

# FOCUS

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*Los Angeles*

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OF AMERICA**

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CONVENTION  
ISSUE***

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# FOCUS

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Los Angeles



# Invited Addresses

## Invited Addresses

### OPENING BANQUET

THE ALTERNATIVE LIFE OF E.T. BELL

**Constance Reid**, San Francisco, CA  
Wednesday, August 2, 8:30 pm

### MAA INVITED ADDRESS

PROFOUND UNDERSTANDING OF  
FUNDAMENTAL MATHEMATICS: WHAT  
AN ELEMENTARY MATHEMATICS  
TEACHER SHOULD KNOW IN ORDER TO  
TEACH IT

**Li Ping Ma**, Carnegie Foundation  
Thursday, August 3, 8:30 am - 9:20 am

### HEDRICK-LECTURE SERIES

HOW MATHEMATICIANS STUDY CHAOS?

**Yakov Sinai**, Princeton University

LECTURE 1: Chaos and Disorder  
Thursday, August 3, 9:30am - 10:20am

LECTURE 2: Chaos as Dynamical Disorder  
Friday, August 4, 9:30 am - 10:20 am

LECTURE 3: Chaos and Hyperbolicity  
Saturday, August 5, 9:30am - 10:20 am

### MAA INVITED ADDRESS

THE MATHEMATICS OF "TOY STORY 2"

**Edwin Catmull**, Pixar Animation Studios  
Thursday, August 3: 10:30 am - 11:20 am

### AWM-MAA INVITED ADDRESS

FINITE QUANTUM CHAOS

**Audrey Terras**, University of California,  
San Diego  
Friday, August 4, 8:30 am - 9:20 am

### JAMES R. C. LEITZEL LECTURE

MATHEMATICS DEPARTMENTS IN THE  
21<sup>ST</sup> CENTURY: ROLE, RELEVANCE, AND  
RESPONSIBILITY

**William Kirwan**, Ohio State University  
Friday, August 4, 10:30 am - 11:20 am

### PI MU EPSILON/J. SUTHERLAND

#### FRAME LECTURE

THE MATHEMATICS OF COMPUTERS

**John Ewing**, American Mathematical Society  
Friday, August 4, 8:00 pm - 9:00 pm

### NAM-MAA DAVID BLACKWELL

#### LECTURE -

SINGULARITY THEORY AND  
GRAVITATIONAL LENSING

**Arlie Petters**, Duke University  
Saturday, August 5, 8:30 am - 9:20 am

### MAA INVITED ADDRESS

THE "3x + 1" PROBLEM

**Jeffrey Lagarias**, AT&T Laboratory Research  
Saturday, August 5, 10:30 am - 11:20 am

### MAA STUDENT WORKSHOP

FUN, INTERESTING, AND HISTORICAL  
EXAMPLES OF INFINITE SERIES AND  
IMPROPER INTEGRALS

**V. Frederick Rickey**, USMA at West Point  
Saturday, August 5, 1:00 pm - 2:50 pm

### MAA STUDENT LECTURE

ATTRIBUTABLE RISK ESTIMATION: A  
TALE OF MATHEMATICAL/STATISTICAL  
MODELING

**Michael O'Fallon**, Mayo Clinic  
Saturday, August 5, 3:00 pm - 3:50 pm

### AMS-MAA PRESIDENTS' LECTURE

MATHEMATICS IN THE 21<sup>ST</sup> CENTURY:  
PROBLEMS AND PROSPECTS

**Ronald L. Graham**, University of California,  
San Diego  
Sunday, August 6, 4:00 pm - 5:00 pm



# Special

## SPECIAL SESSIONS

Special Sessions feature presentations or panel discussions. The speakers are invited by the organizers and selected because of their expertise and accomplishments in the focal area of the session.

### MATH AND SCIENCE SUMMER ENRICHMENT PROGRAMS FOR GIRLS

**Julie Glass**, California State University, Hayward.

**Kathy Hann**, California State University, Hayward.

Thursday, August 3, 1:00 pm - 2:50 pm

The summer enrichment programs to be presented by panel members are designed to improve recruitment and retention of girls in science, technology, engineering and mathematics (STEM) education and careers by (1) Increasing the awareness of career options in mathematics, science and other technological fields, (2) Demonstrating that mathematics can be fun and challenging without being intimidating, (3) Strengthening basic skills, and (4) Improving work-ethic, attitudes, self-image, and written and verbal communication skills. These programs encourage young women to take advanced mathematics and science courses, and help them to make important choices that will ultimately effect their career options. It is crucial that these girls be exposed to the usefulness and importance of mathematical skills as well as to positive female role models. Today, women make up more than half the population of the United States, and yet continue to be underrepresented in high technology fields. It is vital to the future growth of our nation that women and girls have equal educational opportunity and share equally in the benefits of education. The panel will be moderated by Julie Glass and Kathy Hann. Panelists include: Jo-Anne Hart, Northeastern University; Pamela B. Lawhead, University of Mississippi; Nancy Stubbs, Caryn Hoffman, and Athlean Gee, Sweetwater Union High School District; Lynn Carole McGrath, University of Rhode Island; Linda Kekelis and Melissa Salazar, Chabot Observatory & Science Center.

### SPECIAL SESSION FOR CHAIRS OF MATHEMATICS DEPARTMENTS IN COMPREHENSIVE UNIVERSITIES, 4-YEAR LIBERAL ARTS AND TWO-YEAR COLLEGES

**Gerald L. Alexanderson**, Santa Clara University

Thursday, August 3, 3:00 pm - 5:00 pm

This session will consist mainly of breakouts into discussion groups organized around the three types of institutions.



# Sessions

## TO REFORM OR NOT REFORM: WHERE DO WE STAND NOW?

**Lisa Lister**, Bloomsburg University

**Jennifer Beineke**, Trinity College

**K. Renee Fister**, Murray State University

Friday, August 4, 1:00 pm - 2:50 pm

In recent years, there has been a strong movement in the mathematics community to "reform" teaching. Has this movement been successful? Are students now gaining a better understanding of the mathematics? Are reform books or technology required for teaching a reform class? In this workshop, we will attempt to answer some of these questions and others. Participants will be divided into groups to discuss such topics and other issues, developing possible answers. Then members of a panel will give their input and explain why they have made the decisions about reform that they have over the years.

## DEVELOPING EFFECTIVE TEACHING ASSISTANTS

**Solomon Friedberg**, Boston College

Friday, August 4, 3:00 pm - 5:00 pm

This session addresses faculty who have or will have the responsibility for training graduate students to lead problem classes or recitation sections as well to teach a course on their own. The panel will explore issues central to the preparation of graduate teaching assistants. The discussion will focus on detailing a variety of instructional formats and procedures that work with large and small groups of graduate student trainees, highlight instructional support materials, examine the role of the faculty mentor, and address the needs and responsibilities of graduate students as they anticipate their teaching role. The panel will be moderated by Solomon Friedberg. Panelists include Thomas Rishel, Cornell University; Elizabeth Brown, Boston University.

## PROGRAMS FOR MINORITY STUDENTS

**William A. Hawkins, Jr.**, MAA and University of the District of Columbia.

Saturday, August 5, 1:00 pm - 2:50 pm

This panel discussion is sponsored by the SUMMA (Strengthening Underrepresented Minority Mathematics Achievement) Program of the MAA. Panelists will discuss various programs for minority precollege and college students as well as for faculty at minority institutions.

## Exhibit Hall INFORMATION

Shop for new publications and products and revisit your old favorites at the **Mathfest 2000 Exhibit Hall**. This is your opportunity to review the latest books, test innovative calculators and preview software. Meet company representatives and receive feedback that will assist you in making purchasing decisions.

In the Exhibit Hall, you will find the popular **MAA Bookstore**. There you can select from MAA's extensive collection of books on mathematics education, and related topics. Schedule time to browse through the new titles premiering at the Mathfest 2000. Purchase books at the meeting any you'll save money with a special discount.

### LOCATION:

The Exhibit Hall will be located in the Bradley International Center located on the U.C.L.A. campus in Los Angeles, California.

### EXHIBIT HOURS:

**Thursday, August 3, 2000**  
9:00 am - 5:00 pm

**Friday, August 4, 2000**  
9:00 am - 5:00 pm

**Saturday, August 5, 2000**  
9:00 am - 3:00 pm

# SPECIAL



# Contributed Paper

## CONTRIBUTED PAPER SESSIONS

MAA Contributed Paper Sessions are normally organized around a predetermined topic. Presenters are selected by the paper organizers after reviewing responses to a call for papers.

