

February 1999

Volume 19, Number 2

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# FOCUS

THE NEWSLETTER OF THE MATHEMATICAL ASSOCIATION OF AMERICA

## Partnerships at Dartmouth: Mathematics, Art, and the Humanities

*Tina H. Straley and Robert W. Hill*



*MAA Partnership's cast of Arcadia: Jeff Haag, Lou Talman, Rick Trethaway, Val Dusek, Karla Bendor, Tina Straley, Alice Dean, Laurence Davies, Mara Sabinson, Caren Diefenderfer, Robert Hill, Patricia Bonnet, Rick Zang, Scott Sciortino, Wilma Hasse.*

Last summer, near the end of the Appalachian Trail, a bearded New Englander, challenging certain immutable laws of gravity and motion, juggled clubs and balls on the great green mall of Dartmouth College. Rick Zang, a mathematician from the University of New Hampshire, Manchester, was one of 42 participants at the first NSF-funded "MAA Partnerships Workshop on Art, Humanities, and Mathematics."

The MAA Partnerships project is a series of four summer workshops linking mathematics with partner disciplines. Teams of faculty representing the disciplines of the workshops build

multidisciplinary teams while working on materials developed by the projects funded by NSF in the "Mathematical Sciences and Their Applications Throughout the Curriculum" (MATC) program. The goal of the project is to have faculty build partnerships in their home institutions while developing their own interdisciplinary materials or adapting the materials developed by the MATC projects for use in their own courses. The Summer 1998 workshop focused on connections between mathematics and art and the humanities.

As July came to an end, over three dozen faculty journeyed from around the country to Dartmouth to discuss Borges and Newton; swirl colorful fractals; block-print geometrical variations; plot perspectives of cathedral naves; revisit Fermat's last theorem and Zeno's Paradox (some of us were Achilles, some the tortoise); and nervously, then gallantly, studio-act Tom Stoppard's *Arcadia*, all the while making mathematical connections.

Mathematicians and literary critics, art-  
*continued on page 5*

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# FOCUS

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**Editor:** Harry Waldman, MAA; hwaldman@maa.org

**Managing Editor:** Carol Baxter, MAA; cbaxter@maa.org

**Please address advertising inquiries to:** Carol Baxter, MAA; cbaxter@maa.org

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Letters to the editor should be addressed to Harry Waldman, MAA, 1529 Eighteenth Street, NW, Washington, DC 20036.

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## 1998 Morgan Prize Goes to Daniel Biss of Harvard; Aaron Archer, Harvey Mudd College, Wins Honorable Mention

The 1998 Morgan Prize Winner for outstanding research by an undergraduate is Daniel Biss, whose undergraduate studies were conducted at Harvard University. The prize, a \$1000 award, is conferred by the MAA, AMS and SIAM. His submission for the prize included results in combinatorics, topology, group theory, and graph theory.

The prize committee was impressed by Biss' breadth as well as depth. The most exciting aspect of his submission was his extension of a category which more closely binds the associations between combinatorial group theory and combinatorial topology. Biss' submission included four solid research papers, two of which have been accepted for publication.

The honorable mention winner is Aaron Archer, whose undergraduate studies were conducted at Harvey Mudd College. His submission for the prize included two papers on graph theory, introducing new chromatic interpretations for a graph. Archer is also a co-author of a paper that was awarded the SIAM prize from the Mathematical Modeling Contest.

The Frank and Brennie Morgan Prize is awarded each year. The application deadline for 1999 is June 30. Applications can be obtained by contacting Robert M. Fossum, Department of Mathematics, University of Illinois, Urbana, IL 61801-2975. ■

## Four Mathematicians Elected AAAS Fellows

The American Association for the Advancement of Science has elected the following mathematicians as Fellows:

**Jerry Lloyd Bona**, University of Texas at Austin

**Keith Devlin**, Dean, St. Mary's College

**Deborah Hughes Hallett**, Harvard University

**James A. Yorke**, University of Maryland, College Park

These mathematicians were recognized for their contributions to science at the Fellows Forum during the Annual AAAS Meeting in Anaheim in January.

