaison
Breakfast Meeting

7:00 a.m.- 8:45 a.m. MAA Minority Chairs Breakfast Meeting

7:30 a.m.- 2:00 p.m. Joint Meetings Registration

8:00 a.m.-10:50 a.m. MAA-AMS-SIAM Special Session
Recent Advances in Mathematical Biology and Epidemiology, I

8:00 a.m.-10:50 a.m. AMS-SIAM Special Session
Frames and Operator Theory in Analysis and Signal Processing, IV

8:00 a.m.-10:50 a.m. AMS-SIAM Special Session
Boundary Value Problems for Ordinary Differential Equations, I

8:00 a.m.-10:50 a.m. AMS-SIAM Special Session
Theory and Application of Stochastic Differential Equations, I

8:00 a.m.-10:50 a.m. AMS-SIAM Special Session
Symbolic-Numeric Computation and Applications, I

8:00 a.m.-10:50 a.m. MAA -AMS-AWM Special Session
Mathematical Results and Challenges in Learning Theory

AMS SPECIAL SESSIONS

8:00 a.m.-10:50 a.m. AMS Special Session
Algebraic and Enumerative Combinatorics, III

8:00 a.m.-10:50 a.m. AMS Special Session
Arithmetic Geometry and Modular Forms, III

8:00 a.m.-10:50 a.m. AMS Special Session
Field Extensions and Algorithms, III

8:00 a.m.-10:50 a.m. AMS Special Session
New Developments in Symplectic Topology, II

8:00 a.m.-10:50 a.m. AMS Special Session
Nonautonomous Discrete Dynamics, III

8:00 a.m.- 5:00 p.m. ASL Invited Addresses and Contributed Papers

MAA CONTRIBUTED PAPER SESSIONS

8:00 a.m.-10:55 a.m. Countering "I Can't Do Math": Strategies for Teaching Underprepared, Math-Anxious Students, II

8:00 a.m.-10:55 a.m. Models That Work: Building Diversity in Advance Mathematics

8:00 a.m.-10:55 a.m. Strategies to Encourage Persistence in Mathematics

8:00 a.m.-10:55 a.m. Introductory Actuarial Science Programs

8:00 a.m.-10:55 a.m. MAA General Contributed Paper Session, VII

8:00 a.m.- 5:00 p.m. Sessions of AMS Contributed Papers

8:20 a.m.- 4:20 p.m. AWM Workshop
This session has several parts listed separately by time in this program. Listed Workshop presentations are open to all JMM participants

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 Ph.D.s, I

9:00 a.m.- 9:50 a.m. **MAA Invited Address**
Naomi Fisher
Mathematicians and education reform:
A cautionary tale

9:00 a.m.-10:00 a.m. NAM Panel Discussion

9:00 a.m.-10:20 a.m. MAA CUPM Subcommittee on Curriculum Renewal
Across the First Two Years Panel Discussion
Developing standards for college algebra

9:00 a.m.-10:20 a.m. SIGMAA on Research in Undergraduate
Mathematics Education Panel Discussion
A MAA Notes sampler

9:00 a.m.-11:00 a.m. **MAA Minicourse #10: Part B**
A beginner's guide to the scholarship of teaching and learning in mathematics

9:00 a.m.-11:00 a.m. **MAA Minicourse #15: Part B**
A novel approach to problem solving

9:00 a.m.-11:00 a.m. **MAA Minicourse #4: Part B**
Creating interactive workbooks using MS excel

9:00 a.m.-12:00 p.m. Exhibits and Book Sales

9:00 a.m.-12:00 p.m. Employment Center

9:30 a.m.-11:00 a.m. Math on the Web, IV

10:00 a.m.-10:55 a.m.	NAM Business Meeting	1:00 p.m.- 5:50 p.m.	AMS-SIAM Special Session Symbolic-numeric Computation and Applications, II
10:05 a.m.-10:55 a.m.	MAA Invited Address Ben Green Patterns of primes	1:00 p.m.- 5:50 p.m.	AMS-SIAM Special Session Time Reversal Methods: Analysis and Applications, II
10:30 a.m.-11:00 a.m.	AWM Workshop: Poster Session with Presentations from Women Recent Ph.d.s and Graduate Students	1:00 p.m.- 5:50 p.m.	AMS-SIAM Special Session Stochastic, Large Scale and Hybrid Systems with Applications, I
11:10 a.m.-11:40 a.m.	AMS Business Meeting		
11:45 a.m.-12:15 p.m.	MAA Business Meeting		
			AMS SPECIAL SESSIONS
1:00 p.m.-1:50 p.m.	NAM Claytor-Woodard Lecture	1:00 p.m.- 5:50 p.m.	AMS Special Session Quantum Invariants of Knots and 3-Manifolds, II
1:00 p.m.- 2:15 p.m.	AWM Workshop Careers Panel Discussion	1:00 p.m.- 5:50 p.m.	AMS Special Session Invariant Theory
1:00 p.m.- 2:20 p.m.	MAA Panel Discussion Calculus for those students who have had calculus	1:00 p.m.- 5:55 p.m.	MAA General Contributed Paper Session, VIII
1:00 p.m.- 2:20 p.m.	MAA Panel Discussion Evaluating curricular effectiveness: Judging the quality of K-12 mathematics evaluations	2:30 p.m.- 3:50 p.m.	MAA CUPM Subcommittee on Curriculum Renewal Across the First Two Years Panel Discussion Reunion of participants in refocused college algebra
1:00 p.m.- 2:20 p.m.	MAA SUMMA Special Presentation MAA student research programs	2:30 p.m.- 4:20 p.m.	AWM Workshop Research Presentations by Recent Ph.D.s, II
1:00 p.m.- 3:00 p.m.	MAA Minicourse #11: Part B Teaching a course in the history of mathematics	3:30 p.m.- 5:30 p.m.	MAA Minicourse #6: Part B Technology tools for discrete mathematics
1:00 p.m.- 3:00 p.m.	MAA Minicourse #16: Part B Fair division: From cake-cutting to dispute resolution	6:30 p.m.- 7:30 p.m.	AMS Banquet Reception
1:00 p.m.- 3:00 p.m.	MAA Minicourse #5: Part B Finite group behavior: Windows software for teaching beginning group theory	7:30 p.m.-10:30 p.m.	AMS Banquet
1:00 p.m.- 5:50 p.m.	MAA-AMS-SIAM Special Session Research in Mathematics by Undergraduates, II		
1:00 p.m.- 5:50 p.m.	MAA-AMS-SIAM Special Session Recent Advances in Mathematical Biology and Epidemiology, II		
1:00 p.m.- 5:50 p.m.	MAA-AMS Special Session History of Mathematics, II		
1:00 p.m.- 5:50 p.m.	AMS-SIAM Special Session Contemporary Dynamical Systems, III		
1:00 p.m.- 5:50 p.m.	AMS-SIAM Special Session Boundary Value Problems for Ordinary Differential Equations, II		
1:00 p.m.- 5:50 p.m.	AMS-SIAM Special Session Theory and Application of Stochastic Differential Equations, II		