### MATHEMATICS ACROSS THE DISCIPLINES

Thursday and Friday afternoons

Part 1: Thursday, August 3, 1:00 pm - 3:00 pm

Part 2: Friday, August 4, 1:00 pm - 3:00 pm

**Maya Kiehl**, Rensselaer Polytechnic Institute

**Rich Marchand**, SUNY Fredonia

A common tendency among students is to view mathematics as a separate discipline all to its own and never fully appreciating its applications in other fields. Additionally, students often fail to realize how other disciplines can motivate mathematical investigations. This session invites papers describing interdisciplinary initiatives designed to integrate mathematics with one or more partner disciplines. We are particularly interested in novel applications that can be transported to curricula at other educational institutions. Examples may include, but are not limited to: one activity; one class; one project; one course; or an entire curriculum. Participation of colleagues from nonmathematical disciplines is highly encouraged.

### INNOVATIVE USES OF TECHNOLOGY IN TEACHING MATHEMATICS

Thursday and Friday afternoons

Part 1: Thursday, August 3, 3:15 pm - 5:15 pm

Part 2: Friday, August 4, 3:15 pm - 5:15 pm

**Mary L. Platt**, Salem State College

**Marcelle Bessman**, Jacksonville University

How are you using technology to support and enhance your student's learning of mathematics? Share your ideas and experiences with other mathematics educators. In particular, we seek papers that describe how technology can and is being used to support conceptual understanding and/or demonstrate applications of mathematics to real world problems. Any level of mathematics course is welcome. This session is sponsored by the Committee on Computers in Mathematics Education (CCIME).

### STUDENT ACTIVE LEARNING

Friday and Saturday afternoons

Part 1: Friday, August 4, 1:00 pm - 3:00 pm

Part 2: Saturday, August 5, 1:00 pm - 3:00 pm

**Donna Beers**, Simmons College

There has been increasing interest in the Student Active Learning approach to teaching that is based on the assumptions that learning is an active endeavor and that different students learn in different ways. The goal of this approach is to improve learning and retention in

mathematics and it is accomplished through use of a variety of teaching strategies that supplement class lectures and actively engage students in their learning. In addition to cooperative group learning, methods used include: guided laboratory explorations, thinking aloud paired problem solving, building concept mappings, and case studies. This session invites papers that describe experiences in utilizing Student Active Learning in mathematics courses, including impact on student learning.

### MATHEMATICS COURSES TO PREPARE K-12 TEACHERS FOR THE 21ST CENTURY – PROMISING TEACHING STRATEGIES AND CONTENT

Friday and Saturday afternoons

Part 1: Friday, August 4, 3:15 pm - 5:15 pm

Part 2: Saturday, August 5, 4:00 pm - 6:00 pm

**M. Kathleen Heid**, Pennsylvania State University

This session, sponsored by the Committee on the Mathematical Education of Teachers, focuses on the design of mathematics courses to enhance K-12 teachers' abilities to teach mathematics for the 21st Century. Proposals should describe clearly the mathematics and pedagogy in these courses designed for teachers. They should present evidence of the effectiveness of these courses and some explanation of why these courses work the way they do. More theoretical papers based on theories of how K-12 students as well as college students learn and suggesting principles for the creation of mathematics courses that will serve K-12 teachers well are also welcome.

### TECHNOLOGY BASED MODELING IN MATHEMATICS COURSES

Thursday, August 3, 1:00 pm - 3:00 pm

**Howard Lewis Penn**, U.S. Naval Academy

**Rebecca Hill**, Rochester Institute of Technology

This session invites papers from any course where computers, calculators or other forms of technology are used as part of a project involving mathematical modeling. Papers that emphasize student projects are especially welcome.

### READING TO LEARN MATHEMATICS

Thursday, August 3, 3:15 pm - 5:15 pm

**Bonnie Gold**, Monmouth University,

**Janet Andersen**, Hope College

We all believe that it's important for students to read the text. However, most undergraduates only open their textbooks to see what problems are assigned, or at best, go through the section looking at what has been highlighted. How can we (1) help students learn to read mathematics successfully, and (2) get them to actually read the text? Papers on methods which have succeeded are invited. Sponsored by the Committee on the Teaching of Undergraduate Mathematics (CTUM).



# Sessions

## RESTRUCTURING THE MATHEMATICS BACHELOR DEGREE

Saturday, August 5, 1:00 pm - 3:00 pm

**Lisa Townsley Kulich**, Benedictine College

**Donald Mason**, Elmhurst College

**Satish C. Bhatnagar**, University of Nevada Las Vegas

Many changes in curricular approaches over the past decade have recast the undergraduate mathematics major, leading to new pedagogical emphases. Papers presented at this session will highlight reformations of the undergraduate mathematics major program that result from such changes. Adjustments, which renew the major, may occur in curriculum, research activities, instructional tools, and graduation requirements. For example, presenters may outline new "lean and lively" degree requirements, or demonstrate how technological advances have led to the creation of new research requirements for math majors. Perhaps your department offers new concentrations or collaborative degrees such as actuarial studies, secondary education industrial mathematics, biostatistics, etc. The session audience would benefit from data to demonstrate the effect of such adjustments on recruitment and retention of majors, and effects on pipelines to graduate study.

## MATHEMATICS DAY: A TOOL IN TEACHING, GUIDING, AND ENCOURAGING STUDENTS IN MATHEMATICS

Saturday, August 5, 4:00 pm - 6:00 pm

**Sarah L. Mabrouk**, Boston University

Many college/university mathematics departments conduct Mathematics Days during the academic year to encourage the interest of both high school and college students in mathematics, to help students to understand the applications of mathematics to various disciplines, or to allow students to display what they have learned as a result of class projects or research. During this session, a variety of Mathematics Days designed for high school and college students will be highlighted. The participants are encouraged to share their experiences in organizing and in conducting a Mathematics Day, discussing both the rewards and the difficulties. Of particular interest is the effect of the Mathematics Day on the students who attend.

## GENERAL CONTRIBUTED PAPER SESSION

Part 1: Thursday, August 3, 1:00 pm - 5:00 pm

Part 2: Friday, August 4, 1:00 pm - 5:00 pm

**Robert G. Stein**, California State University, San Bernardino

## Call for Contributed Paper Session ORGANIZERS

The MAA Committee on Sessions of Contributed Papers selects the topics and organizers for the contributed paper sessions at Mathfests and at the national meeting. The committee would be delighted to hear from MAA members who are interested in organizing sessions or who have suggestions for topics.

Planning is now underway for the Mathfest in Madison, Wisconsin, August 2-4, 2001 and for the Joint Mathematical Meetings in San Diego, California, January 6-9, 2002. The deadline for receipt of proposals for contributed paper sessions for the Madison Mathfest is July 31, 2000 and for the Joint Meetings in San Diego is December 31, 2000.

Send (preferably by e-mail) proposal title, name(s) and address(es) of the organizer(s), and a one-page summary to the chair of the committee, Howard Penn.

*E-mail:* [hlp@usna.edu](mailto:hlp@usna.edu)

*Address:* Department of Mathematics  
U.S. Naval Academy  
Annapolis, MD 21402

*Phone:* (410) 293 6702

*Fax:* (410) 293 4883



## Call for Minicourse ORGANIZERS

The MAA Committee on Minicourses is soliciting proposals for minicourses to be given at Mathfest 2001 in Madison, Wisconsin and at the Joint Mathematics Meeting in San Diego, California, January 6-9, 2002. Most minicourses are related to undergraduate curriculum, although any topic of interest to the MAA membership will be considered.

To receive more information on how to submit a proposal, to discuss your idea for a proposal, or to suggest a topic for a course you would like to take, contact George R. Bradley, Department of Mathematics and Computer Science, Duquesne University, Pittsburgh, PA 15282; tel. (412) 396-5115; fax. (412) 369-5197; e-mail: [bradley@duq.edu](mailto:bradley@duq.edu).

The deadline for submissions for the Madison Mathfest is June 30, 2000 and for the Joint Mathematics Meeting in San Diego is November 30, 2000.

## Call for Student PAPERS

Students who wish to present a paper at the LA Mathfest must be nominated by a faculty advisor familiar with the work to be presented. Students who make presentations at the Mathfest, and who are also members of MAA Student Chapters, are eligible for partial travel reimbursement pending support from the Exxon Educational Foundation.