Keith Devlin is the former FOCUS editor from 1991–1997 and author of the monthly column *Devlin's Angle* on MAA Online. The citation that accompanies Devlin's election reads: "You are being honored for sustained, outstandingly productive service to the mathematics profession as researcher, author, editor, commentator, and communicator of mathematics to the general public." ■

## Carleton and St. Olaf to Run Summer Math Program for Women

Carleton and St. Olaf Colleges will be running their NSF/NSA-funded four-week summer program, from June 27–July 25, 1999. The successful program has been designed to encourage talented undergraduate women to pursue advanced degrees in the mathematical sciences. Students take two courses taught by women mathematicians who are excellent teachers and active professionals. In addition to the coursework, there will be opportunities for recreational problem solving, discussions about graduate school and careers in mathematics, and twice-weekly colloquia.

Mathematics faculty members are urged to encourage talented first- and second-year female mathematics students to apply. Applications are due February 28. For information or application materials, e-mail:

DeannaHaunsperger at dhaunspe@carleton.edu; write to Summer Math Program, Math Dept., Carleton College, Northfield, MN 55057; or visit the program's home page at: <http://www.mathcs.carleton.edu/smp>. ■

## FOCUS on the Future: MAA Programs for Students

The MAA provides a wide variety of programs and offerings for students, from competitions like the Putnam Exam and the Modeling Competition, to publications of books and journals, to special membership rates for student members. Of particular note is the MAA Student Chapters Program. The success of this program reflects the dedicated efforts of the members of the MAA Student Chapters Committee, and, for nearly a decade, generous financial support from the Exxon Education Foundation in the form of annual grants.

MAA programs for students are dedicated to the idea that undergraduate mathematics education should extend beyond the experience of classroom instruction. Student involvement in a broad spectrum of intellectual and professional activities is enriching both professionally and personally, and these experiences will attract students to technical professions while providing the foundations necessary for success in those professions. Among such activities, attending a national mathematics meeting is especially memorable and inspiring.

### *Math Horizons*

This sentiment is clearly revealed in an article slated for a forthcoming issue of *Math Horizons*. The author, Vincent Lucarelli, recounts the experiences of attending Mathfest for four summers in a row as an undergraduate. Now a University of Chicago doctoral candidate in mathematics, Lucarelli pinpoints the most stimulating and rewarding aspects of Mathfest: opportunities to present his work in student paper sessions; meeting and sharing common interests with other math students; broadening his knowledge by attending talks and workshops; witnessing and celebrating the achievements of the student participants recognized with awards for outstanding work. These experiences at the national meetings are made possible by the work and planning of the MAA Student Chapter Program and the support of the Exxon Education Foundation.

Lucarelli's article is a dramatic example of the impact that these activities have on students. As he says in his concluding

paragraph, "Meeting people, sharing your work, hearing what your peers are doing, and learning new mathematics; that's what professional mathematicians do at conferences. The MAA and PME made a deliberate effort to give undergraduate students these same experiences at Mathfest. They succeeded."

### *Invited Lecturers & Workshops*

A key feature of the student program at national meetings consists of invited lectures and workshops of the highest quality. Last year national meetings were held in Baltimore in January and in Toronto in July. At the Baltimore meeting, the MAA Student Lecture was presented by Roger Howe and the student workshop was given by Thomas Berger. In Toronto, noted mathematical sculptor Helaman Ferguson presented the Student Workshop, and popular author Ross Honsberger delivered the Student Lecture. All of these events were well attended and enthusiastically received. Ferguson's workshop, in particular, was an unprecedented success, attracting an audience of several hundred, by far the largest audience in the history of the Student Workshop.

### *National Meetings*

Student paper sessions are another central aspect of the student program. Funds from the Exxon Education Foundation grant allow for subsidies for students to travel to the national meetings and present papers and for prizes for the best papers. The paper sessions, which are organized and administered in cooperation with the Pi Mu Epsilon honorary society, were highly successful in Toronto. At the MAA sessions there were 42 speakers from 30 colleges and universities and 8 high schools. The jury members who select award winners reported overall a high quality of the presentations this year.