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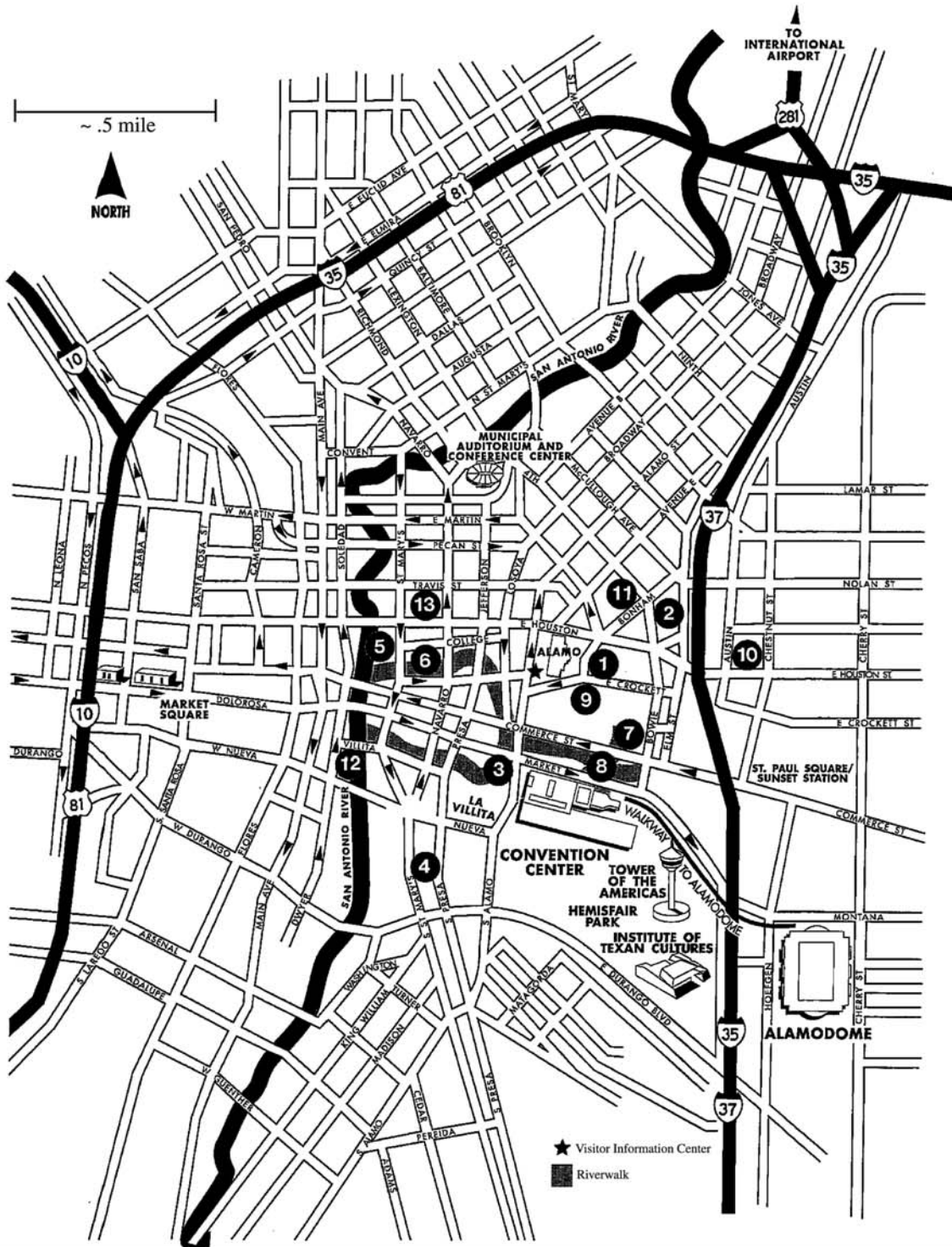
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Hotels

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| <ul style="list-style-type: none"> 1. Crockett Hotel, 320 Bonham 2. Hampton Inn Downtown, 414 Bowie 3. Hilton Palacio del Rio, 200 S. Alamo 4. Holiday Inn Express & Suites, 524 S. St. Mary's 5. Holiday Inn Riverwalk, 217 N. St. Mary's 6. La Mansion del Rio, 112 College 7. Marriott Rivercenter-Headquarters, 101 Bowie | <ul style="list-style-type: none"> 8. Marriott Riverwalk-Headquarters, 889 E. Market 9. Menger Historic Hotel, 204 Alamo Plaza 10. Red Roof Downtown, 1011 E. Houston 11. Residence Inn by Marriott-Alamo Plaza, 425 Bonham 12. Riverwalk Plaza Hotel, 100 Villita 13. St. Anthony-A Wyndham Historic Hotel, 300 E. Travis |
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How to Obtain Hotel Accommodations

