AWM
ASSOCIATION FOR WOMEN IN MATHEMATICS

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PRESIDENT'S REPORT

Hello to all AWM members!

We want to express our condolences to the family of Etta Falconer upon the occasion of her death. We appreciate the exceptional service of Etta to AWM and to the mathematics community at large, and she will be missed.

Last issue we announced a special membership offer for new members this year: a one-year membership for $30. Please try to recruit a few new members from your colleagues.

In August, AWM had activities at two meetings, the MAA Mathfest in Burlington, Vermont, and the International Congress of Mathematicians in Beijing, China. See Annie Selden's summary of her plenary talk at Mathfest on page 10. Our activities at the ICM, organized in cooperation with EWM, included a panel discussion and the Emmy Noether Lecture, given by Hesheng Hu from Fudan University in Shanghai. Thanks to Paula Kemp and Pao-sheng Hsu for representing AWM at the ICM and for their help in organizing these activities. See their article that begins on page 6.

The results of the Conference Board of the Mathematical Sciences (CBMS) 2000 Survey are now available. Individuals may request copies free of charge from the AMS at klb@ams.org. The collection and distribution of this information is a tremendous service to the mathematics community, and we thank CBMS for sponsoring this survey. Special thanks are due to David Lutzer, Steven Rodi, and James Maxwell for their leadership in this project. Thanks also to the AMS for putting the survey online and making the print version available for free to interested members of our community. In this report, one can follow the continued spread of calculus reform among the first-year courses and see the separate enrollment trends in undergraduate mathematics, statistics and computer science courses.

If you are making your travel plans for the January Joint Meetings in Baltimore, remember that the AWM panel discussion, business meeting,

IN THIS ISSUE

AWM
ASSOCIATION
FOR WOMEN IN
MATHEMATICS

The Association was founded in 1971 at the Joint Meetings in Atlantic City. The purpose of the association is to encourage women to study and to have active careers in the mathematical sciences. Equal opportunity and the equal treatment of women in the mathematical sciences are promoted.

The *Newsletter* is published bi-monthly. The Editor welcomes articles, letters, and announcements.

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Noether dinner and reception will all be held on Wednesday, January 15th. The Noether Lecture given by AWM past president Jean Taylor and the Joint Prize Session are on that Thursday, and lastly the workshop for graduate students and recent Ph.D.'s is on Saturday. Jean will speak on "Five little crystals and how they grew." This year, the AWM panel is a cooperative effort with the National Council of Teachers of Mathematics (NCTM) on the topic "Mathematics educators and mathematicians working together." The panelists representing NCTM are Karen Dee Michalowicz and Edith Prentice Mendez, and the other panelists are Deborah Loewenberg Ball and Hyman Bass. Thanks to Bettye Anne Case and Betsy Yanik for their work in organizing this panel.

Remember the deadline of January 24th for graduate student and recent Ph.D. applications for our workshop at the SIAM meeting in Montreal in June 2003. This SIAM meeting will be held jointly with CAIMS, the Canadian Applied and Industrial Mathematics Society.

As you may know, undergraduate research is very important to me, and thus I want to remind you to encourage your math majors to look into the variety of REU, internship and co-op opportunities. See the student pages on the AMS and MAA websites and the links contained there.

Contact me at lenhart@math.utk.edu if you have any suggestions or ideas about AWM activities.

Suzanne Lenhart

Suzanne Lenhart
University of Tennessee and
Oak Ridge Laboratory
September 30, 2002

IN MEMORIAM: ETTA ZUBER FALCONER

We are saddened to announce that Etta Zuber Falconer, Professor Emerita of Mathematics, Spelman College, died on September 19, 2002. Her husband preceded her in death. She is survived by two sons, a daughter, and seven grandchildren. Beverly Daniel Tatum, President of Spelman College, included the following in her message to the college community:

> Dr. Falconer's 37-year career at Spelman was a model of professionalism, excellence and academic achievement. She provided leadership at all levels—Chair and Professor of Mathematics, Chair of the Division of Natural Sciences, Fuller E. Callaway Professor of Mathematics, Associate Provost for Science Programs and Policy, Interim Provost, Senior Advisor to the President, and countless advisory panels, review committees, and presidential task forces. During her tenure, the College was proud to bestow upon her the 1988 Presidential Award for Excellence in Teaching, the 1994 Presidential Award for Distinguished Service, and the 2002 True Blue Award. As a tribute to her wisdom and genius, the Spelman College Board of Trustees was proud to honor Dr. Falconer by placing her name upon the very building that nurtures the scientific promise of African American women—the Albro-Falconer-Manley Science Center.

This year Falconer was honored with an AAAS Mentor Award for Lifetime Achievement. In 1995 she earned AWM's Louise Hay Award for Contributions to Mathematics Education. This issue we honor her spirit by reprinting the citation and response for that award. A personal remembrance of Etta by her mathematical colleagues and friends will be published in the January–February issue of this *Newsletter*.

Citation for Etta Z. Falconer

We can measure the impact of an educator and mathematical leader by the excellence and morale of her colleagues and by the number of her students who have undertaken successful careers in mathematics and in related fields. We can also recognize the intangible

MEMBERSHIP AND NEWSLETTER INFORMATION

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See the AWM website for details.

Subscriptions and back orders

All members except family members receive a subscription to the newsletter as a privilege of membership. Libraries, women's studies centers, non-mathematics departments, etc., may purchase a subscription for $50/year ($58 foreign). Back orders are $6/issue plus shipping/handling ($5 minimum).

Payment

Payment is by check (drawn on a check with a US branch), US money order, or international postal order. Cash payment will be accepted if necessary, but only in US currency.

Newsletter ad information

AWM will accept advertisements for the *Newsletter* for positions available, programs in any of the mathematical sciences, professional activities and opportunities of interest to the AWM membership and other appropriate subjects. The Director of Marketing, in consultation with the President and the Newsletter Editor when necessary, will determine whether a proposed ad is acceptable under these guidelines. *All institutions and programs advertising in the* Newsletter *must be Affirmative Action/Equal Opportunity designated.* Institutional members receive discounts on ads; see the AWM website for details. For non-members, the rate is $100 for a basic four-line ad. Additional lines are $6 each. See the AWM website for *Newsletter* display ad rates.

Newsletter deadlines

Editorial: 24th of January, March, May, July, September, November
Ad: 1st of February, April, June, August, October, December

Addresses

Send all **Newsletter** material **except ads and material for book review and education columns** to Anne Leggett, Math Dept., Loyola University, 6525 N. Sheridan Road, Chicago, IL 60626; email: leggett@math.luc.edu; phone: 773-508-3554; fax: 773-508-2123. Send all **book review** material to Book Review Editor, AWM, 4114 CSS Building, University of Maryland, College Park, MD 20742-2461 and all **education column** material to Ginger Warfield, Math Dept., University of Washington, Seattle, WA 98195; email: warfield@math. washington.edu. Send everything else, **including ads and address changes**, to Dawn V. Wheeler, 4114 CSS Building, University of Maryland, College Park, MD 20742-2461; phone: 301-405-7892; email: awm@math.umd.edu.

qualities that inspire and support both students and colleagues. Dr. Etta Z. Falconer of Spelman College embodies all of these qualities. Her many years of service in promoting mathematics at Spelman College and her efforts to enhance the movement of minorities and women into scientific careers through many forums in the mathematics and science communities are extraordinary.

In choosing a life of dedication to promoting and teaching mathematics at an historically Black institution such as Spelman College, Etta Falconer put on hold an extremely promising career as a research mathematician. The late Trevor Evans of Emory University, Falconer's Ph.D. advisor, insisted that she was the best of the numerous Ph.D. students he had in his 30 years at Emory.

Professor Falconer has promoted and led a cadre of colleagues to develop one of the most productive science programs at a liberal arts college in the United States, where some 38% of the students are majors in mathematics, computer science, biology, chemistry, physics, and dual engineering programs. In her 25 years at Spelman College, she has served as Chairperson of the Mathematics Department (1972–82) and as Chair of the Natural Sciences Division (1975–90); she currently serves as Associate Provost for Science Programs and Policy. She has instituted program after program to strengthen the infrastructure, upgrade the curriculum and provide the necessary support, including mentoring and undergraduate research experiences, to prepare students for success in graduate school. Among her efforts is the NASA Women in Science Program, conceived in 1987, for the purpose of directing high-ability students toward doctoral programs. Beginning with a dozen high school students, the program included a curriculum enriched with science and mathematics courses supplemented by summer research at NASA installations. From the first class of NASA graduates, five entered graduate programs: Applied Mathematics (Brown University), Mathematics (University of Maryland), Operations Research (Georgia Tech), Chemistry (University of Florida), and Medicine (Baylor Col-lege of Medicine). Yet, in spite of the demands on her time, she has always insisted on teaching mathematics courses because of her desire to stay in touch with students, continuing to personally advise and mentor over 100 students who major in the natural sciences or who participate in the NASA Undergraduate Science Research Program, NASA Women in Science Engineering Program or the College Honors Program.

Professor Falconer is a dedicated citizen of the professional mathematics community. For the American Mathematical Society she organized meetings of representatives of book publishers to solicit help in removing gender barriers; in the American Association for the Advancement of Science, she served on the Committee on Opportunities in Science during 1979–82; and she is a founder of the National Association of Mathematicians, an organization which promotes concerns of Black students and mathematicians, and of the Atlantic Minority Women in Science Network.

Bringing her profound wisdom, vision, and vast experience to all her roles as mentor, organizer, project developer, teacher, writer, and role model, Dr. Etta Z. Falconer is a tremendous resource to the students and faculty in mathematics and science at Spelman College, in the local and national mathematics community and in the broader scientific community.

Falconer's response

I am deeply honored to receive the Fifth Annual Louise Hay Award for Contributions to Mathematics Educations from the Association for Women in Mathematics. It was such an unexpected pleasure to learn of my selection.

There are several persons who have had a tremendous impact upon my professional life. Dr. Lee Lorch inspired me to study mathematics and helped to mold me as a person because of his belief in the dignity of all people. He remains my mentor to this day. One of the first Black women to earn the Ph.D. in mathematics, Dr. Evelyn Boyd Granville, taught me during my college days and became my first career role model. Finally, Dr. Trevor Evans, my dissertation advisor, fostered my growth in the area of algebra.

It was with the highest aspirations that I began my career in the field of mathematics, teaching at a small junior college in Mississippi. I later joined Spelman College where I was able to crystallize my desire to change the prevailing pattern of limited access and limited success for African American women in mathematics.

I have devoted my entire life to increasing the number of highly qualified African Americans in mathematics and mathematics-related careers. High expectations, the building of self-confidence, and the creation of a nurturing environment have been essential components for the success of these students. They have fully justified my beliefs. Perhaps the most rewarding moments have come when younger faculty have undertaken the same goal and have surpassed my efforts —reaching out to the broader community to help minorities and women achieve in mathematics.

AWM has been responsible for a great deal of positive change within the mathematics community and my membership has been very gratifying. I extend my warmest thanks to AWM for this wonderful award.

NEBRASKA CONFERENCE

The Fifth Annual Nebraska Conference for Undergraduate Women in Mathematics will take place February 7–9, 2003 at the University of Nebraska–Lincoln. This conference is a national showcase for research projects by undergraduate women. In addition to the main program of undergraduate research talks, we are pleased to have plenary addresses by Jennifer Chayes of Microsoft Research and Jean Taylor of Rutgers. There will also be panel discussions about such topics as "Choosing a Graduate Program" and "Careers Using Mathematics." The conference attracts students from all over the US and Puerto Rico. Participants hear about interesting mathematics, meet with other women who share their interest in mathematics, and, if they have participated in research programs, present their research.

Last year, over 100 undergraduates participated in the conference and 46 gave talks about their research. The research talks were interesting and well presented, and the panel discussions addressed issues of great interest to undergraduate women. The participants enjoyed getting to know one another at social events. The plenary talks were given by Rosemary Chang of Coastcom and Dusa McDuff of SUNY Stony Brook. In addition Theresa Strei from the NSA spoke at the conference banquet.

Comments about previous conferences include "It gave me a sense of belonging to a wider community," "It allowed me to talk to women making the same decisions I'm having to make," and "This was one of the best experiences of my undergraduate career."

The conference began as part of the UNL Department of Mathematics and Statistics' effort to continue their work in mentoring women students. Initially, the conference was funded in part by the Department's 1998 Presidential Award for Excellence in Science, Mathematics & Engineering Mentoring. The conference is now funded by the NSF and the NSA. This year's organizers, all at UNL, are professors Allan Donsig, Judy Walker and Richard Rebarber; graduate students Kathy Bartley, Melissa Desjarlais and Pari Ford; and undergraduates Libby Beer and Elizabeth Green.

The deadline for registration is Monday, **January 27, 2003**. For this, and further information about the conference, go to www.math.unl.edu/~ncuwm.

Judy Walker, University of Nebraska–Lincoln

AWM AT ICM2002

The 2002 International Congress of Mathematicians (ICM2002) was held in ancient and modern Beijing August 20–28. The ancient city has an abundance of historical sites and architecture, and in the past four or five years has added multilevel overpasses, beltways and bumper-to-bumper automobile traffic.

Scientific programs were organized with three one-hour plenary lectures in the mornings, three simultaneous 45-minute invited lecture sessions in the afternoon, and sometimes public lectures in the evenings. Selection of talks to attend in the afternoons was a difficult task for participants because there were also numerous short communications and poster sessions arranged in different mathematical subject sections, as well as panel discussions and "other events."

AWM, in cooperation with European Women in Mathematics and an international selection committee, organized two events for the afternoon of August 24, 2002: an Emmy Noether Lecture and a panel discussion on "Connections and Opportunities for Women in Mathematics." The tradition of an Emmy Noether Lecture at the International Congress started with ICM1994. The panel discussion served to bring together the thoughts and ideas of women and men mathematicians from around the world.

Hesheng Hu Presents the Emmy Noether Lecture

Professor Hesheng Hu of Fudan University in Shanghai, China, selected by an international committee, was the ICM2002 Emmy Noether Lecturer; she spoke on "Two-dimensional Toda Equations, Laplace Sequences of Surfaces in Projective Spaces, and Harmonic Maps" (see abstract in the July–August *Newsletter*). Obviously well-respected, she was warmly applauded by a mostly Chinese audience as she entered the hall. The audience also applauded as the much revered Professor S. S. Chern entered. The speaker (see her biographical notes in the July–August *Newsletter*) was introduced by Paosheng Hsu who very briefly also introduced AWM and the Emmy Noether Lecture (see below). Professor Hu's talk encompassed a rich body of work that she started in the 1980's and included some new results, co-authored with her collaborators at Fudan, and was well-received by the audience of roughly 150. As customary at ICM2002 lectures, the audience rushed up for autographs at the end of the lecture, and some wanted their pictures taken with the speaker. Scholarship gets star treatment in Beijing!

Pao-sheng Hsu, Columbia Falls, Maine; Paula Kemp, Southwest Missouri University

Connection and Opportunities for Women in Mathematics

The organizers of the panel discussion were: Paosheng Hsu, Maine; Paula Kemp, Southwest Missouri University; and Suzanne Lenhart, University of Tennessee and President of AWM. Paula Kemp served as the moderator for the panel discussion. The panelists were Sun-Yung Alice Chang, Princeton University; Li Chen, Academy of Mathematics and System Sciences, Chinese Academy of Sciences; Hesheng Hu, Fudan University, Shanghai; and Sylvia Wiegand, University of Nebraska and a past president of AWM. Chang was one of the few female plenary lecturers at this Congress.

Men and women from approximately 20 countries attended the discussion. It was truly international participation: about 75 people (including a journalist from a Beijing newspaper) from Africa (Morocco), Asia (China, Japan, India, Indonesia, Iran, Lebanon and the Philippines), Australia, North America (Canada, Mexico, and the US), and Europe (Estonia, Finland, France, Romania, Russia, Sweden, the United Kingdom and Yugoslavia). Kemp introduced the panel, and then each panelist gave the audience some of her personal experiences. Some of the questions the group discussed were: What is it like to be a mathematician in your country or in various countries in which you have experienced being a mathematician? Is the situation different for men and women in mathematics in your country and how are they encouraged? How are they rewarded? How does the general public view them, and is it prestigious to be a mathematics professor?

When the microphone was turned to the audience, they fully participated in the discussion, which was recorded. Reproduced below are the notes.

- Mathematician from China: There have been many successful mathematicians, for example Professor Hesheng Hu who gave the Emmy Noether Lecture, who have contributed greatly to mathematics.

Recently, the number of women and men mathematicians has increased. In the past twenty years, the innovation and opening of China provided the mathematicians with better research conditions and more opportunities to communicate with other mathematicians, both internal and international. As far as this person knew there were no special specific funds set up for women in China. In fact, she said, "I agree with it. We are not in the shade of any other men researchers." She said that one should not drive up the value of some works because its author is a man and should not debase its value only because it is done by a woman. The perfect state it to evaluate all mathematical works impersonally. She said that she believed that there will be a bright future for women mathematicians in China and all over the world.

- Mathematician from Indonesia: Facilities in her country are not good; help is needed to enable women to study abroad.
- Mathematician from Iran: Women mathematicians need to network, gather together for discussions.
- Mathematician (male) from Sheffield: Our best students in undergraduate classes are women, but they do not want to do postgraduate research. When asked whether he knew any reason: he said that students accumulate big loans in the undergraduate years; women students tend to want to work and not accumulate more loans.
- Mathematician from Russia (who is now living in Sweden): Russia has many women mathematicians but Sweden has very few.
- Mathematician from Yugoslavia: 70% of undergraduates are female, 40% of graduate students are female, and 20% of the professors. (Reporter's comment: we need to find out what the universal set is.)
- Mathematician from Finland: There is no woman in a permanent position.
- Question to the panelist and audience: Are the women mathematicians wives of male mathematicians?
- Mathematician from the Philippines: I do all the work at home but my husband, a businessman with a Master's degree, is very supportive of my work as a mathematician.
- Mathematician from the Philippines: If a woman mathematician wants to do research, her husband needs to be supportive. In the Philippines, half of the Ph.D. candidates are women. There is a feeling that women take more care in doing a proof or writing a piece of software.
- Mathematician from Indonesia: There is support from an extended family in childcare. There is also a sense that women have more "feeling," so they are good in being department chairs, and chairs are not always men.
- Mathematician from Asia: Difficulties in doing research are: there is no money, mathematicians need collaborators and access to journals.
- Mathematician (male) from Canada: Mathematical societies can encourage women by giving preferential opportunity.
- Mathematician from India: Doing research with colleagues is difficult because of the attitudes of men. Rules are set up by tradition and are unfavorable to women.
- Reporter: A female department chair had said to her, "You either do research or have a family."
- Mathematician from the United States: Graduate programs in the US have changed a great deal in the past 30 years, in terms of students' capability of networking. Also, students can now do undergraduate research. We can break traditions.
- Mathematician from the United States: Finding a summer job for an undergraduate student could help with building self-confidence and providing money. Reply from the audience: There is no such possibility in some countries.
- Mathematician from Iran: In Iran, previously women could not go to school, but now things have changed. The first (woman?) Ph.D. in Iran was given in 1977. Women should be able to be "as good as she could be." Why do we have to compare with men?

When asked whether they feel that male and female mathematicians are treated differently, six raised hands for "yes," the same number for "no." Within one country, the votes could be different.

Readers should take care not to generalize from these remarks, which on the whole necessarily reflect the

speaker's local condition and personal experience.

In Chinese, a mathematician is called "someone from the family of mathematics," kinship being an important feature of that culture. In that sense, the panel did give participants a sense of family.

Press Coverage of AWM Panel Discussion

ICM2002 received ample news coverage in Beijing newspapers. The August 21, 2002 issue of *China Daily* (www.chinadaily.com.cn), a national English-language newspaper, has pictures of the two Fields Medalists and the Nevanlinna prize winner, together with an article about the ICM opening ceremony on the front page, while the overseas edition of the Chinese-language *People's Daily* on that day (www.peopledaily.com) reported on the ceremony with a picture of the medallists and the Nevanlinna prize winner with President Jiang Zeming, also in a lead article. Zhang Lei, a journalist from the Beijing newspaper *Guangming Daily*, attended the AWM Panel Discussion at ICM2002 and reported on it. With her permission, Pao-sheng Hsu translated the article, keeping some of her Chinese imagery.

Women in the Kingdom of Mathematics Will Not Be Isolated Again

When one mentions the International Congress of Mathematicians, some people may think that it is a gathering of men who have made achievements in the domain of mathematics. But in the afternoon of the 24th, in Convention Hall no. 3 at the Beijing International Convention Center at a panel discussion on "Connections and Opportunities for Women in Mathematics," our attention was led to a group of women in the kingdom of Mathematics.

Amidst a light-hearted and happy atmosphere, more than 50 women from the United States, Canada, France, China, the Philippines, India, Indonesia, and Iran, etc., who work in the field of Mathematics gathered in one hall and exchanged ideas without barriers. Except for a few enthusiastic men, the participants were almost all female. Even though they were not known or paid attention to by too many people, they made a brilliant line in the scenes of this International Congress of Mathematicians. At the panel, participants gathered their own personal experiences and perceptions, discussed and expressed their opinions enthusiastically on topics such as "living and working conditions of a woman mathematician in your country," "the obstacles of pursuing a career in mathematics," "changes in the past few decades in status and working conditions for women mathematicians," etc.

This International Congress is not the first time that the topic of women and mathematics was discussed in international meetings. At the 1995 World Conference on Women held in Beijing and at the International Congress of Mathematicians held in Berlin four years ago, women who work in mathematics and those who have concerns for them had raised issues and called on the international community to encourage women to study and do research in mathematics, to broaden the boundaries and career opportunities for women in mathematical research and to pay women equitable salaries. A past president of the Association for Women in Mathematics and a professor at the University of Nebraska, Sylvia M. Wiegand told this reporter that in recent years, following the dilution of the traditional views, with improvement of the status of women and the hard work by women themselves, more and more women are beginning to study and do research in mathematics. Among United States citizens, roughly 30% of mathematics doctorates are awarded to women; also, there are more male mathematicians who are glad to help their female colleagues. In order to enable more women to do mathematics research, some American schools are instituting interesting activities for female high school students to stimulate their interest in mathematics and to lead and empower them to pursue study and a career in mathematics in the future. To help women mathematicians in the 30 to 40 years age group, who have to balance career and family and have child-care problems, some institutions of higher learning are extending the period for a woman finishing her doctorate to obtaining tenure from six to eight years.

Introducing Professor Hu Hesheng

Welcome to the Emmy Noether Lecture sponsored by AWM. We request that you kindly turn off your cell phones if you have one with you.

The Association for Women in Mathematics (AWM) was founded in 1971 in the United States. Its mission

by Zhang Lei of the Guangming Daily *staff; August 26, 2002,* Guangming Daily *(http://www.gmw.com.cn)*

has been to encourage women to study and to have active careers in the mathematical sciences. Its members include many male mathematicians who are supportive of this mission. (That's why the name of the organization is "Association for Women in Mathematics," not "of Women in Mathematics.")

AWM established the Noether Lecture to honor women who have made fundamental and sustained contribution to the mathematical sciences. Emmy Noether was one of the great mathematicians of her time; her work continues to inspire.

Since 1980, a one-hour expository Noether Lecture has been presented at the Joint Mathematics Meetings of the American Mathematical Society, the Mathematical Association of America and AWM. More recently, since 1994, an Emmy Noether Lecture has been given at the ICM.