In addition to the speakers and student paper sessions, the student program at the national meetings includes receptions, social events, and a student hospitality center. These activities continue to be very popular with students, and

play an important role in making the participants feel a part of a larger community. There are also meetings and breakfasts for the faculty advisors of MAA Student Chapters and PME Advisors to stimulate cooperation and the sharing of ideas, as well as to foster a sense of common purpose among the advisors.

### *Sections & Student Chapters*

At the regional level, the Exxon Education Foundation funds are used to stimulate the development of programs for students by providing small grants. The Committee on Student Chapters solicits and evaluates proposals for student activities from MAA Sections and, for the first time in 1998, from Student Chapters at colleges and universities.

The 1998 awards, announced in early September, funded proposals from eleven Sections and six Student Chapters. The total amount awarded was over \$9,000, with the average award to a Section more than \$650 and the average award to a Student Chapter more than \$350. Here is a sample of the activities that will be supported with this year's grants:

- A statewide student conference
- A statewide intercollegiate mathematics contest
- Support for a state Speakers Bureau
- A Student Chapter trip to a nearby research laboratory
- Student workshops in conjunction with regional MAA meetings
- An undergraduate career fair at a regional MAA meeting

This is the first year that proposals have been solicited from individual Student Chapters. The rationale for introducing this aspect of the program is to encourage Chapters to plan educationally and mathematically significant events or activities, and to stimulate further interest in starting and maintaining Student Chapters. This initiative succeeded in stimulating a variety of worthwhile proposals, including plans to establish a Math Awareness Month Lec-

*continued on page 4*

## NSF Report Evaluates Mathematics in the United States

A panel commissioned by the National Science Foundation's Division of Mathematical Sciences reported that several trends threaten to undermine the United States' position in world mathematics. Their report, which is part of the Foundation's response to the Government Performance and Results Act, contains recommendations for how the National Science Foundation should support mathematics.

The panel noted that National Science Foundation policies affect the strength of United States mathematics and hence the health of other sciences.

Called "Report of the Senior Assessment Panel for the International Assess-

ment of the U.S. Mathematical Sciences," it is the National Science Foundation's first international "benchmarking" or evaluation of any scientific field.

Chaired by retired Lieutenant General William E. Odom, who was the head of the National Security Agency, the assessment committee consisted of mathematicians from Europe, Asia and Canada as well as from United States national laboratories, industry, and elsewhere.

National Science Foundation grantees were specifically excluded from the panel.

The document (pr9828) is available from the National Science Foundation Online Document System.

It can be found at: <http://www.nsf.gov/pubs/1998/nsf9895.htm> ■

*MAA Programs for Students continued from page 3*

ture Series, encourage undergraduate poster presenters at MAA section meetings, reactivate Chapters through initiatives with area corporations, host problem-solving competitions, and strengthen regional interaction of Student Chapters.

### *The Internet*

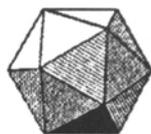
Increasingly, students are involved with the Internet. The MAA is continuing to expand the resources provided online for students, either directly or through electronic links. The MAA homepage has a large student component. Of particular interest are links to websites of Student Chapters. If you want to get a taste of the energy, creativity, and enthusiasm of some of this generation's mathematics students, spend a few minutes looking at their web pages. You can find links at [www.maa.org/students/chapter\\_index.html](http://www.maa.org/students/chapter_index.html).

### *Further Information*

Information about the full range of MAA Student Programs is available online at [www.maa.org/students/students\\_index.html](http://www.maa.org/students/students_index.html). This web site also has lots of information that is of interest to students, and a link to this information ought to be offered on every mathematics department web page. If you are interested in starting an MAA Student Chapter on your campus or would like to find out if a Chapter currently exists on your campus, you can find the information at [www.maa.org/students/chapter\\_index.html](http://www.maa.org/students/chapter_index.html). ■

*Additional information on MAA Student Programs can be found on MAA Online at <http://www.maa.org>.* 

Have you looked at MAA Online lately? Check out our regular columns by Keith Devlin, Ivars Peterson, Frank Morgan, and Alex Bogomolny, our reviews of mathematics books, and up-to-the-minute news stories. Visit us at <http://www.maa.org> and let us know what you think!