<p>Room Lottery: (See the <i>How to Register in Advance</i> section to learn how to qualify for this year's room lottery.) Last year's winners were Jane Claffey, Eva Curry, Christopher Dwyer, Tim Flood, Bo Green, Lila Roberts, and Emily Sprague.</p>	<p>General Instructions: Participants must register in advance in order to obtain hotel accommodations through the Mathematics Meetings Service Bureau (MMSB). Special meeting rates have been negotiated at the following hotels. These rates apply exclusively to reservations made through the MMSB. Hotels will start accepting reservations directly after December 22, 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 22.</p> <p>To make a reservation, please submit a completed housing section of the Advance Registration/Housing (ARH) Form (paper or electronic) with a guarantee by November 14. Sorry, reservations cannot be taken by phone. Participants interested in reserving suites should contact the MMSB for further information.</p>	<p>Deadlines:</p> <ul style="list-style-type: none"> Room lottery qualification: November 4, 2005 Reservations through MMSB: November 14, 2005 Changes/cancellations through MMSB: December 7, 2005 for La Mansion December 14, 2005 for all other hotels
<p>Rates:</p> <ul style="list-style-type: none"> Subject to 16.75% state tax Only certified students or unemployed mathematicians qualify for student rates. See ARH Form for detailed rate structure of each property. 	<p>General Information:</p> <ul style="list-style-type: none"> Check-in 3:00 p.m./checkout 11:00 am – Hilton, Riverwalk Plaza; Check-in 4:00 pm/checkout 11:00 am – Hampton Inn, Holiday Riverwalk; Check-in 3:00 pm/checkout noon – Holiday Inn Express, La Mansion, Marriott Residence Inn, Red Roof Inn, St. Anthony; Check-in 3:30 pm/checkout noon – Crockett, Menger; Check-in 4:00 pm/checkout noon – Marriott Riverwalk, Marriott Rivercenter Windows do not open in rooms unless otherwise indicated. Children at different ages are free in existing beds only. Limited availability of cribs, free of charge Most hotels have a limited environmental policy regarding linens where all requests for a limited change of linens will be honored. The Holiday Inn Express, Hampton Inn, Crockett, La Mansion, and Marriott Residence Inn do not have a policy. Linens are changed every day. Distance from hotel to Convention Center is indicated in each listing. Airport shuttles to hotels are provided by SA TRANS located at http://www.saairportshuttle.com. Wireless is available in some hotels; Please see descriptions below. Some hotels will not send confirmations; Please see descriptions below. All hotels are in acceptable compliance with ADA; however the Crockett is a historic property and is not recommended for participants with wheelchairs. The Hilton is ADA compliant but has no roll-in showers. All hotels have TTYs/TDDs text telephones on the premises or can rent them by request. 	<p>Guarantee Requirements/Cancellation Policy:</p> <ul style="list-style-type: none"> One night deposit by check, or Credit cards accepted: VISA, MC, AMEX, and Diners Riverwalk Plaza will get a pre-authorization for stay 3 – 5 days before arrival 72-hour cancellation policy: Crockett, Hilton, Holiday Inn Express, Holiday Riverwalk, La Mansion, Marriott Residence Inn, Menger, Riverwalk Plaza 48-hour cancellation policy: Hampton Inn, Red Roof Inn, Marriott Riverwalk, Marriott Rivercenter 24-hour cancellation policy: St. Anthony <p>Please note that some hotels enforce early departure penalties; see descriptions below.</p>

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<p>Marriott Rivercenter (co-headquarters) (.10 mile/1/2 block) 101 Bowie Street San Antonio, TX 78205 210-223-1000</p> <p>Regular single/double – US \$148 Student single/double – US \$118</p> <p>Restaurants; Lounge; Health Club; Indoor/outdoor heated pool; Business center; Connected to Rivercenter mall; Parking per day - \$17 (self) & \$23 (valet); All rooms have full amenities including data ports; Children under 18 years free; High speed internet access is available in sleeping rooms at a cost of \$9.95 per day plus tax. Wireless is available in public areas and meeting rooms at a cost of \$3.95 for first 15 minutes and \$.25 per additional minute. Confirmations will not be sent.</p>	<p>Marriott Riverwalk (co-headquarters) (across the street) 711 East River Walk San Antonio, TX 78205 210-224-4555</p> <p>Regular single/double – US \$148 Student single/double – US \$118</p> <p>Restaurant; Lounge; Deli bar; Starbucks; Health Club; Indoor/outdoor heated pool; Business center; Parking per day - \$17 (self) & \$23 (valet); All rooms have full amenities including data ports; Rooms facing the river have balconies; Children under 18 years free; High speed internet access is available in sleeping rooms at a cost of \$9.95 per day plus tax. Wireless is available in public areas and meeting rooms at a cost of \$3.95 for first 15 minutes and \$.25 per additional minute. Confirmations will not be sent.</p>	<p>Hilton Palacio del Rio (.20 mile/1.5 blocks/across the street from south side of Convention Center) 200 South Alamo Street San Antonio, TX 78205 210-222-1400</p> <p>Single/Double – US \$146 Student single/double – US \$117</p> <p>Restaurants; Sports bar; Fitness room; Outdoor pool; Business center; Location of the Joint Meetings' Daycare; Parking per day - \$15 (self) & \$28 (valet); All rooms have full amenities including data ports and refrigerators; Children under 18 years free; High speed internet access is available in sleeping rooms at a cost of \$9.95 per day plus tax; Wireless is free in the lobby bar, Sports Bar and restaurant; All changes to departure dates must be made at check-in to avoid a \$50 penalty charge.</p>	<p>Marriott Residence Inn (.30 mile/3 blocks) 425 Bonham Street San Antonio, TX 78205 210-212-5555</p> <p>Single/Double – US \$120 Student single/double – US \$96</p> <p>All suites; No restaurant; Complimentary full breakfast each morning; Workout Room; Outdoor pool; Parking per day - \$10 (self); All rooms have full amenities including full kitchen and free high speed internet access; Windows open slightly; Children under 18 years free; Wireless is free in public areas</p>
<p>Riverwalk Plaza (.30 mile/3.5 blocks) 100 Villita Street San Antonio, TX 78205 210-225-1234</p> <p>Single/Double – US \$119 Student single/double – US \$96</p> <p>Restaurant; Lounge; Fitness center; Heated outdoor pool; Parking per day - \$11 (self); All rooms have full amenities including refrigerators, data ports and free high speed internet access; No pay movies in rooms but 100 channels available; Some windows open; Children under 17 years free; All changes to departure dates must be made at check-in to avoid a \$25 penalty charge.</p>	<p>The Menger (.20 mile/2 blocks) 204 Alamo Plaza San Antonio, TX 78205 210-223-4361</p> <p>Single/Double – US \$118 Student single/double – US \$96</p> <p>Restaurant; Lounge; Fitness center; Spa; Outdoor pool; Connected to several shops; Parking per day - \$19 (valet only); All rooms have full amenities including data ports, free high speed internet access; Wireless available in public areas only; Some windows open; Children under 18 years free</p>	<p>St. Anthony (.40 mile/4 blocks) 300 E. Travis Street San Antonio, TX 78205 210-227-4392</p> <p>Regular single – US \$115 Regular double – US \$125</p> <p>Restaurant; Lounge; Rooftop pool; Business center; Parking per day - \$15 (self) & \$20 (valet); All rooms have full amenities; Children under 18 years free; Wireless high speed internet access is available in sleeping rooms at a cost of \$9.95 per day plus tax. All changes to departure dates must be made at check-in to avoid a \$50 penalty charge.</p>	<p>La Mansion del Rio (.40 mile/4 blocks) 112 College Street San Antonio, TX 78205 210-518-1000</p> <p>Regular single/double – US \$115 Student single/ double – US \$93</p> <p>Restaurant; Fitness center; Business center; Heated outdoor pool; Parking per day - \$7 (self) & \$25 (valet); All rooms have full amenities including data ports; Rooms with river view have balconies; Children under 18 years free; High speed internet access is available in sleeping rooms at a cost of \$9.95 per day plus tax; wireless in lobby and restaurant at a cost of \$9.95 per day plus tax. All changes to departure dates must be made at check-in to avoid a \$50 penalty charge.</p>