For this ICM2002, AWM coordinated an international panel to select an Emmy Noether Lecturer. We are proud to present Professor Hu Hesheng from Fudan University in Shanghai, China.

Born in Shanghai, Professor Hu completed her graduate study at Zhejiang University. She had been a research assistant and a research associate of the Institute of Mathematics of the Chinese Academy of Sciences, of which she is now an academician. She had been a lecturer and an associate professor before becoming a full professor at Fudan. She has served as the vice president of the Chinese Mathematical Society and as the president of the Shanghai Mathematical Society. At ICM1990 in Japan, she was an invited speaker on Chinese university education and on research activities at Fudan.

Earlier in her work, Professor Hu has studied problems in classical differential geometry such as the deformation of hypersurfaces in Riemannian spaces, as well as groups of motions in Riemannian manifolds. During the 1970's when applied mathematics was emphasized, she studied the mathematical structure of Yang-Mills fields. Since the 1980's, she has been working on integrable systems and explicit constructions of a series of geometric objects such as periodic Laplace sequences in projective spaces. It is this area that her talk will be about today. Her title is "Two-Dimensional Toda Equations, Laplace Sequences of Surfaces in Projective Spaces and Harmonic Maps."

Please join me in welcoming Professor Hu.

NSF-AWM TRAVEL GRANTS FOR WOMEN

The objective of the NSF-AWM Travel Grants program is to enable women to attend research conferences in their fields, thereby providing a valuable opportunity to advance their research activities and their visibility in the research community. By having more women attend such meetings, we also increase the size of the pool from which speakers at subsequent meetings may be drawn and thus address the persistent problem of the absence of women speakers at some research conferences.

Travel Grants. These grants provide full or partial support for travel and subsistence for a meeting or conference in the applicant's field of specialization. A maximum of $1000 for domestic travel and of $2000 for foreign travel will be applied. For foreign travel, US air carriers must be used (exceptions only per federal grants regulations; prior AWM approval required).

Eligibility. These travel funds are provided by the Division of Mathematical Sciences of NSF, and the research conference must be in an area supported by DMS. For example, this includes certain areas of statistics, but excludes most areas of mathematics education and history of mathematics. Applicants must be women holding a doctorate (or equivalent experience) and having a work address in the US (or home address, in the case of unemployed mathematicians). Anyone who has been awarded an AWM-NSF travel grant in the past two years is ineligible. Anyone receiving significant external governmental funding (more than $1000 yearly) for travel is ineligible. Partial travel support from the applicant's institution or from a non-governmental agency does not, however, make the applicant ineligible.

Target dates. There are three award periods per year. An applicant should send *five* copies of 1) a cover letter, including the conference name, conference dates and location (city/state/country), and amount of support requested, 2) a description of her current research and of how the proposed travel would benefit her research program, 3) her curriculum vitae, 4) a budget for the proposed travel, and 5) a list of all current and pending travel funding (governmental and non-governmental) and the amounts available for your proposed trip to: Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. If you have questions, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted. The next three deadlines for receipt of applications are **February 1, May 1**, and **October 1, 2003**.

AWM-MAA INVITED ADDRESS IN BURLINGTON

In my address, titled "Two Research Traditions Separated by a Common Subject: Mathematics and Mathematics Education," I discussed the nature of mathematics education research, the kinds of claims made, and the evidence provided. I also contrasted the way research is done and evaluated in mathematics and mathematics education.

I began my career with a Ph.D. in mathematics and published a few papers. About seventeen years ago, I took up research in undergraduate mathematics education and now publish in that field.

Mathematics education research is not curriculum development per se, nor is it the production of new textbooks, software, or assessments although these, and more, are all valuable scholarly activities. It is also not general research on learning, such as psychologists often do. It is disciplined inquiry into the teaching and learning of mathematics, often with close observations of students actively involved in challenging mathematical tasks. Most importantly, it is a social science so no single study is definitive. Furthermore, a wide variety of research methods are used. One can take a cognitive perspective, and ask how individuals come to understand a mathematical topic, or one can take a socio-cultural perspective, and ask how the classroom affects the learning of the group or the individuals involved. Questions like these often require labor-intensive, qualitative studies. Other interesting information can be gained through quantitative studies like the Third International Mathematics and Science Study (TIMSS) as well as much smaller surveys.

The *sine qua non* of mathematics is proof, but mathematics education researchers rarely make long deductive arguments. Rather they look for regularities in behaviors; they observe and report their observations and conclusions. They look for compelling evidence, and whenever possible, compare data from several sources, such as field notes, audio- or videotapes, and interviews of participants, to see whether all point to the same, or similar, conclusions—a process known as triangulation. Definitions in mathematics, while often inspired by the real world, eventually stabilize in precise if-and-only-if form, whereas definitions of terms like "understanding" in mathematics education are necessarily descriptive. Mathematicians rarely need to consider differing philosophical/theoretical perspectives, whereas in mathematics education research even a single situation can be analyzed from several different perspectives. For example, a person's knowledge can be viewed as something, perhaps changing, that exists "in the head" or it might be viewed as situated, that is, as consisting of how an individual interacts with, or functions in, various situations.

Annie Selden at Mathfest

Mathematicians are not concerned with getting permission to investigate mathematical concepts, but mathematics education researchers have ethical and practical considerations of permission—first from one's institutional review board and then from the individual participants. Getting research published in mathematics education is not just a matter of having a nontrivial, nonobvious, new, and interesting result. There are other considerations. Was an appropriate methodology used? Is there sufficient detail so readers can tell the study was carefully executed? What is claimed? What evidence is provided? Is it appropriate? Generally, editors use three to five reviewers (referees) for each manuscript. To cover all aspects, an editor might want advice on discourse analysis, socio-cultural perspectives, semiotics, and ethnography, not to mention statistics for the quantitative data.

These are just a few of the things mentioned. For more details, see my TTU Mathematics Department Technical Report with the same title at www.math.tntech.edu/techreports/techreports.html.

2002 AWM Louise Hay Awardee Annie Selden, Department of Mathematics, Tennessee Technological University, Cookeville, TN 38505, selden@tntech.edu

Dear AWM Friend and Member:

You are a very important voice, contributing to our mission to encourage women to study and have active careers in the mathematical sciences. AWM is a 501(c)3 non-profit organization and we appreciate your **year-end donation -- any amount** you may be able to give.

Funds may may be designated for:

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EDUCATION COLUMN

On Listening

For many years I have been helping graduate students learn to teach with a modified group discovery format. It has been a joy and a challenge and a huge learning experience for me. I have developed tactics for working with the timid and the brash, with speed demons and plodders, with scrawlers and with people who let their concern for a neat board interfere with the mathematical content. One category, however, has completely eluded my efforts—the ones who don't listen. I'm not convinced I ever help them. Well, perhaps I help a little in the most benign cases, where the issue is a cheerful assumption that a half-heard answer is the correct one (splendid reinforcement for mumbling!).

A prime teaching need is the ability to listen for the sense behind a student's somewhat muddled question or answer, which is an art that can really only be developed from within by someone who feels the need and desire to do so. For those who feel neither, a question posed to the class tends to represent a tray being held out for someone to put the right answer on, and incorrect answers are allowed to drop to the floor. It is hard to tell who is the more exasperated in those cases, the instructor at the board, waiting and waiting for the intended response or me at the back, watching the barrage of dropped opportunities to learn what the students understand and what they don't, and to observe the impact of the choice and phrasing of the question itself. On rare occasions I can find a marginally helpful comment to write in the notes I am taking as a mentor. More often I sit and resist the urge to write "*listen*!" which is about as productive as shouting at somebody to *relax*!

It is probably as a result of working with these decades of graduate students that I have become conscious of the degree of influence of the presence or absence of genuine listening. On a conversational level, I have heard someone accused of having two modes of conversation: talking and waiting. My amusement was accompanied by a wince, because I am sure that description sometimes applies to me. At a larger level, it seems to me that a lot of the quality of functioning of a university department or any other community is determined by how well the people within it listen to each other. And at yet another level, reverting to the topic of a previous column, a lot of the acrimony in the "Math Wars" results from a tendency of too many of us on both sides of the issue: instead of listening to each other, we listen for statements we can refute, or even ridicule. This is not helpful.

I make no claim to originality with this thought. In fact, with very slightly different labeling, it is the central idea of a whole new trend in professional development for teachers. The earliest representative of this trend, and the one with which I am best acquainted, is the "Developing Mathematical Ideas" project. It originated with Deborah Schifter and Virginia Bastable as the SummerMath staff at Mount Holyoke College, and is being enlarged and produced with support from the Educational Development Center and published by Dale Seymour. It consists of several planned seminars for elementary school teachers. At the heart of each seminar is a collection of case study video clips or transcripts and a structure for leading teachers deeper and deeper into a discussion of just what a particular student understands and what kinds of partial understanding might lead to the confusions and errors observed. From there the next step is to consider what more there is for this student to learn and what further questions or problems might challenge and extend the student's current understanding. With the support of an NSF grant, we have been running these seminars in the Seattle area for the past three years. I have thus had the opportunity to listen in on a great multitude of groups working their way through the seminars. To me, one of the most exciting things is watching the teachers as they begin to take the listening skills developed through the case studies back into their classrooms and use them with their own students. The impact is both profound and inspiring.

All this was recently returned to the forefront of my consciousness and brought into focus by yet another graduate student. I had the good fortune to be on the Masters Committee of a young woman in the Mathematics Department who chose an unusual direction for her thesis. She was taking part in one of NSF's K–12 projects, which meant that part of her support for the

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year came from spending time working with teachers at a nearby elementary school, and in particular regularly being in a sixth grade classroom. She took on the challenge of trying to get the class to do some "genuine mathematical thinking."

The classroom teacher kindly allocated her four days, and she chose her topic, produced (with due agony) a set of lessons, and launched the class into them. Very little worked the way she expected it to, but a number of the surprises were good ones, and the class clearly did some good learning. What impressed me most, though, was the amount of learning the graduate student did—and she did it by listening. First she listened to their immediate responses and adjusted upcoming lessons accordingly (a basic, but alas not universal, occupation). Then she listened to their tones of voice and recognized when bravado was covering a refusal to think, and when a particularly muddled explanation represented a breakthrough happening. Then she listened to the overall tone of the class and recognized the place where an outburst of giggles and pre-adolescent humor resulted from an incomprehensibly written question.

As I said, her listening resulted in huge amounts of learning. Now I have to admit that some of that learning happened on the fifth or tenth time of playing back the tapes she had recorded during the classes. This is clearly not an option as an everyday procedure. On the other hand, she wasn't using anything as high tech as a video camera—just a plain old audio recorder. I wonder how many of us might profit from taping an occasional class and then listening to it afterwards. Really listening!

YEAR-END APPEAL: We hope you will consider making a contribution to AWM as you make your end-of-the-year donations. We can always make good use of any funds for our many worthwhile projects and for our infrastructure needs. In these difficult economic times, we appreciate any amount you may feel able to give. For your convenience, you will find an envelope stitched between pages 10 and 11.

NSF-AWM MENTORING TRAVEL GRANTS FOR WOMEN

The objective of the NSF-AWM Mentoring Travel Grants is to help junior women to develop a long-term working and mentoring relationship with a senior mathematician. This relationship should help the junior mathematician to establish her research program and eventually receive tenure. AWM expects to award up to seven grants, in amounts up to $4000 each. Each grant will fund travel, accommodations, and other required expenses for an untenured woman mathematician to travel to an institute or a department to do research with a specified individual for one month. Awardees may request to use any unexpended funds for further travel to work with the same individual during the following year. In such cases, a formal request must be submitted by the following February 1st to the selection committee, or the funds will be released for reallocation. (Applicants for mentoring travel grants may in exceptional cases receive two such grants throughout their careers, possibly in successive years; the second such grant would require a new proposal and would go through the usual competition.) For foreign travel, US air carriers must be used (exceptions only per federal grant regulations; prior AWM approval required).

Eligibility. Applicants must be women holding a doctorate or equivalent experience and with a work address in the US (or home address if unemployed). The applicant's research may be in any field that is supported by the Division of Mathematical Sciences of the National Science Foundation.

Each applicant should submit *five copies* of each of the following: 1) a cover letter (if a prior AWM-NSF mentor grant has been awarded, indicate so); 2) a curriculum vita; 3) a research proposal, approximately five pages in length, which specifies why the proposed travel would be particularly beneficial; 4) a supporting letter from the proposed mentor (who must indicate his/her availability at the proposed travel time), together with the curriculum vita of the proposed mentor; 5) a proposed budget; and 6) information about other sources of funding available to the applicant.

A final report will be required from each awardee. All awards will be determined on a competitive basis by a selection panel consisting of distinguished mathematicians appointed by the AWM.

Send *five* complete copies of the application materials (including the cover letter) to: Mentoring Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. If you have questions, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted. The deadline for receipt of applications is **February 1, 2003**.

AWARDS AND HONORS

CONGRATULATIONS to all those listed below for their meritorious achievements!

JANE GENTLEMAN, director of the Division of Health Interview Statistics of the National Center for Health Statistics in Hyattsville, MD, has been named the first recipient of the Janet L. Norwood Award for outstanding achievement by a woman in statistical sciences. The section on statistical genetics in the department of biostatistics in the School of Public Health at the University of Alabama at Birmingham (UAB) presented the award—a plaque and $5,000—to Gentleman during ceremonies in October.

"Women are underrepresented in all fields of science, but especially in mathematical fields," says David Allison, professor of biostatistics and head of the section on statistical genetics at UAB. "Recognizing role models like Dr. Gentleman, an enormously successful statistician who has contributed so much to the field, hopefully will attract more women to careers in statistical sciences."

The Janet L. Norwood Award, named in honor of the former commissioner of the US Bureau of Labor Statistics, is a testament to Gentleman's many credits as a statistician. Among her contributions to the field, Gentleman is well known for her development of new statistical computing applications. In the mid-1970s, she led a research effort pioneering the development of statistical computing and graphics software used to teach statistics.

Gentleman has authored numerous papers on statistical computing and a variety of other topics related to statistics, including public health, gerontology, molecular biology and criminology. She also has contributed to many statistical texts and served on the editorial boards of scientific journals including the *Canadian Journal of Statistics*, *American Statistician*, *Canadian Journal of Statistics*, *Survey Methodology*, *Health Reports*, *Canadian Cancer Statistics* and *Computational Statistics and Data Analysis*.

Gentleman is a Fellow of the American Statistical Association and an elected member of the International Statistical Institute. She has received numerous awards for her work and has been nominated for the 2002 Charles C. Shepard Award for most outstanding peer-reviewed scientific paper. Her paper, "On Judging the Significance of Differences by Examining the Overlap Between Confidence Intervals," was published in 2001 in an issue of the *American Statistician*.

Gentleman received her bachelor's degree in mathematics and her master's degree in statistics from the University of Chicago and received her doctoral degree in statistics from the University of Waterloo in Ontario, Canada. She has served as a statistical programmer, professor, researcher and administrator over the course of her career. She joined the National Center for Health Statistics in 1999. Prior to this, she was assistant director for analytic methods with Statistics Canada in Ottawa.

NSF 2002 Graduate Research Fellowships have been awarded to those listed here (undergraduate institution in parentheses, the institutions at which graduate work was planned without): SARAH E. DEAN (Duke University), Harvard University; TEENA M. GERHARDT (Stanford University), Harvard University; KAY L. KIRKPATRICK (Montana State University), University of California, Berkeley; GRACE LYO (Harvard University), University of California, Berkeley; CHRISTINA J. OBERLIN (Florida State University), Massachusetts Institute of Technology; LILLIAN B. PIERCE (Princeton University), University of California, Berkeley; BRIDGET E. TENNER (Harvard University), Massachusetts Institute of Technology; and ELLEN R. VEOMETT (University of Nebraska, Lincoln), University of Michigan.

ELAINE J. WEYUKER of AT&T Laboratories, Florham Park, NJ, was elected a member of the National Academy of Engineering for her contributions to software testing, reliability, and measurement, and for the development of mathematical foundations for software testing.

The 2002 AMS-AAAS Mass Media Fellowship was awarded to KATHERINE PAUR, a mathematics graduate student at Harvard University. After an orientation in Washington, DC, she served her summer fellowship at the *Chicago Tribune*. Paur graduated from MIT in 1999 and expects her Ph.D. in 2005.

The AMS and MSRI jointly sponsored a Congressional lunch briefing on Capitol Hill in February. INGRID DAUBECHIES of Princeton University spoke on "Mathematics, Patterns, and Homeland Security," explaining various applications of wavelet analysis.

SUSAN M. REES, Reader in Mathematics, University of Liverpool, was elected as a new fellow of the Royal Society of London for 2002. From the Society website (www.royalsoc.ac.uk/royalsoc/fel_new2002.htm):

> Dr. Rees is distinguished for her fundamental results in qualitative dynamics ranging over a broad spectrum from deterministic to chaotic complex systems. Her work frequently begins with ingenious examples and proceeds to a general theory. Currently she is making a substantial contribution to the combinatorial and topological classification problem involving Teichmüller theory which appears in two monumental papers and which is the foundation of a major and seminal publication.

EMILY RIEHL, 17, University High School, Bloomington, IL won third place and a $50,000 scholarship for her project "On the Properties of Tits Graphs" in the Intel Science Talent Search for 2002. AMS Menger Prizes were awarded at the 2002 Intel-International Science and Engineering Fair to: AMANDA BRYCE SHAW, 16, Seton School, Manassas, VA, third place ($250) for "Winter Wonderland: A Mathematical Analysis of Snowflakes"; MARY AUGUSTA BRAZELTON, 16, Bishop McNamara High School, Forestville, MD, honorable mention for "Odd Oscillations"; and RONLI PHYLLIS DIAKOW, 18, Paul D. Schreiber Senior High School, honorable mention for "Investigating the Distance Function on Centrally Symmetric Convex Surfaces."

WILLIAM RUNDELL of Texas A&M University has been named the new director of the Division of Mathematical Sciences of the NSF. He received his Ph.D. from Glasgow University and has been Head of his department for ten years. He replaced Philippe Tondeur, who retired to the University of Illinois at Urbana-Champaign, in September.

SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

Through a grant from Coppin State College and the National Security Agency (NSA), the Association for Women in Mathematics expects to support Sonia Kovalevsky High School Mathematics Days at colleges and universities throughout the country. Sonia Kovalevsky Days have been organized by AWM and institutions around the country since 1985, when AWM sponsored a symposium on Sonia Kovalevsky. They consist of a program of workshops, talks, and problem-solving competitions for high school women students and their teachers, both women and men. The purposes are to encourage young women to continue their study of mathematics, to assist them with the sometimes difficult transition between high school and college mathematics, to assist the teachers of women mathematics students, and to encourage colleges and universities to develop more extensive cooperation with high schools in their area.

AWM anticipates awarding seven to ten grants ranging from $1500 to $2200 ($3000 maximum) each to universities and colleges; more grants may be awarded if additional funds become available. Historically Black Institutions and women's colleges are particularly encouraged to apply. Programs targeted towards inner city or rural high schools are especially welcomed. If selected, institutions will receive an information packet consisting of model schedules of activities, a check list for the sorts of arrangements that need to be made, suggestions for securing additional funding and for obtaining prizes to be awarded to contest winners, recruitment and publicity material to be adapted for local use, lists of possible workshop topics for students and teachers, model problem solving contest material, and guidelines for follow-up activities and evaluation.

Applications, not to exceed five pages, should include: a) tentative plans for activities, including specific speakers to the extent known; b) qualifications of the persons to be in charge; c) plans for recruitment, including the securing of diversity among participants; d) itemized budget; e) local resources in support of the project, if any; and f) tentative follow-up and evaluation plans. The decision on funding will be made late February to early March. The high school days are to be held in Spring 2003. If selected, a report of the event along with receipts (originals or copies) for reimbursement must be submitted to AWM within 30 days of the event date or by June 15, 2003, whichever comes first. Reimbursements will be made in one disbursement; no funds can be disbursed prior to the event date.

Send *five* complete copies of the application materials to: Sonia Kovalevsky Days Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, Maryland 20742-2461. For further information: phone, 301-405-7892; email, awm@math.umd.edu; URL: http://www.awm-math.org. Applications must be received by **February 5, 2003**; applications via email or fax will not be accepted.

OPPORTUNITIES

Science Workforce Forum in Galveston

Nobel laureate Mario J. Molina, NSF Director Rita R. Colwell, former Presidential Science Adviser Neal F. Lane, National Institute of Environmental Health Sciences Director Kenneth Olden and National Science Board Chair Eamon M. Kelly head the list of prominent scientists, engineers and policy-makers speaking at the 2002 Sigma Xi Forum, Changing the Face of Science and Engineering, November 14–15 at Moody Gardens Hotel in Galveston, TX.

Open to the public, the forum will address topics related to the scientific workforce of the future, including critical human resource issues and the need for being inclusive. The two-day forum is expected to draw several hundred leading researchers, policy-makers and government officials from around the country. For registration, visit www.sigmaxi.org.

In the US, women and underrepresented minorities comprise nearly 60 percent of the labor force. Yet they represent only about 26 percent of workers in science, engineering and technology. A continuing decline in enthusiasm for science among college-age students leads to the urgent question—who will do science and engineering in the future?

Through its 2002 Forum, Sigma Xi will engage its members with the public policy, education and business communities in stimulating debate, dialogue and collaboration across disciplines to meet this challenge.

Model programs in industry, academia, government and professional associations will be highlighted. Concurrent breakout sessions on the plenary topics are being organized in partnership with the Council on Undergraduate Research, Project Kaleidoscope, the National Academy of Engineering and International Women in Science and Engineering.

Budapest Semesters in Mathematics Program

This program allows third and fourth year undergraduates to spend a semester or year studying mathematics in Budapest, Hungary. Admission criteria are high, but the rewards are great. A semester immersed in the mathematical culture of Budapest is an intellectual adventure of the very first rank.

A wealth of information, including pictures and an electronic application form, is available online at www.stolaf.edu/depts/math/budapest. Presently, the program can accommodate about 60 students per semester. The application deadlines for fall 2003 and spring 2004 are **April 30, 2003** and **November 1, 2003** respectively; early applications (by as much as a year) are encouraged.

MATH MEDLEY

Pat Kenschaft, Professor of Mathematics at Montclair State University in New Jersey and longtime AWM member, hosts a weekly hour-long call-in talk show called Math Medley. It can be heard live on Saturdays, noon Eastern time, at www.renaissanceradio.com, at 990 on the AM dial in Rhode Island and nearby MA and CT, and at 1100 on the AM dial in Arizona at 9:00 A.M. It has an estimated audience of 10,000.

The show has been on the air since 1998. Dozens of past Math Medley shows can be heard any time at www.webct.com/math. Topics and guests of past and future shows are available at www.csam.montclair. edu/~kenschaft.

The list of topics and speakers for November 2002 shows the range of topics covered: November 2, Deborah Schifter, "Students and Teachers Learning to Think Mathematically," Senior Scientist, Educational Development Center, MA; November 9, Robert Bowman, "Mathematics of Congress ... and war," Director of the Star Wars program under both Presidents Ford and Carter, ran for president in 2002 in the Independent party and beat Pat Buchanan in three primaries; November 16, Claudette Engblom-Bradley, "Native Americans in Mathematics," Department of Mathematics, University of Alaska, Fairbanks; and November 30, Anna Lappe and Frances Moore Lappe, co-authors of *Hope's Edge: the Next Diet for a Small Planet*, co-founders of The Small Planet Fund.