To propose a paper for presentation, the student must complete a form and obtain the signature of a faculty sponsor. Nomination forms are located on MAA Online at [www.maa.org](http://www.maa.org) under STUDENTS, or can be obtained from Dr. Charles Diminnie by e-mail at [charles.diminnie@angelo.edu](mailto:charles.diminnie@angelo.edu) or by phone at (915) 942-2317, ext. 238. Deadline for receipt of papers is June 30, 2000.

# Minicourses

## MINICOURSES

Minicourses offer four hours of focused instruction. Enrollment is limited and a separate registration fee is required. Refer to Registration Information for details.

### TRANSFORMING ANXIETY INTO HATRED: RETHINKING THIS STANDARD MODEL OF REACHING LIBERAL ARTS STUDENTS AND THE GENERAL PUBLIC

Thursday and Friday afternoons  
 Part A: Thursday, August 3, 1:00 pm - 3:00 pm  
 Part B: Friday, August 4, 1:00 pm - 3:00 pm

**Edward B. Burger**, Williams College  
**Michael Starbird**, University of Texas at Austin

Mathematics contains great ideas and powerful methods of analysis that transcend mathematics. Topics such as infinity, the fourth dimension, probability, and chaos spark everyone's imagination. These ideas are comparable to masterpieces of art, philosophy, and literature. Our challenge is to convey the genuinely deep ideas of mathematics and the important strategies of analysis and thought in a lively, fun, and enticing manner. Here participants will experience hands-on methods for bringing deep mathematical results and general techniques of thought to life for those who are not math fans.

### DISCRETE DYNAMICAL SYSTEMS: MATHEMATICS METHODS AND MODELS

Thursday and Friday afternoons  
 Part A: Thursday, August 3, 1:00 pm - 3:00 pm  
 Part B: Friday, August 4, 1:00 pm - 3:00 pm

**David C. Arney**, United States Military Academy  
**Frank R. Giordano**, COMAP  
**John Robertson**, Georgia College and State University  
**Maury Weir**, Naval Postgraduate School

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 teaching of discrete dynamical systems, with an emphasis on modeling, is discussed. Important mathematical concepts such as equilibria, stability, and long-term behavior are covered along with an introduction to numerical, graphical, and analytical solution methods. The presenters have written a textbook on this subject and advocate teaching this course to freshmen.

### A DYNAMICAL SYSTEMS APPROACH TO THE DIFFERENTIAL EQUATIONS COURSE

Thursday and Saturday afternoons  
 Part A: Thursday, August 3, 3:15 pm - 5:15 pm  
 Part B: Saturday, August 5, 1:00 pm - 3:00 pm

**Paul Blanchard**, Boston University

This course will be useful to college instructors wishing to restructure their ODE course; it is based upon the NSF-sponsored Boston University Differential Equations Project. It includes more emphasis on quantitative



# urses

and geometric methods as well as the incorporation of technology and numerical methods throughout. The course will include a number of demonstrations of how technology is used in the course at Boston University over a variety of computer platforms.

## POLYHEDRAL MODELS AND METHODS OF PROOF IN GROUP THEORY AND GRAPH THEORY

Thursday and Saturday afternoons

Part A: Thursday, August 3, 3:15 pm - 5:15 pm

Part B: Saturday, August 5, 1:00 pm - 3:00 pm

**Raymond F. Tennant**, Eastern Kentucky University

A longstanding method for understanding mathematical proofs involves the creation of two or three-dimensional models which illustrate particular mathematical ideas. This hands-on minicourse will discuss models and proof techniques, which can be used in interdisciplinary classes, abstract algebra courses, and thesis projects. The projects involve sketching and building models to describe ideas in group theory, geometry, topology, and hyperspace. Participants in the minicourse will design constructions for incorporation into their own classes.

## INTERRELATIONS FOR UNDERGRADUATE MATHEMATICS COURSES: CAPSTONE AND OTHERS

Friday and Saturday afternoons

Part A: Friday, August 4, 3:15 pm - 5:15 pm

Part B: Saturday, August 5, 3:15 pm - 5:15 pm

**Simon R. Quint**, Stockton College of New Jersey

Interconnectedness is characteristic of contemporary mathematics. Would our undergraduates agree? This minicourse interactively presents material based on a manuscript for a capstone course on Interrelations in and from Undergraduate Mathematics. It could also provide interrelational companion pieces to various courses, to give students a hint of the pervasiveness, import, and beauty of mathematical interconnections and some associated reasons for thinking in terms of them. Topics include introductory aspects of multifaceted Lie algebras & Lie groups and elliptic curves as inter-connectors – supported by calculus – among algebra, analysis, number theory and geometry.

## A HANDS-ON APPROACH TO GEOMETRY

Friday and Saturday afternoons

Friday, August 4, 3:15 pm - 5:15 pm

Saturday, August 5, 3:15 pm - 5:15 pm

**Colm Mulcahy**, Spelman College

**Jeffrey Ehme**, Spelman College

Too often, geometry is presented exclusively axiomatically, divorced from real-world experiences (and sometimes pictures too). Natural curiosity about practical considerations (e.g., symmetry, locations, distances, areas and navigation) can be turned into a genuine desire to learn mathematics when a hands-on, discovery-based approach is taken. This interactive minicourse will show how traditional planar geometry and much more can be explored in a cooperative group-learning environment. Spherical geometry in particular will be considered, as well as hyperbolic and projective geometry as time permits.

## THE 2-DAY SHORT COURSE

### INTRODUCTION TO ERROR CORRECTING CODES

Tuesday & Wednesday, August 1-2, 9:00 am - 5:00 pm

Organized by **Vera Pless**, University of Illinois – Chicago and **W. Cary Huffman**, Loyola University – Chicago

The practical origins of coding are in the reliable transmission of digitally encoded information. This is the motivation for the study of error-correcting codes. Linear codes will be defined and many examples given detailing various encoding and decoding procedures. A very useful theorem on weight distributions will be given. Promising classes of codes such as cyclic codes and self-dual codes will be explored as will famous codes from these classes such as the Golay codes. Well-known algebraic structures give practical information needed to use these codes. Very good codes often “hold” very good combinatorial designs. Relations with combinatorial designs can be used to decode the code.

Error-correcting codes provide the high fidelity in compact disc recordings. They are also the means whereby information can be transmitted from outer space to earth. A panel will examine some of these achievements and possible difficulties. Speakers include: Jacobus van Lint, Eindhoven University of Technology, Eindhoven, The Netherlands; Robert McEliece, California Institute of Technology and the Jet Propulsion Laboratory; and Fabrizio Pollara, Jet Propulsion Laboratory.

## TEACHING WORKSHOP

### TEACHING WORKSHOP FOR GRADUATE STUDENTS AND NEW FACULTY

Thursday, August 3, Noon - 2:00 pm and 3:30 pm - 5:30 pm

**Thomas W. Rishel**, Cornell University

This workshop is aimed primarily for incoming graduate students who expect to begin their first teaching duties. It would also be useful for young faculty just beginning their teaching assignments, as well as people who have been designated as trainers of graduate students and mentors of junior faculty. We will discuss the various types of TA jobs that schools offer, such as recitation instruction, paper grading, and classroom teaching. We will concentrate on such “nuts and bolts” items of teaching as where to get textbooks and syllabi, how to plan classes, how to grade quickly and accurately, and how to deal with class supervisors. We will then move onto advice on how to construct reasonable quizzes and exams, and how to decide on grading policy. We will also discuss crisis situations that can occur, for instance, what can we do if a student cheats, or behaves bizarrely in class, or accuses us of something, etc.



# SOCIAL EVENTS

## “LIGHTS, CAMERA, LOS ANGELES!”

Wednesday, August 2, 9:00 am - 2:00 pm

Tour historic Los Angeles! Leave Sunset Village at 9:00 am for a narrated tour of downtown Los Angeles, Hollywood, and Beverly Hills. Sightseeing stops include Olivera Street, the Farmers Market, Mann's Chinese Theatre, and Rodeo Drive. Time for lunch on one's own provided at the Farmer's Market. Tickets are \$28 and are available through advanced registration only. (A minimum of 40 participants is required for this event)

## OPENING RECEPTION

Wednesday, August 2, 6:30 pm - 7:30 pm

The Association is pleased to hold a cocktail hour for all Mathfest participants just prior to the Opening Banquet.