Continued →

<p>The Crockett (.20 mile/2 blocks/behind the Alamo) 320 Bonham Street San Antonio, TX 78205 210-225-6500 Single/Double – US \$115 Student single/double – US \$90</p> <p>No restaurant; Free continental breakfast; Lounge; Fitness center at Menger; Outdoor pool; Parking per day - \$10 (self) & \$19 (valet); All rooms have full amenities including data ports and free high speed internet access; Children under 17 years free; Wireless is free in lobby area. Confirmations will not be sent.</p>	<p>Holiday Inn Riverwalk (.50 mile/5 blocks) 217 North St. Mary's Street San Antonio, TX 78205 210-224-2500 Single/Double – US \$112 Student single/double – US \$90</p> <p>Restaurant; Lounge; Fitness room; Spa; Heated outdoor pool; Parking per day - \$14 (self) & \$18 (valet); All rooms have full amenities including data ports and free wireless internet access; Most rooms have balconies; Children under 18 years free; Directly on riverwalk; River barge ticket booth located on property</p>	<p>Holiday Inn Express Hotel & Suites (.30 mile/1.5 blocks) 524 South St. Mary's Street San Antonio, TX 78205 210-354-1333 Single/Double – US \$109 Student single/double – US \$87</p> <p>All suites; No restaurant; Free continental breakfast with hot selected items each morning; Outdoor pool; Fitness center; Business center; Parking per day - \$6 (self); All rooms have full amenities including data ports, kitchenettes, microwaves, mini refrigerators, and free high speed internet access; Windows open slightly; Children under 16 years free</p>	<p>Hampton Inn Downtown (.30 mile/1.5 blocks) 414 Bowie Street San Antonio, TX 78205 210-225-8500 Regular single – US \$94 Regular double – US \$104</p> <p>No restaurant; Free continental breakfast with two hot items each morning; Business center; Fitness center; Outdoor pool; Free parking; All rooms have full amenities including data ports and free high speed internet; Some windows open; Children under 18 years free; Confirmations will not be sent.</p>
<p>Attention Students</p> <p>As an alternative housing choice, San Antonio International Hostel is located within a comfortable one story ranch-style building with dormitory beds, fully equipped kitchen, reading room, telephone, picnic areas and access to a large swimming pool. Private Rooms are also available within historic Bullis House Inn next door to the hostel. Private rooms are located on the third floor of the mansion. They have Cable TV, full size beds, are individually decorated and have access to hall baths and telephone on second floor. Continental breakfast is also available for an additional fee of \$5.00 plus tax per person. All dorm and private room rates are subject to hotel tax.</p> <p>The reception office hours are from 8:00 am to 10:00 pm. You will not be able to check in if you arrive outside of these times.</p> <p>The hostel is conveniently located just off bus-route #20 to downtown.</p> <p>Dorm Bed: \$16.70-17.83 + tax 621 Pierce Avenue at E. Grayson Street San Antonio, TX (210) 223-9426 Fax: (210) 299-1479</p> <p>website: http://www.hostelz.com/display.php/2427+San+Antonio+International+Hostel</p> <p>Please go online or call directly for further information and reservations.</p>			
<p>Red Roof Inn Downtown (.40 mile/3 blocks) 1011 E. Houston Street San Antonio, TX 78205 210-229-9973 Regular single/double – US \$59.99</p> <p>No restaurant; Free continental breakfast each morning; Outdoor pool; Free parking; All rooms have basic amenities including data ports; Wireless high speed internet access is available in rooms at a cost of \$9.95 per day plus tax (through T-Mobile); Children under 18 years free</p>			

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 at the meeting, call: Daytime # _____ 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 12/09/05.