AWM members will recognize many speakers on the list of past programs. To give just two examples, Lee Lorch, York University, spoke on "Racism and Sexism in the Mathematics Community: Then and Now," and Mary Gray, AWM founding president, had the topic "Using Statistics to Make the World Better."

AWM WORKSHOP FOR WOMEN GRADUATE STUDENTS AND RECENT PH.D.'S

supported by the Air Force Office of Scientific Research, the Office of Naval Research, and the Association for Women in Mathematics

Over the past fourteen years, the Association for Women in Mathematics has held a series of workshops for women graduate students and recent Ph.D.'s in conjunction with major mathematics meetings.

WHEN: The next AWM Workshop, to be held in conjunction with the First Joint Meeting of CAIMS and SIAM (the 24th Annual Meeting of CAIMS/SCMAI and the 2003 SIAM Annual Meeting), will take place at the Queen Elizabeth Hotel in Montreal, Quebec, Canada, June 16–20, 2003.

FORMAT: The workshop will consist of a poster session by graduate students and two or three minisymposia featuring selected recent Ph.D.'s, plus an informational minisymposium directed at starting a career. The graduate student poster sessions will include all areas of research, but each minisymposium will have a definite focus selected from the research areas of Mathematical Biology, Modeling, Control, Optimization, Scientific Computing, and PDEs and Applications. AWM will offer funding for travel and two days subsistence for the selected participants. All mathematicians (female and male) are invited to attend the program. Departments are urged to help graduate students and recent Ph.D.'s obtain supplementary institutional support to attend the workshop presentations and the associated meetings.

DISCUSSION GROUP LEADERS: We also seek volunteers to lead discussion groups and to act as mentors for workshop participants. If you are interested in volunteering, please contact the AWM office.

ELIGIBILITY: To be eligible for selection and funding, a graduate student must have begun work on her thesis problem, and a recent Ph.D. must have received her degree within approximately the last five years, whether or not she currently holds a postdoctoral or other academic or non-academic position. All non-US citizens must have a current US address. All applications should include a cover letter, a summary of research work (one or two pages), a title and abstract (75 words or less) of the proposed poster or talk, and a curriculum vitae. A supporting letter of recommendation from a faculty member or research mathematician who knows her research is required for graduate student applicants, and recommended but not required for recent Ph.D.'s. All selected and funded participants are invited and strongly encouraged to attend the full AWM two-day program. Those individuals selected will be notified by the AWM Office and will need to submit a title and abstract with name, affiliation, address, etc. by mid-February to SIAM for the meeting program; AWM will provide instructions with the notification. For some advice on the application process from some of the conference organizers see the AWM web site.

Send **five** complete copies of the application materials (including the cover letter) to:

Workshop Selection Committee
Association for Women in Mathematics
4114 Computer & Space Sciences Building
University of Maryland
College Park, Maryland 20742-2461

Phone: 301-405-7892
Email: awm@math.umd.edu URL: www.awm-math.org

APPLICATION DEADLINE: Applications must be received by **January 24, 2003**.
Applications via email or fax will not be accepted.

US FULBRIGHT SCHOLAR PROGRAM EVALUATED

SRI International, an independent research institute, announced results in September of a two-year outcome assessment of the US Scholar component of the Fulbright Educational Exchange Program, the US government's flagship international educational exchange program. SRI found strong evidence that the program is achieving its mandate of promoting mutual understanding and cooperation between the US and other nations, and that it has diverse and often powerful impacts not only on Fulbright Scholars themselves, but also on their colleagues, students, friends and families.

Key Findings

SRI researchers found two key themes: the capacity of the Fulbright experience to increase Americans' knowledge of and engagement with the world, and the power of personal relationships to increase mutual understanding. These themes are particularly compelling in view of the events of September 11, 2001.

The real power of the Scholars' experiences is in their "multiplier" effects. The study indicates that during their grant period, the Scholars teach, organize workshops, collaborate in research with colleagues and students, provide media interviews, socialize with neighbors, and interact in many other ways with a variety of people in their host countries. When they depart, they leave behind books and other materials, changed curricula, new ideas and new perspectives and increased understanding of American culture—immediately and for years to come.

Virtually all Scholars reported that their Fulbright experiences gave them a deeper understanding of their host country and heightened their awareness of social and cultural diversity. They also cited ways in which ongoing personal contacts stemming from living and working in a community put a face on US policies and culture and increase mutual understanding. Without exception, they agreed that their Fulbright experiences were valuable.

Other key findings included the following:

Scholars' grant activities are diverse: Beyond the basic lecturing or research focus of their grants, Scholars wrote or edited articles or books, advised students, provided technical advice and organized or participated in conferences or events.

Grantees are active in their neighborhoods and communities: 98% interacted with people from their host country by engaging in some form of media, community or social activity.

Scholars build knowledge and long-term relationships with host institutions and foreign colleagues: 80% said they imparted new knowledge about their field, 75% have continued to collaborate with colleagues since their grant's completion and 70% have been visited in the US by host country colleagues or friends.

Scholars make US campuses and communities more "international": 73% have incorporated aspects of their Fulbright experience into courses and teaching methods.

Scholars are enriched and inspired by Fulbright experiences: Large majorities reported that their overseas experience led to professional expertise they otherwise would not have developed, enhanced their credentials and contributed to greater insight into their field.

Background

SRI surveyed a stratified random sample of 1,004 US Fulbright Scholar alumni whose grants began between 1976 and 1999. Eighty percent of the Scholar alumni completed a questionnaire about the impact the Fulbright program has had on individuals and institutions both in the US and in the Scholars' host countries. An executive summary and the full report of SRI's outcome assessment may be found at www.sri.com/policy/csted/reports/.

Legislation to establish the Fulbright Program was proposed to Congress in 1945 by Senator J. William Fulbright of Arkansas and signed into law in 1946. In the aftermath of World War II, Fulbright viewed the program as a much-needed vehicle for promoting "mutual understanding between the people of the United States and the people of other countries of the world."

The US Fulbright Scholar Program, one of several under the Fulbright umbrella, provides grants for American college and university faculty, professionals and independent scholars to lecture and conduct research in 140 countries. The program is funded by the US Department of State's Bureau of Educational and Cultural Affairs (exchanges.state.gov) and administered by the Council for International Exchange of Scholars, a private, non-profit organization.

GENDER EQUITY PROGRAMS

The US Department of Education developed the Gender Equity Expert Panel to identify promising and exemplary programs that promote gender equity in and through education. This panel of experts reviewed self-nominated programs to determine whether they met four criteria: evidence of success/effectiveness in promoting gender equity; quality of the program; educational significance; and usefulness to others/replicability. The eleven exemplary and promising programs that the Panel recommended during the review cycle from 1996-99 are a sample of many currently available solutions.

Planning for the Gender Equity Expert Panel started in 1995, with the first Panel members selected in 1996. The 34 Panel members who eventually served had expertise in a wide variety of gender equity topics and represented diverse education roles and populations.

The Gender Equity Expert Panel formed six subpanels in the following areas: Core Gender Equity; Disabilities; Mathematics, Science, and Technology; Prevention of Violence and Sexual and Racial Harassment in Higher Education; Teacher Education and Professional Development; and Vocational/Technical Education and School-to-Work.

One-hundred gender equity products, programs, and policies were submitted for review. Each complete submission to the panel was reviewed by at least two subpanel reviewers. The reviewers were responsible for judging the four criteria listed above. In 1997, an Impact Review Panel (IRP) was formed to examine evidence of effectiveness for all programs that the panels were considering recommending as exemplary. Members of the IRP reviewed the appropriate submissions and sent the results of their deliberations to the full Panel for consideration. After the initial reviews were completed, the subpanel chairs worked with reviewers to prepare a summary review document describing the program and its strengths and weaknesses in relation to the evaluation criteria.

The Panel made iterative decisions at two key meetings. First, the full Panel met in September 1997, and made initial decisions about its first group of potentially promising and exemplary programs. Second, about 20 representatives from all the subpanels met in December 1998 and discussed subpanel recommendations to make sure that all the criteria and decision rules were applied consistently across subpanels. During this meeting, they also considered the comments from the IRP about the strength of the evidence to support claims of positive impact for programs the subpanels judged potentially exemplary.

The updated reviews in this report provide descriptive and evaluative information on the eleven programs, one that was recommended as Exemplary and ten that the panel recommended as Promising. To be rated as Exemplary, the program had to receive "excellent" ratings on each of the four criteria categories. Promising programs had to receive ratings of at least "good" on each category. Most received "excellent" on all categories except for evidence of effectiveness.

To receive an "excellent" rating on evidence of effectiveness, there had to be very convincing evidence from multiple sites that the intervention was a major contributor to one or more important gender equity claims of positive impact without substantial counter-evidence of negative impact on gender equity or other important results in other sites. To receive a "good" rating on evidence of effectiveness, the intervention must demonstrate at least one important and meaningful positive gender equity claim that is supported by some relational evidence in one or more sites. As with exemplary status, there could be no substantial counter-evidence that it had a negative impact on gender equity or other important results.

The eleven Exemplary and Promising programs recommended in this round of reviews by the Gender Equity Expert Panel are an important set of resources for educators and other community leaders who want to use programs that have evidence that they can increase gender equity.

When educators seek resources that are likely to assist them in advancing gender equity in their situations, the Panel hopes that educators will find summaries of these promising and exemplary programs helpful.

Five programs in the area of Gender Equity in Mathematics, Science, and Technology were found to be promising. Summaries are given here; see the full publication for further information.

Adapted from the US Department of Education publication, Exemplary & Promising Gender Equity Programs 2000, *available on the web at www.ed.gov/pubs/genderequity. Free print copies may be ordered at www.ed.gov/pubs/edpubs.html.*

ASPIRE: Alabama Supercomputing Program to Inspire Computational Research in Education provides one-week and two-week professional development programs for high school and middle school teachers to help them instruct students in solving problems using a computational science approach to problem solving. Students learn problem definition techniques, how to develop simulations on computers (including supercomputers), mathematical modeling, and scientific visualization and develop writing and presentation skills by participating in an annual statewide EXPO. The program incorporates a project-oriented approach to solving real world problems. The goals of the program are to inspire students to become excited about mathematics, science, and core subjects and to train teachers so they will have the skills that will enable them to incorporate innovative investigative techniques in computational science in their teaching methodology.

This program appears to be very successful in recruiting and retaining young women in the fields of science and technology, as well as offering a viable course in computer science to all students in middle and high school. The strengths of the program that may account for its success with girls appear to be the integration of technology across content domains in ways that include emphasis on communication skills (especially that of writing). The project-based approach to instruction allows girls to work alone, in all-girl teams, or in mixed-gender teams as they choose.

The EQUALS mathematics program for educators is built on an understanding of the issues facing teachers and students, the demands placed upon teachers, and the challenges and opportunities inherent in teaching a diverse population. The program's goal is to create greater access to and success in mathematics for all students, especially females and those from underrepresented groups. EQUALS helps K–12 teachers, administrators, parents, and community members enhance their own as well as their students' learning. Workshops model materials and strategies that will make math classes more dynamic and accessible for students with a variety of learning styles or from diverse ethnic and language communities. Curriculum materials include rigorous mathematics activities, large-scale student investigations, and innovative assessment techniques. The activities involve construction and building, problem solving, logical reasoning, spatial reasoning, geometry, probability, statistics, and discrete mathematics.

EQUALS is in the forefront of quality teaching approaches that reflect National Council of Teachers of Mathematics Standards and improve mathematics instruction for teachers as learners. Its successful expansion and replication nationally over two decades further demonstrates the importance of this program.

Members of the network have played significant roles in shaping policy across the nation. For example, in the publication *Arkansas Equity Benchmarks for Math and Science*, EQUALS is mentioned as part of the technical assistance provided to state schools. The American Association of University Women included EQUALS on the resource list in its 1996 publication "Girls Can." The National Council of Supervisors of Mathematics included references to EQUALS in *Mathematics for All: A Source Book of Essential Information for Leaders in Mathematics Equity* (1999). The EQUALS program, staff, publications, and activities figure prominently among the resources gathered.

Family Tools and Technology (FT&T) is a coeducational after-school program targeting 70 percent girls, 30 percent boys, grades 4–7, and their parents. Children and parents collaborate in problem-solving activities (using tools, simple machines, and LEGOs to design and construct models) that illustrate the importance of mathematics, science, technology, and engineering in the world beyond the classroom. FT&T was created to increase the number of girls who are excited about science and technology and to encourage their continuing interest. It seeks to stimulate parents to become advocates for their daughters', as well as their sons', endeavors in science and technology, and to train teachers to promote girls' continued participation and confidence in problem solving and in real life applications of mathematics. FT&T challenges traditional gender expectations by providing career role models and activities that allow girls (with their families) to gain the same technology and pre-engineering experiences as boys.

The integration of math, science, and technology in educational settings enhances interest in this subject matter when it includes hands-on, real life problem solving, and is cooperative and open-ended. Pre-engineering and architecture (subjects unusual to find before high school) are introduced in the early school years. All FT&T activities are aligned with and reinforce national mathematics, science, and technology education standards, in addition to New Jersey State Core Curriculum Content Standards in mathematics, science, technology,

history, language arts, workplace readiness, and art. While after-school mathematics, science, and technology programs designed to increase gender equity are typically only for girls, FT&T targets girls and their parents in co-ed settings.

The National Science Partnership (NSP) is a collaborative effort between Girl Scouts of the USA in New York and The Franklin Institute Science Museum in Philadelphia. Its goal is to establish partnerships among local Girl Scout councils and science-strong institutions around the country to promote science interest in leaders and girls, especially those from underrepresented populations. NSP provides two-hour leader training workshops for each of seven Girl Scout activity kits, each of which contains 12 to 25 hands-on activities for girls, ages 6–11. These kits, when supplemented by materials available at the supermarket, provide five to seven hours worth of activities for 15 girls. Although originally designed for, and used by, the Girl Scouts, the NSP program provides a model for partnerships between museums and other youth-serving organizations.

The project gives girls an opportunity to "do" science in ways that the research suggests is supportive of learning styles favored by girls—i.e., working together, being led by role models, and doing projects with relevance for their lives. Many girls learn to dislike science in elementary grades because it is either poorly or seldom taught. NSP has made a significant start in changing this mind-set. As stated by one reviewer, "This project is making significant strides to improve the learning and appreciation of science for thousands of girls."

Playtime is Science is an equity-based parent/child science program for grades PreK–3. The program was developed to address several equity concerns related to science education reform. It begins at the lower elementary level of education, and its target population is students from groups underrepresented in science. The inquiry-based activities focus on the physical sciences, an area seriously neglected in elementary school, and have a strong focus on parent involvement, providing parents with training to become facilitators of the program. Playtime is Science stresses that teachers and parents know more science than they think and therefore can play an important role in helping children gain interest, confidence, and competence. Playtime is Science encourages teamwork among administrators, teachers, and parents, who plan together to bring the program into the classroom and/or the larger school community.

This program incorporates principles of learning and teaching supported in the research literature and advocated by the national standards for science education. Additionally, it integrates gender and cultural diversity into early childhood science programs and educates parents about equity. Playtime is Science has shown a real, positive impact on increasing an interest in science among girls. This program targets young children and their parents and is eligible for funding from Title I. It is unique in its emphasis upon addressing diversity and gender in a quality science program.

GIRLS' INTEREST IN MATH

Contrary to widely held belief, girls are not underperforming in middle school and high school math; girls' and boys' achievement in math classes are virtually the same. But girls seem to have less interest in the subject, and this may be a contributing factor to the dearth of women in math-related occupations, particularly jobs in information technology, according to University of Michigan researcher Pamela Davis-Kean.

"We shouldn't be surprised that both women and men choose careers based not just on performance and ability, but also on their beliefs about and interest in those occupations," Davis-Kean said.

Davis-Kean and co-authors Jacquelynne Eccles (University of Michigan) and Miriam Linver (Columbia University) presented their research in a paper titled "Influences of Gender on Academic Achievement" at the biennial meeting of the Society for Research on Adolescence in April 2002. Their findings are based on a data set collected over 17 years as part of the Michigan Study of Adolescent Life Transitions (MSALT). MSALT followed some 1700 southeastern Michigan students from sixth- through 12th-grade and beyond, looking at a wide variety of interests, motivation, and achievement-related self-concepts.

When the researchers analyzed data for students by track (honors/college and regular/basic) and gender, they discovered that, overall, young women had slightly higher grades than young men within each group; grades

University of Michigan press release, /www.umich.edu/~newsinfo/Releases/2002/Apr02/r041702a.html

for both girls and boys generally declined throughout high school. Interest in math generally declined for all groups through high school, but girls in the honors/college track started out lower in eighth-grade than boys in the honors/college track, and their interest continued to decline even through the 12th-grade while the boys' interest stabilized across high school.

The next step of the project will look at what the students did after high school—whether they went to college, what they studied there, what careers they entered. "We already know that while at least half the students entering medical and law school are women, engineering schools are having trouble attracting and retaining talented young women," Davis-Kean said. "The IT industry is aware it's missing out on a large pool of potentially valuable employees. The next question to ask, of course, is what we can and should be doing to maintain and perhaps even increase interest in math."

The research paper was being presented in a larger session titled "The Longitudinal Impact of Gender on Academic Outcomes: Does Gender Really Matter?"

While the Michigan study showed no differences in math performance between the genders, other papers demonstrate that there are significant differences in reading between girls and boys, favoring girls. "This is a troublesome problem that educators will almost certainly have to address in the near future," Davis-Kean said.

IN MEMORIAM: PATSY MINK

Congresswoman Patsy Mink died September 28, 2002 in Honolulu at age 74. Mink was the first Asian American woman elected to Congress in 1964 and was a champion for women's rights throughout her career. Congresswoman Mink was especially proud of her role in creating and securing passage for Title IX. For further info, see the.honoluluadvertiser.com/article/2002/Sep29/ln/ln04a.html and www.washingtonpost.com/wp-dyn/articles/A17469-2002Sep28.html.

MINISYMPOSIUM FOR WOMEN RECENT PH.D.'S AT ICIAM'03

ICIAM 03, Sydney, Australia, July 7-11, 2003

supported by the Air Force Office of Scientific Research (AFOSR), the Office of Naval Research (ONR) and the Association for Women in Mathematics (AWM)

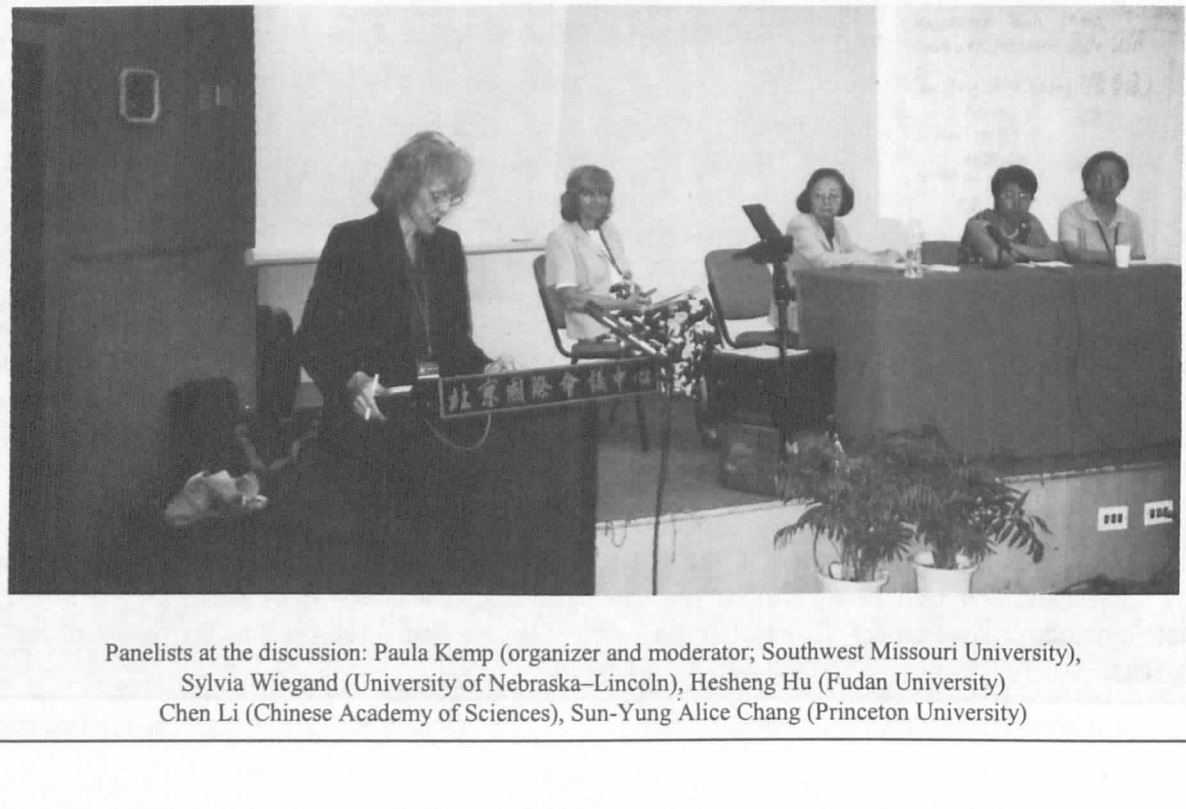
AWM is seeking speakers for a minisymposium of women postdoctoral researchers at the Fifth International Congress on Industrial and Applied Mathematics (**ICIAM 03**), **July 7-11, 2003, Sydney, Australia.** AWM has submitted a minisymposium proposal to showcase women applied mathematicians. Each speaker will present a 30-minute talk on her research in applied mathematics. For more information on this meeting, see: **<www.iciam.org>**

All applicants (doctoral degree awarded no earlier than July 1993) should provide a cover letter, a summary of research work (one or three pages), a title and abstract (75 words or less) of the proposed talk, a curriculum vitae and a letter of recommendation. Those individuals selected will be notified by the AWM Office and will need to submit a title and abstract with name, affiliation, address, etc. by the end of January for the meeting program; AWM will provide instructions with the notification. Funds for travel support for up to two U.S. speakers will be awarded through an AFOSR/ONR grant to AWM. These AWM-funded U.S. speakers must be U.S. citizens or non-U.S. citizens who are working in the United States.