## OPENING BANQUET

Wednesday, August 2, 7:30 pm - 10:00 pm

**Master of Ceremonies: Arthur Benjamin,** Harvey Mudd College

Continue this exciting evening by joining new and long-time friends and colleagues for a California-style grilled salmon dinner. An after-dinner talk "The Alternative Life of E.T. Bell" will be given by Constance Reid. Tickets are \$28 and are available through advance registration only. (Vegetarian also available)

## SOUTHERN CALIFORNIA BARBEQUE

Thursday, August 3, 6:15 pm - 8:00 pm

Come one, come all to an authentic Southern California Barbeque! Enjoy socializing with your colleagues over mesquite-grilled chicken, pork spareribs, corn on the cob, and more! Cash bar, beer, California wine and soft drinks. Tickets are \$23 adults, \$12 children 11 and under. Purchasing tickets through advanced registration is recommended. Only a limited number will be available for sale onsite.

## AWM RECEPTION

Thursday, August 3, 8:00 pm - 11:00 pm

Plan to attend this cooperative party with the Association for Women in Mathematics on Thursday evening at 8:00 pm following the Barbeque. All supporters of women in mathematics are encouraged to attend and to meet AWM members.

## PME BANQUET

Friday, August 4, 6:00 pm - 7:45 pm

Tickets are \$12 for PME members and their families as well as for MAA Student Chapter members and students giving talks in MAA Student Paper Sessions, and \$20 for nonmembers. After the banquet, at 8:00 pm attend the popular PME J. Sutherland Frame lecture, given this year by John Ewing, Executive Director of the American Mathematical Society, who will speak on "The Mathematics of Computers".

## MAA 25-YEAR MEMBER BANQUET

Saturday, August 5, 6:30 pm - 9:00 pm

The 23rd annual banquet honors those individuals who have been members of the MAA for 25 years or more. The moderator will be Gerald L. Alexanderson of Santa Clara University. Basil Gordon of UCLA will speak on "Some Curiosities About Mathematical Problems". There will be a cash-bar reception beginning at 6:00 pm prior to the banquet. Tickets are \$28. Purchasing tickets through advanced registration is recommended, since only a limited number of tickets will be available for sale onsite.

## TOUR OF THE GETTY MUSEUM

Sunday, August 6, 10:00 am - 3:00 pm

The Getty offers a vast collection of European paintings, decorative arts, Old Master drawings, Medieval and Renaissance manuscripts, and American and European photographs. The beautifully landscaped grounds feature tranquil gardens and panoramic views of the city, mountains, and sea. Buses will leave the UCLA campus at approximately 10 a.m. and return at 3 p.m. For those on the UCLA meal plan, box lunches will be provided. There are restaurants at the museum. Cost for this trip is \$5/person; there is no charge for a child sitting on an adult's lap. Space is limited, so reserve early! To see more information about the museum, special daily programs, and children's activities, visit <http://www.getty.edu>.



## STUDENT ACTIVITIES

Students and faculty will be interested in presentations of student work in sessions sponsored by the MAA and PME, and in the invited lectures developed with students in mind. Starting with a student reception on Wednesday evening, the LA Mathfest includes a rich array of activities for students. At the Student Hospitality Center – open Thursday through Saturday, 9:00 am - 5:00 pm – students and other Mathfest attendees can meet for informal conversation, refreshment, and mathematical diversions. The Hospitality Center also provides programs for the student paper sessions, packets for student presenters, and information on Mathfest activities of interest to students. Special information for students can be found on MAA Online at [www.maa.org](http://www.maa.org).

### MAA /PI MU EPSILON STUDENT RECEPTION

Wednesday, August 2, 5:30 pm - 6:30 pm

### GRADUATE STUDENT RECEPTION

Thursday, August 3, 5:30 pm - 6:30 pm

### MAA AND PI MU EPSILON STUDENT PAPERS SESSIONS

Thursday, August 3, 1:00 pm - 5:00 pm

Friday, August 4, 1:00 pm - 5:00 pm

### PME BANQUET

Friday, August 4, 6:15 pm - 7:45 pm

See the Mathfest Registration Form for ticket information

### PI MU EPSILON J. SUTHERLAND FRAME LECTURE

Friday, August 4, 8:00 pm - 9:00 pm

**John Ewing**, American Mathematical Society

The Mathematics of Computers

### MAA STUDENT WORKSHOP

Saturday, August 5, 1:00 pm - 2:50 pm

**V. Frederick Rickey**, USMA at West Point

Fun, Interesting, and Historical Examples of Infinite Series and Improper Integrals.



### MAA STUDENT LECTURE

Saturday, 3:00 pm - 3:50 pm

**Michael O'Fallon**, Mayo Clinic

Attributable Risk Estimation: A Tale of Mathematical/Statistical Modeling

### STUDENT PROBLEM SOLVING COMPETITION

Saturday, August 5, 4:00 pm - 4:50 pm

**Richard Neal**, University of Oklahoma

This is the finals of the Problem Solving Competition. Universities and colleges that participate monthly on their own campuses by holding problem solving contests are invited to send two contestants. Each contestant will be required to solve a series of mathematical problems. Based upon the outcome, a champion and runner-up will be named.

### MAA MATHEMATICAL CONTEST IN MODELING (MCM) WINNERS

Saturday, August 5, 5:00 pm - 5:50 pm

**Remember to  
Register  
Early!**

**Early bird  
registration deadline  
for Mathfest 2000  
is June 8, 2000.**



# REGISTER

# HOW TO

## EARLY BIRD REGISTRATION:

Register by June 8 to take advantage of the early bird savings and receive your registration packet before the meeting. Registration packets will be mailed on July 6 and there will be no need to register once you arrive.

## REGULAR REGISTRATION:

Advance Registration/Housing Forms received after June 8 and before July 3 must include regular registration fees. Participants registering during this period must pick up their registration packets at the registration desk. Participants may also register on-site at the registration desk.

## ONLINE REGISTRATION:

Register on the internet for Mathfest, dormitory housing, and reservations at the Holiday Inn. Go to [www.maa.org](http://www.maa.org) and click on "Register for Mathfest 2000". Credit card payment is required for internet registration. Payment is accepted with the following credit cards only: MasterCard, Visa, American Express, and Discover.

## MATHFEST CANCELLATIONS:

Mathfest cancellations must be received by July 24 to receive a 50% refund for registration. If your registration packet was mailed before your cancellation, you must return your badge to the address listed on page 11 to receive your refund.

## MINICOURSE/SHORT COURSE REGISTRATION:

Advance Registration/Housing Forms must be received by July 3. Enroll early; space is limited! If a course is full, you will be notified. On-site registration is allowed if enrollment permits. The MAA reserves the right to cancel courses due to low enrollment. Full refunds will be issued for cancelled courses. Otherwise, minicourse and/or short course cancellations must be received by July 24 to receive a 50% refund.

## REGISTRATION DESK:

The registration desk will be located in Bradley International Hall, near Sunset Village at UCLA. It will be open Wednesday, August 2 from 12:00 pm-7:00 pm, Thursday, August 3 and Friday, August 4 from 8:00 am-4:00 pm, and Saturday, August 5 from 8:00 am-2:00 pm. You may pick up your registration materials, register on-site, and purchase event tickets, where available, at this location.

## MATHFEST HOUSING

Rooms may be reserved at the Holiday Inn Brentwood Hotel, Doubletree Hotel, Hotel Del Capri, or at UCLA.

## HOTELS:

All rates are subject to a 14% sales/occupancy tax. Rooms will fill quickly at these properties so participants are advised to reserve rooms as early as possible. (See also hotel-style rooms in Sunset Village below.)

Reservations for the Holiday Inn can be made through the Mathematics Meetings Service Bureau (MMSB) only. Reservations cannot be made directly with the hotel.

### HOLIDAY INN BRENTWOOD BEL-AIR

(1 mile from UCLA)  
170 N. Church Lane  
Los Angeles, CA 90049  
310 - 476-6411; 310-471-3667 (fax)  
\$129 s/d

Credit card guarantee necessary. Full service; each room has private balcony, king or 2 double beds full amenities. Restaurant. Self parking \$8/day, valet \$10 per day (subject to change) (Note: ROOMS WITH DEPARTURES LATER THAN 8/5 EXTREMELY LIMITED.) limited complimentary shuttle to and from UCLA. Deadline for reservations through the MMSB: 7/5/00.