## MAA Partnerships: Interdisciplinary Workshops for Faculty



Teams of faculty build cross-disciplinary partnerships and work together on interdisciplinary materials developed by NSF Mathematical Sciences and their Applications throughout the Curriculum projects, adapting these and developing their own materials.

Room and board provided for all participants.  
Limited travel funds available.

### Physics and Mathematics

Carroll College, Helena, MT, June 19-26, 1999

### Business, Economics, Finance, and Mathematics

Indiana University, Bloomington, IN, July 11-16, 1999

For information and applications:  
<http://science.kennesaw.edu/math/events.html>  
Or contact: Tina Straley: [tstraley@ksuemail.kennesaw.edu](mailto:tstraley@ksuemail.kennesaw.edu)  
770-423-6738, FAX 770-423-6752

**Interdisciplinary Workshops for Faculty**

*continued from page 1*

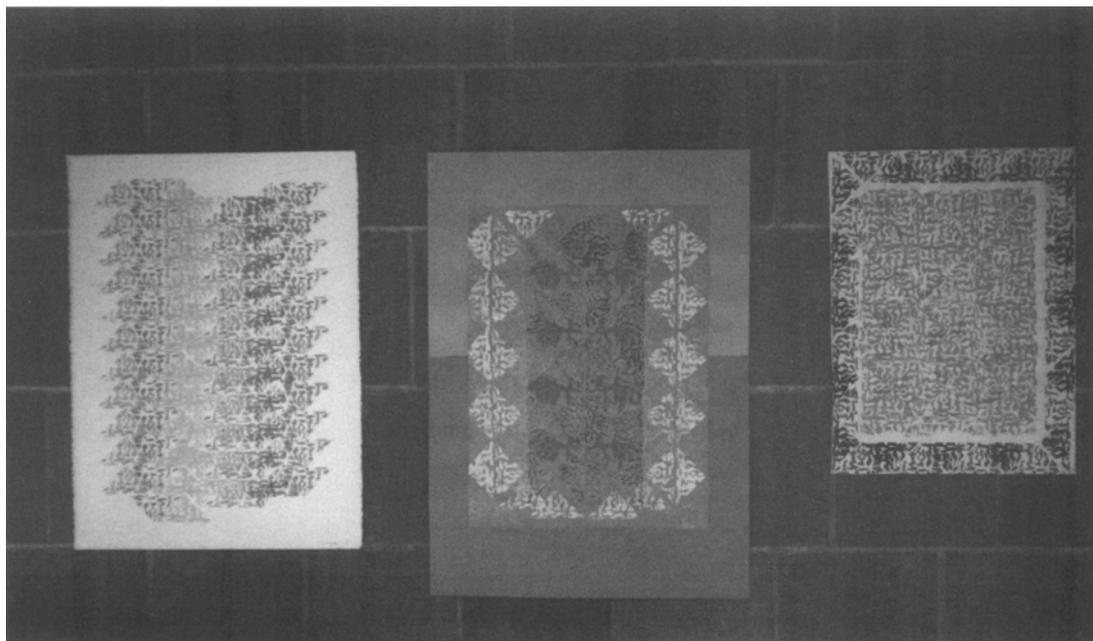
ists and writers, philosophers, historians, and engineers had agreed to wrestle with the cliché of “interdisciplinary studies” to earth, or learn to fly with it. Guided and inspired by expert teaching faculty, participants were quick to see the dangers of superficial chatting, mere dilettantism. The very real differences among disciplines called for thoughtful reconsideration by our practicing together the “messy” art, performing the play, searching the philosophy, doing the math.

Jeremy Case (Taylor University) “appreciated seeing that other disciplines have to go through problem-solving steps, albeit with a slightly different approach.” From a Partnership perspective, he “appreciated the interaction of art and mathematics, especially. Often I hear people say that ‘I cannot do math.’ I discovered that people also say, ‘I cannot do art.’”