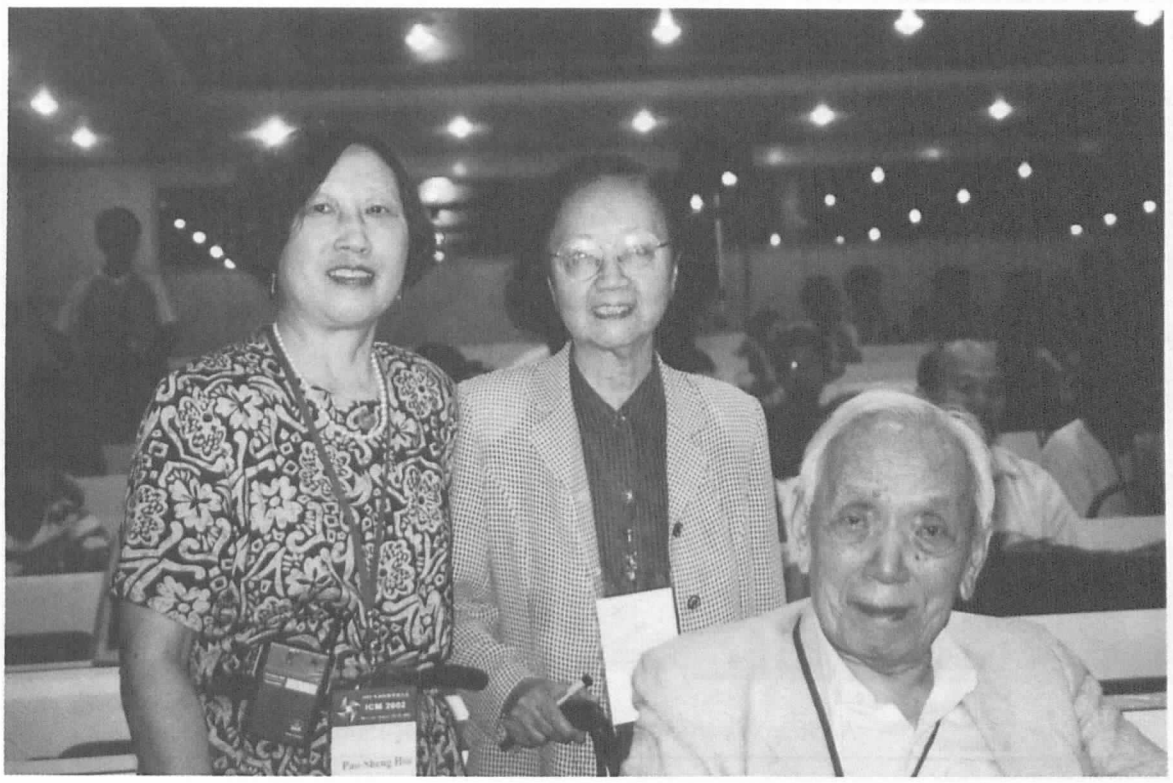
Send **five** complete copies of the application materials (including the cover letter) to: AWM Minisymposium at ICIAM Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, Maryland 20742-2461. If you have questions, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted. The deadline for receipt of applications is **January 8, 2003.**

ICM2002: BEIJING

At the panel discussion



Panelists at the discussion: Paula Kemp (organizer and moderator; Southwest Missouri University), Sylvia Wiegand (University of Nebraska–Lincoln), Hesheng Hu (Fudan University) Chen Li (Chinese Academy of Sciences), Sun-Yung Alice Chang (Princeton University)



Pao-sheng Hsu (organizer, Maine), Hesheng Hu (Emmy Noether Lecturer, Fudan University), S. S. Chern (Professor Emeritus, University of California, Berkeley)

Sun-Yung Alice Chang, Paula Kemp, Chen Li, Sylvia Wiegand, Pao-sheng Hsu

A group of participants after the panel discussion

Paula Kemp visiting with some of the enthusiastic young ICM student volunteers

Iran

Thailand

Phillipines

India

At the panel discussion

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Association for Symbolic Logic ASL Travel Awards

Awards for Students and Recent Ph.D's. In 2003 the ASL will again make available modest travel awards to graduate students in logic and (for the European Summer Meeting only) to recent Ph.D's so that they may attend the 2003 ASL Annual Meeting in Chicago, Illinois, or the 2003 ASL European Summer Meeting in Helsinki, Finland. Student members of the ASL also may apply for travel grants to other ASL or ASL-sponsored meetings. To be considered for a Travel award, please (1) send a letter of application, and (2) ask your thesis supervisor to send a brief recommendation letter. The application letter should be brief (one page) and should include (1) your name, (2) your home institution, (3) your thesis supervisor's name, (4) a one-paragraph description of your studies and work in logic, and, in the case of an ASL student member application to attend an ASL or ASL-sponsored meeting other than the Annual Meeting or European Summer Meeting, a paragraph indicating why it is important to attend the meeting; (5) your estimate of the travel expenses you will incur, (6) (for citizens or residents of the USA) citizenship or visa status, and (7) (voluntary) indication of your gender and minority status. Women and members of minority groups are strongly encouraged to apply. In addition to funds provided by the ASL, the program of travel grants to the ASL Annual Meeting and the European Summer Meeting is supported by a grant from the US National Science Foundation; NSF funds may be awarded only to students at USA universities, and to citizens and permanent residents of the USA. Air travel paid for using NSF funds must be on a US flag carrier. Application by email is encouraged; put "ASL travel application" in the subject line of your message.

For the 2003 ASL Annual Meeting, applications and recommendations should be received before the deadline of March 17, 2003, by the Program Chair: Andreas Blass, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1109, USA; email: **ablass@umich.edu.**

For the 2003 ASL European Summer Meeting, applications and recommendations should be received before the deadline of April 1, 2003, by the Organizing Committee: LC2003, Department of Mathematics, University of Helsinki, P.O. Box 4 (Yliopistonkatu 5), FIN-00014 Helsinki, Finland; email:**lc2003@helsini.fi.**

For ASL student member travel grants to other ASL or ASL-sponsored meetings, applications and recommendations should be received at least three months prior to the meeting at the ASL Business Office: ASL, Box 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, New York 12604, USA; Fax: 1-845-437-7830; email: **asl@vassar.edu.**

2003 ASL Annual Meeting. *June 1–4, 2003, Chicago, Illinois.*
2003 ASL European Summer Meeting. *August 14–20, 2003, Helsinki, Finland.*

For further information about these meetings, and other ASL and ASL-sponsored meetings, visit the ASL website at **http://aslonline.org/Meetings.htm.**

ASL, Box 742, Vassar College
124 Raymond Ave., Poughkeepsie, NY 12604
email: **asl@vassar.edu**; Fax: 845-437-7830
Also visit the ASL web site: **http://www.aslonline.org.**

Enhancing Diversity in Graduate Education

EDGE 2003:
POMONA COLLEGE
CLAREMONT, CA
JUNE 2 - JUNE 27

Deadline: March 3, 2003

"Giving the EDGE to Women in Mathematics"

The EDGE Program, funded by The Andrew W. Mellon Foundation and the National Science Foundation, is designed to strengthen the ability of women and minority students to successfully complete graduate programs in the mathematical sciences. The **summer program** consists of two core courses in analysis and algebra/linear algebra. There will also be minicourses in vital areas of mathematical research in pure and applied mathematics, short-term visitors from academia and industry, guest lectures, graduate student mentors, and problem sessions. In addition, a follow-up mentoring program and support network will be established with the participants' respective graduate programs. Applicants to the program should be women who are **1.)** graduating seniors who have applied to graduate programs in the mathematical sciences, **2.)** recent recipients of undergraduate degrees who are now entering graduate programs, or **3.)** first-year graduate students. All applicants should have completed standard junior-senior level undergraduate courses in analysis and abstract algebra and have a desire to earn a doctorate degree. Women from minority groups who fit one of the above three categories are especially encouraged to apply. Final acceptance to the program is contingent upon acceptance to a graduate program in the mathematical sciences.

The EDGE 2003 Summer Program will be held at Pomona College in Claremont, CA, marking the first time the program has not been at either Bryn Mawr College or Spelman College. The dates for the summer program are June 2 -June 27th, 2003. It will be co-directed by Sylvia Bozeman (Spelman) and Rhonda Hughes (Bryn Mawr), and Local Coordinator Ami Radunskaya (Pomona College). A stipend of $2000 plus room and board will be awarded to participants. **The application deadline for the program is Monday, March 3, 2003.** Participants to the program will be announced by April 15th.

Applications should consist of the following: completed application form, statement describing the expected value of this program to the applicant's academic goals, two letters of recommendation from mathematical sciences faculty familiar with the applicant's work, transcript and current resume, list of graduate programs to which the applicant has applied, together with ranked list of her two or three top choices. Applications forms may be obtained from the EDGE Program website: **http://www.edgeforwomen.com**

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Education

UNIVERSITY OF DELAWARE

One of the oldest institutions of higher education in this country, the University of Delaware today combines tradition and innovation, offering students a rich heritage along with the latest in instructional and research technology. The University of Delaware is a Land-Grant, Sea-Grant, Urban-Grant & Space-Grant institution with its main campus in Newark, DE, located midway between Philadelphia and Baltimore.

Assistant Professor

Department of Mathematical Sciences

Tenure - track Assistant Professor in discrete mathematics beginning September 2003. Preference given to applicants whose research is compatible with current faculty (designs, extremal / algebraic combinatorics, finite geometry, probabilistic method). Highly desirable: (1) Demonstrated interest in applications (e.g. cryptography, coding theory, scheduling, genetics); (2) Use of computing in teaching / research. Send curriculum vitae and 3 letters of reference by December 31, 2002 to:

Dr. Gary Ebert, Chair of Search Committee,
Mathematical Sciences Department,
University of Delaware, Newark, DE 19716-2553.
The curriculum vitae and letters of reference shall be shared with departmental faculty.

The UNIVERSITY OF DELAWARE is an Equal Opportunity Employer which encourages applications from Minority Group Members and Women.

Rensselaer

Why not Change the World?

POSTDOCTORAL FELLOWSHIP

The Department of Mathematical Sciences is pleased to announce the immediate availability of a postdoctoral fellowship in connection with our NSF funded program in the Vertical Integration of Research and Education (VIGRE).

The focus of our program is mathematical training directed towards contemporary scientific problem solving. This includes disciplinary depth, as well as exposure to, and participation in, interdisciplinary research programs in both academic and non-academic settings. In the process, the postdoctoral fellow will be involved in a broad variety of different research and educational activities. This provides a foundation for what is essential in mathematics today, that is, breadth of knowledge and the ability to communicate effectively across traditional boundaries.

The fellowship is for three years and provides support for both the academic year and summer. Travel support to attend conferences and invite visitors to Rensselaer is also provided. Fellowships are available only to US citizens and permanent residents.

We offer an excellent benefits package including health, dental, life insurance, retirement, tuition, etc. Visit our Web site at: www.rpi.edu/dept/hr

Applicants should send a letter of application, a curriculum vitae, a description of research interests, and arrange to have three letters of recommendation sent directly to the address below. Review of applications will begin immediately and continue until the position is filled.

VIGRE Hiring Committee, Department of Mathematical Sciences, Rensselaer Polytechnic Institute, 110 8th Street, Troy, NY 12180
Inquiries should be sent to **holmes@rpi.edu**

Rensselaer Polytechnic Institute, an equal opportunity-affirmative action employer, particularly encourages applications from women and minority candidates.

Institute of Technology Center for Educational Programs (ITCEP) at the University of Minnesota

The **Institute of Technology Center for Educational Programs (ITCEP)** at the University of Minnesota will have available one or more temporary positions (Assistant Professor of Mathematics) starting Fall semester, 2003. Ph.D. or equivalent degree in mathematics, teaching and some related education experiences at the undergraduate level are required. This position will emphasize:

- excellence in teaching, including some experiences with mathematically talented high school students;
- involvement with creative academic programs, curriculum development, and educational scholarship/professional activities (i.e., new curricula and curricula supplements, professional development materials, and relevant statistical/evaluative studies and publications).

Experience working with K-12 mathematics coursework and pre-service/ in-service teacher education is desirable. Preference will be given to applicants within 4 years of their Ph.D. degree whose background and experience are compatible with the above stated objectives. The position can be structured to allow sufficient opportunities to work on mathematical research and related activities. This position will initially be a 1- or 2-year appointment contingent on background, with the possibility of an additional 2-year appointment, based on satisfactory performance and funding. Salary will be commensurate with background and experience.

Consideration of applicants will begin December 1, 2002 and will continue until the positions are filled. Send cover letter of interest, a current curriculum vitae, including a complete description of related experience and research to this position, and 3 letters of recommendation, at least two of which comments on teaching ability and educational experience, to: **ITCEP Search, ATTN: Alex Janosek, 4 Vincent Hall, 206 Church Street S.E., Minneapolis, MN 55455.** See also our web page at **http://www.math.umn.edu/itcep**

The University of Minnesota is an equal opportunity educator and employer.

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BARUCH COLLEGE - DEPARTMENT OF MATHEMATICS - The department invites applications for two anticipated tenure-track Assistant/Associate Professor positions, depending upon qualifications, beginning September 2003. Required: Ph.D. in Mathematics, Applied Mathematics or related field; demonstrated commitment to research; strong undergraduate teaching skills. Research areas such as probability, numerical analysis, mathematical finance, partial differential equations, discrete mathematics, optimization, scientific computing, economic modeling, and actuarial mathematics will receive first consideration. Employment experience or interdisciplinary research in finance or economics is helpful. Baruch is one of the City University of New York's senior colleges, housing the Zicklin School of Business, the Weissman School of Arts and Sciences, and the School of Public Affairs. It has approximately 15,000 undergraduate and graduate students in its three schools. An AA/EO/IRCA/ADA employer. Send AMS cover sheet, curriculum vitae, at least three letters of reference, at most two reprints/preprints, and short statements describing approach to teaching and research plans by December 31, 2002, to **Mathematics Department Search Committee, Baruch College - CUNY, Box B6-230, One Bernard Baruch Way, New York, NY 10010.**

BINGHAMTON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - The Department of Mathematical Sciences at Binghamton University (The State University of New York at Binghamton) invites applications for a Riley Assistant Professorship. This is a three-year non-tenure track position in mathematics. The position is contingent upon university funding. Qualifications: A recent Ph.D. in mathematics or Ph.D. expected by Summer 2003, evidence of teaching ability and outstanding research potential. Research areas near those of current faculty will have priority. Applications will be accepted until the teaching position is filled. Send CV, evidence of research, and teaching credentials to: **Ben Brewster, Chair Department of Mathematical Sciences Binghamton University Binghamton, NY 13902-6000** Binghamton University is an Equal Opportunity/Affirmative Action Employer.

BOWLING GREEN STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Director of Service Mathematics - The Department of Mathematics and Statistics at Bowling Green State University invites applications from outstanding candidates for the Director of Service Mathematics, a tenure-track or tenured position at the rank of Assistant Professor, Associate Professor, or Professor starting August, 2003. The Director will be responsible for the coordination of various precalculus mathematics and statistics courses and for the supervision of instructors. Candidates must demonstrate a willingness to experiment with innovative approaches to teaching entry level courses. Duties also include teaching one or two courses each semester. Rank, duties, and salary are negotiable and will be commensurate with training and experience. Candidates must hold a doctorate in mathematics or mathematics education, conduct scholarly research, and interact with current faculty and students. For further information see www.bgsu.edu/dept/math/. To apply send curriculum vitae, three current letters of reference, and official transcripts showing the highest degree earned to: **Search Committee Department of Mathematics & Statistics Bowling Green State University Bowling Green, Ohio 43403-0221.** Applications must be postmarked by January 10, 2003. FAX or electronic applications cannot be considered. BGSU is an EEO/AA employer and encourages applications from women, minorities, veterans, and individuals with disabilities.

BROOKLYN COLLEGE - DEPARTMENT OF MATHEMATICS - The Department of Mathematics of Brooklyn College of the City University of New York announces a tenure-track Assistant or Associate Professor position in mathematics/mathematics education beginning in fall, 2003. Duties will include curriculum development and teaching in the programs for mathematics teachers, grades 7-12, and helping coordinate those programs. The successful applicant will possess the Ph. D. degree in mathematics or mathematics education and will have relevant experience. Commitments to scholarship, teaching, and curriculum development are essential. Rank and salary are commensurate with qualifications and experience. Candidates should send a resume and arrange to have three letters of recommendation sent to **Dr. Edna Chun, Assistant Vice President for Human Resources, Brooklyn College, 2900 Bedford Avenue, Brooklyn, NY 11210**. Review of applications will begin on November 12, 2003 and will continue until the positions is filled. An EO/AA/IRCA/ADA employer

BROWN UNIVERSITY - DEPARTMENT OF MATHEMATICS - Up to three professorships at the Associate Professor level with tenure, the appointment to begin July 1, 2003. Exceptionally qualified candidates may be considered for appointment at the level of Professor. Candidates should have a distinguished research record and a strong commitment to excellence in undergraduate and graduate teaching. Preference will be given to applicants with research interests consonant with those of the present members of the Department (for a list of faculty members and their fields, see http://www.math.brown.edu/faculty/faculty.html). For one of the positions, preference will be given to applicants whose field is analysis. Applicants who wish to be considered for these positions should send a letter of application along with a curriculum vitae and arrange to have at least five letters of recommendation sent to: **Senior Search Committee, Department of Mathematics, Box 1917, Brown University, Providence, Rhode Island 02912**. Applications must be postmarked by **December 13, 2002**, in order to receive full consideration. Later applications will be accepted and considered to the extent feasible. Email inquiries can be addressed to srsearch@math.brown.edu. Brown University is an Equal Opportunity/Affirmative Action employer and encourages applications from women and minorities.

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA - DEPARTMENT OF MATHEMATICS - Four tenure-track positions Math Education (Two positions: Asst Prof and Assoc/Asst Prof). Teach undergrad courses in math ed, collaborate with others on campus involved in math ed. Opportunity to teach lower and upper div. math courses, provide in-service programs for local schools, help to develop master's in math teaching, advise students seeking secondary teaching credential. Min qual: Doctorate in math educ with master's degree in math (or equiv.) or Ph.D. in math, with strong background in math ed. ABD's will be considered. Must know about trends in math educ, uses of technology in math educ. Preference to those able to supervise student teaching. Math (Two positions: Asst Prof) Teach undergrad, grad, and service courses in math, participate in curriculum development, and advise undergrad and grad students. Preference to those with expertise in one or more of: algebra, control theory, differential equations, estimation theory, geometry, number theory, stochastic differential equations, topology. Min qual: Ph.D. in Math or Stats. Completion of terminal degree by 9/03. All positions: Expected to serve on dept and university committees, engage in scholarly activities. Required: Evidence of, or potential for, teaching excellence, directing master's theses, engaging in scholarly activities, working with diverse student body. Salary dependent on qualifications. Initial review of applications 1/8/03. Review will continue until position is filled or closed. Submit application form indicating position area (available at http://www.csupomona.edu/~academic/faculty/open_faculty_positions.htm), curriculum vitae, transcripts, and minimum of three reference letters to **Faculty Search Committee, Mathematics Department., CSPU Pomona, 3801 W. Temple Ave., Pomona, CA 91768-4007;** lmborchert@csupomona.edu; 909-869-4008; Fax: 909-869-4904; http://www.csupomona.edu/~math. AA/EEO.

CALIFORNIA STATE UNIVERSITY, BAKERSFIELD – DEPARTMENT OF MATHEMATICS - invites applications for up to four tenure-track positions in the mathematics department. Applicants must hold a doctorate in mathematics, applied mathematics, statistics or mathematics education, or give evidence of being close to completion. The department has the following needs: 1) Statistics, 2) Mathematics for prospective elementary school teachers, 3) Applied mathematics, 4) Outreach activities. All areas of specialization will be considered, with preference given to applicants with qualifications and interests matching one or more of the needs stated above. Applicants must be willing to work closely with a diverse student population. For a full position announcement, please consult **www.cs.csubak.edu/math.** AA/EOE.

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CALIFORNIA STATE UNIVERSITY NORTHRIDGE – DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for two tenure-track appointments at the assistant professor level effective Fall 2003. All areas of pure and applied mathematics, statistics and mathematics education will be considered. California State University Northridge is a comprehensive university located in the greater Los Angeles area, and is near major research universities. The Department of Mathematics has 37 full-time faculty members and offers BA, BS and MS degrees. Candidates should have a Ph.D. in the mathematical sciences, a strong commitment to excellence in teaching both at the undergraduate and graduate level, and potential for success in research. Responsibilities include teaching a maximum of 12 units per semester (with possible reductions in the teaching load to carry out research or to make professional contributions) and providing effective instruction to students of diverse backgrounds in a multicultural setting. Please send your vita, the AMS standard cover sheet and three letters of recommendations, one of them addressing your teaching abilities, to the **Hiring Committee, Department of Mathematics, CSUN, Northridge, CA 91330-8313** by January 20, 2003. Further information about the university and department may be found at http://www.csun.edu/math. California State University is an Equal Opportunity, Title IX, section 503 and 504 employer.

CALIFORNIA STATE UNIVERSITY, LOS ANGELES - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure track position in Mathematics at the level of Assistant/ Associate professor, starting June or September 2003. Ph.D. in Mathematics with a strong background in Algebra is required. Doctorate degrees must be from an accredited institution of higher education. Successful candidate should be able to teach a range of undergraduate mathematics classes. Publications in peer reviewed journals and/or grant activity is required. CSULA is on the quarter system. Review of applications will start January 22, 2003 and continue until position is filled. Send a letter of application and vita to: **Dr. P. K. Subramanian, Chair, Department of Mathematics, California State University at Los Angeles, 5151 State University Drive, Los Angeles, CA 90032.** An Equal Opportunity, Title IX, Disabled, Employer. All qualified applicants are encouraged to apply.

CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Center for Nonlinear Analysis - The Center for Nonlinear Analysis expects to make several Post-Doctoral appointments for 2003-04 in the area of applied analysis. These will be one- or two-year joint appointments by the Center and Department of Mathematical Sciences. Recipients will teach at most two courses per year. Applicants should send a vita, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to the committee. The deadline for applications is January 17, 2003. All communications should be addressed to: **Post-Doctoral Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.

CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-Track Position. The Department of Mathematical Sciences at Carnegie Mellon University invites applications for a tenure-track job at the level of Assistant Professor. The position is in Discrete Mathematics or Probability Theory. Candidates must demonstrate outstanding promise or excellent accomplishments in research in one of these areas, as well as an ability to be an effective teacher. Applicants should send by January 17, 2003 a curriculum vitae, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to: **Tenure-Track Search Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** Applicants are encouraged to include the completed AMS standardized application form available at www.ams.org. The Department of Mathematical Sciences is committed to increasing the number of women and minority faculty. Carnegie Mellon University is an Affirmative Action /Equal Opportunity Employer and encourages applications from women and minorities.

CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-Track Position - The Department of Mathematical Sciences at Carnegie Mellon University invites applications for the position of tenure-track Assistant Professor, starting in the Fall of 2003. The position is in Optimization and Mathematical Programming. Preference will be given to candidates whose research is in continuous optimization with a strong computational component. Candidates must demonstrate outstanding promise or excellent accomplishments in research in the above areas, as well as an ability to be an effective teacher. Applicants should send by January 17, 2003 a curriculum vitae, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to: **Tenure-Track Search Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213**. Applicants are encouraged to include the completed AMS standardized application form available at www.ams.org. The Department of Mathematical Sciences is committed to increasing the number of women and minority faculty. Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.

CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Zeev Nehari Visiting Assistant Professorship - The position is available for a period of three years, beginning in September 2003, and carries a teaching load of three courses during the academic year. Applicants are expected to show exceptional research promise, as well as clear evidence of achievement and should have research interests which intersect those of current faculty of the Department. Applicants should send a curriculum vitae, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to: **Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213**. The deadline for applications is January 17, 2003. The Department of Mathematical Sciences is committed to increasing the number of women and minority faculty. Carnegie Mellon University is an Affirmative Action /Equal Opportunity Employer and encourages applications from women and minorities.

CARSON-NEWMAN COLLEGE - DEPARTMENT OF MATHEMATICS - A full-time, tenure-track position for an assistant professor of mathematics is open with service to commence August 2003. Details can be viewed at www.cn.edu/academics/jobs/math.html. Send letter, resume, and names of three professional references to **Dr. Carey R. Herring, Carson-Newman College, Jefferson City, TN 37760.**

COLGATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Mathematics Department of Colgate University is accepting applications for a tenure-track assistant professorship beginning August 2003. A PhD is expected by Fall of 2003. Applicants in all fields of mathematics are welcome; there may be some preference given to analysis. Colgate University is a highly-selective liberal arts college with 2700 students, about 50 miles from Syracuse, New York. Faculty members normally teach five courses per year and maintain active research programs. They are also expected to participate in all-university programs. Send a vita, a graduate transcript, and three letters of recommendation to **The Search Committee, Department of Mathematics, Colgate University, 13 Oak Drive, Hamilton, NY 13346.** Review of applications will begin on December 1. Colgate is an equal opportunity, affirmative action employer. Developing and sustaining a diverse faculty and staff furthers the University's educational mission. Applications from women and minorities are especially encouraged.