**Please contact these hotels directly for reservations.**

### DOUBLETREE HOTEL BRENTWOOD

(1 mile from UCLA)  
10740 Wilshire Boulevard  
Los Angeles, CA 90024  
310-475-8711; 310-475-5220 (fax)  
toll free reservations - 1-800-472-8556 \$129 s/d

Credit card guarantee necessary. Full service. 24-hour cancellation policy. Full amenities. Restaurant/lounge. Covered parking \$16 overnight with in/out privileges (subject to change) limited complimentary shuttle to and from UCLA. Deadline for reservations: 7/10/00

### HOTEL DEL CAPRI

(9 blocks from UCLA; car needed)  
10586 Wilshire Boulevard  
Los Angeles, CA 90024  
310-474-3511; 310-470-9999 (fax)  
toll free 1-800-44HOTEL

European hotel; multi-lingual staff. Guest rooms - single \$90, double \$100 guest suites - single \$110, double \$120. (Note: NUMBER OF ROOMS LIMITED. Rates include parking.) No restaurant; complimentary continental breakfast served each morning \$1.00 per breakfast per day charge added to bill at checkout. Credit card guarantee necessary. 4-week cancellation policy with no penalty 2-week cancellation policy with 50% penalty Deadline for reservations: 7/10/00



**UNIVERSITY HOUSING:**

Located in Sunset Village at UCLA

All rates listed below include complimentary guest privileges at recreational facilities on campus, a daily meal package of breakfast and lunch, starting with breakfast on day after arrival and ending with lunch on day of departure. Sorry, refunds cannot be issued for meals missed at the meeting. Children under 5 are free of charge. Children between 5 and 12 are free of charge in the rooms and receive meal tickets at a discounted rate. Children over 12 pay full adult rates. There is a \$20 charge per day per rollaway for anyone, at any age. Maximum number of people in a room in Sunset Village or Dykstra is three. Maximum number of people in a residence suite is four.

To make reservations at UCLA, you must complete an Advance Registration/ Housing Form. Reservations cannot be made directly with the university. Detailed room rates may be found on the Advance Registration/Housing Form.

Rooms will be available from July 30 to August 5 at the following halls:

**SUNSET VILLAGE**

Hotel-style rooms with air-conditioning and private bathrooms; all nonsmoking. Rooms include full amenities including Cable TV. \$106.50 per person for a single and \$60.00 per person for a double. Daily maid service is included. Breakfast and lunch is included. Check-in at Sunset Village Lobby.

**DYKSTRA HALL**

Residence hall with community bathrooms on each floor; all nonsmoking. Rooms are not air-conditioned. \$74.50 per person for a single and \$44.00 per person for a double. Daily towel exchange at front desk is included. Breakfast and lunch is included. Check-in at Dykstra Lobby.

**RESIDENCE SUITES**

Suites located in Saxon Hall or Hitch Hall. These halls are located slightly uphill. All suites have two bedrooms (two twin beds in each), a living room, and a private bathroom. All suites are nonsmoking but are not air-conditioned. Kitchen facilities are not available in these suites. \$168.50 per person for a single, \$91.00 per person for a double, \$65.17 per person for a triple, and \$52.25 per person for a quad. Daily towel exchange at front desk is included. Breakfast and lunch is included. Check-in at Rieber Hall Lobby or Hedrick Hall Lobby.

To reserve university housing, your registration/housing form must be received by July 3, 2000. Changes may be accepted by the Mathematics Meetings Service Bureau (MMSB) by July 12, 2000. After this date, changes will be taken by the MMSB on a minimal basis and based on availability. A 10%

cancellation fee will be charged for all university housing cancellations made by July 12, 2000. There will be no refunds issued for changes and cancellations of university housing after July 12, 2000.

Meals will be served at Covell Commons in Sunset Village. Operation hours and meal prices (for cash basis only) are — Sunday through Saturday: Breakfast 7:00 am to 10:00 am (door price \$6.50), Lunch 11:00 am to 2:00 pm (door price \$8.50), and Dinner 5:00 pm to 9:00 pm (door price \$12.00). Hours subject to change. All meals are all-you-can-eat and include hot entrees, made-to-order deli sandwiches, homemade pizza, fresh salads and seasonal fruit along with beverages and desserts. Sorry, Kosher meals are not offered.

**PAYMENT/MAILING ADDRESS**

The MAA has contracted with the American Mathematical Society as its meeting planner. The MMSB will coordinate registration and housing. Make checks payable to the MMSB. Checks drawn on foreign banks must be in equivalent foreign currency at current exchange rates. Mail/ fax forms to:

**Mathematics Meetings Service Bureau (MMSB)**  
 P. O. Box 6887  
 Providence, RI 02940-6887  
 Fax: 401-455-4004

**QUESTIONS/CHANGES ON REGISTRATION AND HOUSING:**

1-800-321-4267, ext. 4143 or 4144  
 Email: mmsb@ams.org

**AIRLINE INFORMATION:**

Special rates available through July 31-August 15, 2000. For reservations call toll free 1-877-874-7687 between the hours of 8:00am-9:30pm EST. Refer to Gold File number 18611161.

**AUTO RENTAL INFO:**

Special Offering from Avis effective July 26-August 19,2000. Advance reservations strongly advised. Call toll free 1-800-331-1600. Refer to rate code 00 for daily and weekly rentals, and rate code E2 for weekend rentals. Avis Worldwide Discount (AWD) number is J09937.

**UCLA TRAVEL INFORMATION:**

For UCLA discounted services with UCLA Travel Center call toll free 1-800-235-8252 between the hours of 7:30am-6:00pm PST and select "Summer Conference". Inform travel agent you are attending the MAA Conference.





# PROGRAM-AT-A-GLANCE

	INVITED ADDRESSES	SPECIAL SESSIONS	CONTRIBUTED PAPER SESSIONS	MINICOURSES	STUDENT ACTIVITIES	GENERAL ACTIVITIES
August 1 <b>TUESDAY</b>						The 2-Day Short Course <b>INTRODUCTION TO ERROR CORRECTING CODES</b> 9:00 am - 5:00 pm Vera Pless W.Cary Huffman
August 2 <b>WEDNESDAY</b>	Opening Banquet <b>THE ALTERNATIVE LIFE OF E.T. BELL</b> 8:30 pm Constance Reid				MAA /PI MU EPSILON STUDENT RECEPTION 5:30 pm - 6:30 pm	The 2-Day Short Course <b>INTRODUCTION TO ERROR CORRECTING CODES</b> 9:00 am - 5:00 pm Vera Pless W. Cary Huffman  "LIGHTS, CAMERA, LOS ANGELES" 9:00 am - 2:00 pm <b>OPENING RECEPTION</b> 6:30 pm - 7:30 pm <b>OPENING BANQUET</b> 7:30 pm - 10:00 pm Master of Ceremonies: Arthur Benjamin
August 3 <b>THURSDAY</b>	MAA Invited Address <b>PROFOUND UNDERSTANDING OF FUNDAMENTAL MATHEMATICS; WHAT AN ELEMENTARY MATHEMATICS TEACHER SHOULD KNOW IN ORDER TO TEACH IT</b> 8:30 am - 9:20 am Li Ping Ma Hedrick-Lecture Series <b>HOW MATHEMATICIANS STUDY CHAOS?</b> LECTURE 1: Chaos and Disorder 9:30am - 10:20am Yakov Sinai MAA Invited Address <b>THE MATHEMATICS OF "TOY STORY 2"</b> 10:30 am - 11:20 am Edwin Catmull	<b>MATH AND SCIENCE SUMMER ENRICHMENT PROGRAMS FOR GIRLS</b> 1:00 pm - 2:50 pm Julie Glass Kathy Hann  <b>SPECIAL SESSION FOR CHAIRS OF MATHEMATICS DEPARTMENTS IN COMPREHENSIVE UNIVERSITIES, 4-YEAR LIBERAL ARTS AND TWO-YEAR COLLEGES</b> 3:00 pm - 5:00 pm Gerald L. Alexanderson	<b>MATHEMATICS ACROSS THE DISCIPLINES</b> 1:00 pm - 3:00 pm Maya Kiehl Rich Marchand  <b>INNOVATIVE USES OF TECHNOLOGY IN TEACHING MATHEMATICS</b> 3:15 pm - 5:15 pm Mary L. Platt Marcelle Bessman  <b>TECHNOLOGY BASED MODELING IN MATHEMATICS COURSES</b> 1:00 pm - 3:00 pm Howard Lewis Penn Rebecca Hill  <b>READING TO LEARN MATHEMATICS</b> 3:15 pm - 5:15 pm Bonnie Gold Janet Andersen  <b>GENERAL CONTRIBUTED PAPER SESSION</b> 1:00 pm - 5:00 pm Robert G. Stein	<b>TRANSFORMING ANXIETY INTO HATRED: RETHINKING THIS STANDARD MODEL OF REACHING LIBERAL ARTS STUDENTS AND THE GENERAL PUBLIC</b> 1:00 pm - 3:00 pm Edward B. Burger Michael Starbird  <b>DISCRETE DYNAMICAL SYSTEMS: MATHEMATICS METHODS AND MODELS</b> 1:00 pm - 3:00 pm David C. Arney Frank R. Giordano John Robertson Maury Weir  <b>A DYNAMICAL SYSTEMS APPROACH TO THE DIFFERENTIAL EQUATIONS COURSE</b> 3:15 pm - 5:15 pm Paul Blanchard  <b>POLYHEDRAL MODELS AND METHODS OF PROOF IN GROUP THEORY AND GRAPH THEORY</b> 3:15 pm - 5:15 pm Raymond F. Tennant	<b>GRADUATE STUDENT RECEPTION</b> 5:30 pm - 6:30 pm	Teaching Workshop <b>TEACHING WORKSHOP FOR GRADUATE STUDENTS AND NEW FACULTY</b> Noon - 2:00 pm and 3:30 pm - 5:30 pm Thomas W. Rishel  <b>BARBEQUE</b> 6:15 pm - 8:00 pm  <b>AWM RECEPTION</b> 8:15 pm - 9:15 pm