Registration Fees

Joint Meetings	by Dec 16	at mtg	Subtotal
<input type="checkbox"/> Member AMS, ASL, CMS, MAA, SIAM	\$203	\$264	
<input type="checkbox"/> Nonmember	\$315	\$409	
<input type="checkbox"/> Graduate Student	\$ 41	\$ 51	
<input type="checkbox"/> Undergraduate Student	\$ 21	\$ 27	
<input type="checkbox"/> High School Student	\$ 2	\$ 5	
<input type="checkbox"/> Unemployed	\$ 41	\$ 51	
<input type="checkbox"/> Temporarily Employed	\$163	\$189	
<input type="checkbox"/> Developing Countries Special Rate	\$ 41	\$ 51	
<input type="checkbox"/> Emeritus Member of AMS or MAA	\$ 41	\$ 51	
<input type="checkbox"/> High School Teacher	\$ 41	\$ 51	
<input type="checkbox"/> Librarian	\$ 41	\$ 51	
<input type="checkbox"/> Nonmathematician Guest	\$ 15	\$ 15	
			\$ _____

AMS Short Course: Modeling and Simulation of Biological Networks (1/10-1/11)

<input type="checkbox"/> Member of AMS or MAA	\$ 87	\$118	
<input type="checkbox"/> Nonmember	\$115	\$148	
<input type="checkbox"/> Student, Unemployed, Emeritus	\$ 38	\$ 57	
			\$ _____

MAA Short Course: Experimental Mathematics in Action (1/10-1/11)

<input type="checkbox"/> Member of MAA or AMS	\$125	\$140	
<input type="checkbox"/> Nonmember	\$175	\$190	
<input type="checkbox"/> Student, Unemployed, Emeritus	\$ 50	\$ 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: \$95 for Minicourses #1-6; \$60 for #7-16
\$ _____

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	\$230	\$310	
<input type="checkbox"/> Regular <input type="checkbox"/> Self-scheduled			
Employer—Each Additional Table	\$ 80	\$110	
<input type="checkbox"/> Regular <input type="checkbox"/> Self-scheduled			
<input type="checkbox"/> Employer—Posting Only	\$ 50	N/A	
<input type="checkbox"/> Applicant (all services)	\$ 42	\$ 80	
<input type="checkbox"/> Applicant (Winter List & Message Ctr only)	\$ 21	\$ 21	
			\$ _____

Events with Tickets

MER Banquet (1/13)	\$47	# _____Regular	# _____Veg	# _____Kosher	
NAM Banquet (1/14)	\$48	# _____Regular	# _____Veg	# _____Kosher	
AMS Banquet (1/15)	\$46	# _____Regular	# _____Veg	# _____Kosher	
					\$ _____

Other Events

Graduate Student/First Time Attendee Reception (1/12) (no charge)
 AMS Workshop *TA Development Using Case Studies* \$ 20 \$ _____

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

Joint Mathematics Meetings



January 12-15, 2006

Membership

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

AMS	<input type="checkbox"/>	ASA	<input type="checkbox"/>
MAA	<input type="checkbox"/>	AWM	<input type="checkbox"/>
ASL	<input type="checkbox"/>	NAM	<input type="checkbox"/>
CMS	<input type="checkbox"/>	YMN	<input type="checkbox"/>
SIAM	<input type="checkbox"/>		

Payment

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

Hotel Deposit (only if paying by check) \$ _____

Total Amount To Be Paid \$ _____

(Note: A \$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. 26, 2005**

To be eligible for the room lottery: **Nov. 4, 2005**

For housing reservations, badges/programs mailed: **Nov. 14, 2005**

For housing changes/cancellations through MMSB:

for La Mansion: December 7, 2005 All others: **Dec. 14, 2005**

For advance registration for the Joint Meetings, Employment

Center, Short Courses, MAA Minicourses, & Tickets: **Dec. 16, 2005**

For 50% refund on banquets, cancel by: **Jan. 2, 2006***

For 50% refund on advance registration, Minicourses &

Short Courses, cancel by: **Jan. 6, 2006***

***no refunds after this date**

San Antonio 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, 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 16.75% sales 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 2 beds w/cot	Triple-queen w/cot or sofa bed	Quad 2 beds	Quad 2 beds w/cot	Quads	Suites Starting rates
	Marriott Riverwalk (hqtrs)	\$148	\$148	\$148	\$168	\$168	\$168	\$168	\$168	\$168	\$168	\$575
	Student	\$118	\$118	\$118	\$138	\$138	\$138	\$138	\$138	\$138	\$138	N/A
	Marriott Rivercenter (hqtrs)	\$148	\$148	\$148	\$168	\$168	\$168	\$168	\$168	\$168	\$168	\$575
	Student	\$118	\$118	\$118	\$138	\$138	\$138	\$138	\$138	\$138	\$138	N/A
	Hilton Palacio del Rio	\$146	\$146	\$146	\$166	N/A	N/A	N/A	\$186	N/A	N/A	\$750
	Student	\$117	\$117	\$117	\$137	N/A	N/A	N/A	\$157	N/A	N/A	N/A
	Marriott Residence Inn	\$120	\$120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	all suites
	Student	\$96	\$96	N/A	N/A	N/A	\$96	N/A	N/A	N/A	N/A	all suites
	Riverwalk Plaza Hotel	\$119	\$119	\$119	\$129	\$139	\$139	\$139	\$129	\$139	\$139	\$229
	Student	\$95	\$95	\$95	\$105	\$115	\$115	\$115	\$105	\$115	\$115	N/A
	The Crockett	\$115	\$115	\$115	\$125	\$135	\$135	\$135	\$135	\$145	\$145	\$135
	Student	\$90	\$90	\$90	\$100	\$110	\$110	\$110	\$110	\$120	\$120	N/A
	Menger	\$118	\$118	\$118	\$128	\$128	\$128	N/A	\$138	\$138	\$138	\$195
	Student	\$96	\$96	\$96	\$106	\$106	\$106	N/A	\$116	\$116	\$116	N/A
	St. Anthony Hotel	\$115	\$125	\$125	\$135	\$135	135 + \$15 one time charge	135 + \$15 one time charge	\$145	145 + \$15 one time charge	\$190	\$250
	La Mansion del Rio	\$115	\$115	\$115	\$140	\$165	N/A	N/A	\$165	\$165	\$190	\$889
	Student	\$93	\$93	N/A	N/A	N/A	\$143	N/A	N/A	N/A	N/A	N/A
	Holiday Inn Riverwalk	\$112	\$112	\$112	\$112	N/A	\$112	\$112	\$112	N/A	N/A	\$199
	Student	\$90	\$90	\$90	\$90	N/A	\$90	\$90	\$90	N/A	N/A	N/A
	Holiday Inn Express Hotel & Suites	\$109	\$109	\$109	\$109	\$109	\$109	\$109	\$109	\$109	\$109	all suites
	Student	\$87	\$87	\$87	\$87	\$87	\$87	\$87	\$87	\$87	\$87	all suites
	Hampton Inn Downtown	\$94	\$104	\$104	\$104	N/A	\$114	N/A	\$104	N/A	N/A	N/A
	Red Roof Inn Downtown	\$59.99	\$59.99	\$59.99	\$64.99	\$74.99	\$74.99	\$74.99	\$69.99	\$69.99	\$79.99	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: _____, who is making the reservations.
- I live in the area or will be staying privately with family or friends.
- I plan to share a room with _____.