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COLLEGE OF CHARLESTON - DEPARTMENT OF MATHEMATICS - At least one tenure-track position at the Assistant Professor level available August 2003. Qualifications: Ph.D. in one of the mathematical sciences, commitment to undergraduate and graduate teaching, and the potential for continuing research. Preference for one position will be given to applicants with the expertise to teach statistics or operations research. Teaching: Nine hours per week is the normal load for those engaged in research. Salary is competitive. Send resume and have three letters of recommendation sent to **Deanna Caveny, Chair, Mathematics Department, College of Charleston, Charleston, SC 29424-0001.** Additional information is available by visiting http://math.cofc.edu or e-mailing cavenyd@cofc.edu. Applications will be considered as they are received until the position is filled. AA/EOE.

COLLEGE OF WILLIAM AND MARY – DEPARTMENT OF MATHEMATICS - Two anticipated tenure-track assistant professor positions beginning August 2003. Demonstrated excellence in scholarship and teaching, plus a Ph.D., are required. For one position we seek strong candidates in applied mathematics, particularly in mathematical biology, numerical/applied linear algebra, or operations research. The second position is in statistics with substantial applications in biology and is part of an interdisciplinary initiative between mathematics and biology. Visiting positions may also be available. For more information, see http://www.resnet.wm.edu/~bimath/. Submit application letter (specifying for which position you are applying), AMS paper coversheet (available at http://www.wms.org/), CV, research description, and three or more recommendation letters (at least one concerning teaching) to the Applied Math Search Committee or the **Biostat Search Committee, Mathematics Department, P.O. Box 8795, William and Mary, Williamsburg, VA 23187-8795**. Review begins December 1 and continues until appointments are made. The College is an EEO/AA employer.

COLUMBIA UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for Ritt Assistant Professorships at Columbia University, for new PhD's regardless of age. One-year appointment, normally renewable for three more years. Teaching load is two courses per semester with possible graduate course in specialty. The AMS Standard Cover Sheet should be completed online at www.mathjobs.org. Applications should also include a vita, reprints, research and teaching statements and three letters of recommendation (at least one addressing teaching qualifications). Applications are encouraged to submit all their materials electronically at www.mathjobs.org and should also mail them to: **Ritt Hiring Committee Department of Mathematics Columbia University 2990 Broadway, MC 4406 New York, NY 10027**. Application files that are complete by January 1 will receive preferred consideration. Columbia University is an equal opportunity / affirmative action employer and is especially interested in receiving applications from qualified women and minorities.

CORNELL UNIVERSITY - DEPARTMENT OF MATHEMATICS - We anticipate hiring for the following positions: Tenure/tenure-track Assistant Professor or higher rank (Nov 1, 2002 deadline); one HC Wang Assistant Professor & three VIGRE Postdoctoral Associates (both 3-yr term positions, Dec 1 deadline). All start July 1, 2003. Visiting positions, all ranks, starting August 16, 2003 or January 1, 2004. See **http://www.math.cornell.edu/Positions/positions.html** for detailed information on positions and application requirements. Affirmative Action/Equal Opportunity Employer.

CORNELL UNIVERSITY - SCHOOL OF OPERATIONS RESEARCH AND INDUSTRIAL ENGINEERING - Tenure-Track Faculty Positions: Cornell University's School of Operations Research and Industrial Engineering is seeking candidates for several tenure-track faculty positions. Most appointments are expected to be at the rank of assistant professor; however, exceptional scholars at any rank are encouraged to apply. The search is focused on the following areas of specialization: data mining, statistics, supply chain systems, applied operations research, and information technology. Candidates should have a Ph.D. in Operations Research, Industrial Engineering, Statistics, Computer Science, Mathematics, or a related discipline and demonstrable excellence in teaching and research. Applicants should provide a c.v., a 1-page statement of research directions and teaching interests, a doctoral transcript for junior applicants, and other supporting materials. They should also arrange for four recommendation letters to be mailed. All relevant materials should be sent to the **Faculty Search Committee, School of OR&IE, Rhodes Hall, Cornell University, Ithaca, NY 14853-3801**. Applicants should apply as early as possible. Applications received before January 15, 2003 will receive full consideration. Women & minority candidates are especially encouraged to apply. Cornell Univ. is an affirmative action/equal opportunity employer.

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - Senior Level in Applied Mathematics with initial appointment in the 2003-2004 academic year. The successful candidate will be acknowledged leader in his/her field with proven ability to work across disciplines and attract outside funding. Applicants with any of a wide variety of interests ranging from traditional applied fields and backgrounds, e.g. signal processing, mathematical statistics, PDE's, as well as new application areas such as informatics, quantum computing or applied algebra, are encouraged to apply. Various projects are currently funded by NSF NIH, NIMH, and DoD. Active collaborations with the medical and engineering schools, and programs in computer science and cognitive neuroscience exist. Collaborations and/or appointments in Dartmouth's M.D./Ph.D. program, as well as Dartmouth's Institute for Secure Technologies Studies, are also possible. Lab space in the new mathematics building will also be available and future hirings in applied mathematics are anticipated. Candidates must be committed to outstanding teaching and interaction with students at all levels of undergraduate and graduate study and be willing to advance applied mathematics across campus. To create an atmosphere supportive of research, Dartmouth offers new faculty members grants for research-related expenses, a quarter of sabbatical leave for each three academic ears in residence and flexible scheduling of teaching responsibilities. The teaching responsibility in mathematics is two courses per quarter for two ten-week quarters or one course for each of two quarters and two courses for one quarter. The combination of committed colleagues and talented, responsive students encourages excellence in teaching at all levels. To apply, a copy of the application information and required response form may be obtained online from our web site at http://www.math.dartmouth.edu/recruiting/. Or, send a letter of application, curriculum vitae, and a brief statement of research results and interests; and arrange four letters of reference, at least one of which specifically addresses teaching, to **Donna Black, Recruiting Secretary, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755.** Applications received by December 6, 2002 will receive first consideration. Dartmouth College is committed to diversity and strongly encourages applications from women and minorities. Inquiries about the progress of the selection process may be directed to **Dan Rockmore, Professor of Mathematics and Computer Science, Dartmouth College, Hanover, NH 03755** or via email at **Daniel.Rockmore@Dartmouth.edu.**

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - John Wesley Young Research Instructorship - 2 years, new or recent Ph.D.'s whose research overlaps dept. member's. Teach 4 ten-week courses spread over 2 or 3 quarters. $43,800.00 for nine months; $9,733.00 summer research stipend. Get all info. and required response-form at http://www.math.dartmouth.edu/recruiting/. Or, send letter of application, curriculum vitae, graduate school transcript, thesis abstract, statement of research plans and interests, and at least three, preferably four, letters of recommendation to **Donna Black, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, New Hampshire 0375-3551.** Files complete by January 5, 2003 considered first. Dartmouth College is committed to diversity and strongly encourages applications from women and minorities.

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - Tenure-track Assistant Professorship opening anticipated, with initial appointment in the 2003-2004 academic year, in number theory, or "applicable mathematics." Someone in applicable mathematics should straddle the line of pure and applied mathematics, working in core mathematics with a record of interests in potential applications. Examples would include (but are not limited to) number theorists [➔]

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[←] with interests in cryptography or coding theory, representation theorists who work in signal processing, combinatorialists with interests in computing, probabilists with interests in statistics, as well as more classical applied mathematicians. Projects are currently funded by NSF and DoD. Collaborations with the medical and engineering schools, and programs in computer science and cognitive neuroscience exist. Collaborations and/or appointments in Dartmouth's M.D./Ph.D. program, as well as Dartmouth's Institute for Secure Technologies Studies, are also possible. In number theory, we have interests in both algebraic and analytic number theory. Teaching duties consist of two courses per quarter for two ten-week quarters or one course for each of two quarters and two courses for one quarter. Get a copy of the application information and the required response form online at the department's Web site http://www.math.dartmouth.edu/recruiting/. Or, send a letter of application, curriculum vitae, and a brief statement of research results and interests. Four letters of recommendation should be sent, at least one of which specifically addresses teaching and, if your native language is not English, on your ability to use English in a classroom, to: **Donna Black, Recruiting Secretary, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Applications received by January 5, 2003 considered first. Women and minorities are particularly encouraged to apply.

DAVIDSON COLLEGE – DEPARTMENT OF MATHEMATICS - The Department of Mathematics anticipates an opening for a regular appointment at the Assistant Professor level with an initial two-year appointment to begin August 1, 2003. Completion or imminent completion of the Ph.D. is required. Candidates must be committed to outstanding teaching and continuing scholarly activity. The teaching load is 5 semester courses per year. A completed application consists of a statement of professional aspirations and goals, curriculum vitae, (photocopies of) graduate and undergraduate transcripts, and 3 letters of reference, of which at least one must specifically address the applicant's teaching. These materials should be sent to the attention of **Prof. Stephen Davis, Chair, Department of Mathematics, Davidson College, Box 6931, Davidson, NC 28035-6931.** (Email: stdavis@davidson.edu; see also the "Faculty Position" link at http://www.davidson.edu/math/.) Applications received by November 30, 2002, will receive fullest consideration. Davidson is a highly selective, nationally ranked four-year liberal arts college with a Presbyterian heritage. Davidson College is an Equal Opportunity Employer; women and minorities are encouraged to apply.

GEORGETOWN UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department, committed to excellence in both research and undergraduate teaching, has two tenure-track positions at the Assistant Professor level beginning August 25, 2003. The Ph.D. degree in mathematics is required with strong research credentials in analysis or applied mathematics and interests commensurate with those of the department. An application should include: a completed AMS standard cover sheet, a curriculum vitae, reprints or preprints of no more than three research papers, evidence of effective undergraduate teaching, and at least three letters of recommendation. Send to: **Professor George Benke Chairman of the Hiring Committee Department of Mathematics Georgetown University Washington, DC 20057-1233.** Consideration of complete applications will begin December 1, 2002, and will continue until available positions are filled. Georgetown University is an Equal Employment Opportunity and Affirmative Action institution in employment and admissions.

GEORGIA COLLEGE AND STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE – The Department of Mathematics and Computer Science of Georgia College & State University invites applications for a tenure track position in mathematics. Salary and rank will be commensurate with qualifications. A doctorate in mathematics or a related field is preferred. Excellence in teaching, scholarly activity, and university/community service are requirements for tenure and promotion. More information may be found at www.gcsu.edu/facultyjobs. Please send letter of application, including statements on teaching and scholarship at a liberal arts university, current vita, copies of undergraduate and graduate transcripts, and three letters of Recommendation to: **Mathematics Search Chair, Department of Mathematics and Computer Science, CBX 017, Georgia College & State University, Milledgeville, GA 31061.** Please indicate availability for interviews at the January 2003 meeting of AMS/MAA. Review of applications will begin December 1, 2002, and continue until the positions are filled. GC&SU, Georgia's Public Liberal Arts University, is a member of the Council of Public Liberal Arts Colleges (COPLAC). An Equal Opportunity/Affirmative Action Employer.

GEORGIA COLLEGE AND STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE –The Department of Mathematics and Computer Science of Georgia College & State University invites applications for two tenure track positions in mathematics education. Salary and rank will be commensurate with qualifications. A doctorate in mathematics education or a related field is preferred. Excellence in teaching, scholarly activity, and university/community service are requirements for tenure and promotion. More information may be found at www.gcsu.edu/facultyjobs. Please send letter of application, including statements on teaching and scholarship at a liberal arts university, current vita, copies of undergraduate and graduate transcripts, and three letters of recommendation to: **Mathematics Education Search Chair, Department of Mathematics and Computer Science, CBX 017, Georgia College & State University, Milledgeville, GA 31061.** Please indicate availability for interviews at the January 2003 meeting of AMS/MAA. Review of applications will begin December 1, 2002, and continue until the positions are filled. GC&SU, Georgia's Public Liberal Arts University, is a member of the Council of Public Liberal Arts Colleges (COPLAC). An Equal Opportunity/Affirmative Action Employer.

GEORGIA COLLEGE AND STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE – Department Chair - Applications are invited for Department Chair, Department of Mathematics and Computer Science. At least five years of teaching experience is required and administrative experience is desirable. Applicants must have a doctorate in mathematics, computer science or related field. The department offers undergraduate degrees in mathematics and computer science and minors in mathematics, computer science, actuarial science and quantitative analysis and has excellent teaching and laboratory facilities. There are twenty-one faculty positions in the department distributed as follows: five computer science, two mathematics education, thirteen mathematics, and one chair. As the University System of Georgia's designated public liberal arts university and a member of the Council of Public Liberal Arts Colleges (COPLAC), GC&SU is committed to combining the educational experiences typical of esteemed private liberal arts colleges with the affordability of public higher education. GC&SU is an Equal Opportunity/Affirmative Action Employer. Review of applications will begin December 6, 2002 and continue until the position is filled. For additional information and the application procedure, go to: **http://www.gcsu.edu/facultyjobs.**

GETTYSBURG COLLEGE – DEPARTMENT OF MATHEMATICS - Tenure-Track, Assistant Professor Position in Mathematics - Gettysburg College invites applications for a tenure-track, assistant professor position in mathematics beginning August 2003. Applicants must have a Ph.D. in mathematics, applied mathematics, or statistics or expect to complete all requirements for the degree by September 2003. Promise of excellence in teaching and commitment to a vigorous research program are essential. Applicants from all branches in the mathematical sciences will be considered; applicants who have an active interest and demonstrated expertise in applied or computational mathematics or statistics are especially encouraged to apply. Preference will be given to an individual who is willing to teach a broad range of undergraduate mathematics courses and who has the desire to involve undergraduate students in mathematical activity outside the classroom. Gettysburg College is a highly selective liberal arts college located within 90 minutes of the Baltimore/Washington metropolitan area. Established in 1832, the College has a rich history and is situated on a 220-acre campus with an enrollment of 2,400 students. Gettysburg College is committed to creating a more diverse campus environment. As a part of that process, the College gives strong consideration to candidates from historically underrepresented groups. This [→]

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[←] position includes an attractive benefits package. Please send a letter of application explaining your interest in our department, a curriculum vitae, a brief description of your teaching methods and objectives, and a summary of your research goals to: **Mathematics Search Committee, Department of Mathematics, Gettysburg College, Gettysburg, PA 17325**. Also arrange for the committee to receive three letters of recommendation addressing teaching effectiveness and research potential. Completed applications received by December 31, 2002, will receive full consideration.

GRAND VALLEY STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - GVSU, in Allendale, Michigan, is accepting applications for tenure-track positions in Mathematics, and in Mathematics Education, along with a Postdoctorate Teaching Fellowship. Employment begins August 2003. Teaching excellence is emphasized. The department offers undergraduate majors in Mathematics, and Mathematics with teacher certification, and offers courses for other undergraduate majors, general education, and selected graduate programs. The recent count of mathematics majors is 343. For more information, including responsibilities of the positions, application deadlines, and important details on how to apply, go to **www.gvsu.edu/math/jobs.html.** Review of applications will continue until the positions are filled, or the searches are closed.

GRINNELL COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Tenure Track, Assistant or Associate Professor of Statistics - Tenure-track position for an applied statistician at the rank of Assistant or Associate Professor starting Fall of 2003. Ph.D. in statistics and consulting experience expected. The appointment will be in the Department of Mathematics and Computer Science. The appointee will also act as a statistical consultant for faculty and students campus-wide, for which one course release (of the standard 5 courses) will be allocated. He or she will also be expected to work with our current statistician and others on campus to develop new curriculum in statistics. Grinnell College is a highly selective liberal arts college that seeks outstanding teacher-scholars for its faculty, rewards excellence in teaching, and is generous in its support of scholarship. For more information about the position see http://www.math.grinnell.edu/2002-stat.html. To apply, send curriculum vitae, undergraduate and graduate transcripts (copies acceptable), and three letters of recommendation (at least one of which speaks to your consulting experience) to **Tom Moore, Department of Mathematics and Computer Science, 1116 8th Avenue, Grinnell College, Grinnell, IA 50112.** Please include also a statement describing your interests in teaching, research, and consulting in an undergraduate liberal-arts environment that emphasizes close student-faculty interaction and values diversity. Review of applications will continue until the position is filled. Grinnell College is an equal opportunity/affirmative action employer committed to attracting and retaining highly qualified individuals who collectively reflect the diversity of the nation. No applicant shall be discriminated against on the basis of race, national or ethnic origin, age, gender, sexual orientation, marital status, religion, creed, or disability.

GRINNELL COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Tenure Track Positions (2) in Mathematics - Two tenure-track positions as Assistant Professor of Mathematics starting Fall 2003. Ph. D. in mathematics expected. For one of these positions, we seek applicants whose specialty is an area of analysis; for the other position, all specialties will be considered. Grinnell College is a highly selective liberal arts college that seeks outstanding teacher-scholars for its faculty, rewards excellence in teaching, and is generous in its support of scholarship. For more information, see http://www.math.grinnell.edu/2002-math.html. Please include a statement describing your interests in teaching and research in an undergraduate liberal-arts environment that emphasizes close student- faculty interaction and values diversity. Send AMS cover sheet, curriculum vitae, undergraduate and graduate transcripts (copies acceptable), and three letters of recommendation to **Mathematics Search Committee, Department of Mathematics and Computer Science, 1116 8th Avenue, Grinnell College, Grinnell, IA 50112.** Review of applications will continue until positions are filled. Grinnell College is an equal opportunity/affirmative action employer committed to attracting and retaining highly qualified individuals who collectively reflect the diversity of the nation. No applicant shall be discriminated against on the basis of race, national or ethnic origin, age, gender, sexual orientation, marital status, religion, creed, or disability.

HARVEY MUDD COLLEGE - DEPARTMENT OF MATHEMATICS - Harvey Mudd College invites applications for a tenure-track professorship at the assistant or associate professor level. Preference will be given to candidates whose research is in applied mathematics (e.g., applied dynamical systems, asymptotic methods, fluid dynamics, mathematical biology, numerical methods, PDE's, scientific computing). Excellence in teaching is absolutely essential, as is evidence of a strong and ongoing research program. Candidates must be willing to supervise undergraduate research, and work with others in the development of departmental programs. Harvey Mudd College is a highly selective undergraduate institution of science, engineering and mathematics with a median SAT score approaching 1500 and one year of high school calculus required for admission. Each year there are about 25 graduates in mathematics, CS/math, and mathematical biology with approximately half going to graduate school. Over 40% of mathematics alumni from HMC have entered PhD programs. The College enrolls about 700 students and is a member of the Claremont College consortium, which consists of four other undergraduate colleges, the Claremont Graduate University, and the Keck Graduate Institute of Applied Life Sciences, forming together an academic community of about 5000 students. There is an active and vital research community of over 40 mathematicians in the consortium. Claremont is situated approximately 35 miles east of downtown Los Angeles, at the foot of the San Gabriel mountains. The community is known for its tree-lined streets and village charm. It is an easy drive from Claremont to the cultural attractions of the greater Los Angeles area, as well as the ocean, mountains and deserts of Southern California. Applicants should send a curriculum vitae, a description of their teaching philosophy and experience, a description of their current research program, and arrange to have three letters of recommendation sent to the address that appears below. Further information about the college and department may be found at http://www.math.hmc.edu. Preference will be given to applications completed by January 10, 2003. Harvey Mudd College is an equal opportunity employer and is committed to the recruitment of applicants historically underrepresented on college faculties. Address for applications: **Professor Andrew J. Bernoff, Chair, Search Committee, Department of Mathematics, Harvey Mudd College, Claremont, CA 91711-5990.**

ILLINOIS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Mathematics Department at Illinois State University is seeking applications for one tenure track position in discrete mathematics at the Assistant Professor rank beginning August 16, 2003. Applicants should have a Ph.D. in Mathematics or related field by August 2003 with a focus in one or more areas of discrete mathematics compatible with the research interests in the department, and have an active research program, the ability to teach a wide range of mathematics courses, and a strong commitment to quality teaching. For complete information, visit our web site: **www.math.ilstu.edu/whatshappening/frameset.html** AA/EO Employer.

INDIANA UNIVERSITY, BLOOMINGTON - DEPARTMENT OF MATHEMATICS - Four postdoctoral positions will be available to start in the 2003-2004 academic year. These terminal positions are named after our late, distinguished colleague Max Zorn, and are restricted to relatively new Ph. D.'s. Three of these positions are funded by a VIGRE grant from the National Science Foundation and they are restricted to U.S. citizens or permanent residents. The fourth is not restricted. Outstanding candidates in all areas of pure and applied mathematics and statistics are encouraged to apply. Excellent research potential as well as a commitment to teaching are required. Indiana University is an equal opportunity / affirmative action employer. Applications received by December 15, 2002 will be given full consideration. Please send a letter of application to: **Postdoctoral Search Committee, Department of Mathematics, Indiana University, Rawles Hall, 831 East 3rd Street, Bloomington, IN 47405-7106.**

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INDIANA UNIVERSITY, BLOOMINGTON - DEPARTMENT OF MATHEMATICS - Two junior level tenure track positions will be available starting in the 2003-2004 academic year. Outstanding candidates with a Ph.D. in all areas of pure and applied mathematics and statistics are encouraged to apply. Excellent research potential, as well as a commitment to teaching are required. Indiana University is an equal opportunity/affirmative action employer. Preference will be given to applications received by December 1, 2002. Please send a letter of application to: **Search Committee, Department of Mathematics, Indiana University, 831 East 3rd Street, Rawles Hall, Bloomington, IN 47405-7106.**

IOWA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics anticipates several tenure-track positions. Most positions will be at the Assistant Professor level, though it is possible that more experienced candidates could be hired at the Associate level. We are interested in hiring mathematicians whose research programs are complementary to the existing strengths in the department and who can interact with current faculty in the department as well as with faculty in other units of the university. The department has active research groups in applied mathematics and partial differential equations, algebra and combinatorics, functional analysis, linear algebra, logic and universal algebra, numerical analysis, and probability and stochastic processes. For further information about the department, visit the our Web site at www.math.iastate.edu. The teaching load for untenured faculty is three courses per year. For Assistant Professor a Ph.D. in mathematics or related discipline by the start date of the position, and an excellent record in research and teaching are required. We prefer applicants with two to four years of experience beyond the Ph.D., normally achieved through a postdoctoral position. For Associate Professor, in addition to the above, a superior record in research and teaching is expected. Applicants must submit a vita and a brief statement describing their research accomplishments and plans. They must also arrange for four (4) letters of recommendation, one (1) of which must address the applicant's teaching ability and experience. Mail to: **Dr. Justin R. Peters, Chair, Department of Mathematics, 400 Carver, Iowa State University, Ames, IA 50011-2064.** Iowa State University is an affirmative action/equal opportunity employer and strongly encourages women and members of underrepresented groups to apply.