# PROGRAM-AT-A-GLANCE

	INVITED ADDRESSES	SPECIAL SESSIONS	CONTRIBUTED PAPER SESSIONS	MINICOURSES	STUDENT ACTIVITIES	GENERAL ACTIVITIES
<p>August 4</p> <p><b>THURSDAY</b></p>	<p>AWM-MAA Invited Address <b>FINITE QUANTUM CHAOS</b> 8:30 am - 9:20 am <b>Audrey Terras</b></p> <p>Hedrick-Lecture Series <b>HOW MATHEMATICIANS STUDY CHAOS?</b> LECTURE 2: Chaos as Dynamical Disorder 9:30 am - 10:20 am <b>Yakov Sinai</b></p> <p>James R. C. Leitzel Lecture <b>MATHEMATICS DEPARTMENTS IN THE 21<sup>st</sup> CENTURY: ROLE, RELEVANCE, AND RESPONSIBILITY</b> 10:30 am - 11:20 am <b>William Kirwan</b></p> <p>Pi Mu Epsilon/J. Sutherland Frame Lecture <b>THE MATHEMATICS OF COMPUTERS</b> 8:00 pm - 9:00 pm <b>John Ewing</b></p>	<p><b>TO REFORM OR NOT REFORM: WHERE DO WE STAND NOW?</b> 1:00 pm - 2:50 pm <b>Jennifer Beineke</b> <b>Lisa Lister</b> <b>K. Renee Fister</b></p> <p><b>DEVELOPING EFFECTIVE TEACHING ASSISTANTS</b> 3:00 pm - 5:00 pm <b>Solomon Friedberg</b></p>	<p><b>MATHEMATICS ACROSS THE DISCIPLINES</b> 1:00 pm - 3:00 pm <b>Maya Kiehl</b> <b>Rich Marchand</b></p> <p><b>STUDENT ACTIVE LEARNING</b> 1:00 pm - 3:00 pm <b>Donna Beers</b></p> <p><b>GENERAL CONTRIBUTED PAPER SESSION</b> 1:00 pm - 5:00 pm <b>Robert G. Stein</b></p> <p><b>INNOVATIVE USES OF TECHNOLOGY IN TEACHING MATHEMATICS</b> 3:15 pm - 5:15 pm <b>Mary L. Platt</b> <b>Marcelle Bessman</b></p> <p><b>MATHEMATICS COURSES TO PREPARE K-12 TEACHERS FOR THE 21<sup>st</sup> CENTURY-PROMISING TEACHING STRATEGIES AND CONTENT</b> 3:15 pm - 5:15 pm <b>M. Kathleen Heid</b></p>	<p><b>TRANSFORMING ANXIETY INTO HATRED: RETHINKING THIS STANDARD MODEL OF REACHING LIBERAL ARTS STUDENTS AND THE GENERAL PUBLIC</b> 1:00 pm - 3:00 pm <b>Edward B. Burger</b> <b>Michael Starbird</b></p> <p><b>DISCRETE DYNAMICAL SYSTEMS: MATHEMATICS METHODS AND MODELS</b> 1:00 pm - 3:00 pm <b>David C. Arney</b> <b>Frank R. Giordano</b> <b>John Robertson</b> <b>Maury Weir</b></p> <p><b>INTERRELATIONS FOR UNDERGRADUATE MATHEMATICS COURSES: CAPSTONE AND OTHERS</b> 3:15 pm - 5:15 pm <b>Simon R. Quint</b></p> <p><b>A HANDS-ON APPROACH TO GEOMETRY</b> 3:15 pm - 5:15 pm <b>Colm Mulcahy</b> <b>Jeffrey Ehme</b></p>	<p><b>MAA AND PI MU EPSILON STUDENT PAPERS SESSIONS</b> 1:00 pm - 5:00 pm</p> <p><b>PME BANQUET</b> 6:15 pm - 7:15 pm</p> <p><b>PI MU EPSILON J. SUTHERLAND FRAME LECTURE "THE MATHEMATICS OF COMPUTERS"</b> 8:00 pm - 9:00 pm <b>John Ewing</b></p>	
<p>August 5</p> <p><b>FRIDAY</b></p>	<p>NAM-MAA David Blackwell Lecture <b>SINGULARITY THEORY AND GRAVITATIONAL LENSING</b> 8:30 am - 9:20 am <b>Arlie Petters</b></p> <p>Hedrick-Lecture Series <b>HOW MATHEMATICIANS STUDY CHAOS?</b> LECTURE 3: Chaos as Dynamical Disorder 9:30 am - 10:20 am <b>Yakov Sinai</b></p> <p>MAA Invited Address <b>THE "3x + 1" PROBLEM</b> 10:30 am - 11:20 am <b>Jeffrey Lagarias</b></p> <p>MAA Student Workshop <b>FUN, INTERESTING, AND HISTORICAL EXAMPLES OF INFINITE SERIES AND IMPROPER INTEGRALS</b> 1:00 pm - 2:50 pm <b>V. Frederick Rickey</b></p> <p>MAA Student Lecture <b>ATTRIBUTABLE RISK ESTIMATION: A TALE OF MATHEMATICAL/ STATISTICAL MODELING</b> 3:00 pm - 3:50 pm <b>Michael O'Fallon</b></p>	<p><b>PROGRAMS FOR MINORITY STUDENTS</b> 1:00 pm - 2:50 pm <b>William A. Hawkins, Jr.</b></p>	<p><b>STUDENT ACTIVE LEARNING</b> 1:00 pm - 3:00 pm <b>Donna Beers</b></p> <p><b>MATHEMATICS COURSES TO PREPARE K-12 TEACHERS FOR THE 21<sup>st</sup> CENTURY-PROMISING TEACHING STRATEGIES AND CONTENT</b> 4:00 pm - 6:00 pm <b>M. Kathleen Heid</b></p> <p><b>RESTRUCTURING THE MATHEMATICS BACHELOR DEGREE</b> 1:00 pm - 3:00 pm <b>Lisa Townsley Kulich</b> <b>Donald Mason</b> <b>Satish C. Bhatnagar</b></p> <p><b>MATHEMATICS DAY: A TOOL IN TEACHING, GUIDING, AND ENCOURAGING STUDENTS IN MATHEMATICS</b> 4:00 pm - 6:00 pm <b>Sarah L. Mabrouk</b></p>	<p><b>A DYNAMICAL SYSTEMS APPROACH TO THE DIFFERENTIAL EQUATIONS COURSE</b> 1:00 pm - 3:00 pm <b>Paul Blanchard</b></p> <p><b>POLYHEDRAL MODELS AND METHODS OF PROOF IN GROUP THEORY AND GRAPH THEORY</b> 1:00 pm - 3:00 pm <b>Raymond F. Tennant</b></p> <p><b>INTERRELATIONS FOR UNDERGRADUATE MATHEMATICS COURSES: CAPSTONE AND OTHERS</b> 3:15 pm - 5:15 pm <b>Simon R. Quint</b></p> <p><b>A HANDS-ON APPROACH TO GEOMETRY</b> 3:15 pm - 5:15 pm <b>Colm Mulcahy</b> <b>Jeffrey Ehme</b></p>	<p>MAA Student Workshop <b>FUN, INTERESTING, AND HISTORICAL EXAMPLES OF INFINITE SERIES AND IMPROPER INTEGRALS</b> 1:00 pm - 2:50 pm <b>V. Frederick Rickey</b></p> <p><b>MAA STUDENT LECTURE</b> 3:00 pm - 3:50 pm <b>Michael O'Fallon</b></p> <p><b>STUDENT PROBLEM SOLVING COMPETITION</b> 4:00 pm - 4:50 pm <b>Richard Neal</b></p> <p><b>MAA MATHEMATICAL CONTEST IN MODELING (MCM) WINNERS</b> 5:00 pm - 5:50 pm</p>	<p>MAA 25-Year Member Banquet <b>SOME CURIOSITIES ABOUT MATHEMATICAL PROBLEMS</b> 6:30 pm - 9:00 pm <b>Basil Gordon</b></p> <p><b>MAA BUSINESS MEETING</b> 11:30 am - 12:00 noon</p>
<p>AUGUST 6</p> <p><b>SATURDAY</b></p>	<p>AMS-MAA Presidents' Lecture <b>MATHEMATICS IN THE 21<sup>st</sup> CENTURY: PROBLEMS AND PROSPECTS</b> 4:00 pm - 5:00 pm <b>Ronald L. Graham</b></p>					<p><b>TOUR OF THE GETTY MUSEUM</b> 10:00 am - 3:00 pm</p>