Rick Zang was approached by a student who indicated that he was doing a documentary on juggling for his journalism project that summer. There on the Dartmouth green, Rick demonstrated various juggling patterns and explained about all the mathematics to be found in juggling, plus all the neat metaphors about learning to be found through/in juggling. (Subsequent to the interview, the student produced a very nice videotape and sent it to the math department at Dartmouth. This is an example of mathematics across the curriculum and exemplifies the interdisciplinary nature—journalism, performing arts, and mathematics—of what we were trying to achieve at Dartmouth.)

### **Mathematics & Writing**

As the days passed, participants grew aware not only of the depth of others’ disciplines but also of their own. In intensive work sessions, we looked closely at how mathematics may be taught through writing, and vice versa. Working to demonstrate our different ways of inquiry, we re-encountered experi-



*Block printing by MAA Partnerships’ participants.*

ences that too often grow stale in the classroom: we respectfully taught and greedily learned from one another. We read Kepler and relocated our perspectives to another planet looking back at our own. We pored over Hilbert and Berkeley to reassess our comfortable daily assumptions about limits. We entered the intricate world of Borges and recalled Shylock, Sherlock Holmes, and Cantor. We examined the geometry of cathedrals and re-evaluated terms such as order, symmetry, and beauty. We measured facades with make-shift theodolites. We watched for symbols at every turn, in language, in visual art, in statistics, in the description of motion in calculus.

### **Number Systems**

Exploring various number systems, we learned African concepts of space and time, entered ethnomathematics to observe how anthropologists think about math in its contexts of the human body and cultural practice. Of the many debates that ensued one that recurred was the perspective of infinity and infinitesimals. Mathematicians and non-mathematicians alike struggled with the concepts of infinite sum, instantaneous velocity, countable and uncountable sets from both a mathematical and a philosophical perspective. Some who thought they had settled these concepts long ago were confronted again with thorny issues at the very foundations of mathematics. Some

were consoled and others distressed by the claim that if the mathematical solutions do not perplex you, you are missing the point. ■

### **Future Workshops**

Three more workshops are scheduled:

- **Physics and Mathematics**, at Carroll College, in Helena, Montana, June 19–26, 1999; application deadline April 15.
- **Business, Economics, and Mathematics**, at Indiana University, Bloomington, July 11–16, 1999; application deadline May 15.
- **Environmental Sciences and Mathematics**, at a California site in the year 2000.

Project directors are:

Tina H. Straley, 770.423.6738, [tstraley@ksumail.kennesaw.edu](mailto:tstraley@ksumail.kennesaw.edu); and Brian J. Winkel, 914.938.3200, [brianwinkel@usma.edu](mailto:brianwinkel@usma.edu). More detailed information, including application deadlines, may be found at the Partnerships web site:

<http://science.kennesaw.edu/math/events.html>, which may also be visited through the link at MAA Online: [http://www.maa.org/pfdev/pfdev\\_calendar.html](http://www.maa.org/pfdev/pfdev_calendar.html).

*Additional information on professional development activities can be found on MAA Online at <http://www.maa.org>.* ☞

**EMPLOYMENT OPPORTUNITIES****ALABAMA****THE UNIVERSITY OF ALABAMA IN HUNTSVILLE****Mathematical Sciences Department**

The Mathematical Sciences Department at the University of Alabama in Huntsville invites applications for two non-tenure track faculty positions with the rank of lecturer beginning August, 1999. The positions are renewable upon the result of annual performance evaluations. Applicants must possess at least a Master's degree or, preferably, a doctoral degree in mathematics or mathematics education, demonstrate evidence of excellent teaching ability and have expertise or strong interest in computer-assisted mathematics curriculum. Send a letter of application, vita, transcripts and three letters of reference to Chairman, Department of Mathematical Sciences, University of Alabama in Huntsville, Huntsville, AL 35899. Review of applicants will begin April 20, 1999, and will continue until the positions are filled. Women and minorities are encouraged to apply. The University of Alabama in Huntsville is an Affirmative Action, Equal Opportunity Institution.