JOHNS HOPKINS UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for two positions at the Associate or Full Professor level in the general areas of analysis, algebra, topology, number theory, and mathematical physics beginning Fall 2003 or later. Targeted areas of hiring are number theory and mathematical physics. Applicants should send a cover letter, curriculum vitae, and contact information for three professional references to **Chair, Hiring Committee, Johns Hopkins University, 3400 N. Charles Street, Krieger 404, Baltimore, MD 21218.** First round preference will be given to applications received by January 1, 2003. The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer and actively encourages interest from minorities and women.

JOHNS HOPKINS UNIVERSITY - DEPARTMENT OF MATHEMATICS - Director of Undergraduate Studies - The Department of Mathematics invites applications for the Director of Undergraduate Studies at the non-tenure track rank of Lecturer beginning Fall 2003. The position is renewable depending on performance. Required qualifications include M.A. or Ph.D. in mathematics; creative teacher with college teaching experience; ability to work well with others and play a leading role in curriculum development and using technology in teaching. The duties will involve administering the basic elementary mathematics courses: Pre-calculus, Calculus I, II, III, Linear Algebra, and Differential Equations. Responsibilities include supervision and training of Teaching Assistants, advising undergraduates, and coordinating course enrollment and scheduling with the Registrar and Office of Academic Advising. Applicants should send a cover letter, curriculum vitae, and contact information for three professional references to **Department Chair – Lecturer Hiring, Johns Hopkins University, 3400 N. Charles Street, Krieger 404, Baltimore, MD 21218.** First round preference will be given to applications received by November 15, 2002. The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer and actively encourages interest from minorities and women.

KANSAS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Subject to budgetary approval, applications are invited for tenure-track and visiting positions commencing August 3, 2003; rank and salary commensurate with qualifications. The Department seeks candidates whose research interests mesh well with current faculty. The Department has research groups in the areas of analysis, algebra, geometry/topology, and differential equations. Applicants must have strong research credentials and a commitment to excellence in teaching. A Ph.D. in mathematics or a Ph.D. dissertation accepted with only formalities to be completed is required. Letter of application, current vita, description of research, and at least three letters of reference evaluating research should be sent to: **Louis Pigno, Department of Mathematics, Cardwell Hall 138, Kansas State University, Manhattan, KS 66506**. The Department also requires that the candidate arrange for letters to be submitted evaluating teaching potential. Offers may begin by December 2, 2002, but applications for positions will be reviewed until February 1, 2003, or until positions are closed. AA/EOE.

KANSAS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Subject to budgetary approval, applications are invited for one or more instructorships commencing August 15, 2003. Instructors will participate in the design and implementation of an online homework system and teach in the undergraduate program. The instructor will have time to pursue research in the department along with these duties. Applicants must have a commitment to excellence in teaching. A Ph.D. in mathematics or a Ph.D. dissertation accepted with only formalities to be completed is required. Preference will be given to applicants with background in mathematics education, physics education, and/or teaching with technology, as well as applicants whose research interests mesh well with current departmental faculty. Letter of application, current vita, three letters of reference, and a statement of teaching philosophy should be sent to: **Louis Pigno, Kansas State University, Department of Mathematics, Cardwell Hall 138, Manhattan, KS 66506**. Offers may begin at any time and applications for the position will be reviewed until the position is closed. AA/EOE.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics may make appointments, at the level of lecturer and assistant professor or higher, in pure mathematics for the year 2003-2004. The teaching load will be nine hours for the academic year (eight hours for assistant professor appointments). These positions are open to mathematicians with doctorates who show definite promise in research. Applications should be complete by January 6. Applicants should arrange to have sent (a) vita; (b) three letters of reference; (c) a description of their most recent research; and (d) a research plan for the immediate future to: **Pure Mathematics Committee, Massachusetts Institute of Technology, Room 2-263, 77 Massachusetts Ave., Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer. (For more information about the position or institution: http://www-math.mit.edu.)

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - C.L.E. Moore Instructorships In Mathematics - These positions are open to mathematicians with doctorates who show definite promise in research. The teaching load will be nine hours for the academic year. Applications should be complete by January 6. Applicants should arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of the research in their thesis; and (d) a research plan for the next year to: **Pure Mathematics Committee, Massachusetts Institute of Technology, Room 2-263, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer. (For more information about the position or institution: http://www-math.mit.edu.)

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - Applied Mathematics - Applications are invited for a limited number of positions in applied mathematics, including numerical analysis, scientific computation, and physical applied mathematics, starting fall 2003. Available positions include instructorships, lectureships, assistant professorships, and possibly higher levels. Appointments will be made mainly on the basis of demonstrated research accomplishments and potential. Complete applications should be received by January 6. To apply, please send a vita with a description of your recent research and research plans, and arrange to have three letters of reference sent. Address: **Committee on Applied Mathematics, Room 2-345, Department of Mathematics, M.I.T., 77 Massachusetts Ave., Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer. (For more information about the position and institution: http://www-math.mit.edu.)

MILLERSVILLE UNIVERSITY – DEPARTMENT OF MATHEMATICS - Full-time, tenure-track assistant professorship to begin August 2003, in a department of 20 faculty and approximately 175 majors in mathematics and mathematics education. Area of expertise in discrete mathematics with specialization in computational or applied aspects of finite fields, geometry, or number theory is required. Ph.D. (or completion by second year reappointment) in mathematics is required. Must exhibit evidence of strong commitment to excellence in teaching and continued scholarly activity. Must be prepared to teach a broad spectrum of undergraduate mathematics courses and have potential to contribute to the department's programs. Must provide evidence of teaching effectiveness and must complete a successful interview and teaching demonstration. Duties include an annual 24-hour teaching load, scholarly activity, student advisement, supervision of student research, curriculum development and committee work. Salary/benefits are competitive. Full consideration given to applications received by January 24, 2003. E-mail applications will not be accepted. Send letter of application addressing qualifications, curriculum vita, copies of undergraduate and graduate transcripts and three current letters of reference (at least two of which attest to recent teaching effectiveness) to **Dr. Hisa Tsutsui, Search Chair/WM1202, Department of Mathematics, Millersville University of Pennsylvania, P.O. Box 1002, Millersville, PA 17551-0302**. An AA/EO Institution.

MONMOUTH UNIVERSITY - DEPARTMENT OF MATHEMATICS - Statistics and mathematics position: The Mathematics Department of Monmouth University is seeking a full-time faculty member for a tenure track appointment at the assistant professor level starting August 25, 2003. The position requires a Ph.D. in statistics (or equivalent recent statistical experience and a Ph.D. in mathematics); some consulting experience is strongly preferred. The mathematics department has several members with some graduate work in statistics, but none with Ph.D.s in this field. The person we hire will be expected to lead the department's discussion of our offerings in statistics, and assist in developing pre-actuarial offerings. As most of our statistics offerings meet needs of students in "client" disciplines, it is essential that the candidate possess good communication skills, not only with mathematicians, but also with students and faculty in other disciplines. Teaching responsibilities include both statistics and mathematics courses. There are also expectations of continued scholarly activity consistent with the teaching load, 9 credits per semester. If you have questions about the position or the department, contact the department chair, Bonnie Gold, bgold@monmouth.edu. Monmouth University, a teaching university, has 5300 students, of whom 1200 are at the graduate level. Located along the Central Jersey shore approximately one hour south of New York City and 1.5 hours east of Philadelphia, Monmouth University's 138 acre, suburban campus is home to approximately 30 baccalaureate degree programs and 11 masters programs. Monmouth University is located in Monmouth County, NJ, which is home to some of the world's leading high technology companies, particularly in the areas of telecommunications and computer/communications systems. Applicants should send (1) cover letter, (2) resume, (3) teaching statement, (4) the Monmouth departmental application form (available at http://mathematics.monmouth.edu/app/StatsAppForm.htm or request by telephone from the department secretary, 732-571-4461), copies of graduate transcripts, and 3 letters of recommendation, at least one of which should discuss the applicant's teaching, and (if applicable) one discussing the applicant's experience with consulting, to: **Frank Lutz, Dean School of Science, Technology and Engineering Monmouth University West Long Branch, NJ 07764-1898.** Applications and supporting materials must be postmarked on or before December 1, 2002 to assure full consideration. Monmouth University is an Equal Opportunity, Affirmative Action Employer.

NORTH CAROLINA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track position at the assistant professor level in Algebra, commencing in Fall 2003. Candidates must have a doctorate in mathematics, a strong ongoing research program in representation theory, Lie theory, and/or algebraic combinatorics, and a commitment to effective teaching at the undergraduate and graduate levels. Preference will be given to candidates with postdoctoral experience. Information about the department may be found at http://www.math.ncsu.edu. Applicants should send a vita, research plan and three letters of recommendation to **Algebra Search Committee, Department of Mathematics, NC State University, Box 8205, Raleigh, NC 27695-8205**. NC State University is an Equal Opportunity and Affirmative Action Employer. ADA Accommodations: Dr. Bernard Mair, bamair@math.ncsu.edu, (919) 515-3796. Complete applications received before December 31, 2002 will receive full consideration.

NORTH CAROLINA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track position in the general area of analysis. We are particularly interested in candidates in harmonic analysis, complex analysis, functional analysis, or other analysis areas related to modern partial differential equations or numerical analysis, but we encourage candidates in all areas of analysis to apply. Priority will be given to exceptionally promising research mathematicians, whose research complements some of our core research groups in Lie theory, mathematical physics, differential equations, applied analysis, numerical analysis, inverse problems, control theory, and probability. The department has strong research programs in both pure and applied mathematics, and significant collaborations with other departments, institutions, and industry. Applicants must have a doctorate in mathematics, a strong ongoing research program, and a commitment to effective teaching at the undergraduate and graduate levels. Information about the department may be found at http://www.math.ncsu.edu. Applicants should send a vita, research plan and three letters of recommendation to **Analysis Search Committee, Department of Mathematics, NC State University, Box 8205, Raleigh, NC 27695-8205**. NC State University is an Equal Opportunity and Affirmative Action Employer. ADA Accommodations: Dr. Bernard Mair, bamair@math.ncsu.edu, (919) 515-3796. Complete applications received before December 31, 2002 will receive full consideration.

NORTH CAROLINA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track position at the assistant professor level beginning Fall 2003. Applicants in all areas of pure and applied mathematics of interest to members of the department will be considered. Applicants should have a doctorate in mathematics, successful postdoctoral experience, an outstanding research program, and a commitment to effective teaching at the undergraduate and graduate levels. The department has strong research programs in both pure and applied mathematics, and significant collaborations with other departments, institutions, and industry. Information about the department may be found at http://www.math.ncsu.edu. Applicants should send a vita, research plan and three letters of recommendation to: **Mathematics Search Committee, Department of Mathematics, NC State University, Box 8205, Raleigh, NC 27695-8205.** NC State University is an Equal Opportunity and Affirmative Action Employer. ADA Accommodations: Dr. Bernard Mair, bamair@math.ncsu.edu, (919) 515-3796. Complete applications received before December 31, 2002 will receive full consideration.

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NORTH CAROLINA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for an anticipated tenure track position at the assistant professor level in Numerical Analysis. Applicants must have a doctorate in mathematics, a strong ongoing research program, and a commitment to effective teaching at the undergraduate and graduate levels. Preference will be given to candidates in Optimization who demonstrate research productivity beyond the Ph.D. The numerical analysis group at NC State University is large, active, and deeply involved in interdisciplinary research. The group has expertise in optimization, nonlinear equations, linear algebra, ordinary and partial differential equations, and control theory. The successful candidate will have the opportunity to participate in the programs of the Statistical and Applied Mathematical Sciences Institute, the Center for Research in Scientific Computation, the Industrial Applied Mathematics Program, and the Operations Research Program. Information about the department may be found at http://www.math.ncsu.edu. Applicants should send a vita, research plan, and three letters of recommendation to **Numerical Analysis Search Committee, Department of Mathematics, NC State University, Box 8205, Raleigh, NC 27695-8205.** NC State University is an Equal Opportunity and Affirmative Action Employer. ADA Accommodations: Dr. Bernard Mair, bamair@math.ncsu.edu, (919) 515-3796. Complete applications received before December 31, 2002 will receive full consideration.

NORTH CAROLINA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for an anticipated tenure-track position at the assistant professor level in Partial Differential Equations. Candidates must have a doctorate in mathematics, a strong ongoing research program in Partial Differential Equations, and a commitment to effective teaching at the undergraduate and graduate levels. Preference will be given to candidates with postdoctoral experience. Information about the department may be found at http://www.math.ncsu.edu. Applicants should send a vita, research plan and three letters of recommendation to **PDE Search Committee, Department of Mathematics, NC State University, Box 8205, Raleigh, NC 27695-8205**. NC State is an Equal Opportunity and Affirmative Action Employer. ADA Accommodations: Dr. Bernard Mair, bamair@math.ncsu.edu, (919) 515-3796. Complete applications received before December 31, 2002 will receive full consideration.

OCCIDENTAL COLLEGE - DEPARTMENT OF MATHEMATICS - Los Angeles, California Applications are invited for a tenure-track position in the Department of Mathematics at the rank of assistant professor. Candidates should possess a Ph.D. in mathematics and a strong commitment to teaching and research at a liberal arts institution. All areas of mathematics will be considered. Committed to equity and excellence in education and serving a diverse undergraduate student body of 1700, Occidental College is a selective college of liberal arts and sciences. The mathematics department consists of ten full-time faculty members. The program supports students pursuing a range of professional and intellectual goals. The normal teaching schedule is the equivalent of five semester courses per year. A semester leave is usually granted every four years. The college is located in northeast Los Angeles with easy access to a number of research institutions. For more information visit our departmental home page, <http://departments.oxy.edu/math/>. Salary is competitive. The benefits package includes a mortgage subsidy program, tuition grants for children of faculty, and a choice of health care plans. Childcare is available on-campus. Applicants must submit a current resume and three letters of recommendation at least one of which evaluates teaching experience, performance, and potential. In addition, applicants must submit a statement of professional plans, interests and goals. The statement should address teaching and curriculum for undergraduate mathematics at a liberal arts college, as well as mathematical interests and research plans. Address all material to: **Faculty Search Committee, Department of Mathematics, Occidental College, 1600 Campus Road, Los Angeles, CA 90041-3314**. Review of completed applications begins on January 1, 2003. Department representatives will be attending the Baltimore meeting. Occidental College is an equal opportunity employer. Women and members of underrepresented groups are encouraged to apply.

PURDUE UNIVERSITY – DEPARTMENT OF STATISTICS – Faculty position(s) in Statistics. The Department of Statistics at Purdue University has one or more openings for faculty positions. Screening will begin December 2, 2002, and continue until the position(s) is (are) filled. Essential Duties: Conduct advanced research in statistical sciences, teach undergraduate and graduate students and maintain service in the Statistics Department. Essential Qualifications: Require Ph.D. in Statistics or related field, in hand or expected by August 18, 2003. Candidates must demonstrate potential excellence in research and teaching. Salary and benefits are competitive and commensurate with qualifications. Rank and salary are open. Candidate for assistant professor should send a letter of application, curriculum vita and three letters of reference. For senior positions, send a letter of application or nominations, curriculum vita, and the names of three references. Purdue University is an AA/EO employer and educator. Send applications to: **Mary Ellen Bock, Head, Department of Statistics, Purdue University, 150 N. University Street, West Lafayette, IN 47907-2068, USA.**

SUNY AT POTSDAM - DEPARTMENT OF MATHEMATICS - SUNY Potsdam invites applications for one anticipated full-time tenure-track position effective September 1, 2003, at the rank of Assistant Professor. Responsibilities of the position include teaching twelve hours per semester of undergraduate through first year graduate courses. Required qualifications are a Ph.D. in any area of mathematics with a strong interest in and preparation for teaching undergraduate major mathematics courses. Candidates from all areas of mathematics are encouraged to apply. Applications, which must include a letter of interest, a teaching statement, a curriculum vitae, three letters of recommendation at least one of which addresses teaching experience and abilities, and a transcript (a copy is acceptable) should be sent to: **Dr. Victoria Klawitter, Staffing Committee Chair, Department of Mathematics, SUNY Potsdam, Potsdam, NY 13676** or email at klawitv@potsdam.edu. To ensure full consideration, complete applications must be received by January 22, 2003. For information about the College and the department, you may go to http://www.potsdam.edu. SUNY Potsdam is an equal opportunity employer committed to excellence through diversity.

SUNY AT STONY BROOK – DEPARTMENT OF MATHEMATICS - Mathematics Education - Educator needed for tenure or tenure track position in secondary teacher preparation program, involving both undergraduate and graduate students. Must have doctorate in Math. Ed, or be abd, with doctorate expected by August, 2003. Must have strong potential for creative leadership in mathematics education, including research and administration. Familiarity with secondary education requirements in New York State preferred. Initial duties include teaching two courses per semester, research and publication in mathematics education, and some administration; teaching duties will decrease as administrative duties increase to full leadership of the mathematics education program (currently about 25 undergraduates per year, and an additional 25 graduates per year expected starting fall 2003). Salary and rank commensurate with education and experience. Review will begin 12/15/02. Send CV and at least 3 letters of reference to: **Math. Ed. Director Search, SUNY at Stony Brook, Stony Brook, NY 11794-3651.** The State University of New York at Stony Brook is an Equal Opportunity/Affirmative Action Employer.

TEXAS A&M UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for tenured and tenure-eligible faculty positions beginning fall 2003. The field is open, but we particularly seek applications from individuals whose mathematical interests would augment and build upon existing strengths both within the Mathematics Department as well as other departments in the University. Salary, teaching loads and start-up funds are competitive. For a **Tenured Position** the applicant should have an outstanding research reputation and would be expected to fill a leadership role in the department. An established research program, including success in attracting external funding and supervision of graduate students, and a demonstrated ability and interest in teaching are required. Informal inquiries are welcome. For an **Assistant Professorship**, we seek strong research potential & evidence of excellence in teaching. Research productivity [➔]

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[←] beyond the doctoral dissertation will normally be expected. We also have several visiting positions available. Our **Visiting Assistant Professor** positions are for a three year period and carry a three course per year teaching load. They are intended for those who have recently received their Ph.D. and preference will be given to mathematicians whose research interests are close to those of our regular faculty members. In addition, as part of our VIGRE grant, we expect to have positions carrying a one-course-per-semester teaching load. **Senior Visiting Positions** may be for a semester or one year period. For full consideration, the complete dossier should be received by January 15, 2003. Applicants should send the completed "AMS Application Cover Sheet", a vita, and arrange to have letters of recommendation sent to: **Faculty Hiring, Department of Mathematics, Texas A&M University, College Station, Texas 77843-3368.** Further information can be obtained from: http://www.math.tamu.edu/hiring. Texas A&M University is an EOE/AA employer and the Department encourages applications from women and minorities.

TEXAS TECH UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Applications are invited for at least two tenure-track assistant professor positions beginning fall 2003. Higher level appointments are possible in exceptional cases. Priority will be given to candidates in the areas of applied mathematics and computation, statistics, and mathematics education. Candidates whose mathematical background and scholarly activities have, or have shown, excellent potential for interdisciplinary collaboration are encouraged to apply. Strong promise or accomplishment in teaching and scholarly activity and a Ph.D. degree at the time of appointment are required. Texas Tech University is committed to diversity among its faculty. Please send a resume, a completed AMS standard cover sheet, and have three letters of recommendation sent to: **Alex Wang, Hiring Chair, Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042.** Review of applications will begin immediately. Additional information is available at http://ttmath.ttu.edu/~awang/employ/employ.html. Texas Tech is an AA/EO employer.

UNIVERSITY OF ALABAMA - DEPARTMENT OF MATHEMATICS - Analysis - The Department of Mathematics invites applications for one tenure-track position in the area of analysis; especially those fields related to complex variables or multivariable operator theory, to begin in the fall of 2003. Candidates must possess a doctorate in mathematics by August 31, 2003. Successful candidates must demonstrate strong research potential and evidence of quality teaching and will be expected to contribute to the department's research activities in analysis. Qualified applicants should send a curriculum vita along with a letter of application, a completed AMS Standard Cover Sheet, and arrange for three letters of recommendation to be sent to **Dr. Tavan Trent, Chair of the Search Committee, Department of Mathematics, University of Alabama, Box 870350, Tuscaloosa, AL 35487.** Applications will be reviewed immediately, and continue until the position is filled. The University of Alabama is an Affirmative Action/Equal Opportunity Employer. For more information about the department and university, visit our website: http://www.math.ua.edu/.

UNIVERSITY OF ALABAMA - DEPARTMENT OF MATHEMATICS - Computing - The Department of Mathematics invites applications for one tenure-track position at the level of assistant professor starting August 2003. Preference will be given to applicants in the area of mathematical statistics with an emphasis on computation. We are also interested in mathematical computation such as data mining, image processing, or coding and cryptography. The position will strengthen our applied mathematics program. Candidates must possess a doctorate degree in mathematics, statistics, or closely related fields by August 31, 2003. Experience in teaching and research is expected. Applicants should send a curriculum vita along with a letter of application, and arrange for three letters of recommendation to be sent to **Dr. Bill Gray, Chair of the Search Committee, Department of Mathematics, University of Alabama, Tuscaloosa, AL 35487-0350.** Applications will be reviewed immediately, and continue until the position is filled. The University of Alabama is an Affirmative Action/Equal Opportunity Employer. For more information about the department and the university, visit our website: www.math.ua.edu/.

UNIVERSITY OF ALASKA, ANCHORAGE - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-track Assistant Professor of Applied Statistics position available August 2003. Ph D. in statistics or Ph.D. in mathematics with a strong emphasis in applied statistics required. Potential for effective teaching and scholarly/creative activity are primary considerations. For complete vacancy announcement, please see **www.finsys.uaa.alaska.edu/uaahrs** or contact afhmd@uaa.alaska.edu. UAA is an AA/EO Employer and Educational Institution.

THE UNIVERSITY OF ARIZONA - DEPARTMENT OF MATHEMATICS - The Department of Mathematics is seeking applications for tenure-track positions at either the Assistant, Associate or Full Professor level, which will begin in Fall 2003. By the time of appointment, candidates are expected to have a Ph.D. and excellent research record or potential, as well as a strong commitment to teaching. Rank and salary depend on the qualifications of the selected candidate(s). The Department may also have postdoctoral or visiting positions for the 2003-2004 academic year (Ph.D. required). Further information about the full range of the Department's research and educational activities may be found at http://www.math.arizona.edu. Application review begins October 1, 2002 and continues as long as positions remain unfilled. Applications received before October 1, 2002 will receive the fullest consideration; applications received after January 2, 2003 are unlikely to be considered. Please send a letter of interest (specifying position(s) applied for), an AMS Cover Sheet (which can be downloaded from http://www.ams.org/coversheet), a curriculum vitae with a list of publications, a statement of research interests, a statement of teaching experiences/philosophy and a minimum of three (3) letters of recommendation (enclose or arrange to be sent) to: **Personnel Committee, Department of Mathematics, University of Arizona, P.O. BOX 210089, Tucson, Arizona 85721-0089.** The University of Arizona is an EEO/AA Employer-M/W/D/V.

UNIVERSITY AT BUFFALO - DEPARTMENT OF MATHEMATICS - The Department of Mathematics anticipates the appointment of a tenure-track assistant professor, effective August 2003. Salary will be competitive. We seek candidates from all fields, particularly Algebra and Analysis. Applicants should have excellent research accomplishments and potential, a Ph.D. in the mathematical sciences and a strong commitment to teaching. A complete application consists of a curriculum vitae, a statement of research interests and our letters of recommendation. These materials should be sent to: **Search Committee Department of Mathematics University at Buffalo, SUNY Mathematics Building 244 Buffalo, NY 14260-2900.** The deadline for applications is November 4, 2002. Late applications will be considered until the position is filled. No electronic applications will be accepted. The University at Buffalo is an Equal Opportunity/Affirmative Action Employer/Recruiter. We are interested in identifying prospective minority and women candidates. No person, in whatever relationship with the University at Buffalo, shall be subject to discrimination on the basis of age, color, creed, handicap, marital status, national origin, race, religion, sex, sexual orientation or veteran status.