# ADVANCE REGISTRATION/HOUSING FORM

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

Email Address \_\_\_\_\_

**Badge Information**

Name to appear on badge \_\_\_\_\_

Affiliation for badge \_\_\_\_\_

Non-mathematician guest badge \_\_\_\_\_

- I DO NOT want my program and badge to be mailed to me on July 6, 2000  
 (Math Challenges material will be mailed on July 13); I will pick them up at the registration desk.  
 I want acknowledgment of this registration sent by U.S. mail, not email.

**Deadlines:**

Early Bird Registration: **June 8, 2000\***  
 \* If form is received after this date, badge and program will not be mailed.

Mathfest, Short Course & Minicourse Advance Registration; Banquets & Events; University Housing Reservations: **July 3, 2000**

Banquet & Event Cancellations (50% refund): **July 3, 2000\*\***

University Housing Cancellations/Changes (90% refund dormitory fees /meals cancellations): **July 5, 2000\*\***

50% refund on Mathfest, Short Course & Minicourses: **July 24, 2000\*\***

**\*\*no refunds after these dates.**

## Registration Fees

Mathfest	by 6/8	after 6/8
Member <input type="checkbox"/> MAA <input type="checkbox"/> AMS <input type="checkbox"/> both	\$ 165	\$ 220
Nonmember	\$ 250	\$ 325
Graduate Student	\$ 40	\$ 50
Undergraduate Student	\$ 25	\$ 30
Unemployed	\$ 40	\$ 50
Individuals from		
Developing Countries	\$ 40	\$ 50
K-12 Teachers	\$ 40	\$ 50
Emeritus Member	\$ 40	\$ 50
One-day <input type="checkbox"/> Thur <input type="checkbox"/> Fri <input type="checkbox"/> Sat	\$ 99	\$ 99
Guest	\$ 10	\$ 10

**Subtotal for Mathfest** \$ \_\_\_\_\_

Minicourses	by 6/8	after 6/8
<input type="checkbox"/> #1 Transforming Anxiety into Hatred: Rethinking the Standard Model	\$ 55	\$ 60
<input type="checkbox"/> #2 Discrete Dynamical Systems: Mathematics Methods & Models	\$ 55	\$ 60
<input type="checkbox"/> #3 A Dynamical Systems Approach to the Differential Equations Course	\$ 55	\$ 60
<input type="checkbox"/> #4 Polyhedral Models & Methods of Proof in Group Theory & Graph Theory	\$ 55	\$ 60
<input type="checkbox"/> #5 Interrelations for Undergraduate Math Courses: Capstone & Others	\$ 55	\$ 60
<input type="checkbox"/> #6 A Hands-On Approach to Geometry	\$ 55	\$ 60

Minicourses: Enroll me in # \_\_\_\_\_ and/or # \_\_\_\_\_  
 My alternatives are # \_\_\_\_\_ and/or # \_\_\_\_\_

Mathfest Registration is required for the Minicourses.

**Subtotal for Minicourses** \$ \_\_\_\_\_

I am attending Mathfest only to participate in the Minicourse(s). If those requested are filled, I request a full refund of the Mathfest registration fee.

Teacher Training Workshop (8/3)  yes  no  
 (Following events are for students only)  
 Graduate Student Reception (8/3)  yes  no  
 MAA Student Workshop (8/5)  yes  no

**Mathfest Events # Tix Price Total**

Opening Banquet (8/2) \_\_\_\_\_ \$28.00 \_\_\_\_\_  
 regular  veg  I am a Project NEXt 99/00 Fellow

Barbecue (8/3) (Adult) \_\_\_\_\_ \$23.00 \_\_\_\_\_  
 Barbecue (8/3) (Child) \_\_\_\_\_ \$12.00 \_\_\_\_\_

PME Banquet (8/4) \_\_\_\_\_  
 regular  veg  
 Member and Family \_\_\_\_\_ \$12.00 \_\_\_\_\_  
 MAA Student Chapter Member \_\_\_\_\_ \$12.00 \_\_\_\_\_  
 MAA Student Paper Presenter \_\_\_\_\_ \$12.00 \_\_\_\_\_  
 Nonmember & all others \_\_\_\_\_ \$20.00 \_\_\_\_\_

MAA 25-year Banquet (8/5) \_\_\_\_\_ \$28.00 \_\_\_\_\_  
 regular  veg  
 Lights, Camera, Los Angeles (8/2) \_\_\_\_\_ \$28.00 \_\_\_\_\_  
 Getty Museum Trip (8/6) \_\_\_\_\_ \$ 5.00 \_\_\_\_\_

**Subtotal for Event Tickets** \$ \_\_\_\_\_

**MAA Short Course (8/1-8/2) by 6/8 after 6/8**

MAA Member and Mathfest Participant	\$ 125	\$ 140
Nonmember or Mathfest Nonparticipant	\$ 175	\$ 190
Students	\$ 50	\$ 60

Mathfest Registration is not required for the Short Course.

**Subtotal for Short Course** \$ \_\_\_\_\_

**Special Opportunity! \***

**Mathematical Challenges (8/7-8/12) by 7/3\*\***

<input type="checkbox"/> 3-day Registration Fee	\$85.00	_____
<input type="checkbox"/> Barbecue (8/8) (Adult)	\$27.00	_____
<input type="checkbox"/> Barbecue (8/8) (Child)	\$12.00	_____
<input type="checkbox"/> Hollywood Bowl Concert (8/10)	\$45.00	_____
<input type="checkbox"/> Millennium Banquet (8/12)	\$35.00	_____

**Subtotal for Math Challenges** \_\_\_\_\_ \$

\* If you are planning to register for the full six days, please use the Mathematical Challenges registration form in Notices.  
 \*\* Deadline applies to this form only.

**Questions/changes call:**  
 401-455-4143 or 1-800-321-4267 x 4143

## Total Payment

Subtotal from Registration fees:  
 \$ \_\_\_\_\_

Subtotal from Housing fees (other side):  
 \$ \_\_\_\_\_

Subtotal from Hotel Deposit (other side):  
 \$ \_\_\_\_\_

Total Amount to be paid:  
 \$ \_\_\_\_\_

**Check.** Make checks payable to the MMSB. Checks drawn on foreign banks must be in equivalent foreign currency at current exchange rates.