**ILLINOIS****OAKTON COMMUNITY COLLEGE****Faculty Positions—1999–2000**

Oakton Community College is a caring community of educators dedicated to excellence in teaching and learning. We expect from ourselves and our students tolerance, fairness, responsibility, compassion and integrity. We invite and encourage applications from candidates who reflect the increasing diversity in our community and student body; who will enhance and promote engagement with other cultures; who are current in their utilization of evolving technologies; and who will challenge our students to be knowledgeable, ethical and capable global citizens.

Located 17 miles from downtown Chicago and 35 miles from the border to Wisconsin, Oakton's district has highly rated elementary and secondary schools, is serviced by major transportation systems and has access to world class cultural events.

**Mathematics:** two tenure track appointments. These faculty members will teach mathematics courses from Developmental Mathematics through Calculus and Differential Equations. Ideally, at least one of the faculty members will also be qualified to teach Computer Science classes (e.g., Introductory through Data Structures).

Screening of applicants will begin on February 15, 1999 and continue until the positions are filled.

Please visit <http://www.oakton.edu> for a more descriptive listing.

To request an application, please contact:

Oakton Community College  
1600 East Golf Road, Des Plaines, IL 60016-1268

Attention: Craig Ahrndt, Human Resources  
(847) 635-1675 fax: (847) 635-1764  
e-mail: [facsearch@oakton.edu](mailto:facsearch@oakton.edu)

Oakton Community College is an equal opportunity employer and encourages applications from traditionally underrepresented candidates.

**INDIANA****UNIVERSITY OF SOUTHERN INDIANA****Mathematics**

The University of Southern Indiana invites applications for a tenure track position in the Department of Mathematics beginning August, 1999. Ph.D. in Mathematics required. Candidates must provide evidence of excellence in teaching and research. Candidates with a specialization in applied mathematics or analysis will be given preference. Responsibilities include teaching courses in the undergraduate curriculum, particularly in applied areas and those required of mathematics majors. The University is committed to excellence in teaching, scholarship and professional activity, and service to the University and community. Review of applications will begin January 15, 1999, and continue until position filled. Minorities/women encouraged to apply. Submit letter of application, curriculum vitae, and names/addresses/phone numbers/e-mail addresses of three professional references to: Dr. David Kinsey, Chair, Mathematics Department, University of Southern Indiana, 8600 University Boulevard, Evansville, IN 47712. AA/EOE

**MICHIGAN****FERRIS STATE UNIVERSITY**

Mathematics Department Head: Ferris State University invites applications for the position of Mathematics Department Head, beginning July 1, 1999. A Ph.D. in Mathematics, Applied Mathematics, or Mathematical Statistics, or a Ph.D. in Computer Science with a Masters degree in Mathematics or Applied Mathematics is required. Also required: At least five years of higher education teaching and/or administrative experience; academic credentials and experience appropriate to senior faculty rank; personal qualities of integrity and industriousness; demonstrated organizational and leadership ability; and communication and interpersonal skills sufficient to effectively work and interact with a diverse array of colleagues and students in a career-oriented undergraduate setting. Preferred: Experience with management, evaluation, and development of curriculum, financial, and human resources; and a strong commitment to the development and welfare of both students and faculty. Applicants must submit a letter of interest, vita, un-

official transcripts, (official transcripts will be required from finalists), and three current letters of reference to: c/o Maureen Brockdorf; Ferris State University; College of Arts and Sciences; ASC 3052; Big Rapids, Michigan 49307-2295. Review of applications will begin February 1, 1999 and continue until the position is filled. Ferris is an affirmative action, equal opportunity employer. For more information on Ferris, visit our Web site at [www.ferris.edu](http://www.ferris.edu).