UNIVERSITY OF CALIFORNIA, DAVIS - DEPARTMENT OF MATHEMATICS - Regular Visiting Faculty Positions in Mathematics - The Department of Mathematics at the University of California, Davis is soliciting applications for two tenure-track/tenured positions and several Visiting Research Assistant Professor (VRAP) positions starting July 1, 2003. For the tenure-track/tenured positions, appointments at the Assistant Professor level are preferred, but unusually well-qualified candidates may be considered for an Associate or Full Professorship. The Department will consider applications in all of its focus research areas: [→]

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[←] Applied Mathematics including Mathematical Biology, Geometry and Topology, Numerical Analysis and Scientific Computation, Analysis and Partial Differential Equations, Mathematical Physics, Discrete Mathematics and Combinatorics. However, priority will be given to making one appointment in the area of Geometry and Topology. Minimum qualifications for the position include a Ph.D. degree, or its equivalent, in the Mathematical Sciences and great promise in research and teaching. Duties include mathematical research, undergraduate and graduate teaching (four quarter-courses per year), and departmental and university service. Candidates for an Associate or Full Professorship must have demonstrated outstanding attainment in research and teaching. The VRAP positions are renewable for up to a total of three years, assuming satisfactory performance in research and teaching. The VRAP applicants are required to have completed their Ph.D. by the time of their appointment, but not earlier than July 1, 1999. The Department is interested in applicants with excellent research potential in any of the focus research areas listed above and excellent teaching skills. The Department has a number of VIGRE postdoctoral positions. Recipients must be U.S. citizens, nationals, or permanent residents, and have received their Ph.D. after January 1, 2002. All applicants for a VRAP position who are eligible for a VIGRE postdoctoral position will automatically be considered for one. Applications will be accepted until the positions are filled. To receive full consideration, the application should be received by November 30, 2002. To initiate an application please either: a) submit an electronic version of the AMS Cover Sheet, together with any supporting documents, from the MathJobs.org web site at http://www.mathjobs.org/; or b) write to the **Chair of Search Committee, Department of Mathematics, University of California, One Shields Avenue, Davis, CA 95616-8633.** Additional information on the Department may be found on the World Wide Web at http://math.ucdavis.edu/. The University of California, Davis, is an affirmative action/equal opportunity employer. The University undertakes affirmative action to assure equal employment opportunity for minorities and women, for persons with disabilities, and for special disabled veterans, Vietnam era veterans, and any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - Subject to availability of resources and administrative approval, the following positions are available for the 2003-04 Academic year. **(1) Several tenure-track and senior positions in all areas of mathematics. (2) Several E.R. Hedrick Assistant Professorships**. Salary is $53,200. Three year appointment. Teaching load: four quarter courses per year, which may include one advanced course in the candidate's field. **(3) Several Research Assistant Professorships in Computational and Applied Mathematics (CAM).** Salary is $53,200. Three year appointment. Teaching load: normally is reduced to two or three quarter courses per year by research funding as available; may include one advanced course in the candidate's field. **(4) Several Adjunct Assistant Professorships or Lectureships in the Program in Computing (PIC).** Applicants for the Adjunct position must show very strong promise in teaching and research in an area related to computing. Teaching load: four one-quarter programming courses each year and one seminar every two years. One-year initial appointment, with the option of applying for renewal for a second year and possible longer, up to a maximum service of four years. Salary is $56,800. Applicants for the Lectureship must show very strong promise in the teaching of programming. An M.S. in Computer Science or equivalent degree is preferred. Teaching load: six one-quarter programming courses per year. One-year appointment, probably renewable one or more times, depending on the needs of the program. Salary is $43,152 or more, depending on experience. **(5) Several VIGRE Assistant Professorships.** Hedrick, CAM, or PIC applicants, who are U.S. citizens or permanent residents, may also apply for a VIGRE Assistant Professor position. Three-year appointment. Salary is $53,200. The successful recipient will receive a summer stipend of $6,500 for two summers and $2,500 per year for travel, equipment, and supplies for three years. Teaching load: 3 courses per year. **(6) Several Adjunct Assistant Professorships and Research Postdocs.** Up to one year appointment, with the possibility of renewal. Strong research and teaching background required. Salary $48,900-$53,200. Teaching load for Adjuncts: five quarter courses per year. **(7) Several visiting instructorships.** For more details, see http://www.math.ucla.edu/~search. To apply, complete the application on the website, or send e-mail to search@math.ucla.edu or write to: **Staff Search, Department of Mathematics, University of California, Los Angeles, CA 90095-1555.** Preference will be given to applications completed by January 6, 2003. UCLA is an Equal Opportunity/Affirmative Action Employer. Under Federal law, the University of California may employ only individuals who are legally authorized to work in the United States as established by providing documents specified in the Immigration Reform and Control Act of 1986.

UNIVERSITY OF DAYTON - DEPARTMENT OF MATHEMATICS - Applications are invited for an anticipated tenure track position in mathematics education at the assistant professor level starting in August 2003. Candidates must have a Ph.D. degree in mathematics education or mathematics. Applicants must have a strong commitment to research in mathematics education and the potential to become an effective teacher. Responsibilities include teaching, advising, and curriculum development in support of K-12 pre-service and in-service mathematics teachers. Further responsibilities include establishment and maintenance, in cooperation with the School of Education, outreach programs with partnership school districts in the Dayton metropolitan area. The selection process begins December 14, 2002. To receive full consideration, all materials must be received by January 22, 2003. The application package should consist of a resume, three letters of recommendation, a statement of research plans and a statement of teaching philosophy. Both teaching and research abilities should be addressed in the letters. Please include an e-mail address in your correspondence. Send application materials to: **Dr. Harold Mushenheim, Chair of the Search Committee, Department of Mathematics, University of Dayton, Dayton, OH 45469-2316.** Feel free to contact the search committee at Harry.Mushenheim@notes.udayton.edu. Further information can be obtained at http://www.udayton.edu/~mathdept. The University of Dayton is a private comprehensive Catholic university founded by the Society of Mary in 1850. It has more than 6000 undergraduates and 3000 graduate students. The Department of Mathematics offers B.A. and B.S. degrees in mathematics and M.S. degree in applied mathematics. The University of Dayton is an Equal Opportunity/Affirmative Action employer. Women, minorities, individuals with disabilities and veterans are encouraged to apply. The University of Dayton is firmly committed to the principle of diversity.

UNIVERSITY OF FLORIDA - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track position at the assistant professor level in: Applied Mathematics - preference given to Biomathematics. Appointment begins in Fall 2003. Salary will be competitive. Applicants must show strong research promise and excel in teaching as well. Applicants must forward curriculum vitae and list of publications to: **Chair of Search Committee Department of Mathematics University of Florida Gainesville, FL 32611-8105.** Completed applications are due by January 2, 2003. Applicants must arrange for three letters of recommendation to be sent directly to the above address. The department welcomes applications from women and minority candidates. The University of Florida is an EEO/AA institution. For more information about the position or institution: http://www.math.ufl.edu

UNIVERSITY OF FLORIDA – DEPARTMENT OF MATHEMATICS - Applications are invited for the John G. Thompson Research Assistant Professorship. This is a three year terminal position with appointment beginning in Fall 2003 with salary of $51,000 for the academic year 2003-04. There is a summer research supplement of $5,000 for each academic year, and a reduced teaching load of one course per semester during each academic year. Eligibility: Mathematics Ph.Ds who have received degrees in the year 2001 or later. Outstanding candidates in all areas of mathematics are encouraged to apply. Candidates must send vita and list of publications to: **Chair of Search Committee, Department of Mathematics, University of Florida, Gainesville, FL 32611-8105** by January 2, 2003 and arrange for three letters of recommendation to be sent directly to the above address. The department welcomes applications from women and minority candidates. The University of Florida is an EEO/AA institution. For more information about the position or institution: http://www.math.ufl.edu

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UNIVERSITY OF GEORGIA - DEPARTMENT OF MATHEMATICS - The Department invites applications for THREE tenure-track and TWO Postdoctoral Associate positions that will be available beginning fall 2003: ONE Assistant Professor in any area of mathematics; ONE Assistant Professor in applied mathematics; ONE Assistant/Associate Professor jointly with the Engineering Faculty; and TWO Postdoctoral Associates (areas to match the interests of the current faculty members). Exceptionally qualified candidates may be considered at a more senior level. Please visit http://www.math.uga.edu for detailed descriptions of these positions. Applicants should have a Ph.D. in pure or applied mathematics and exhibit an outstanding research potential in mathematics with a commitment to excellence in teaching. They should arrange to have three letters of reference concerning research and one letter concerning teaching sent directly to the address below. The application should include a completed AMS Standard Cover Sheet, a curriculum vita, a statement about their current and future research plans, and a statement about teaching experiences and philosophy. Submit the application to **The Chair, Search Committee, Department of Mathematics, University of Georgia, Athens, GA 30602.** Emails can be directed to search@math.uga.edu. To assure full consideration, applications must be received by Jan 10, 2003. The University of Georgia is an Affirmative Action/Equal Opportunity Employer that is committed to increasing the diversity of its faculty. We especially encourage applications from women, minorities, and underrepresented groups.

UNIVERSITY OF MARYLAND, BALTIMORE COUNTY - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Department invites applications for a tenure-track faculty position in Mathematical Sciences at the rank of Assistant Professor, starting in the fall of 2003, pending funding availability. The successful candidate should have a Ph.D. in mathematics or a related field, have an active, independent research program, strong potential for obtaining external funding, and a commitment to excellence in teaching. Preference will be given to candidates who are able to conduct interdisciplinary research, as well as those able to interact with existing groups in the Department. Current research areas represented in the Department include stochastic processes, numerical analysis, differential equations, optimization, systems theory, and mathematical modeling. The Department offers BS, MS and Ph.D. degrees in applied mathematics and in statistics. For more information, see our website at www.math.umbc.edu. Applicants should send vita and summary of their current research program, and have three letters of reference sent to: **Mathematics Recruitment Committee, Department of Mathematics and Statistics, University of Maryland Baltimore County, Baltimore, MD 21250**. Screening of applicants will commence December 1, 2002, and will continue until the position is filled. UMBC is an Affirmative Action/Equal Opportunity Employer.

UNIVERSITY OF MICHIGAN, ANN ARBOR - DEPARTMENT OF MATHEMATICS - The Department seeks candidates for Lecturer positions beginning September 2003, involving the operation of its Introductory Program in precalculus and calculus. Duties include teaching in the program and, depending on the candidate's experience, possibly one or more of the following: general help with the administration of the Introductory Program, assistance with training and supervising new teachers, or direction of a large multi-section course. Applicants should have demonstrated excellence in the teaching of precalculus and calculus. Experience in directing other instructors, and expertise in modern pedagogical methods are also desirable. A Ph.D. in Mathematics or a closely related area is preferred but all strong candidates will be considered. Salary commensurate with experience. Applicants should send a CV/bibliography, description of experience, a statement on teaching, and have three letters of recommendation sent to: **Chair, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1109.** E-mail: math-fac-search@umich.edu. Further information on the Introductory Program is available on our web page (http://www.math.lsa.umich.edu). Applicants will be considered on a continuing basis. The University of Michigan is an Equal Opportunity Affirmative Action Employer.

UNIVERSITY OF MICHIGAN, ANN ARBOR - DEPARTMENT OF MATHEMATICS - The Department seeks candidates for a tenured or tenure-track position whose primary responsibility is the direction and administration of its Introductory Program. Duties include addressing curricular issues and serving as liaison with other departments, directing a large multi-section precalculus or calculus course per semester, teaching one section of the course being directed, assisting to train and supervise new teachers in the Introductory Program, and providing general leadership to the program. Applicants should hold a Ph.D. in mathematics, have demonstrated excellence in the teaching of precalculus and calculus; have experience directing other instructors, and expertise in modern pedagogical issues and methods. Outstanding research and scholarly contributions in mathematics and/or pedagogy of mathematics and a developing national recognition on educational issues are required for tenure. Applicants should send a CV/bibliography, description of experience, a statement on teaching, and have three letters of recommendation sent to: **Search Chair, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1109.** E-mail: math-fac-search@umich.edu . Details on qualifications for hiring and tenure are available upon request. Further information about the Introductory Program can be found on our home page (http://www.math.lsa.umich.edu). Applicants will be considered on a continuing basis. The University of Michigan is an Equal Opportunity Affirmative Action Employer.

UNIVERSITY OF MICHIGAN, ANN ARBOR - DEPARTMENT OF MATHEMATICS - The Department has several openings at the tenure-track or tenure level. Candidates should hold a Ph.D. in mathematics or a related field, and should show outstanding promise and/or accomplishments in both research and teaching. Applications are encouraged from any area of pure, applied, computational, or interdisciplinary mathematics, including mathematical biology, theoretical computer science, and actuarial or financial mathematics. Salaries are competitive and are based on credentials. Applicants should send a CV, bibliography, descriptions of research and teaching experience, and have three or four letters of recommendation, at least one of which addresses the candidate's teaching experience and capabilities, sent to: **Personnel Committee, University of Michigan, Department of Mathematics, 2074 East Hall, Ann Arbor MI 48109-1109.** Applications are considered on a continuing basis but candidates are urged to apply by November 1, 2002. Inquiries may be made by e-mail to math-facsearch@umich.edu. More detailed information regarding the Department may be found on our web page: http://www.math.lsa.umich.edu. The University of Michigan is an equal opportunity, affirmative action employer.

UNIVERSITY OF MICHIGAN, ANN ARBOR - DEPARTMENT OF MATHEMATICS - Assistant Professorships, VIGRE Assistant Professorships, and T.H. Hildebrandt Research Assistant Professorships - These positions for up to three years are designed to provide mathematicians with favorable circumstances for academic career development in both research and teaching. Assistant Professorships have a teaching responsibility of two courses per semester; the VIGRE and T.H. Hildebrandt positions have a responsibility of one course per semester. These positions may be combined with other postdoctoral fellowships giving additional reductions in teaching responsibility. Preference will be given to candidates who received the Ph.D. degree 2001 or later and who submit a completed application by December 13, 2002. Salary is competitive and there are opportunities for supplemental summer salary. Application forms and further important information are available at http://www.math.lsa.umich.edu/information/positions.shtml, by Email at math-facsearch@umich.edu, or by mail from: **Hiring Committee, Department of Mathematics, University of Michigan, 2074 East Hall, 525 E. University Ave., Ann Arbor, MI 48109-1109.**

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UNIVERSITY OF MICHIGAN, DEARBORN - DEPARTMENT OF MATHEMATICS AND STATISTICS - Tenure Track Position in Applied Mathematics - University of Michigan-Dearborn (www.umd.umich.edu/casl/math) plans to fill a tenure track position starting in September 2003, at the Assistant Professor level. The position requires a Ph.D. in an area of applied or computational mathematics by September 2003. Candidates in all areas of applied mathematics are encouraged to apply with preference given to those in applied discrete mathematics. Teaching capability in applied mathematics is required. Excellence in research and teaching are required for tenure. Interest in developing undergraduate and graduate curricula in applied mathematics, especially computational mathematics, is desired. The teaching load is 18 credit hours per academic year. To apply, send vita, transcript and have three letters of recommendation sent to **Professor Margaret Haft, Chair, Department of Mathematics and Statistics, University of Michigan-Dearborn, 4901 Evergreen Rd., Dearborn, MI 48128-1491.** To ensure full consideration, all application materials must be received by January 27, 2003. However, the Department will continue to accept application materials until the position is filled. A representative of the Department will be at the Annual Meeting of the AMS in Baltimore in January to discuss the position with those interested. The University of Michigan-Dearborn is dedicated to the goal of building a culturally diverse and pluralistic faculty committed to teaching and working in a multicultural environment and strongly encourages applications from minorities and women. The University of Michigan-Dearborn is an equal opportunity/affirmative action educator and employer.

UNIVERSITY OF MINNESOTA - THE INSTITUTE OF TECHNOLOGY CENTER FOR EDUCATIONAL PROGRAMS (ITCEP) - University of Minnesota - The Institute of Technology Center for Educational Programs (ITCEP) - The Institute of Technology Center for Educational Programs (ITCEP) at the University of Minnesota will have available one or more temporary positions (Assistant Professor of Mathematics) starting Fall semester, 2003. Ph.D. or equivalent degree in mathematics, teaching and some related education experiences at the undergraduate level are required. **(see display ad on page 27 for full details)**

UNIVERSITY OF NEBRASKA, LINCOLN - DEPARTMENT OF MATHEMATICS AND STATISTICS - Postdoctoral Position - Applications are invited for a 3-year, non tenure-track postdoctoral position starting August 2003. Preference to applicants within three years of having received the Ph.D. who show strong research promise in one of the areas in which UNL's mathematics faculty is currently active. Excellence in teaching is also expected. Applicants should send a letter of application, a CV, statements addressing the candidate's research and teaching, and three letters of reference to: **Postdoctoral Search Committee, Department of Mathematics and Statistics, University of Nebraska-Lincoln, Lincoln, NE 68588-0323.** Use of the AMS application cover sheet is encouraged. Review of applications will begin January 31, 2003, and continue until suitable candidates are found. For more information see the department's web site at http://www.math.unl.edu. The University of Nebraska is committed to a pluralistic campus community through affirmative action and equal opportunity. We assure reasonable accommodation under the Americans with Disabilities Act; contact Marilyn Johnson at (402) 472-3731 for assistance.

UNIVERSITY OF NEBRASKA, LINCOLN - DEPARTMENT OF MATHEMATICS AND STATISTICS - Assistant Professor in mathematical biology - Applications are invited for a tenure-track assistant professor position in mathematical biology beginning August 2003. The successful candidate must have a Ph.D. in mathematics or related area, outstanding potential as a research scholar who will complement the department's research faculty and their life science collaborators, and a commitment to teaching excellence. Preference will be given to candidates with expertise in mathematical modeling and analysis of biological problems, especially in ecological dynamics or a related area. Applicants should send a letter of application, a CV, research and teaching statements, and three letters of reference to: **Mathematical Biology Search Committee, Department of Mathematics and Statistics, University of Nebraska-Lincoln, Lincoln, NE 68588-0323.** Use of the AMS application cover sheet is encouraged. Review of applications will begin January 31, 2003, and continue until suitable candidates are found. For more information see the department's web site at http://www.math.unl.edu. The University of Nebraska is committed to a pluralistic campus community through affirmative action and equal opportunity and is responsive to the needs of dual career couples. We assure reasonable accommodation under the Americans with Disabilities Act; contact Marilyn Johnson at (402) 472-3731 for assistance.

UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL – DEPARTMENT OF MATHEMATICS - Applications are invited for positions as a postdoctoral fellow in the Department of Mathematics, pending final approval. Applicants in pure mathematics and in applied mathematics will be considered. The appointments are for two years and are normally renewable for a third year. Candidates should have received a doctorate by August 1, 2003, either in mathematics, applied mathematics, or a closely related field. Applicants with strong research promise in an area common with our current faculty will be given highest priority. More information can be found at our website at www.math.unc.edu Applicants should send the i) Standard AMS Cover Sheet, ii) a vita, iii) a description of current research and a plan for future research, iv) four letters of recommendation, v) the name(s) of one or more faculty at UNC who work in their general area of research. The AMS Standard Cover Sheet should be completed online at www.mathjobs.org/jobs Applicants are encouraged to submit their entire application at this site. They can also mail their applications to one of these addresses: **Pure applicants: Pure Search Committee, Department of Mathematics, UNC-CH, CB #3250 Phillips Hall, Chapel Hill, NC 27599-3250. Applied applicants: Applied Search Committee, Department of Mathematics, UNC-CH, CB #3250 Phillips Hall, Chapel Hill, NC 27599-3250.** Applications will be reviewed until the positions are filled. Preference will be given to applications received by January 1, 2003. UNC-CH is an EO/ADA Employer

UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Two tenure track assistant professors to begin August 2003. Duties include teaching and research/scholarship. Requires Ph.D. in Mathematics. For full position description and requirements see http://www.math.uni.edu. Complete applications received by November 15, 2002 will receive full consideration. Submit vita, statement of teaching philosophy, and summary of research goals; and arrange for three letters of reference, including one addressing teaching ability and experience, to be sent directly to **Joel K. Haack, Mathematics Search Committee Chair, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506.** The University is an EOE with a comprehensive plan for affirmative action.

UNIVERSITY OF NOTRE DAME - DEPARTMENT OF MATHEMATICS - Regular Position in Stochastic Analysis - invites applications for a position in the field of Applied Stochastic Analysis to start on August 24, 2003. The position is at the tenure track level, but a tenured appointment may be possible for an exceptional candidate. The teaching load is one course one semester and two courses the other semester. The salary is competitive. Applications, including a curriculum vitae, a letter of application, and a completed AMS standard cover sheet, should be sent to: **Steven A. Buechler, Chair, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556.** Applicants should also arrange for at least three letters of recommendation to be sent to the chair. These letters should address the applicant's research accomplishments and supply evidence that the applicant has the ability to communicate articulately and teach effectively. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 2002. Information about the department is available at http://www.math.nd.edu/math

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UNIVERSITY OF OREGON - DEPARTMENT OF MATHEMATICS - Applications are invited for one tenure-track Assistant or Associate Professor in the Dept. of Mathematics, beginning Sept. 2003. Qualifications are a Ph.D. in the mathematical sciences, an excellent record of research accomplishment, and evidence of teaching ability. Applicants from all parts of the mathematical sciences are encouraged to apply. See http://darkwing.uoregon.edu/~math/employment.html. Competitive salary with excellent fringe benefits. Mail complete vita and at least three letters of recommendation to **Search Committee, 1222 Dept. of Mathematics, University of Oregon, Eugene, OR 97403-1222, Attention. J. Perkins.** Application materials may NOT be submitted electronically. Closing date is January 6, 2003. Women and minorities are encouraged to apply. The University of Oregon is an EO/AA/ADA Institution committed to diversity.

UNIVERSITY OF OREGON - DEPARTMENT OF MATHEMATICS - Applications are invited for one tenure-track Assistant or Associate Professor in the Dept. of Mathematics in the areas of numerical analysis and/or applied analysis, beginning Sept. 2003. Qualifications are a Ph.D. in the mathematical sciences, an excellent record of research accomplishment in the required fields, and evidence of teaching ability. See http://darkwing.uoregon.edu/~math/employment.html. Competitive salary with excellent fringe benefits. Mail complete vita & at least three letters of recommendation to: **Professor Yuan Xu, Chair of Applied Analysis Search Committee, 1222 Dept. of Mathematics, University of Oregon, Eugene, OR 97403-1222**. Application materials may NOT be submitted electronically. Closing date is January 6, 2003. Women and minorities are encouraged to apply. The University of Oregon is an EO/AA/ADA Institution committed to diversity.