Employment Opportunities

CALIFORNIA

Claremont McKenna College Ruth and Joseph Reed Professorship in Applied Mathematical Statistics

The Department of Mathematics, Statistics, and Computer Science of Claremont McKenna College announces a tenure track position at the Associate/Full professor level beginning July 1, 2006. Candidates must have a Ph.D. in mathematical or applied statistics. Both teaching and professional accomplishments are highly valued. Data analysis experience and cross-disciplinary interests are preferred. Salary is competitive, summer support is available, and the normal teaching load is four courses per year.

For the complete ad, see <http://math.mckenna.edu/>. Send vita, teaching philosophy, program for professional activity, undergraduate and graduate transcripts and three or more recommendations letters to Prof. Janet Myhre, Chair Search Committee, Department of Mathematics, Statistics and Computer Science, Claremont McKenna College, 850 Columbia Ave., Claremont, California, 91711-6420.

Review of applications will begin on November 1, 2005, and will continue until the position is filled.

Claremont McKenna College is a highly selective undergraduate institution ranked among the top liberal arts colleges nationally. CMC is a member of The Claremont Colleges that also include Pomona, Scripps, Pitzer, Harvey Mudd, the Claremont Graduate University and the Keck Graduate Institute for Applied Science. Collectively, The Claremont Colleges constitute an academic community of 6,000 students. Claremont is located 35 miles east of downtown Los Angeles. Claremont McKenna College is an equal opportunity employer. Women and minorities are encouraged to apply. For more information on CMC visit our website <http://www.claremontmckenna.edu>.

INDIANA

University of Notre Dame Department of Mathematics, Notre Dame, IN 46556 Special Professional Faculty Position

The Department of Mathematics of the University of Notre Dame invites applications for a Special Professional Faculty position. Candidates should have a doctorate in Mathematics or Mathematics Education, a passion for undergraduate teaching, and a record of excellence in the classroom. The starting date for these positions is August 22, 2006. Candidates at any rank will be considered. The teaching load can vary between two and three courses a semester, depending on class size and other duties. These are not tenure track positions, but they provide all usual faculty benefits, and have the possibility of being renewed indefinitely. The salary is competitive. Applications, including a curriculum vitae, a letter of application, and a completed AMS standard cover sheet, should be sent to: William G. Dwyer, Chair, at the above address. Applicants should arrange for at least three letters of recommendation to be sent to the chair. These letters should document the applicant's ability as a creative and effective teacher of undergraduate mathematics. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 2005. Information about the department is available at <http://www.math.nd.edu/>.

MASSACHUSETTS

Bentley College Waltham, Massachusetts

Tenured or advanced tenure-track faculty position in Statistics
This is a unique opportunity to join an outstanding independent business university just outside Boston with a range of programs at the bachelor's and master's levels, as well as a new business Ph.D. program currently under development. We are fully AACSB accredited and generally regarded as a national leader in the combination of information technology and business. We emphasize excellent teaching and applied scholarship, and we encourage cross-disciplinary connections among our approximately 265 full-time faculty in 17 business and arts and sciences departments. There is an active statistical group within our mathematical sciences department.

See full details at: <http://www.bentley.edu/jobs/statsearch>

Bentley College is an equal opportunity employer, building strength through diversity.

NEW HAMPSHIRE

Dartmouth College

The Department of Mathematics anticipates a tenure-track opening with initial appointment in the 2006-2007 academic year. In extraordinary cases, an appointment at higher rank is possible. Preference is 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 Donna Black, Recruiting Secretary, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, New Hampshire 03755-3551. Applications received by December 15, 2005 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 David Webb, Recruiting Chair.

Dartmouth College John Wesley Young Research Instructorship

The John Wesley Young Instructorship is a postdoctoral, two-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, noncommutative 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 \$4,500.00 and is not renewable. Salary includes two-month research stipend for Instructors in residence during two of the three summer months in 2007 and 2008. To be eligible for a 2006-2008 Instructorship, candidate must be able to complete all requirements for the Ph.D. degree before September 2006. 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 Donna Black, Department of Mathematics, Dartmouth College, 6188 Bradley 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 3, 2006 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.

NORTH CAROLINA

Wake Forest University

Applications are invited for a tenure track position in mathematics at the assistant professor level beginning August 2006. We seek one person whose research is in Topology or Geometry. Duties include teaching at the undergraduate and graduate levels and continuing research. A Ph.D. in mathematics or equivalent is required. The department has 18 members and offers a B.A., B.S., and M.A. in mathematics and a B.S. in each of mathematical business and mathematical economics. Send letter of application and resume to Stephen Robinson, Department of Mathematics, Wake Forest University, P.O. Box 7388, Winston-Salem, NC 27109-7388. AA/EO employer

NEW YORK

Buffalo State College

Mathematics Department

Buffalo State will receive applications for positions in the Mathematics Department, to begin September 2006. Salaries are competitive. Successful candidates must have genuine interest in teaching undergraduates.