**NEW YORK****BRONX COMMUNITY COLLEGE OF CUNY**

The Department of Mathematics and Computer Science invites applications for anticipated tenure track positions starting in September 1999. A Ph.D. in mathematics or computer science is preferred although enrollment in a doctoral program is desirable in its absence. Candidates must have a record of and commitment to excellence in teaching and continue scholarly activity. The department has 25 full-time and 53 part-time faculty members. Courses offered range from developmental to upper level mathematics and computer science. Bronx Community College encourages applications from women and minority candidates and is an AA/EOE. Send a letter of application, a statement of teaching philosophy, resume, graduate transcript(s), and three recent letters of reference (at least one should address teaching) to: Prof. Germana Glier, Chair, Mathematics and Computer Science, Bronx Community College of CUNY, University Ave. and West 181 Street, Bronx, NY 10453. The application deadline is March 1, 1999.

**OKLAHOMA****THE UNIVERSITY OF OKLAHOMA****Department of Mathematics**

Applications are invited for one full-time, tenured track position beginning 16 August 1999. The position is initially budgeted at the assistant professor level, but an appointment at the associate professor level may be possible for an exceptional candidate with qualifications and experience appropriate to that rank. Normal duties consist of teaching two courses per semester, conducting research, and rendering service to the Department, University, and profession at a level appropriate to the faculty member's experience. The position requires an earned doctorate and research interests that are compatible with those of the existing faculty; preference will be given to applicants with potential or demonstrated excellence in research and prior successful undergraduate teaching experience. Salary and benefits are competitive. For full consideration, applicants should send a completed AMS cover sheet, curriculum vitae, a description of current and planned research, and have three letters of recommendation (at least one of which must address the applicant's teaching experience and proficiency) sent to:

Search Committee  
Department of Mathematics  
University of Oklahoma  
601 Elm, Phsc. 423  
Norman, OK 73019

Telephone: 405-325-6711  
FAX: 405-325-7484  
E-Mail: search@math.ou.edu

Screening of applications will begin on December 15, 1998 and will continue until the position is filled.

The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer. Women and Minorities are encouraged to apply. OU has a policy of being responsive to the needs of dual-career couples.

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## VERMONT

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### NORWICH UNIVERSITY

Norwich University's Department of Mathematics invites applications for a tenure track assistant professor position to start in August 1999. Qualification for appointment includes completion of a PhD in mathematics or an EdD with specialization in mathematics education. Candidates must demonstrate evidence of excellent teaching ability and commitment to professional development and should have experience or interest in integrating technology, writing, speaking and global perspective into the curriculum. The position is open to candidates with professional interest in any area of applied or abstract mathematics or mathematics education. Norwich University, founded in 1819 as a military college, is a private institution with an enrollment of 2,400 students (1,000 of whom are in the corps of cadets), three campuses, and 30 majors. For further information, select Employment Opportunities at <http://www.norwich.edu/admin>. Send letter of application, curriculum vitae, supporting documentation, and the names, addresses and phone numbers for at least 3 references to: Mathematics Search Committee, c/o Jay Wisner, Director of Human Resources, Norwich University, Northfield, VT 05663. Review of materials will begin upon receipt and continue until the position is filled. EOE.

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## Meetings

### National Meetings

July 31-August 2, 1999, MathFest, Providence, RI

January 19-22, 2000 83<sup>rd</sup> Annual Meeting, Washington, DC; Board of Governors January 18, 2000

January 10-13, 2001 84<sup>th</sup> Annual Meeting, New Orleans, LA; Board of Governors January 9, 2001

### Section Meetings

**Florida** March 5-6, 1999, Florida Gulf Coast Community College, Panama City, FL

## Professional Development Calendar

### March, 1999

March 25-27

**DIMACS Workshop on Mobile Networks and Computing**  
DIMACS Center, Rutgers University Piscataway NJ  
Contact: Sanguthevar Rajasekaran  
raj@cise.ufl.edu

### April, 1999

April 16-18

**DIMACS Workshop on Logic and Cognitive Science**  
University of Pennsylvania  
Philadelphia, PA  
Contact: Moshe Vardi, Rice University  
vardi@cs.rice.edu