UNIVERSITY OF OREGON - DEPARTMENT OF MATHEMATICS - The Department of Mathematics at the University of Oregon announces a tenure-track position in Mathematics Education at the assistant or associate professor level, Starting Fall 2003. Qualifications: either a Ph.D. in mathematics and documented interest in Mathematics Education at the elementary or secondary level; or a Ph.D. or Ed.D. in Mathematics Education with a very strong background and interest in mathematics. In addition the candidate must have some involvement in the education of future school teachers, and excellence in teaching undergraduate mathematics. See http://darkwing.uoregon.edu/~math/employment.html. Please send your application materials, including full C.V. and at least three letters of recommendation from people well acquainted with your qualifications, to: **Professor J. Brundan, Mathematics Education Hiring Committee, Department of Mathematics, 1222 University of Oregon, Eugene, OR 97403-1222.** Application materials may NOT be submitted electronically. Closing date for applications is January 13, 2003. Women and minorities are encouraged to apply. The University of Oregon is an EO/AA/ADA Institution committed to diversity.

UNIVERSITY OF SAN DIEGO - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - USD, an independent Catholic University, seeks applicants for up to two tenure-track Assistant Professor of Mathematics positions in the Department of Mathematics and Computer Science to begin September 2003. Candidates must have a Ph.D. in mathematics, applied mathematics or statistics. All highly qualified candidates are encouraged to apply. For one of the positions, some expertise in probability and statistics is desirable. The teaching load is effectively 3 three-hour undergraduate courses per semester. Faculty are expected to have a strong commitment to excellence in teaching and maintain active scholarly pursuits. Send resume, three letters of recommendation, and a summary of recent teaching evaluatios to: **Math Search Committee, Department of Mathematics and Computer Science, University of San Diego, 5998 Alcala Park, San Diego, CA 92110.** USD is an AA/EOE employer. Priority will be given to applications arriving by January 13.

UNIVERSITY OF TENNESSEE - DEPARTMENT OF MATHEMATICS - The Mathematics Department of the University of Tennessee seeks to fill tenure-track positions at the assistant professor level. A Ph.D. is required. Some postdoctoral experience is preferred but not required. Substantial research promise and dedication to teaching are paramount. Employment begins August 1, 2003. Applicants with research experience in any area of mathematics are encouraged to apply, but preference will be shown those in geometric topology and computational applied mathematics. Interested applicants should arrange to have a vita, three reference letters, a research statement (including abstracts), and evidence of quality teaching sent to **Professor John B. Conway, Search, Mathematics Department, University of Tennessee, Knoxville, TN 37996-1300.** Electronic applications are not acceptable. Use of the AMS application form is appreciated. Review of applications will begin December 1 and will continue until the positions are filled. Information about the department can be found at http://www.math.utk.edu/. UT Knoxville is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services.

UNIVERSITY OF WISCONSIN, MILWAUKEE - DEPARTMENT OF MATHEMATICAL SCIENCES - The Department of Mathematical Sciences anticipates two openings for tenure-track Assistant Professorships, starting August 2003, pending budgetary approval. The Department invites applications in Algebra and Statistics. Candidates must have a strong research record, evidence of or strong potential for extramural funding, and a demonstrated commitment to teaching excellence. Responsibilities include: teaching two courses per semester and taking an active role in the undergraduate, Masters, and Ph.D. programs. Additional information is available at http://www.math.uwm.edu/. Applicants should send the AMS Standard Cover Sheet, a vita, a description of their research and a teaching statement to the **Hiring Committee, Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53201-0413.** Review of applications will begin December 6, 2002, and will continue until the position is filled. At least three letters of recommendation should be sent to the Hiring Committee; at least one letter should address the applicant's teaching experience and capabilities. UW-Milwaukee is an EEO/AA Employer. Applications from female and minority candidates are strongly encouraged.

URSINUS COLLEGE, DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Tenure-track position as Assistant Professor of Computer Science starting Fall 2003 at highly selective, independent, co-educational, residential liberal arts college of 1400 students located about 25 miles from center city Philadelphia. A Ph.D. in computer science or a closely related field by August 2003 is preferred; ABD will be considered. There is no restriction on specialty. Requirements include a strong commitment to undergraduate teaching and to establishing a continuing program of scholarly research involving students. Teach three courses per semester, including computer science at all undergraduate levels. Opportunity to teach an interdisciplinary liberal studies seminar and an occasional course in mathematics or statistics. College funds available to support faculty scholarship. The laptop program provides all students and faculty with new laptops and current software every two years. Visit the Ursinus homepage at <http://www.ursinus.edu/>. Ursinus College is an equal opportunity employer (AA/EOE). In keeping with the College's historic commitment to equality, women and minorities are encouraged to apply. Send letter of application, resume, transcripts (undergraduate and graduate), and three letters of recommendation (one of which addresses teaching) to **Computer Science Search Committee Chair, Professor Nancy Hagelgans, Department of Mathematics and Computer Science, Ursinus College, P.O. Box 1000, Collegeville, PA 19426.** Review of applications will begin November 1, 2002 and continue until the position is filled.

ADVERTISING DEADLINE for the January/February 2003 issue is: DECEMBER 1, 2002

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WAKE FOREST UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for two tenure track positions in mathematics at the assistant professor level beginning August 2003. We seek one person whose research is in analysis and one person whose research is in combinatorics or number theory. Duties include teaching at the undergraduate and graduate levels and continuing research. A Ph.D. in mathematics or equivalent is required. The department has 18 members and offers a B.A., B.S., and M.A. in mathematics and a B.S. in each of mathematical business and mathematical economics. Send letter of application & resume to: **R.D. Carmichael, Dept. of Mathematics, Wake Forest University, P.O. Box 7388, Winston-Salem, NC 27109-7388.** AA/EO Employer.

WAYNE STATE UNIVERSITY – DEPARTMENT OF MATHEMATICS – Applications are invited for two tenure-track positions at the rank of Assistant Professor in any area of specialization. Persons active in research in the fields of Algebra, Geometry/Topology or Statistics and with the capacity to collaborate with the current faculty are especially encouraged to apply. Applications from female and minority candidates are particularly encouraged. There is also the possibility of visiting positions for 2003-2004 in any area of mathematics. Ph.D. in mathematics and a strong interest in research and teaching are required for all positions. Applications should include a signed, detailed vita, description of current research interests, and four letters of recommendation, including one addressing teaching. Solid evidence of excellence in teaching at the undergraduate level is preferred over a statement of teaching philosophy. Applications received by January 1, 2003 will be given priority. Wayne State University is an equal opportunity/affirmative action employer. Wayne State University - People working together to provide quality service. All buildings, structures and vehicles at WSU are smoke-free. Sent to: **Lowell J. Hansen, Chair, Wayne State University, College of Science, Department of Mathematics, Detroit, Michigan 48202.** (313) 577-2479 (313) 577-7596 FAX

WESTMINSTER COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Tenure-Track Position - Applications are invited for a tenure-track position in mathematics beginning in August 2003. Successful candidates must possess a Ph.D. for appointment at the rank of assistant professor, be committed to excellence in teaching in an undergraduate liberal arts environment, and be prepared to engage in continuing scholarly activity. The Department seeks candidates with broad intellectual interests. Opportunities include teaching statistics courses and interdisciplinary courses as well as developing new courses and directing undergraduate research. Westminster College, a coeducational, liberal arts institution, is located in a beautiful rural setting 50 miles northwest of Pittsburgh and 80 miles southeast of Cleveland. For more information, please visit our website at www.westminster.edu. Applicants should send a letter of application, curriculum vita, three letters of recommendation, summary of teaching evaluations, and graduate transcripts to **Professor Barbara T. Faires, Chair, Department of Mathematics and Computer Science, Westminster College, New Wilmington, PA 16172.** EOE

WILLIAMS COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Williams College Department of Mathematics and Statistics invites applications for one position in statistics, beginning fall 2003, at the rank of assistant professor (in an exceptional case, a more advanced appointment may be considered). We are seeking a highly qualified candidate who has demonstrated excellence in teaching and research, and who will have a Ph.D. by the time of appointment. Williams College is a private, residential, highly selective liberal arts college with an undergraduate enrollment of approximately 2,000 students. The teaching load is two courses per 12-week semester and a winter term course every other January. In addition to excellence in teaching, an active and successful research program is expected. To apply, please send a vita and have three letters of recommendation on teaching and research sent to the **Hiring Committee, Department of Mathematics and Statistics, Williams College, Williamstown, MA 01267.** Teaching and research statements are also welcome. Evaluations of applications will begin on or after November 25 and will continue until the positions are filled. Williams College is dedicated to providing a welcoming intellectual environment for all of its faculty, staff and students; as an EEO/AA employer, Williams especially encourages applications from women and underrepresented minorities. For more information on the Department of Mathematics and Statistics, visit http://www.williams.edu/Mathematics.

WILLIAMS COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Williams College Department of Mathematics and Statistics invites applications for two positions in mathematics and one position in statistics, beginning fall 2003, all at the rank of assistant professor (in exceptional cases, more advanced appointments may be considered). We are seeking highly qualified candidates who have demonstrated excellence in teaching and research, and who will have a Ph.D. by the time of appointment. Williams College is a private, residential, highly selective liberal arts college with an undergraduate enrollment of approximately 2,000 students. The teaching load is two courses per 12-week semester and a winter term course every other January. In addition to excellence in teaching, an active and successful research program is expected. To apply, please send a vita and have three letters of recommendation on teaching and research sent to the **Hiring Committee, Department of Mathematics and Statistics, Williams College, Williamstown, MA 01267**. Teaching and research statements are also welcome. Evaluations of applications will begin on or after November 25 and will continue until the positions are filled. Williams College is dedicated to providing a welcoming intellectual environment for all of its faculty, staff and students; as an EEO/AA employer, Williams especially encourages applications from women and underrepresented minorities. For more information on the Department of Mathematics and Statistics, visit http://www.williams.edu/Mathematics.

YALE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Yale University applications accepted for Gibbs Instructorships/Assistant Professorships for Ph.D. with outstanding promise in research in pure Mathematics. Appointments are for two/three years, starting July 2003. The teaching load for Gibbs Instructors/Assistant Professors will be kept light, so as to allow ample time for research. This will consist of three one-semester courses per year. Part of the duties may consist of a one-semester course at the graduate level in the general area of the instructor's research. Applications and supporting materials must be received by January 1, 2003. Offers will be made during February. Salary at least $51,800. Applications are available at: http://www.math.yale.edu. Applications and supporting materials may be sent via U.S. mail to: **The Gibbs Committee, Department of Mathematics, Yale University, P.O. Box 208283, New Haven, CT 06520-8283** or via email to: gibbs.committee@math.yale.edu. Applications from women and members of minority groups are welcome. Yale is an AffirmativeAction/Equal OpportunityEmployer.

YORK UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS – Applied Mathematics - Applications are invited for an NSERC University Faculty Award, at the Assistant Professor level in the Department of Mathematics and Statistics to commence July 1, 2003. Applications in the areas of Applied or Computational Mathematics will be considered. The successful candidate must have a PhD and is expected to have a proven record of research excellence, and superior teaching. The position is subject to budgetary approval and the selection process will begin immediately. Applicants should send resumes and arrange for three letters of recommendation (one of which should address teaching) to be sent directly to: **UFA Search Committee,Department of Mathematics and Statistics, York University, 4700 Keele Street, Toronto, Ontario, Canada M3J 1P3. Fax: 416-736-5757.** Email: ufa.recruit@mathstat.yorku.ca. www.math.yorku.ca/Hiring The UFA program is directed to women and aboriginal peoples. York University also has an Affirmative Action Program with respect to its faculty and librarian appointments. The designated groups are: women, racial/visible minorities, persons with disabilities and aboriginal peoples. Persons in these groups must self-identify in order to participate in the Affirmative Action Program. The Department of Mathematics and Statistics welcomes applications from persons in these groups. The Affirmative Action Program can be found on York's website at www.yorku.ca/acadjobs/ or a copy can be obtained by calling the affirmative action office at 416-736-5713. The UFA program is restricted to Canadian citizens and permanent residents.

Association for Women in Mathematics

2002/2003 MEMBERSHIP FORM

AWM's membership year is from October 1st to September 30th. Please fill-in this information and return it along with your DUES to:

AWM Membership
4114 Computer & Space Sciences Building
University of Maryland
College Park, MD 20742-2461

The AWM Newsletter is published six times a year and is part of your membership. Any questions, contact AWM at awm@math.umd.edu; (301) 405-7892 or refer to our website at: **http://www.awm-math.org**

LAST NAME **FIRST NAME** **M.I.**

ADDRESS

❑ I DO NOT wish for my AWM membership information to be released for the **Combined Membership List.**

Email: **Home Phone:** ❑ **do not** publish home number **Work Phone:** ❑ **do not** publish work number

Date of Birth (optional):_____ (MMDDYYYY) [the date of birth field is to strictly help prevent duplicate entries]

PROFESSIONAL INFORMATION: If **student,** GRADUATE or UNDERGRADUATE **(circle one)**
Position: **If not employed, leave position & institution blank**
Institution/Company:
City, State, Zip:

DEGREES EARNED:

	Degree(s)	Institution(s)	Year(s)
Doctorate:			
Master's:			
Bachelor's:			

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INDIVIDUAL DUES SCHEDULE

Please check the appropriate membership category below. Make checks or money order payable to: **Association for Women in Mathematics.**
NOTE: All checks must be drawn on U.S. Banks and be in U.S. Funds. AWM Membership year is **October 1st to September 30th.**

For NEW Individual members: JOIN at the reduced rate of $30.00 for the 02/03 membership year [valid thru 6/30/03]

REGULAR INDIVIDUAL MEMBERSHIP	$ 50	
2ND FAMILY MEMBERSHIP	$ 30	
(NO newsletter) Please indicate regular family member: _____		
CONTRIBUTING MEMBERSHIP	$100	
RETIRED or PART-TIME EMPLOYED MEMBERSHIP (circle one)	$ 25	
STUDENT or UNEMPLOYED MEMBERSHIP (circle one)	$ 15	
ALL FOREIGN MEMBERSHIPS (INCLUDING CANADA & MEXICO)....**FOR ADDITIONAL POSTAGE ADD**	$ 8	
All payments must be in U.S. Funds using cash, U.S. Postal orders, or checks drawn on U.S. Banks.		
BENEFACTOR [$2,500] or FRIEND [$1,000] (circle one)	$	
❑ I am enclosing a DONATION to the **"AWM GENERAL FUND"**	$	
❑ I am enclosing a DONATION to the **"AWM ALICE T. SCHAFER PRIZE"**	$	
❑ I am also enclosing a DONATION to the **"AWM ANNIVERSARY ENDOWMENT FUND"**	$	

Indicate if you wish for your **contribution(s)/donation(s)** to remain ANONYMOUS ⇨ ❑
Dues in excess of $15 and all cash contributions/donations are deductible from federal taxable income.

INSTITUTIONAL DUES SCHEDULE

❑ CATEGORY **1** (includes 10 student memberships; 1 free ad; 25% off additional Newsletter & online ads∗)..	$250	
❑ CATEGORY **2A** (includes 3 student memberships; 1 free ad; 10% off additional Newsletter & online ads∗)....	$125	
❑ CATEGORY **2B** (includes 6 student memberships; 10% off Newsletter & online ads∗).....	$125	

ADVERTISING: Institutional members on Categories 1 and 2a receive ONE FREE job link ad **or** ONE FREE Newsletter ad (up to 4 lines) for the membership year Oct. 1st to Sept. 30th. All institutional members receive discounts on other eligible∗ advertisements (25% off for Category 1 and 10% off for Categories 2a and 2b). ∗Eligible advertisements: The institutional discount applies to both classified and job link online ads as well as classified *Newsletter* ads, but it does not apply to *Newsletter* display ads. If institutional dues have not been received by the invoice date, the full advertising rate will be charged. *Newsletter* advertising deadlines are the 1st of every EVEN month. All institutions advertising are Affirmative Action/Equal Opportunity Employers. **STUDENT NOMINEES**: Institutions have the option to nominate students to receive the newsletter as part of their membership. List names and addresses of student nominees on opposite side or attach a separate page. [ADD $15 ($23 for foreign members) to the listed institutional rate for each student add-on over the initial 10 students for Category 1; over the initial 3 students for Category 2a & over the initial 6 students for Category 2b]. For more advertising/membership info see **www.awm-math.org**

❑ Indicate if **GIFT membership FROM:** _____ **TOTAL ENCLOSED $** _____

AWM Events

AWM would like to invite you to our events to be held in conjunction with the Joint Mathematics Meetings
Baltimore Convention Center, Baltimore, Maryland, January 15 - 18, 2003

Preliminary Schedule of AWM Events as of October 15, 2002

Wednesday, January 15th — **LOCATION (subject to change)**

3:20 p.m.- 4:30 p.m. — **Panel Discussion:** *"Mathematics Educators and Mathematicians Working Together"* — **Room 336, Convention Ctr.**
Organizers: Bettye Anne Case, Florida State University, AWM President **Suzanne Lenhart,** University of Tennessee & Oak Ridge National Lab. and **Elizabeth (Betsy) Yanik,** Emporia State University. **Moderators: Elizabeth (Betsy) Yanik,** Emporia State University. **Panelists: Deborah Loewenberg Ball,** University of Michigan, **Hyman Bass,** University of Michigan, **Edith Prentice Mendez,** Sonoma State University, **Karen Dee Michalowicz,** The Langley School, McLean VA
At conclusion of panel, AWM will recognize the **13th Annual Alice T. Schafer Prize honorees** [winner, runner(s)-up & honorable mention(s).]

4:35 p.m. - 5:00 p.m. — **Business Meeting** — Room **336, Convention Ctr.**

6:00 p.m. - 8:15 p.m. — **Noether Dinner** — **Wharf Rat Restaurant [206 West Pratt Street; across from Conv. Ctr.]**
AWM will have a get-together with the Noether Lecturer for a casual dinner. If you would like to join us a sign-up sheet will be at the Exhibit Table or at the AWM Panel on Wednesday

9:30 p.m. — **Reception** (entire math community invited; music, refreshments & cash bar available) — **Harborview Room, Hyatt**

Thursday, January 16th

9:00 a.m. - 9:50 a.m. — **24th Annual Emmy Noether Lecture:** ***"Five Little Crystals and How They Grew"*** — **Ballroom 1 &2, Convention Ctr.**
presented by **Jean E. Taylor,** Rutgers University

4:25 p.m. - 7:00 p.m. — **Joint Prize Session: Presentation** to the winners of the — **Ballroom 1 &2, Convention Ctr.**
13th Annual Louise Hay Award for Contributions to Mathematics Education and the
13th Annual Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman
These award presentations are held in conjunction with the **Joint Prize Session**. A cash bar reception will immediately follow.

Friday, January 17th

6:30 p.m. - 9:30 p.m. — **AWM Workshop Dinner** [for Workshop presenters, mentors, panelists & organizers] — **Location: to be announced**

Saturday, January 18th

8:20 a.m. - 4:00 p.m. — **AWM WORKSHOP:** presentations by **Women Graduate Students& Recent Ph.D.'s** — **Room 307, Convention Ctr.**
The entire math community is invited to attend all Workshop presentations.
The AWM Workshop is supported by the Air Force Office of Scientific Research and the Office of Naval Research
Organizers: Catherine A. Roberts, The College of the Holy Cross and Jodie D. Novak, University of Northern Colorado

8:30 a.m. - 10:30 a.m. — **AWM sponsored research talks by recent women Ph.D.'s I**

8:30 a.m. - 8:50 a.m.	**Lih-Ing Wu Roeger**, Texas Tech University	*"Modeling the Impact of HIV Infection on TB"*
9:00 a.m. - 9:20 a.m.	**Summer M. Husband**, Rice University	*"Mathematics in the Nanocell Approach to Molecular Electronics"*
9:30 a.m. - 9:50 a.m.	**Jennifer A. Bruce**, Maryville College	*"Uniformly Concentric Bilinski Diagrams"*
10:00 a.m. - 10:20 a.m.	**Nancy Ann Neudauer**, Pacific University	*"Bicircular Matroids"*

10:30 a.m. - 12:00 p.m. — **AWM sponsored Poster Session featuring Graduate Students(light refreshments will be available)**

	Andrea Moreira Bell, Oregon State University	*"Modularity of Nonarithmetic Curves, A Hilbert Modular Surface for $Q(\sqrt{5})$ and the Soccer ball"*
	Karen S. Briggs, University of California, San Diego	*"A P,Q-Analogue of the Classical Hit Numbers"*
	Elizabeth Burroughs, University of New Mexico	*"Convection in a Thermosyphon: Bifurcation and Stability Analysis"*
	H. A. Dye, University of Illinois at Chicago	*"Detection of Virtual Knot Diagrams"*
	Kirsten Eisenträger, University of California, Berkeley	*"Hilbert's Tenth Problem"*
	Berit Nilsen Givens, University of Wisconsin, Madison	*"Chromatic Numbers of Hypergraphs and the Bohr Topology"*
	Megumi Harada, University of California, Berkeley	*"The symplectic geometry of the Gel'fand-Cetlin basis for representations of the symplectic group"*
	Jooyoun Hong, Rutgers University	*"The Rees Algebra of a Conormal Module"*
	Jinko Kanno, Louisiana State University	*"Some Splitter theorems"*
	Elizabeth Klodginski, University of Michigan	*"Cross and Join Surfaces in Surface Bundles Over the Circle"*
	Junalyn Navarra-Madsen, University of Texas at Dallas	*"Colorability and 3-string Tangles"*
	Allison M. Pacelli, Brown University	*"Class Groups of Global Function Fields"*
	Emily Proctor, Dartmouth College	*"Multiparameter Isospectral Deformations on SU(n)"*
	Billie Rinaldi, Rensselaer Polytechnic Institute	*"A Cellular Automaton Inverse Problem"*
	Aubin R. K. Whitley, University of California, San Diego	*"The Skorokhod Problem and Heavy Traffic Limit Theorems"*

12:00 p.m. - 1:00 p.m. — **AWM Lunch** [for Workshop presenters, mentors, panelists & organizers] — **Room 307, Convention Ctr.**

1:00 p.m. - 2:30 p.m. — **Panel Discussion**: *"Shaping a Career in Mathematics"* — **Room 307, Convention Ctr.**
Moderator: **Jodie D. Novak**, University of Northern Colorado Panelists: **Alessandra O. P. Chiareli**, 3M Company; **Mai Gehrke**, New Mexico State University; **Chawne M. Kimber**, Lafayette College; **Jennifer McGreevy**, Department of Defense; **Margaret M. Robinson**, Mt. Holyoke College

2:30 p.m. - 4:30 p.m. — **AWM sponsored research talks by recent women Ph.D.'s II**

2:30 p.m. - 2:50 p.m.	**Karen L. Horton**, North Dakota State University	*"Prime Ideals of Multiparameter Quantized Coordinate Rings"*
3:00 p.m. - 3:20 p.m.	**Katherine L. Hurley**, University of South Carolina	*"The space of graded traces for holomorphic vertex operator algebras with central charge 24"*
3:30 p.m. - 3:50 p.m.	**Amelia Taylor**, Rutgers University	*"Complexity of Computations in Commutative Algebra"*
4:00 p.m. - 4:20 p.m.	**Yana Mohanty**, University of California, San Diego	*"Construction of a 3/4-ideal tetrahedron out of ideal tetrahedra"*

For more details on the above events, please see the following websites: **www.ams/org/amsmtgs** or **www.awm-math.org.**
At the meeting, please stop by the **AWM Table** in the **Exhibit area** for an **AWM Events Program** or refer to the **Joint Meetings Program.**

Volume 32, Number 6, November–December 2002

ADDRESS CORRECTION FORM

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AWM
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