Assistant/Associate Professors (two tenure-track positions)

Responsibilities: Effectively teach a variety of undergraduate and graduate courses in mathematics education and mathematics; grow professionally through scholarly activities; participate in departmental/college program development and committee work; supervise student teachers; supervise master's projects; advise students. Typical course load: 9 credit hours/semester.

Required Qualifications: Ph.D. or Ed.D. specializing in mathematics education or curriculum and instruction with strong background in mathematics; ability to teach undergraduate and graduate mathematics education courses; ability to teach undergraduate mathematics courses; ability to supervise student teachers; evidence of effective communication; po-

tential for scholarship; knowledge of current issues in mathematics education; experience with technology in mathematics education; willingness to be involved with professional development schools.

Preferred Qualifications: Experience teaching school mathematics at the pre-college level; certification; experience with using computer/calculator in the classroom and other innovative uses of technology in mathematics education.

Review of applications will begin immediately and continue until the positions are filled. Send transcripts, application, and 3 letters of recommendation to: Dr. Robin Sue Sanders, Chair, Department of Mathematics, Buffalo State College, BI 317, 1300 Elmwood Ave., Buffalo, NY 14222-1095. For more information about the college, visit www.buffalostate.edu.

Buffalo State is an affirmative action/equal opportunity employer.

Cornell University

The Cornell University Department of Mathematics invites applications for our Teaching Program Visiting Faculty Positions beginning August 16, 2006. Two or more half-time visiting positions (any rank) for mathematics professors on sabbatical/other leaves from colleges, universities, and engineering schools. 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. For information about these positions and application instructions, see: <http://www.math.cornell.edu/Positions/vp.html> Deadline December 1, 2005. Cornell University is an Affirmative Action/Equal Opportunity Employer. <http://www.math.cornell.edu/>

Niagara University

<http://www.niagara.edu/>

Assistant Professors (2) both tenure track, sought by the Mathematics Department of Niagara University, a private Catholic institution sponsored by the Vincentian Community for August 2006. Strong commitment to undergraduate teaching, ability to do scholarly research and Ph.D. in Mathematics required. Applications from candidates interested in working with students outside of the classroom including student research are particularly welcome. Located near the scenic Niagara Falls, Niagara University is a predominantly undergraduate liberal arts university. Send letter of application, vitae and three letters of recommendation:

Dr. Richard Cramer-Benjamin,
Chair, Mathematics Department
Niagara University, NY 14109-2044

Application review begins November 1st. AA/EOE. Women and minorities are encouraged to apply.

PENNSYLVANIA

Carnegie Mellon Qatar Campus

Computer Science Visiting Faculty Positions

Carnegie Mellon University established a branch campus in Qatar in the fall of 2004. We are offering a BS degree in Computer Science to an international student body. The university invites applications for several visiting faculty positions to begin Fall 2006.

We are looking for outstanding educators, interested in working closely with undergraduate students. Candidates must have a Ph. D. in Computer Science and an outstanding research record or potential.

Relevant areas of expertise are data structures and algorithms, algorithm design and analysis, graphics, computer networks, distributed and parallel systems, information retrieval and databases, intelligent information systems, and software engineering. Exceptional candidates in other areas will also be considered.

The position offers competitive salaries, overseas assignment, travel and housing allowances and other benefits packages, as well as an attractive research support.

Interested candidates should send their resume, statement of teaching interest and research, and names of three references to:

Faculty Hiring Committee
c/o Ruth Gaus
Qatar Office SMC 1070
5032 Forbes Avenue
Pittsburgh, PA 15289
Ruth.Gaus@cs.cmu.edu
Fax +974 492 8255

For more information on the BS in CS program, see <http://www.csd.cs.cmu.edu/education/bscs/index.html>

For more information on the Carnegie Mellon Qatar Campus, see <http://www.qatar.cmu.edu/>

Information on Qatar is available at: <http://www.experienceqatar.com/>

SOUTH CAROLINA

Coastal Carolina University

Department of Mathematics and Statistics

The College of Natural and Applied Sciences invites applications for the position of Chair in the Department of Mathematics and Statistics. The successful candidate will be a teacher-scholar interested in continuing and enhancing a strong record in teaching, mentoring, and research in the department. Applicants must have an earned doctorate in mathematics, a history of teaching excellence including curriculum development, and a strong research record. Administrative experience involving supervisory and budgetary responsibilities is preferred. This position is fifty percent administration and fifty percent teaching with the area of teaching specialization open. Department Chair is a renewable three year appointment.

Coastal Carolina University is a growing, state supported liberal arts institution where the emphasis is on undergraduate education, and increasing importance is placed on faculty-mentored student research projects and public service. Coastal Carolina University is located approximately nine miles from Myrtle Beach, South Carolina and enrolls more than 7,000 students. The department offers a major in applied mathematics and minors in mathematics, statistics and actuarial science. In addition, the University offers a Master of Education and a Master of Arts in Teaching, both with the option of a concentration in Mathematics. Coastal Carolina University also offers a Master of Science in Marine and Wetlands Studies.

Each applicant should submit a letter of application, curriculum vitae, statements of teaching and research interests, and names and addresses of five references to Dr. Joan Piroch, Interim Dean, College of Natural and Applied Sciences, Coastal Carolina University, P.O. Box 269154, Conway, SC 29528-6054. To ensure full consideration application materials must be received by November 30, 2005. For additional information visit: www.coastal.edu.

Coastal Carolina University is an EO/AA employer.