### May, 1999

May 22-23

**Reconnecting Two Year College Faculty to the Mathematical Sciences Enterprise**  
DIMACS Center, Rutgers University Piscataway NJ  
Contact: Elaine Foley  
(732) 445-4631 epfoley@dimacs.rutgers.edu

### June, 1999

June 1-7

**Teaching Undergraduate Geometry**  
Cornell University, Ithaca, NY  
Contact: David Henderson  
dwh@math.cornell.edu  
Application Deadline: March 31, 1999

June 6-18

**Cooperative Learning in Undergraduate Mathematics Education (CLUME)**  
Georgia State University  
Atlanta, GA  
Contact: Jaki Gather  
(404) 651-0658  
jgather@cs.gsu.edu  
Application Deadline: February 26, 1999

*For additional information on professional opportunities please check out the MAA's website at [www.maa.org](http://www.maa.org).*

June 19-26

**Partnerships: Physics and Mathematics**  
Carroll College, Helena, MT  
Contacts: Tina H. Straley  
(770) 423-6738 tstraley@ksumail.kennesaw.edu  
or Brian J. Winkel  
(914) 938-3200  
brian-winkel@usma.edu

June 21-24

**Teaching Dynamical Systems Across the Curriculum**  
Allegheny College  
Meadville, PA  
Contact: George Bradley  
bradley@duq3.cc.duq.edu  
or Steve Bowser, sbowser@allegu.edu  
Application Deadline: May 15, 1999

June 23-25

**Magic Tricks, Card Shuffling and Dynamic Computer Memories**  
Miami University, Oxford, OH  
Contact: Bob Dieffenbach; (513) 727-3238,  
diefferm@muohio.edu

### July, 1999

July 6-16

**Clustering and Visibility in Geometry**  
DIMACS, Rutgers University Piscataway, NJ  
Contact: Elaine Foley  
(732) 445-4631 epfoley@dimacs.rutgers.edu

July 11-16

**Partnerships: Business, Economics, Finance and Mathematics**  
Indiana University,  
Bloomington, IN  
Contacts: Tina H. Straley  
(770) 423-6738 tstraley@ksumail.kennesaw.edu  
or Brian J. Winkel  
(914) 938-3200  
brian-winkel@usma.edu

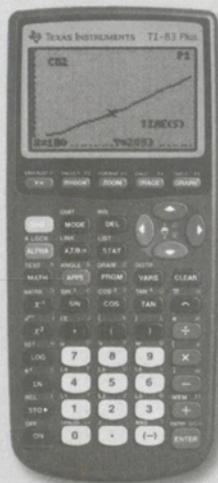
**Ohio** March 26-27, 1999, University of Dayton, Dayton, OH

**Oklahoma-Arkansas** March 26-27, 1999, Southern Nazarene University, Bethany, OK

**Pacific Northwest** March 13, 1999, Willamette University, Salem, OR

**Southern California** March 13, 1999, University of California, San Diego, CA

**Southeastern** March 12-13, 1999, Rhodes College, Memphis, TN



The TI-83 Plus, an update to the TI-83, featuring Flash electronic upgradability and more memory, is the tool for everything from algebra through calculus, inferential statistics, and finance.

Celebrate Mathematics Awareness Month April 1999  
To Learn More, Visit the Website: [forum.swarthmore.edu/mam/](http://forum.swarthmore.edu/mam/)

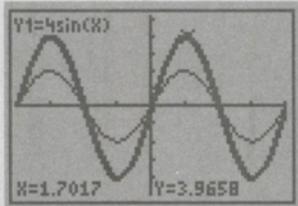
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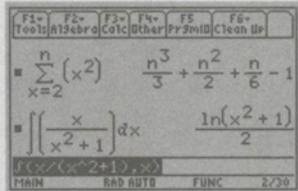


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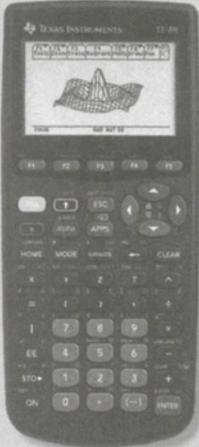


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