**Charge my:**  
 VISA  MasterCard  
 AMEX  Discover

**Card Number:** \_\_\_\_\_

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**Mail or fax to:**  
**Mathematics Meetings Service Bureau (MMSB)**  
**P. O. Box 6887**  
**Providence, Rhode Island 02940; FAX 401-455-4004**





# ADVANCE REGISTRATION/HOUSING FORM

## UCLA University Housing

Full prepayment for university housing is required. See the grids below. Room rates are based on per person charges in one room and include a meal plan of breakfast and lunch, starting with breakfast the day after arrival and ending with lunch the day of departure.

Please circle the rate of the desired room type, enter the number of nights needed, and multiply to determine dormitory costs. Mathfest participants may occupy the dormitories from 7/31 to 8/5; registrants for the Mathematical Challenges meeting may stay through 8/12. Children under 5 are free of charge for room and meals. Children over 12 are charged as adults.

### Sunset Village:

Rooms are like hotel rooms with full amenities including Cable TV. Each room has two twin beds and a private bathroom. All rooms are non-smoking and are air-conditioned.

### Dykstra Hall:

Rooms are normal residence hall style with community bathrooms on each floor and wing of the building. They are nonsmoking and are not air-conditioned.

### Suites in Saxon & Hitch Halls: (located slightly uphill)

Rooms are suites with two bedrooms (two twin beds in each), a living room, and a private bathroom. They are nonsmoking, not air-conditioned, and do not have kitchens. Number of rooms available is limited.

### Parking:

Parking permits can be purchased before the meeting at a rate of \$6 per vehicle. Actual permits will be issued onsite at the dormitory check-in desks. A full refund will be issued for parking permits cancelled before July 13. Permits cancelled after July 12 and before July 25 will be assessed a \$15.00 processing fee. Refunds cannot be issued for permits cancelled after July 24.

Name \_\_\_\_\_

Date and time of arrival \_\_\_\_\_ Date and time of Departure \_\_\_\_\_

Please check all that apply:

- I am choosing a double, triple or quad, and I am paying all charges for this room.  
 Male     Female     Mixed couple or group     Smoking     Nonsmoking  
 I have disabilities as defined by the ADA that require a sleeping room that is accessible to the physically challenged. My needs are \_\_\_\_\_

If you select a double, triple or quad room, please indicate the name of your roommate(s). If you select the per person (pp) charge for the room, and do not indicate a roommate, you will be charged for the full price of the room.

Roommate's name \_\_\_\_\_ Arrival \_\_\_\_\_ Dept. \_\_\_\_\_ Child (give age) \_\_\_\_\_

Roommate's name \_\_\_\_\_ Arrival \_\_\_\_\_ Dept. \_\_\_\_\_ Child (give age) \_\_\_\_\_

Roommate's name \_\_\_\_\_ Arrival \_\_\_\_\_ Dept. \_\_\_\_\_ Child (give age) \_\_\_\_\_

- Parking Permits:**     7/31     8/1     8/2     8/3     8/4     8/5     8/6  
 8/7     8/8     8/9     8/10     8/11     8/12

## University Housing Rates (Rates include breakfast and lunch.)

UCLA University Housing	Single One Adult	One Adult & 1 child 5-12	Double 2 Adults	Double w/cot - 2 adults & 1 child 5-12	Triple w/cot 3 adults	Quad-4 adults	# of nights	Total
Sunset Village	\$106.50	\$113.25	\$120.00; \$60.00 pp	\$146.75	\$153.51; \$51.17 pp	N/A	x	
Dykstra Hall	\$74.50	\$81.25	\$88.00; \$44.00 pp	\$114.75	\$121.50; \$40.50 pp	N/A	x	
	Single One Adult	One Adult & 1 child 5-12	Double 2 Adults	Double - 2 adults & 1 child 5-12	Triple-3 adults	Quad-4 adults		
Saxon & Hitch Suites	\$168.50	\$175.25	\$182.00; \$91.00 pp	\$188.75	\$195.51; \$65.17 pp	\$209.00; \$52.25 pp	x	
	<b>Parking Permits</b>					\$6.00 per day	x	
<b>Total housing charges:</b>								

## Holiday Inn Brentwood Bel-Air\*

**Please indicate type of room:**

Single ..... \$129

Double ..... \$129

Rollaway ..... \$10 per night

**Special Requests:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**To guarantee a room,** please include one night's deposit or provide a credit card number.

Deposit enclosed    Hold with credit card    Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_

Signature \_\_\_\_\_

Date and Time of Arrival: \_\_\_\_\_

Date and Time of Departure: \_\_\_\_\_

Names of Other Occupants:    Arrival Date    Departure Date

\_\_\_\_\_ (if child give age) \_\_\_\_\_

\_\_\_\_\_ (if child give age) \_\_\_\_\_

**\* See listing of other hotels on page 10.**



## EMPLOYMENT OPPORTUNITIES

### NEW YORK

#### SUNY FARMINGDALE

Anticipated Vacancy for Mathematics Learning Center Director Tenure Track Position - Fall 2000. The Mathematics department of SUNY Farmingdale announces an anticipated vacancy for the position of Director of the Math Learning Center. This is an academic tenure track position with a salary range of \$39,000 - \$43,500. Minimum qualifications: Ph.D. or D.A. in Mathematics/Applied Mathematics, at least two years experience directing a Mathematics Learning Center, at least two years of teaching experience on the undergraduate level, strong commitment to undergraduate teaching, interest in the reform curriculum and interest in scholarly work. Responsibilities will include directing the Math Learning Center, half-time classroom teaching, service, and scholarly work. Application deadline: must be postmarked no later than May 15, 2000. Send resume with a brief statement of your teaching philosophy, and the names and telephone numbers of three references (no letters of reference) to: Dr. I. Neymotin, Chair of the Search Committee, Department of Mathematics, SUNY Farmingdale, Farmingdale NY 11735.

#### NEW YORK CITY TECHNICAL COLLEGE

The City University of New York  
Mathematics Department/ Assistant Professor  
Tenure track assistant professor. Requirements: Ph.D in mathematics; minimum 2 years experience in teaching mathematics courses up to and

including calculus; demonstrated ability to interact with students in a multi-cultural environment; excellent communication skills in both written and spoken English; knowledge of computers. Preferred Qualifications: Expertise in use of graphing calculators and computers in instruction; other forms of innovative pedagogy; experience in grant proposed writing and curriculum development. Applications will be accepted until position is filled. Resumes to: Michelle Schlein, Human Resources, New York City Technical College, 300 Jay St., Namm, 321, Brooklyn, NY 11201. AA/EOE/ADA/IRCA.

### NORTH CAROLINA

#### METHODIST COLLEGE

Methodist College, an Equal-Opportunity employer, welcomes applications for a full-time position in Mathematics, starting in August 2000 at the beginning of the 2000-01 academic year. A Masters Degree in Mathematics is required and a Ph.D. in Mathematics is preferred. Teaching responsibilities include introductory mathematics courses with possibility of upper division course in area of specialization. Methodist College, in harmony with its tradition, takes seriously the ethical and moral development of students. Members of populations traditionally underrepresented in higher education are encouraged to apply. Send a letter of application including a statement of professional goals and teaching philosophy, full resume, three letters of reference, and graduate transcripts to: Dr. Shivappa Palled, Head, Department of Mathematics and Computer Science, Methodist College, 5400 Ramsey Street, Fayetteville, NC 28311-1420, (910) 630 - 7133/7125. Deadline for submissions is April 14, 2000.

## Portable



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The member assistance and disability income protection insurance plans are underwritten by Unum Life Insurance Company of America, 15 Corporate Place South, P.O. Box 1387, Piscataway, NJ 08855.  
The catastrophe major medical and high limit accident insurance plans are underwritten by The United States Life Insurance Company in the city of New York, (Member American General Financial Group), 3600 Route 66, P.O. Box 1580, Neptune, NJ 07753.  
The term life insurance plan is underwritten by Connecticut General Life Insurance Company, a CIGNA Company, Hartford, CT 06152.

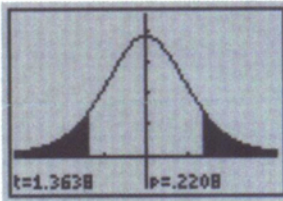




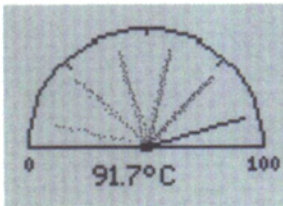
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