TENNESSEE

University of Tennessee

Head, Department of Mathematics

The Department of Mathematics at the University of Tennessee invites applications for the position of Head. A Ph.D. in Mathematical Sciences is required. The successful candidate should be qualified to be tenured at rank of full professor in the department. Evidence of a distinguished record of research and a commitment to teaching as well as administrative experience should be provided at the time of application. A commitment to supporting both pure and applied mathematics is expected. Strong leadership skills and the ability to work effectively with colleagues, staff, and students are especially important characteristics. Experience with curricular matters, notable activity in professional associations, and experience with generating external funding are highly desirable. The successful candidate will also have an understanding of and demonstrated commitment to equal employment opportunities and affirmative action. The Mathematics Department currently consists of 39 full-time faculty, 30 full and part-time lecturers and 60 full-time graduate students representing both pure and applied mathematics. Research is of fundamental importance to the department. The faculty has a strong commitment to graduate and undergraduate teaching, is associated with many interdisciplinary programs, and maintains close research relationships with the Oak Ridge National Laboratory. For more information about the Mathematics Department, please visit the department web site: <http://www.math.utk.edu/>.

The university welcomes and honors people of all races, creeds, cultures, and sexual orientations, and values intellectual curiosity, pursuit of knowledge, and academic freedom and integrity.

Applicants should submit a letter of application including current research interests and administrative philosophy, a curriculum vitae, and the names of at least four references. Women and minorities are encouraged to apply. Address material to: Dr. Soren Sorensen, Chair, Head Search Committee, Department of Mathematics, 121 Ayres Hall, University of Tennessee, Knoxville, TN 37996-1300. Review of applications will begin December 15, 2005 and will continue until the position is filled.

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services.

Save the Date! MathFest 2006



AUGUST 10-12
KNOXVILLE, TN



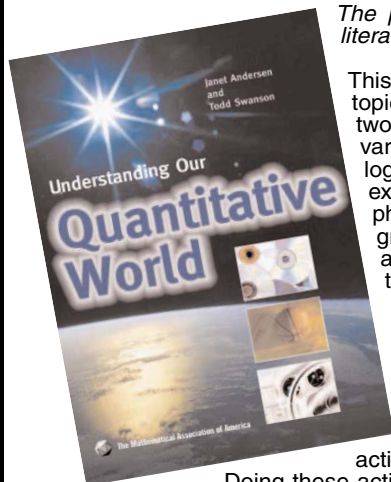
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From the

Mathematical Association of America

Understanding Our Quantitative World

Janet Andersen and Todd Swanson



The perfect text for a general education mathematics course or a course in quantitative literacy.

This text is intended for a general education mathematics course. The authors focus on the topics that they believe students will likely encounter after college. These topics fall into the two main themes of functions and statistics. After the concept of a function is introduced and various representations are explored, specific types of functions (linear, exponential, logarithmic, periodic power, and multivariable) are investigated. These functions are explored symbolically, graphically, and numerically and are used to describe real world phenomena. On the theme of statistics, the authors focus on different types of statistical graphs and simple descriptive types of statistics. Linear regression, as well as exponential and power regression, is also introduced. Simple types of probability problems as well as the idea of sampling and confidence intervals are the last topics covered in the text.

The text is written in a conversational tone. Each section begins by setting the mathematics within a context and ends with an application. The questions at the end of each chapter are called *Reading Questions* because students are expected to be able to answer most of these after carefully reading the text.

Activities and Class Exercises are also found at the end of each chapter. These activities are taken from public sources such as newspapers, magazines, and the Internet.

Doing these activities demonstrates to students that they can use mathematics as a tool in interpreting quantitative information they encounter outside of academics. The course is designed to allow students to spend most of their time in class working in groups on the activities. Rather than having students passively listen, this approach requires students to read, discuss, and apply mathematics. The text assumes that students will have access to some type of technology such as a graphing calculator.

Classroom Resource Materials • Catalog Code: UQW • 320 pp., Hardbound, 2005 • ISBN: 0-88385-738-3
List Price: \$51.50 • MAA Member Price: \$40.95

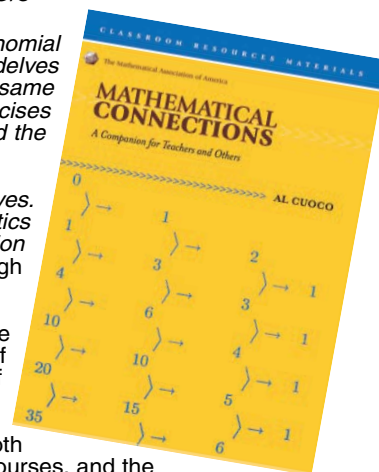
Mathematical Connections: A Companion for Teachers and Others

Al Cuoco

The book is rooted in familiar high school mathematics — finding patterns, polynomial functions, trigonometric identities, the complex numbers, and counting problems—but delves much deeper to reveal many of the connections that make these topics all part of the same fabric.... The mathematics of this book is both rich and engaging. More than 400 exercises amplify and illustrate the main ideas, sometimes suggesting other paths that might lead the reader to discover the mathematics for oneself.—Glenn Stevens, Boston University

These beautiful problem sets allow readers to discover mathematical ideas for themselves. The book emphasizes and explores those ideas and their connections to the mathematics taught in the high school classroom. I have used Cuoco's problem sets as the foundation for several courses that I have taught to other teachers.—Benjamin Sinwell, Chelsea High School and PCMI

Mathematical Connections focuses on a closely-knit collection of ideas that are at the intersection of algebra, arithmetic, combinatorics, geometry, and calculus. Some of these ideas, previously considered quite advanced, have become tractable because of advances in computational technology. Others are just beautiful classical mathematics, topics that have fallen out of fashion and that deserve to be resurrected. While the book will appeal to many audiences, one of its primary audiences is high school teachers, both practicing and prospective. It can be used as a text for undergraduate or professional courses, and the design lends itself to self study. Of course, good mathematics for teaching is also good for many other uses, so readers of all persuasions can enjoy exploring some of the beautiful ideas presented in the pages of this book.



Classroom Resource Materials • Catalog Code: MCO • 266., Hardbound, 2005 • ISBN: 0-88385-739-1
List Price: \$51.95 • MAA Member Price: \$41.95

To order:

1 (800) 331-1622 • www.maa.org



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